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Dixie National Forest
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Environmental Assessment

for

Issuance of 10-Year Term Grazing Permits Teasdale Ranger District Cattle Allotments

ENVIRONMENTAL ASSESSMENT
ISSUANCE OF 10-YEAR TERM GRAZING PERMITS
TEASDALE RANGER DISTRICT
CATTLE ALLOTMENT

DIXIE NATIONAL FOREST
WAYNE COUNTY

Responsible Agency: USDA, Forest Service

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ABSTRACT

The Teasdale Ranger District is proposing to issue 10 year permits to authorize the grazing of cattle on the following allotments beginning in the 1996 grazing season and terminating December 31, 2005.

North Slope

In addition to the General Terms and Conditions which are standard to Part 2 of the Grazing Permit, term grazing permits proposed for issuance will include these additional terms and conditions: 1) Forest Plan standards and guidelines for utilization, 2) Structural and non-structural range improvement maintenance assignments, 3) Requirements for livestock distribution, 4) Allotment Management Plans and Annual Operating Plans, and 5) Requirements for Cultural Resource clearances for any proposed range projects.

This Environmental Assessment documents the analysis of the Proposed Action and one alternative to the Proposed Action--the No Action alternative, which would result in not issuing permits to graze cattle on the above allotments.

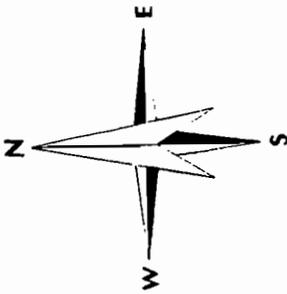
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Dixie National Forest Ranger Districts Vicinity Map



Teasdale Ranger District

Teasdale, May 24
Tropic

Escalante

Escalante Ranger District

Tropic, May 12

Powell Ranger District

Panguitch, May 20

Alton, May 14

Alton, May 14

May 143

May 148

May 14

Cedar City Ranger District

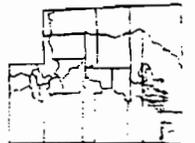
Parowan, May 143

May 14

Pine Valley Ranger District

St. George

Vicinity Map



LEGEND



Cedar Breaks National Monument

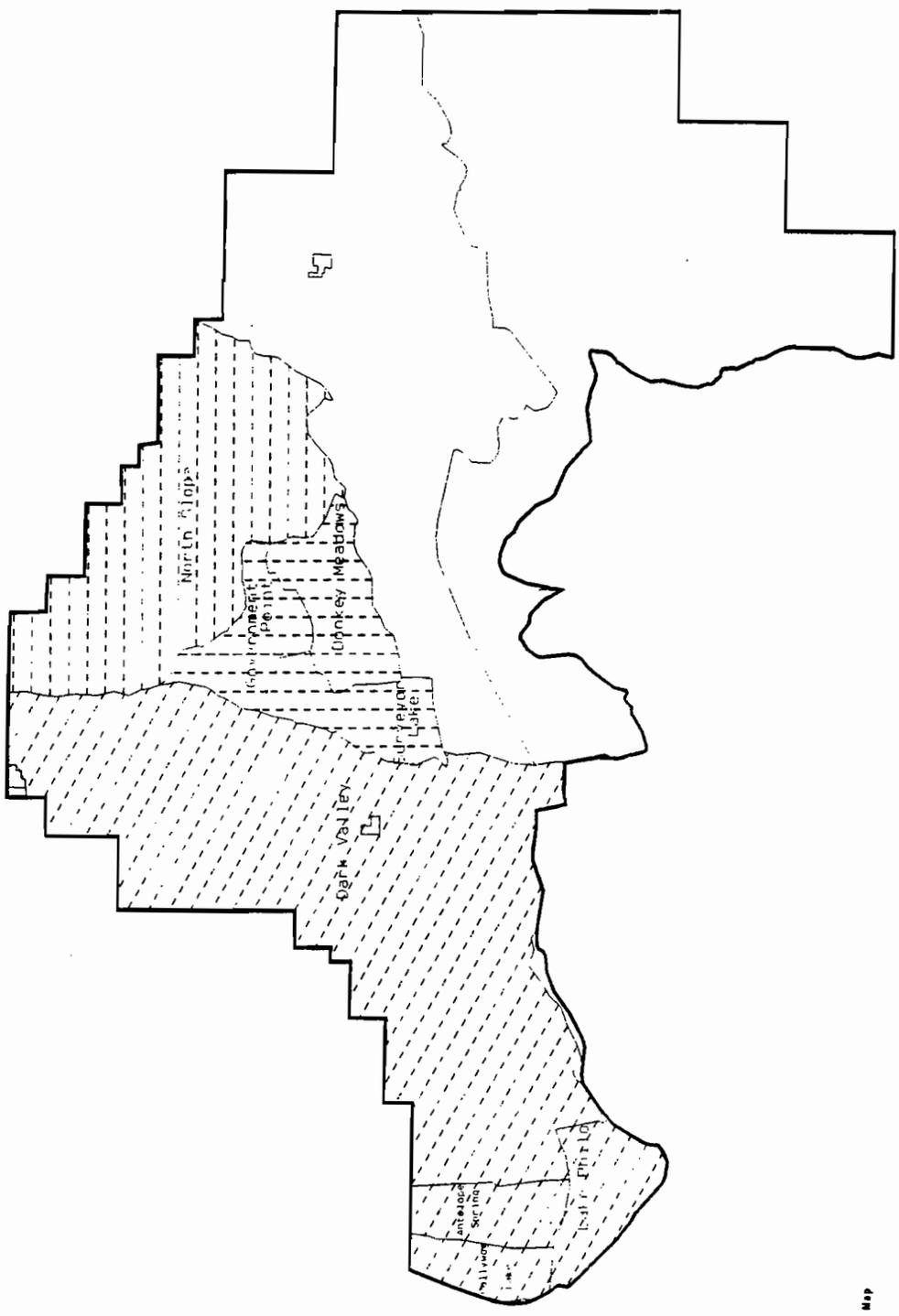
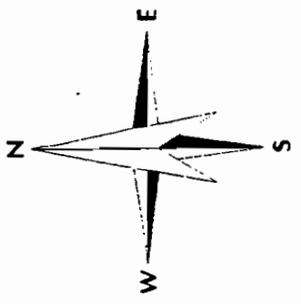


Major Roads



Dixie National Forest
Teasdale Ranger District

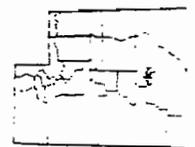
Project Area Map



LEGEND

- Private Land
- Cattle Allotments
- Sheep Allotments
- Common Use

Vicinity Map



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CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

This chapter outlines the Proposed Action, and the Purpose and Need that drove its development. It also discusses the relationship of this document to the Dixie National Forest Land and Resource Management Plan (LRMP, 1986) along with other laws and regulations.

INTRODUCTION

This Environmental Assessment (EA) discloses the environmental effects of continued livestock grazing under term permits on the Teasdale Ranger District, Dixie National Forest. The allotments on the Teasdale Ranger District are located in Wayne and Garfield Counties in southern Utah on the North Slope of Boulder Mountain. The proposed permits contained in this analysis authorize grazing on approximately 32,000 acres of National Forest land, as determined by the Dixie National Forest Land and Resource Management Plan, 1986 (LRMP).

PROPOSED ACTION

TABLE 1

Allotment Name	Total Acres	Proposed Livestock #	Season of Use	Grazing System
North Slope	32,099	275	6/11 - 9/30	Dfrd-rotat

The Teasdale Ranger District is proposing to issue 10 year permits to authorize the grazing of cattle on the grazing allotments listed (Table 1) beginning in the 1996 grazing season and terminating December 31, 2005. In addition to the General terms and conditions which are standard to Part 2 of the Term Grazing Permit, Part 3 of the permits will include the following additional terms and conditions:

Land and Resource Management Plan Standards and Guidelines (S&G's) for utilization, streambanks and channel restoration, riparian area management, Threatened & Endangered Species, wildlife, plant and fish habitat.

Structural range improvement maintenance assignments.

Non-structural range improvement maintenance assignments.

Requirements for livestock distribution, including herding and salting.

Allotment Management Plans and Annual Operating Plans.

Requirements for cultural resource clearances for any proposed range projects.

PURPOSE AND NEED

The purpose of the proposed action is to allow grazing of cattle on National Forest land of the Teasdale Ranger District by issuing ten-year term grazing permits in compliance with the Dixie National Forest Land and Resource Management Plan (LRMP).

In addition, the purpose of this action is to incorporate and implement applicable standards and guidelines of the LRMP (including compliance with applicable laws, regulations and policies) in the grazing permit authorizing livestock use on the Teasdale cattle allotments.

A third purpose is to meet the Forest Service's multiple use objectives at obtaining proper utilization of available forage on suitable rangelands.

A comparison of the desired future condition for the range lands of these allotment(s) and the existing range condition indicated the following needs:

There is a need to increase monitoring of cattle on this allotment particularly in the intensive riparian management area (9B) of Fish Creek to insure continued improvement of the riparian plant structures.

FOREST PLAN (LRMP) DIRECTION

Development of this document follows the implementing regulations of the National Forest Management Act of 1976 (NFMA), Title 36: Code of Federal Regulations Part 219 (36 CFR 219); National Environmental Policy Act of 1969 (NEPA), Title 40; Code of Federal Regulations, Parts 1500-1508. This Environmental Assessment (EA) is tiered to the Dixie National Forest Land and Resource Management Plan (LRMP) - Final Environmental Impact Statement (1986).

This analysis incorporates direction provided in the LRMP (1986). The LRMP guides natural resource management activities and has established management direction and Standards and Guidelines for management of the Dixie National Forest.

The Forest-wide Standards and Guidelines (S&G's) describe environmental protection measures to be applied to all lands on the Dixie National Forest unless superseded by the specific management area S&G's (LRMP, pages IV-24 to IV-55). Management Area Standards and Guidelines describe measures to be applied to geographic subdivisions of the Forest, each with a different resource management emphasis. There are 19 Management areas on the Dixie National Forest, detailed in Chapter IV of the LRMP. Each includes specific management direction and S&G's. Implementation of the Forest-wide and specific management Area direction and S&G's would move the project area towards the "Desired Future Condition" described in the LRMP (LRMP, pages IV-19 to IV-23).

INCORPORATION BY REFERENCE

Regulations to implement the National Environmental Policy Act (NEPA) provide for the reduction of bulk and redundancy in environmental impact statements and environmental assessments (40 CFR 1502.21), through incorporation by reference when the effect will reduce the size of the document without impeding agency

and public review of the action. The incorporated material shall be cited in the statement and its content briefly described.

Documents incorporated by reference in this environmental assessment include:

1. A Comprehensive Literature Review of the Effects of Livestock Grazing on Natural Resources
2. NFMA analysis notes of existing condition, desired future condition, and prescriptive actions maintained in the project file
3. Dixie National Forest Land and Resource Management Plan
4. Riparian Inventory Reports for the Teasdale Ranger District
5. National Historic Preservation Act (NHPA) Memorandum of Understanding
6. Programmatic Biological Assessment (BA) of the Effects of Grazing on the Mexican Spotted Owl

DECISION TO BE MADE

The Responsible Official is the District Ranger of the Teasdale Ranger District. This document will provide the Responsible Official with the basis upon which to make an informed decision. Following a review of this document, for each allotment, the Responsible Official will decide to do one of the following:

1. Issue term grazing permit as proposed.
2. Issue term grazing permit under conditions other than proposed.
3. Not issue term grazing permit.

CHAPTER 2
PUBLIC INVOLVEMENT, ISSUES AND ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes the Proposed Action and alternatives to the Proposed Action which were designed to respond to key issues while still addressing the Purpose and Need identified in Chapter 1. As required by law, a "No Action Alternative" is considered.

A public involvement process was initiated to identify relevant public concerns about the proposed action and to identify significant issues to be addressed in the environmental analysis. Interested and affected parties were contacted by the following public involvement activities:

- Annual correspondence to permittees and annual operating meetings with permittees about their permit.
- A public open house was held at the Teasdale Ranger District Office on June 9, 1995 to present preliminary NFMA findings.
- A formal scoping letter detailing the proposed action was sent to 418 interested parties, seeking public comments for a 30 day period between July 11, 1995 and August 11, 1995.
- An update letter that was sent to permittees, elected officials, and interested members of the public to inform them of recent legislative developments and to provide clarification of the proposed action, proper utilization and to better describe the needs for the connected actions.
- Correspondence and discussions with interested parties from March of 1995 to present.
- Announcements in the Quarterly NEPA Report.

The Forest Service Interdisciplinary Team (IDT) thoroughly reviewed comments received from people interested in the proposal. All concerns raised by the public were addressed by 1) mitigation measures, 2) features of the proposed action, and/or 3) the no action alternative--which would not permit cattle and cattle grazing.

ISSUES

During the existing condition phase of the National Forest Management Act (NFMA) analysis the Interdisciplinary Team (IDT) developed a preliminary list of issues. These issues were directly related to the issuing of term grazing permits, including grazing in riparian areas, grazing in threatened, endangered and sensitive species habitat and soil and water quality within the allotments, and the affects of these activities on the natural resources and local economy of the area. The Dixie National Forest LRMP allows for the grazing of livestock in compliance with Forest-wide and Management Area Standards and Guidelines. Part of the focus of the NFMA Analysis is to assess how well existing conditions comply with S&G's.

Information and concerns from the public responses to scoping, from resource specialist in the USDA Forest Service, and from other public agencies were used to identify significant issues. The Interdisciplinary Team evaluated the initial public and agency information and confirmed there were no NEPA significant issues that would drive the development and evaluation of additional alternatives.

Scoping was used to identify issues that are of significance to drive the formulation of additional alternatives to the proposed action. A process of issue sorting was used to analyze and sort comments to determine if a significant issue was expressed in the comment. The five criteria listed below were used to evaluate comments:

1. Non-significant issue identification--the issue is recorded but not included in further documentation. (A non-significant issue is an issue where the issue is outside the scope of the proposed action, the issue is already decided by law, regulation, forest plan or other higher level decision, the issue is irrelevant to the decision to be made, the issue is conjectural and not supported by scientific evidence, the issue has limited extent, duration and intensity.)
2. A measurement indicator--if the indicator is valid, it is adopted, if not, it is recorded but not included in further documentation.
3. Additional affected environment--if the additional affected environment is valid, it is adopted, if not, it is recorded but not included in further documentation.
4. An additional alternative--if the additional alternative is valid it is adopted; if not, it is recorded but not included in further documentation.
5. The identification of a "significant issue"--significant issues are carried forward in the analysis process. (A "significant issue" is a dispute with the environmental effects of the proposed action.)

NONSIGNIFICANT ISSUES

Some respondents indicated concern that livestock grazing may cause degradation of the environment-- soil and water quality, wildlife and plant species and recreational experiences. Most of these comments are associated with situations of overgrazing, which is a conflict with the Proposed Action. However, the Proposed Action prescribes grazing at proper use which is consistent with providing for the needs of the environment. Overgrazing is not carried forward as a formal issue because the LRMP allows livestock grazing at proper use as part of its multiple use mandate. Additionally, the NO ACTION alternative, which will be analyzed in detail, effectively displays the effects of no grazing.

ALTERNATIVE DEVELOPMENT

A reasonable range of alternatives to the proposed action was developed to:

1. Meet the purpose and need for the project, which includes meeting Standards and Guidelines of the LRMP.
2. Consider a reasonable range of solutions for the issues.

The Term Grazing Permit Issuance ID Team developed a set of grazing strategies to address each issue. Intensive data analysis and field trips to critical allotments were made by the team to jointly verify on-the-ground conditions and how initial strategies should be adjusted. Complimentary strategies including connected actions for resolving issues were combined to form single alternatives.

In order to consider a reasonable range of solutions to the issues, the ID Team developed eight potential alternatives and a No Action Alternative. Seven of these alternatives were "considered, but not studied in detail". These alternatives were listed first, including the reasons why they were not carried forward for "detailed consideration". Following this discussion is the description of the two alternatives, Proposed Action and No Action that are "considered in detail".

ALTERNATIVES CONSIDERED, BUT NOT STUDIED IN DETAIL (including discussion of rationale for not considering the alternative further)

Alternative 1

This alternative evaluated continued cattle grazing under the Terms and Conditions of the expiring permit. While this alternative would allow cattle grazing on existing allotments, the current prescribed utilization standards will not meet the purpose and need as described in Chapter 1. In some instances riparian communities that meet or are moving towards the desired future condition could be moved away from the desired future condition without changes in the Terms and Conditions of the Grazing Permit. For this reason this alternative will not receive further detailed study in this analysis.

Alternative 2

This alternative evaluated issuing Term Grazing Permits for less than 10 years. While this alternative would allow cattle grazing on existing allotments it would not comply with Section 504 of Public Law 104-19 requiring that all grazing permits be issued for a full 10-year term. For this reason this alternative will not receive further detailed study in this analysis.

Alternative 3

This alternative evaluated renewal of grazing permits, but with different levels of stocking. While this alternative would allow cattle grazing on existing allotments it would not comply with Section 504 of Public Law 104-19 requiring that all grazing permits be issued for current numbers. NFMA analyses indicated that these allotments are currently stocked within indicated

capacities. For this reason this alternative will not receive further detailed study in this analysis.

Alternative 4

This alternative evaluated the use of different grazing systems at various levels of stocking. While this alternative would allow cattle grazing at various levels on the existing allotments, it was not studied in detail because appropriate changes in grazing strategies were considered and/or made in the Proposed Action, which does not preclude future administrative changes in grazing strategies. For this reason this alternative will not receive further detailed study in this analysis.

Alternative 5

This alternative would exclude grazing in riparian areas. While this alternative would allow cattle grazing on upland areas of the existing allotments, it is impractical to exclude all riparian areas from grazing, and would reduce or restrict other uses of the riparian systems. Although some studies indicate that exclusion of grazing by fencing is the quickest method to improve deteriorated riparian areas, studies also show that proper grazing by cattle has acceptable effects on riparian resources. Recognizing that riparian areas are integral components of the affected environment, Management Area direction and Standards and Guidelines have been incorporated into the Land and Resource Management Plan to protect and enhance riparian systems. For this reason this alternative will not receive further detailed study in this analysis.

Alternative 6

This alternative evaluated a separate alternative for protection of wildlife habitat. Both alternatives considered in detail provide for wildlife habitat. This is because the alternatives considered in detail comply with applicable laws, regulations, management direction and LRMP Standards and Guidelines. For this reason this alternative will not receive further detailed study in this analysis.

Alternative 7

This alternative evaluated changing the kind and class of livestock on existing allotments. This would allow grazing of livestock on existing allotments but would require additional site-specific analysis to determine the suitability of range conditions to effect such a change. This alternative does not meet the purpose and need described in Chapter One which is to allow cattle grazing on National Forest land. Additionally, Section 504 of Public Law 104-19 specifically legislates the issuance of a grazing permit be accomplished under the the same terms and conditions as the expired permit. For these reasons this alternative will not receive further detailed study in this analysis.

ALTERNATIVES CONSIDERED IN DETAIL

This environmental assessment describes two alternatives in detail. They are the Proposed Action - issue 10 year permits to authorize grazing and the No Action - where grazing permits are not issued.

In addition to the General Terms and Conditions which are standard to Part 2 of the Term Grazing Permit, Part 3 of Term Grazing Permits will include terms and conditions relative to:

- Structural range improvement maintenance assignments.
- Non-structural improvement maintenance assignments. Rangeland areas which have been mechanically treated to manipulate vegetation conversions from either pinyon-juniper or sagebrush vegetation types (with or without reseeding), for the specific purpose of providing livestock forage will be assigned for permittee maintenance in Part 3 of the Grazing Permit. Portions of livestock grazing capacities are based on the production of these treated areas. If, during the tenure of this permit, forage production in these areas declines, substantially affecting grazing capacity, adjustment of livestock numbers or season of use will be administratively made.
- Requirements for livestock distribution, including herding and salting.
- Allotment Management Plans and Annual Operating Plans.
- Requirements for cultural resource clearances for any proposed range projects.
- Forest Plan standards and guidelines for utilization, streambank and channel restoration, riparian area management, Threatened, Endangered and Sensitive Species, plant, wildlife and fish habitat.

The following standards, in Table 2, define proper use criteria incorporated in Part 3 of the permit. These standards are within the parameters prescribed in the Dixie National Forest Land and Resource Management Plan (LRMP) but provide more definitive criteria. This is not an all-inclusive listing of proper use criteria. Proper use criteria are determined by application of limiting factors such as presence of Threatened, Endangered or Proposed and Sensitive fish, wildlife, or plant species or critical/sensitive resource areas. Therefore, some utilization prescriptions may be less than these maximum standards. Any one of these standards will indicate the proper time to remove livestock from that pasture or allotment:

Table 2
Proper Use Criteria

Vegetation Type	Utilization By Seral Stage				Comments
	Very Early	Early	Mid	Late	
Hydric species in riparian areas	6" SH*	6" SH	4" SH	4" SH	Remaining at end of growing season
Riparian Management Area 9B	6" SH	6" SH	6" SH	6" SH	Remaining at end of growing season.
Hydric species in wet meadows not influenced by streams	6" SH	6" SH	4" SH	4" SH	Remaining at end of growing season
Non-hydric species in riparian areas	2" SH	2" SH	2" SH	2" SH	Remaining at end of growing season.
Streambanks	----- <20% disturbance-----				Sloughing, trampling, dislodged stones, animal tracks.
Riparian browse	----- ≤50%-----				New leader production.
Upland	50%	50%	50%	50%	Varying in specific unit from 40-60%.
Crested wheatgrass	60%	60%	60%	60%	Mgmt option to intensively graze at higher level to maintain healthy seeding.
Goshawk post-fledgling family areas (PFAs)					
Ponderosa Pine/Mixed species--use criteria applies in up to 2-acre openings in 600-acre area:					
Spruce-Fir--use criteria applies in up to 1-acre openings in 600-acre area:					
Grass,Forb	-----average 20% by weight-----				Not exceed 40%.
Shrub	-----average 40% by weight-----				Not exceed 50%.
Goshawk foraging areas					
Ponderosa Pine/Mixed Species--use criteria applies in up to 4-acre openings in 6000-acre area:					
Spruce-Fir--use criteria applies in up to 1-acre openings in 6000-acre area:					
Grass,Forb	-----average 20% by weight-----				Not exceed 40%.
Shrub	-----average 40% by weight-----				Not exceed 50%.

*SH= Stubble Height

DESCRIPTION OF ALTERNATIVES

PROPOSED ACTION

The Teasdale Ranger District is proposing to issue 10 year permits to authorize the grazing of cattle on the grazing allotments listed in Chapter 1, beginning in the 1996 grazing season and terminating December 31, 2005. In addition to the General Terms and Conditions which are standard for Part 2 of the Term Grazing Permit, term grazing permits proposed for issuance will include the additional terms and conditions added to Part 3 of the respective permits.

CONNECTED ACTIONS

Connected actions are those actions required to be implemented in order to permit livestock grazing. No needs were identified, for any allotments, during analysis which required implementation of connected actions.

IMPROVEMENTS NEEDED FOR BETTER LIVESTOCK DISTRIBUTION AND FORAGE UTILIZATION

1. Construct approximately 2 1/2 miles of riparian protection fence in the 9B area of Fish Creek, if monitoring indicates a need.

NO ACTION

The grazing permit would not be issued. The No Action alternative would not permit grazing on the allotments described in Chapter 1.

MITIGATION MEASURES

Report and record any sightings of threatened, endangered, proposed or sensitive species and implement appropriate protection measures as stated in recovery plans, habitat conservation plans, LRMP or other approved plans or in compliance with direction given by the responsible line officer.

Cultural resource sites known within these allotments shall be protected. If a site is located during management improvement operations, operations would cease until the site is evaluated by the forest archeologist (or qualified designate). Prior to activities and operations to effect range improvement activities such as water developments or fencing, the appropriate archeological inventories and consultation under the supervision of the forest archeologist (or qualified designate) shall occur.

COMPARISON OF ALTERNATIVES

TABLE 3
COMPARISON OF ALTERNATIVES BY PURPOSE AND NEED, FOREST PLAN CONSISTENCY AND LAW

<u>ALTERNATIVE</u>	<u>ADDRESSES PURPOSE AND NEED</u>	<u>FOREST PLAN CONSISTENCY</u>
Proposed Action	Yes- The proposed action authorizes cattle grazing and incorporates standards and guidelines from the LRMP. It also requires proper utilization of available forage.	Yes- This action would gradually move the allotments towards the desired future condition in the LRMP and identified during the NFMA analysis.
No Action	No-This alternative would not authorize cattle grazing. It would not meet multiple use objectives.	No- This alternative does not meet the desired future condition in the LRMP. It does not comply with PL-104-19.

CHAPTER 3: AFFECTED ENVIRONMENT

PROJECT AREA

The North Slope cattle allotment on the Teasdale Ranger District covers approximately 32,000 acres on the Aquarius Plateau- Boulder Mountain region in Wayne County in south central Utah (see location and vicinity map). Elevations range from 7,000 feet along the foothill range of the Fremont River basin to 11,000 feet along the Boulder Top rim.

Vegetation types range from pinyon-juniper and sagebrush, through ponderosa pine and aspen to spruce-fir forests.

Watersheds drain the allotment to the north to the Fremont River which is tributary to the Colorado River.

There is no designated wilderness within the Teasdale Ranger District. The North Slope Allotment provides a scenic view-shed of the Capitol Reef National Park which is approximately 10 miles from the allotment boundary.

EXISTING CONDITIONS

The following tables describe the existing condition of only those components of the affected environment within the respective allotments which may be affected by the proposed management activities. The resources described are: vegetation, threatened, endangered, proposed and sensitive plants and animals, soil, water, fish, recreation, and critical wildlife habitat for management indicator species. Critical wildlife habitat is defined by Utah Division of Wildlife Resources or the Forest Service and has no relationship to critical habitat designated by Conservation Strategies for threatened or endangered species. Critical habitat has not been designated on the Dixie National Forest for any Federally listed threatened or endangered species.

The information presented in Chapter 3 is based on information contained in the Project File, located at the Dixie National Forest. The existing terms of the respective permits with regard to numbers, season of use and grazing system is listed at the top of each table.

Several components of the affected environment that may be present on the allotment were not analyzed in detail because the interdisciplinary team and the consultation process with regulatory agencies determined that there would be little or no effects from livestock grazing to these components and connected actions such that further analysis would not be needed. These components are:

Wildlife: During the informal consultation process the Dixie National Forest and the U.S. Fish and Wildlife Service concurred that the following threatened, endangered, and sensitive species are not affected by grazing such that further analysis would not be needed. These species and the rationale for this determination are shown below. (T indicates threatened

species, E for endangered and S for Regional Forester designated sensitive species.)

- Ute Ladies' Tresses (T) Grazing would not affect this plant.
Bald eagle (T) There are no nests or roosts on the Dixie National Forest. Occurrences are in fall or spring before or after grazing has occurred. The most limiting habitat component for bald eagles is large diameter trees which are not affected by grazing.
- Spotted Bat (S) The limiting habitat for bats is hibernacula and maternity sites, which are not affected by grazing.
- Western Big-eared Bat(S) The limiting habitat for bats is hibernacula and maternity sites, which are not affected by grazing.
- Three-toed Woodpecker(S) The limiting habitat component for this species is snags, which are not affected by grazing.
- Flammulated Owl (S) The limiting habitat component is snags, which are not affected by grazing.

The Management Indicator Specie that is not affected by grazing and requires no further analysis is:

- Northern Flicker The limiting habitat component is snags, which are not affected by grazing.

The rationale for wildlife species identified by the Utah Division of Wildlife Resources and U.S. Fish and Wildlife Service that have been determined to have little to no effects such that further analysis would not be necessary are:

- Bats of Concern The bat species U.S. Fish and Wildlife Service requested that we address are listed below. Their most limiting habitat component is hibernacula and maternity sites which are not affected by grazing.
- Sage Grouse The most limiting factor for sage grouse and their habitat is an increase in predation due to a loss of vegetation in nesting and brooding areas from past over-grazing; mortality due to cattle inadvertently stepping on nest or young during critical brood periods (March 15-June 1); and disturbance to display grounds by livestock (March 15-June 1). Livestock grazing does not occur during these critical time periods and will not have an effect.
- Western Burrowing Owl Urbanization is the most prevalent loss of habitat by this species; grazing has little to no effects.

Bat species considered under Bats of Concern are: California myotis (Myotis californicus), Western small-footed bat (Myotis ciliolabrum), Long-eared myotis (Myotis evotis), Fringed myotis (Myotis thysanodes), Long-legged myotis (Myotis volans), Yuma myotis (Myotis yumanensis), Allen's big-eared bat (Idionycteris phyllotis), and Brazilian free-tailed bat (Tadarida brasiliensis).

The Brian Head Recovery Project Environmental Impact Statement and Record of Decision has described replacing the yellow-breasted chat with habitat conditions to indicate health of riparian habitats. These conditions include:

1. Dominant late seral plant community stages
2. All age classes represented
3. Shrubs having multiple stems and canopy layers in continuous patches with limited openings throughout
4. Native species dominant with grasses forbs, shrubs, and litter present
5. Natural dynamic processes functioning throughout the system.

Cultural Resources: A Memorandum of Understanding has been prepared that identified sites needing to be addressed with this analysis. None of these sites are present on the allotments under analysis.

Under "Soil/Water" on Table 4, reference is made to 303(d) water bodies. 303(d) water bodies are those that the State of Utah Division of Water Quality has identified as not meeting State standards for designated beneficial uses. Also listed under this resource is a listing of High Priority Watersheds that have been identified by the State of Utah for non-point source pollution control. The specific pollutant parameters abbreviated are: DO, dissolved oxygen; Nut, Nutrients; TSS, total suspended solids; TDS, total dissolved solids; temp, temperature; pH and Iron .

Following, in Table 4, is a summary of existing resource conditions on the affected allotments (summarized from Project File NFMA analysis record).

TABLE 4
EXISTING RESOURCE CONDITIONS

ALLOTMENT: North Slope (Cattle)

Numbers: 275 Season of Use: 6/11-9/30 Grazing System: Modified Deferred Rotation

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	- - -	Not present.
	Riparian-Other Reseeded (Cr Wheat)	Satisfactory Satisfactory	All in allotment Fish Creek P-J Chainings
	Upland	Satisfactory	Throughout allotment
TEPS Plants	Ute Ladies's Tresses	Potential habitat	Moist soils between 4,300-6,900 feet.
	Dana Milkvetch	Potential habitat	7,000-9,200 feet
	Paradox Moonwort	Potential habitat	Wet meadows and open parklands below 10,000 feet.
	Aquarius Paintbrush	No suitable habitat	Not present
	Rabbit Valley Gilia	Suitable habitat	Bullberry Unit
	Little Penstemon	Potential habitat	Sagebrush-grass and spruce communities on tertiary volcanic gravels between 8,200-10,170 feet.
	Angel Potentilla Arizona Willow	No suitable habitat Potential habitat	Not present Riparian corridors above 8,500 feet with less than 5% gradient.
Bicknell Thelesperma	Suitable habitat	Bulberry Unit	
Wildlife TEPS	Mexican Spotted Owl	Potential dispersal	Throughout allotment
	SW Willow Flycatcher	Potential habitat	Lower riparian areas containing dense shrubs.
	Peregrine Falcon	Potential habitat	Cliff substrate across the allotment.
	Utah Prairie Dog	No suitable habitat	Not present.
	Flammulated owl	Suitable habitat	Mixed pine forests
	Northern Goshawk	Suitable nesting	4 known territories within the allotment.
	Spotted Bat	Potential nesting Potential foraging	Rock crevices on steep cliffs Ponderosa pine, pinyon/juniper and open pastures.
	Western Big-Eared Bat	Potential nesting Potential foraging	Rocky outcrops Pinyon juniper, grasslands, mixed conifer below 10,000 feet.
Wildlife MIS	Mule Deer	Critical Fawning (UDWR)	Blind Lake Pasture
		Critical Summer (UDWR)	Bullberry, Sam's Mill, Donkey, Spring Creek, Blind Lake Pastures.
		Critical Winter (UDWR)	Bullberry, Sam's Mill and Spring Creek pastures.
	Rocky Mountain Elk	Critical Winter (UDWR)	Bullberry, Sam's Mill, Donkey, and Spring Creek Pastures.
Wild Turkey	High Priority Range (UDWR)	Generally below 10,000 feet.	
Yellow-Breasted Chat	Potential habitat	Lower riparian areas	

RESOURCE	FEATURE	CONDITION	LOCATION
Other Species	Western Burrowing Owl	Potential habitat	Open sagebrush flats, pinyon juniper slopes
	Sage Grouse	No suitable habitat	Not present
	Neotropical Migratory Birds	Existing/Potential Habitat	Throughout allotment
	Passerine Birds	Existing/Potential Habitat	Throughout allotment
	Bats (see above for list of species)	Potential Habitat	Throughout allotment
Soils/Water	Streambanks	Stable Some unstable natural condition	Throughout allotment
	Riparian Size	Stable or increasing.	Throughout allotment
	Soil Productivity	No adverse impacts.	Throughout allotment
	Sediment Delivery to streams	Within acceptable limits.	Throughout allotment
	303(d) Water Bodies	- - -	Not present.
	High Priority H2O-sheds	Nut, TDS, TSS	Awapa
Fish MIS	Viabie Populations	Self-sustaining Brook Trout UDWR maintained	Fish Creek, Donkey Creek, Carcass Creek Blind Lake, Beaver Dam, Fish Cr Lake, Green Lake, Pear Lake, Round Lake, Lost Lake, Left Hand Reservoir, Solitare, Bull Berry Reservoir, Coleman Res, Bob's Hole
	Streamside Cover	> 40%	All unless boulder strewn
	Macroinvertebrates	Not measured	Perennial streams
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	No known conflicts.	Viewing scenery, camping, driving.
	Wilderness	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

CHAPTER 4: ENVIRONMENTAL EFFECTS

INTRODUCTION

The environmental effects provide the scientific and analytical basis for the comparison of the Proposed Action with the alternatives described in Chapter 2. They include direct, indirect, and cumulative effects on the resources described in Chapter 3, Affected Environment.

Direct, indirect, and cumulative effects of livestock grazing on the resources and activities summarized in this chapter are discussed in detail in their respective chapters of the paper entitled "A Comprehensive Literature Review of the Effects of Livestock Grazing on Natural Resources" and the NFMA analysis notes contained in the Project File, located at the Dixie National Forest. Both records are incorporated here by reference (40 CFR 1502.21). Site-specific resources identified in Chapter 3 are the basis for discussion in this chapter.

VEGETATION

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Proper use criteria prescribed under this alternative would provide for the physiological requirements of vegetation on all the units of the North Slope Allotment.

Grazing at proper use by the proposed livestock number, season of use and grazing system for this allotment will ensure that short and long term objectives for upland and riparian vegetation are met. Proper use will be achieved by permittee compliance with the terms and conditions of the grazing permit including the specified standards for that allotment.

Implementing standards would improve overall ecological condition and trend. Vegetation diversity would increase. Native plants would increase and undesirable plants would decrease (See A Comprehensive Literature Review of the Effects of Livestock Grazing on Natural Resources).

During the NFMA analysis, areas of the allotment (Dog Flat wet meadow and Fish Creek riparian) were found to be exceeding proper use standards. These areas will be monitored for compliance with proper use. If monitoring indicates a need fencing of the 9B riparian area on fish creek would be accomplished. This fencing will meet ensure proper utilization in the 9B area.

This alternative meets the management area direction and standards and guidelines of the Forest Plan (Dixie National Forest Land and Resource Management Plan, 1986). It would move the allotments toward desired future condition.

CUMULATIVE EFFECTS

The cumulative effects area for vegetation is the Teasdale Ranger District. This area was selected based on plant communities, soil types and proximity to the allotment being considered for permitted livestock.

The cumulative effects of past and present livestock grazing, road building, recreation, special uses and timber harvest have influenced the vegetation resource on the Teasdale Ranger District. Since livestock grazing occurs in many of the uplands and riparian areas across the district and improvement is anticipated in areas where unsatisfactory vegetation conditions exist the cumulative effects of the proposed action when added to other past, present, and reasonably foreseeable future actions of the agency and others is expected to maintain or improve the vegetation conditions on these allotments. Past fires average less than 10 acres in size and cumulatively have had a minimal effect on the vegetation. However, fire suppression has altered species composition and structure throughout the District.

NO ACTION

DIRECT/INDIRECT EFFECTS

The effects of no action on the vegetation will be a general increase in plant biomass. Generally, ecosystem health would improve as vegetation and litter cover would increase. Plant vigor and reproduction would improve overall. In upland shrub and pinyon-juniper communities response would be slight. Riparian areas would show improvement. Buildup of vegetation residue would result in some loss of vigor or reproduction capability over time.

CUMULATIVE EFFECTS

The cumulative effects of past and present livestock grazing, road building, recreation, special uses and timber harvest have influenced the vegetation resource on the Teasdale Ranger District. Improvement is anticipated in areas where unsatisfactory vegetation conditions exist. The cumulative effects of no action when added to other past, present, and reasonably foreseeable future actions of the agency and others is expected to maintain or improve the vegetative conditions on these allotments.

THREATENED, ENDANGERED, PROPOSED AND SENSITIVE PLANTS

This section describes the direct, indirect and cumulative effects of the Proposed Action and the No Action Alternative on Federally listed Threatened, Endangered and Proposed species as well as Sensitive plant species as designated by the Regional Forester of the Intermountain Region.

The cumulative effects area (CEA) for the species discussed below is the Teasdale Ranger District. The rationale that is common to the species with this CEA is that grazing occurs on nearly all parts of the District, the allotments under analysis are spread over much of the District, these species have habitat or ranges over the whole district (sometimes scattered habitats), and the Teasdale Ranger District is somewhat geographically isolated from other

mountains and forests such that the District could be considered an area with sub-populations for these species. Additional rationale for specific species or groups is outlined where appropriate.

THREATENED, SENSITIVE, PROPOSED PLANT SPECIES

PROPOSED ACTION

Ute Ladies' Tresses (Spiranthes diluvialis)

DIRECT/INDIRECT EFFECTS

The lower portions of the North Slope Allotment are just above the elevational range for the Ute ladies' tresses (4,300-7,000 feet). Moist soils along the lower riparian areas within the allotment could therefore, provide marginal potential habitat for this uncommon orchid. Implementation of proper use under the Proposed Action would reduce the effects of grazing and trampling and thus begin to reverse the downward trend of riparian areas currently in unsuitable condition due to livestock grazing. With riparian improvements, potential habitat conditions for the Ute ladies' tresses would be expected to improve over time and thus meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area considered for the Ute ladies' tresses is potential habitat which occurs in riparian areas below 7,000 feet on the District. Past disturbances, due to livestock grazing activities, water diversions and recreational use have occurred in potential habitat on and off the District for the Ute ladies' tresses. Implementation of proper use under the Proposed Action would help reduce the downward trend of riparian habitat and would move toward the desired habitat conditions required by the Ute ladies' tresses. Implementation of the Proposed Action would be cumulative with new proper use guidelines proposed on adjacent allotments across the District. Activities would continue to occur at current levels in riparian areas outside Forest land.

NO ACTION

DIRECT/INDIRECT EFFECTS

Implementation of no grazing under the No Action Alternative would improve potential riparian habitat in the lower portions of the Allotment that have been disturbed by past livestock use, faster than with grazing at proper use. Re-establishment of riparian vegetation and stabilization of streambanks would, therefore, increase habitat available to Ute ladies' tresses. The maintenance and improvement of potential Ute ladies' tresses habitat would meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area considered for the Ute ladies' tresses in the No Action Alternative would be the same as that for the Proposed Action. Past disturbances, due to livestock grazing activities, water diversions and recreational use have occurred in potential habitat on and off the District for the Ute ladies' tresses. Implementation of the No Action Alternative would allow streambanks that have been disturbed by past over utilization and

trampling to stabilize and thereby increase potential habitat for the Ute ladies' tresses. Livestock activities would continue to occur at current levels in riparian areas outside Forest land.

SENSITIVE PLANT SPECIES

Of those plants that may occur on the Teasdale District, the Aquarius paintbrush and angel potentilla do not occur on the North Slope Allotment, and the Rabbit Valley gilia and Bicknell thelesperma occur on steep slopes of the Navajo and Carmel formation which makes them inaccessible to livestock grazing. Grazing would have no effects to these species, therefore, they will not be analyzed further in this section.

PROPOSED ACTION

Dana Milkvetch (Astragalus henrimontanensis)

DIRECT/INDIRECT EFFECTS

Potential habitat occurs within the North Slope Allotment for the Dana milkvetch. Domestic livestock are not known to graze this species and generally do not graze the other members of this genus because of its toxic properties. Livestock trampling on Dana milkvetch or potential habitat is not expected to be measurable on drier upland slopes where this species usually occurs. If the Dana milkvetch occurs on the North Slope Allotment, the Proposed Action is expected to maintain populations and habitat. Because the potential habitat for the Dana milkvetch would be maintained with the Proposed Action, it would meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area is identified as all suitable Dana milkvetch habitat that occurs on the Teasdale District below 9,200 feet. Past actions that included clearing of pinyon/juniper stands and reseeding with non-native plants have reduced potential habitat for the Dana milkvetch. The Proposed Action would not be adding to the known cumulative effects to the Dana milkvetch.

Paradox Moonwort (Botrychium paradoxum)

DIRECT/INDIRECT EFFECTS

Paradox moonwort is a small rare fern that is found in diverse habitats that includes wet meadows and open parklands. Although no plants have been observed, the North Slope Allotment contains potential habitat that could support the paradox moonwort. The effects of grazing on the moonwort is not yet well understood. With the implementation of the Proposed Action, livestock utilization in riparian environments, including wet meadows, would follow proper use guidelines for hydric species (see Proposed Action). Proper use would reduce trampling along riparian areas and allow vegetation to establish in heavily disturbed areas.

If monitoring along lower Fish Creek concludes that utilization has exceeded proper use after implementation, then a 2.5 mile fence would be constructed to

exclude livestock use. Although livestock utilization could reach between 40-60% in upland pastures with unknown effects to the paradox moonwort, implementation of the Proposed Action would begin to reverse the downward trend of potential habitat available to the moonwort in riparian and wet meadow environments that are currently in unsatisfactory condition due to livestock grazing. Because potential paradox moonwort habitat would be maintained or improved in riparian environments, Forest Service NFMA requirements would be met.

CUMULATIVE EFFECTS

The cumulative effects area for the paradox moonwort includes all potential habitat (wet meadows and open parkland) on the District below the Boulder Top. Livestock overgrazing/trampling, road construction and off road vehicle use reduce potential habitat for the paradox moonwort. Under the Proposed Action, utilization of up to 40-60% in upland pastures would continue with unknown affects to the paradox moonwort. However, with proper use, an improvement in riparian habitat would begin to improve habitat conditions that would be available to the paradox moonwort, particularly when combined with proper use proposed District-wide.

Little Penstemon (Penstemon parvus)

DIRECT/INDIRECT EFFECTS

Although little penstemon has not been observed, potential habitat occurs on the North Slope Allotment that could support the little penstemon. Road building, reclamation projects and excessive sheep grazing have reduced potential habitat to the little penstemon. None of these activities are planned to occur with the implementation of the Proposed Action. The Proposed Action would only authorize cow and calf livestock grazing on the North Slope Allotment. Therefore, the Proposed Action is not expected to have a direct or indirect effect on the little penstemon or its habitat. Because potential little penstemon habitat would be maintained under the Proposed Action, Forest Service NFMA requirements would be met.

CUMULATIVE EFFECTS

The cumulative effects area considered for the penstemon parvus is suitable sagebrush-grassland and spruce communities on tertiary volcanic gravels between 8,200 and 10,170 feet elevation across the District. Reclamation projects, road building and excessive sheep grazing have reduced potential habitat for the little penstemon across the District. Because the Proposed Action would have no incremental effect on the little penstemon, there would be no effects that are cumulative with past, present or future natural disturbance or management activities.

Arizona Willow (Salix arizonica)

DIRECT/INDIRECT EFFECTS

Although the Arizona willow has not been observed within the North Slope Allotment, potential habitat occurs along riparian corridors above 8,500 feet. If Arizona willow populations are found at a later date, the Conservation Strategy for Arizona willow would be implemented on the allotment. The Proposed Action, which includes the terms and conditions of the permits to meet

the Conservation Strategy, would maintain viable populations of Arizona willow and meet NMFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area identified for the Arizona willow includes all potential habitat (riparian corridors above 8,500 feet with less than 5% gradient) on the District. Livestock over utilization and trampling have contributed toward decreased potential Arizona willow habitat on the District. With proper use, an improvement in riparian habitat would begin to improve habitat conditions that would be available to the Arizona willow, particularly when combined with proper use proposed District-wide.

NO ACTION

Dana Milkvetch (Astragalus henrimontanensis)

DIRECT/INDIRECT EFFECTS

Domestic livestock are not known to graze this species and generally do not graze the other members of this genus because of its toxic properties. If the Dana milkvetch does occur on the North Slope Allotment, the No Action Alternative would have a minimal effect in reducing livestock trampling. The No Action Alternative would maintain potential habitat available for the Dana milkvetch and would therefore meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area for the Dana milkvetch in the No Action Alternative is the same as that described for the Proposed Action. Past actions that included clearing of pinyon/juniper stands and reseeding with non-native plants have reduced potential habitat for the Dana milkvetch. The No Action Alternative would not be adding to the known cumulative effects to the Dana milkvetch.

Paradox moonwort (Botrychium paradoxum)

DIRECT/INDIRECT EFFECTS

Implementation of the No Action Alternative would be expected to improve and possibly increase wet meadow paradox moonwort habitat where it currently exists in unsatisfactory condition at a faster pace than the Proposed Action. Meadows in good condition would be expected to maintain existing habitat. Therefore implementation of the No Action Alternative would meet Forest Service NFMA requirements by maintaining habitat for paradox moonwort.

CUMULATIVE EFFECTS

The cumulative effects area for the paradox moonwort in the No Action Alternative is the same as that described in the Proposed Action. Livestock overgrazing/trampling, road construction and off road vehicle use have reduced potential habitat for the paradox moonwort. Implementation of the the No Action Alternative would not add to the cumulative effects to paradox moonwort or its habitat.

Little penstemon (Penstemon paravus)

DIRECT/INDIRECT EFFECTS

The North Slope Allotment is currently grazed by cattle, that do not effect the little penstemon. Therefore, there would be no direct or indirect effects to the little penstemon with the implementation of no grazing under the No Action Alternative. Maintenance of little penstemon potential habitat would meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area for the little penstemon in the No Action Alternative is the same as that described in the Proposed Action. Road building, reclamation projects and excessive sheep grazing have reduced potential habitat for the little penstemon. The No Action Alternative would not be cumulative with any of these past activities.

Arizona Willow (Salix arizonica)

DIRECT/INDIRECT EFFECTS

Implementation of the No Action Alternative would be expected to improve potential Arizona willow habitat in riparian areas currently in unsatisfactory condition. The No Action Alternative would comply with maintaining viable populations of Arizona willow as outlined in the Arizona Willow Conservation Strategy. Therefore, the No Action Alternative would meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area for the Arizona willow in the No Action Alternative is the same as that described in the Proposed Action. Livestock over utilization and trampling have reduced potential Arizona willow habitat on the District. The No Action Alternative would begin to reverse the downward trend of potential Arizona willow habitat due to the effects of past livestock use.

WILDLIFE

INTRODUCTION

Refer to Chapter 3 for site specific information regarding locations of suitable habitat, critical habitat as defined by the Utah Division of Wildlife Resources (UDWR) and Forest Service, and documented occurrences of species listed below. Species groups such as Neotropical Migratory Birds and Passerines are assumed to be present in all allotments and all pastures since their habitats may vary depending on species.

This section describes the effects of the Proposed Action and No Action Alternatives on wildlife resources. The effects of grazing are described in the Grazing Literature Review under Vegetation and their effects on wildlife under the Wildlife sections. Analysis of wildlife habitats for this process is focused on critical wildlife habitats as defined by UDWR and the Forest Service, and key wildlife habitat components for the respective species that can be influenced by grazing.

Generally, cattle grazing affects grasses and forbs on uplands with greater effects to shrubs and riparian zones. The following analysis of each species is based on the determination that with proper use and the No Action Alternative grasses and forbs on uplands would improve where past grazing has exceeded Forest Plan Standards and Guidelines (S&G's) and/or conditions are unsatisfactory. The No Action Alternative would leave more grasses and forbs, and recovery of unsatisfactory areas would be faster than with the Proposed Action. The same would be true with riparian areas. On uplands and riparian areas in satisfactory condition, habitats would be maintained with both alternatives, however, the No Action Alternative would result in more vegetation remaining, especially forbs on the uplands.

Utah prairie dog and sage grouse are not known to occur or have habitat within any of the allotments under analysis. Therefore, these species would not be affected and will not be addressed further in this document.

The cumulative effects area (CEA) for many of the species discussed below is the Teasdale Ranger District. The rationale that is common to the species with this CEA is that grazing occurs on nearly all parts of the District and these species have habitat or ranges over the whole district (sometimes scattered habitats). Additional rationale for specific species or groups is outlined where appropriate.

THREATENED, ENDANGERED, AND PROPOSED WILDLIFE

PROPOSED ACTION

Peregrine Falcon (Falcon peregrinus anatum)

DIRECT/INDIRECT EFFECTS

There would be no direct effects to peregrine falcons with proper use described in the Proposed Action. This alternative would have no effects to nesting habitat. Proper use grazing would maintain foraging habitat in riparian and open parklands in satisfactory condition and improve these habitats that are currently in unsatisfactory condition, thereby increasing potential available prey. (For further discussion, see the Biological Assessment).

If monitoring along lower Fish Creek concludes that utilization has exceeded proper use after implementation, then a 2.5 mile fence would be constructed to exclude livestock use. Improvement of riparian habitat would maintain or improve habitat available to peregrine prey.

The Proposed Action, therefore, would maintain viability of peregrines, meet Forest Service NFMA requirements, and meet the Recovery Plan. The LRMP goal to manage peregrine falcon habitat to maintain or enhance their status would be met with the Proposed Action.

CUMULATIVE EFFECTS

The area selected for cumulative effects analysis is the Teasdale Ranger District (see Introduction under Wildlife section for rationale). Proper use District-wide could improve riparian areas such that there may be an increase

overall in prey availability for peregrine falcons. Adjacent private, state and BLM lands are expected to continue grazing at present levels, therefore, riparian areas on these lands would expect to remain in the existing condition. Because peregrine falcons have increased in population numbers and productivity, it is determined that the Proposed Action, when combined with other activities on the Forest and other adjacent lands, would maintain viability of peregrines, meet Forest Service NFMA requirements, and meet the American Peregrine Falcon Rocky Mountain/Southwest Population Recovery Plan (USFWS 1984). The LRMP goal to manage peregrine falcon habitat to maintain or enhance their status would be met with the Proposed Action.

Mexican Spotted Owl (Strix occidentalis lucida)

DIRECT/INDIRECT EFFECTS

The direct and indirect effects of livestock grazing are described in the Programmatic Biological Assessment of the Effects of Grazing on the Mexican Spotted Owl for Region 4 Southern Utah Forests: Dixie, Fishlake, and Manti-LaSal National Forests (Grandison 1994) and is incorporated here by reference. There are no "core" areas or designated critical habitat areas on the Dixie National Forest for the Mexican Spotted Owl. A Protected Activity Center (PAC) was established for a pair of spotted owls that were identified on the Teasdale District, in the slickrock canyon country, approximately 10 miles east of the North Slope Allotment.

The Proposed Action would comply with the Mitigation Measures in this BA and with the Recovery Plan for the Mexican Spotted Owl. Therefore, Mexican spotted owl habitat would be maintained for viable populations, meeting Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area identified for the Mexican spotted owl is the Teasdale District. This area was selected because of the location of radio-telemetry-located owls and a feasible wintering and juvenile dispersal distance from these locations. Few activities take place within spotted owl nesting territories. The cumulative effects of past and present livestock grazing, timber harvests, fires and chainings have influenced the potential dispersal habitat of the Mexican spotted owl by reducing vegetation upon which prey species depend, and reducing the large tree and canopy cover components preferred in roosting habitat. Implementation of proper use across the District, would begin to reverse the downward trend of those riparian areas currently in unsatisfactory condition due to livestock grazing, and maintain those areas currently in satisfactory condition, that would maintain or improve spotted owl alternate prey species habitat.

Southwestern Willow Flycatcher (Empidonax traillii extimus)

DIRECT/INDIRECT EFFECTS

Although little is known about the habitat requirements or occurrence of the southwestern willow flycatcher on the Dixie National Forest, potential habitat exists in the lower elevations of the Allotment, where nesting substrate in the form of dense shrubs occur along low gradient riparian areas.

Grazing with proper use would increase willows and potentially suitable habitat for willow flycatchers in areas that are presently lacking willows or with low numbers of willows. If monitoring along lower Fish Creek concludes that utilization has exceeded proper use after implementation, then a 2.5 mile fence would be constructed to exclude livestock use.

Grazing, even at proper use levels, would promote the presence of brown-headed cowbirds which are known to parasitize willow flycatchers, decreasing reproductive success. Since riparian habitats would be maintained or improved with proper use, the LRMP goal to maintain or enhance the terrestrial habitat for all wildlife species that presently occur on the Forest would be met.

CUMULATIVE EFFECTS

The cumulative effects area considered for the southwestern willow flycatcher includes lower elevation riparian areas across the District that have the potential to grow willow thickets for nesting substrates. Proper use grazing District-wide could increase willow habitat and improve habitat for the willow flycatcher. Brown-headed cowbird presence would be expected to continue. With improved habitat conditions, more cover from parasitism would be present, however with continued grazing on adjacent land, brown-headed cowbird parasitism would still occur. Because so little is known about the taxonomy, abundance and distribution of willow flycatchers on the Dixie National Forest, cumulative effects of the Proposed Action with proper use grazing is unknown. However, improved habitat conditions would be moving toward the desired riparian habitat conditions for maintaining habitat for willow flycatchers with the Proposed Action.

NO ACTION

Peregrine Falcon (Falco peregrinus anatum)

DIRECT/INDIRECT EFFECTS

There would be no direct effects to peregrine falcons with the No Action Alternative. Riparian areas and open parklands that are maintained or improved would increase habitat for peregrine falcon prey at a faster rate than at proper use.

CUMULATIVE EFFECTS

The area selected for cumulative effects analysis is the same as described in the Proposed Action for this species. No grazing District-wide would improve riparian areas providing an increase in overall prey availability for peregrine falcons. Continued grazing on adjacent land would maintain existing conditions in their respective riparian areas. Because peregrine falcons have increased in population numbers and productivity, it is determined that the No Action Alternative when combined with other activities on the Forest and other adjacent lands would maintain viability of peregrines, meet Forest Service NFMA requirements, and meet the Peregrine Recovery Plan. The LRMP goal to manage peregrine falcon habitat to maintain or enhance their status would be met with the Proposed Action.

Mexican Spotted Owl (Strix occidentalis lucida)

DIRECT/INDIRECT EFFECTS

The No Action Alternative would increase foods used by the owls prey species, by allowing the composition and quantity of herbaceous vegetation and seed produced by both herbaceous and woody vegetation to increase (Grandison 1994). No grazing would comply with the Recovery Plan for the Mexican Spotted Owl. Therefore, Mexican spotted owl habitat would be maintained for viable populations, meeting Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area is the same as described in the Proposed Action. No grazing combined with other activities would meet the Recovery Plan, LRMP S&G's and Forest Service NFMA requirements.

Southwestern Willow Flycatcher (Empidonax traillii extimus)

DIRECT/INDIRECT EFFECTS

No grazing would improve riparian areas and increase willow habitat. This could increase suitable habitat for willow flycatchers. This would occur faster than with proper use.

No grazing would discourage the presence of brown-headed cowbirds which are known to parasitize willow flycatchers, decreasing reproductive success. However, since grazing would continue on adjacent private and other agency lands, brown-headed cowbirds would still be present and parasitism would still occur. Since riparian habitats would be maintained or improved with no grazing, the LRMP goal to maintain or enhance the terrestrial habitat for all wildlife species that presently occur on the Forest would be met.

CUMULATIVE EFFECTS

The cumulative effects area is the same as described in the Proposed Action for this species. Past grazing has reduced the amount and condition of willow habitats in some areas on the Teasdale Ranger District and on adjacent lands. The range of willow flycatchers has diminished where streamside habitat has been destroyed (Peterson, 1990). The No Action Alternative would increase potential willow habitat for willow flycatcher. With improved habitat conditions, more cover from brown-headed cowbird parasitism would be present. However, with continued grazing on adjacent lands, brown-headed cowbird parasitism would still occur.

SENSITIVE WILDLIFE SPECIES

PROPOSED ACTION

Northern goshawk (Accipiter gentilis)

DIRECT/INDIRECT EFFECTS

There would be no direct or indirect effects of grazing on northern goshawk nesting habitat with the implementation of the Proposed Action. Foraging habitats include grasses, forbs and shrubs for prey species. Grazing at proper

use would maintain these components for prey species and thereby maintain foraging habitat.

Maintaining northern goshawk foraging habitat meets the intent of the Management Recommendations for the Northern Goshawk in the Southwestern United States (Reynolds et al 1992) and the LRMP goals of maintaining habitat for all existing wildlife species.

CUMULATIVE EFFECTS

Because northern goshawks have been observed District-wide, except on Boulder Top, the cumulative effects area considered for analysis is the entire Teasdale District. Activities that can affect the northern goshawk and its habitat that have occurred on the District include, natural or prescribed fire, blowdown, beetle infestation, timber harvesting, snag removal, road construction, recreation, and to a limited extent livestock grazing. Current management direction follows the intent of the Management Recommendations for the Northern Goshawk in the Southwestern United States (Reynolds et al 1992), which reduces disturbances and improves habitat conditions for the goshawk. Implementation of the Proposed Action is consistent with this direction.

Spotted Bat (Euderma maculatum) and Western big-eared bat (Plecotus townsendii)

DIRECT/INDIRECT EFFECTS

Grazing at proper use would have no direct effects to the these bats. Grazing has the potential to decrease vegetation available to support insects on which bats prey. Grazing at proper use would not be expected to affect insect populations enough to affect bat foraging or bat populations. Maintaining riparian areas that are in satisfactory condition would not be expected to change bat foraging habitat measurably. Improvement of riparian areas in unsatisfactory condition would be expected to improve foraging (insects) and water availability for bats

CUMULATIVE EFFECTS

The cumulative effects area for spotted and western big-eared bats is suitable habitat within pinyon/juniper, ponderosa pine (*Myotis*), grasslands, and mixed conifer forests (*Plecotus*) below 10,000 feet. Other activities that could affect bat habitat that have occurred on the District include snag removal, water developments and prescribed fire. Prescribed fires can reduce grasses and forbs initially but after revegetation, generally provide more than prior to the activity. Water developments provide increased water availability for bats and their prey, and snag removal can reduce potential roosting habitat for *Myotis* species when rocky outcrops are unavailable. Implementation of proper use would maintain or improve bat foraging potential.

Flammulated Owl (Otus flammeolus)

DIRECT/INDIRECT EFFECTS

Grazing would not affect snags, which are the limiting habitat component for the flammulated owl. Grazing at proper use in upland pastures and riparian areas in satisfactory condition would be expected to maintain owl foraging habitat, while those areas in unsatisfactory condition would be expected to

improve. The Proposed Action would therefore help maintain flammulated owl viability, meeting Forest Service NFMA requirements and LRMP goals to maintain habitat for all existing wildlife species.

CUMULATIVE EFFECTS

Responses from flammulated owls during Mexican spotted owl surveys have occurred all across the District. Therefore the entire District is considered for the cumulative effects analysis. Other activities that can affect flammulated owl habitat which have occurred on the District include timber harvesting, snag removal and natural/prescribed fires. Although dry logging still occurs on the District, current timber sale management direction protects potential habitat by retaining/recruiting snags and managing areas of old growth. Proper use District-wide, under the Proposed Action, would affect vegetation for insects and therefore flammulated owl prey. Improvements in riparian areas would increase insect numbers overall and maintain viable populations of flammulated owls, meeting NFMA requirements

NO ACTION

Northern goshawk (Accipiter gentilis)

DIRECT/INDIRECT EFFECTS

There would be no direct effects to the northern goshawk nesting habitat with the implementation of the No Action Alternative. Foraging habitats, including grasses and forbs used by prey species would be improved or maintained, thereby providing potential increased prey base. Therefore, the No Action Alternative would maintain goshawk viability, meeting Forest Service NFMA requirements, the Management Recommendations for the Northern Goshawk in the Southwestern United States (Reynolds et al 1992) and LRMP goals to maintain habitat for all existing wildlife species.

CUMULATIVE EFFECTS

The cumulative effects area is the same as described in the Proposed Action for this species. Activities that affect the northern goshawk and its habitat which have occurred on the District include, natural or prescribed fire, blow-down, beetle infestation, timber harvesting, snag removal, road construction, recreation, and to a limited extent livestock grazing. Although dry logging and natural disturbances still occur, current management direction follows the intent of the Management Recommendations for the Northern Goshawk in the Southwestern United States (Reynolds et al 1992), which reduces management disturbances and improves habitat conditions for the goshawk. Implementation of the No Action Alternative is consistent with this direction. Therefore, these activities on the district, when combined with the No Action Alternative would maintain habitat components for goshawks and would meet Forest Service NFMA requirements.

Spotted Bat (Euderma maculatum) and Western big-eared bat (Plecotus townsendii)

DIRECT/INDIRECT EFFECTS

The No Action Alternative would have no direct effects to these bats. Vegetation which supports insects on which bats prey would be expected to

increase in biomass, and in turn increase insect biomass for bat prey. Because the limiting factors for bats are hibernacula and maternity sites, increased prey biomass would not be expected to have measurable effects to bat populations. Therefore, the No Action Alternative would maintain spotted and western big-eared bat population viability, which meets Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area for spotted and western big-eared bats is the same as described under the Proposed Action for these species. Other activities that affect bat habitat, that have occurred on the District, include snag removal, water developments and prescribed fire. Prescribed fire can reduce grasses and forbs initially but after revegetation, generally provides more than prior to the activity. Water developments provide increased water availability for bats and their prey, yet snag removal can reduce potential roosting habitat for *Myotis* species when rocky outcrops are unavailable. Implementation of the No Action Alternative would maintain or improve bat foraging habitat, and when combined with these other activities would maintain habitat for viability of spotted and western big-eared bats, thereby meeting Forest Service NFMA requirements.

Flammulated Owl (*Otus flammeolus*)

DIRECT/INDIRECT EFFECTS

There would be no direct effects of the No Action Alternative on flammulated owls. Snags for nesting would not be affected. Vegetation that supports insects on which flammulated owls prey would be increased by no grazing. This would provide food to maintain viable populations of flammulated owls.

CUMULATIVE EFFECTS

The cumulative effects area for flammulated owls is the same as described under the Proposed Action. Other activities that affect flammulated owl habitat which have occurred on the District include timber harvesting, snag removal and natural/prescribed fires. Although dry logging still occurs on the District, current timber sale management direction protects potential habitat by retaining/recruiting snags and managing areas of old growth. No grazing in this allotment, with grazing at proper use elsewhere District-wide, would increase vegetation for insects and therefore flammulated owl prey. Improvements in riparian areas would increase insect numbers overall and maintain viable populations of flammulated owls, meeting NFMA requirements.

WILDLIFE MANAGEMENT INDICATOR SPECIES

PROPOSED ACTION

Mule Deer (*Odocoileus hemionus*)
and Rocky Mountain Elk (*Cervus elaphus nelsoni*)

DIRECT/INDIRECT EFFECTS

Grazing with proper use under the Proposed Action would maintain shrubs, grasses and forbs available for use by deer and elk. Adequate forage and cover would be provided to meet LRMP Plan S&G's on Management Area 5A, critical elk

winter range and critical mule deer summer, winter and fawning ranges identified by UDWR. The reseeding or vegetation treatments would continue to provide forage for livestock, deer and elk with the Proposed Action.

CUMULATIVE EFFECTS

The cumulative effects area identified for mule deer and elk is the Teasdale Ranger District. The rationale for this area is described in the Introduction to the Wildlife section of this chapter. Activities that affect big game and their habitat include excessive livestock grazing, timber harvest, fires and road construction by reducing hiding/thermal cover, reducing or increasing forage/cover ratios and increasing human disturbances. Implementation of proper use across the District, would begin to reverse the downward trend of those riparian areas currently in unsatisfactory condition due to livestock grazing, and maintain those areas currently in satisfactory condition for improved big game foraging.

Merriam's Turkey (Meleagris gallopavo merriami)

DIRECT/INDIRECT EFFECTS

UDWR has identified the North Slope Allotment as either high priority or substantial year-long Merriam's turkey range. The primary limiting factor for turkey is suitable winter range, where herbaceous vegetation is lacking. With proper use, it is expected that sufficient nesting, cover and foraging habitat in both summer and winter ranges would be available to maintain viable populations of wild turkey. Therefore, the Proposed Action would maintain viable populations of wild turkey and meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The area identified for cumulative effects analysis for turkeys is the Teasdale Ranger District. Rationale for this determination is described in the Introduction to the Wildlife section of this Chapter. Past over grazing and timber harvesting have reduced turkey habitat across the District. Current timber management works toward improving habitat components within identified high use turkey areas, by retaining large diameter roost trees and down woody material and reseeding disturbed areas with grass and forb species that are considered important components to wintering turkey habitat. Implementation of proper use guidelines under the Proposed Action would maintain turkey habitat and would incrementally establish habitat components for turkey in conjunction with timber harvesting and proper use proposed District-wide.

Yellow-breasted chat (Icteria virens) - Riparian Habitat Conditions.

DIRECT/INDIRECT EFFECTS

The distribution of yellow-breasted chats on the Teasdale District is not well known. Potential suitable habitat would only be expected in the low elevation riparian habitats. If yellow-breasted chats occur on the North Slope allotment, grazing could cause inadvertent bumping of nests or young to the ground. Proper use grazing would maintain or improve riparian habitat conditions outlined in the Forest plan amendment.

If monitoring concludes that proper use is being exceeded after implementation, then a 2.5 mile fence along lower Fish Creek would be constructed to exclude

livestock. Brown-headed cowbirds would continue to be present and parasitize chats. Because proper use would begin to move habitat toward the riparian conditions desired by the yellow-breasted chat, the Proposed Action would meet Forest Service NFMA requirements and LRMP S&G's.

CUMULATIVE EFFECTS

The cumulative effects area considered for the yellow-breasted chat and riparian habitat conditions is the Teasdale Ranger District. This is based on the rationale described in the Introduction to the Wildlife section of this Chapter plus: Knowledge of the distribution of suitable habitat (other than high versus low elevation riparian) and occupied habitat for this species on the Dixie National Forest is limited.

Past livestock grazing has reduced riparian habitat that has potential use to the yellow breasted chat in isolated areas on the District. Proper use grazing proposed District-wide would begin to reverse the downward trend of riparian habitat conditions due to livestock use and in turn improve potential habitat for the yellow-breasted chat. With improved habitat conditions, more cover from parasitism would be present but with continued grazing on adjacent lands, brown-headed cowbird parasitism would still occur.

NO ACTION

Mule Deer (Odocoileus hemionus)
and Rocky Mountain Elk (Cervus elaphus nelsoni)

DIRECT/INDIRECT EFFECTS

The No Action Alternative would maintain shrubs, grasses and forbs available for use by deer and elk but grasses may become less palatable. The critical elk and deer ranges would acquire greater vegetative biomass in grasses, forbs and shrubs. Riparian areas would be expected to improve with no grazing, thereby providing improved elk and deer habitat in general. The "reseeding" or vegetation treatments would provide increased forage for livestock and mule deer with the No Action Alternative. LRMP S&G's would be met with the No Action Alternative.

CUMULATIVE EFFECTS

The cumulative effects area identified for mule deer and elk is the same as described in the Proposed Action. Activities that affect big game and their habitat include excessive livestock grazing, timber harvest, fires and road construction by reducing hiding/thermal cover, increasing or decreasing forage/cover ratios and increasing human disturbances. Implementation of the No Action Alternative would begin to reverse the downward trend of those riparian areas currently in unsatisfactory condition due to livestock grazing, and maintain those areas currently in satisfactory condition, that would maintain or improve big game foraging potential. This would occur faster than with the Proposed Action.

Merriam's Turkey (Meleagris gallopavo merriami)

DIRECT/INDIRECT EFFECTS

With no grazing, vegetation for forage and/or supporting insects for forage would increase. Therefore, the Proposed Action would maintain viable populations of wild turkey, meeting Forest Service NFMA requirements and Forest Plan S&G's.

CUMULATIVE EFFECTS

The area identified for cumulative effects analysis for turkeys is the same as described in the Proposed Action for this species. Past grazing and timber harvesting have reduced turkey habitat across the District. Current timber management direction works toward improving habitat components within identified high use turkey areas, by retaining large diameter roost trees and down woody material and reseeding disturbed areas with grass and forb species that are considered important components to wintering turkey habitat. With no grazing, increased vegetation for forage and/or supporting insects for forage would improve turkey foraging habitat and incrementally add components of habitat needed by turkey.

Yellow-breasted chat (Icteria virens) - Riparian Habitat Conditions.

DIRECT/INDIRECT EFFECTS

Under the No Action Alternative, riparian areas that are currently in unsatisfactory condition due to livestock use, would be expected to improve, and move toward riparian habitat conditions required to support species dependent upon both alpine and lower elevation riparian areas, including the yellow-breasted chat.

The No Action Alternative would discourage brown-headed cowbird occurrences which could improve potential nesting success of yellow-breasted chats. Because riparian habitat available to the yellow-breasted chat and other dependent species would be maintained or improved, the No Action Alternative would meet Forest Service NFMA requirements and LRMP S&G's.

CUMULATIVE EFFECTS

The cumulative effects area considered for the yellow-breasted chat and riparian habitat conditions is the same as described in the Proposed Action. Past livestock grazing has reduced riparian conditions in isolated areas on the District that could potentially support the yellow-breasted chat. No grazing under the No Action Alternative would improve riparian conditions, thereby improving potential habitat for the yellow-breasted chat at lower elevations. With improved habitat conditions, more cover from parasitism would be present, but with continued grazing on adjacent lands brown-headed cowbird parasitism would still occur. Implementation of the No Action Alternative would move riparian habitat toward improved conditions, which would support species dependent upon both alpine and lower elevation riparian areas (including the yellow-breasted chat where appropriate).

OTHER SPECIES OF CONCERN

PROPOSED ACTION

Passerine Birds, including Neotropical Migratory Birds

DIRECT/INDIRECT EFFECTS

Proper use grazing would improve or maintain food distribution and abundance (seeds and flowers) and cover (grasses and forbs) for nesting neotropical birds. If monitoring concludes that proper use is being exceeded once implemented, then a 2.5 mile fence along lower Fish Creek would be constructed to exclude livestock use. An improvement in riparian conditions would then begin to reverse the downward trend due to livestock use.

CUMULATIVE EFFECTS

The cumulative effects area considered for passerine birds, including neotropical migratory birds is the Teasdale Ranger District (see Wildlife Introduction for rationale). Proper use grazing proposed District-wide would increase amounts and quality of riparian habitat thereby providing increased food and cover for these birds. Brown-headed cowbird presence would be expected to continue to parasitize passerine and neotropical birds, particularly those associated with riparian areas. With improved habitat conditions, more cover would reduce parasitism. However, with continued grazing on adjacent lands brown-headed cowbird parasitism would still occur.

Past timber sales and prescribed fires have reduced habitat for those species needing closed canopy forests and increased habitat for those needing openings. Openings, and fragmentation, have increased edges and openings where brown-headed cowbirds can parasitize nesting birds. Grasses and forbs, increase from these activities. The overall effect has been increased seral stages in different plant communities which can increase bird species richness.

Current timber sale management, including the North Slope Timber Sale, follows the Management Recommendations for the Northern Goshawk in the Southwestern United States (Reynolds et al 1992) by promoting growth in the larger diameter classes to develop interlocking crowns. Current timber management direction, combined with proper use District-wide, would begin to discourage brown-headed parasitism in vulnerable passerine bird species.

Bats (see Chapter 3 for species)

DIRECT/INDIRECT EFFECTS

The direct and indirect effects of the Proposed Action on these bats is identical to those described for spotted and western big-eared bats under the Proposed Action because their foods are much the same (insects) and activities that can affect their populations are also very similar (hibernacula, roosts and maternity sites). Therefore, grazing at proper use would maintain viable populations of these bats.

CUMULATIVE EFFECTS

The cumulative effects of the Proposed Action for these bats is identical to those described for spotted and western big-eared bats under the Proposed

Action. Therefore, grazing at proper use District-wide would be expected to maintain viable populations of these bats.

Western Burrowing Owl (Athene cunicularia hypugaea)

DIRECT/INDIRECT EFFECTS

Although grazing in general reduces grasses and forbs that support small mammals and insects upon which burrowing owls prey, with proper use under the Proposed Action, habitat for these owls would be maintained

CUMULATIVE EFFECTS

The Cumulative Effects area considered for the western burrowing owl is suitable habitat in open country, sagebrush flats and pinyon juniper slopes across the Teasdale District. Livestock overgrazing and small mammal (prairie dog) control can reduce the foraging potential for the burrowing owl. Implementation of proper use standards under the Proposed Action would maintain owl habitat.

NO ACTION

Passerine Birds, including Neotropical Migratory Birds

DIRECT/INDIRECT EFFECTS

No grazing would improve food distribution and abundance (seeds and flowers) and cover (grasses and forbs) for passerine and neotropical birds in uplands and riparian areas. This would occur faster than with the proper use. Although No Action would decrease brown-headed cowbird habitat, adjacent land grazed would still promote cowbird occurrences on the District. The No Action Alternative would therefore maintain habitat for neotropical migratory birds, meeting Forest Service NFMA requirements and LRMP S&G's.

CUMULATIVE EFFECTS

The cumulative effects area considered for passerine birds, including neotropical migratory birds is the same as described in the Proposed Action for these species. The effects would be generally the same except more vegetative biomass would be contributed to the overall District conditions from the allotments with no grazing. The overall effect would be increased seral stages in different plant communities which can increase bird species richness.

Bats (see Chapter 3 for species)

DIRECT/INDIRECT EFFECTS

The direct and indirect effects of the No Action Alternative on these bats is identical to those described for spotted and western big-eared bats under the No Action Alternative because their foods are much the same (insects) and threats to their populations are also very similar (hibernacula, roosts and maternity sites). Therefore, no grazing would maintain viable populations of these bats.

CUMULATIVE EFFECTS

The cumulative effects of the No Action Alternative for these bats is identical to those described for spotted and western big-eared bats under the No Action

Alternative. Therefore, no grazing combined with grazing at proper use levels District-wide would be expected to maintain viable populations of these bats.

Western Burrowing Owl (Athene cunicularia hypugaea)

DIRECT/INDIRECT EFFECTS

No inadvertent trampling on burrows would occur with no grazing. Grasses and forbs would increase, providing increased habitat for burrowing owl prey. Thus, habitat for burrowing owls would be maintained or improve with the implementation of the No Action Alternative.

CUMULATIVE EFFECTS

The cumulative effects area for the western burrowing owl in the No Action Alternative is the same as that described in the Proposed Action. Livestock overgrazing and prairie dog control in the past may have reduced the foraging potential for the burrowing owl on the District. Implementation of the No Action Alternative would maintain or improve owl foraging habitat.

SOILS

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

During the analysis of the North Slope cattle allotment it was found that, on some portions of some of this allotment, livestock grazing was causing impacts to streambanks, riparian areas and soil productivity beyond Forest Plan standards and guidelines (see Chapter 3, and NFMA analysis notes and Riparian Inventory Reports in the Project File).

Based on the findings of the analysis, and on the latest research concerning impacts associated with livestock grazing, additional proper use guidelines were identified. Proper use criterion prescribed under this alternative will provide for protection of the soil resource in all pastures of the allotment. Grazing at proper use by the livestock numbers, season of use, and grazing system proposed for the allotment should ensure that any adverse impacts caused by livestock grazing on uplands and in riparian areas are within acceptable thresholds established in the Regional Soil Quality Guidelines for maintenance of long-term soil productivity and hydrologic function.

In addition to the proper use guidelines, Range Improvements have been proposed to help provide better livestock distribution and provide for proper forage utilization (See Chapter 2).

Implementation of the proposed range improvements and the proper use criterion should result in moving this allotment towards the Desired Future Condition described for the soil resource in the Dixie NF LRMP.

CUMULATIVE EFFECTS

The cumulative effects area (CEA) for soils is the portion of the Teasdale RD that is covered by the allotments being analyzed under this alternative.

A number of multiple use management actions occur on these lands. These include such things as timber sales; watershed rehabilitation projects; wildlife and fisheries habitat improvement projects; recreational developments such as trails for hiking, biking, ATV's, cross country skiing; roads; fire control; range improvement projects such as chainings and water developments; firewood and post and pole sales, and Christmas tree sales.

The cumulative impacts of livestock grazing in addition to all the other management activities occurring on the Teasdale RD are well within the threshold of having at least 85 percent of the land with soil in satisfactory condition. Detrimental soil disturbance associated with grazing occurs on less than 1 percent of the land area.

Aggressive fire control since the turn of the century has resulted in some upland area vegetative cover types progressing to mature/decadent stages of succession. Areas with these decadent cover types now have reduced ground cover compared to pre-settlement times which is resulting in reduced soil protection and increased runoff and erosion. Without treatment, the ground cover threshold for soil protection will be reached which could result in exceeding the soil loss tolerance thresholds for soil protection.

A foreseeable future management activity for the CEA is an aggressive prescribed fire program to move these decadent cover types towards the desired future condition of having various successional stages which would improve watershed conditions.

NO ACTION

DIRECT/INDIRECT EFFECTS

Ground cover (vegetation and litter) would increase over current conditions, particularly in riparian areas. With no livestock grazing there would be less soil displacement, compaction and puddling.

CUMULATIVE EFFECTS

Aggressive fire control since the turn of the century has resulted in some upland area vegetative cover types progressing to mature/decadent stages of succession. Areas with these decadent cover types now have reduced ground cover compared to pre-settlement times which is resulting in reduced soil protection and increased runoff and erosion. Without treatment, the ground cover threshold for soil protection will be reached which could result in exceeding the soil loss tolerance thresholds for soil protection.

A foreseeable future management activity for the CEA is an aggressive prescribed fire program to move these decadent cover types towards the desired future condition of having various successional stages which would improve watershed conditions.

HYDROLOGY AND WATER QUALITY

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Proper use criterion prescribed under this alternative will provide for protection of the hydrology and water quality in all pastures of the North Slope cattle allotment. Grazing at proper use by the livestock numbers, season of use, and grazing system proposed for the allotment should ensure that any impacts caused by livestock grazing on uplands and in riparian areas are within acceptable limits.

The proper use criterion are the Intermountain Region's recommended Best Management Practices to maintain riparian areas in desired condition (mid to late seral greenline), and improve riparian areas not in desired condition (very early to early seral greenline).

There are no 303(d) listed waters on the North Slope cattle allotment. The Awapa Watershed #14070003-030 is on the Utah High Priority Watersheds for Nonpoint Source Pollution Control for nutrients, total dissolved solids and total suspended solids. Nutrients and total suspended solids coming from the watershed from grazing would be within acceptable limits due to maintaining or moving towards desired riparian conditions. Because infiltration, runoff, and erosion relationships are expected to continue at or near existing rates, total suspended solids are expected to continue at or near existing rates.

By maintaining or moving towards desired conditions, the Proposed Action meets the management area direction of the LRMP. Since current erosion and sedimentation rates would continue, due to other activities, it is expected that the 25% instream sediment LRMP S&G would not be met on some streams. By maintaining the Beneficial Uses of water, using Best Management Practices, and sharing our implementation monitoring results with Utah Division of Water Quality, the Proposed Action would be in compliance with the Utah Antidegradation Policy and the Clean Water Act (see monitoring form in Appendix A). The Proposed Action would also be in compliance with Executive Order 11990 in minimizing the degradation of wetlands, and Executive Order 11998 in restoring and preserving the natural and beneficial values served by flood plains.

CUMULATIVE EFFECTS

The cumulative effects area for hydrology and water quality is the Teasdale Ranger District. Allotments and effects are spread across the district. Effects would be difficult to detect off the forest because of the complexity of watershed and stream systems.

Activities considered in the cumulative effects analysis are road construction/maintenance, timber harvesting, watershed restoration, recreation activities, and special uses.

The cumulative effects of past and present livestock grazing in addition to all the other management activities occurring on the Teasdale Ranger District have caused impacts to the hydrology and water quality of the riparian and aquatic systems. Livestock grazing occurs in many of the upland and riparian areas

across the Teasdale Ranger District. Improvement is anticipated in unsatisfactory condition riparian areas. Therefore, cumulative effects of the proposed action when added to other past, present, and reasonably foreseeable actions of the agency and others is expected to maintain or improve the hydrology and water quality on these allotments, and therefore would meet LRMP management area direction. Since current erosion and sedimentation rates would continue, it is expected that the 25% instream sediment LRMP S&G would not be met on some streams. However, compliance with applicable laws and Executive Orders will be maintained.

NO ACTION

DIRECT/INDIRECT EFFECTS

No grazing would result in maintenance of riparian areas in desired condition (mid to late seral greenline), and improvement of riparian areas not in desired condition. Improvement would occur faster than with proper use. Infiltration rates would increase by approximately 25-50% on previously livestock compacted uplands and riparian areas, resulting in less runoff and erosion. Riparian plants would be expected to progress in vigor and seral stage toward potential natural community.

This alternative would not contribute to the further impairment of 303(d) listed waters or Utah High Priority Watersheds for Nonpoint Source Pollution Control.

The No Action alternative meets the management area direction prescribed in the LRMP. There would be less erosion and sedimentation than in the Proposed Action, but is not known if the 25% instream sediment LRMP S&G would be met across the Forest. By maintaining the Beneficial Uses of water we would be in compliance with the Utah Antidegradation Policy and the Clean Water Act. We would also be in compliance with Executive Order 11990 in minimizing the degradation of wetlands, and Executive Order 11998 in restoring and preserving the natural and beneficial values served by flood plains.

CUMULATIVE EFFECTS

Riparian and stream conditions would be expected to improve district-wide where grazing has occurred as described under direct and indirect effects faster than with proper use.

Livestock grazing has occurred on many of the upland and riparian areas on the Teasdale Ranger District. Improvement is anticipated in infiltration rates and unsatisfactory condition riparian areas. Therefore, cumulative effects of the no grazing alternative when added to other past, present, and reasonably foreseeable future actions of the agency and others is expected to improve the hydrology and water quality on these allotments, and therefore would meet LRMP management area direction. Since current erosion and sedimentation rates would continue, due to other activities, it is expected that the 25% instream sediment LRMP S&G would not be met on some streams. However, compliance with applicable laws and Executive Orders will be maintained.

FISHERIES AND AQUATIC MACROINVERTEBRATES

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

This analysis is for the North Slope cattle allotment.

Grazing at proper use by the livestock numbers, season of use, and grazing system proposed for each allotment should provide adequate protection to ensure that any impacts caused by livestock grazing on the uplands and riparian areas are within the acceptable limits.

The proper use criterion will maintain those riparian areas that are in mid to late seral greenline in a desired condition and improve riparian areas that are not in a desired condition (very early to early seral greenline).

Additionally, a range improvement to construct approximately 2 1/2 miles of riparian protection fence in the 9B area of Fish Creek has been proposed which should result in better livestock distribution and/or proper forage utilization.

The overall direct and indirect effects to the aquatic fauna should result in (1) slightly lower water temperatures as overhead cover increases, (2) less sediment entering the stream, (3) improved spawning habitat, (4) increased macroinvertebrate diversity and abundance, (5) deeper and narrower stream channels, and (6) increased instream and overhead cover for trout. Together, these improved conditions could result in the streams capability to produce increased numbers of fish and healthier aquatic macroinvertebrate communities. The rate at which improvement occurs is dependent upon several variables but the rate of recovery would be slower under this alternative than the No Action alternative.

CUMULATIVE EFFECTS

The cumulative effects area for fisheries and aquatic macroinvertebrates is the Teasdale Ranger District. Since the cattle allotments are distributed throughout the district, the effects would be difficult to detect off forest due to the dynamic and natural variability of aquatic systems.

Activities considered in the cumulative effects analysis include road construction and maintenance, timber harvesting, watershed restoration, recreation activities, special uses and livestock grazing.

The cumulative effects of all other past and present management activities occurring on the Teasdale Ranger District have resulted in adverse impacts to some uplands and riparian areas. These adverse effects are often reflected in degraded fish and aquatic macroinvertebrate habitat. Under this alternative improvement is expected in upland and riparian areas in unsatisfactory condition. The cumulative effects of the proposed action when added to other past, present and reasonably foreseeable actions within the cumulative effects analysis area is expected to maintain or improve uplands and riparian areas. This, in turn, should result in improved habitat conditions for fish and aquatic macroinvertebrates. The proposed action, therefore, would be in compliance with the goals and objectives in the LRMP (LRMP IV-5).

NO ACTION

DIRECT/INDIRECT EFFECTS

No grazing would result in the maintenance of mid to late seral greenline riparian areas in a desired condition, and improvement of riparian areas in very early to early seral greenline. The effects of the No Action alternative would be similar to those described for proper use except that the rate of improvement would be faster under the No Action alternative.

CUMULATIVE EFFECTS

Activities considered in the cumulative effects analysis include road construction and maintenance, timber harvesting, watershed restoration, recreation activities, special uses and livestock grazing.

The cumulative effects of all other past and present management activities occurring on the Teasdale Ranger District have resulted in adverse impacts to some uplands and riparian areas. These adverse effects are often reflected in degraded fish and aquatic macroinvertebrate habitat. Under the No Action alternative, improvement is expected in upland and riparian areas in unsatisfactory condition. The cumulative effects of the No Action alternative when added to other past, present and reasonably foreseeable actions within the cumulative effects analysis area is expected to maintain or improve uplands and riparian areas. This, in turn, should result in improved habitat conditions for fish and aquatic macroinvertebrates. This alternative would be in compliance with the goals and objectives in the LRMP (LRMP IV-5).

RECREATION/VISUALS

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Under the Proposed Action, livestock would have access to all suitable rangelands within permitted allotments, but use would be rotated through confined pastures for specified periods of time. Conflicts between recreation use and livestock grazing occurs where livestock concentration areas are common with popular recreation sites. Grazing at proper use and appropriate livestock distribution will moderate those impacts. Emphasis on riparian area management will have positive effects on camping, fishing, sight-seeing, and wildlife viewing. The Dixie National Forest LRMP objective of managing livestock grazing to be compatible with recreation activities would be met under the Proposed Action. Landscape management and visual objectives of preservation, retention, partial retention, modification, and maximum modification would be met under the Proposed Action.

CUMULATIVE EFFECTS

The area which will be considered in the cumulative effects analysis for recreation is the Pine Valley Ranger District. This area was selected on the basis of use patterns of the area by recreationists, and similarity of recreation activities on these lands.

Many multiple-use management actions, occurring within the allotments under analysis, have combined cumulative effects on recreation opportunities and visual experiences; i.e. timber sales, watershed rehabilitation projects, wildlife and fisheries habitat improvement projects, recreation developments, trails, ski areas, mining and oil and gas development, utility corridors, roads, etc. The construction of new roads is the greatest single impact on the recreation resource. With a limited land base, the opportunities for non-motorized recreation are disappearing. Range activities rarely change the acres of recreation opportunities. Visual landscapes are impacted to a greater extent by the construction of roads and the removal of trees rather than by livestock grazing.

NO ACTION

DIRECT/INDIRECT EFFECTS

With the removal of livestock from National Forest allotments, conflicts between recreationists, private landowners, and livestock would be eliminated. Vegetation would increase in areas of common concentration. Pastoral scenes of livestock grazing in the open meadows would no longer occur on the Forest. The presence of fine fuels to carry fire would be more predominant, and wildfire would potentially play more of a role in the landscape. Visual quality objectives could be met. LRMP recreation goals and objectives would be met.

CUMULATIVE EFFECTS

There would be no adverse cumulative impacts to the recreation and visual resources resulting from the No Action alternative.

SOCIAL/ECONOMICS

The effects of implementing the Proposed Action and the No Action Alternatives are relative to permittee's cost/benefits from grazing livestock on the allotments, the benefits to rural and county economies from livestock grazing, and revenues/costs to the government.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Permitting livestock grazing would sustain the existing National Forest System-dependent ranching industry in south-central Utah. Although grazing fees would continue to be charged, and permittees would remain responsible for improvement maintenance and cooperative construction of new improvements, the net economic benefit is positive. Under the Proposed Action there would not be adverse social or economic effects to either permittees or rural community economies. Under the Proposed Action there would not be adverse effects to rural lifestyles. The Proposed Action meets the intent of the Dixie National Forest Land and Resource Management Plan and is in compliance with laws permitting the grazing of livestock on National Forest System lands.

CUMULATIVE EFFECTS

The area which will be considered in the cumulative effects analysis for social/economics impacts is the five-county area of southern Utah consisting of Garfield, Iron, Kane, Washington, and Wayne Counties. Piute County is also within the Dixie zone of influence, but includes only an extremely small part of the Dixie National Forest and will not be included in impact analysis. This area was selected on the basis of adjacency with rural communities dependent upon National Forest resources for an economic base. The five-county area, rather than isolation by county, was selected because of the regional inter-dependency upon the livestock industry as an economic base. Past, present, and foreseeable future economic activities considered relevant to this analysis of cumulative effects are the timber, recreation, and tourism industries.

Under the Proposed Action, along with a sustainable timber supply and emerging recreation and tourism, cumulative effects of sustained, permitted grazing would be positive.

NO ACTION

DIRECT/INDIRECT EFFECTS

Loss of permits on National Forest allotments would directly affect local residents and permittees. In order to maintain a viable ranching enterprise, permittees would have to replace the forage lost on National Forest land with other purchased or leased forage at a comparable cost/benefit ratio. Eliminating livestock grazing on the National Forest would have significant adverse effects on rural communities should the loss of grazing on the Forest induce family or commercial ranching enterprises to go out of business. The No Action Alternative would have adverse effects on maintaining way-of-life and quality-of-life for permittees and local residents dependent on an agriculture-based economy. The No Action alternative would not be consistent with the Dixie National Forest LRMP which allocates suitable rangelands for forage utilization and establishes a desired future condition of managing these lands for livestock grazing. Not permitting livestock grazing does not comply with a number of laws, including the Multiple Use-Sustained Yield Act of 1960, the Granger-Thye Act, the Federal Land Policy and Management Act of 1976, and the 1995 Rescission Bill.

CUMULATIVE EFFECTS

There would be an adverse cumulative effect to the area economy from a loss of permitted grazing. The degree of adversity would depend on the availability of substitute forage, substitute timber supplies should timber sales decline, and ability of local communities to diversify and benefit from increased tourism and recreation income opportunities. Economic decline for a sustained period could result from the No Action alternative.

CULTURAL RESOURCES

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Within the project analysis areas of the North Slope Allotment, cultural resource surveys have been conducted as outlined. Only those Historic Properties considered to be susceptible as described in the Comprehensive Literature Review of the Effects of Livestock Grazing on Natural Resources will need further consideration and the mitigation is outlined below. Ground disturbing activities associated with new development projects such as fences and water development etc. will require surveys prior to construction.

ALLOTMENT	ACRES SURVEYED	TOTAL SITES	HISTORIC PROPERTIES	SUSCEPTIBLE SITES
North Slope	940	73	33	0

No effects from grazing will occur to any sites within the above outlined area.

CUMULATIVE EFFECTS

Archeological surveys are conducted prior to ground-disturbing activities, and any sites which are determined to be eligible for the National Register of Historic Places are avoided in project design/construction. Because of this, there will be no cumulative effects analysis on heritage resources in this Environmental Assessment.

MONITORING

Implementation and effectiveness monitoring will be conducted to measure the effects of the selected management practices on resources within the respective allotments.

Implementation monitoring determines if the project was implemented as described in the EA and in the terms and conditions of the respective permits; e.g., actual livestock use does not exceed proper use guidelines in riparian areas.

Effectiveness monitoring determines if the management actions accomplished what was intended; e.g., proper use maintains or improves vegetation condition.

Monitoring practices have been developed for each of the resources identified as issues in this EA. Appendix A contains the monitoring forms which fully describe the objective of monitoring, the item to monitor, the type of monitoring, the methods and parameters that will be used, the frequency and duration of monitoring, the project costs associated with the monitoring, the procedures used to report results, and who will be responsible for implementing the monitoring practices.

Key areas have been identified for monitoring on each grazing allotment. They are listed below in Table 5.

TABLE 5
KEY AREAS BY ALLOTMENT

ALLOTMENT

KEY AREAS

North Slope

Lower and Upper Government Creek
Lost Lake, Rudes Hollow, Boundary reseeding,
Sand Flat, Donkey Reservoir, Bobs Hole,
Dog Flat, Blind Lake, Hickman Pasture,
White Hollow, Bald Hill, Carcass Creek,
Reseedings, All Riparian areas.

CHAPTER 5: LIST OF PREPARERS

The following individuals were members of the Interdisciplinary Team or provided technical support.

INTERDISCIPLINARY TEAM MEMBERS

<u>NAME</u>	<u>TITLE</u>	<u>SUBJECT AREA</u>
Joe Reddan	NFMA/NEPA IDT Leader	NEPA Coordination
Dave Grider	Forest Range Staff Officer Permit Issuance Team Leader	Range
Kurt Robins	District Range Conservationist	Range
James Bayer	Soil Scientist	Soils
Mike Montgomery	Hydrologist	Hydrology
Steve Robertson	Fisheries Biologist	Fisheries
Dave Whittekiend	Teasdale District Biologist	Wildlife/Botany
Joanne Stenten	Teasdale District Biologist	Wildlife
Deborah Kary	East Zone Biologist	Wildlife
Ron Rodriguez	Forest Biologist	Wildlife/Botany
Max Molyneux	Landscape Architect	Recreation
Marian Jacklin	Archeologist	Cultural Resources
Ric Rine	Forest Planner	Socio-Economics

APPENDIX A

MONITORING FORM

PROPER USE CRITERIA COMPLIANCE MONITORING

OBJECTIVE: Determine degree and distribution of livestock use. This would include monitoring use on both uplands and riparian areas.

ITEM TO MONITOR: Percent utilization, by weight, of forage plants in upland key areas; stubble height on hydric species in riparian key areas; use patterns on suitable range; streambank stability; and woody species utilization.

TYPE OF MONITORING: Implementation monitoring

METHODS/PARAMETERS: Utilization measurements on key upland forage species and shrub/browse species, and stubble height measurements on hydric species in riparian areas; ocular estimates, utilization cages (paired plot method), utilization gauge, and may or may not include utilization mapping.

Grazing effects on other limiting factors (stream bank disturbance, riparian condition, wildlife habitat, and TES), will be recorded. Proper use monitoring may be allotment-wide or key-area-specific, as determined by needs assessment, and may determine the need to initiate comprehensive utilization studies to revise stocking capacity.

FREQUENCY/DURATION: 15% of allotments would be surveyed annually.

PROJECTED COSTS: \$7,500/annually

REPORTING PROCEDURES: Allotment inspection notes and/or record and utilization maps filed in 2210/2220 Section of the Allotment Folder.

RESPONSIBILITY: Funding: Forest Management Team
Monitoring: IDT

MONITORING FORM

INTERDISCIPLINARY (IDT) MONITORING

OBJECTIVE: Interdisciplinary Team measurement of the effects of implementation of proper use grazing prescriptions on forest resources.

ITEM TO MONITOR: Monitor vegetation utilization, streambank stability, riparian condition, wildlife and fisheries habitat condition, soils and watershed condition, impacts on cultural resource sites, and conflicts with recreational use.

TYPE OF MONITORING: Effectiveness monitoring.

METHODS/PARAMETERS: Field review/inspection on riparian and upland key areas--multiple key areas and multiple allotments, pending intensity and complexity of review.

FREQUENCY/DURATION: Annual field review per Ranger District (allotments/key areas scheduled by needs assessment). Some allotments may not be reviewed in a 10-year cycle; others may be reviewed more than once, depending on needs assessment.

PROJECTED COSTS: \$16,000.

REPORTING PROCEDURES: Field inspection notes, photo documentaries, IDT report of findings. File located in 2210/2220 Section of Allotment Folder, respective Ranger District.

RESPONSIBILITY: Funding: Forest Management Team
Scheduling: Forest Range Staff
Monitoring: IDT

MONITORING FORM

ALLOTMENT INSPECTION

OBJECTIVE: Determine degree of compliance with terms and conditions of the grazing permit, construction of needed range improvements, and compliance with law (Clean Water Act, Endangered Species Act and National Forest Management Act).

ITEM TO MONITOR: Livestock distribution, trampling/trailing damage, construction/maintenance of improvements, vegetation utilization, salting compliance, control of livestock while on allotment, and overall compliance with annual plan of use. Assess if proper use grazing is maintaining water quality standards in compliance with the existing Memorandum of Understanding with the Utah Department of Environmental Quality. Assess if proper use grazing is maintaining utilization standards to provide habitat for TES plants, wildlife, and fish.

TYPE OF MONITORING: Effectiveness monitoring

METHODS/PARAMETERS: Annual plan of use, structural improvement standards, grazing permit, location map, and livestock brand book. Methods used may include: ocular reconnaissance, field checking, transects and/or plot sampling, photo points, and office review.

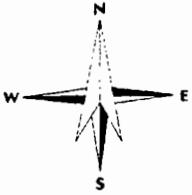
FREQUENCY/DURATION: 15% of allotments would be inspected annually.

PROJECTED COSTS: \$7,500 annually

REPORTING PROCEDURES: Inspection notes and/or Unit examination record (R4-2200-15) completed and filed in 2210/2220 Section of the Allotment Folder. Reports, transect summaries, photo documentation, and finding evaluations will be duplicated in the appropriate 2670 Wildlife files and the 2520-5 Watershed Monitoring Plans files. Monitoring results will be shared with the Utah Division of Water Quality in compliance with the existing MOU.

RESPONSIBILITY: Funding: Forest Management Team
Monitoring: IDT

APPENDIX B



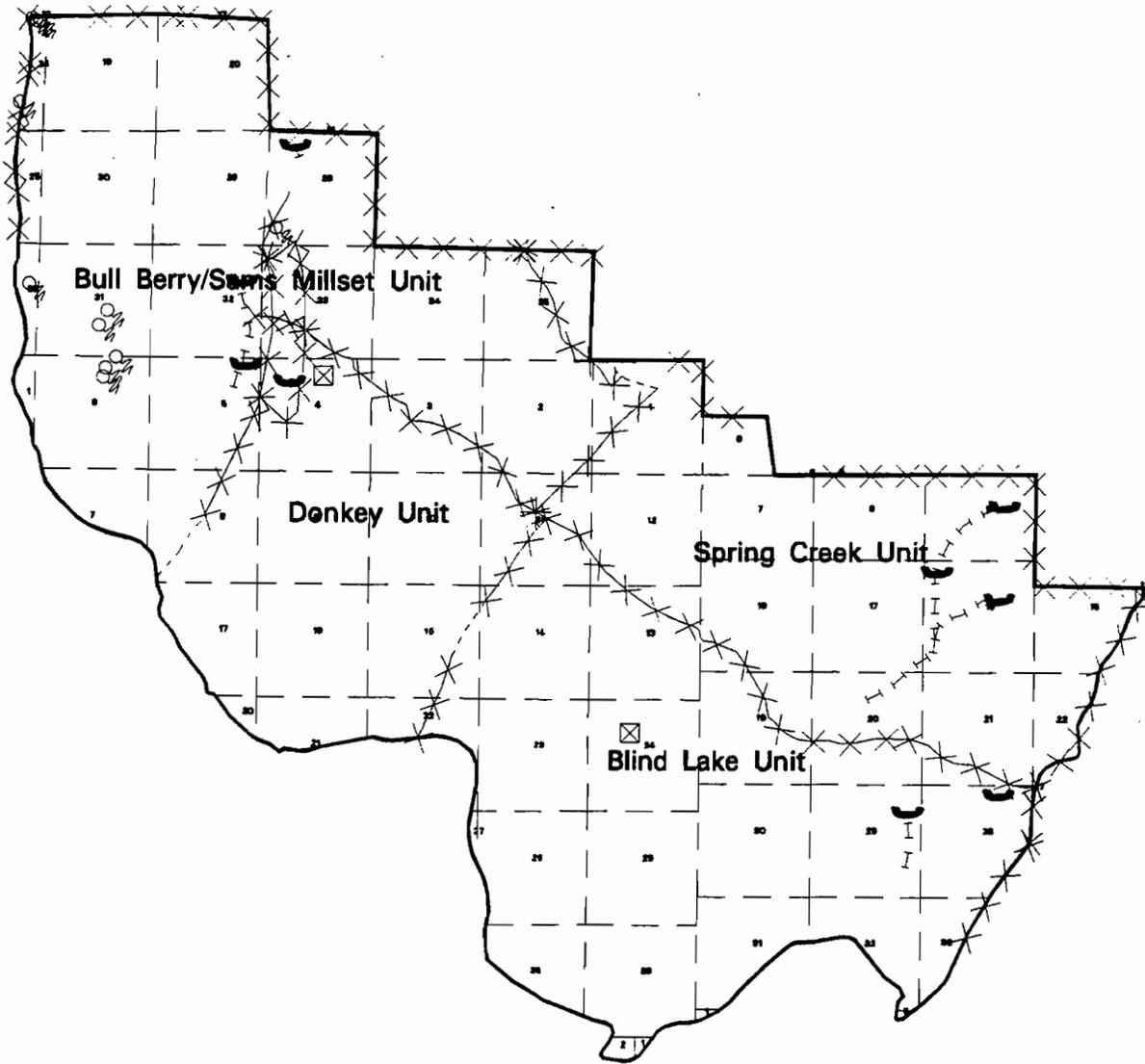
Teasdale Ranger District North Slope Cattle Range Allotment



(Existing Range Improvements)

LEGEND

-  Allotment Boundary
-  Unit Boundary
-  Private Land
-  Fence
-  Pipeline
-  Cattle Guard
-  Springs
-  Exclosure
-  Guzzler
-  Stock Pond
-  Trough
-  Gate



Vicinity Map

