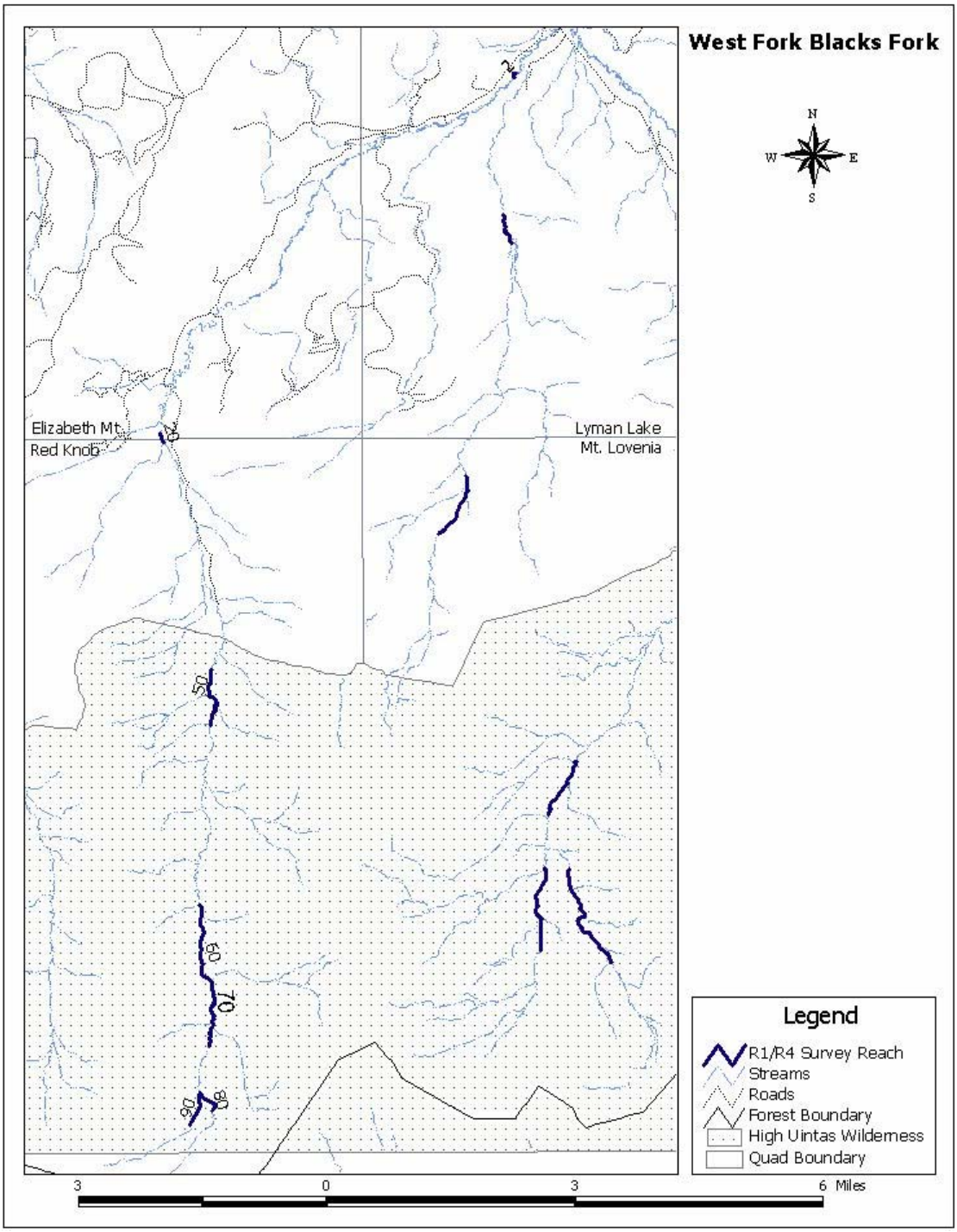

Map 3-4. Showing habitat survey locations.

3.2.6 Effects On Colorado River Cutthroat Trout

The analysis area for aquatic and semi-aquatic species will be the West Fork Blacks Fork. The Middle Fork Blacks Fork and the East Fork Blacks Fork are significantly far enough from the project are that they are believed to have little influence in impacts in the West Fork Blacks. The Little West Fork Blacks Fork is separated from the West Fork Blacks Fork by a fish migration barrier. The mainstem Blacks Fork is also geographically separated from the West Fork Blacks Fork.

Since the primary impact of grazing on aquatic habitat in the WFBF Allotment is at stream crossings where sheep trail and cross during grazing, the following analysis is provided to quantify the magnitude of this impact. Recreation trailing is also accounted for in this analysis.

Sheep trail up the east side of the West Fork of the Blacks Fork (Personnel communication, Richard Zobell, 11 July 2005). Table 3-24 summarizes crossings as identified on the Red Knob Quadrangle map. Sheep currently cross various side tributaries at 13 locations. They do not cross the mainstem while trailing.

Table 3-24. WFBF stream crossings by livestock (WFBF and Ashley NF) and recreation.

	Ashley and WFBF Sheep Herd Trailing		Additional Crossings Used During Grazing		Recreation Users	
Pasture	side tributary	main stem	side tributary	main stem	side tributary	main stem
1	3	0	3	1.5	3	2
2	4	0	3	1.5	0	5
3	3	0	3	1.5	3	0
4a	1	0	0	1.5	1	0
4b	2	0	0	0	2	0
Total	13	0	9	6	9	7

During trailing it is assumed that sheep cross each tributary twice, once going up the drainage and once coming down the drainage. It is assumed that while sheep graze they cross each tributary once. It is assumed that this crossing occurred while trailing into the new unit. If there were additional streams on the west side of the West Fork Blacks Fork these were assumed to be crossed while grazing (three tributaries in each of the bottom three pastures, and none in the upper two pastures, 4a and 4b).

It is assumed that while sheep graze (as opposed to trailing to move from one pasture to the next) they will cross the mainstem an average of 1.5 times in each pasture (Personnel communication, Richard Zobell, 6 July 2005). It is also assumed that sheep use the same crossing as recreationists where the recreation trail crossing occurs in the unit. The sheep cross 1.5 times on a recreation trail in Units 1 and 2 and create their own crossings in Units 3, 4a and 4b. Mainstem crossings between Units 4a and 4b were only counted once since these Units are adjacent to each other. Therefore no mainstem crossings are recorded for unit 4b.

The total number of small tributary crossing points would be 13 crossings for trailing going up the drainage and 13 crossings for coming out of the drainage. While grazing nine additional tributaries crossings would occur and six mainstem crossings would occur. In the fall when the

sheep are trailed out of the drainage over the same crossing points, it is assumed that the impact would be about 50% or half of the initial impact from a single crossing. Thirteen times 0.5 then adds an additional 6.5 crossings of tributaries. Side tributaries would be crossed a total of 22 crossing points plus an additional 6.5 crossings for moving sheep off the allotment for a total of 28.5 crossing impacts. There are 6 mainstem crossings for a total of 34.5 crossings.

It has been observed that each crossing impacts about 30 feet of riparian vegetation and banks (Personnel communication, Richard Zobell, 6 July 2005) or 60 feet of riparian habitat when both stream banks are counted. With these assumptions, each season of grazing, 30 feet of stream is impacted at 34.5 crossing points for a total of 1,035 feet of stream or 2,070 feet of riparian area impacted.

Mainstem crossings typically occur in riffle areas, which are also used by fish for spawning and food production. It is assumed that fish use the whole width of the riffle area for spawning. It is also assumed that the sheep would use the lower two pastures prior to the 15 of August (Personnel communication, Richard Zobell, 6 July 2005) when cutthroat trout eggs hatch out. The total number of mainstem crossing would then be 2 pastures multiplied by 1.5 crossings per pasture for a total of 3 mainstem crossings. The length of a mainstem crossing is also assumed to be 30 feet. With 3 mainstem crossings, all of which occur in reaches 20 and 50 with an average width of 33.8 feet, a total of 3,042 square feet, or 0.07 acres of mainstem spawning habitat are impacted from sheep crossings.

There are 16 total recreational trail crossings. Seven of these are on the mainstem West Fork Blacks Fork. The trail width for recreational trail crossings is assumed to be 10 feet with fewer individuals or stock crossing at a single time. Riparian length would then be 20 feet impacted at each crossing with a total impact from 16 crossings of 160 feet of stream and 320 feet of riparian area. Spawning habitat impacted by recreation in the mainstem would be 7 crossings X 10 feet in length X 33.8 feet wide for a total of 2,366 square feet or 0.05 acres impacted.

For crossings used by both recreationists and sheep it is assumed that if sheep were removed from the Allotment the recreational traffic would continue and the impacted area would shrink down to the 10 feet used by the recreating public. The number of tributary crossings used by both sheep and recreation is three in pasture 1, none in pasture 2, three in pasture 3, one in pasture 4A and two in pasture 4B. Mainstem crossings used by both sheep and recreation are 1.5 in pastures 1 and 2. The duplicate impact on the tributaries and the mainstem is therefore 10 feet of stream multiplied by 12 crossings or 120 feet of stream. With riparian areas and banks on both sides of the stream, 120 feet of stream or 240 feet of riparian would be double counted. Impacted spawning habitat being double counted then amounts to 3 crossings multiplied by 10 feet in length multiplied by 33.8 feet in width for 1,014 square feet or 0.02 acres of spawning habitat being impacted by both recreation and sheep.

It is assumed that once a herd goes up the drainage a second herd would have minimal new impact.

3.2.6.1 Alternative A - No Grazing

Direct and Indirect Effects

There would be no impacts to the streams and their associated riparian areas from WFBF permitted grazing since there would be no grazing. Spawning habitat would not be impacted by grazing or trailing if there were not sheep on the Allotment. The condition of these stream banks would improve as livestock were removed from the Allotment. Greenline vegetation would improve at livestock crossing points used during grazing.

Although no amphibians or mollusks have been specifically surveyed for in the West Fork Blacks Fork it is suspected that both could be found in the drainage. Boreal toads and chorus frogs are found in the Mill Creek Drainage just west of the Blacks Fork Drainage. Mollusks are also found on the North Slope of the Uinta Mountains. These species may exist therefore in the West Fork Drainage. The elimination of grazing may therefore provide less direct and indirect impact to them.

Where livestock no longer use those areas and in the absence of natural disturbances, greenline vegetation would trend towards the potential of the site providing aquatic and semi-aquatic species habitat and cover. Existing impacts to natural integrity of these habitat areas would be gradually restored except where they continue to be impacted as described below in cumulative effects. These impacts on natural integrity are relatively minor in the context of impacts described below.

Cumulative Effects

Analysis Area: The analysis area for aquatic and semi-aquatic species will be the West Fork Blacks Fork. The Middle Fork Blacks Fork and the East Fork Blacks Fork are significantly far enough from the project are that they are believed to have little influence in impacts in the West Fork Blacks. The Little West Fork Blacks Fork is separated from the West Fork Blacks Fork by a fish migration barrier. The mainstem Blacks Fork is also geographically separated from the West Fork Blacks Fork.

Existing activities not related to the grazing of the West Fork Blacks Fork Allotment would continue. The ecological effects include those resulting from natural processes, and past and ongoing management activities such as forest roads, fisheries management, and recreation. It is difficult to predict effects to aquatic resources over the short or long term, whether direct, indirect, or cumulative, due to natural processes that operate on aquatic resources at this spatial scale (drought, wildfire, and flood) but generally these conditions are expected to improve.

Certain natural processes (as contrasted with management activities) have the potential to result in effects to native trout in addition to those described above, both negative and positive. Future avalanches across the drainage along with the associated adverse and beneficial effects (debris and scouring) to the stream channel and stream banks are expected to continue. Inputs of large woody debris from slides are also likely to continue resulting in improved habitat conditions

through the forming of resting pools and instream habitat. Generally the destabilization of the channel outweighs the beneficial recruitment of large woody debris.

Historic tie-hacking impacts will continue to be felt as stream channels progress to a new equilibrium. These railroad ties were floated down the stream to the railroad. Channel deepening and clearing of obstructions occurred during this era. Tie hacking drives in the early 1900's undoubtedly had a major effect on the channel morphology including sinuosity, bank stability, width to depth ratio, pools per mile, and large woody material. These changes have influenced the equilibrium of the stream system. With these activities removed, the system is slowly adjusting back to natural conditions, and recovery may take many more years (Wasniewski 2000).

Future timber harvest in the drainage on National Forest Lands is expected to have minimum impacts to aquatic resources as updated standards and guidelines and best management practices are applied. Harvest on private lands will continue to be a concern with fewer constraints being applied. The transfer of private lands into public ownership should provide additional protection to aquatic resource.

Impacts at 13 tributaries crossings as sheep move to and from the Ashley National Forest (ANF) will continue with the impacts from moving off the forest counting half as much because of the existing impact from the movement on. The total crossings would then be 13 + 6.5 or 19.5 crossings. Each crossing will continue to impact 30 feet of stream and 60 feet of riparian habitat and bank at each crossing. Recreationists and their livestock would continue to use the recreation trail. The Ashley sheep herd uses nine of these 16 trail crossings of streams. Under this alternative 490 feet of stream channel would continue to be impacted by the Ashley sheep and recreational trail users (Table 3-24). This would amount to 980 feet (0.28% of total) of perennial stream riparian habitat being impacted. 2,366 square feet of spawning habitat would continue to be impacted from recreational crossings on the mainstem West Fork Blacks Fork. Stream bank conditions would be expected to improve slightly at these sites as fewer sheep are trailed without the WFBF herd.

Access roads used by sheep and recreational users will continue to deliver sediment and provide the means of increasing public use in the area. Forest Development Road 063 parallels the stream channel from the ford crossing at the main West Fork Blacks Fork Trailhead. A trail there leaves the road and leads to Deadhorse Lake. Lower in the drainage, the road fords the WFBF and parallels the river up to the wilderness boundary. The road crosses numerous channels draining off the east slope and dissects two meadows. The amount of sediment this road produces to WFBF is unknown. The current Evanston and Mountain View Travel Plan identifies the upper 1.5 miles of road for closure and reclamation. The rest of the road is identified for maintenance and improvements to drainage. Once this work is completed any impacts to CRCT from road sediment should be reduced.

Non-native fish that are naturally reproducing in the drainage will continue to make it more difficult to manage for native fish. Past introductions of brook trout and Yellowstone cutthroat trout are continuing to have impacts to CRCT. Brook trout are established in the drainage and influence CRCT populations through predation and competition. This population of brook trout

will likely continue to expand and likely represent the greatest threat to CRCT in the West Fork of Blacks Fork. Yellowstone cutthroat trout have likely interbred with the CRCT population, although the amount of cross breeding with Yellowstone cutthroat trout is unknown.

Amphibians and mollusks may continue to be directly and indirectly impacted by the other activities that occur in the drainage as the Ashley sheep bands and people move up and down the drainage or predation occurs from non-native fish. The potential for mortality outside the trail corridor however should be greatly reduced with the elimination of grazing in the drainage.

Recreational use in the drainage including ATV use dispersed camping etc. should have a minimal impact as long as existing regulations are followed. Traffic will be held to existing routes that should be maintained to standards. Dispersed camping should be conducted to existing direction.

The cumulative effects of the various factors described, especially historic tie hacking and stocking of non-native fish, on natural integrity are somewhat high.

Table 3-25. Estimated impacts on stream channel, riparian, and spawning habitat.

		Alternative		
		Alt. A No Grazing	**Alt. B. Graze Pastures 1-3**	**Alt. C Graze Pastures 1-4**
Stream Channel Length Impacted By:				
Recreational Trail and Ashley Sheep Herd Trailing	(feet)	490	490	490
WFBF Sheep Herd Trailing and Grazing	(feet)	0	375	450
TOTAL	(feet)	490	865	940
Riparian Length Impacted By:				
Recreational Trail and Ashley Sheep Herd Trailing	(feet)	980	980	980
WFBF Sheep Herd Trailing and Grazing	(feet)	0	750	900
TOTAL	(feet)	980	1,730	1,880
Spawning Area Impacted By:				
Recreational Trail and Ashley Sheep Herd Trailing	$(feet)^2$	2,366	2,366	2,366
WFBF Sheep Herd Trailing and Grazing	$(feet)^2$	0	2,028	2,028
TOTAL	$(feet)^2$	2,366	4,394	4,394
Total Perennial Stream Length in the Allotment	(feet)	176,591	176,591	176,591
Percent Impacted		0.28%	0.49%	0.53%
Total Perennial Stream Riparian Length in the Allotment	(feet)	353,182	353,182	353,182
Percent Impacted		0.28%	0.49%	0.53%

3.2.6.2 Alternative B - Discontinue Grazing Units 4a and 4b

Direct and Indirect Effects

Units 4a and 4b:

Impacts to Units 4a and 4b would cease from the WFBF sheep herd. Impacts from 4.5 tributary and mainstem trailing and grazing crossings would no longer occur. This would eliminate the impacts to 150 feet of stream and 300 feet of riparian habitat from the WFBF sheep. Impacts to amphibians and mollusks that may currently exist would be eliminated in these units.

Units 1-3:

There would be 200 less ewes and their lambs in this Alternative, however no measurable reduction in impacts at stream crossings is expected because of the compaction from the remaining 875 ewes and their lambs. Impacts to the tributaries crossed and grazed by sheep in these units would continue as described for current. These include the direct impact to the 375 feet of stream and 750 feet of riparian vegetation and stream banks. There would be a total of 28.5 crossings. Ten crossings would occur in trailing the sheep up the drainage. An additional 5 crossing impacts occur from trailing the sheep down the drainage. The impacts from these crossings are in addition to impacts from the Ashley sheep trailing and the recreational trail impacts. Impacts would also occur in pastures one and two to 4,394 square feet of spawning habitat. Existing impacts to natural integrity of these habitat areas would continue, however these are relatively minor in the context of impacts described in cumulative effects. Impacts to amphibians and mollusks that may currently exist would continue in these units. These impacts may be direct as individual animals or egg masses are stepped on or indirect as vegetation is removed around ponds increasing sun exposure and reduced hiding and escape cover.

Cumulative Effects

Same as cumulative effects described for Alternative A (effects from roads, fisheries management, and recreation) with the addition of the trailing and grazing impacts described above for units 1-3.

With the Ashley sheep herd continuing to trail to and from the Ashley through pasture 4a and 4b, 4.5 crossings would occur. A total of 865 feet of stream habitat will be impacted in this Alternative (Table 3-25). A total of 1,730 feet of riparian habitat (0.49% of the total in the Allotment) associated with perennial streams will be impacted. There will be a total of 4,394 ft^2 of spawning habitat impacted by this Alternative.

3.2.6.3 Alternative C - Proposed Action

Direct and Indirect Effects

Adverse impacts to 450 feet of stream and 900 feet of riparian vegetation and banks would continue to occur from trailing and grazing the allotment. The condition of these stream banks would not improve as livestock continue to graze the Allotment. Greenline vegetation would

remain the same on these impacted areas. A total of 2,028 square feet of Colorado River cutthroat trout spawning areas potentially containing eggs, would continue to be impacted by the sheep. Direct impacts could occur as eggs that are found in the streambed gravel are crushed and killed. Aquatic insects could also be crushed or displaced.

Indirect impacts include sediment generated from the crossings drifting downstream onto spawning gravels. This silting in of the spawning beds can suffocate eggs causing indirect mortality. Silting in of substrate can also shift aquatic insect communities to more sediment tolerant species. Typically these are smaller individuals causing fish to expend more energy for the same amount of biomass.

Impacts to amphibians and mollusks that may currently exist would continue in these units. These impacts may be direct as individual animals or egg masses are stepped on or indirect as vegetation is removed around ponds increasing sun exposure and reduced hiding and escape cover.

Existing impacts to natural integrity of these habitat areas would continue, however these are relatively minor in the context of impacts described below.

Cumulative Effects

Same other ongoing activities as described in Alternative A. The stream channel and banks would remain in an impacted state as two bands of sheep and recreation traffic continue to trail up and down the drainage. A total of 940 feet or 0.53% of the total perennial stream channel would be impacted with the effects of the WFBF herd combined with effects of the Ashley herd and recreation trail stream crossings (Table 3-25). A total of 1,880 feet of perennial stream bank vegetation will be impacted (0.53% of the total) up the drainage (Table 3-25). 2,028 square feet of spawning habitat impacted from the WFBF herd would be in addition to the 2,366 square feet impacted by the Ashley herd and recreation users for a total of 4,394 square feet of spawning habitat impacted. The remainder of the cumulative impacts are as described under Alternative A.

3.3 Issue 3: Wilderness

There are concerns that damage caused by domestic sheep grazing (specifically to watershed and wildlife habitat) is not in keeping with wilderness qualities (wild, natural) envisioned by the Wilderness Act and Congress when the area was designated.

As noted in Chapter 1 under Non-Significant Issues, The Utah Wilderness Act states “there shall be no curtailment of grazing permits or privileges in an area simply because it is designated as wilderness.” Therefore Congress did not intend that livestock grazing be viewed as inherently “not in keeping” with wilderness qualities. In addition, Section 303 of the Utah Wilderness Act of 1984 noted that recreation conflicts alone would not be the determining factor in the removal of livestock from those newly established Wilderness Areas…” (RFP 2003, Appendix B9-3). However, numerous comments on scoping included concerns about livestock grazing effects on wilderness values. Therefore, this analysis addresses wilderness values through examination of effects of the proposed action and alternatives on wilderness attributes. These are generally

categorized as: natural integrity of the environment, apparent naturalness, opportunities for challenging and primitive recreation, feelings of remoteness and solitude, and special features or attractions such as unique ecological, geologic, scenic or historical/cultural elements. For this analysis, effects on these wilderness attributes are encompassed by the effects described for other issues as follows.

Wilderness Indicators:

- Natural Integrity
- Apparent Naturalness
- Remoteness
- Solitude
- Primitive Recreation Opportunity
- Special Features

3.3.1 Natural Integrity

Natural integrity is a measure of whether the long-term ecological processes of the area are intact and operating, and the extent to which human influences have altered natural processes away from what one would expect without those impacts. Effects on natural integrity are addressed in Issues 1 and 2. In Issue 1 interactions between vegetation community types, soils, riparian areas and watershed functioning are discussed in relation to reference conditions. Potential effects, both historic and current, on these conditions are addressed. In addition, ecological processes include interaction of terrestrial and aquatic wildlife with each other and the physical environment. These effects are discussed in Issue 1 (with regard to the role of pocket gophers) and in Issue 2 Native Wildlife and Fish Habitats. Condition of habitats, diversity of species, and potential effects, both historic and current, on these are addressed.

3.3.2 Apparent Naturalness

Apparent naturalness is a measure of past and proposed activities on the appearance of naturalness of the area to the casual observer. The extent of modification of the environment from a management activity and how apparent that impact will be to visitors, both long and short-term is addressed as an effect on this wilderness attribute. Effects include those that are seen, heard, and/or smelled. Effects on apparent naturalness are addressed in Issue 3 Recreational Experiences

3.3.3 Remoteness

Remoteness is a measure of distance from sights and sounds of civilization. It is described as the degree to which a visitor will experience a setting that is removed from civilization. Effects on remoteness are addressed in Issue 3 Recreational Experiences.

3.3.4 Solitude

Solitude is experiential and is the isolation from the sights, sounds, and presence of others and from the developments and evidence of man. Size of the area, presence of screening, distance from impacts, and degree of permanent intrusions are factors affecting solitude. Effects on solitude are also addressed in Issue 3 Recreational Experiences.

Opportunities for **Primitive Recreation** is a measure of the experiences available to be isolated from the evidence of man, to feel a part of nature, to have a vastness of scale, and a high degree of challenge and risk while using outdoor skills. These activities do not require improvements or facilities for comfort or convenience and are characterized by meeting nature on its own terms. Effects on Primitive recreation opportunities are address in Issue 3 Recreational Experiences.

3.3.5 Special Features

Special Features is an attribute that recognizes that wilderness may contain other values of ecological, geologic, scenic or historical or cultural significance. Unique fish and wildlife species, unique plants or plant communities, outstanding landscape features, and significant cultural resource sites are special feature values that may be associated with wilderness. Effects on fish and wildlife (with Colorado Cutthroat Trout as a special feature) are addressed in Issue 2 Native Wildlife and Fish Habitats. Rare plants are addressed in Chapter 1 under the heading Resource Concerns. Landscape features are described in Issue 3 Recreation Experiences. No significant cultural resource sites have been identified within the Allotment (see Non-Significant Issues in Chapter 1).

Manageability is a measure of the ability to manage an area to protect and manage natural character. This attribute is addressed in Issue 3 Recreational Experiences through descriptions of the progression of effects of grazing on the various grazing units within the Allotment from low to high elevations.

3.4 Issue 4: Recreation Experiences

There is concern that the sights, sounds, and effects of domestic sheep grazing are affecting the recreation experiences available within the Allotment area, including recreation opportunities associated with wilderness attributes.

Recreation Experience Indicators:

- Primitive Recreation Opportunity
- Challenge

3.4.1 Recreational Use

Current Situation

The West Fork Blacks Fork Allotment contains a portion of the High Uintas Wilderness (HUW) that lies within the upper West Fork Blacks Fork (WFBF) drainage. There are about 12,000 acres of Wilderness in units 2, 3, and 4 of the Allotment.

The WFBF portion of the HUW is a very picturesque valley. The drainage is unique when compared to other North Slope drainages within the Wilderness. It has a relatively open, flat valley bottom with long open meadows that follow the drainage most of the way to the upper

headwall of the drainage. The main access trail (#101) either threads its way through these meadows or stays just inside the trees along the borders. During the majority of one's passage through this drainage, the mountain peaks along the valley sides and those that form the head wall of the drainage, are in full view.

The WFBF is served by three maintained system trails:

1. WFBF Trail #8101 provides access from the WFBF Trailhead to Dead Horse Lake.

2. High Line Trail #8102 provides access from the Ashley National Forest side from across Red Knob and Dead Horse Passes to Dead Horse Lake.

3. Bear River-Smiths Fork Trail #8091 does not enter the Wilderness but provides access from the adjacent drainages into the WFBF approximately one and a half miles below the wilderness boundary.

Access to the WFBF Trailhead is over 20+ miles of dirt/gravel roads, which are quite rough. This is probably the major contributing factor in controlling the number of visitors to the WFBF.

At the trailhead is a registration box for visitors; registration is voluntary. Some of the information gathered from the registration box is approximate numbers of visitors for that year, when they visited, where they come from, how they are traveling, where they are camping, and some comments if they want to leave any. The following information is based on the data we gathered from the registration box from the last seven years (1996 is missing).

Table 3-26. Annual recreation visitors.

Year	Number of Visitors
1994	128
1995	126
1996	?
1997	242
1998	194
1999	283
2000	?
2001	223
2002	193
2003	263
2004	225

The majority of visitors are hikers from the Salt Lake metro area. Registration cards show that less than 10% of the visitors use horses. We can assume that the average visitor in this area is from an urban background with limited experience around livestock including sheep.

Typical use patterns indicate an average group size of around 3 people. On any given week day, between mid July and mid August, there will be 2 to 3 groups visiting the area (6 to 9 people). The last three weekends in August and Labor Day weekend will usually see 5 to 7 groups visiting the area (15 to 21 people).

The majority of visitors can be found along the established foot trails or around lakes containing fish. Other than the streams, there are only two fishable lakes in the area (Dead Horse and Ejod Lakes). There is a stand of timber growing along the north and an east shore of Dead Horse Lake; Ejod Lake is completely above tree line. As such, most visitors will locate their camps around Dead Horse Lake.

It is our experience that visitors, unless asked face to face, for the most part will only add comments to the registration cards when they have seen or experienced something they don't like. Of the 35 registration cards for 1998, only 8 contained written comments. Five of these were negative towards sheep and one was positive. The other 2 did not mention sheep (they were there at the same time) and commented positively towards their experience. This was not a scientific survey.

A survey conducted by Colorado State University (Johnson et al.) found that "..... the proportion of visitors who accepted livestock grazing in wilderness (43%) was similar to the proportion that considered grazing to be unacceptable (40%). Three-quarters of those who accepted grazing, however, predicated their approval on proper management to protect rangeland ecosystems. A majority of the wilderness visitors surveyed reported that direct encounters and livestock impacts detract from a wilderness experience."

This same survey also found "..... that livestock seen in the distance impact visitors considerably less than livestock encounters close to visitor use areas. Findings also indicate that the presence of cowboys or sheepherders detracts far less than encountering livestock in high-use or riparian areas. This suggests that grazing will be more acceptable to wilderness visitors if riders are used often enough to prevent livestock from congregating and to keep them away from visitor-use areas."

The impacts to one's recreation experience from sheep grazing increase the longer a wilderness visitor has to tolerate the direct impacts of sheep grazing (traveling and camping), and the proximity of the impacts to the campsite. In other words, the impacts to wilderness experience is slightly less if the impacts are experienced in a limited area and a substantial distance away from where the most concentrated time will be spent such as around the campsite.

3.4.2 Wilderness and Back Country Recreation Experience and Values

A backcountry or wilderness recreation experience can be a very individual thing quite often meaning very different things to different people. It's a combination of physical experiences and internal feelings the experience conjures up. It is complicated and very subjective.

In this analysis the following back country/wilderness recreation attributes that influence or make up what this experience is were considered: environment, challenge, outdoor recreation opportunities, special features, and manageability.

1. Environment (apparent naturalness, remoteness, solitude): The degree to which an area provides visitors with the opportunity to gain a wide range of experiential benefits such as a feeling of solitude and serenity, a spirit of adventure and awareness, and a sense of self-

reliance. The degree to which an area is natural or appears to be natural and free from disturbance so that the normal interplay between biotic species inhabiting the area continues.

2. Challenge: The degree to which the area offers visitors the opportunity to experience adventure, excitement, challenge, initiative, or self-reliance. The most desirable area offers many outstanding opportunities for adventure and challenge.

3. Primitive Recreation Opportunities: The area's capability of providing primitive and unconfined types of recreation such as camping, hunting, fishing, backpacking, hiking, riding, photography, and other outdoor activities.

4. Special Features: The area's capability to provide outdoor education and scientific study, both formal and informal, as well as special landscape or scenic features.

5. Manageability: The ability to manage an area as an enduring resource of wilderness, untrammeled by man, retaining its primeval character, and to protect and manage its natural character.

Basically all units except the rested half of Unit 4 in the Allotment within the wilderness have sheep grazing in them at some time during the summer season starting in the lower unit and ending in the upper unit. The "current situation" as far as back country or wilderness experience is concerned, changes as the season progresses and the sheep are moved from unit to unit. This complicates describing the situation which changes with timing and location within the Allotment area in a given year. The grazing season also coincides with the time of year most wilderness visitors will be in the WFBF.

Since the number of visitors at this time is not a significant impact to the wilderness resources of this drainage, the one thing that impacts some of the visitor's opportunity to experience those elements making up the wilderness attributes is the grazing of domestic sheep. Those characteristics that make this drainage unique and very scenic, also contribute to the conflicts between various wilderness user groups. The size and shape of this drainage confines the sheep during much of their grazing season to the valley bottom where the large meadows are located and where the foot trail is also located. When the sheep do get away from the foot trails, many times they can be found on the benches in the upper drainage. Dead Horse Lake has only a narrow screen of timber in which most visitors camp. One of these open benches is directly behind the lake. With the open terrain, the sight, sounds, and smells of a band of sheep are quite evident from some distance during those periods the sheep are in the vicinity.

July 8 through July 30 - Typically the sheep will be grazing in unit 1 for 23 days. This entire unit is outside of the wilderness so during this period there are no sheep within the wilderness. This period also represents approximately 33% of the recreational use season. In 1998, in any one day during this period there were 2 to 3 groups in the area totaling 6 to 9 people. Actually from July 8 through July 17 there were no wilderness visitors.

July 31 through August 17 - The sheep have now entered unit 2 for approximately the next 18 days. This period represents approximately 26% of the recreational use season. This is the

lowest unit in this drainage that is within wilderness. In 1998, there were 8 days with no wilderness visitors; on the other days there were at most two groups in any one day. On those days there were wilderness visitors, there was an approximate total of 4 people per day.

August 18 through August 31 - The sheep have now entered unit 3 for approximately the next 14 days. This period represents approximately 20% of the recreational use season. Recreational use has picked up. In 1998, there averaged 3 groups per day on weekdays and 6 groups on weekends. This meant there were approximately 9 people in the area on weekdays and 12 on the weekends.

September 1 through September 13 - The sheep have now entered half of unit 4 for approximately the next 13 days. This period represents approximately 19% of the recreational use season. Recreational use is approximately the same as the period just before this one.

3.4.3 Current Situation - Effects on Recreational Experience and Values

1. Environment (Apparent Naturalness, Remoteness, Solitude): As one travels up through the meadows, while the sheep are in unit 1, the towering peaks, the vastness of the drainage open to your senses can very much add to the feeling of being alone and being very much on your own. The scale of the mountain peaks and the length of the valley can very well cause feelings of being only a very small and insignificant part of the valley. The spirit of adventure only increases as you make your way up through the meadows and close the distance to the top of the drainage in anticipation of what you might find there.

As the sheep move up into the higher units that are in the wilderness, we start experiencing impacts to those elements of "environment". While the sheep are in unit 2, these impacts are slightly less critical than when the sheep are in units 3 or 4. The visitor would experience the direct impacts of grazing sheep (vegetation removal, trailing, vegetation trampling, smells and sounds of sheep) for the first two miles (approximate) after entering the wilderness. A typical hiker will be through this unit and beyond the impacts in approximately one hour as they continue towards Dead Horse Lake that is more than five miles away from the sheep. The feeling of solitude will return as the serenity surrounding the lake is reached.

As Unit 3 is reached, the impacts to feelings of solitude, serenity, and the spirit of adventure become more lasting. This Unit is only just over an hour away from Dead Horse Lake and even though the sheep have moved out of Unit 2, the direct impacts of manure, smell, and multiple trails are still quite evident. The serenity around Dead Horse Lake has not been directly impacted but the hike through the two lower Units with direct impacts still quite evident will have an indirect impact on feelings of solitude, spirit of adventure, etc. The effects of this do not have much time in which to "wear" off before the visitor reaches Dead Horse Lake and sets up camp.

The sheep have now entered either Unit 4A or Unit 4B. Unit 4A contains Dead Horse Lake where most wilderness visitors camp at while in this drainage. To reach this lake, the hiker will have traveled approximately 8 miles through country that has been grazed by sheep and now the sheep may be in close proximity to the lake having direct impacts to feelings of solitude and

serenity. Perhaps the impacts from grazing sheep have diminished in unit 2 by now. It depends on how much rain in the mean time has had a chance to "wash" away some of the effects. The sheep are now in a place where they can have a direct impact on one's campsite. This is probably the time when most visitors are impacted the most by grazing sheep. However, the herd is not held tightly in close proximity of Dead Horse Lake during the entire time Unit 4B is being grazed. There is a substantial bench of high meadows north of the lake. Every two years this unit is rested from sheep grazing for two consecutive years. During those years of rest, visitors are impacted the least by grazing sheep.

Unit 4B has a substantial meadow perched on a bench just across the drainage from the lake just below Red Knob Pass on which the sheep will spend a good portion of time allotted for Unit 4B when they are scheduled to graze that unit.

The degree to which the drainage appears natural and free from disturbance also changes as the season progresses as described above. The physical evidence of manure, multiple trails, tracks, etc., are left behind even as the sheep move on to the next unit. It is hard for a visitor not to perceive that grazing sheep have affected naturalness with disturbance from trailing and grazing. From year to year most traces of these impacts are "washed" away, however, during any particular year the evidence will linger throughout the season especially in those areas where the sheep concentrated for any amount of time (salting and bedding grounds especially).

2. Challenge (an Element of Primitive Recreation Opportunities): This is very subjective to those individuals who have experienced the WFBF. The trail is not steep or difficult to travel. A typical visitor can cover the distance between the trailhead and Dead Horse Lake within a day. There are some wet areas that are a challenge to cross but for the most part this is not normally the type of challenge one seeks when entering a wilderness. The drainage is narrow enough to make the potential for one to get lost almost impossible. There are no grizzly bears to worry about or rapids to float. You don't have to scale any mountains if you don't want to. However, as one walks through the open meadows and views the tall peaks on both sides and at the drainage top, the average hiker probably would have some degree of feeling quite small and "on their own". The WFBF does contain a certain amount of opportunities for challenge on which to build a sense of adventure.

Most of the challenge in the WFBF is associated with exploring those small areas not frequented by other visitors, climbing to the top of Red Knob or Dead Horse Passes, or catching fish out of the lakes or streams. These challenges are still there regardless of sheep grazing although they may not be as enticing if a herd of sheep is in the neighborhood. To some visitors, a herd of grazing sheep and the sheepherder adds a little of the "old west" to their experience.

3. Primitive Recreation Opportunities: Opportunities abound in the WFBF. The openness of the valley bottom invites visitors to get off the trails and to explore all the edges of the meadows. The meandering stream provides unlimited fishing opportunities and the open scenery provides excellent photography shots.

The WFBF is a destination for many hunters. Elk, moose, and deer can be found within the drainage. The majority of hunters come to hunt elk. While there is a good number of elk in the

drainage, they tend to be sensitive to human related activities and will avoid areas where these are occurring. In an area with unconfined hunting opportunities, successful hunters will usually only have to consider the habits of elk, desirable habitat, normal responses to hunter movements, etc. However, in the WFBF, they must also consider the influence the sheep will have and some of these influences may last for a time after the sheep have left an area.

While the sheep are confined to Unit 1, all the primitive recreation opportunities in the Wilderness are intact and not impacted by the sheep.

Once the sheep have entered Unit 2, most visitors will not locate campsites where active sheep grazing is occurring and will move on through the Unit to get beyond the sheep herd. Those primitive recreation opportunities to be isolated from the evidence of man in this Unit during this period are significantly reduced.

After the sheep enter Unit 3, some of the primitive recreation opportunities will return to Unit 2. Some visitors may linger as long as there is not a herd of sheep around. Many of the visitors still may be reluctant to linger very long or set up an overnight camp because of some of the impacts left as the sheep moved on. Those primitive recreation opportunities in Unit 4 are still intact at this time.

The most direct impacts to primitive recreational opportunities under current grazing management (Proposed Action, Alternative C) happen when the sheep are in Unit 4A. This is where a majority of visitors will spend most of their time in one place. This is where the majority will set up camp for at least one night. They have time to roam around, do some fishing, take a day hike, and do some photography on the open bench just north of the lake. The enticement to do these activities is substantially reduced when a large herd of sheep is in close proximity. Every two years this unit is rested from sheep grazing for two consecutive years. During those years of rest, there is no direct impact by grazing sheep within the rested unit.

While the sheep are in the WFBF, an early hunt such as the bow hunt will be the only hunt really affected. This will happen in September while the sheep are in either Unit 4A or Unit 4B.

4. Special Features: The outstanding and unique landscape feature of the WFBF is the open vistas one has throughout most of the way up through the drainage. This is probably the most commented on feature of this drainage. Another feature is the open high bench just north of Dead Horse Lake. It affords campers outstanding opportunities for unobstructed views of surrounding peaks especially in evening and morning hours that are within a very short walk of popular campsites. To the average visitor, the spectacle of the open meadows and the nearness of the tall mountains on all sides provides an experience all its own.

When undisturbed, there are many opportunities to study wildlife in the open meadows in the valley bottom and in the treeless upper basins. While there are many species of wildlife that will not leave an area after a herd of sheep move in, larger big game species such as elk, will move out of the immediate area and may return only after some time has lapsed since the sheep left and some of their impacts have washed away.

While it is frustrating to some wilderness visitors to not see big game on the way up through the drainage, it is more so during that time the sheep are in Unit 4A/B. This is the time wilderness visitors have set up camp and have time to do some looking. To see a high meadow filled with sheep instead of elk can be disappointing to some visitors.

It may be quite a challenge to view an area as being "uncontrolled by man" to achieve solitude while traveling through a band of sheep or having them grazing just in back of your campsite. The sight, sound, and smell are very much a result of man's control.

Although the area within 200 feet of Dead Horse Lake is closed to livestock grazing, because of terrain, there is little else that can be done to reduce direct conflicts between recreation visitors and grazing livestock in this Allotment.

3.4.4 Effects on Recreation Experiences

3.4.4.1 Alternative A - No Grazing

Direct and Indirect Effects

Adverse impacts (described above) to recreational experiences would be greatly reduced; some adverse impacts would continue by the Ashley N.F. trail herd as they trail onto the Ashley N.F. in early summer and then again as they trail home in the fall. This herd would spend about 1.5 days trailing across the allotment in the early summer and then in the fall they would usually cross through the Allotment without over-nighting.

It is highly speculative but elimination of grazing in this drainage may attract more visitors seeking areas of wilderness where they wouldn’t be subject to the effects of domestic livestock grazing. However, we have not seen evidence of this occurring in the High Uintas Wilderness. Domestic livestock grazing was eliminated on several allotments on the far eastern end of the Wilderness in the late 1980’s prior to the reintroduction of bighorn sheep in 1989 to the Beaver Creek and Burnt Fork drainages. Visitor use is calculated using figures from a voluntary registration sheet at the trailheads and from field observations. Figures from the 1990 season are the earliest we can find in the files, however, the trend in use from 1990 to 2004 doesn’t show a significant growth in 14 years (Burnt Fork actually shows a decrease in use) that one can attribute totally to the elimination of domestic livestock grazing or that would contribute a significant increase to the local economies because of this one management change.

	Burnt Fork	West Beaver	Middle Beaver
# Visitors 1990	52	157	118
# Visitors 2004	48	172	139

Cumulative Effects

Analysis Area: The cumulative effects analysis area is the High Uintas Wilderness area within the allotment. There are about 12,000 acres of Wilderness in units 2, 3, and 4 of the Allotment.

Trailing by the Ashley sheep herd could impact the recreational experience in early summer and then again as the sheep trail home in the fall. This would occur if wilderness visitors were in the area at the same time the sheep are trailing. Effects of seeing the additional sheep (1300 ewe/lambs or 1500 dries) would be relatively minor and short-term since the herd would spend about 1.5 days trailing across the allotment in the early summer and then in the fall they usually cross through the Allotment without over-nighting.

There is some other evidence of past human occupation within the Wilderness. In the late 1800 s and very early 1900s, timber was cut and shaped into railroad ties here. Cabins were built and roads constructed throughout what is now designated wilderness. Many of these cabins can be found, but most are in advanced stages of ruin and will be allowed to continue to do so. The roads are almost hidden by trees that have grown back in. The West Fork Blacks Fork Trail follows some of these old road alignments. To many visitors the old cabins and grown-in roads actually lend character and do not detract from the solitude characteristics for the most part.

A fire closure for all open campfires within ¼ mile of Dead Horse Lake was implemented in 2006. Adherence to this restriction has not been immediate; however, over time with education and regulation enforcement the benefits from eliminating wood cutting/gathering, fire ring construction, and the production of ash and charcoal thus some of the visual impacts of human visitation will become less evident.

The roughness of the roads leading to the West Fork Blacks Fork Trailhead helps reduce the complexities of managing this area as an enduring resource of wilderness as far as density of wilderness users is concerned. If the roads were maintained to higher standards, there definitely would be heavier use by hikers/hunters/riders than there is presently. This is not a factor affected by the decision to be made from this environmental analysis.

3.4.4.2 Alternative B - Discontinue Grazing Unit 4

Direct and Indirect Effects

Adverse impacts to recreational experiences would be reduced in Unit 4; some adverse impacts would continue in Unit 4 by the Ashley N.F. trail herd as they trail onto the Ashley N.F. in early summer and then again as they trail home in the fall. This herd would over night in Unit 4 when trailing across the allotment in the early summer. When they trail home in the fall, they would usually spend less than a half of a day in Unit 4.

Cumulative Effects

Same as Alternative A.

3.4.4.3 Alternative C - Proposed Action

Direct and Indirect Effects

Effects will remain the same as those described above under the current situation. No change is indicated in wilderness experience and values.

Cumulative Effects

Same as Alternative A.

3.5 Issue 5: Economic/Social Values

There is concern that the benefits of grazing this Allotment are limited to a small number of people and that "Rangelands on today's national forest lands have a much broader value than pasture land." Broader values include ecological and recreational. At the same time, there is concern that "public lands grazing permits play an important role in the vitality of the local economy and **any reduction** has significant negative impact on the permittee's ability to continue the livestock operation."

Economic/Social Value Indicators:

- Gross revenue for permittee
- Economic stimulus to Uinta County

Ecological values of the West Fork Blacks Fork Allotment are discussed within the vegetation and soils and native fish and wildlife habitats sections of this document. Recreational values are discussed within the Recreation Experiences section. For a discussion of cost benefit economic analysis see Chapter 1, Non-Significant Issues.

3.5.1 Current Situation

In a 1992 report from the Wyoming Department of Agriculture entitled "Contribution of Federal Lands to Wyoming Range Livestock Production", it estimated that each sheep AUM of USFS or BLM grazing would generate $42.84 of output in the Wyoming economy. This is an average for sheep producers throughout the State of Wyoming. Assuming an average 3% yearly inflation increase from 1992 to 2004, this output could be increased to $59.55 for 2004.

More specific to Uinta County, is a 1995 report from the University of Wyoming, Cooperative Extension Service, by Brett R. Moline where a conservative estimation of the sales by the typical sheep producer using federal lands was $89.73 per ewe. This figure represents the direct effect per ewe on the Uinta County economy; by using a conservative economic multiplier of 1.75 to 2.00, the total economic effect on Uinta County was estimated to be $157.03 to $179.46 per ewe per year. From 1997 data supplied by Carl Larson, the yearly income per ewe can be increased to $109.69. Assuming an average 3% yearly inflation increase from 1997 to 2004, this output could be increased to $ 136.02. However, due to the fluctuating lamb markets, the $109.69 figure will be used for this analysis. Considering the economic multipliers shown above, the economic

effect on Uinta County can be increased to $232.30 to $265.48 per ewe per year. Uinta County's economic stimulus from the year round sheep operation connected with the West Fork-Blacks Fork Allotment would be about $180,000 to $205,000 per year.

3.5.2 Effects on Economic/Social Values

3.5.2.1 Alternative A - No Grazing

Direct and Indirect Effects

Uinta County's economic stimulus from the year round sheep operation connected with the West Fork-Blacks Fork Allotment would be $0 per year.

No sheep AUMs would be produced on the West Fork-Blacks Fork Allotment; the Wyoming economy would receive no economic stimulus from sheep grazing operations associated with this allotment.

Cumulative Effects

Analysis Area: The analysis area is Uinta County and the permittee’s entire operation.

This alternative would remove 1 of the 4 allotments the permittee holds on National Forest System land. Available summer range is generally lacking in southwestern Wyoming. As such, the rancher would have no place to graze the sheep he grazes on the West Fork-Blacks Fork Allotment and his lambing ewe operation would probably have to be reduced by 1075 ewes. From 1997 data supplied by the rancher, the yearly income per ewe is about $110. This means that the rancher would decrease his gross revenues from the year round sheep operation connected with the West Fork-Blacks Fork Allotment by about $118,250 or 100%.

Assuming a total 5,000 lambing ewe operation, the rancher would decrease his total gross revenues by about 22%. This 22% reduction would probably not put the rancher out of business, but it would put additional economic stress on his operation, especially in light of the fluctuating lamb and wool markets. It would probably also mean that at least one of the three families dependent on the sheep operation would have to seek other means of economic support.

Even though reduced by 22%, economic stimulus provided by the rancher's remaining sheep operation to Uinta County would continue to help provide for future community economic stability, but at a reduced capability; if other sources of economic stimulus to Uinta County also dropped significantly, the overall economic well being of Uinta County would be affected.

There would be no economic stimulus to the local or state economy over time from grazing on the WFBF.

3.5.2.2 Alternative B - Discontinue Grazing Unit 4

Direct and Indirect Effects

Uinta County's economic stimulus from the year round sheep operation connected with the West Fork-Blacks Fork Allotment would be about $146,000 to $167,000 per year; this would be a reduction of about $36,000 per year or a reduction of about 19% per year.

The 630 sheep AUMs produced on the West Fork-Blacks Fork Allotment would annually generate about $156,000 output in the Wyoming economy; this would be about $36,000 decrease or about a 19% decrease per year.

Cumulative Effects

The permit would have to be reduced by 200 sheep. Due to the lack of available summer range, the rancher would have to reduce his lambing ewe operation by 200 ewes. This means that the rancher would decrease his gross revenues from the year round sheep operation connected with the West Fork-Blacks Fork Allotment by about $22,000 or 4%.

Assuming a total 5,000 lambing ewe operation, the rancher would decrease his total gross revenues by about 4%. This 4% reduction would probably not put the rancher out of business, but it would put additional economic stress on his operation, especially in light of the fluctuating lamb and wool markets.

3.5.2.3 Alternative C - Proposed Action

Direct and Indirect Effects

Effects will remain the same as those described above under the current situation. No change would be expected in the economic stimulus to Uinta County.

Cumulative Effects

Uinta County's economic stimulus from the year round sheep operation connected with the West Fork-Blacks Fork Allotment would remain about $180,000 to $205,000 per year.

3.6 Short-term Uses and Long-term Productivity

NEPA requires consideration of “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). As declared by the Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive

harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

The Proposed Action for this Allotment will provide for yearly-sustained production of red meat and fiber through the utilization of annual forage production. It provides for the use of the range environment by livestock grazing in coordination with other resource needs and uses. The range and watershed conditions will be maintained and/or improved.

3.7 Unavoidable Adverse Effects

Each Alternative would result in continuing some streambank compaction where the livestock cross the streams; this would continue to occur to some degree even under the no grazing alternative since the Ashley N.F. sheep herd would continue to cross the Allotment. Monitoring provides information and administrative flexibility exists so that the management system, numbers grazed, and season grazed can be altered if additional unexpected environmental concerns are noted through future follow up and evaluation.

3.8 Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line rights-of-way or road.

There is no irreversible and irretrievable commitment of resources associated with the Proposed Action and Alternatives; livestock grazing could be discontinued, including the Ashley N.F. herd trailing. Soil disturbance is attributable to a number of natural causes as well as livestock grazing, however loss of productivity potential is not at issue because Forest Plan standards for ground cover and soil disturbance are expected to be met. Environmental effects of grazing livestock on the WFBF Allotment could be eliminated in the absence of grazing over time.