

1990 LIVESTOCK SURVEY REPORT Bryce Canyon National Park

Introduction

Livestock grazing has affected the natural resources of the area that encompasses Bryce Canyon National Park since the late 1800's. Various impacts on park resources resulting from livestock grazing have continued since the park was established. Although permit livestock grazing in the park was eliminated in 1964 (Scrattish, 1985), gaps in the boundary fence have allowed trespass from livestock on USFS and BLM land bordering a majority of the park's boundary (Figure 1). Records since 1985 show consistent cattle trespass in several sections of the park where fence is either down or non-existent. Most, but not all trespass during this period has occurred along drainages on the east boundary. Since, during years with reduced staff, nothing more than incidental boundary patrols are conducted in the park, many more trespass incidents may have occurred than were reported since 1985, and the problem may be more extensive than realized.

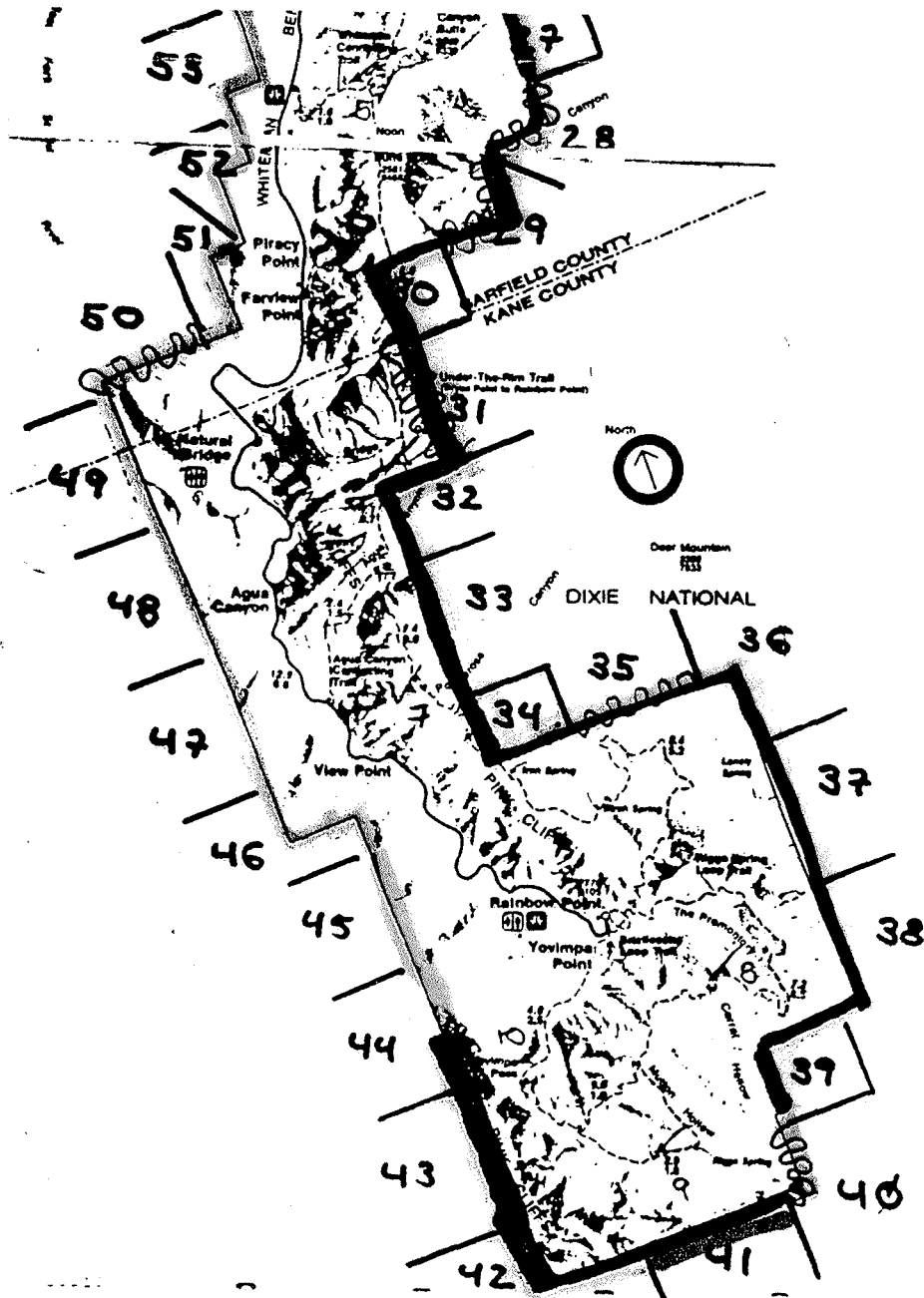
Kane and Garfield County fencing ordinances (Appendix A,B) require livestock to be fenced out of an area, meaning that the park, not the surrounding livestock owners or permitters, is responsible for preventing trespass. Trespass from active allotments, therefore, will not be stopped until the fence is completed. In its present state, the boundary fence is in fair condition at best, resulting in yearly impact by livestock, especially in sensitive areas such as meadows and drainages that by nature are more accessible to livestock.

The 1990 livestock survey effort had three objectives:

- 1 Re-survey the complete boundary for current fence condition
- 2 Repair minor damage to fence at potential trespass areas
- 3 Patrol active grazing allotments at potential trespass locations and document impacts from any new incidents

Methods

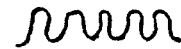
Resource Management and Visitor Protection personnel combined efforts to complete the boundary fence survey and fix sections in need of minor repair. The park boundary was divided into 63 sections, each 1 mile long, for conducting surveys and recording conditions. Sections which included several portions with different conditions were recorded by proportion under each condition. Surveys were conducted along 54 sections of the



KEY

Fence Condition :

	Excellent
	Good
	Fair
	Poor
	Non-existent



Known trespass area

Figure 2. Fence condition and known trespass areas on Bryce Canyon National Park boundary, 1990.

boundary. Time did not permit completing surveys for the remaining 9 sections. Information on the status of these sections (sections 28, 32-39) was assumed to be accurate in previous backcountry patrol reports, and was recorded in this report according to that information.

The condition of each fence section was reported in five standardized categories (Table 1). Minor repairs included fixing loose and broken wires, broken gates and locks, leaning fence posts, and replacing signs.

All trespass incidents were documented, one with photographs, as case incident records. Either park staff or the owners herded the trespassing livestock out of the park, sometimes adding to the impact by using horses.

Results

Using a total of 25 person-days of work, two of the three objectives for this survey were accomplished. The fence survey was completed, minor repairs were made, but time did not allow for regular patrolling of active grazing allotments.

The boundary survey revealed that of approximately 63 miles of boundary, only 38% (14 miles) is fenced with fence in good or excellent condition. Approximately 30% of the boundary (18.75 miles) is fenced with fence in fair or poor condition. The remaining 32% of the boundary (20.25 miles) is not fenced. Table 1 describes the condition of each section. Figure 2 illustrates this on a map and includes known trespass areas. A more detailed description of condition and repairs made of each section is available from the Boundary Patrol Worksheets in the Visitor Protection office. It should be noted that several different fence sections had wires unexplainably cut, and several "cowboy gates" (a wire and wood post gate in place of a fence section) had been fashioned along the fence (sections 17, 22, 24, 41, 57), most of them found open. The overlay backcountry map in the Visitor Protection office showing fence condition has been updated to represent 1990 status.

All trespass incidents since 1985 are listed in Table 2. Most trespass incidents and impact sign involve cattle. In late August, a series of sheep trespass incidents occurred near the north entrance to the park. Although the owners were contacted and did make an attempt to retrieve the sheep, the trespass occurred intermittently through September.

Recommendations

Having a well-fenced boundary around the park, at least across sections accessible to livestock, is needed to protect the natural and aesthetic resources of this park, since grazing pressure will continue on public lands bordering most of our boundary.

Table 1. 1990 Status of Boundary Fence at Bryce Canyon National Park.

Section #	Excellent	Good	Fair	Poor	Non-existent
(T) 1	X				
2	X				
3	X				
4		X			
5			X		
6		X			
7		X			
8		X			
9				X	
10					X
11					X
12					X
13				X (3/4)	X (1/4)
14				X	
15				X	
(T) 16		X			
(T) 17			X		
(T) 18					
19	X				
20	X				
(T) 21		X (1/4)			X (3/4)
(T) 22		X			
23		X			
(T) 24		X			
(T) 25			X (1/2)		X (1/2)
(T) 26	X (1/4)		X (1/2)		X (3/4)
27					X (1/2)
(T) 28					X*
(T) 29					X
30					X
(T) 31					X
32					X*
33					X*
34					X*
(T) 35					X*
36					X*
37					X*
38					X*
39					X*
(T) 40		X			
41			X		
42					X
43					X
44		X (1/2)			X (1/2)
45		X			
46				X	
47				X	
48				X	
49				X	
(T) 50				X	
51				X	
52		X			
53				X	
54				X	
55		X			
56		X			
57		X	X		
58		X			
59		X			
60		X	X		
61		X	X		
62		X			
63	X				
Total (miles)	6.25	17.75	6	12.75	20.25
Percent	10%	28%	10%	20%	32%

NOTES:

Excellent: No work needed Good: Signs and minor work needed
Fair: Many wires broken Poor: Trees down across fence or fence
missing Non-existent: No evidence of any fencing
(T) : Known trespass area
X* : Information recorded from previous backcountry reports
Fractions indicate proportion of section in given condition

Table 2. Total number of cattle incidentally reported at Bryce Canyon National Park, 1985-1990.

Location	Fence (Section)	1985	1986	1987	1988	1989	1990	Total
Yellow Creek (22)			3 **	8 **		9 **		20 **
Bryce Canyon (18)				5 **				5 **
Riggs Spring (40)		15	4 **	**	**	1	7 ¹	26 **
Black Birch Cyn (35)			5	9 **				14 **
Campbell Crk (16,17)						**		**
Sheep Crk (26)			**	6 **				6 **
Natural Bridge (31)		10		10		**		20 **
West Boundary (2)						**		**
Pasture Wash (25)				**		4	**	4 **
Noon Cyn Btte (28,29)						20		20 **
Merrill Hllw (20,21)			**	5			**	5 **
Bridge Hollow (50)							20	20
Sheep Crk Flats (24)							**	**

** separate observation of cattle sign, either fresh or old

¹ apparently via Willis Creek C&H allotment

Three of the major problems caused by trespass grazing in the park were described as follows in a Grazing/Pasturing Questionnaire completed by Resource Management personnel in 1987:

1. Major negative impacts are occurring at sensitive/critical vegetative communities surrounding springs and meadows. These areas are critical habitat for numerous wildlife species of the park.... They are also critical water supplies for backcountry users at Bryce Canyon. These impacts include polluting and trampling spring sources, restricting surface water flows, and increasing erosion rates, which reduce diversity of plant communities as well as decrease water quality at these sources. Because of the steep slopes and the soils, erosion impacts are seen for extensive distances inside and outside the park. Once these fragile communities/spring sources are disturbed, it is expensive to reduce erosion, reestablish plant communities to stabilize erosion cuts and reduce alien plant encroachment, and regain good water quality.

2. Livestock pressure on existing fences increases need for maintenance. Livestock trespass encourages cut fence lines to allow ingress/egress of livestock. Efforts of livestock owners to retrieve livestock on park results in trampling of vegetation through cattle and horse use.

3. Livestock trespassing in the park is an unavoidable issue with visitors. Because of the configuration of the park (long and narrow with major overlooks to the east and south; and the main park road transecting the park near the west boundary), livestock movements coincide with visitor access on trails, at overlooks (visual), and along the park road.

Re-surveying the whole boundary fence was a major effort in 1989, and probably would not have been possible without joint effort from two divisions in 1990. Each year major fence repairs and construction are delayed, the fence status becomes outdated and the effort to keep it current is wasted. In both 1989 and 1990 fence surveys, discrepancies in the reported fence condition required extra survey time to clarify. Because of this, it would probably be more efficient and consistent for only one or two individuals to complete the next fence survey needed.

One way to minimize the cost and time involved in repairing/rebuilding the entire fence boundary would be to fence only sections that are easily accessible to cattle such as drainages (this appears to have been done already in sections 25 and 26). Many steep and rocky sections of the park boundary, though not impassable, provide somewhat of a natural barrier to livestock. If initial fence construction is limited to drainages, a report of the specific fence condition at all potential trespass drainages should be compiled. This would require additional survey time.

The Garfield County fencing ordinance states that the cost of fencing should be shared equally between adjacent landowners. This would be advantageous to pursue with regard to private land owners. With USFS land however, a phone conversation with Evan Bushell of the Panguitch Forest Service Office relayed that by past agreement, fences are under the jurisdiction of the park.

The location of rare plants in the "breaks" habitat crossing many boundary sections should be noted to prevent trampling during fence repair/construction. One such plant, Panguitch buckwheat (*Eriogonum panguicense*) was found next to the fence in sections 59 and 62. Further survey may reveal it to be prevalent along other boundary sections with suitable habitat.

A long term schedule of fence patrol along potential trespass drainages should be developed once repairs and construction are completed, if not before. Since fence conditions change due to both natural factors (trees across fence), grazing pressure, and frequent illegal cutting of fence strands, a rotating schedule to complete an overall fence survey every few years would be beneficial.

References

National Park Service. 1990. Case Incident Reports. Visitor Protection Office, Bryce Canyon National Park.

Kerr, L., and G. Buckingham. 1987. Response to Grazing/Pasturing Questionnaire distributed by Park Operations, RMR.

Scrattish, N. 1985. Historic Resource Study, Bryce Canyon National Park. USDI, National Park Service, Denver, CO. 253 pp.

APPENDIX A : Garfield County Fencing Ordinance, current in 1990.

ORDINANCE NO. 1986-3

AN ORDINANCE PROVIDING FOR A FENCE LAW WITHIN GARFIELD COUNTY, UTAH,
AND PRESCRIBING WHAT SHALL CONSTITUTE A LAWFUL FENCE.

THE BOARD OF COUNTY COMMISSIONERS OF GARFIELD COUNTY,
STATE OF UTAH, ORDAINS AS FOLLOWS:

SECTION 1: Except as hereinafter provided, no person, firm or corporation shall be entitled to collect damages, and no court in this State shall award damages for any trespass of livestock on farms, subdivisions, or other private property, or land belonging to the United States of America or the State of Utah, and used for grazing purposes in Garfield County, if such land at the time of such trespass shall not have been enclosed by a legal fence properly maintained, unless said damaged owner had offered to share the cost of a fence with the owner of whose livestock has trespassed, and the latter has refused to participate in the cost of said fence.

SECTION 2: A legal fence is defined for the purpose of Section 1 above as a fence with not less than four (4) horizontal barriers consisting of wires, boards, poles, or other fence material, in common use in the neighborhood with posts set no more than sixteen (16) feet apart. The lower barrier shall not be more than eighteen (18) inches above the ground and the space between any two barriers shall not be more than twelve (12) inches, and the height of the top barrier must be at least forty-eight (48) inches above the ground, unless otherwise approved by Garfield County.

SECTION 3: The cost of construction of a legal fence as between the adjoining land owners or users shall be divided equally. The cost of maintenance thereafter shall also be shared equally, unless said fence is damaged or destroyed by the neglect or intentional act of one land owner or user, in which case, the person damaging or destroying said fence shall be solely responsible for repairs.

SECTION 4: This Ordinance shall take effect immediately after passage and publication thereof, since it is necessary for the peace of the Citizens of Garfield County.

PASSED, APPROVED, and ORDERED published, this 16
day of June, 1986.

GARFIELD COUNTY COMMISSION

By: H. Dell Lefevre
H. Dell Lefevre, Chairman

By: Guy Thompson
Guy Thompson

By: Thomas V. Hatch
Thomas V. Hatch

**APPENDIX B : Information Pertaining to Kane County Fencing Rules,
current June 6, 1990.**

KANE COUNTY SUBDIVISION ORDINANCE

NOVEMBER 16, 1982 *Sub D.*

**DEPARTMENT OF BUILDING AND SAFETY
COUNTY OF KANE**

**LOYD HEYBORNE
BUILDING INSPECTOR**

**OFFICE PHONE
644-2551 EXT. 33**

(2) Where front-line easements are required, a minimum of fifteen (15) feet shall be allocated as a utility easement. Perimeter easements shall not be less than fifteen (15) feet in width, extending throughout the peripheral area of the development, if required by the Kane County Planning Commission.

(3) All easements shall be designed so as to provide efficient installation of utilities or street planting.

(4) All exterior perimeters of subdivisions shall be fenced.

(5) Unless the Kane County Planning Commission and Kane County Commission determine, upon application by a subdivider, supported by recommendation of the County Engineer, that it is not feasible to do so, all power lines, telephone lines, and other normally overhead utility lines shall be placed underground by the subdivider.

7-10 Alleys.

The Kane County Planning Commission may approve service access to the interior of blocks in certain instances, in which case alleys must be indicated on the plan and plat.

7-11 Sanitary Sewage Disposal.

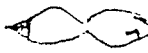
(1) Except as otherwise provided below, the subdivider shall provide, or have provided, an approved piped sanitary sewage system to the property line of every lot in the subdivision. The sewage system shall meet the minimum standards and requirements of the State Division of Environmental Health. Certification of compliance issued by the State Division of Environmental Health shall be provided to the Kane County Planning Commission by the subdivider.

(2) Septic tanks and/or sealed vaults will be approved only when an existing sanitary sewer system is more than one-half (1/2) mile from the boundary of the subdivision. Written approval from the State Department of Environmental Health will also be required prior to approval.

(3) Where the Kane County Master Plan or other plans indicate that construction or extension of sanitary sewers may serve the subdivision area within a reasonable time, the Kane County Planning Commission may require the installation and capping of sanitary sewer mains and house connections by the subdivider in addition to the installation of temporary individual on-lot sanitary disposal systems by the subdivider or lot purchaser. Whenever individual on-lot sanitary sewage disposal systems are proposed, the subdivider shall install such facilities at the time the principal building is constructed, and no building permit shall be issued until such installation is assured. In all other cases, sanitary sewage disposal facilities shall be provided for every lot or parcel by a complete community or public sanitary system.

Kelly

ALLOTMENTS

<u>Allotment</u>	<u>Brand</u>
<u>BLUE FLY C&H</u>	
Robert Ott	 A7 L.H.
Dean Wintch	 

CLARK MOUNTAIN C&H

Gregory Excell	  L.H. R.H.
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CRAWFORD C&H

Dale Clarkson	 R.S.
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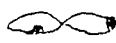
DEER CREEK S&G

Gerald Cannon	0000 
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EAST FORK C&H

Joseph Hughes	//H L.H.
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Heaton Bros.	HW  R.H.
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Stanley Ott	 R.R. 
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Sherrell Ott	 L.H.
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Wallace Ott	 L.H.
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Paul Mangum	 R.S.
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Jay Bowman

Alston Shakespear	E L.R.
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Obie Shakespear	H R.R.
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Mack Esplin	ME  R.R. - L.R.
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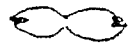
Robert Ott	 L.H.
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EAST PINES C&H

Kanab Stake	 R.R.
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<u>Allotment</u>	<u>Brand</u>
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HATCH C&H

Leland Riggs	SR-EH  R.
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HEWARD CANYON C&H

~~Desmond Wittcheil~~ ~~MF~~ ~~L.H.~~

HILLSDALE C&H

Calvin Wilson	UC L.R.
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JONES CORRAL C&H

Bruce Smith	 L.H. - L.
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Howard Whittaker	yw  L.H. R.
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Kent Whittaker	 R.H.
----------------	---

Ward Dalton	 L.H.
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Alfred Fullmer	  R.R.
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WILLOW SPRING DIV.

Bruce Smith	 L.H. L.R.
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Scott Gleave	E R.R.
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KANAB CREEK C&H

Robert Ott	  L.H.
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ROBINSON CANYON C&H

Heaton Bros.	 R.H.
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Preston Swapp	 R.S.
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<u>Allotment</u>	<u>Brand</u>	
<u>LOWER KANAB C&H</u>		
Roger Pugh	E	R.R.
<u>PINES C&H</u>		
Frank Orton	HO	R.H.
Steele Henrie	SH	R.H.
Paul Partridge	IX	R.R.
Claude Hatch	X	L.R.
Gary Orton	SH	L.R.

SHEEP CREEK C&H

Edgar Dunham	IV	L.R. R.R.
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<u>Allotment</u>	<u>Brand</u>	
<u>UPPER BLUBBER C&H</u>		
Dean C. Wintch	II	L.H.
<u>WIDSTOE C&H</u>		
Burns Black	II	L.H.
Gregory Black	R	L.R.
<u>WILLIS CREEK C&H</u>		
Lamont Twitchell	M	L.S.

