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Forest Service
Intermountain Region

Dixie National Forest
October 1995



Environmental Assessment

for

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

ENVIRONMENTAL ASSESSMENT

ISSUANCE OF 10-YEAR TERM GRAZING PERMITS
ESCALANTE RANGER DISTRICT
CATTLE ALLOTMENTS

DIXIE NATIONAL FOREST
GARFIELD COUNTY

Responsible Agency: USDA, Forest Service

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ABSTRACT

The Escalante 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.

Boulder
Sand Creek
Cameron Wash
North Creek
Upper Valley East
Coyote
Horse Creek
Upper Valley Spring On/Off
Wilford Liston On/Off
Long Neck On/Off

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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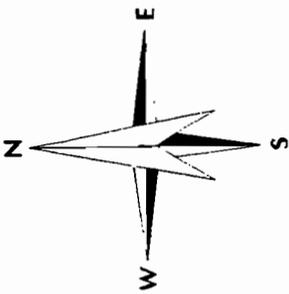
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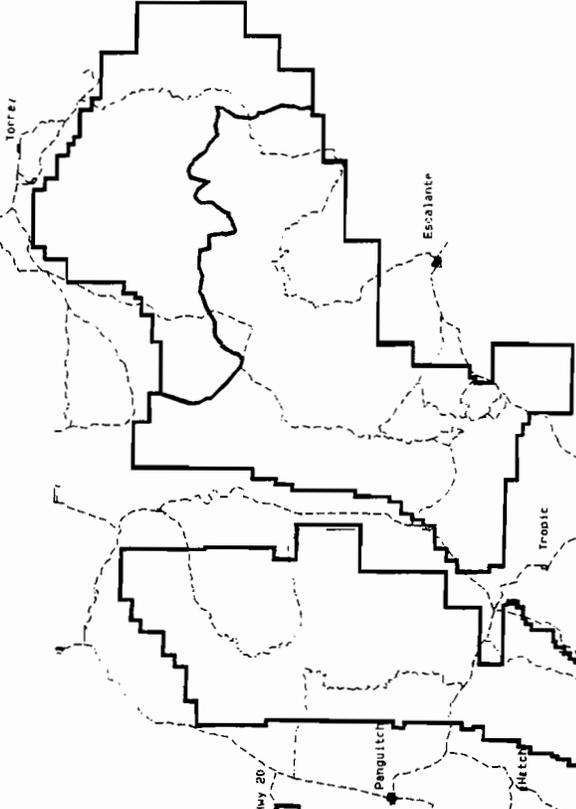


Dixie National Forest Ranger Districts Vicinity Map



Teasdale Ranger District

Trussdale Hwy 24
Torrer



Escalante Ranger District

Tragic Hwy 12

Hwy 20

Pangulitch

Hatch

Hwy 8

Powell Ranger District

Panowan

Hwy 143

Hwy 143

Hwy 148

Cedar City Ranger District

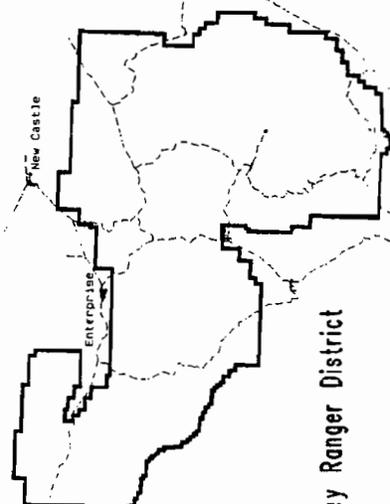
I-15

Cedar City

Hwy 14

Hwy 14

I-15



Pine Valley Ranger District

St. George

LEGEND

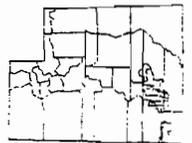


Cedar Breaks National Monument



Major Roads

Vicinity Map

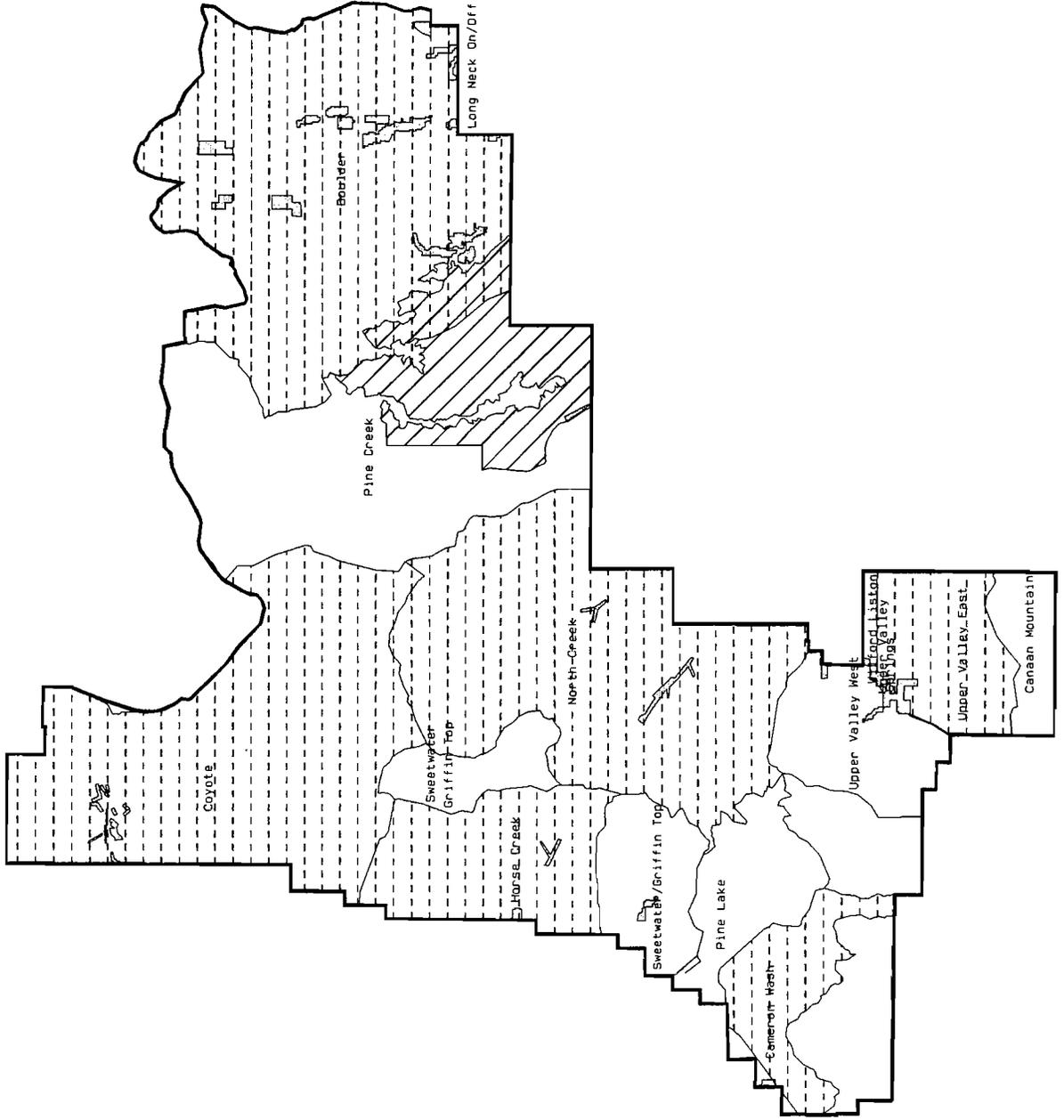
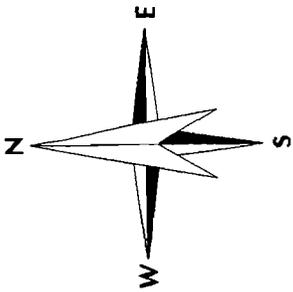




Dixie National Forest

Escalante Ranger District

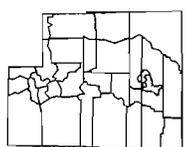
Project Area Map



LEGEND

- Private Land
- Cattle Allotments
- Sheep Allotments
- Wilderness Area

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 Escalante Ranger District, Dixie National Forest. The allotments on the Escalante Ranger District are located in Garfield County in southern Utah on the Aquarius Plateau (see Project Area map). The proposed permits contained in this analysis authorize grazing on approximately 287,800 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
Boulder	41,733	808	6/16 - 10/15	Dfrd - rotat
Cameron Wash	13,490	267	6/11 - 10/10	Dfrd - rotat
North Creek	70,187	784	6/16 - 9/30	Dfrd - rotat
Upper Valley East	16,684	366	6/16 - 9/30	Dfrd - rotat
Upper Valley Spring	13	3	6/1 - 9/1	On/Off
Wilford Liston	5	3	6/1 - 10/30	On/Off
Coyote	74,101	1,228	6/16 - 10/15	Dfrd - rotat
Horse Creek	24,247	254	6/16 - 9/30	Dfrd - rotat
Sand Creek	47,241	754	6/16 - 9/30	Dfrd - rotat
Long Neck	239	5	6/1 - 9/30	On/Off
	<u>287,940</u>			

The Escalante 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 and Threatened, Endangered, Proposed and Sensitive plant and wildlife species 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 Escalante Ranger District by issuing a ten-year term grazing permit 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 Escalante cattle allotments.

A third purpose is to meet Forest Service multiple use objectives for 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:

Boulder Allotment

Presently the Boulder Allotment includes the Sand Creek and Boulder Divisions and they are managed independently. There is a need to administratively manage these two divisions as separate allotments. There is also a need to redistribute livestock numbers between these two allotments. Existing units in the Boulder Division are appropriate. There is a need to rearrange units on the Sand Creek Division for the following reasons:

1) The Sweetwater unit is too small in comparison to the other units making livestock management difficult and 2) there are populations of Aquarius paintbrush (Castilleja aquariensis) an Intermountain Region (R-4) sensitive species in the Boulder Swale/Burr Top area of the Sand Creek Division. A draft habitat conservation plan has been prepared which suggests deferment in grazing one year in three until after August 15. There is a need to manage Aquarius paintbrush habitat in this area by following this guideline.

Cameron Wash Allotment

There is a need to improve administration by the Forest Service and stewardship by the permittees by moving cattle before utilization exceeds proper use.

North Creek Allotment

There is a need to improve administration by the Forest Service and stewardship by the permittees by moving cattle before utilization exceeds proper use. Utilization studies have shown use in the Holby Bottom area has exceeded proper use. The Holby Bottom fence was reconstructed in 1994 which will allow for proper management of this area.

Upper Valley East Allotment

There is a need to authorize 60% utilization in the crested wheat reseedings on this allotment to reduce the amount of crested wheat available for the black grass bug.

There is a need to improve administration by the Forest Service and stewardship by the permittees by moving cattle before utilization exceeds proper use.

Coyote Allotment

There are populations of Aquarius paintbrush (Castilleja aquariensis) an Intermountain Region (R-4) sensitive species in the Coyote allotment. A habitat conservation plan has been agreed to by the Forest Service and approved by the U. S. Fish and Wildlife Service which requires a deferment in grazing one year in three until after August 15. There is a need to manage Aquarius paintbrush habitat in this allotment by following these guidelines. This will be accomplished by implementing a four unit deferred rotation grazing system.

The beaver dams previously found in upper Antimony Creek have washed out resulting in exposed soils that are lacking riparian vegetation cover. There is a need to reduce erosion by establishing vegetation and enhance riparian habitat conditions in this area. This will be accomplished by construction of an enclosure to protect the area from livestock use until vegetation has been established.

There is a need to improve administration by the Forest Service and stewardship by the permittees by moving cattle before utilization exceeds proper use.

Horse Creek Allotment

There is a need to improve administration by the Forest Service and stewardship by the permittees by moving cattle before utilization exceeds proper use.

Utilization in the Lower Horse Creek meadow consistently exceeds proper use standards. Livestock access to this area would be controlled through construction of approximately one-half mile of drift fence.

Upper Valley Spring, Wilford Liston, and Long Neck On/Off Allotments

There is a need to increase monitoring of cattle use on these On/Off allotments to insure that no cumulative adverse impacts occur and proper use is not exceeded.

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 Escalante 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 Escalante 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 Escalante 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 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 Escalante 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. The following connected actions are proposed:

Boulder Allotment

1. Create a Burr Top unit through construction of 1/4 mile of fence in Section 22, T.32S., R3E.

Coyote Allotment

1. Divide the Coyote Hollow/Clayton unit into two separate units by constructing approximately 6 miles of new fence in Sections 17,8 and 5, T.33S., R1E., and Sections 32,33,28,21,22 and 15 in T.32S., R1E.

IMPROVEMENTS NEEDED FOR BETTER LIVESTOCK DISTRIBUTION AND FORAGE UTILIZATION

Boulder Allotment

1. Create a new Sand Creek Allotment by separating the Sand Creek Division from the Boulder Allotment.
2. Enlarge the existing Sweetwater unit by reconstructing approximately 3/4 mile of fence in Section 27, T.32S., R.3E., and removing approximately 2 1/2 miles of fence in Sections 27,26,23 and 24.
3. Construct five miles of let-down fence around South Point.
4. Cattleguards and gates will be constructed where needed.

Horse Creek Allotment

1. Construct up to 1/2 mile of drift fence in Section 1., T34S., R1W., to control livestock access to Lower Horse Creek.

Coyote Allotment

1. Construct an enclosure around the former beaver pond area in Section 31, T32S., R1E.

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 cattle allotments on the Escalante Ranger District cover approximately 288,000 acres on the Aquarius Plateau, Boulder Mountain, Southern Paunsaugunt, Escalante River, and Kaiparowits Plateau in Garfield County in southern Utah (see location and vicinity map). Elevations range from 6,500 feet in the valleys to over 10,000 feet on the Burr Top.

Vegetation types range from pinyon-juniper and sagebrush, through ponderosa pine, aspen, and spruce-fir forests, to the subalpine meadows of Aquarius Plateau.

Watersheds draining the allotments to the west are tributary to the Sevier River and watersheds draining to the east and south are tributary to the Colorado River.

The Box Death Hollow Wilderness is within the Escalante Ranger District. The District does not border any National Parks.

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)
no survey, suspected of impact The limiting habitat for bats is hibernacula and maternity sites, which are not affected by grazing.
- ✓ Western Big-eared Bat (S)
None located thru surveys The limiting habitat for bats is hibernacula and maternity sites, which are not affected by grazing.
- ✓ Three-toed Woodpecker (S)
Observed in the area of MT The limiting habitat component for this species is snags, which are not affected by grazing.
- ✓ Flammulated Owl (S)
located in area on Lon RD The limiting habitat component is snags, which are not affected by grazing.

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

Northern Flicker
(Colaptes auratus) The limiting habitat component is snags, which are not affected by grazing.

Wildlife species identified by the Utah Division of Wildlife Resources and U.S. Fish and Wildlife Service that have been determined to be minimally affected by livestock grazing 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: Boulder (Cattle):

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	Satisfactory	Deer Creek Lakes, Between the Creeks, Bear Creek, Sand Creek
	Riparian-Other Reseeded (PJ/grass)	Satisfactory Satisfactory	Throughout allotment Short Neck, Nazor Draw, Sweetwater, Rock Bench.
	Upland	Satisfactory	Throughout allotment
TEPS Plants	Aquarius Paintbrush	Vigorous population	Boulder Swale
	Parodox Moonwort	- - -	Not present.
	Arizona Willow	- - -	Not present.
	Little penstemon	Satisfactory	Boulder Swale, McGath Lake
Soils/Water	Streambanks	Stable	Durfey Creek, Grass Lake, Boulder Creek, Deer Creek East and West, Sweetwater Creek, Bear Creek, Lake Creek, Frisky Creek, Sand Creek
	Riparian Size	Stable	Throughout allotment
	Soil Productivity	No adverse impacts.	Throughout allotment.
	Sediment Delivery to streams	elevated	Sand Creek, East of Chriss Lake
	303(d) Water Bodies High Priority H2O-sheds	Nutrients, TDS - - -	Escalante River and tributaries Not present.
Fish MIS	Viable Populations	Trophy Brook trout	McGath Lake
		Healthy Colorado cutthroat	East and West Boulder Creek
		Healthy brook, cutthroat and rainbow trout	Durfey Creek, Grass Lake, Boulder Creek, Deer Creek East and West, Bear Creek, Lake Creek, Frisky Creek, Deer Creek Lakes, Green Lake, Moosman Reservoir, Short Lake, Divide Lake, Garkane Power plant pond..
	Streamside Cover	Satisfactory	Durfey Creek, Boulder Creek, Deer Creek
	Macroinvertebrates	BCI 72,78,79,79 in 1994 BCI 86,76 IN 1990 BCI 68 IN 1991 BCI 70 in 1994 BCI 88 in 1987	Boulder Creek Lake Creek Lake Creek Above Chriss Lake Sand Creek
	TEPS	Colorado cutthroat	East and West Boulder Creek, Durfey Creek
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	No known conflicts.	Throughout allotment. Hunting, camping, fishing, trails, OHV use.
	Wilderness Trails	No known conflicts conflicts with gates being left open.	Box-Death Hollow Wilderness Great Western Trail (Deer Creek Lakes, below Kings pasture)
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	2 active nests, 1 historic nest, 1 inactive nest (1992)	Ponderosa pine zone.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS	Mule deer	Critical summer Critical winter Critical fawning	Boulder Swale Southern portion of allotment. Near McGath Lake.
	Rocky Mountain Elk	Critical winter Critical calving	Sand Creek-Short Neck. Sand Creek, northern portion of allotment.
Critical Habitat	Wild Turkey	Critical winter	Near Garkane power plant.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: North Creek (cattle)

Numbers: 784 Season of Use: 6/16-9/30 Grazing System: Deferred-rotation.

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	Satisfactory.	Main Canyon, North Creek, Holby Bottom units.
	Riparian-Other	Satisfactory	Main Canyon, North Creek units.
	Reseed (PJ/grass mix)	Satisfactory	Varney Griffin, Marts Pasture
	Upland	Satisfactory.	Throughout allotment
TEPS Plants	Aquarius Paintbrush	- - -	Not present.
	Parodox Moonwort	- - -	No known locations
	Arizona Willow	- - -	No known locations
	Little penstemon	- - -	No known locations
Soils/Water	Streambanks	Stable. Trampling may be occurring	North Cr, White Cr, Twitchell Cr, Halls Cr Lower Water Canyon
	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	Nutrients, TDS	Escalante River and tributaries
High Priority H2O-sheds	- - -	Not present.	
Fish MIS	Viable Populations	Healthy stream fisheries	North Cr, White Cr, Twitchell Cr, Halls Cr
	Streamside Cover	Healthy lake fisheries > 40%	Barker Lake complex Throughout allotment
	Macroinvertebrates	Not measured	Perennial streams
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	No known conflicts.	Heavy camping, fishing at the Barker Lake complex
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	2 active territories	Within all units.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS Critical	Mule deer	Critical fawning	Holby Bottom.
	Rocky Mountain Elk	Critical winter Critical calving	Varney Griffin, Marts pasture. Holby Bottom.
Habitat	Wild Turkey	Critical winter	Entire allotment.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Coyote (cattle)

Numbers: 1228 Season of Use: 6/16-9/30 Grazing System: Deferred-Rotation.

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	exceeding proper use	Head Antimony Cr, Pacer Lake, Iron Springs
	Riparian-Other	Satisfactory	Remainder of allotment
	Reseed(sagebrush burn)	Satisfactory	Throughout allotment
	Upland	Satisfactory.	Pacer Lake unit Throughout allotment
TEPS Plants	Aquarius Paintbrush	Satisfactory	Coyote Hollow/Clayton unit
	Paradox moonwort		No known locations
	Little penstemon	Satisfactory	Coyote Hollow/Clayton unit
	Arizona Willow		No known locations.
Soils/Water	Streambanks	Unstable	Head of Antimony Cr, old beaver dam area
		Stable	All other streambanks.
	Riparian Size	Decreasing	Head of Antimony Cr
		Stable or increasing.	Remainder of allotment.
	Soil Productivity	Adverse impacts.	Head of Antimony Creek
		No adverse impacts.	Remainder of allotment.
	Sediment Delivery to streams	Within acceptable limits.	Throughout allotment.
	303(d) Water Bodies	Nutrients, TDS	Escalante River and tributaries
	High Priority H2O-sheds	Nutrients, TSS	Antimony
Fish MIS	Viable Populations	Healthy trout	Pacer Lake, Antimony Cr
	Streamside Cover	< 40%	Head of Antimony Cr
		> 40%	Remainder of allotment
	Macroinvertebrates	Not measured	Perennial streams
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	Potential conflicts	Pacer Lake
		No known conflicts	Remainder of allotment.
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	- - -	No known nests/Foraging probable
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	Historical habitat	Coyote Hollow and Pollywog unit.
Wildlife MIS	Mule deer	Critical fawning	Pacer Lake area, The Gap.
		Critical summer	Throughout allotment.
Critical	Rocky Mountain Elk	Critical winter	Pacer Lake north to Forest Boundary.
		Critical calving	Pacer Lake, Coyote Hollow to Pollywog.
Habitat	Wild Turkey	Critical winter	Clayton Sp, Iron Sp, Velvet Lake.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Horse Creek (cattle)

Numbers: 254 Season of Use: 6/16-9/30 Grazing System: Deferred-rotation

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	Satisfactory	Grass Lake unit.
	Riparian-Other	Trampling, exceeds proper use	Lower Horse Cr meadow.
		Satisfactory	Remainder of allotment.
	Reseeded	- - -	Not present.
	Upland	Satisfactory.	Throughout allotment
TEPS Plants	Aquarius Paintbrush	- - -	Not present.
	Little penstemon		No known locations
	Parodox Moonwort	- - -	No known locations.
	Arizona Willow	- - -	No known locations.
Soils/Water	Streambanks	> 50% stable	Throughout allotment
	Riparian Size	stable	Throughout allotment
	Soil Productivity	No adverse impacts.	Throughout allotment.
	Sediment Delivery to streams	Elevated sediment level	Dispersed recreation camp on Ranch Creek.
	303(d) Water Bodies	Within acceptable limits.	Remainder of allotment.
	High Priority H2O-sheds	- - -	Not present.
Fish MIS	Viable Populations	Healthy trout.	Ranch Cr, Birch Cr, Horse Cr, Otter Lake.
	Streamside Cover	> 40%	Ranch Cr, Birch Cr, Horse Cr.
	Macroinvertebrates	Not measured	Perennial streams
	TEPS	Bonneville cutthroat	Ranch Cr
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	No known conflicts.	Camping, hunting, hiking.
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	- - -	Not present.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS Critical Habitat	Mule deer	Critical winter	Black Ridge.
	Rocky Mountain Elk	Critical winter	Horse Creek and Grass Lakes units.
	Wild Turkey	- - -	Not present.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Upper Valley East (cattle)

Numbers: 366 Season of Use:6/16-9/30 Grazing System: Deferred-Rotation.

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	- - -	Not present.
	Riparian-Other	Satisfactory.	Throughout allotment.
	Reseeded (Sage to CW)	Trend is down.	Liston Flat, South Hollow
	Upland	Satisfactory.	Throughout allotment
TEPS Plants	Aquarius Paintbrush	- - -	Not present.
	Parodox Moonwort	- - -	No known locations.
	Arizona Willow	- - -	No known locations.
	Little Penstemon	- - -	Not present
Soils/Water	Streambanks	- - -	No perennial streams on allotment.
	Riparian Size	Stable or increasing	Willow Springs, Winter Springs
	Soil Productivity	No adverse impacts.	Throughout allotment.
	Sediment Delivery to streams	Within acceptable limits.	Throughout allotment.
303(d) Water Bodies	Nutrients, TDS		Escalante River and tributaries.
	TDS, TSS		Paria River and tributaries.
High Priority H2O-sheds	- - -	Not present	
Fish MIS	Viable Populations	- - -	No fisheries on allotment.
	Streamside Cover	Satisfactory	Willow Springs, Winter Springs
	Macroinvertebrates	Not measured	No perennial streams.
Recreation	Developed Sites	- - -	None present
	Dispersed Sites	No known conflicts.	Camping, hunting,
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	Foraging probable.	Active nest 1 mile away.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
Utah Prairie Dog	- - -	Not present.	
Wildlife MIS Critical Habitat	Mule deer	- - -	No critical habitat.
	Rocky Mountain Elk	Critical calving	Willow Springs unit.
	Wild Turkey	- - -	Not present.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Cameron Wash (cattle)

Numbers: 267 Season of Use: 6/16-10/10 Grazing System: Deferred-Rotation.

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	- - -	Not present
	Riparian-Other	- - -	Not present
	Reseed(Sagebrush/grass)	Satisfactory	Throughout allotment
	Upland	Satisfactory.	Throughout allotment
TEPS Plants	Aquarius Paintbrush	- - -	Not present.
	Parodox Moonwort	- - -	No known locations.
	Arizona Willow	- - -	Not present
	Little penstemon	- - -	Not present
Soils/Water	Streambanks	Stable.	Intermittent drainages.
	Riparian Size	Stable.	Minimum riparian on allotment.
	Soil Productivity	No adverse impacts.	Throughout allotment.
	Sediment Delivery	Within acceptable limits.	Throughout allotment.
	303(d) Water Bodies	TDS, TSS	Paria River and tributaries.
	High Priority H2O-sheds	- - -	Not present
Fish MIS	Viable Populations	- - -	No fisheries present on allotment.
	Streamside Cover	- - -	Not present.
	Macroinvertebrates	Not measured	No perennial streams.
Recreation	Developed Sites	- - -	Not present
	Dispersed Sites	No conflicts identified.	Camping, hunting, system trails, hiking, riding, OHV use.
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Confirmed siting south of allotment.
	Northern Goshawk	- - -	Not present.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS Critical Habitat	Mule deer	- - -	No critical habitat.
	Rocky Mountain Elk	- - -	No critical habitat.
	Wild Turkey	- - -	Not present.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Wilford Liston On-Off (cattle)

Numbers: 3 Season of Use:6/1-10/30 Grazing System: On-Off

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	- - -	Not present
	Riparian-Other	Satisfactory.	Wilford Liston pasture.
	Reseeded	- - -	Not present.
	Upland	- - -	Not present.
TEPS Plants	Aquarius Paintbrush	- - -	Not present.
	Parodox Moonwort	- - -	No known locations.
	Arizona Willow		Not present
	Little Penstemon		Not present
Soils/Water	Streambanks	- - -	Not present.
	Riparian Size	Stable	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	- - -	Not present.
Fish MIS	Viable Populations	- - -	No fisheries on allotment.
	Streamside Cover	- - -	Not present.
	Macroinvertebrates	- - -	No perennial streams.
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	- - -	Not present
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	- - -	Not present.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS Critical Habitat	Mule deer	- - -	No critical habitat.
	Rocky Mountain Elk	- - -	No critical habitat.
	Wild Turkey	- - -	Not present.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Upper Valley Spring On-Off (cattle)

Numbers: 4 Season of Use: 6/16-7/15 & 10/1-10/30 Grazing System: On-Off

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine	- - -	Not present
	Riparian-Other	Satisfactory.	Throughout allotment.
	Reseeded	- - -	Not present.
	Upland	Satisfactory.	Throughout allotment.
TEPS Plants	Aquarius Paintbrush	- - -	Not present.
	Parodox Moonwort	- - -	No known locations
	Arizona Willow	- - -	Not present.
	Little Penstemon	- - -	Not present.
Soils/Water	Streambanks	- - -	Not present.
	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	- - -	Not present.
Fish MIS	Viable Populations	- - -	Not present.
	Streamside Cover	- - -	Not present.
	Macroinvertebrates	- - -	Not measured on this allotment.
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	No known conflicts.	Hunting.
	Wilderness	- - -	Not present.
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	- - -	Not present.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS Critical Habitat	Mule deer	- - -	No critical habitat.
	Rocky Mountain Elk	- - -	No critical habitat.
	Wild Turkey	- - -	Not present.
	Yellow-Breasted Chat	- - -	Not present.
Cultural Resources	Historic properties	Not susceptible	All surveyed sites

ALLOTMENT: Long Neck (Cattle)

Numbers: 5

Season of Use: 6/01-9/30

Grazing System: On - Off

RESOURCE	FEATURE	CONDITION	LOCATION
Vegetation	Riparian-Alpine		Not Present
	Riparian-Other	Satisfactory	Deer Creek and Lizzie Creek
	Reseeded (PJ/grass)		Not Present
	Upland	Satisfactory	Throughout allotment
TEPS Plants	Aquarius Paintbrush	- - -	Not present
	Parodox Moonwort	- - -	Not present.
	Arizona Willow	- - -	Not present.
	Little penstemon	- - -	Not present
Soils/Water	Streambanks	Stable	Deer Creek, Lizzie Creek
	Riparian Size	Stable	Throughout Allotment
	Soil Productivity	No adverse impacts.	Throughout Allotment.
	Sediment Delivery to streams	Within acceptable limits.	Throughout Allotment
	303(d) Water Bodies	Nutrients, TDS	Escalante River and tributaries
	High Priority H2O-sheds	- - -	Not present.
Fish MIS	Viable Populations	Marginal	Deer Creek(not perennial at this location)
	Streamside Cover	Satisfactory	Deer Creek and Lizzie Creek
	Macroinvertebrates	Not measured	Perennial streams
Recreation	Developed Sites	- - -	Not present.
	Dispersed Sites	No known conflicts.	System Trail (Long Neck Trail), hiking and horseback.
	Wilderness Trails	No known conflicts.	Not Present Long Neck Trail
Wildlife TEPS Habitat	Mexican Spotted Owl	- - -	Not present.
	Northern Goshawk	- - -	Not present.
	SW Willow Flycatcher	- - -	Not present.
	Peregrine Falcon	- - -	Not present.
	Utah Prairie Dog	- - -	Not present.
Wildlife MIS	Mule deer	Critical winter	Entire Allotment.
Critical	Rocky Mountain Elk	Critical winter	Entire Allotment.
Habitat	Wild Turkey	Critical winter	Entire Allotment.
	Yellow-Breasted Chat	- - -	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 Boulder, Sand Creek, Cameron Wash, Coyote, Horse Creek, North Creek, Upper Valley East, Upper Valley Spring, Wilford Liston and Long Neck cattle allotments.

Grazing at proper use by the proposed livestock number, season of use and grazing system for each 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.

During the NFMA analysis, areas of the Boulder (Sand Creek Division), Coyote and Horse Creek allotments were found to be exceeding proper use standards. To correct this several range improvements are proposed to provide for proper distribution and utilization of available forage (see Chapter 2 for specific locations and actions to be taken).

Dividing the Coyote Hollow unit of the Coyote allotment into two separate units will allow the implementation of a 4-unit deferred rotation grazing system. This will allow each of these units to be deferred every other year until after seed ripe. This will meet the requirements of the Habitat Conservation Plan prepared for Aquarius paintbrush.

Construction of an enclosure around the old beaver dam area located in upper Antimony Creek (Coyote allotment) will allow for establishment and recovery of vegetation and enhance riparian conditions in the area. Upon recovery of the area as determined by an interdisciplinary team, the area will be managed as a riparian pasture or the fence would be removed.

Construction of the drift fence in the Horse Creek allotment will control livestock access to Lower Horse Creek meadow and allow for proper utilization of the area. This will also reduce trampling damage in the meadow.

The proposed action would designate the Sand Creek Division of the Boulder allotment as a separate allotment and implement a 4-unit deferred rotation grazing system. This would allow for deferment of grazing after seed ripe in the Boulder Swale area as suggested in the Habitat Conservation Plan prepared for Aquarius paintbrush. Relocating the fences in the Sweetwater unit would improve livestock distribution.

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

CUMULATIVE EFFECTS

The cumulative effects area (CEA) for vegetation is the Escalante Ranger District. This area was selected based on continuity of vegetation types throughout the District and the adjacency of the allotments.

The cumulative effects of past and present livestock grazing, road building, fire, chainings, recreation, special uses and timber harvest have influenced the vegetation resource on the Escalante Ranger District. Timber sales within the Ponderosa Pine zone have opened up dense forested areas creating a temporary increase in range forage. This transitory range is not included in the suitable range for the affected allotments. New road construction has allowed livestock to distribute into areas that previously were not accessed easily. In some instances additional drift fences have been required to keep cattle within the authorized area. Future timber harvest activities within the spruce/fir and mixed conifer areas and associated road construction are likely to have the same effects. Past chainings have converted Pinyon/Juniper rangeland within the CEA to crested wheatgrass stands. 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.

The effects of implementing the proposed action, when combined with previously described effects of past, present and future actions within the CEA, will result in a net increase in diversity of perennial plant species and productivity within the CEA.

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 may 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 Escalante Ranger District. Improvement is anticipated in areas where unsatisfactory vegetation conditions exist. 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. 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 Escalante 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 Escalante 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, ENDANGERED, AND PROPOSED PLANT SPECIES

The Ute Ladies' Tresses (Spiranthes diluvialis)

A Federally Listed Threatened species, was historically found in riparian areas in Colorado, Utah, and Nevada. It is presently found in relatively undisturbed riparian areas in Colorado, in wetlands in northern Utah, and in the Colorado River drainage in Eastern Utah. It is not known to occur on the Escalante Ranger District. Since no populations of this plant are known to occur on the District, this species will not be discussed further in this document.

NO ACTION

DIRECT/INDIRECT EFFECTS

If population of this plant did occur on the Dixie, no grazing would allow riparian habitat conditions to improve. Therefore, this alternative would enhance potentially suitable habitat.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, this alternative would have little effects on the Ute Lady's tresses. If populations were discovered on the Forest (below 7,000 feet, Atwood per. comm. 1995), special protection may be needed to implement the intent of the draft recovery plan.

SENSITIVE PLANT SPECIES

The following sensitive plant species do not occur on the Escalante Ranger District, principally because they are endemic to areas outside the Escalante Ranger District: Guard Milkvetch, Yellow-white Catseye, Rabbit Valley Gilia, Pine Valley Goldenweek, Paria Breadroot, Red Canyon Beardtongue, Pinyon Penstemon, Tushar paintbrush, Angell cinquefoil, Podunk Groundsel, and Bicknell Thelesperma. The Navajo Lake Milkvetch, Creeping Draba, Reveal Paintbrush, Cedar Breaks Biscuitroot, Zion Jamesia and Maguire Champion grow only on steep exposed soil such as Wasatch Limestone or open calcareous limestone or igneous gravels where livestock do not graze. Grazing would have no effects to these species, therefore, they will not be analyzed further in this document.

NO ACTION

Aquarius Paintbrush (Castilleja aquariensis)

DIRECT/INDIRECT EFFECTS

There are documented occurrences of Aquarius paintbrush in these allotments. The No Action Alternative may have/may not have effects to the Aquarius paintbrush. However, these effect could be mitigated under the Conservation Strategy for the Castilleja aquariensis, once this document is approved and signed.

CUMULATIVE EFFECTS

While the Aquarius paintbrush is endemic to the Aquarius plateau, rationale for identifying this area is that grazing occurs over nearly the entire district.

Arizona Willow (Salix arizonica)

DIRECT/INDIRECT EFFECTS

The No Action alternative would comply with maintaining viable populations of Arizona willow as outlined in the Arizona Willow Conservation Strategy (see Grazing Literature Review). Therefore, the No Action alternative would meet

Forest Plan standards and guidelines and would meet Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area identified for the Arizona willow includes all suitable habitat (riparian corridors above 8,500 feet with less than 5% gradient) on the District. Implementation of the No Action alternative would be consistent with the effects of the proposal to implement new proper use guidelines for livestock grazing in suitable riparian habitat across the District, would meet the Arizona Willow Conservation Strategy and would meet Forest Service NFMA requirements.

Paradox moonwort (Botrychium paradoxum)

DIRECT/INDIRECT EFFECTS

Implementation of the No Action alternative would be expected to improve and possibly increase wet meadow habitat where it currently exists in unsatisfactory condition. 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

Grazing at proper use over the remainder of the District would improve overall conditions for the Paradox moonwort. Therefore, implementation of the the No Action alternative would increase the potential habitat of the paradox moonwort across the District overall.

PROPOSED ACTION

Aquarius Paintbrush (Castilleja aquariensis)

DIRECT/INDIRECT EFFECTS

There are documented occurrences of Aquarius paintbrush in these allotments. Grazing at proper use may/may not affect the Aquarius paintbrush . However, following the Interagency (U.S. Fish and Wildlife Service and USDA Forest Service) Strategy for Conservation of Castilleja aquariensis, risks that may affect viability should be mitigated.

A Proposed Action, which includes the terms and conditions of the permits to meet the Conservation Strategy, once agreed upon and signed, would maintain viable populations of Aquarius Paintbrush .

CUMULATIVE EFFECTS

Road and trail building, timber sales and prescribed burns would be planned to avoid disturbance to these plants.

Arizona Willow (Salix arizonica)

DIRECT/INDIRECT EFFECTS

Arizona Willow has not been documented on the Escalante Ranger District. Surveys were performed in 1994 and 1995, on the District in potential willow habitat, none were located. If located at a later date, the Conservation Strategy for Arizona Willow would be implemented on the allotment. Therefore, the Proposed Action, which includes the terms and conditions of the permits to meet the Conservation Strategy, would maintain viable populations of Arizona Willow .

CUMULATIVE EFFECTS

The cumulative effects area identified for the Arizona willow includes all suitable habitat (riparian corridors above 8,500 feet with less than 5% gradient) on the District. Implementation of the Proposed Action would be consistent with the effects of the proposal to implement new proper use guidelines for livestock grazing in suitable riparian habitat across the District, would meet the Arizona Willow Conservation Strategy and would meet Forest Service NFMA requirements.

Paradox Moonwort (Botrychium paradoxum)

DIRECT/INDIRECT EFFECTS

Paradox moonwort is a small rare fern that is found in diverse habitats that include wet meadows and open parklands. Although no plants have yet been observed in the allotments under analysis, suitable habitat may exist. The effects of grazing on the paradox moonwort is not well understood.

If the paradox moonwort does exist in wet meadow environments within the these areas, populations could be effected by the Proposed Action. Use on meadows associated with stream environments would follow proper use guidelines for hydric species (see Proposed Action). Implementation and enforcement of proper use under the Proposed Action would reduce trampling along upland and riparian areas, and allow vegetation to establish in heavily disturbed areas. Re-establishment of riparian vegetation would increase habitat available to paradox moonwort in meadows adjacent to stream environments.

The management actions for these allotments would decrease use in riparian areas. If there are any Paradox moonworts on these allotments, they would benefit from the improvement in riparian health along streams from the Proposed Action, but may continue to be affected by livestock grazing in wet meadows.

CUMULATIVE EFFECTS

The cumulative effects area for the paradox moonwort includes all potential habitat (wet meadows, open parkland) on the District. An increase and improvement of paradox moonwort habitat would be cumulative with the effects of the proposal to implement proper use guidelines for livestock utilization in suitable riparian habitat across the District. Continued grazing in wet meadows not associated with stream environments under the Proposed Action would be cumulative with past utilization in these areas, but would move toward desired conditions for riparian habitats.

WILDLIFE

INTRODUCTION

Refer to Chapter 3 for site specific information regarding locations of suitable habitat, critical habitat as defined by the 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 Utah Division of Wildlife Resources and the Forest Service, and key wildlife habitat components for the respective species that can be influenced by grazing.

The Brian Head Mountainsnail, Oreohelix parowanensis, does not occur on the Escalante Ranger District or within any of these allotments. Therefore, this species will not be discussed further in this document.

Generally, cattle grazing affects grasses, forbs and shrubs on uplands and greater effects to grasses, forbs and shrubs and riparian zones. The following analysis of each species or group is based on the determination that with proposed use and the No Action alternative grasses, forbs and shrubs on uplands and in riparian areas would improve where past grazing has been exceeding Forest Plan Standards and Guidelines and/or conditions are unsatisfactory. The No Action alternative would leave even more grasses, forbs, and shrubs and recovery of unsatisfactory areas would be faster than with the Proposed Action. On uplands and riparian areas in the desired or satisfactory condition, habitats would be maintained with both alternatives, however, the No Action alternative would result in more vegetation remaining overall.

The management actions for each allotment would improve riparian areas (see discussion in this Chapter on the effects of the Proposed Action on Vegetation and Hydrology). Improved riparian areas would benefit many species of wildlife. The effects of improved riparian areas from these management actions appropriate for each species are discussed below. Construction of the improvements described in the management actions would cause short term disturbances to wildlife. Following mitigation measures described in Chapter 2 would ensure that disturbances would not adversely affect the viability of any species listed below.

The cumulative effects area (CEA) for the species discussed below is the Escalante 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 Escalante 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, ENDANGERED, AND PROPOSED WILDLIFE

Peregrine Falcon (Falco peregrinus anatum)

NO ACTION

DIRECT/INDIRECT EFFECTS

Increases in grasses, forbs, and shrubs would occur across the landscape as a result of no grazing. This increase could provide additional habitat for some prey species for the peregrine. There would be no direct effects to peregrine falcons with the No Action alternative (BA). Riparian areas and open parklands that are maintained or improved could increase habitat for peregrine falcon prey (BA).

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 Recovery Plan. The LRMP goal to manage peregrine falcon habitat to maintain or enhance their status would be met with the Proposed Action.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, this alternative would not adversely effect the peregrine. 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 Escalante Ranger District. Rationale for this is described in the Introduction to the Wildlife Section.

Proper use District-wide could improve riparian areas such that they may be an increase overall prey availability for peregrine falcons. Adjacent private 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.

Fences, water developments and reductions in numbers of cattle would also improve riparian areas for potential prey species for the peregrine.

Southwestern Willow Flycatcher (Empidonax traillii extimus)

NO ACTION

DIRECT/INDIRECT EFFECTS

Because overall riparian health would be significantly enhanced, this alternative would have positive effects on the Southwestern willow flycatcher. No grazing would improve riparian areas and increase willow habitat. This could increase suitable habitat for willow flycatchers. This would occur faster than with the Proposed Action.

No grazing would discourage presence of brown-headed cowbirds that are known to parasitize southwestern 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. For further discussion see the Biological Assessment for grazing (Escalante R.D.), located at the Dixie National Forest, Panguitch, Utah.

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 Escalante Ranger District and on adjacent lands. The range of willow flycatchers has diminished where streamside habitat has been destroyed (Peterson, 1990). Proper use grazing proposed District-wide would increase willow habitat for willow flycatchers. 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. Because so little is known about the taxonomy, abundance and distribution of southwestern willow flycatcher on the Escalante Ranger District, cumulative effects of the Proposed Action with proper use grazing is unknown. However, improved habitat conditions would be moving toward the desired condition for maintaining habitat for willow flycatchers.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, this alternative would not adversely effect the Southwestern willow flycatcher. Very little is known about this species' habitat and occurrence on the Dixie National Forest. It has not yet been determined whether the willow flycatcher that occurs in this

part of Utah is the southwestern willow flycatcher. Cattle can inadvertently bump nests or young onto the ground, curtailing reproduction of that pair of birds. 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. For further discussion refer to the Biological Assessment on grazing, Dixie National Forest, Panguitch, Utah.

Fences, water developments and reductions in numbers of cattle would also improve riparian areas for potential willow flycatcher habitat.

Grazing, even at proper use levels, would promote 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 willow flycatcher is the Escalante Ranger District. This is based on the rationale described in the Introduction to the Wildlife section of this document plus: Knowledge of the definition and distribution of suitable habitat for this species on the Dixie National Forest is limited; and knowledge of occupied suitable habitat on the Dixie National Forest is limited.

Proper use grazing District-wide could increase willow habitat and improve habitat for 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.

Bald Eagle (Haliaeetus leucocephalus)

NO ACTION

DIRECT/INDIRECT EFFECTS

There would be no effects to the bald eagle in either the no action or the proposed action because bald eagles are a fall and winter migrant to the Dixie National Forest. There are no known bald eagle nests occurring on the Dixie National Forest or Escalante Ranger District.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

There would be no effects to the bald eagle.

Utah Prairie Dog (Cynomys parvidens)

NO ACTION

DIRECT/INDIRECT EFFECTS

As vegetation increases through time, suitable prairie dog habitat would decrease. This decrease would likely effect distribution, but not population viability. No grazing would increase grasses, forbs and shrubs that would inhibit prairie dogs to communicate with one another, which is important to their survival(Grazing BA). Therefore, the No Action alternative would adversely affect Utah prairie dogs but would not affect their viability.

CUMULATIVE EFFECTS

The area selected for cumulative effects is the Escalante Ranger District because grazing occurs on nearly the entire district. Proper use grazing District-wide would affect Utah prairie dogs, but would not affect their viability (Grazing BA).

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Livestock grazing could be a useful tool provided proper use standards are implemented. Therefore, this alternative may have positive effects on the prairie dog. There would be no direct effects to prairie dogs with the Proposed Action. Proper use grazing would maintain the low vegetative cover needed for prairie dogs to communicate with one another, which is important to their survival. Proper use grazing would minimize trampling of their burrows and/or entrances to burrows (Grazing BA). The Proposed Action would affect Utah prairie dogs but would not affect their viability.

CUMULATIVE EFFECTS

The area selected for cumulative effects is the Escalante Ranger District using the rationale in the Introduction of this Chapter under the Wildlife section. Proper use grazing District-wide would affect Utah prairie dogs, but would not affect their viability (Grazing BA).

Mexican Spotted Owl (Strix occidentalis lucida)

NO ACTION

DIRECT/INDIRECT EFFECTS

Because spotted owls nest and forage in canyon complexes, this alternative would have little or no effects on the spotted owl. If grazing did occur in an "occupied" MSO territory, the No Action - no grazing alternative, may have positive effects on the owl. The No Action alternative would increase foods used by 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 Strategy for the Mexican Spotted Owl. Therefore, Mexican spotted owl habitat be maintained for viable populations, meeting Forest Service NFMA requirements (Grazing BA).

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, Forest Plan Standards and guidelines and Forest Service NFMA requirements.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because grazing would occur at proper use standards or below, this alternative would not adversely affect the owl (Grazing/owl BA 1994). 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. The Proposed Action, including the management actions, would comply with the Mitigation Measures in this BA and with the Recovery Plan for the Mexican Spotted Owl. No "core" areas or critical habitat has been designated by the USFWS for the spotted owl. Therefore, Mexican spotted owl habitat would be maintained for viable populations, meeting Forest Service NFMA requirements (Grazing BA).

CUMULATIVE EFFECTS

The cumulative effects area identified for this process for the Mexican spotted owl consists of the same cumulative effects area as described in the Brian Head Recovery Project Environmental Impact Statement (BHEIS) (USFS 1995 page 3-34) and is incorporated here by reference. This area was selected because of the location of radio-telemetry-located owls and a feasible wintering and juvenile dispersal distance from these locations. Other activities considered are also described in the BHEIS and is incorporated here by reference. Since grazing was considered in the BHEIS analysis the effects analysis is also incorporated here by reference (USFS 1995 page 4-70). Therefore, habitat would be maintained to provide viable populations of Mexican Spotted owls, thereby meeting the Recovery Plan, Forest Service NFMA requirements and the LRMP.

SENSITIVE WILDLIFE SPECIES

Spotted Bat (Euderma maculatum)

NO ACTION

DIRECT/INDIRECT EFFECTS

The no action alternative should have no effect on spotted bats. The No Action alternative would have no direct or indirect effects to this bats. Vegetation which supports insects on which bats prey may increase in biomass, and could increase insects for bat prey. The limiting factors for bats are hibernacula and maternity sites. Increased prey would not be expected to have measurable effects to bat populations. Therefore, the No Action alternative would maintain spotted bat population viability, which meets Forest Service NFMA requirements.

CUMULATIVE EFFECTS

The cumulative effects area for spotted bats is the same as described under the Proposed Action for these species.

Other activities that could affect these bats when combined with the No Action alternative would include timber sales, water developments and prescribed fire. Timber sales and fire would reduce grasses and forbs initially but after revegetation would generally provide more than prior to the activity. Other water developments would increase water availability, which would be beneficial for bats. Therefore, the No Action alternative would maintain habitat for for viability of spotted bats, thereby meeting Forest Service NFMA requirements.

PROPOSED ACTION

Because proper use standards would be implemented, no effects would occur. Grazing at proper use would have no direct effects to the these bats. Grazing has the potential decrease vegetation available to support insects on which bats prey. Grazing at proper use would not be expected to affect insect populations enough affect bat foraging or bat viability. 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 improve foraging (insects) and water availability for bats.

The proposed water developments, fences, and reduced livestock numbers would improve riparian habitats and provide additional water sources for bats during their foraging forays. This would benefit these bats.

CUMULATIVE EFFECTS

The cumulative effects area for spotted and western big-eared bats is the Escalante Ranger District. Rationale for this area is discussed in the Introduction to the Wildlife section of this Chapter.

Other activities that could affect bat habitat when combined with the Proposed Action would include timber sales, water developments and prescribed fire. Timber sales and fire would reduce grasses and forbs initially but after revegetation would generally provide more than prior to the activity. Other water developments would increase water availability, which would be beneficial for bats. Therefore, the Proposed Action would maintain habitat for for viability of these bats, thereby meeting Forest Service NFMA requirements.

Western Big-Eared Bat (Plecotus townsendii)

NO ACTION

DIRECT/INDIRECT EFFECTS

The No Action alternative would have no direct or indirect effect to this bat. Vegetation which supports insects on which bats prey may increase in biomass, and could increase insects for bat prey. The limiting factors for bats are hibernacula and maternity sites. Increased prey would not be expected to have measurable effects to bat populations. Therefore, the No Action alternative would maintain 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 could affect these bats when combined with the No Action alternative would include timber sales, water developments and prescribed fire. Timber sales and fire would reduce grasses and forbs initially but after revegetation would generally provide more than prior to the activity. Other water developments would increase water availability, which would be beneficial for bats. Therefore, the No Action alternative would maintain habitat for viability of western big-eared bats, thereby meeting Forest Service NFMA requirements.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, no effects would occur. Grazing at proper use would have no direct effects to these bats. Grazing has the potential 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 viability. 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 improve foraging (insects) and water availability for bats.

The proposed water developments, fences, and reduced livestock numbers would improve riparian habitats and provide additional water sources for bats during their foraging forays. This would benefit these bats.

CUMULATIVE EFFECTS

The cumulative effects area for spotted and western big-eared bats is the Escalante Ranger District. Rationale for this area is discussed in the Introduction to the Wildlife section of this Chapter.

Other activities that could affect bat habitat when combined with the Proposed Action would include timber sales, water developments and prescribed fire. Timber sales and fire would reduce grasses and forbs initially but after revegetation would generally provide more than prior to the activity. Other water developments would increase water availability, which would be beneficial for bats. Therefore, the Proposed Action would maintain habitat for viability of these bats, thereby meeting Forest Service NFMA requirements.

Flammulated Owl (Otus flammecolus)

NO ACTION

DIRECT/INDIRECT EFFECTS

As vegetation increases, flammulated owl habitat would likely be enhanced. This alternative may beneficially affect the flammulated owl. 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 would be maintained.

CUMULATIVE EFFECTS

The cumulative effects area for flammulated owls is the Escalante Ranger District. Grazing occurs nearly district-wide and every allotment has coniferous habitats within it. No grazing in these allotment with grazing at proper use elsewhere District-wide 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.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, no effects would occur. In addition, flammulated owls nest and fledge young early in the spring/early summer (June) prior to potentially heavy use by livestock. There would be no direct effects of the Proposed Action on flammulated owls. Snags for nesting would not be affected. Vegetation that supports insects on which flammulated owls prey would be affected by grazing. However, viable populations of flammulated owls would be maintained.

CUMULATIVE EFFECTS

The cumulative effects area for flammulated owls is the Escalante Ranger District. Rationale is described in the Introduction of the Wildlife section of this Chapter. Grazing at proper use District-wide 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.

Three-Toed Woodpecker (Picoides tridactylus)

NO ACTION

DIRECT/INDIRECT EFFECTS

This alternative would have no affect on three-toed woodpeckers.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, no effects would occur.

Northern Goshawk (Accipiter gentilis)

NO ACTION

DIRECT/INDIRECT EFFECTS

This alternative would provide opportunity for increases in prey densities and distribution. Therefore beneficial effects to the goshawk and their primary

prey species would occur. There would be no direct effects and no effects to the most important habitat components for northern goshawk nesting. Foraging habitats, including grasses and forbs for 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 Northern Goshawk Management Recommendations 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. Timber sales and prescribed fires can reduce grasses and forbs immediately after implementation, but these activities generally increase abundance of grasses and forbs when they revegetate. Therefore, these activities on the district, when combined with the No Action alternative would maintain this habitat component for goshawks and would meet Forest Service NFMA requirements.

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Because proper use standards would be implemented, this alternative would have no effects on the goshawk or its prey. There would be no direct effects to goshawks 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 unsatisfactory condition or improve riparian and open parklands in unsatisfactory condition, thereby increasing potential available prey. Grazing would have no effects to the most important habitat components for northern goshawk nesting. Grazing at proper use would maintain suitable grasses, shrubs and forbs for prey species and thereby maintain foraging habitat.

The proposed water developments, fences, exclosures and reduced livestock numbers would improve prey habitat for goshawks (see proper use regarding timing of construction activities) their habitats.

CUMULATIVE EFFECTS

The cumulative effects area identified for analysis of the northern goshawk for this project is the Escalante Ranger District. Rationale for this area is described in the Introduction to the Wildlife section of this Chapter plus goshawk nesting or foraging has been found on nearly all parts of the District where surveys have been conducted.

Timber sales and prescribed fires can reduce grasses and forbs immediately after implementation, but these activities generally increase abundance of grasses and forbs when they revegetate. Therefore, these activities on the district, when combined with the Proposed Action would maintain this habitat component for goshawks and would meet Forest Service 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 would maintain shrubs, grasses and forbs available for use by deer and elk. Adequate forage and cover to meet Forest Plan standards and guidelines would be provided on critical deer and elk ranges (see Chapter 3). The reseeding or vegetation treatments would continue to provide forage for livestock, deer and elk with the Proposed Action.

The proposed pond developments would provide improved water distribution for mule deer and elk, improving habitat effectiveness. Improvements in riparian areas with fences would improve deer and elk habitat in general. Deer sometimes get hung up on barbed wire fences, causing mortality. Reduced livestock numbers would improve upland and riparian areas which would improve overall forage availability for mule deer and elk.

CUMULATIVE EFFECTS

The cumulative effects area identified for mule deer and elk during this process is the Escalante Ranger District. The rationale for this area is described in the Introduction to the Wildlife section of this chapter plus: Although the summer and winter ranges and calving and fawning areas may be for different herds, they give a good representation of habitats for elk and deer that would support population viability.

The past, present and future foreseeable actions on the Escalante Ranger District considered combined with the Proposed Action would follow Forest Plan standards and guidelines regarding forage and cover for big game with these activities. Proper use would improve forage on uplands and in riparian areas for elk and deer where conditions are presently unsatisfactory and would maintain forage in areas where conditions are satisfactory. Therefore, there would be no cumulative effects on the viability of mule deer and Rocky mountain elk with the Proposed Action.

Wild Turkey (Meleagris gallopavo)

DIRECT/INDIRECT EFFECTS

The subspecies that occurs on these allotments is the Merriam's Turkey. Although turkeys occur in these allotments, no critical or "key" habitat has been identified by the Utah Department of Wildlife Resources or the Forest Service. Inadvertent trampling of nest or eggs could occur, and vegetation for forage and/or supporting insects for forage would occur with grazing. With proper use, grasses, forbs and shrubs would be maintained for wild turkey viability. Water developments, fenced areas and reduced numbers would provide more water and improved overall habitat for turkeys. Therefore, the Proposed Action would maintain viable populations of wild turkey.

CUMULATIVE EFFECTS

The area identified for cumulative effects analysis for turkeys is the Escalante Ranger District. Rationale for this determination is described in the Introduction to the Wildlife section of this Chapter.

Timber harvest and prescribed burns can reduce grasses and forbs for foraging initially but generate increased biomass upon revegetation. Proposed grazing elsewhere on the District can reduce vegetation. The overall effect would be a mosaic where there are increases and decreases of vegetation and forage for turkeys. This is expected to maintain viable populations of turkeys, meeting Forest Service NFMA requirements.

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

DIRECT/INDIRECT EFFECTS

No yellow-breasted chats have been documented on any of these allotments to date. If yellow-breasted chats occur in any of the low elevation riparian areas, grazing could cause inadvertent bumping of nests or young to the ground. Proper use grazing could increase riparian habitat conditions outlined in the Forest plan amendment (see Chapter 3). Brown-headed cowbirds would continue to be present and parasitize chats.

The proposed water developments would reduce livestock use in riparian areas which would improve riparian habitat conditions. The proposed fencing would also improve riparian habitat conditions.

The Proposed Action would meet Forest Service NFMA requirements and LRMP standards and guidelines by moving toward the desired riparian conditions and moving toward maintaining habitat for this species where the potential for its occurrence exists.

CUMULATIVE EFFECTS

The cumulative effects area considered for the yellow-breasted chat and riparian habitat conditions is the Escalante 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.

Proper use grazing proposed District-wide could increase shrub habitat and improve 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. Because so little is known about the abundance and distribution of yellow-breasted chats on the Escalante Ranger District, cumulative effects of the Proposed Action with proper use grazing is unknown. The Proposed Action would be moving toward improved riparian habitat conditions Forest Plan standards and guidelines would be met.

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, especially fawning and calving areas.

The "reseedings" or vegetation treatments, would provide increased forage for livestock and mule deer 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. Forest Plan standards and guidelines would be followed regarding forage and cover for big game with these activities. No grazing would improve forage and cover for elk and deer where conditions are presently unsatisfactory and would maintain forage and cover in areas where conditions are satisfactory. This would occur faster than with the Proposed Action. Therefore, there would be no cumulative effects on the viability of mule deer or elk with the Proposed Action.

Wild Turkey (Meleagris gallopavo)

DIRECT/INDIRECT EFFECTS

The No Action alternative would cause no direct effects to turkeys. 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 standards and guidelines.

CUMULATIVE EFFECTS

The area identified for cumulative effects analysis for turkeys is the same as described in the Proposed Action for this species. Timber harvest and prescribed burns can reduce grasses and forbs for foraging initially but generate increased biomass upon revegetation. Proposed grazing elsewhere on the District can reduce vegetation. The overall effect would be a mosaic where there are increases and decreases of vegetation and forage for turkeys. This is expected to maintain viable populations of turkeys, meeting Forest Service NFMA requirements.

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

DIRECT/INDIRECT EFFECTS

The low elevation riparian areas which are presently in unsatisfactory condition, would be expected to improve, thereby providing improved riparian habitat conditions and/or yellow-breasted chat habitat.

The No Action alternative could discourage brown-headed cowbird occurrences which could improve nesting success of yellow-breasted chats or other riparian dependent birds. The No Action alternative would enhance riparian conditions providing for riparian dependent species, including the yellow-breasted chat, should any occur. This would meet Forest Service NFMA requirements and LRMP standards and guidelines.

CUMULATIVE EFFECTS

The cumulative effects area considered for the yellow-breasted chat is the same as described in the Proposed Action for this species. Proper use grazing proposed District-wide would increase shrub habitat and improve riparian habitat conditions including potential habitat for the yellow-breasted chat. Brown-headed cowbird presence would be expected to continue. With improved habitat conditions, more cover from parasitism would be present. With continued grazing on adjacent lands, including BLM and private, brown-headed cowbird parasitism would still occur to birds that are susceptible. Cumulative effects of the No Action alternative would be moving toward improved habitat conditions outlined in the Forest Plan amendment (see Chapter 3).

OTHER SPECIES OF CONCERN

PROPOSED ACTION

Passerine Birds, including Neotropical Migratory Birds

DIRECT/INDIRECT EFFECTS

Grazing would cause inadvertent bumping of young or nests to the ground, causing nesting failure. Proper use grazing would improve or maintain food distribution and abundance (seeds, flowers) and cover (grasses and forbs) for nesting neotropical birds.

The proposed water developments would provide improved water distribution for neotropical birds using the adjacent habitat. Improved riparian conditions from better distribution of livestock from water developments, fencing and reduced numbers would improve habitat conditions in riparian areas for birds.

CUMULATIVE EFFECTS

The cumulative effects area considered for passerine birds, including neotropical migratory birds is the Escalante Ranger District. This is based on the rationale in the Introduction of the Wildlife section of this Chapter.

Proper-use grazing proposed District-wide could increase amounts and quality upland and 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 from parasitism would be present, however, with continued grazing on adjacent lands brown-headed cowbird parasitism would still occur.

Timber sales and prescribed burns would reduce habitat for those species needing closed canopy forests and increase habitats for those needing openings. Openings, and fragmentation, would increase edges and openings where

brown-headed cowbirds could parasitize nesting birds. Grasses and forbs, would increase from these activities. The overall effect would be increased seral stages in different plant communities which can increase bird species richness.

Bats

DIRECT/INDIRECT EFFECTS

The direct, indirect and cumulative effects of the Proposed Action is identical to those described for spotted and western big-eared bats because their foods are much the same and limiting factors to their populations are also very similar (and not affected by grazing). Therefore, no grazing would be expected to maintain viable populations of these bats.

Sage Grouse (Centrocercus urophasianus)

DIRECT/INDIRECT EFFECTS

Although sage grouse are sometimes observed on these allotments, no known lekking sites are documented on the Escalante Ranger District. Even if Lek sites are later discovered, grazing would not affect strutting activities because "lek" or display grounds are used during early spring (March 15 - June 1st) and these units are not grazed until after the June 1. Inadvertent stepping on eggs or young could occur in pastures grazed in early June. No direct effects would occur to young or eggs if pastures are grazed in the fall.

Grazing at proper use would reduce cover used for hiding cover, but would provide adequate sagebrush for forage. Grazing at proper-use would maintain cleared areas around ponds, which is often where sage grouse display or strut during the spring. The management actions are designed to improve livestock distribution which would move toward a desired condition for maintaining sage grouse habitats.

CUMULATIVE EFFECTS

The cumulative effects area for sage grouse for this analysis is from the south parallel (south of Canaan Peak), north to the District boundary (Aquarius Plateau). Grazing over this CEA at proper-use would maintain sufficient sagebrush and vegetation to support sage grouse prey (insects). Under Proper-use cover would be maintained or increased, in areas where past grazing has exceeded utilization standards. The cumulative effects of proper-use grazing with other past, present and future foreseeable actions would be expected to maintain sage grouse viability.

Western Burrowing Owl (Athene cunicularia hypugaea)

DIRECT/INDIRECT EFFECTS

Grazing at proper use would maintain vegetation for foraging habitat for western burrowing owls. Inadvertent trampling of vegetation which provide habitat for owl prey would occur and be most prevalent near watering sites. The management actions, which are designed to attain a more equal distribution of livestock throughout the allotments, would also move toward providing

habitat for burrowing owls, thereby meeting LRMP standards and guidelines to enhance habitat for native species.

CUMULATIVE EFFECTS

The cumulative effects area for Western burrowing owls is the Escalante Ranger District. This area was selected using the rationale described in the Introduction of the Wildlife section of this Chapter plus: burrowing owl distribution is not known and none have been documented on the Escalante Ranger District. Past grazing, which has often included overgrazing, has reduced habitat for owl prey. Past use of pesticides has also reduced insect prey and small mammals whose old burrows these owls use to raise their young. Proper use District-wide would improve habitat conditions for these owls, thus would meet LRMP standards and guidelines to enhance habitat for wildlife on the Forest.

NO ACTION

Passerine Birds, including Neotropical Migratory Birds

DIRECT/INDIRECT EFFECTS

No grazing would improve food distribution and abundance (seeds, 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 discourage 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 standards and guidelines.

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 over-all 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

DIRECT/INDIRECT/CUMULATIVE EFFECTS

The direct, indirect and cumulative effects of the Proposed Action is identical to those described for spotted and western big-eared bats because their foods are much the same and limiting factors are also very similar (and not affected by grazing). Therefore, grazing at proper use would be expected to maintain viable populations of these bats.

Sage Grouse (Centrocercus urophasianus)

DIRECT/INDIRECT EFFECTS

The No Action alternative would not affect strutting activities. There would be no direct effects to young or eggs with this alternative. No grazing would increase hiding cover and would provide adequate vegetation for forage and prey-use. Cleared areas around ponds, sometimes used for displaying, would become revegetated in time. Sagebrush would increase and provide abundant food for sage grouse and their prey.

CUMULATIVE EFFECTS

The cumulative effects area for sage grouse for this analysis is the same as described in the Proposed Action. Grazing over this CEA at proper-use combined with areas of no grazing, would maintain sagebrush and vegetation to support insects for sage grouse food and provide hiding cover. The cumulative effects of no grazing with other past, present and future foreseeable actions would be expected to maintain sage grouse viability.

Western Burrowing Owl (Athene cunicularia hypugaea)

DIRECT/INDIRECT EFFECTS

The No Action alternative would cause no direct effects to western burrowing owls. No grazing would increase vegetation supporting insects and small mammals for food. This would maintain viable populations of burrowing owls where they exist.

CUMULATIVE EFFECTS

The cumulative effects area for Western burrowing owls is the same as described in the Proposed Action for this species. Past grazing, which has often included overgrazing, has reduced habitat for owl prey. Past use of pesticides has also reduced insect prey and small mammals whose old burrows these owls use to raise their young. Proper-use, District-wide combined with no grazing in this alternative would improve habitat conditions for these owls, thus would meet LRMP standards and guidelines to enhance habitat for wildlife on the Forest.

SOILS

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

During the analysis of the Boulder, Cameron Wash, North Creek, Upper Valley East, Upper Valley Spring, Wilford Liston, Coyote, Horse Creek, Sand Creek and Long Neck cattle allotments it was found that, on portions of some of these allotments, livestock grazing was causing impacts to streambanks, riparian areas and soil productivity beyond LRMP 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 allotments. Grazing at proper use by the livestock numbers, season of use, and grazing system proposed for each 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 for the Boulder, Horse Creek and Coyote allotments 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 these allotments 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 Escalante RD.

A multitude 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 campgrounds, trails for hiking, biking, ATV's, cross-country skiing; mining and oil and gas development; utility corridors; 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 Escalante 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 Boulder, Cameron Wash, North Creek Upper Valley East, Upper Valley Spring, Wilford Liston, Coyote, Horse Creek, Sand Creek and Long Neck cattle allotments. Grazing at proper use by the livestock numbers, season of use, and grazing system proposed for each allotment would 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).

This alternative would not contribute to the further impairment of 303(d) listed waters. Antimony Watershed #16030002-030 is on the Utah High Priority Watersheds for Nonpoint Source Pollution Control for nutrients and total suspended solids. Nutrients 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 Escalante 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, special uses, oil, gas and mineral exploration.

The cumulative effects of past and present livestock grazing in addition to all the other management activities occurring on the Escalante 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 Escalante 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 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.

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 generally 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.

The No Action 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 Escalante Ranger District. Improvement is anticipated in infiltration rates and unsatisfactory condition riparian areas. Therefore, cumulative effects of No Action Alternative when added to other past, present, and reasonably foreseeable 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, 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 Boulder, Cameron Wash, North Creek Upper Valley East, Upper Valley Spring, Wilford Liston, Coyote, Horse Creek, Sand Creek and Long Neck cattle allotments.

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, range improvements described in Chapter 2, have been proposed for several allotments which should result in better livestock distribution, exclusion, and 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 the Proposed Action than the No Action alternative.

CUMULATIVE EFFECTS

The cumulative effects area for fisheries and aquatic macroinvertebrates is the Escalante 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 Escalante 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 Proposed Action, 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 future actions within the cumulative effects analysis area is expected to maintain or improve upland 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 (DNFLRMP IV-5 and IV-6).

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. Habitat conditions will similarly improve for Bonneville and Colorado cutthroat trout in East and West Boulder Creeks, Durfey Creek, and Ranch Creek.

CUMULATIVE EFFECTS

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

The cumulative effects of all other past and present management activities occurring on the Escalante 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. The No Action would be in compliance with the goals and objectives in the LRMP (DNFLRMP IV-5 and IV-6).

SENSITIVE FISH SPECIES

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

The Proposed Action alternative will result in a beneficial impact to Bonneville and Colorado cutthroat trout in East and West Boulder Creeks, Durfey Creek and Ranch Creek. The effects of grazing at proper use are similar to those described for other fisheries in the direct/indirect effects section of the proposed action.

CUMULATIVE EFFECTS

The cumulative effects area for these species include the East and West Boulder Creek, Durfey Creek and Ranch Creek watersheds. Grazing at proper use will have a beneficial impact to Bonneville and Colorado cutthroat trout for the same reasons described for other fisheries in the cumulative effects section for the proposed action alternative above.

NO ACTION

DIRECT/INDIRECT EFFECTS

The No Action alternative will result in a beneficial impact to Bonneville and Colorado cutthroat trout in East and West Boulder Creeks, Durfey Creek and Ranch Creek. The effects of the No Action alternative to Bonneville and Colorado cutthroat trout are similar to those described for other fisheries in the direct/indirect effects of the No Action alternative.

CUMULATIVE EFFECTS

The cumulative effects area for these species include the East and West Boulder Creek, Durfey Creek and Ranch Creek watersheds. No grazing will have a beneficial impact to Bonneville and Colorado cutthroat trout for the same reasons described for other fisheries in the cumulative effects section for the No Action alternative above.

RECREATION/VISUALS

PROPOSED ACTION

DIRECT/INDIRECT EFFECTS

Under the Proposed Action, livestock would have access to all suitable rangeland 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, such as the Barker Lake complex. 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 Escalante. 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, cross-country ski trails, mining and oil and gas development, utility corridors, roads, etc. The construction of new roads is the greatest single impact on the recreation resource--since there is 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 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 following allotments 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
Boulder/Sand Creek	3712	97	28	0
Cameron Wash	2632	74	55	0
North Creek	5256	131	97	0
Upper Valley East	410	1	1	0
Upper Valley Spring	0	0	0	0
Wilford Liston	0	0	0	0
Coyote	3385	12	6	0
Horse Creek	497	0	0	0
Long Neck	0	0	0	0

Those areas which show no previous surveys were evaluated for potential of sites from adjacent surveyed areas. The potential for locating sites in these areas is low to moderate and there will be no impacts from grazing on susceptible sites. 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**

<u>ALLOTMENT</u>	<u>KEY AREAS</u>
Boulder	Deer Creek, Chriss Lake Trailhead, Kings Pasture, East and West Boulder Creeks.
Cameron Wash	Oil Well, Travis-Terry bench, Lower Cameron Wash, Cameron Wash West, Burro Spring, Dipping Vat.
Coyote	Center Creek, Mud Lake, Coyote Hollow, Sink Holes, Dry Lake, Smoot Cabin, Dry Hollow, Pollywog Lake, Death Hollow, Big Swale.
Horse Creek	North Creek, Grass Lake, Birch Creek, Lower Horse Creek, Upper Horse Creek, Riddle Lake, Twin Lake.
Long Neck	Deer Creek.
North Creek	Hog Ranch, Varney-Griffin, Mart's Pasture, Corn Creek meadow, Holby Bottom.
Sand Creek	Boulder Swale, Dry Lake, McGath Lake, Sweetwater, August Corral Flat.
Upper Valley East	Liston Flat, South Hollow, Willow Springs, along Highway 12.
Upper Valley Spring	Near Highway 12.
Wilford Liston Pasture	Near Highway 12.

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
Marianne Orton	District Range Conservationist	Range
Dan Dockray	District Range Conservationst	Range
James Bayer	Soil Scientist	Soils
Mike Montgomery	Hydrologist	Hudrology
Steve Robertson	Fisheries Biologist	Fisheries
Dave Whittekiend	Teasdale RD Biologist	Wildlife
Joanne Stenten	Teasdale Wildlife Biologist	Wildlife
Deborah Kary	East Zone Biologist	Wildlife
Ron Rodriguez	Forest Biologist	Wildlife
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: Allotment 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.

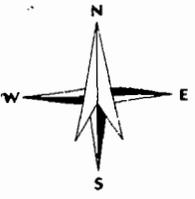
RESPONSIBILITY: Funding: Forest Management Team
Monitoring: IDT

APPENDIX B

Escalante Ranger District Boulder Range Allotment

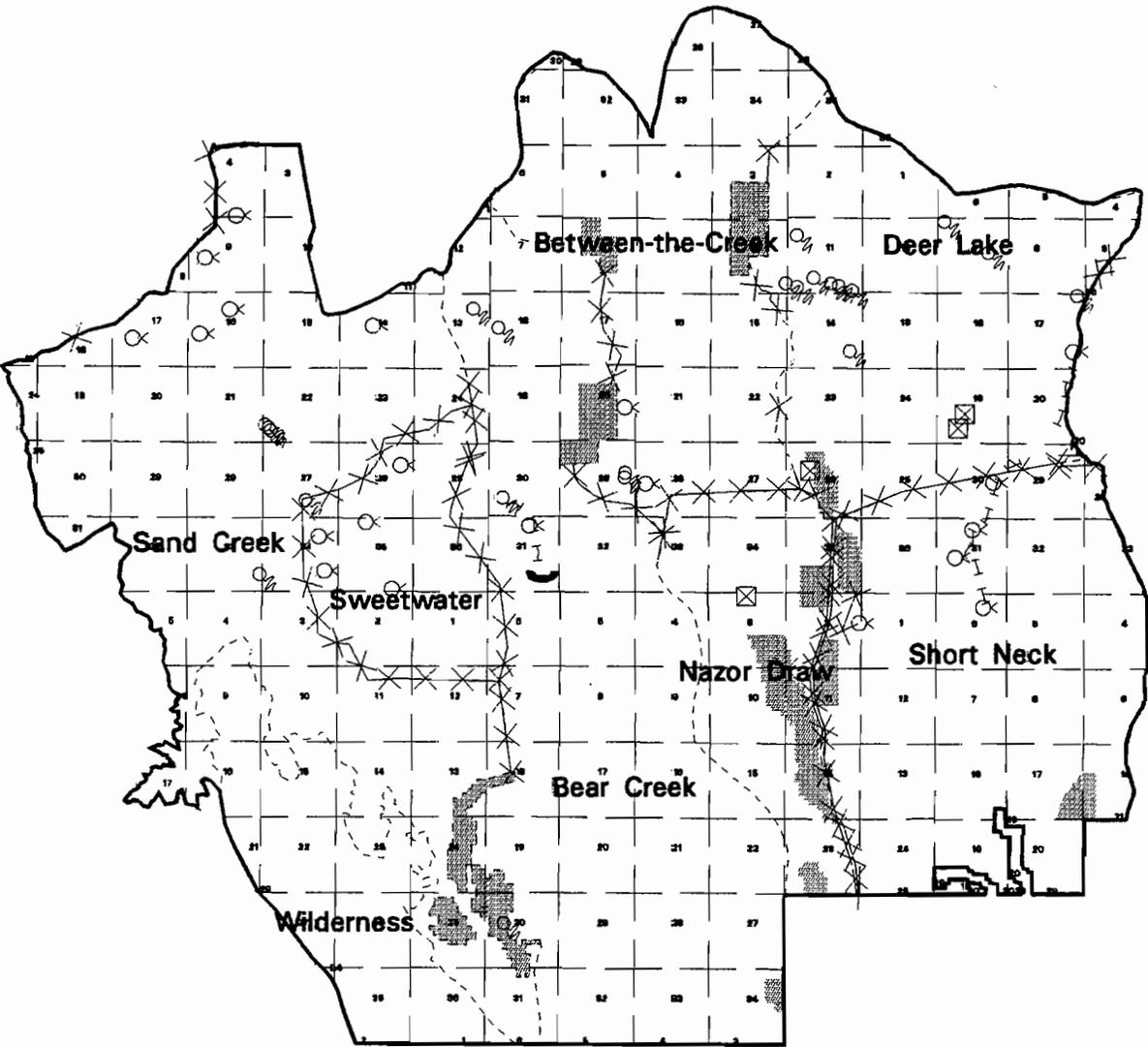


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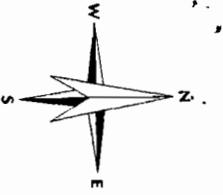
LEGEND

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



Locality Map

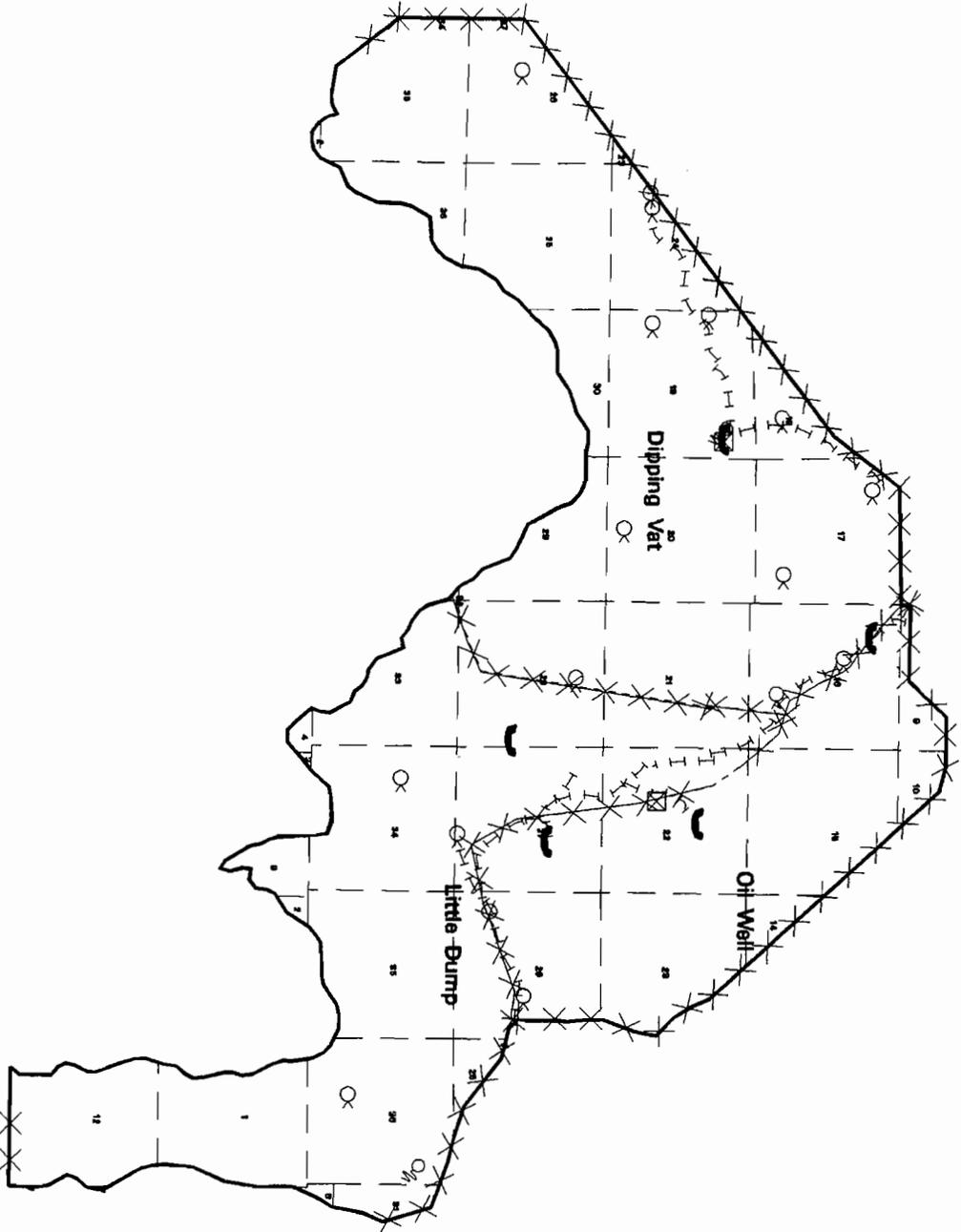




Escalante Ranger District

Cameron Wash Range Allotment

(Existing Range Improvements)



LEGEND

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

Vicinity Map



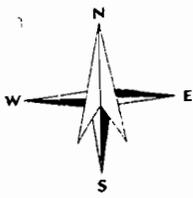
Prepared by USDA Forest Service
 Utah National Forest Office Staff
 Using ArcGIS 10.1
 April 1989

Original data was compiled from multiple sources and may not meet the US National Mapping Accuracy Standards. For specific data source data and/or additional digital data contact the Forest Supervisor, Utah National Forest Office, 7700 West 100th Street, Littleton, CO 80120 or the nearest office.

Escalante Ranger District Coyote Range Allotment

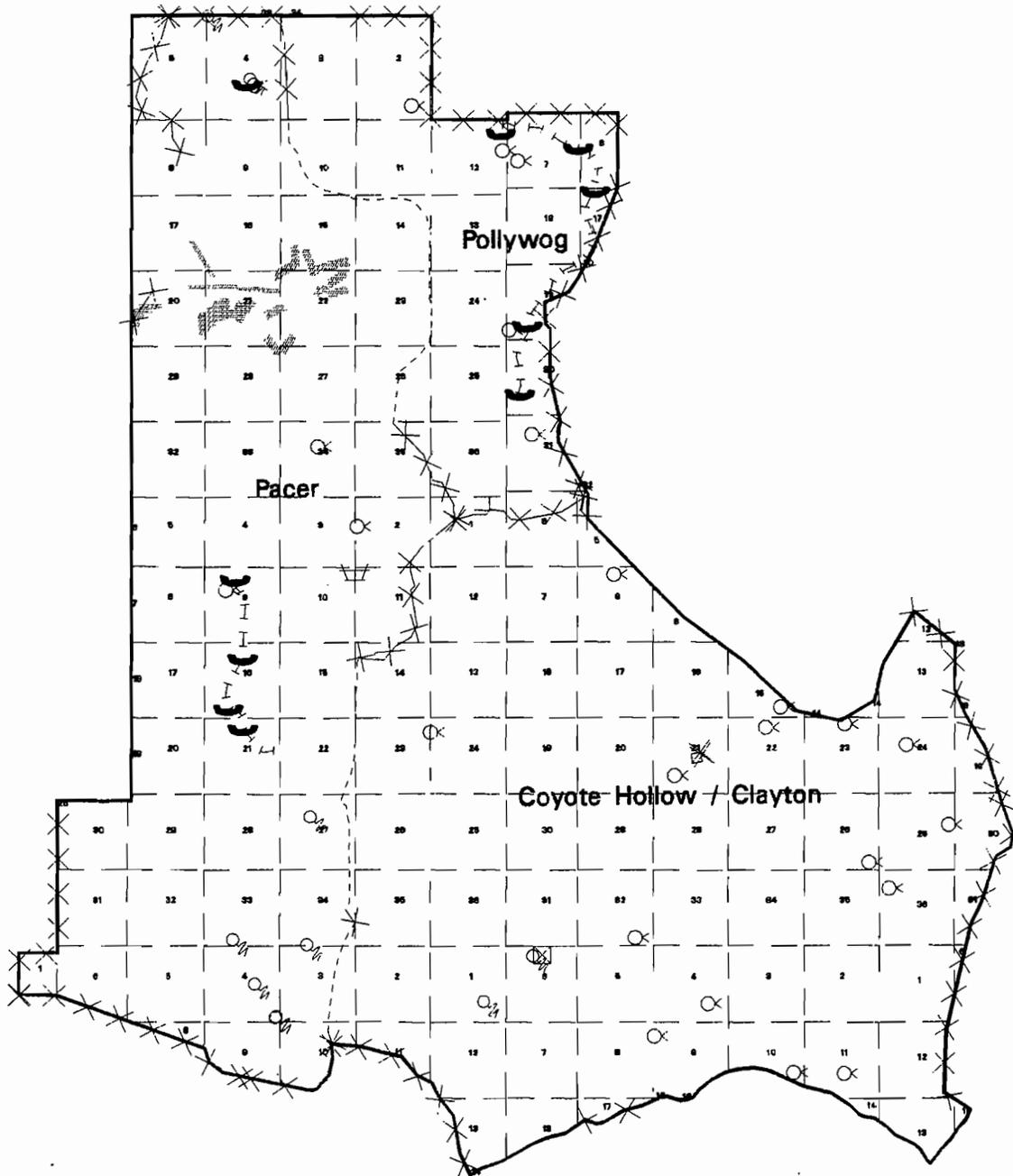


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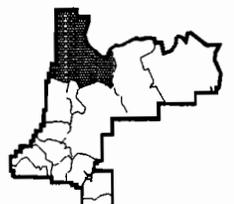


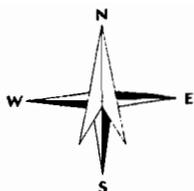
LEGEND

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



Locality Map





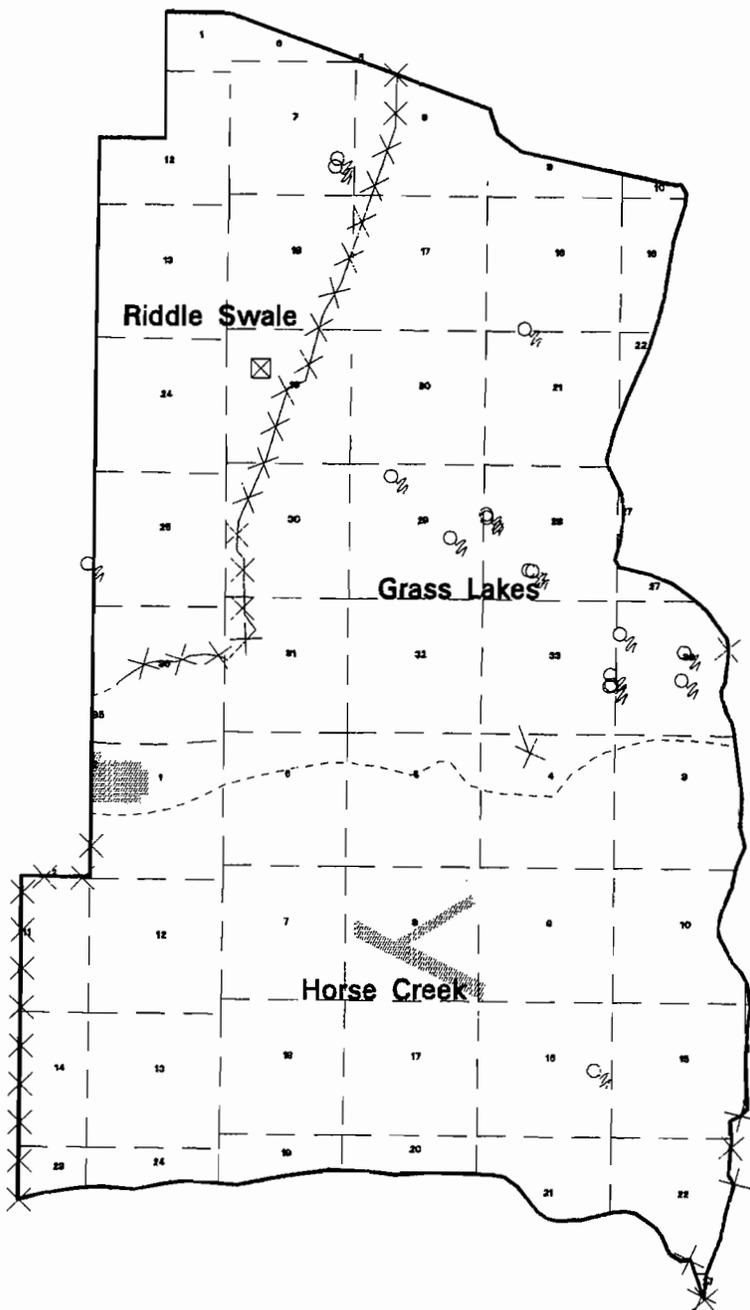
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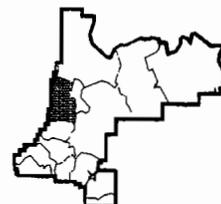
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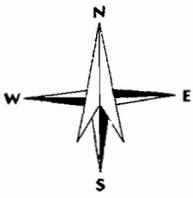
LEGEND

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



V. vicinity Map





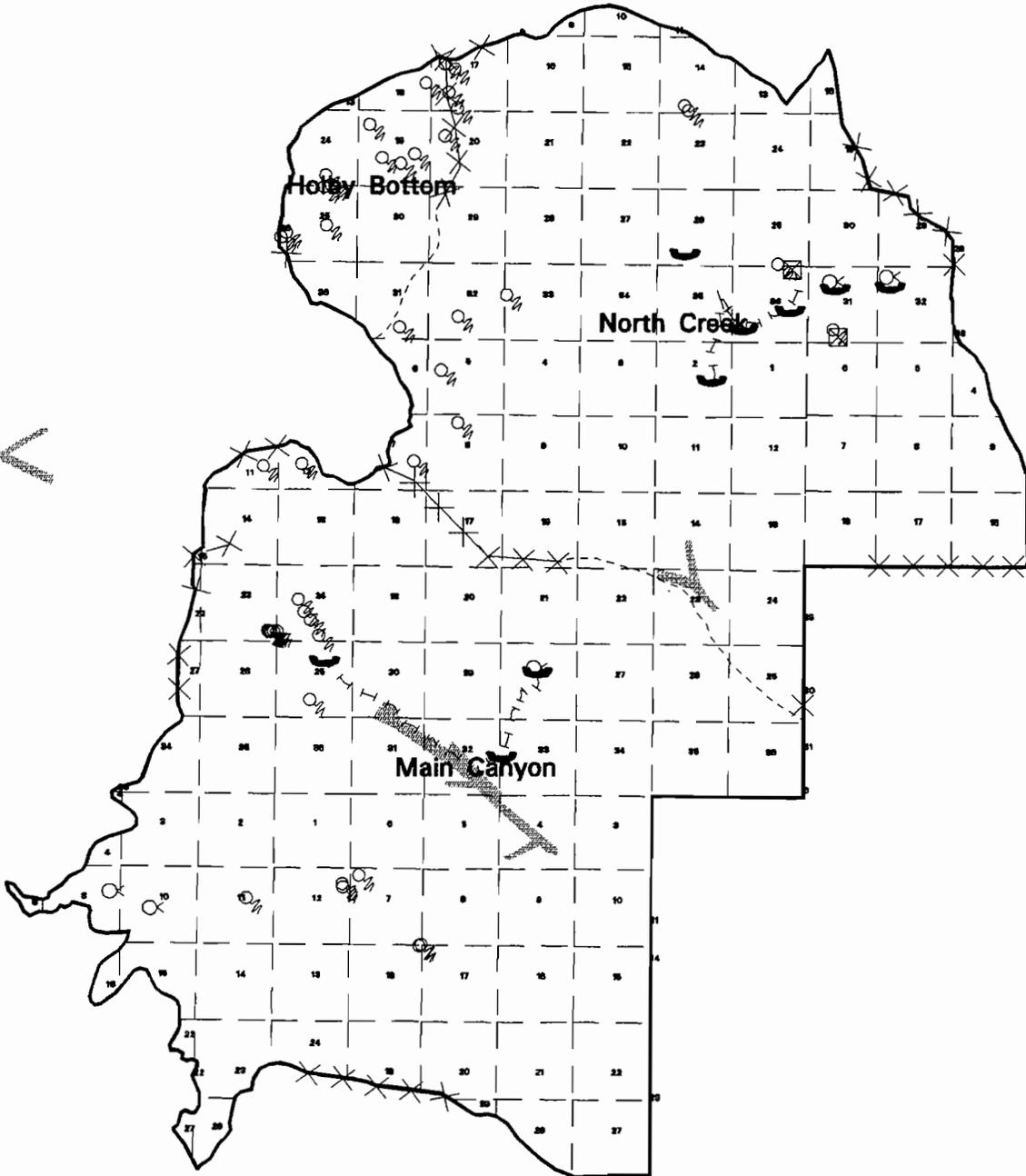
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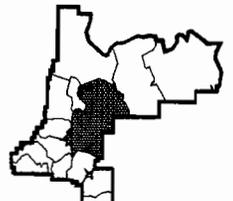
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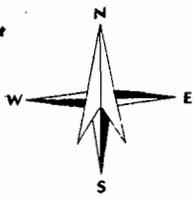
LEGEND

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



Vicinity Map





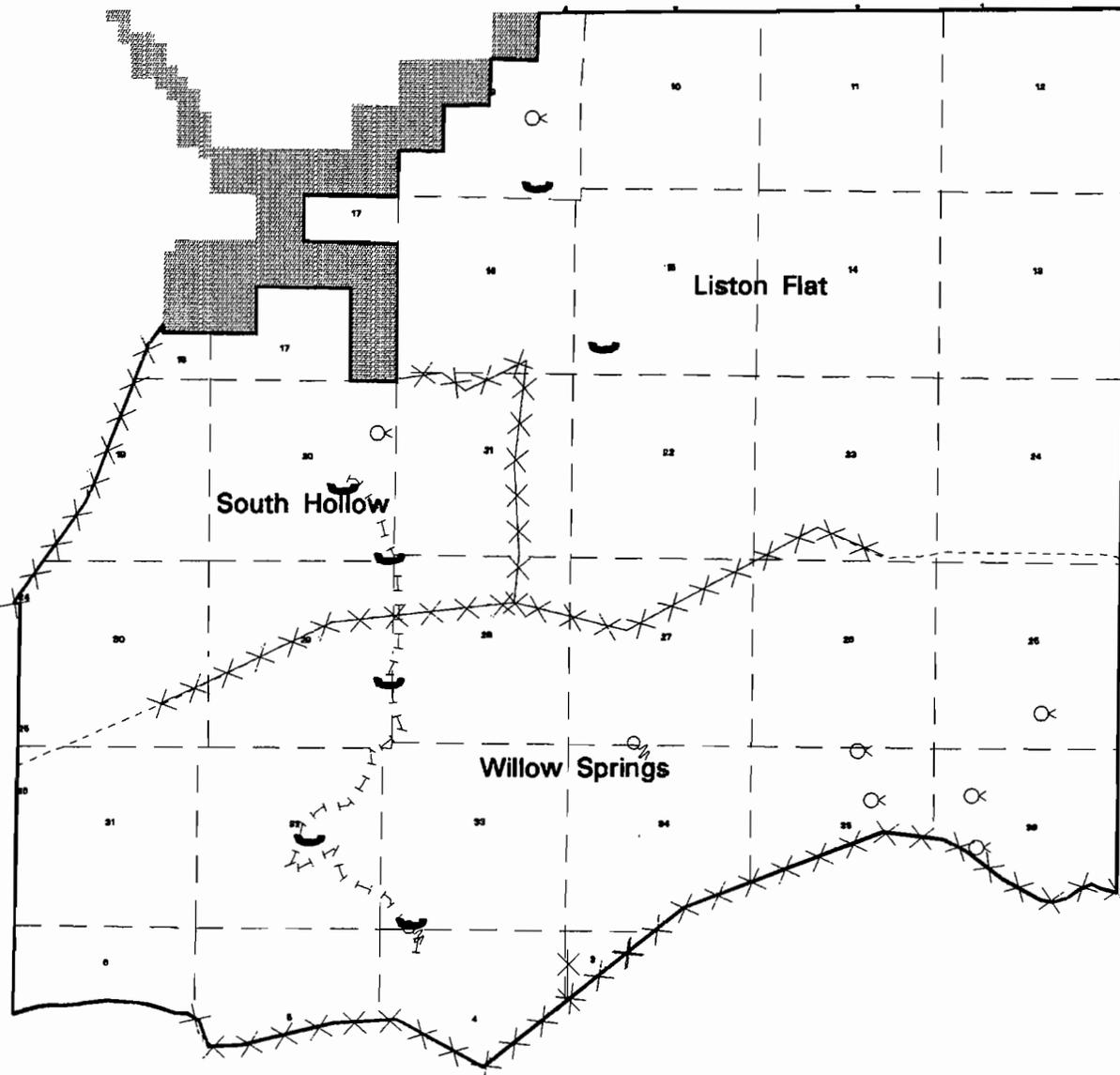
Escalante Ranger District Upper Valley East Range Allotment



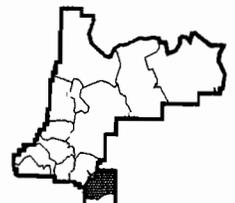
(Existing Range Improvements)

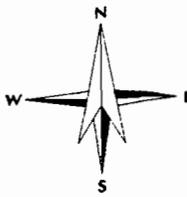
LEGEND

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



Vicinity Map





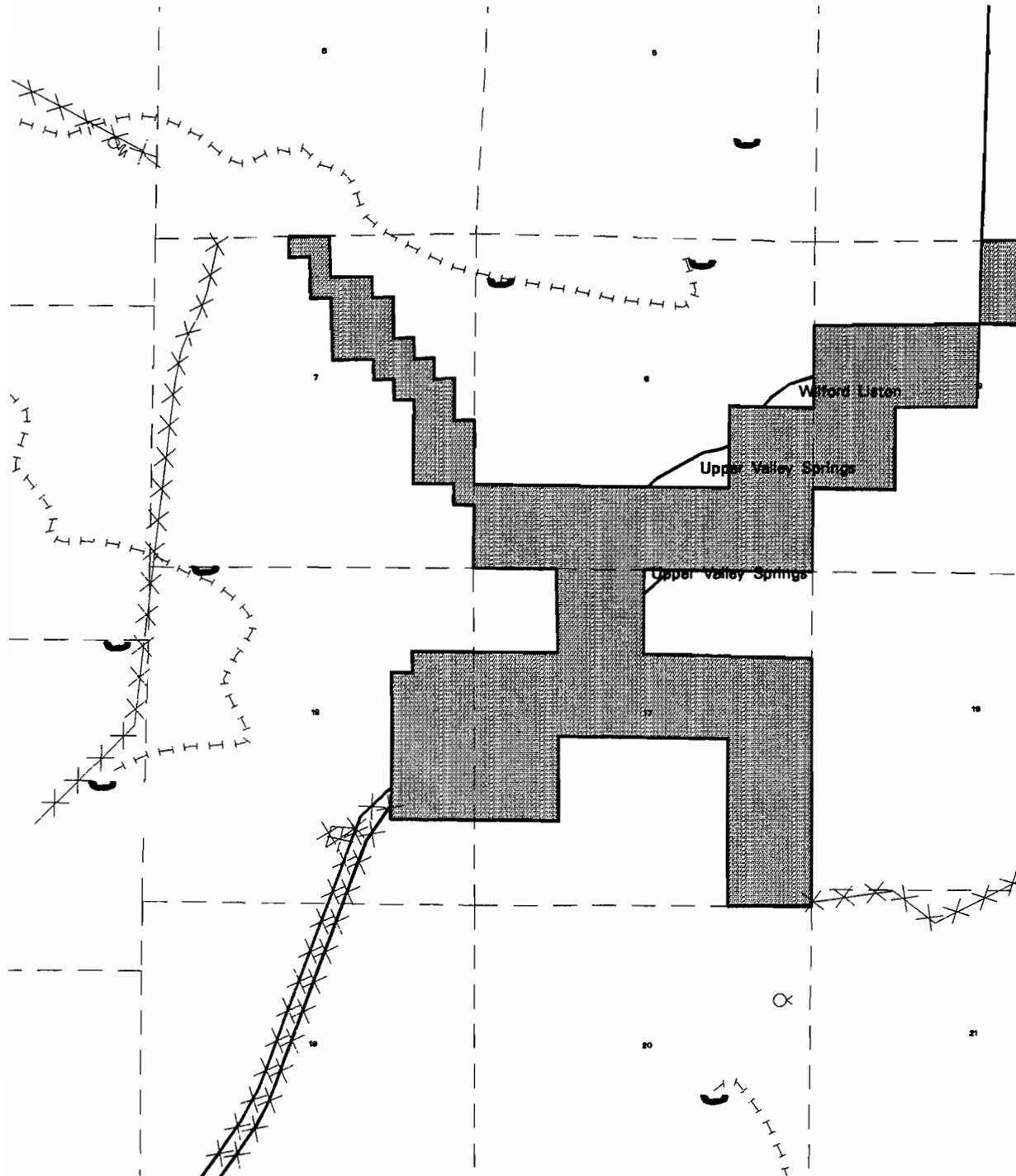
Escalante Ranger District Wilford Liston/Upper Valley Springs Range Allotments



(Existing Range Improvements)

LEGEND

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



V cinity Map

