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DIXIE NATIONAL FOREST

Environmental Assessment

for

KANAB CREEK, UPPER BLUBBER, ROBINSON CANYON/LOWER BLUBBER C&H ALLOTMENT PLANS

on the

Powell Ranger District
Dixie National Forest

February 1993

ENVIRONMENTAL ASSESSMENT

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Powell Ranger District
Dixie National Forest
Garfield and Kane Counties, Utah

CHAPTER I. PROPOSAL

A. INTRODUCTION

The Powell Ranger District of the Dixie National Forest has prepared this Environmental Assessment (EA) to document the analysis of alternative management actions, including the no-action alternative that is documented in the Kanab Creek C&H Allotment Management Plan (AMP), dated 1979, the Upper Blubber C&H AMP, dated 1979, and the Robinson Canyon/Lower Blubber C&H AMP, dated 1986. The AMP's are not consistent with the Dixie National Forest Land and Resource Management Plan (Dixie National Forest L&RMP). Currently these C&H allotments do not have AMP's that address how management should be carried out to meet the direction contained in the Dixie National Forest L&RMP. Existing conditions on the allotments do not meet the desired future conditions identified in the Dixie National Forest L&RMP. Because of these conditions, it is necessary to prepare a new AMP to meet present Forest Service policy and direction.

The Federal Land Policy Management Act (FLPMA), as amended by the Public Rangelands Improvement Act allows for AMP's to be included in grazing permits at the discretion of the Secretary of Agriculture (43 USC { 1752(d), as amended by 92 Stat. 1803 (1978). The Secretary has elected to exercise this discretion, and has delegated his authority to issue regulations in this area to the Chief of the Forest Service (see 36 CFR 222.1 and 222.2).

An AMP is defined in FLPMA as a document prepared in consultation with lessees or permittees applying to livestock operations on the public lands prescribing (1) the manner in and extent to which livestock operations will be conducted in order to meet multiple use, sustained-yield, economic, and other needs and objectives, (2) describing range improvements to be installed and maintained, and (3) containing such other provisions relating to livestock grazing and other objectives found by the Secretary to be consistent with the provisions of FLPMA.

The four allotments are located approximately 18-28 miles southeast of Panguitch, Utah, on the Paunsaugunt Plateau. The allotments lay entirely within the East Fork of the Sevier River drainage (Great Basin). Bryce Canyon National Park lies one half to seven miles east of the allotments. A vicinity map showing the project area is included in Appendix A.

The Environmental Analysis and Assessment were developed under the implementing regulations of the National Environmental Policy Act (NEPA), Council on Environmental Quality, Title 40, Code of Federal Regulation, Parts 1500-1508; and the National Forest Management Act (NFMA), Title 36, Code of Federal Regulations, Part 219. Further Direction is provided in the 1986 Dixie National Forest L&RMP.

B. PROPOSED ACTION

Under this proposed action the Lower Blubber C&H Allotment would be grazed with the Bridge Hollow Unit of the East Fork C&H Allotment. About 2-1/4 mile of fence and one cattleguard would be removed to combine these units. This would eliminate a maintenance problem that exists on this boundary fence. It would allow Lower Blubber to be grazed in a deferred rotation system. The Robinson Canyon C&H Allotment would be grazed using a deferred rotation system. The Kanab Creek and Upper Blubber C&H Allotments would also be grazed using a deferred rotation grazing system. The grazing systems would be designed to meet desired future conditions, standards and guidelines as stated in the Dixie National Forest L&RMP.

C. PURPOSE AND NEED

The proposed action is designed to implement and incorporate the goals and objectives of the 1986 Dixie National Forest L&RMP. These C&H Allotments have AMP's, however, they are outdated and are not consistent with the Dixie National Forest L&RMP.

Existing conditions on the allotments do not meet the desired future conditions, standards and guidelines identified in the Dixie National Forest L&RMP. Because of these conditions, actions selected by the deciding officer will be incorporated into the new AMP. More specifically, the proposal has the following purpose:

> The majority of the upland range sites are at or near the desired future condition for those vegetation communities. There is an opportunity to better distribute livestock while maintaining these desired plant communities for optimum forage production (Dixie National Forest L&RMP, Chapter IV-109).
>
> There are riparian areas which contain vegetation communities which are at an earlier successional stage with lower resource values for riparian dependent species than vegetation communities which have the potential to occupy these sites. The management area direction would be to provide healthy, self-perpetuating riparian plant communities (Dixie National Forest L&RMP, Chapter IV-135).
>
> The four allotments are presently obligated under Term Grazing Permits. The desired future condition is to permit livestock grazing and develop allotment management plants that will ensure proper management (Dixie National Forest L&RMP, Chapter IV-21).
>
> Water quality and stream channel stability are not providing for adequate fisheries habitat on some stretches of the East Fork of the Sevier River, Kanab Creek and Blubber Creek. The desired future

condition is to maintain and improve existing levels of water quality and to maintain or improve stream channel stability, in areas where it is degraded (Dixie National Forest L&RMP, Chapter IV-135).

This EA documents analysis of site-specific, on-the-ground proposals. It is not a general management plan for the four allotments. Actions selected by the deciding officer, as a result of the analysis documented in this EA, will be documented in AMP's that will guide future management of the allotments. The environmental analysis documented in this EA is tiered to the Forest Plan and FEIS approved on September 2, 1986. It does not re-analyze the Management Area allocations already specified in the Dixie National Forest L&RMP. The scope of the analysis is limited to consideration of the proposed action and its alternatives, subject to existing programmatic goals, objectives, standards, and guidelines set forth in the Dixie National Forest L&RMP.

This EA is not a decision document: It does not describe the decision to be made by the deciding officer with regard to the proposed action. This EA discloses the environmental consequences of implementing the proposed action and alternatives to that action. The District Ranger's decision is stated and explained in the Decision Notice accompanying this EA.

D. DECISION TO BE MADE

The four allotments are currently being managed under annual operating plans following the guidance of the AMP's. Livestock use on the allotments is adjusted each year to meet resource needs. The current AMP's must be revised to bring the allotments into compliance with NEPA regulations and the Dixie National Forest L&RMP.

The decision to be made from this EA is to choose one of four alternatives for managing these allotments. These alternatives will be described in Chapter II.

E. BACKGROUND

Kanab Creek C&H Allotment - The Kanab Creek C&H Allotment has been grazed by domestic livestock since about 1866. The allotment boundaries have changed many times through the years. In 1962 the allotment boundaries were established as they are today and prior to this time, cattle on the allotment were not intensively managed. A three unit deferred-rotation (grazed after plant growth) system of grazing was implemented. In 1968 a rest-rotation (one pasture rested each year) system of grazing was implemented. In 1974 the upper unit was divided into two units. Thus, a four unit rest-rotation system of grazing was established. In 1983 the allotment was grazed under a deferred-rotation grazing system which is also the present grazing system used. Presently, 70 cattle are permitted for a 6/11 to 10/10 grazing season.

Robinson Canyon C&H Allotment - The grazing history of the allotment began in about 1866. Before 1919 there was unregulated grazing on the area with permittees and livestock varying from year to year. The allotment boundaries changed several times through the years. Until 1947, some common use grazing occurred between the East Fork and Robinson Canyon C&H

Allotments. In 1947, a division fence was constructed to eliminate this common use between cattle and sheep. In 1948, 10 horses permitted on the East Fork C&H Allotment, were transferred to the allotment to graze with 710 sheep. In 1953, the sheep grazing was changed to cattle use. In 1965, the allotment was fenced into two units and a deferred-rotation grazing system was initiated. Since 1976, the Lower Blubber C&H Allotment has been grazed with the Robinson Canyon C&H Allotment. Presently, 75 cattle are permitted for a 6/11 to 10/10 grazing season on the Robinson Canyon and Lower Blubber C&H Allotments.

Lower Blubber C&H Allotment - Prior to 1953, the Lower Blubber C&H Allotment was part of the Blubber-Kanab S&G Allotment. At that time the allotments were separated and the class of livestock use was changed from sheep to cattle. In 1957, the allotment was divided into three pastures. The wet meadows were fenced so that a three pasture rest-rotation grazing system could be initiated.

From 1963 to 1970 a deferred-rotation grazing system was used. In 1970, a rest-rotation grazing system was again used, which was considered unsuccessful. Since 1976, the Robinson Canyon C&H Allotment has been grazed with the Lower Blubber C&H Allotment. The Lower Blubber C&H Allotment has two pastures which are grazed by livestock from 6/11 to about 8/15. The cattle are then moved to the Robinson Canyon C&H Allotment. Presently, 75 cattle are permitted for a 6/11 to 10/10 grazing season on the Robinson Canyon and Lower Blubber C&H Allotments.

Upper Blubber C&H Allotment - Prior to 1957, the Upper Blubber C&H Allotment was part of the Lower Blubber C&H Allotment. Forty head of livestock were allowed to graze from 6/16 to 10/15. In 1976, the season of use was changed to 6/11 to 10/10. In 1957, a four pasture deferred rotation grazing system was implemented. This deferred rotation grazing system was changed to a three pasture rest-rotation grazing system in 1968. In 1979, the current three pasture deferred-rotation grazing system was implemented. Presently, 40 cattle are permitted for a 6/11 to 10/10 grazing season.

F. PUBLIC PARTICIPATION

One of the first steps in the scoping process for the Kanab Creek, Upper Blubber, and Robinson Canyon/Lower Blubber C&H Allotments was to identify members of the public who could be affected by the proposed action, and/or who might have an interest in the decisions made for this proposed action. Other Federal, State and local governmental agencies were considered in this process. These individuals and organizations were notified that an Allotment Management Plan was proposed to implement the Dixie National Forest L&RMP on the Powell Ranger District and were informed of decisions to be made. They were asked to comment on or involve themselves in the analysis of the proposed action and its alternatives. This was accomplished through notices in letters, personal contacts and field reviews.

In this correspondence, the project was described as revision of allotment management plans, proposed grazing systems, and possible combination of

allotments. The public was informed that the project would involve refining the grazing systems to insure continued improvement of the soil and vegetation resources.

Notification of the project also explained that the proposed project, at this preliminary stage, would be consistent with the Dixie National Forest L&RMP.

Public Issues, Management Concerns and Opportunities

The Forest Service prepared an Initial Analysis and Scoping Paper for the project proposal and implemented a public scoping process to determine major issues and concerns associated with this project. An initial analysis and scoping paper (100 copies) was sent to private citizens, organizations, and local, State and Federal agencies.

Fourteen individuals, groups, organizations and agencies responded to the invitation to comment on the proposed project, or involve themselves in the analysis of the project. The Interdisciplinary Team assigned to this project reviewed the Dixie National Forest L&RMP and other available literature on the C&H Allotment Management Plan revisions. Based upon the scoping process and after reviewing opportunities to improve management of the land resources, issues were identified that are relevant to this proposal and have been included in the analysis. Following are the issues identified, a brief description of the issues, and evaluation criteria that will be used to measure how well each alternative addresses the issues in the Environmental Consequences, Chapter IV:

1. Unsatisfactory riparian conditions exist within the analysis area.

   There is a concern that unsatisfactory riparian conditions exist and this is evident by a lack of riparian vegetation species, poor diversity of vegetation species and instability of streambanks. Under these conditions both water quality and fisheries habitat are being adversely affected.

   Alternatives addressing this issue will be analyzed using criteria which:

   a. Evaluate impacts of grazing on willow density, size and utilization.
   b. Evaluate impacts of grazing on water temperature.
   c. Evaluate impacts of grazing on sediment production levels.
   d. Evaluate impacts of grazing on streambank stability.

2. Elk and livestock competition for forage.

   Some respondents stated elk are competing with livestock for forage, primarily in valley bottoms. The concern is that elk are using this forage prior to, during, and after livestock use and this use could be detrimental to the vegetation as well as reducing the amount of forage available for livestock, resulting in reduced livestock numbers.

Alternatives addressing this issue will be analyzed using criteria which:

a. Evaluate impacts that dual wildlife and livestock grazing has on the vegetation communities.
b. Evaluate elk and cattle grazing as it relates to proper use of forage criteria and carrying capacities for both elk and cattle

3. Economic impacts of the proposed action.

There is a concern of the economic impacts on the grazing permittees and costs to the Federal Government.

Alternatives addressing this issue will be analyzed using criteria which:

a. Evaluate impacts on the livestock carrying capacity.
b. Evaluate costs of new range improvements.
c. Evaluate costs of maintaining range improvements.
d. Evaluate impacts of pasture moves.

4. Combining Lower Blubber C&H Allotment with one of the other C&H Allotments.

Some respondents expressed the opportunity to combine the Kanab Creek C&H Allotment with the Lower Blubber C&H Allotment. The concern is that with the addition of the Lower Blubber C&H Allotment to the Kanab Creek C&H Allotment, management on the two allotments would be improved. This same concern has been expressed for combining of Lower Blubber C&H Allotment with any of the other allotments, East Fork and Upper Blubber C&H Allotments.

Alternatives addressing this issue will be analyzed using criteria which:

a. Evaluate impacts to the existing grazing permittees.
b. Evaluate impacts on permit administration.
c. Evaluate impacts on the effectiveness of grazing systems.

This Environmental Assessment documents the analysis of the present condition, alternatives to address the major issues, and the environmental effects and consequences of implementing the alternatives. It also documents the analysis of an appropriate alternative that would be responsive to the purpose and need for this proposed action.

Documentation of the scoping and public involvement process is included in the project file available at the Powell Ranger District office. Other issues, concerns and opportunities that were identified, but were not considered within the scope of the proposed action or were not considered significant issues are listed in Appendix E.

CHAPTER II. ALTERNATIVES

This chapter describes a range of alternatives, including the proposed action (Alternative 3), for the Kanab Creek, Robinson Canyon/Lower Blubber and Upper Blubber C&H Allotments on the Powell Ranger District, Dixie National Forest. These alternatives have been developed by an Interdisciplinary Team in response to issues identified during the scoping process (40 CFR Part 1501.7 Scoping).

This chapter is comprised of four parts: a) alternatives considered and analyzed in detail, b) alternatives considered, but not analyzed in detail, c) summary of alternatives, and d) discussion of alternative grazing strategies.

A. ALTERNATIVES CONSIDERED IN DETAIL

Alternative 1 - The No Action Alternative

Kanab Creek C&H Allotment - For this alternative permitted use would be 70 cow-calf pairs to graze the allotment from 6/11 to 10/10 annually. Proper use would be 50% use of the forage growing on suitable range.

The grazing system would be a three pasture deferred-rotation grazing system. Livestock use would be confined to the Kanab Creek C&H Allotment as it presently exists.

The following table shows the planned grazing schedule:

Year	Lower	Middle	Upper	
1993	8/01-9/10	6/11- 7/31	9/11-10/10	Or until proper use is reached.
1994	6/11-7/31	9/21-10/10	8/01- 9/20	Or until proper use is reached.
1995	8/01-9/10	6/11- 7/31	9/11-10/10	Or until proper use is reached.
1996	6/11-7/31	9/21-10/10	8/01- 9/20	Or until proper use is reached.
(Repeat Cycle)				

The Lower Unit would be used either first or second each year. This should allow regrowth to occur at least every other year along the riparian areas. The Upper Unit would be used second or last. This unit has the least amount of streamside riparian vegetation so using this unit last should have the least impact on riparian vegetation.

The grazing dates are tentative and will be adjusted as conditions and use warrant.

Robinson Canyon-Lower Blubber C&H Allotment - For this alternative permitted use would be 75 cow-calf pairs to graze the allotment from 6/11 to 10/10 annually. Proper use would be 50% use of the forage growing on suitable range.

The grazing system would be a four pasture deferred-rotation grazing system. Livestock use would be divided between the two allotments.

The following table shows the planned grazing schedule:

Year	Lower Blubber Division		Robinson Division	
	Lower Blubber	Upper Blubber	Robinson Dry Fork	Upper Swapp Straight Canyon
1993	6/11-7/05	7/06-8/15	8/16- 9/10	9/11-10/10
1994	7/21-8/15	6/11-7/20	9/16-10/10	8/16- 9/15
	(Repeat Cycle)			

The Lower Blubber Division pastures (2) would continue to be used first from 6/11 to 8/15. The Robinson Division pastures (2) would continue to be used second from 8/16 to 10/10. Within each division the pastures would be rotated each year. The Robinson Division would be deferred each year. The Lower Blubber Division being used each year first will maintain the existing riparian conditions.

The grazing dates are tentative and will be adjusted as conditions and use warrant.

Upper Blubber C&H Allotment - For this alternative permitted use would be 40 cow-calf pairs to graze the allotment from 6/11 to 10/10 annually. Proper use would be 50% use of desirable forage species growing on suitable range.

The grazing system would be a three pasture deferred-rotation grazing system.

The following table shows the planned grazing schedule:

Year	Right Fork	Middle	Upper Left Fork
1993	9/01-10/10	6/11- 7/20	7/21- 8/31
1994	6/11- 7/20	7/21- 8/31	9/01-10/10
1995	7/21- 8/31	9/01-10/10	6/11- 7/20
		(Repeat Cycle)	

Each unit would be used during the three use periods over three years. This would allow for deferment in each unit every third year.

The grazing dates are tentative and will be adjusted as conditions and use warrant.

Alternative 2

Kanab Creek/Lower Blubber C&H Allotment - For this alternative permitted use would be 90 cow-calf pairs to graze the allotment from 6/16 to 10/5 annually.

Proper use would be 50% use of forage growing on suitable range.

It is also essential that the boundary fence between Lower Blubber and the East Fork C&H Allotment be reconstructed and maintained to proper standards. The division fence (3/4 mile) and cattleguard in the Lower Blubber Unit would be removed.

The following table shows the planned grazing schedule:

Year	Lower	Middle	Upper	Blubber
1993	8/01-9/01	6/16-7/14	7/15-7/30	9/02-10/5
1994	6/16-7/17	8/21-9/18	9/19-10/5	7/18-8/20
1995	7/20-8/20	9/05-10/5	8/21-9/04	6/16-7/19
1996	6/16-7/17	7/18-8/15	9/19-10/5	8/16-9/18
	(Repeat Cycle)			

The grazing system would be a deferred rotation system. The Lower Kanab Unit would be used first 2 of 4 years. This promotes improvement of riparian conditions in that unit. The Upper Kanab Unit would be used last 2 of 4 years which reduces the pressure on riparian vegetation within the allotment because this unit has little riparian vegetation.

The grazing dates are tentative and will be adjusted as conditions and use warrant.

Robinson Canyon C&H Allotment - For this alternative permitted use would be 100 animal months use. Proper use would be 50% use of forage growing on suitable range during the season of 7/16 to 9/15.

The following improvements are needed to distribute livestock and wildlife and to prevent unauthorized use of livestock on the Kanab Creek C&H Allotment: One mile extension of pipeline with trough, 1/2 mile fencing and possibly two cattleguards.

The following table shows the planned grazing schedule:

Year	Robinson Canyon Allotment	
1993	8/16-9/15	100 cattle or 100 AM
1994	7/16-8/15	100 cattle or 100 AM

Upper Blubber C&H Allotment - For this alternative permitted use would be 35 cow-calf pairs to graze the allotment from 6/16 to 10/5.

Proper use would be 50% use of forage growing on suitable range.

The grazing system and rotation schedule would be the same as in Alternative No. 1.

Alternative 3 - (Proposed Action)

Kanab Creek C&H Allotment - For this alternative permitted use would be 66 cow-calf pairs to graze the allotment from 6/16 to 10/5.

Proper use would be 50% use of forage growing on suitable range.

The grazing system and rotation schedule would be the same as in Alternative No. 1, the dates would be adjusted.

Robinson Canyon C&H Allotment - This allotment would be grazed as prescribed in Alternative No. 2.

Upper Blubber C&H Allotment - This allotment would be grazed as prescribed in Alternative No. 2.

Lower Blubber/East Fork C&H Allotments - The Lower Blubber C&H Allotment would be added to the Bridge Hollow Unit of the East Fork C&H Allotment. Twenty four cow-calf pairs would be added to the existing permitted number (443) allowed to graze on the East Fork C&H Allotment. Approximately 6 days additional use would be added to the Bridge Hollow pasture. With this alternative about 2-1/4 mile of fence and one cattleguard would be removed.

Alternative 4 - (No Livestock Grazing)

The no grazing alternative of domestic livestock on all four allotments would not meet the general goals and management area direction for livestock grazing in the Dixie National Forest L&RMP. However, it has been evaluated in the comparison of alternatives and in the Environmental Consequences, Chapter IV. This was done for comparative purposes only.

Alternatives 2 and 3 are consistent with Dixie National Forest L&RMP Management Direction and with Management Area Prescriptions found in Chapter IV for the areas where the proposed actions would take place. Each of these alternatives could be implemented without amending the Forest Plan.

B. ALTERNATIVES CONSIDERED, BUT NOT ANALYZED IN DETAIL

1. Alternatives to provide consecutive years rest in selected units to improve riparian areas were eliminated from detailed study because it was felt that the riparian areas on these allotments are in fair to good condition. Resting a complete unit to protect riparian areas is not needed. Other options considered were riparian fencing, timing of grazing in units, length of stay and utilization levels.

2. An alternative of combining Lower Blubber and Upper Blubber C&H Allotments was eliminated from further study. Combining these two allotments would be of no more benefit to the management of the ecosystem than those alternatives discussed in detail.

3. An alternative to add Lower Blubber C&H Allotment to the East Fork C&H Allotment and take a portion of land in the Mill Creek area equal in capacity to the Lower Blubber C&H Allotment and add it to the Robinson Canyon C&H Allotment was proposed. This alternative was eliminated from further evaluation because of the additional expense in constructing new fences and a loss in a grazing unit on the East Fork C&H Allotment. There would be additional expense and no additional benefits to the vegetation resources.

C. SUMMARY OF ALTERNATIVES

Four alternatives were analyzed in detail. Alternative 1 (No Action) does not allow for changes in numbers and season of use based upon the need to meet proper utilization standards. There is an over obligation of permitted livestock and this needs to be adjusted.

Alternative 2 combines the Lower Blubber and Kanab Creek C&H Allotments into one management unit, Robinson Canyon and Upper Blubber C&H Allotments would be managed as separate allotments.

Alternative 3 (Proposed Action) combines the Lower Blubber and East Fork C&H Allotments into one management unit. Kanab Creek, Robinson Canyon and Upper Blubber C&H Allotments would be managed as separate allotments.

Alternative 4 (No Livestock Grazing) would eliminate livestock grazing on the four allotments.

The following activities are common to all four of the alternatives:

No livestock would be allowed on National Forest System lands until proper range readiness is reached, annually.

Herding and salting practices would be followed to achieve proper distribution of livestock.

Monitoring of forage utilization levels would determine when to move livestock to the next scheduled unit. When all the scheduled units have been grazed to proper use, livestock would be removed from the allotment.

Numbers of livestock and season of use would be adjusted annually as determined by the District Ranger.

All range improvements would be maintained to the standard which they were constructed. Reconstruction of improvements would be completed as determined necessary by the District Ranger and as funds are available.

When livestock are moved to the next unit all livestock would be moved in a timely manner. Strays would not be allowed to stay in the previously grazed unit.

Grazing these units in a deferred rotation grazing system may require that livestock be trailed across units not scheduled for grazing at that time. It would be necessary that livestock be moved through the units promptly and not left in the unscheduled units.

Hauling of water for livestock may be necessary to achieve proper distribution of livestock.

Monitoring of sedimentation levels would continue.

Control of shrubby cinquefoil (Potentilla fruticosa), may become necessary. Any controls would be done when approved by the District Ranger in accordance with the instructions on the herbicide label.

Historic and/or cultural resource clearances will be completed prior to any new range improvement project developments.

Threatened, endangered and sensitive plant and animal species will have Biological Evaluations prior to any new range improvement project developments where necessary.

COMPARISON OF EFFECTS OF THE ALTERNATIVES

Table II-1 summarizes the effects of implementing each alternative by issue.

Table II-1. COMPARISON OF EFFECTS

Relevant Issues	Alternative 1 No Action	Alternative 2 Kanab/Lower	Alternative 3 Proposed Action	Alternative 4 No Livestock
Issue 1: Unsatisfactory riparian condition exists				
a. Evaluate impacts of grazing on willow density, size and utilization.	Slight increase in willows.	More increase in willows than Alt. #1 in Kanab Cr. & Upper East Fork. No change in Blubber Creek.	Kanab Creek willow improvement would be slightly less than in Alt. #1. Upper East & Blubber Creek would be the same as Alt. 2.	Willows would have the most potential for increase than with other alternatives.
b. Evaluate impacts of grazing on water temperature.	Slight improvement in water temperature.	More improvement than Alt. #1 for Kanab Cr., Upper East Fork and Blubber Creek.	More improvement for Blubber Creek, Upper East Fork no change, Kanab Creek slightly less than Alt. #2.	Most potential improvement.
c. Evaluate impacts of grazing on sediment production levels.	Slight improvement in sedimentation levels.	More improvement than Alt. #1 for Kanab Cr., Upper East Fork and Blubber Creek.	More improvement for Blubber Creek. Upper East Fork the same & Kanab Creek less than Alt. #2.	Most potential for reduced sedimentation.
d. Evaluate impacts of grazing on streambank stability.	Slight improvement in bank stability.	More improvement than Alt. #1 for Kanab Cr., Upper East Fork and Blubber Creek.	More improvement for Blubber Creek. Upper East Fork the same & Kanab Creek less than Alt. #2.	Most potential for improvement in streambank stability.

Relevant Issues	Alternative 1 No Action	Alternative 2 Kanab/Lower	Alternative 3 Proposed Action	Alternative 4 No Livestock
Issue 2: Elk and livestock competition for forage				
a. Evaluate impacts that dual wildlife and livestock grazing has on the vegetation communities.	Use is increasing.	More available forage.	More improvement for Lower Blubber Allot. less for Kanab Creek Allot., the same for Robinson & Upper Blubber for Alt. #2.	Most available forage. Most potential for improved forage diversity.
b. Evaluate elk and cattle grazing as it relates to proper use of forage and carrying capacities for both elk and cattle.	Competition is increasing.	Less livestock (AM's) with this alternative than Alt. #1.	Same as Alt. #2.	No livestock.
Issue 3: Economic impacts on grazing permittees				
a. Evaluate impacts on the livestock carrying capacity.	Upper Blubber-160 AM's Kanab Creek -280 AM's Lower Blubber Robinson Cnyn-300 AM's 740 AM's	Upper Blubber-130 AM's Kanab Creek - Lower Blubber-328 AM's Robinson Cnyn-100 AM's 558 AM's	Upper Blubber-130 AM's Kanab Creek -241 AM's Lower Blubber- 87 AM's Robinson Cnyn-100 AM's 558 AM's	No livestock.
b. Evaluate costs of new range improvements.	No new improvements.	$3,850 Forest Service $4,850 Permittees	$3,850 Forest Service $4,850 Permittees	No new improvements.
c. Evaluate costs of maintaining range improvements.	No change.	Increase in maintenance.	Less maintenance than Alt. #2 with Lower Blubber.	Removal of interior pasture fences.
d. Evaluate impacts of pasture moves.	No change.	Kanab Cr. - increase, Upper Blubber - no change, Robinson Canyon - less moving.	Kanab Cr. - no change, Upper Blubber - no change, Robinson Canyon - less moving.	No pasture moves.

Relevant Issues	Alternative 1 No Action	Alternative 2 Kanab/Lower	Alternative 3 Proposed Action	Alternative 4 No Livestock
Issue 4: Combining allotments				
a. Evaluate impacts to the existing grazing permittees.	No change.	Reduction of 182 AM's.	Same as Alt. #2.	No permittee use. Loss of 740 AM's.
b. Evaluate impacts on permit administration.	No change.	Same as Alt. #1.	Same as Alt. #1.	No permit administration.
c. Evaluate impacts on the effectiveness of grazing systems.	Least effective grazing systems.	Improvement over Alt. #1.	Most effective for Lower Blubber Allot. Same for Upper Blubber & Robinson Canyon Allotments, less effective for Kanab Cr Allot. than Alt. #2.	No grazing systems.

D. DISCUSSION OF ALTERNATIVE GRAZING STRATEGIES

Different grazing strategies were considered by the Interdisciplinary Team to assist in achieving the desired future condition as described in Chapter I.

The effectiveness of any grazing strategy in accomplishing the stated desired future condition depends on how the grazing variables of severity, frequency and timing are manipulated. Grazing ungulates tend to select for the current years growth for the necessary protein, fiber and energy content to meet biological requirements. Cattle tend to remove the majority of the current years growth from a plant or portion of a plant that is bitten as long as it is accessible and not mixed with other non-palatable material. Attempts to control the severity of grazing (utilization levels) can only be accomplished in terms of average utilization for the forage plants in the given area. This can be monitored for all forage in the area or for selected key species. Using techniques such as herding, salting, water development and fencing can serve to distribute grazing more evenly over a given area. This changes the distribution of grazing but not the average utilization levels for the total area.

Frequency of grazing is important in managing ungulate grazing. Once a plant has had the current years growth removed, it utilizes a portion of the energy stored in its roots to initiate regrowth. Once sufficient leaf volume is produced the plant can complete regrowth and replace roots with energy available throughout photosynthesis. If the plant is grazed again before regrowth and recovery is complete it must once again draw on root reserves to initiate regrowth. If this happens several times, a significant reduction in plant vigor can result. If this scenario continues over time, plant mortality eventually occurs. This can lead to a shift in the plant community, with the most palatable species being reduced or eliminated, resulting in less biological diversity which is contrary to the desired future condition. Effects from the frequency of grazing can be controlled through the time that the plants, in a given area, are exposed to grazing and by allowing for adequate recovery periods between grazing periods.

Frequency of grazing is particularly important in areas where plant regrowth is relatively rapid, such as riparian areas. This is because the faster a plant is growing the greater the number of times it attempts to regrow and is exposed to regrazing during a set period. As previously mentioned, this type of repetitious grazing results in reduced plant vigor and eventual mortality. When forage plants along a streambank are low in vigor with weaker smaller root systems they are less effective in maintaining bank stability which is also contrary to the desired future condition.

The third grazing variable, timing, also requires attention in order to meet the desired future condition. Different plants initiate growth and complete the various stages of growth at different times during the season depending largely on the species of plant and the site it is growing on. The effect that grazing has on a plant is influenced by the growth stage that it is in at the time that it is grazed. To allow for this, grazing

the same pasture at the same time of year every year should be avoided. Timing is also important to avoid conflicts. Examples include avoiding grazing a campground during a peak recreation period or grazing a wetland being managed for waterfowl production during the nesting season. With a larger number of pastures, greater flexibility exists to avoid conflicts.

These principles of grazing management were used to structure the various alternatives for these two allotments. The Interdisciplinary Team chose to emphasize deferred systems over rest rotation because of the greater control that they offer in managing grazing frequency. It is believed that the time provided between grazing use periods in each pasture are adequate to allow for regrowth and recovery. Monitoring will be needed to evaluate this assumption and adjustments in management made if the desired future conditions are not being met.

The desired future condition includes an increase in woody canopy along riparian areas where the potential exists. In order for existing woody vegetation (willows) to expand, reproduction from seed or from suckering will need to occur. Planting is another option. Once reproduction occurs, a grazing strategy is needed that allows young plants to become established. The principles discussed above apply to young plants as well as mature plants. Young plants are more susceptible to mortality from severe and frequent grazing than are mature established plants.

Another question that remains is the extent to which elk are affecting riparian vegetation. The Interdisciplinary Team suspects that elk may be increasing the grazing frequency on riparian vegetation, especially willows. This use by elk reduces the effectiveness of planned recovery periods. Additional monitoring information is needed to address this subject.

With this discussion in mind the preferred alternative proposed calls for the use of a deferred rotation grazing system. This system calls for using all of the pastures each season for a specified period of time, depending upon use levels. Several pastures are deferred until the latter part of the growing season each year.

CHAPTER III. AFFECTED ENVIRONMENT

The four allotments include Management Areas (MA's) 6A, 7A and 9A. Each of these MA's has specific management prescriptions relating to range resources, recreation, soil, water, timber, visual, wildlife and fish management. Detailed management prescriptions are displayed in the 1986 Dixie National Forest L&RMP, Chapter IV. This section describes the environmental components that would be affected by the alternatives if they were implemented. Only those environmental components that are relevant to the issues, purpose and need, and the decision to be made will be addressed.

A. LIVESTOCK GRAZING

Livestock grazing has occurred on the Powell Ranger District since the establishment of the local communities in 1866. In the early days of the Forest, sheep were the primary users of the range with beef cattle, dairy cattle, and horses in secondary rolls. Today, this role in grazing class of livestock has changed. The primary class of livestock is beef cattle.

These four allotments are presently grazed by cattle. A total of three permittees graze livestock on the allotments. These three permittees have Term Grazing Permits for a total of 185 cattle. The Term Grazing Permits authorize a grazing season of 6/11 to 10/10 for a total of 740 animal months.

The Allotment Management Plan for the Kanab C&H Allotment was approved in 1979. This plan calls for a four unit rest-rotation grazing system. In 1983 the allotment was grazed under a three unit deferred-rotation grazing system which is the present grazing system used. Presently, 70 cattle are permitted to graze the allotment.

The Allotment Management Plan for the Robinson Canyon/Lower Blubber C&H Allotments was approved in 1986. This plan calls for a four unit deferred-rotation grazing system. The Lower Blubber C&H Allotment is grazed from 6/11 to 8/15 using two units which are rotated each year. The Robinson Canyon C&H Allotment is then used from 8/16 to 10/10 each year. Presently, 75 cattle are permitted to graze on the two allotments.

The Allotment Management Plan for the Upper Blubber C&H Allotment was approved in 1979. This plan calls for a three unit deferred-rotation grazing system. Presently, 40 cattle are permitted to graze the allotment.

B. RECREATION AND VISUAL RESOURCES

The East Fork of the Sevier River area possesses unique scenery. The timbered mountainsides intermingled with mountain streams provide a beautiful view to the Forest visitor. This locale is highly visible to travelers using Forest Road No. 87. Tropic Reservoir is located approximately 3 miles north of Blubber Creek and Kings Creek Campground is located approximately 4-1/2 miles north of Blubber Creek. The area surrounding the lakeshore is used by fishermen, hikers and other users. Throughout the summer and late into the fall hunting season, dispersed camping is very popular in the vicinity surrounding Tropic Reservoir and the mountain streams.

Dispersed Recreation - The amount of time people spend participating in the recreation activities in the East Fork of the Sevier River (drainage) has never been objectively measured. Subjective estimates have been make of dispersed recreation indicating use within the East Fork area of approximately 102,000 Recreation Use Days (RUD's) annually. The general impression (based on increased hunter use, and increases in personal firewood and Christmas tree sales) is that this demand is increasing at a rate of 1 or 2 percent annually.

Developed Recreation - Recreation use within Kings Creek Campground has been objectively monitored annually since 1982. Campground occupancy has varied annually from 28 to 42 percent. These figures however, do not accurately reflect the increased use of the group camping facility. Kings Creek Campground is a popular location for group activities (scouts, church groups, family reunions, etc.). This use has gradually increased since 1982.

An overall assessment of Kings Creek Campground and group area is that recreation use within developed sites is fairly constant at about 14,000 RUD's annually. As the public continues to become knowledgeable about the campground location, use will increase.

C. SOIL AND WATER

The analysis area comprises portions of the East Fork of the Sevier River headwaters. Management Area 9A - Riparian Management is located along the East Fork of the Sevier River and selected tributaries. Information sources for the affected environment include a General Aquatic Wildlife System (GAWS) Survey conducted on the East Fork of the Sevier River in 1982 and riparian inventory data collected in July 1988.

There are three main drainages that comprise the analysis area and they are tributaries to the East Fork of the Sevier River. These are Blubber Creek, Kanab Creek, and the area above where Robinson Canyon meets the East Fork of the Sevier River.

Blubber Creek originates on the Upper Blubber C&H Allotment, passes through the Lower Blubber C&H Allotment and adds water from spring sources as it travels to the East Fork of the Sevier River. This stream course has had severe headcutting in the past on its lower reaches. These instability problems have been addressed with one large earthen structure just above the mouth of Blubber Creek. Another earthen structure, with a concrete spillway, is upstream about three-tenths of a mile. These structures have been very effective in stabilizing the streambanks at the waters edge. There are high, vertical, bare, eroding banks still present along the stream course, however, the stream course is not down cutting. These banks will only stabilize as the steepness is reduced. Through erosion they will be able to revegetate. The upper reaches of the stream have had very little headcutting. There are only a few spots where problems need to be stabilized with small rock structures and erosion matting.

Stream channel substrata embeddedness is high in Blubber Creek. This stream is slow moving and even with increased volumes of water the majority of the fine sediments in this stream will not wash downstream. This stream

presently has very stable banks along the water edge. This is evident by the vegetation that occurs along the banks.

Kanab Creek originates on the Kanab Creek C&H Allotment. This stream course is estimated to be in fair to good condition. Headcutting is minimal. In the lower reaches there are some high bare banks along the stream. These banks could be treated with stabilization structures to trap sediment and establish riparian vegetation.

The East Fork of the Sevier River above Robinson Canyon is in good condition. The riparian vegetation is protecting the streambanks. Robinson Canyon and the East Fork Drainage have had rock check dams and headcut treatments completed to help stabilize and improve riparian conditions. This work has been effective in reducing sedimentation into the stream.

The East Fork of the Sevier River was identified as a High Priority Non-Point Source Pollution Watershed by the State of Utah due to sediment problems (Utah Department of Agriculture, 1988). Excessive phosphate, high maximum water temperatures and turbidity were identified as impairments to the cold water fishery. High levels of nutrients and turbidity, during storm events, are common in wildland basins regardless of watershed condition.

D. FISHERIES

The fishery environment affected by land management activities in this area includes Blubber Creek, Kanab Creek, Upper East Fork, and downstream effects on the East Fork of the Sevier River and Tropic Reservoir.

Blubber Creek has not been classified as a fisheries by the Utah Division of Wildlife Resources (UDWR). No fish were observed in the stream. The stream has a narrow, deep channel in a clay substrate with good pool habitat. However, very few spawning gravels are present. Consequently, the fishery would have to be maintained with annual stocking.

Blubber Creek shows evidence of past impacts from erosion. The channel has downcut and then stabilized in the bottom with Carex sp.. There are raw banks present and some headcuts progressing upstream indicating that the stream is still in a state of adjustment. Some streambank soils are very low in fertility and will require many years to be vegetated.

The Utah Division of Wildlife Resources (UDWR) has classified Kanab Creek as a Class 3 trout stream. Class 3 streams are important trout streams which comprise approximately half of the total stream fishery habitat in Utah. Fish species observed in this stream were brook and cutthroat trout. Cutthroat trout are the most abundant fish species in the stream comprising approximately 80-90 % of total fish numbers.

Fish habitat in Kanab Creek is estimated to be in fair to good condition. Streambanks are stable with good riparian vegetation present. Carex sp. is abundant on the streambanks which facilitated development of undercut banks for fish habitat. Spawning gravels appeared clean and the amount of fine sediment is estimated to be about 20%.

Both Blubber and Kanab Creeks are designated as 9A Riparian Management Areas and are located within a 6A livestock Grazing Management Area. The goals of this Riparian Management designation are "to provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water body shorelines" (Dixie L&RMP, pg. IV-135).

Management activities on these allotments could yield effects to downstream fisheries including the lower portion of the East Fork Sevier River and Tropic Reservoir. The East Fork of the Sevier River is identified as a 9A Riparian Management Area in the Dixie National Forest Land and Resource Management Plan (Dixie L&RMP). It is classified as a class 3 trout stream by the Utah Division of Wildlife Resources (UDWR). Fish species present include cutthroat trout, brown trout, rainbow trout, brook trout, redside shiners, and mountain suckers.

Prior to 1914 the stream was stable and the streambanks supported dense stands of willows. By 1918 most of the willows were absent due to overgrazing. In addition, the stream channel became entrenched and unstable. Currently, some natural riparian vegetation (i.e. willows and sedges) is present, but Kentucky blue grass remains the dominant vegetation along many of the streambanks. In general, the stream is in a more stable condition than it was following the severe overgrazing in the early 1900's. However, it is still far below its potential for fisheries. The lack of bank stabilizing riparian vegetation has resulted in many raw, vertical, eroding banks which yield poor fish habitat.

Utah Division of Wildlife Resources stream survey data for the East Fork documented the trout biomass to be below potential and to be below the Minimum Viable Population defined in the Dixie L&RMP as 32 lbs/acre (Dixie L&RMP II-16a). The stream should support 50-100 lbs. of trout/acre under optimum habitat conditions based on the UDWR survey (Binns, 1982). Actual trout biomass was 87 lbs./acre in the upper East Fork of the Sevier River and decreased progressively downstream in surveys conducted in 1980. According to 1980 data, survey stations in the East Fork near the confluences of Blubber and Podunk Creeks were found to have 7 and 19 lbs. of trout per acre, respectively. Surveys were repeated on these same two stations in 1984 and actual trout biomass was found to decrease to 2 and 10 lbs. of trout per acre, respectively.

Heavy sediment loads are depressing the trout population by impacting trout forage and successful trout spawning. Sediment suffocates both aquatic insects and incubating trout eggs. Macroinvertebrate data collected during the 1980's documented an abundance of sediment tolerant species and a scarcity of cleanwater species.

Forest Service sediment monitoring data collected in 1991 evaluated the amount of fine sediment in the spawning gravels immediately downstream from the USGS gaging station on the East Fork of the Sevier River. Results documented 52 $\pm$ 5 % fine sediment in this spawning area. The Dixie LRMP states that "No more than 25 % of stream substrate should be covered by inorganic sediment less than 3.2 mm in size (Dixie LRMP IV-33).

Tropic Reservoir is located at an elevation of 7835 feet in the upper East Fork drainage. It covers 180 surface acres and has a maximum depth of 30 feet. It has been classified as a Class 3 reservoir by the Utah Division of Wildlife Resources. Class 3 reservoirs are important locally and may attract non-resident anglers.

The Dixie L&RMP has identified the reservoir as a 4A Fish and Aquatic Habitat Emphasis Area. Management Area Direction for this area is to provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water body shorelines" (Dixie L&RMP, pg. IV-73).

The fishery in the reservoir is currently below potential. The reservoir is being impacted by sedimentation and drastic water level drawdowns. Sedimentation is decreasing water depth in the reservoir which results in excessive macrophyte growth. This excessive plant material creates additional demands on winter oxygen levels as the plants decompose. This situation is exacerbated by frequent reservoir drawdowns during the winter resulting from irrigation company operation. The net result is poor overwinter trout survival due to low dissolved oxygen levels. To circumvent this problem, the Utah Division of Wildlife Resources is managing the reservoir as a put-and-take trout fishery. Approximately 12,000 catchable-size rainbow trout are stocked annually at a cost of $15,652.

E. WILDLIFE AND THREATENED, ENDANGERED SENSITIVE SPECIES

More than 350 species of wildlife and fish inhabit the Dixie National Forest for all or a portion of their life cycle. Consumptive and nonconsumptive uses of many of these species are an important part of recreation on this analysis area.

Elk herds on National Forest System lands (Paunsaugunt Plateau) began to be established in the early 1980's. There is an informal agreement with the Utah Division of Wildlife Resources to maintain elk numbers at their present level (200 estimated) on these National Forest System lands.

Deer hunting within the analysis area has high recreational values. The deer herds have declined in recent years.

A management indicator species is an animal which, by its presence in a certain location or situation, is believed to indicate the habitat conditions for many other species. By monitoring their populations and habitat relationships, we can see the effects of Forest Service management activities on all the fish and wildlife of the Forest (refer to Forest Plan, FEIS, pg. III-13). The following are the primary indicator species within the analysis area:

Species	Vegetation Types
Mule Deer	Grass-forb, sagebrush, mountain brush, pinyon-juniper, sapling-mature aspen, sapling mature conifer
Rocky Mountain Elk	Grass-forb, sapling-mature aspen, sapling-old growth conifer
Wild Turkey	Mountain brush, pole-mature aspen, mature-old growth conifer
Goshawk	Riparian tree, mature aspen, mature-old growth conifer
Common Flicker	Mature aspen, mature conifer
Yellowbreasted Chat	Riparian shrub-tree

There are two endangered species and two threatened species which could occupy areas on the analysis area. The bald eagle (Haliaeetus leucocephalus) and peregrine falcon (Falco peregrinus) are federally classified as endangered, under the Endangered Species Act of 1973 (ESA) and may be present within this analysis area. The Utah Prairie Dog (Cynamys parvidens) and Ute Lady's Tresses (Spiranthes diluvialis) are listed as threatened and may be present within the analysis area.

Endangered Species

Bald Eagle - Habitat for the bald eagle is managed within the guidelines established in the Dixie National Forest L&RMP. Bald eagles are a winter migrant resident and have been seen roosting around Tropic Reservoir, further to the north.

Peregrine Falcon - Peregrine falcons are known to nest in the cliffs of Bryce Canyon National Park, which is just to the east of the allotment. Peregrines could be foraging on areas of these four allotments.

Threatened Species

Utah Prairie Dog - Utah prairie dogs could occupy habitats on the four allotments, but presently none have been found.

Ute Lady's Tresses - Ute lady's tresses could occupy habitats on the four allotments, but presently none have been found.

Sensitive Species

Sensitive species have been determined by the Regional Forester (FSM 2670.5) and are those species for which population viability is a concern. Region 4 has an official listing of sensitive vertebrate and plant species by National Forest. Seven sensitive animal species may exist in areas being considered in the analysis area and included the following:

Spotted Bat	Euderma maculatum
Townsend's Big-eared Bat	Plecotus townsendii
Willow Flycatcher	Empidonax traillii extimus
Flammulated Owl	Otus flammeolus
Mexican Spotted Owl	Strix occidentalis lucida
Three-toed Woodpecker	Picoides tridactylus
Northern Goshawk	Accipiter gentilis

Thirteen sensitive plant species could be found within the decision area and include the following:

Reveal Indian-paintbrush	Castillejia revealii
Red Canyon catseye	Cryptantha ochroleuca
Widtsoe wild-buckwheat	Eriogonum aretioides
Red Canyon beardtongue	Penstemon bracteatus
Peterson catch fly	Silene petersoni
Paria breadroot	Pediomelum pariense
Navajo Lake Milkvetch	Astragalas limnocharis
Coulter Biscuitroot	Cymopterus minimus
Cedar Breaks Goldenbush	Haplopappus zionis
Jones Goldenaster	Heterotheca jonesii
Low Hymenoxys	Hymenoxys depressa
Rock-tansy	Sphaeromeria capitata
Neeses' peppergrass	Lepedium montanum var. neeseae

A Biological Evaluation of the potential affect of the proposed action has been completed. This evaluation has concluded that implementation of any of the alternatives evaluated in this EA is not likely to adversely affect the recovery of the endangered bald eagle, peregrine falcon, threatened Utah prairie dog, Ute lady's tresses, or adversely impact the sensitive species resident on the analysis area. (See Project File)

F. VEGETATION

Kanab Creek C&H Allotment

The 1962 range allotment analysis states that there are a total of 952 acres suitable for livestock grazing. According to the 1963 Range Suitability Map, the following vegetative types are found within the allotment: Wet Meadows, Broadleaf Trees, Sagebrush, Grassland and Conifer. The conifer vegetation types are mostly classified as unsuitable for livestock grazing but at times can be considered transitory range.

Unit examinations and parker 3-step cluster data indicate that the overall trend for the allotment is in a stable condition. The 1962 range analysis indicates that over 67% of the suitable acres were in fair or good condition.

The riparian areas along Kanab Creek range from mid to high seral stages. While most portions of the riparian areas are in good condition there are a few areas that remain in less than desired condition.

Robinson Canyon C&H Allotment

The 1960's range allotment analysis states that there are a total of 216 acres suitable for livestock grazing. According to the Range Suitability Map, the following types are found within the allotment: Wet Meadows, Dry Meadows, Grasslands, Sagebrush, Broadleaf and Conifer. The conifer vegetation types are mostly classified as unsuitable for livestock grazing but at times can be considered transitory range. A large portion of this allotment would be considered as transitory range.

Unit examinations and riparian transect data indicate that the overall trend for the allotment is in a stable condition. The range analysis indicates that the allotment is in fair or better condition.

The riparian areas along the East Fork of the Sevier range from low to high seral stages. While most portions of the riparian areas are in fair condition there are areas that remain in less than desired condition.

Lower Blubber C&H Allotment

The 1960's range allotment analysis states that there are a total of 492 acres suitable for livestock grazing. According to the Range Suitability Map, the following types are found within the allotment: Wet Meadows, Dry Meadows, Grasslands, and Conifer. The conifer vegetation types are mostly classified as unsuitable for livestock grazing but at times can be considered transitory range. There are about 76 acres that are fenced out from livestock grazing. These areas have been planted with trees. A large portion of the suitable acres have been revegetated with smooth brome grass.

Unit examinations indicate that the overall trend for the allotment is in a stable condition. The range analysis indicates that the allotment is in fair or better condition.

The riparian areas have improved and are in good condition except for a few small isolated locations. Willows are not present or considered necessary for stream channel stabilization on Blubber Creek. The uplands have not shown as much improvement as the riparian areas. Some soils are very unproductive on the allotment.

Upper Blubber C&H Allotment

The 1960's range allotment analysis states that there are a total of 751 acres suitable for livestock grazing. According to the Range Suitability Map, the following types are found within the allotment: Wet Meadows, Dry Meadows, Grasslands, and Conifer. The conifer vegetation types are mostly classified as unsuitable for livestock grazing, but at times can be considered transitory range. A large portion of this allotment would be considered as transitory range. Portions of this allotment are fenced out from livestock grazing. These areas have been planted with trees.

Unit examinations indicate that the overall trend for the allotment is in a stable condition. The range analysis indicates that the allotment is in fair or better condition.

The riparian areas along the Blubber Creek range from low to high seral stages. Most portions of the riparian areas are in good condition.

G. TIMBER

During the 45-year period from 1948-92, approximately 155,000,000 board feet of timber has been harvested in the Upper East Fork of the Sevier River drainage. A high percentage of the drainage has been cutover with the exception of the steep slopes in the mixed conifer type.

Harvest during the 1940's and 1950's was directed at removing large, overmature trees, consequently harvest per acre was generally low. During this period lumber demand was low. The small sawmills scattered around the area had enough processing capacity to supply a local demand. Most of these mills went out of business in the mid 1950's. The remaining mills moved their operations to Panguitch.

In 1962 the demand for lumber increased and mill capacity increased accordingly. Timber harvest in the mixed conifer type accelerated to sustain demand and capacity. When markets were poor economically, local mills depended on the East Fork timber as a ready supply. In many instances sale areas within 20 miles of Panguitch were pushed ahead on the Action Plan to accommodate the economic situation.

Clearcutting in the mixed conifer type had the effect of removing large volumes of timber per acre over relatively small areas. It is estimated there are 8,000 acres that were clearcut in the East Fork drainage; most of these acres have been planted.

Since the late 1960's, the demand for lumber has been exceptionally high with peaks and valleys based on market economics. As demand has increased so have concerns about sustained yield, water quality, wildlife and other resource values.

CHAPTER IV. ENVIRONMENTAL CONSEQUENCES

This section is the analytical basis for the comparison of the alternatives. It describes the expected environmental consequences of each alternative on the relevant issues. The resources are described in Chapter III, the Affected Environment, and are directly linked to the issues listed in Chapter I, Purpose and Need. As noted in Chapter I, the analysis of the environmental consequences is assessed by a set of evaluation criteria that were developed for each issue area. For easy reference those criteria are repeated at the beginning of each issue area.

ISSUE 1, UNSATISFACTORY RIPARIAN CONDITIONS EXIST

The relevant evaluation criteria are:

A. Evaluate impacts of grazing on willow density, size and utilization.
B. Evaluate impacts of grazing on water temperature.
C. Evaluate impacts of grazing on sediment production levels.
D. Evaluate impacts of grazing on streambank stability.

Alternative 1 - The No Action Alternative

Direct and Indirect Effects

A. There has been a slow improvement in the willow component. This is evident by the appearance of seedlings. The young and mature plants, however, are lacking in desired numbers. This indicates that there is regeneration occurring but the desired willows are not being allowed to mature. Blubber Creek does not have willows on the Lower Blubber C&H Allotment. It is not known whether or not this stream had willow stands in the past.

B. The water temperatures of the East Fork of the Sevier River, under current conditions, are higher than those expected (max. 68°) for good fish habitat. It is expected that water temperatures will improve (lower) but at a very slow rate.

C. Current sedimentation levels are far above those desired (25%) for the East Fork of the Sevier River. Sedimentation levels measured in 1992 were 50%. Upper reaches of the East Fork of the Sevier River and its tributaries are meeting the standards but do add to the problem in the main drainage.

D. Streambank stability is improving. This is evident by the increase in streamside vegetation.

Alternative 2

Direct and Indirect Effects

A. There would be an increase in willows on the Robinson Canyon C&H Allotment due to a change in grazing use on the allotment. Kanab Creek will also have an increase in willows due to less frequency of grazing on the vegetation. There would be no change in Blubber Creek.

B. Water temperatures would be lower as a direct result of increased vegetation along the streambanks for Kanab Creek, Upper East Fork and Blubber Creek.

C. Sedimentation levels would be reduced as the vegetation improves its ability to filter out fine soil materials for Kanab Creek, Upper East Fork and Blubber Creek.

D. Streambank stability would improve under this alternative.

Alternative 3 - Proposed Alternative

Direct and Indirect Effects

A. Willow size and density would improve at a rate faster than Alternative #1 but slightly less than Alternative #2 for Kanab Creek. The Upper East Fork in Robinson C&H Allotment would improve at the same rate as Alternative #2. No change from Alternative #1 for Blubber Creek.

B. The total improvement in water temperature would be greater than that expected in Alternative #1 and slightly less than in Alternative #2 for Kanab Creek. Blubber Creek would improve at a greater rate than Alternative #2. Upper East Fork would have no change from Alternative #2.

C. The improvement in sedimentation production (sedimentation reduction) of the streams would be greater than Alternative #1 and less than in Alternative #2 for Kanab Creek. Blubber Creek would improve at a greater rate than Alternative #2. Upper East Fork would remain the same as Alternative #2.

D. Streambank stability would continue to improve in the Upper East Fork as Alternative #2. Blubber Creek would improve at a greater rate than Alternative #2. Kanab Creek would have less improvement than Alternative #2.

Alternative 4 - No Grazing

Direct and Indirect Effects

A. The response of willow vegetation to no use by cattle should have potential for rapid improvement in willow densities where populations of willow exist.

B. Water temperatures are expected to lower as streambanks improve.

C. Sedimentation levels would be reduced.

D. Streambank stability would be improved as vegetation densities increase.

Cumulative Effects

The scope of the cumulative effects analysis (CEA) is the East Fork of the Sevier River and its tributaries above the Dixie National Forest boundary where it enters into the private lands. The separate effects of past, present and

future project activities within a watershed do result in cumulative effects to riparian habitats. Activities which may contribute towards these effects include timber harvest, livestock grazing and trampling, wildlife grazing and trampling (primarily elk), recreation uses, and roads. Natural and geological erosion is occurring within the watershed and this action cannot be controlled.

A. **Cumulative Effects Related to Timber Harvest**

Timber harvest activities, including those of past timber sales, have the potential to affect riparian communities by increasing overland water flow and increasing the amount of sedimentation reaching a creek and being transported downstream. Reduced tree canopies may allow additional precipitation to reach the ground, and bare soil exposed by timber sale activities may be susceptible to being moved down slope. Increased peak flows and more frequent runoff events can contribute to streambank instability and erosion.

Adverse influences on riparian areas resulting from timber sales are largely negated by close attention paid to environmental issues during the planning phases of a timber sale, a high level of administrative control during the timber sale activities, and mitigation of negative effects after the sale by implementing measures such as water barring and seeding of skid trails and seeding of highly erodible sites which have been disturbed.

Roads associated with timber harvest activities also can contribute to soil movement, higher stream flows and increased sediments within a stream. Precipitation falling above a road and within the roadbed can concentrate water on the compacted road surface. This water is unable to infiltrate into the soil and therefore flows at an accelerated rate down the roadway. This flow can become channelized and the high velocity can create gullies within the road and also between the point at which the water leaves the roadbed to where it enters a stream. These effects have been reduced by measures including closing of unnecessary roads, frequent water bars which divert water off a road and grass seeding once a road has been closed. There are many roads within the East Fork of the Sevier River drainage that remain to be closed.

The reduced tree canopy and seeding of disturbed sites, roads, and skid trails following timber harvest have resulted in additional forage being produced. Domestic grasses within the seeded areas have attracted both livestock and wildlife, i.e. elk, and reduces the amount of grazing pressure on stream side vegetation. This reduces the amount of streambank sluffing and may contribute to the recovery of degraded riparian areas.

B. **Cumulative Effects Related to Roads and Recreational Activities**

As discussed earlier, accelerated runoff from roads has the potential for contributing to increased sedimentation of streams and to instability of streambanks. These effects are greatly reduced following a timber sale due in part to mitigation measures such as closure of unnecessary roads, constructing water bars and grass seeding. However, in some instances these mitigation measures have been reduced in their effectiveness as a result of heavy recreational traffic on primitive roads. Heavy traffic over primitive roads often breaks down water bars and reduces the vegetation which in many cases serves as the only surfacing on the road.

Some cases of off road vehicle use and even the creation of new "two track" roads within riparian areas have been observed. This type of incident can be reduced through active educational and law enforcement programs. This will not eliminate the problem however. Individual situations when discovered will be rehabilitated using on site improvement practices.

Despite an ongoing program to identify and improve roads which are contributing to runoff and erosion, it can be expected that a moderate amount of sedimentation will continue to enter various streams within the planning area coming from roads receiving primarily recreational traffic.

The use of riparian areas by fishermen and other recreationists has the potential to degrade riparian habitats from the direct effects of walking, camping, etc. This has not been identified as a significant problem within this analysis area.

C. Cumulative Effects Related to Wildlife

Riparian habitats are important to many species of wildlife. Some species, particularly elk and beaver, may have a direct effect upon riparian habitats. Elk numbers within recent years have increased. Elk use within riparian areas has increased correspondingly. Their use of riparian areas within the analysis area occurs up to 8 months about April into December. This use is generally continual for this 8 month period resulting in the repeated grazing of preferred areas. Repeated grazing can lead to loss of vigor and production of desirable forage species. This in turn may contribute to the loss of desired plant diversity and to the instability of stream banks.

Elk, and in some cases beaver, are having a direct effect on willows occurring along Kanab Creek and Upper East Fork. Grazing upon willow shoots and breaking of stems by rubbing may result in loss of vigor of willow plants which in some cases contributes to the reduction of the willow population.

The actual negative effects to riparian areas from wildlife use is thought to be low to moderate based on past observations.

D. Cumulative Effects Related to Livestock Grazing and the Implementation of Improved Livestock Management

During the early years of livestock grazing on these allotments, livestock rotation and distribution was not a critical concern. As a result animals were allowed in most cases to linger within riparian areas for the entire growing season resulting in adverse effects to soil, water and vegetation. Because palatable forage plants were repeatedly grazed throughout the growing period each year, desired vegetation declined. This is particularly true for willows. In addition, streambanks were continually being trampled and sluffed without being given the opportunity to heal. Lack of intensive livestock management contributed heavily to degraded riparian conditions.

In 1965, adjustments were made to begin more intensive livestock management through fencing of pastures and rotation of livestock grazing. More emphasis was placed on proper distribution of cattle. This began the

recovery process for many of the streams and riparian habitats within the allotments.

Since the initiation of more intensified livestock management the four allotments have been managed under various rotational grazing systems. Habitat conditions have improved in some riparian areas. This is not true in all cases however, and recovery has been slow in some areas.

Implementation of any of the action alternatives will further reduce negative effects to riparian habitats. Implementation of an alternative which reduces the duration of grazing will reduce negative effects within the riparian habitats and will contribute toward more rapid recovery of riparian vegetation including willows and streambank stability. Also, sedimentation from bank trampling and overland flow will be reduced.

ISSUE 2, ELK AND LIVESTOCK COMPETITION FOR FORAGE

The relevant evaluation criteria are:

A. Evaluate impacts that dual wildlife and livestock grazing has on the vegetation communities.

B. Evaluate elk and cattle grazing as it relates to proper use of forage and carrying capacities for both elk and cattle.

Alternative 1 The No Action Alternative

Direct and Indirect Effects

A. Vegetation conditions are improving in the analysis area. This improvement is at a slow rate. However, these woody components (willows), are not responding as could be expected. If livestock numbers are maintained and elk continue to increase unchecked, then competition for forage will become detrimental to the willow vegetation community.

B. Elk do compete with livestock for available forage on suitable livestock range. The carrying capacity of elk or livestock has a direct affect on the other. At the present time, with the current livestock and elk numbers, elk and livestock use on the Paunsaugunt Plateau is considered compatible.

Alternative 2

Direct and Indirect Effects

A. The forage vigor should increase with improved management, however, the diversity of the vegetation would not show much improvement except improvement in willow densities.

B. Livestock use would be less than Alternative #1 resulting in possibly less competition for available forage than with Alternative #1.

Alternative 3 - Proposed Alternative

Direct and Indirect Effects

A. This alternative should allow the vegetation communities to continue to improve at the same rate as Alternative #2 for Robinson Canyon and Upper Blubber C&H Allotments. Lower Blubber C&H Allotment improvement should be greater than in Alternative #2. Kanab Creek C&H Allotment less than Alternative #2.

B. Under this alternative the competition for forage would be the same as Alternative #2, but elk and livestock would still compete.

Alternative 4 - No Grazing

Direct and Indirect Effects

A. There would be no use by livestock of the vegetation and elk would continue to use available forage.

B. There would be no competition for forage between elk and livestock.

Cumulative Effects

The scope of the cumulative effects analysis (CEA) is the four allotments. Many of the effects under issue 1 associated with riparian habitats as effected by wildlife (elk) also apply to this issue.

Elk numbers within recent years have increased. Their use within the analysis area occurs primarily for up to 8 months or about April into December. This use is generally continual for this 8 month period resulting in the repeated grazing of preferred areas. Repeated grazing can lead to loss of vigor and production of desirable forage species. This would occur primarily in the riparian areas.

Implementation of improved livestock management and vegetation manipulation projects in the 1950's and 1960's have contributed to improving upland vegetation and watershed conditions. Prior to implementing improved livestock management and vegetation cover, plant density and composition was less than satisfactory in many areas of these allotments.

Grazing by wildlife (elk and deer), and livestock is not having a significant effect upon the conditions of the upland watershed. Implementation of action alternatives, which further reduces the duration of grazing and increases livestock distribution, is expected to result in an upward trend in the riparian vegetation community.

ISSUE 3, ECONOMIC IMPACTS ON GRAZING PERMITTEE

The relevant evaluation criteria are:

A. Evaluate impacts on the livestock carrying capacity.

B. Evaluate costs of new range improvements.

C. Evaluate costs of maintaining range improvements.

D. Evaluate impacts of pasture moves.

Alternative 1 - The No Action Alternative

Direct and Indirect Effects

A. Under existing conditions the Upper Blubber C&H Allotment is obligated for 40 cattle from 6/11 to 10/10 (160 AM's). The Kanab Creek C&H Allotment is obligated for 70 cattle from 6/11 to 10/10 (280 AM's). The Robinson Canyon/Lower Blubber C&H Allotments are obligated for 75 cattle from 6/11 to 10/10 (300 AM's).

B. There would be no new improvements proposed.

C. There would be no additional range improvement maintenance costs. The permittee's costs would only increase as does inflation and upon the state of condition of the existing improvements.

D. No change in number of pasture moves.

Alternative 2

Direct and Indirect Effects

A. Kanab Creek C&H and Lower Blubber C&H Allotments would be grazed together using a deferred rotation grazing system. The carrying capacity would be 328 AM's with improved distribution. Upper Blubber C&H Allotment would be grazed using a deferred rotation system with a carrying capacity of 130 AM's. The Robinson Canyon C&H Allotment would be grazed using a deferred rotation grazing system. The carrying capacity would be 100 AM's.

B. The estimated Forest Service costs is $3,850 and the permittees estimated share would be $4,850.

C. Slight increase in maintenance costs on the Robinson Canyon C&H Allotment. Kanab Creek/Lower Blubber C&H Allotments would also have an increase in maintenance costs.

D. Kanab C&H Allotment would have an additional pasture move. Robinson C&H Allotment would have one less pasture move. Upper Blubber C&H Allotment would remain as presently exists.

Alternative 3 - Proposed Alternative

Direct and Indirect Effects

A. Upper Blubber and Robinson Canyon C&H Allotments carrying capacity would remain no different than in Alternative #2. Kanab Creek C&H Allotment would be grazed using a 3 pasture deferred grazing system with a carrying

capacity of 241 AM's. Lower Blubber C&H Allotment would be grazed with the East Fork C&H Allotment with additional carrying capacity of 87 AM's to the East Fork C&H Allotment.

B. The estimated Forest Service cost is $3,850 and the permittees estimated share would be $4,850.

C. There would be a removal of 2-1/4 mile of fence which would reduce the costs of maintenance for the Lower Blubber Unit. Robinson Canyon and Upper Blubber C&H Allotments maintenance would remain the same as Alternative #2.

D. Kanab Creek and Upper Blubber C&H Allotments would have no changes. Robinson Canyon C&H Allotment would have the same moving of livestock as Alternative #2.

Alternative 4 - No Livestock

Direct and Indirect Effects

A. There would be no livestock carrying capacity under this alternative.

B. No new improvements would be proposed.

C. There would be no need for the allotment interior pasture fences, these could all be removed.

D. With no livestock there would be no need for pasture moves.

Cumulative Effects

The scope of the cumulative effects analysis is the Upper Blubber, Lower Blubber, Kanab Creek and Robinson Canyon C&H Allotment permittees, and the U.S. Government. The cumulative effects of the economic impacts to the permittees can only be addressed as the direct and indirect effects in relationship to the analysis area. Additional economic effects are outside the scope of this analysis.

ISSUE 4. COMBINING ALLOTMENTS

The relevant evaluation criteria are:

A. Evaluate impacts to the existing grazing permittees.

B. Evaluate impacts on permit administration.

C. Evaluate impacts on the effectiveness of grazing systems.

Alternative 1 The No Action Alternative

Directs and Indirect Effects

A. There would be no effects or change under existing conditions to the livestock carrying capacity.

B. There would be no effects or change under existing conditions on permit administration.

C. This alternative is the least effective of the alternatives to improve vegetation conditions.

Alternative 2

Direct and Indirect Effects

A. Grazing the Kanab Creek and Lower Blubber C&H Allotments together, using a deferred rotation grazing system, would result in a reduction of 102 AM's. The Robinson Canyon and Blubber Creek C&H Allotments would have a reduction of 80 AM's for a total reduction of 182 AM's.

B. There would be no effects or change under existing conditions on permit administration.

C. This alternative would allow the Kanab Creek/Lower Blubber C&H Allotment to be grazed in a four pasture deferred system, which is an improvement over the existing three pasture grazing system (Kanab Creek) and two pasture grazing system (Lower Blubber). Robinson Canyon and Upper Blubber C&H Allotments would also be grazed using deferred rotation grazing systems.

Alternative 3

Direct and Indirect Effects

A. Grazing the Lower Blubber and East Fork C&H Allotments together would result in a reduction of 63 AM's for the allotments. Kanab Creek, Robinson Canyon and Upper Blubber would have a reduction of permitted use of 119 AM's for a total reduction of 182 AM's.

B. There would be no change in the number of permits to administer.

C. The grazing systems used would be deferred rotation grazing systems on all allotments which would be an improvement over the no action alternative. Lower Blubber C&H Allotment would be grazed with the East Fork C&H Allotment which would allow this allotment to be deferred. This alternative would be the most effective for range improvement on the Lower Blubber C&H Allotment.

Alternative 4 Proposed Alternative

Direct and Indirect Effects

A. There would be a reduction of 740 AM's with this alternative.

B. There would be no permit administration.

C. This would be the most benefit to vegetation, soil, water, recreation and wildlife resources. There would be no livestock grazing.

Cumulative Effects

The scope of the cumulative effects analysis is the mitigation of combining the Lower Blubber C&H Allotment with either the East Fork or Kanab Creek C&H Allotment to improve management and other resource uses and activities.

Combining the Lower Blubber C&H Allotment with one of the other allotments, Kanab Creek, Upper Blubber and East Fork C&H Allotments, allows for improved intensive management. This allows improvement to other resource uses and activities as discussed in Issue 1, dealing with riparian conditions.

MONITORING

Monitoring will be conducted to measure the effects of the selected management practices and further evaluate (1) range condition and trend, (2) effectiveness of the grazing system, (3) accomplishment of the management objectives and (4) adequacy of the stocking rate. Appendix H contains the monitoring methods that will be used.

CHAPTER V. LIST OF PREPARERS

Interdisciplinary (IDT) Team:

1. EVAN L. BOSHELL (IDT Leader)

   TITLE: Range Conservationist, Powell Ranger District, Dixie National Forest

   EDUCATION: 1975: Bachelor of Science, Range Management; Utah State University, Logan, Utah

   EXPERIENCE: Current position since February 1990.
   1985-90 Range, Watershed, Recreation & Lands Staff, Springerville Ranger District, Apache-Sitgreaves National Forest
   1978-85 Range, Wildlife & Watershed Staff, Springerville Ranger District, Apache-Sitgreaves National Forest
   1975-78 Range Conservationist, Williams Ranger District and Chalender Ranger District, Kaibab National Forest

2. CARLTON P. GUILLETTE

   TITLE: District Ranger, Powell Ranger District, Dixie National Forest

   EDUCATION: 1963: Bachelor of Science, Range Management, Utah State University, Logan, Utah

   EXPERIENCE: Current position since June 1988.
   1978-88 District Ranger, Salmon Ranger District, Salmon National Forest
   1969-78 District Ranger Leadore Ranger District, Salmon National Forest
   1964-69 Forester, Salina Ranger District, Fishlake National Forest

3. DANIEL J. DUFFIELD

   TITLE: Forest Fisheries Biologist, Dixie National Forest

   EDUCATION: 1979: Master of Science, Fisheries Biology and Management, Michigan State University, Lansing, Michigan

   EXPERIENCE: Current position since February 1989.
   1982-89 Regional Fisheries Biologist, Utah Division of Wildlife Resources
   1980-82 Staff Biologist, King James Shrimp, Inc.

CHAPTER VI. LIST OF AGENCIES CONSULTED

U.S. Fish and Wildlife Service, Salt Lake City, Utah

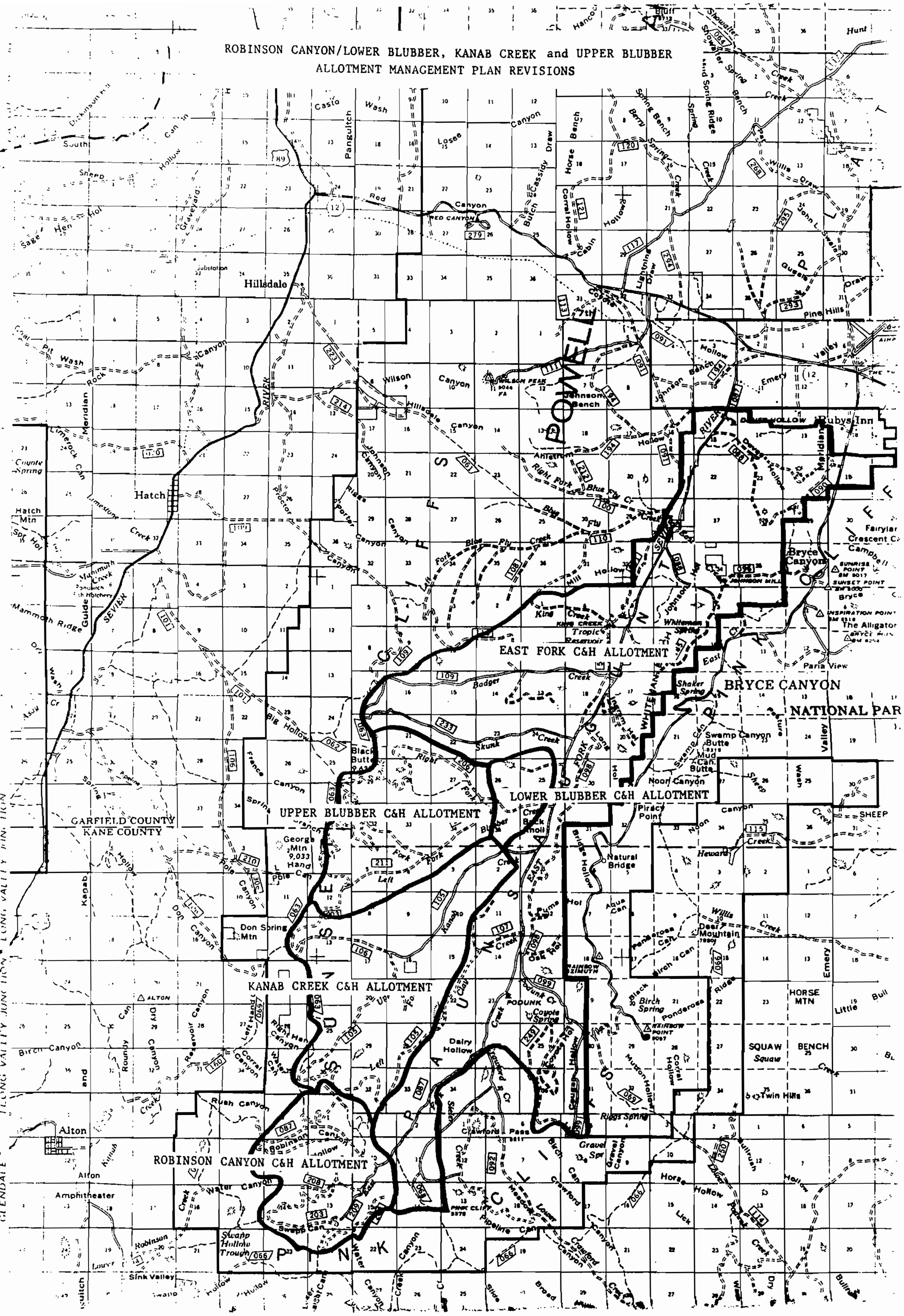
Utah Division of Wildlife Resources, Southern Region, Cedar City, Utah

Utah State Extension Service, Panguitch, Utah

APPENDIX A

VICINITY MAP

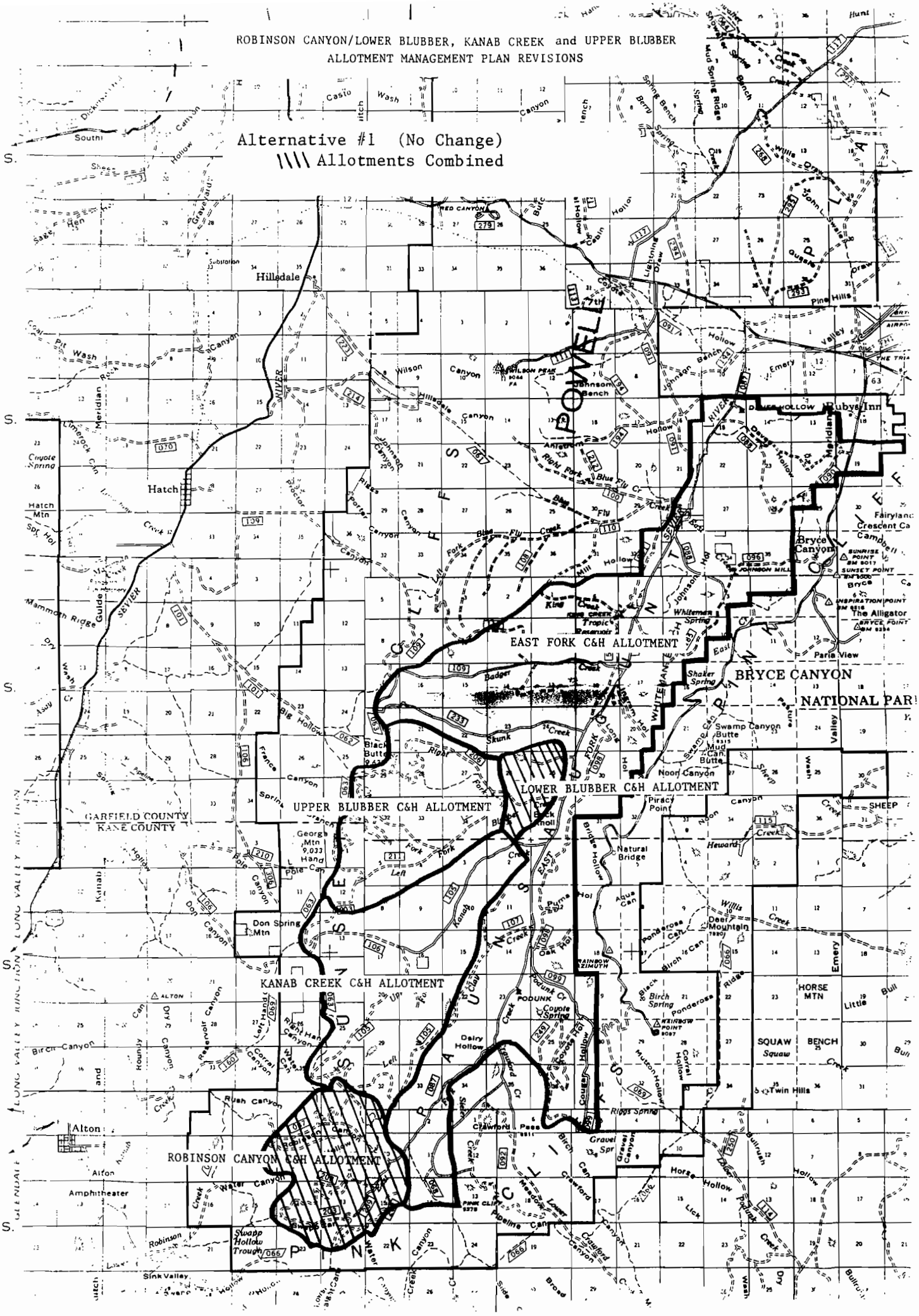
ROBINSON CANYON/LOWER BLUBBER, KANAB CREEK and UPPER BLUBBER
ALLOTMENT MANAGEMENT PLAN REVISIONS



APPENDIX B

MAPS OF ALTERNATIVES

ROBINSON CANYON/LOWER BLUBBER, KANAB CREEK and UPPER BLUBBER
ALLOTMENT MANAGEMENT PLAN REVISIONS



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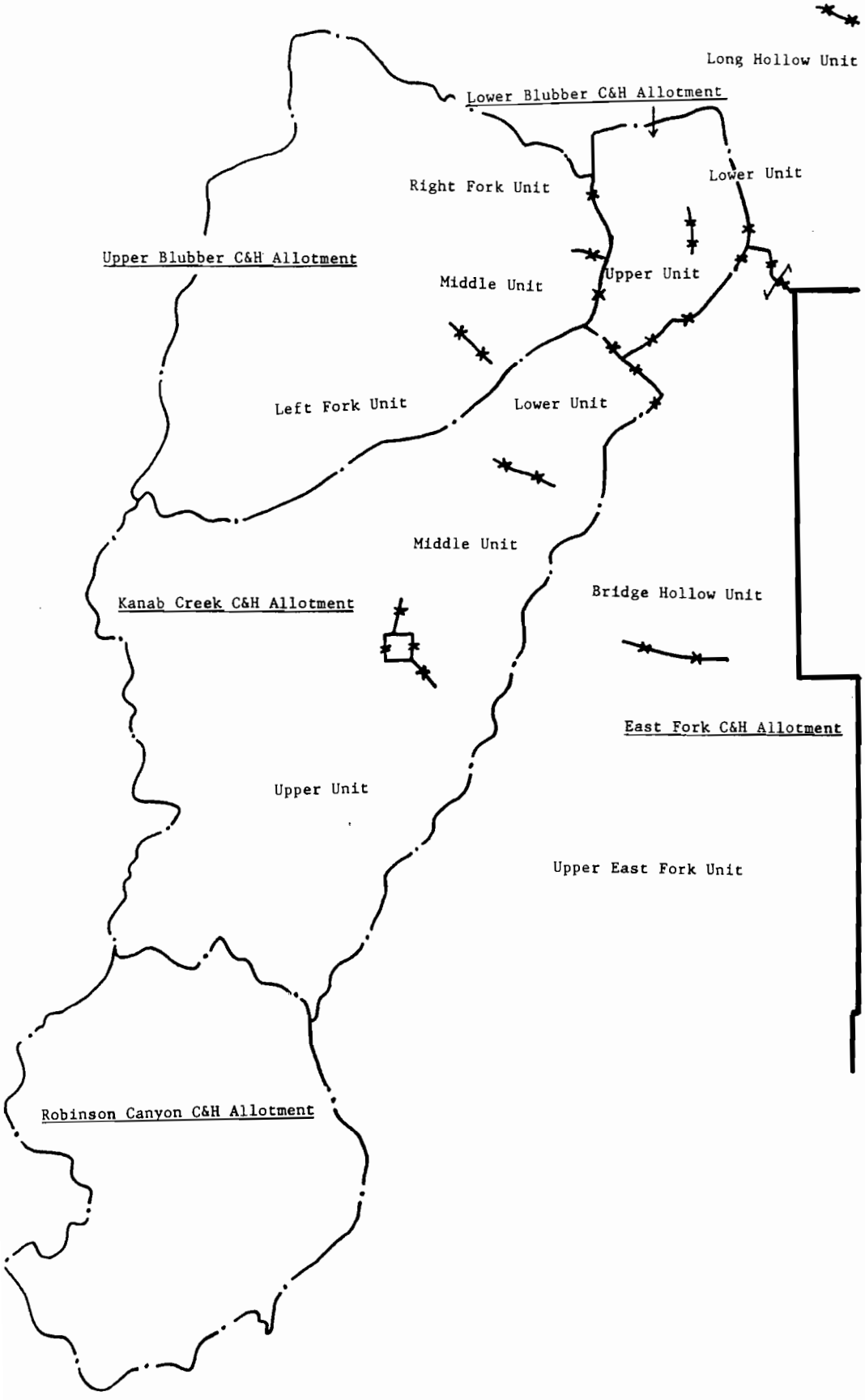
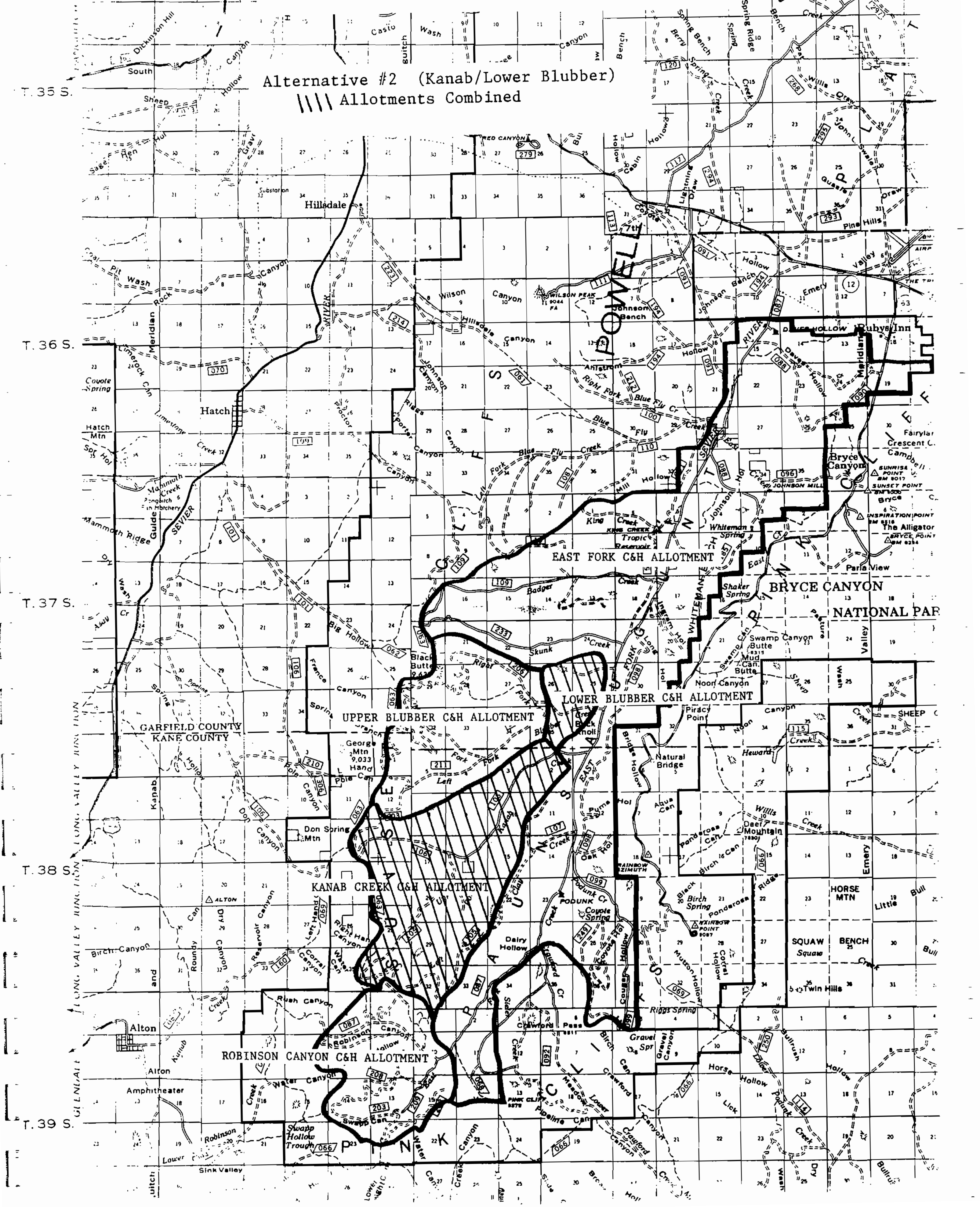
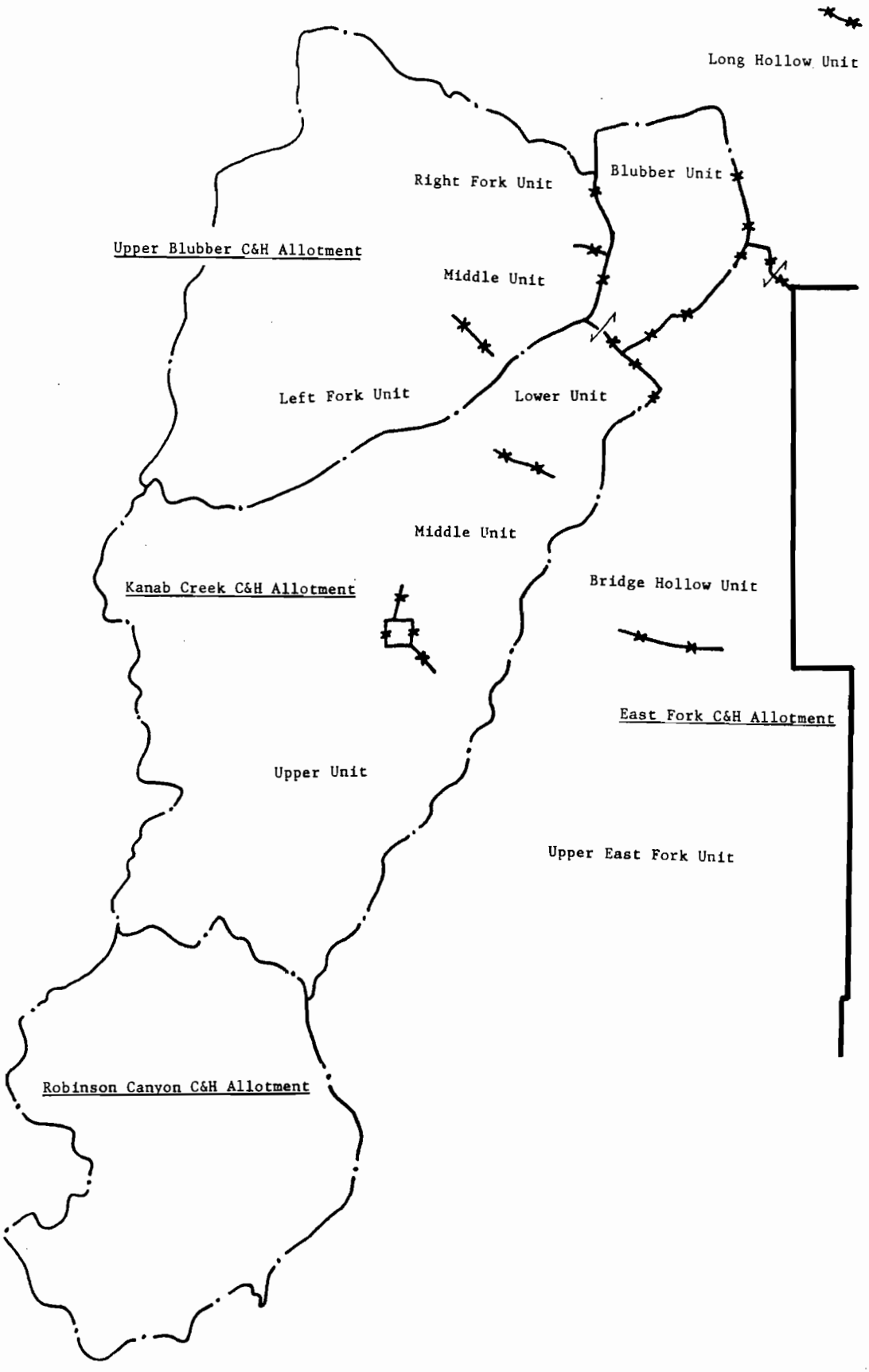
No Change



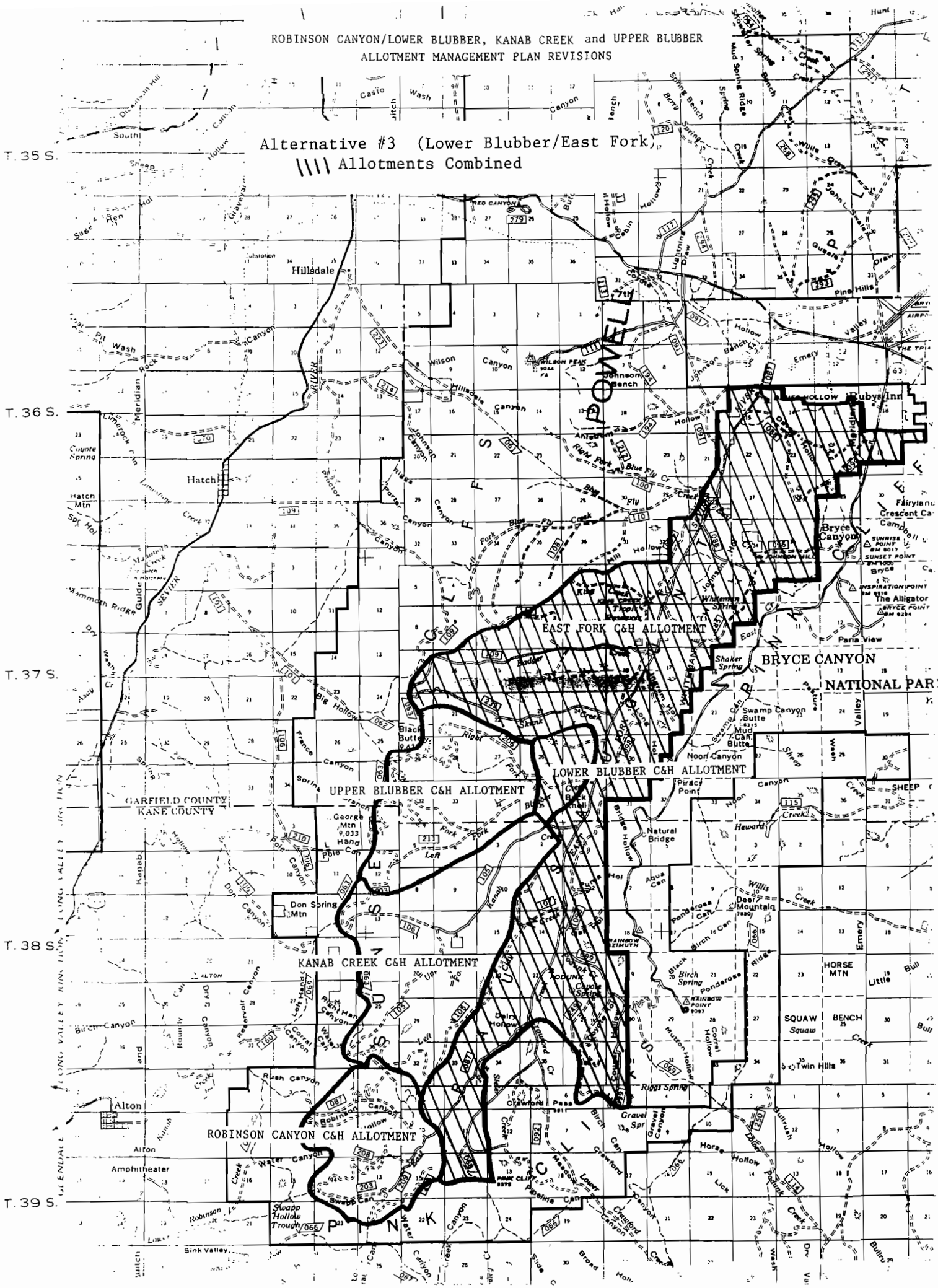
ROBINSON CANYON/LOWER BLUBBER, KANAB CREEK and UPPER BLUBBER ALLOTMENT MANAGEMENT PLAN REVISIONS



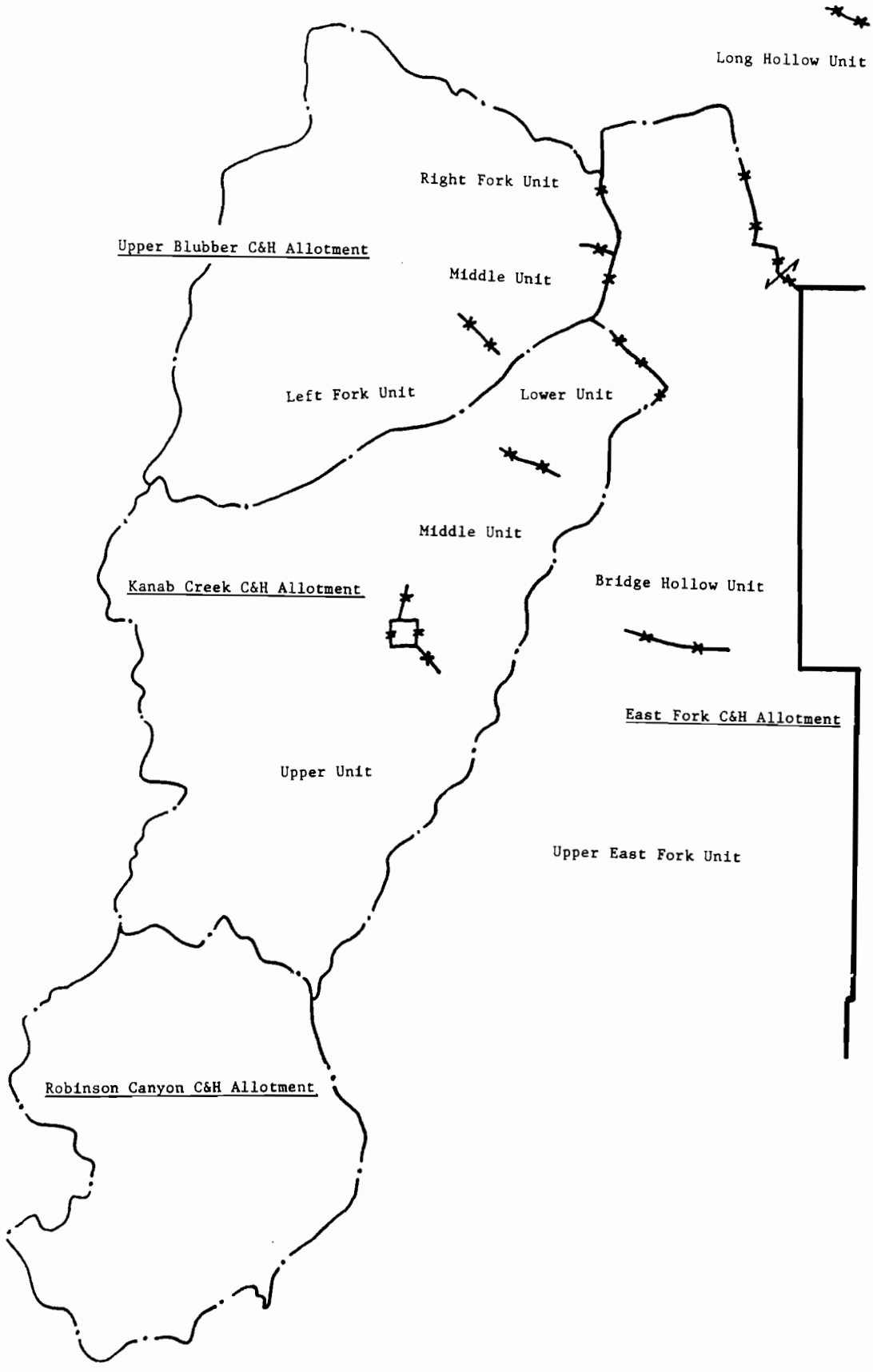
ALTERNATIVE #2
Lower Blubber/Kanab



ROBINSON CANYON/LOWER BLUBBER, KANAB CREEK and UPPER BLUBBER
ALLOTMENT MANAGEMENT PLAN REVISIONS



ALTERNATIVE #3
Lower Blubber/East Fork



APPENDIX C

UTILIZATION STANDARDS FOR FORAGE SPECIES

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UTILIZATION STANDARDS FOR FORAGE SPECIES

The Dixie National Forest L&RMP standards and guidelines allows for a maximum use of 60 percent on heavy use pastures under a rest rotation grazing system. Using a deferred rotation system up to 50 percent use on all species is allowed except crested wheatgrass reseedings and wet meadows where 60 percent is allowable. The East Fork of the Sevier River and its tributaries have been identified as critical fisheries habitat. To maintain or improve riparian conditions, plant vigor, provide streambank protection and aid deposition of sediments to rebuild degraded streambanks, the following allowable use levels will be followed to achieve desired future conditions.

The Robinson Canyon, Upper Blubber and Kanab Creek C&H Allotments are in stable condition and do meet the standards and guidelines of the Dixie L&RMP. A 50 percent grazing use will be allowed. The goal is to leave stubble heights of 4-6 inches along riparian areas to provide sufficient herbacious forage biomass to meet the requirements of plant vigor maintenance, streambank protection, and sediment intrapment. This 50 percent use level should allow these allotments to maintain current conditions with some improvement.

The Lower Blubber C&H Allotment is in less than satisfactory condition. To improve the upland vegetation on this allotment 40 percent grazing use will be allowed. This 40 percent use level, with a deferred rotation grazing system, should allow vegetation conditions on this allotment to improve.

Management System	Percent Key Species Utilization (1)	Riparian Standards (1)	Fall or Winter Stubble Height in Inches (3)
Rest-Rotation(2)	50-60	60 (50 Browse)	4-6" stubble 6" critical areas
Deferred-Rotation	50	60 (50 Browse)	4-6" stubble 6" critical areas

(1) Proper use based on utilization will be considered as the measurement of the standing years growth at the time of measurement as described in the Dixie National Forest L&RMP Standards and Guidelines (maximum levels).

(2) A rest rotation grazing system will be considered a three or four year rotation with one or two pastures completely rested each year, one grazed early and one grazed after seed ripe.

(3) Stubble height restrictions may take precedence over percent utilization. Stubble height remaining at the end of the grazing season should be a minimum of 4 to 6 inches (Clary and Webster, 1989).

APPENDIX D

GRAZING CAPACITY SUMMARY

APPENDIX D

GRAZING CAPACITY
SUMMARY

The following estimated grazing capacities are the averages of utilization data collected from 1981 through 1991. This data can be found in the Project Folder and in the Unit Exams for the allotments in the Forest Service files, 2210 Analysis and Plans. The grazing capacities are displayed at different proper use levels.

	(Use Levels) 30%	40%	50%
Upper Blubber C&H Allotment	(160 AM's)		
Middle Unit	29 AM	38 AM	48 AM
Upper Left Fork Unit	20 AM	27 AM	34 AM
Right Fork Unit	29 AM	38 AM	48 AM
			130 AM
Kanab Creek C&H Allotment	(280 AM's)		
Lower Unit	61 AM	82 AM	102 AM
Middle Unit	55 AM	74 AM	92 AM
Upper Unit	28 AM	38 AM	47 AM
			241 AM
Robinson Canyon C&H Allotment			
	64 AM	86 AM	107 AM
Lower Blubber C&H Allotment			
Lower Unit	24 AM	32 AM	40 AM
Upper Unit	41 AM	55 AM	69 AM
			109 AM

Alternative #2

Under Alternative #2 Lower Blubber C&H Allotment would be grazed with the Kanab Creek C&H Allotment. The carrying capacity for Kanab Creek C&H Allotment would be 241 AM's at the 50% use level. The carrying capacity for the Lower Blubber C&H Allotment is 87 AM's at the 40% use level. The carrying capacity for both allotments together would be 328 AM's or 82 cows for a season of 6/11 to 10/10.

The Upper Blubber C&H Allotments carrying capacity at the 50% use level would be 130 AM's or 33 cows for a season of 6/11 to 10/10.

The Robinson Canyon C&H Allotments carrying capacity at the 50% use level would be 100 AM's to be used between 7/16 and 9/15 or 100 cattle for 30 days each year.

Alternative #3

Under Alternative #3 Lower Blubber C&H Allotment would be grazed with the East Fork C&H Allotment. This allotment would be grazed at an average use level of 40%. The carrying capacity at 40% use level would be 87 AM's or 24 cows for a season of 6/16 to 10/5.

The Kanab Creek C&H Allotments carrying capacity at the 50% use level would be 241 AM's or 60 cows for a season of 6/11 to 10/10.

The Upper Blubber and Robinson Canyon C&H Allotments carrying capacity would be the same as Alternative #2.

APPENDIX E

ISSUES, CONCERNS AND OPPORTUNITIES

(Identified But Not Evaluated)

APPENDIX E

ISSUES, CONCERNS AND OPPORTUNITIES

(Identified But Not Evaluated)

The following issues, concerns, and opportunities (ICO's) have been raised concerning existing resource conditions and present and potential management. They were identified by Forest Service resource specialists, cooperating agencies, forest users, and interested persons. The majority of these ICO's relate directly to livestock grazing on Kanab Creek, Upper Blubber, and Robinson Canyon/Lower Blubber C&H Allotments.

During the analysis process, these ICO's were reviewed and their relevance to the project was assessed. The following codes were used to indicate how individual ICO's were handled: CA = covered in alternatives, MM = mitigating measure, NI = not currently considered an issue.

CA 1. Unsatisfactory riparian conditions exist on portions of the allotments. This is evident by a lack of riparian vegetation species with low diversity of vegetation species and instability of streambank sections.

NI 2. There is a need to protect past resource improvement investments, including stream structures and watershed rehabilitation work.

CA 3. Sedimentation could be excessive within the streams.

CA 4. The quality of the fisheries habitat could be improved with an increase in streambank vegetation cover. This improvement would lower water temperatures, provide more forage for macroinvertebrates and improve fish spawning habitat.

CA 5. Elk and livestock are competing for forage, primarily in valley bottoms. Forage in the valley bottoms is being utilized by elk during the spring-summer-fall seasons, while livestock utilize forage in pastures/units as specified in the Allotment Management Plans.

NI 6. There is an opportunity to improve waterfowl habitat in the mouth of Blubber Creek.

CA 7. With the increased emphasis on wildlife and recreation management in this area, there is a concern of possible decreases in permitted livestock use.

CA 8. There is an opportunity to combine allotments and improve range conditions.

CA 9. There is a need to provide an economically viable AMP including livestock management, facility maintenance and construction of new facilities.

CA 10. Concern expressed that the "No Grazing" alternative should be analyzed to provide a base line for a site specific project.

CA 11. Concern that the impacts of grazing to all forest resources should be evaluated.

CA/NI 12. Concern that livestock grazing may affect the recreation experience.

CA 13. Concern that wildlife (game and non-game) may be affected by livestock grazing.

CA 14. Concern that livestock grazing may adversely impact threatened and endangered species.

CA 15. Concern for the economic impact of the proposed action (grazing being the proposed action, not just range improvements) and its alternatives to the permittees and the Federal Government.

CA 16. Concern for the vegetation density, distribution and vigor may be affected by livestock grazing.

CA 17. Concern for the managing for improved biodiversity.

CA 18. Concern that soils may be adversely affected by livestock grazing.

CA 19. Concern that trailing of livestock may affect soils, vegetation, water, wildlife habitat, recreation use and public safety.

CA 20. Concern that grazing can have serious impacts on cultural resources.

NI 21. Concern that the problems on the allotment might be site specific and need to be dealt with individually.

CA 22. Opportunity to improve distribution of grazing animals.

CA 23. Concern that range conditions have been improving for many years then there is no justification for reductions in livestock numbers.

CA 24. Concern that elk populations should not be used as a basis for reducing livestock numbers.

NI 25. Concern for the interaction with the Bryce Canyon National Park.

CA 26. Concern that the requirements in the Clean Water Act be met.

CA 27. Concern that rest-rotation grazing systems are more desirable for improvement than deferred-rotation.

CA 28. Concern that livestock permitted at a level that would insure improvement to the resources.

NI 29. Concern that if range conditions improve then any livestock reductions be reinstated.

APPENDIX F

PUBLIC INVOLVEMENT DOCUMENTS

PUBLIC INVOLVEMENT DOCUMENTS

The following is a list of individuals or groups that made written comments in regards to the Kanab Creek, Upper Blubber and Robinson Canyon/Lower Blubber C&H Allotment Management Plan revisions. These comments are on file in the project folder at the Powell Ranger District Office, Dixie National Forest:

Sharon & David Hatfield, Rockville, UT
Mr. Brad T. Barber, State of Utah, Office of Planning and Budget, Salt Lake City, UT
Mr. A. Karl Heaton, Alton, UT
Mr. Clark D. Johnson, Fish and Wildlife Service, Salt Lake City, UT
Mr. Merlin Esplin, Kaibab Forest Products Co., Fredonia, AZ
Mr. F. Clair Jensen, Division of Wildlife Resources, Cedar City, UT
Mr. Kenneth L. Sizemore, Five County Assoc. of Governments, St. George, UT
Ms. Jane Leeson, The Wilderness Society, Salt Lake City, UT
Mr. Paul L. Young, Washington, UT
Mr. Dale E. Clarkson, Kanab, UT
Mr. George S. Hopkin, State of Utah, Department of Agriculture, Salt Lake City, UT
Mr. Walter Jones, University of Utah, Salt Lake City, UT
Mr. John Paul Fox, Humane Society of Utah, West Valley City, UT
U.S. Fish and Wildlife Service, Salt Lake City, UT

APPENDIX G

MANAGEMENT AREA DESCRIPTIONS

MANAGEMENT AREA 6A
LIVESTOCK GRAZING

Characteristics

This management area consists of benchlands, valleys and basins at lower elevations with pinyon-juniper or sagebrush vegetation. Most of these areas have been chained and reseeded. At higher elevations this management area consists of mountain meadows and parks with sage-grass or grass-forb vegetation.

Desired Future Conditions

Acreage of areas receiving this emphasis will remain essentially the same as presently. Production and range condition will be improved. Areas where vegetation manipulation practices have been accomplished will be maintained for optimum forage production. Numbers of livestock improvements (water developments, fences) will increase.

Size

This management area contains 276,600 acres. Two hundred sixty seven three hundred sixty seven acres are unsuitable for timber harvest.

Management Area Direction

The area is managed for livestock grazing. Intensive grazing management systems are favored over extensive systems. Range condition is maintained through use of forage improvement practices, livestock management, and regulation of other resource activities. Periodic heavy forage utilization occurs. Investment in structural and nonstructural range improvements to increase forage utilization is moderate to high. Structural improvements benefit, or at least do not adversely affect wildlife. If conflicts occur between livestock and wildlife in areas of critical wildlife habitat they will be resolved in favor of wildlife. Nonstructural restoration and forage improvement practices available are seeding, planting, burning, fertilizing, pitting, furrowing, spraying, crushing, and plowing. Cutting of encroaching trees may also occur.

Investments are made in compatible resource activities. Dispersed recreational opportunities vary between semi-primitive nonmotorized and roaded natural. Management activities are evident but harmonize and blend with the natural setting.

MANAGEMENT AREA 7A
WOOD PRODUCTION AND UTILIZATION

Characteristics

This management area consists of the major Forested areas on the Forest. At lower elevations ponderosa pine is dominant. Mixed conifer species occupy mid elevation while the spruce-fir type is dominant at the highest elevation.

Desired Future Conditions

This management area contains most of the commercial timber on the Forest and is the most highly productive for growing timber.

The basic long-range objectives of timber management for this area are:

1. Create and maintain nearly equal areas in seedlings and saplings, poletimber, immature sawtimber and mature sawtimber.

2. Create and maintain stand conditions that will minimize growth loss and mortality from insects and diseases.

3. Convert slow growing stands of mature sawtimber (beyond culmination of mean annual increment for the product size objective) to young, thrifty stands of desirable species.

These basic objectives, if implemented, will contribute toward the goal of reaching 90 percent of optimum timber growth rates at long-term sustained yield by 2030. The harvest schedule offered by the Preferred Alternative precludes attainment of this goal by 2030 because of the severe departure from the current base sale schedule that would be required. Substantial progress, however, is expected.

Ponderosa Pine Type

Areas of ponderosa pine will be managed almost exclusively through shelterwood methods. Sapling and pole stands will be precommercially thinned to leave between 120 and 150 trees per acre depending on site productivity. Stands of immature sawtimber will receive improvement harvests (intermediate cutting or commercial thinning) once or twice during the 110 to 130 year rotation on a 20 to 40 year entry period. Seed cutting will be done primarily to provide site protection for planted seedlings. These activities will be implemented on a schedule to provide a reasonable balance of acres in each of the age classes in the shortest time possible as constrained in the management area prescription. This balance should be achieved by 2030 with close to 90 percent of the optimum growth rate for most sites realized. Conditions favorable for significant insect and disease losses will be minimized. Small scattered areas of relatively inaccessible ponderosa pine on slopes over 40 percent will likely remain in an unmanaged condition.

MANAGEMENT AREA 9A
RIPARIAN MANAGEMENT

Characteristics

This management area is located adjacent to perennial streams and across the Forest. Components of the area include the aquatic ecosystem, the riparian ecosystem (characterized by distinct vegetation), and adjacent ecosystems that are within approximately 100 feet measured horizontally from both edges of perennial streams and from the shores of lakes and other still water bodies. All of the components are managed together as a land unit comprising an integrated riparian area, and not as separate components.

Desired Future Condition

Riparian area acreage remains essentially the same as currently exists. Riparian ecosystem remains healthy and viable. Sufficient habitat remains to support at least minimum viable populations of riparian dependent wildlife species. Water quality is not impaired below existing levels and is improved in some areas. Stream channel stability is maintained or, in areas where it is severely degraded, is improved to least minimally acceptable standards. Area provides multiple resource outputs while providing protection to riparian dependent values.

Size

This management area contains 9100 acres. Eight thousand fifty two acres are unsuitable for timber harvest.

Management Area Direction

The goals of management are to provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water body shorelines. The aquatic ecosystem may contain fisheries habitat improvement and channel stabilizing facilities that harmonize with the visual setting and maintain or improve wildlife or fish habitat.

Forest riparian ecosystems are treated to improve wildlife and fish habitat diversity through specified silvicultural objectives. Timber harvest and other vegetation treatments are used to achieve multi-resource benefits emphasizing riparian values.

Livestock grazing is at a level that will assure maintenance of the vigor and regenerative capacity of the riparian plant communities. Developed recreation and other facility construction for overnight use is restricted or modified within the 100-year floodplain. Dispersed recreation will be managed to maintain ecological stability and visual objectives of the management area.

The management area over which this prescription is to be applied will also be affected by several management activities in the Forest-wide direction. Most notable is the direction involving riparian area management, upland zones, water uses management, water resource improvement and maintenance, dam administration and maintenance, and elsewhere.

APPENDIX H

MONITORING

APPENDIX H

MONITORING

Studies and inspections will continue to be made on the allotment to further evaluate (1) range condition and trend, (2) effectiveness of the grazing system, (3) accomplishment of the management objectives and (4) adequacy of the stocking rate.

A. Nested Frequencies

There are not nested frequency clusters on the allotments. One study will be established on each allotment and re-read approximately every 10 years.

B. Riparian Transects

There are no riparian transects on the allotments. Three studies will be established (Kanab Creek, Blubber Creek and East Fork of the Sevier River) and re-read approximately every 5 years.

C. Unit Examinations

Unit examinations will be conducted annually within each unit of the allotment. These exams will evaluate compliance with the Annual Operating Plans directions. They will also firm up carrying capacities.

D. Utilization Surveys

Elk use will be monitored by using utilization cages. These plots will be established in key riparian areas and will evaluate elk use prior to livestock grazing.

E. Sedimentation Surveys

Sedimentation levels will be monitored to evaluate water quality and fisheries spawning trends.

F. Streambank Stability

Streambank stability will be monitored in representative reaches of the stream (photo plots).

APPENDIX I

CULTURAL RESOURCES

United States Department of Agriculture | Forest Service | Dixie N.F.

Reply to: 2360 Date: September 21, 1992

Subject: Cultural Resource Inventories for Range Allotment Projects

To: Carl Guillette, Powell District Ranger

At the request of Evan Boshell, a search of the cultural resource files in the Forest Supervisor's office was undertaken on 06/03/92. Proposed allotment management projects on the district were identified and the following surveys have been identified as being conducted in those areas of the district that proposed projects are to be located.

DX-78-95 Skunk Creek T/S; DX-84-224 Southern Utah Coal Tracts; DX-85-274 Blubber Creek T/S; DX-86-309 East Fork T/S; DX-87-340 Kanab Creek T/S; DX-88-400 Robinson Valley Watershed; DX-87-344 Mt Dutton T/S.

Most of these surveys have been undertaken in conjunction with timber, watershed, and campground development projects. Decisions regarding the potential for cultural resources in adjacent and similar areas can now be made. The proposed allotment management areas have been determined to hold a low to moderate potential for the discovery of cultural resources. But it is recommended that each ground disturbing project be evaluated on a case by case basis within the proposed allotment management areas. Significant archeological sites will need to be avoided by all activities which could impact them. These include stock ponds, fences, and spring developments.

If you have any further questions regarding cultural resources in these areas please contact Marian Jacklin at (801)865-3700.

Ralph Rawlinson

RALPH S. RAWLINSON
Recreation, Minerals, and Lands Staff Officer

APPENDIX J

BIOLOGICAL EVALUATION

(See Project File)

APPENDIX K

PROJECT COSTS

(See Project File)

APPENDIX L

REFERENCES

APPENDIX L

REFERENCES

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DECISION NOTICE

and

FINDING OF NO SIGNIFICANT IMPACT

for

KANAB CREEK, UPPER BLUBBER, ROBINSON CANYON/LOWER BLUBBER

C&H ALLOTMENT PLANS

ENVIRONMENTAL ASSESSMENT

USDA FOREST SERVICE, REGION 4
DIXIE NATIONAL FOREST
POWELL RANGER DISTRICT

State of Utah
Garfield and Kane Counties, Utah

INTRODUCTION

The Powell Ranger District, of the Dixie National Forest, has prepared an Environmental Assessment to document the analysis used to assess alternative management actions for the development of revised Allotment Management Plans for the Kanab Creek, Upper Blubber and Robinson Canyon/Lower Blubber C&H Allotments. The analysis area is located approximately 18-29 miles southeast of Panguitch, Utah, on the Paunsaugunt Plateau. These allotments lie entirely within the East Fork of the Sevier River drainage (Great Basin). Bryce Canyon National Park lies to the east of the allotments from one to several miles.

The Environmental Analysis and Assessment were developed under the implementing regulations of the National Environmental Policy Act (NEPA), Council on Environmental Quality, Title 40, Code of Federal Regulation, Parts 1500-1508; and the National Forest Management Act (NFMA), Title 36, Code of Federal Regulations, Part 219. Further direction is provided in the Dixie National Forest Land and Resource Management Plan which was approved on September 2, 1986, including Amendment 1. A copy of this environmental assessment can be obtained from the Powell Ranger District, Dixie National Forest, P.O. Box 80, Panguitch, Utah 84759.

The allotments include Forest Plan Management Areas 6A, 7A and 9A. Each of these management areas has specific management prescriptions relating to livestock, timber, recreation values, and maintenance of wildlife and watershed values. Detailed management prescriptions are displayed in the Dixie National Forest Land and Resource Management Plan.

PUBLIC INVOLVEMENT

Analysis of the proposed action(s) was initiated through a public scoping process. A public notice describing the action was issued and distributed to private citizens, organizations, and local, State and Federal governments. Through the scoping process an Interdisciplinary Team of resource specialists identified a list of issues to be considered in the analysis. Documentation of the scoping and public involvement process is included in the Environmental Assessment and the project file available at the Powell Ranger District office.

The major issues associated with this proposal include:

1. There is a concern that unsatisfactory riparian conditions exist and this is evident by a lack of riparian vegetation species, poor diversity of riparian vegetation species and instability of streambanks. Under these conditions both water quality and fisheries habitat are being adversely affected.

2. Some respondents stated elk are competing with livestock for forage, primarily in valley bottoms. The concern is that elk are using this forage prior to, during, and after livestock use and this use could be detrimental to the vegetation as well as reducing the amount of forage available for livestock, resulting in reduced livestock numbers.

3. There is a concern of the economic impacts on the grazing permittees and costs to the Federal Government.

4. Some respondents expressed the opportunity to combine the Kanab Creek C&H Allotment with the Lower Blubber C&H Allotment. The concern is that with the addition of the Lower Blubber C&H Allotment to the Kanab Creek C&H Allotment, management on the two allotments would be improved. This same concern has been expressed for combining of Lower Blubber C&H Allotment with any of the other allotments, East Fork and Upper Blubber C&H Allotments.

ALTERNATIVES

Evaluating the issues identified in the analysis, the ID Team developed four alternatives in detail with others being eliminated from detailed study (EA-Chapter II). The alternatives represent a range of management strategies and outputs which two alternatives meet the Dixie National Forest Land and Resource Management Plan and Allotment Management Plan objectives. The detailed alternatives considered are:

Alternative #1 (No Action) does not allow for changes in numbers and season of use based upon the need to meet proper utilization standards. There is an over obligation of permitted livestock and this needs to be adjusted.

Alternative #2 (Kanab Creek/Lower Blubber) combines the Lower Blubber and Kanab Creek C&H Allotments into one management unit, Robinson Canyon and Upper Blubber C&H Allotments would be managed as separate allotments. All four allotments would be grazed using deferred rotation grazing systems.

Alternative #3 (Proposed Action) combines the Lower Blubber and East Fork C&H Allotments into one management unit. Kanab Creek, Robinson Canyon and Upper Blubber C&H Allotments would be managed as separate allotments using deferred grazing systems.

Alternative #4 (No Livestock Grazing) would eliminate livestock grazing on the four allotments.

Based upon my review of the Environmental Analysis, it is my decision to select an alternative that is a modification of Alternative #3. The change to this alternative as described in the Environmental Assessment is that only the Lower Blubber Unit of the Lower Blubber C&H Allotment will be made part of the Bridge Hollow Unit of the East Fork C&H Allotment. Six additional cattle will be allowed to graze the East Fork C&H Allotment. The Upper Blubber Unit of the Lower Blubber C&H Allotment would be grazed using a deferred rotation grazing system with the Robinson Canyon C&H Allotment. The following would be the rotation system:

	Robinson Unit	Blubber Unit	
Year 1	7/8 - 8/20	6/16 - 7/7	78 cattle (172 AM's)
Year 2	8/1 - 9/13	9/14 - 10/5	

The fence between the Bridge Hollow Unit and the Lower Blubber Unit will be removed. The division fences between the Lower Blubber Unit and the Upper Blubber Unit may need to be extended if cattle are found to go around the ends of the fences.

Kanab Creek and Upper Blubber C&H Allotments would be managed as described in Alternative #3. Kanab Creek C&H Allotment would be grazed from 6/11 to 10/10 with 60 cow-calf pairs. Upper Blubber C&H Allotment would be grazed from 6/11 to 10/10 with 33 cow-calf pairs. Selection of this alternative with it's mitigating measures, best meets the goals, objectives and standards for the affected Management Areas as described in the Dixie National Forest Land and Resource Management Plan and fully meets the intent and implementing direction of the National Forest Management Act. This decision also meets the purpose and need as described in the environmental assessment for the Kanab Creek, Upper Blubber, and Robinson Canyon/Lower Blubber C&H Allotment Plan Revisions. This decision will also amend the decision of February 11, 1992, for the East Fork/Crawford C&H Allotment Management Plan Environmental Assessment and the assessment will be amended to include the Lower Blubber Unit of the Lower Blubber C&H Allotment with the East Fork C&H Allotment. This will add an additional 22 animal months grazing to the allotment. The Bridge Hollow Unit could be grazed an additional 1 to 2 days. Modification of Alternative #3 will not change the environmental consequences as discussed in Chapter IV of the Environmental Assessment. The following paragraphs discuss my reasoning for the finding and clarification of applicable portions of the decision:

1. Alternative #3 has the most potential for improvement of the upland vegetation of the Lower Blubber C&H Allotment. This improvement would be a direct result of shortening the grazing period and using a deferred rotation grazing system.

2. Alternatives #2 and #3 are expected to have the most improved forage diversity of the alternatives. Cattle would spend less time in each unit and reduce the frequency of grazing on individual plants. Elk and cattle use of vegetation would be monitored annually to evaluate needs and make adjustments as needed.

3. Alternatives #3 was selected because approximately .8 mile of fence would be removed. This would reduce maintenance costs and help resolve a continuing unauthorized livestock problem on the East Fork C&H Allotment.

4. Alternatives #2 and 3 would allow for rotation of grazing on the Robinson Canyon C&H Allotment. This allotment is presently being grazed late summer each year. This rotation would allow for regrowth in the riparian areas every other year.

5. Alternative #3 would combine the use of the Lower Blubber Unit of the Lower Blubber C&H Allotment with the Bridge Hollow Unit of the East Fork C&H Allotment. Combining of these two units allows the Lower Blubber Unit to be grazed using a more efficient grazing system.

6. Alternative #1 and #4 were not selected because these alternatives would not meet the desired future conditions of the Dixie National Forest Land and Resource Management Plan as described in the Environmental Assessment, Chapter I, pages 2 and 3.

7. Alternative #2 was not selected because it would not be as successful as Alternative #3 in improving upland vegetation community conditions. The grazing system would not be as effective as Alternative #3 for the Lower Blubber C&H Allotment.

8. Under Alternative #3, the Robinson Canyon C&H Allotment and Lower Blubber C&H Allotment will be renamed the Robinson Canyon C&H Allotment.

9. Alternative #3 would allow the Robinson Canyon C&H Allotment to be grazed using a deferred rotation grazing system with the Upper Blubber Unit of the Lower Blubber C&H Allotment. This would reduce the amount of time needed by the permittees to move cattle.

10. All mitigating and monitoring requirements identified in Chapter 2, Chapter 4, Appendix H of the EA, and the Standards and Guidelines identified in the Dixie National Forest Land and Resource Management Plan, will be implemented as part of this decision. If monitoring reveals that management objectives are not being met, a determination of the cause will be made and corrective actions identified and implemented, following the appropriate NEPA documentation.

11. As documented in the Project Files, cultural resource surveys have been conducted in the areas of all ground disturbing activities. Any potential to disturb historic properties will result in changing the location of the proposed activity (See Cultural Resource Inventories in the Project Files).

FINDINGS OF NO SIGNIFICANT IMPACT

I have determined that this action is not a major federal action, individually or cumulatively, and will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not needed. This determination is based on the following factors:

1. **Beneficial and adverse effects will not be significant.** (EA--Chapter IV)

2. Public health and safety are minimally affected by the proposed action. (EA--Chapter IV)

3. There are no areas with unique geographic characteristics such as historic or cultural resources, prime farmlands, wild and scenic rivers, or ecological critical areas that are significantly affected. (EA--Chapter IV)

4. The effects on the quality of the human environment are not likely to be highly controversial. (EA--Chapter IV)

5. There are no known effects on the human environment that are highly uncertain or involve unique or unknown risks. (EA--Chapter IV)

6. These actions do not set a precedent for other projects that may be implemented to meet the goals and objectives of the Federal Land and Resource Management Plan. (EA--Chapter IV)

7. There are no known significant cumulative effects between this project and other projects implemented or planned in the area. (EA--Chapter IV, Cumulative Effects Analysis by issue)

8. There are no known historical or cultural resources affected. (EA--Chapter II, Appendix I, Cultural Resource Inventories-Project Files)

9. All known endangered, threatened and sensitive plant and animal species will be protected. A Biological Evaluation has been prepared for the effects on threatened, endangered, and sensitive species that may occur within the analysis area. The determination has been made that the selected alternative will have no effect on the recovery of these species. (EA--Appendix J - Biological Evaluation: Chapter IV)

10. The actions do not threaten a violation of Federal, State, or local laws or requirements imposed for the protection of the environment.

IMPLEMENTATION AND ADMINISTRATIVE REVIEW

This decision is subject to administrative review in accordance with 36 CFR 217. Any appeal of this decision must include the information required in 36 CFR 217.9, (Content of a notice of appeal), including the reasons for appeal. Two (2) copies of the Notice of Appeal must be filed with the Forest Supervisor, Dixie National Forest, P.O. Box 580, Cedar City, Utah 84721-0580 within 45 days of the date of publication in the "Daily Spectrum", St. George, Utah.

This decision may be implemented no sooner than 45 calendar days after publication in the "Daily Spectrum".

Carlton P. Guillette
CARLTON P. GUILLETTE
District Ranger

February 12, 1993
Date