State Project Report

REPORT OF

FISH ~~AND GAME~~ CONSIDERATIONS IN A PORTION OF

THE JUDITH RIVER DRAINAGE

MONTANA FISH AND GAME DEPARTMENT

DISTRICT FOUR

GREAT FALLS, MONTANA

February, 1969

Game section removed.

LOST FORK AND MIDDLE FORK FISHERIES

The Middle Fork and Lost Fork tributaries of the Judith River are located in the Little Belt Mountains of Central Montana. Presently, fishing and other recreation in this area is limited to outdoorsmen with 4-wheel drive vehicles, on horseback or by foot-trail. Roads being planned and developed for logging operations would make the area accessible to similar traffic now experienced in the South Fork of the Judith River. Proposed logging in both drainages would denude many of the steep slopes now covered by forest.

ELECTRO-FISHING RESULTS

Electro-fishing done in August, 1968, in Lost Fork and Middle Fork show varying populations of both native cutthroat and rainbow trout (Table 1 and Figure 1). Rainbow trout were the predominant species in both tributaries as well as below their confluence. However, cutthroat were predominant in the smaller tributaries of both Lost and Middle Forks (i.e. Harrison Creek and South Fork of Lost Fork). Cutthroat trout were larger than rainbow trout (Table 2).

To compare the Middle Fork and Lost Fork, similar sections in length and habitat were electro-fished. One hundred and five rainbow trout were collected from two different sections (330 and 350 ft.) of Middle Fork. Two areas of Lost Fork yielded 62 rainbow trout. Fish collected from Middle Fork were larger in size (Table 3). Sculpins (Cottus sp.) were noted to be more abundant in the Middle Fork.

SQUARE-FOOT BOTTOM SAMPLES

Four square-foot bottom samples were taken from Lost Fork and Middle Fork a short distance above their confluence. Invertebrates were more numerous in the Middle Fork (Table 4).

TROUT HABITAT

Trout habitat is better in the Middle Fork. Due to erosion (Figure 2) occurring on Lost Fork (particularly in the Burris Creek and Sandpoint Creek areas) from both streambank and adjacent slopes, considerable siltation is noticeable in the Lost Fork. At times a difference in silt load can be seen between the Middle and Lost Forks, the Middle Fork being clearer. (Differences in fish and invertebrate populations indicate the detrimental effects siltation and loss of habitat have on the stream.)

CONCLUSIONS

1. Roads being built and others proposed would have a detrimental effect on the fisheries in both the Lost Fork and Middle Fork. For example, the proposed road from Ettlien Ridge would cross the South Fork of the Lost Fork where the best native cutthroat population is found in this tributary. Because of the amount of traffic that would increase and the ease in fishing these small streams, it is doubtful that they could withstand the increased fishing pressure. At the present time, the area receives limited fishing pressure which it can withstand.

2. Timber harvest on steep slopes in the Lost and Middle Forks could add to the present problem of siltation and loss of habitat (especially in Lost Fork). A photo of the South Fork of the Judith River depicts areas of timber harvest (Figure 3).

Table 1.

LOST FORK AND MIDDLE FORK ELECTRO-FISHING RESULTS

LOCATION	LENGTH OF STREAM ELECTRO-FISHED (FT.)	NUMBER OF TROUT	AVE. LENGTH (INCHES)	AVE. WEIGHT (LBS)
Middle Fork:				
Below Junction of Middle & Lost Forks	1,940	97	6.4	0.13
One Mile Above Junction	330	39	6.3	0.15
Korrell Lodge	350	66	7.3	0.18
Harrison Creek (Mouth of King Creek)	* --	31	5.6	0.09
Lost Fork:				
Mouth of Sand Point Creek	440	44	6.7	0.13
Two Miles Above Junction	300	18	5.3	0.07
West Fork	* --	12	6.5	0.12
South Fork	** None	37	--	--

* Only Short Sections Electro-fished

** Caught by hook and line.

Table 2.

SPECIES, SIZE AND NUMBER OF TROUT ELECTRO-FISHED FROM TRIBUTARIES OF MIDDLE FORK AND LOST FORK OF THE JUDITH RIVER

STREAM	NUMBER OF TROUT			LENGTH (INCHES)			WEIGHT (POUNDS)		
	CT	RB	CTxRB	CT	RB	CTxRB	CT	RB	CTxRB
Harrison Creek	14	10	7	6.3	4.8	5.4	0.11	0.07	0.09
West Fork of Lost Fork	4	6	2	7.0	6.3	6.3	0.14	0.10	0.11
South Fork of Lost Fork	35*	2	--	--	--	--	--	--	--

* Caught by Hook and Line.

Table 3.

COMPARISON OF SIZE AND NUMBER OF TROUT ELECTRO-FISHED FROM SIMILAR HABITAT IN EACH STREAM

STREAM	LENGTH OF STREAM SHOCKED (FEET)	NUMBER OF TROUT	AVERAGE LENGTH (IN)	AVERAGE WEIGHT (LB)
Middle Fork	680*	105	6.9	0.17
Lost Fork	740*	62	6.3	0.12

* Two sections Combined.

Table 4.

SQUARE-FOOT BOTTOM SAMPLES -- (FOUR)
COLLECTED FROM TWO TRIBUTARIES OF THE JUDITH RIVER

INSECT ORDER	TOTAL NUMBER MIDDLE FORK	TOTAL NUMBER LOST FORK	AVERAGE NUMBER/SQ. FT. MIDDLE FORK	AVERAGE NUMBER/SQ. FT. LOST FORK
Diptera	184	52	46.0	13.0
Tricoptera	58	20	14.5	5.0
Plecoptera	32	31	8.0	7.8
Ephemeroptera	35	29	8.8	7.2
Hemiptera	68	None	17.0	--
Coleoptera	3	8	0.8	2.0
Nematoda	None	3	--	0.8
Oligochaeta	None	1	--	0.2

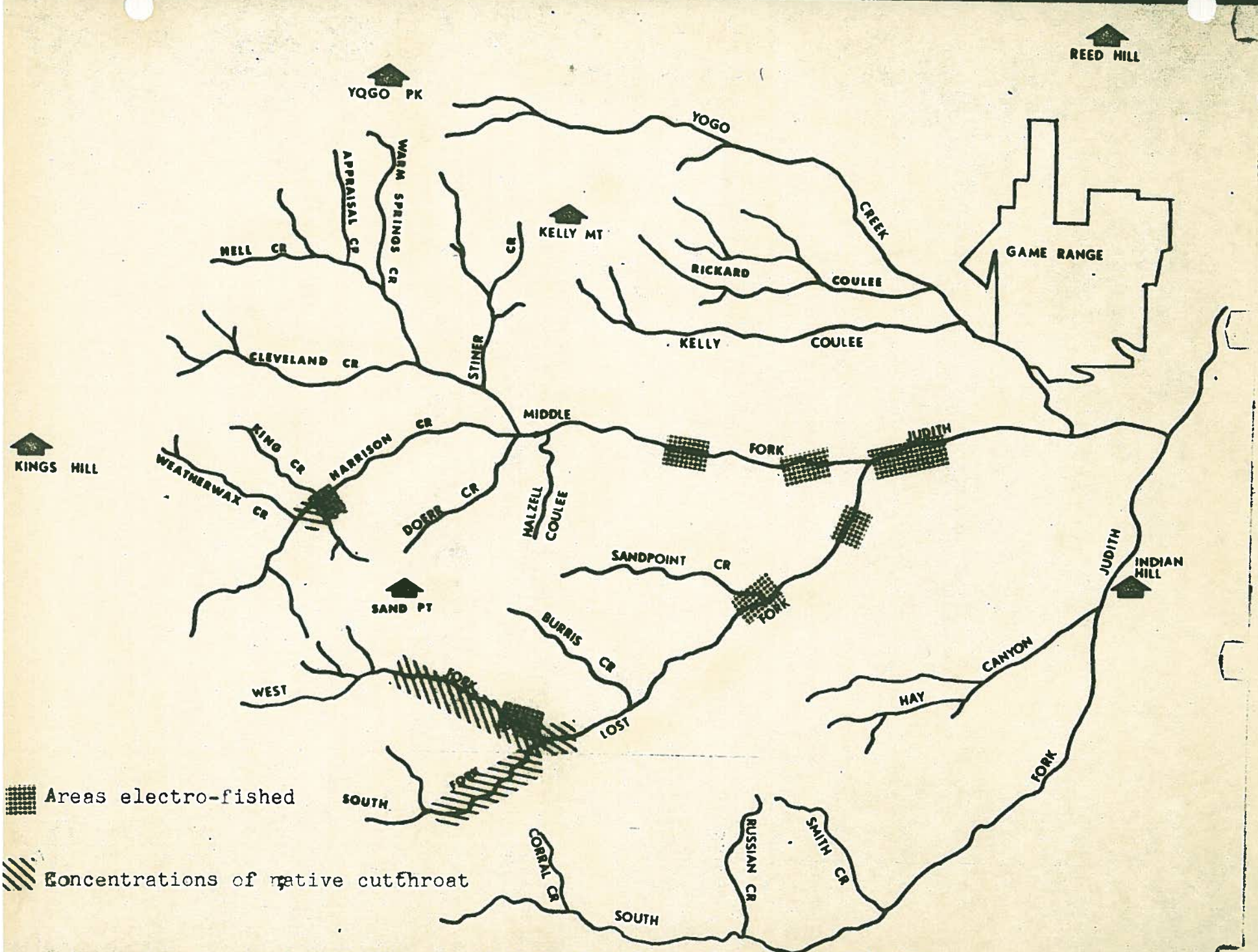

Figure 1. Areas electro-fished and concentrations of native cutthroat.

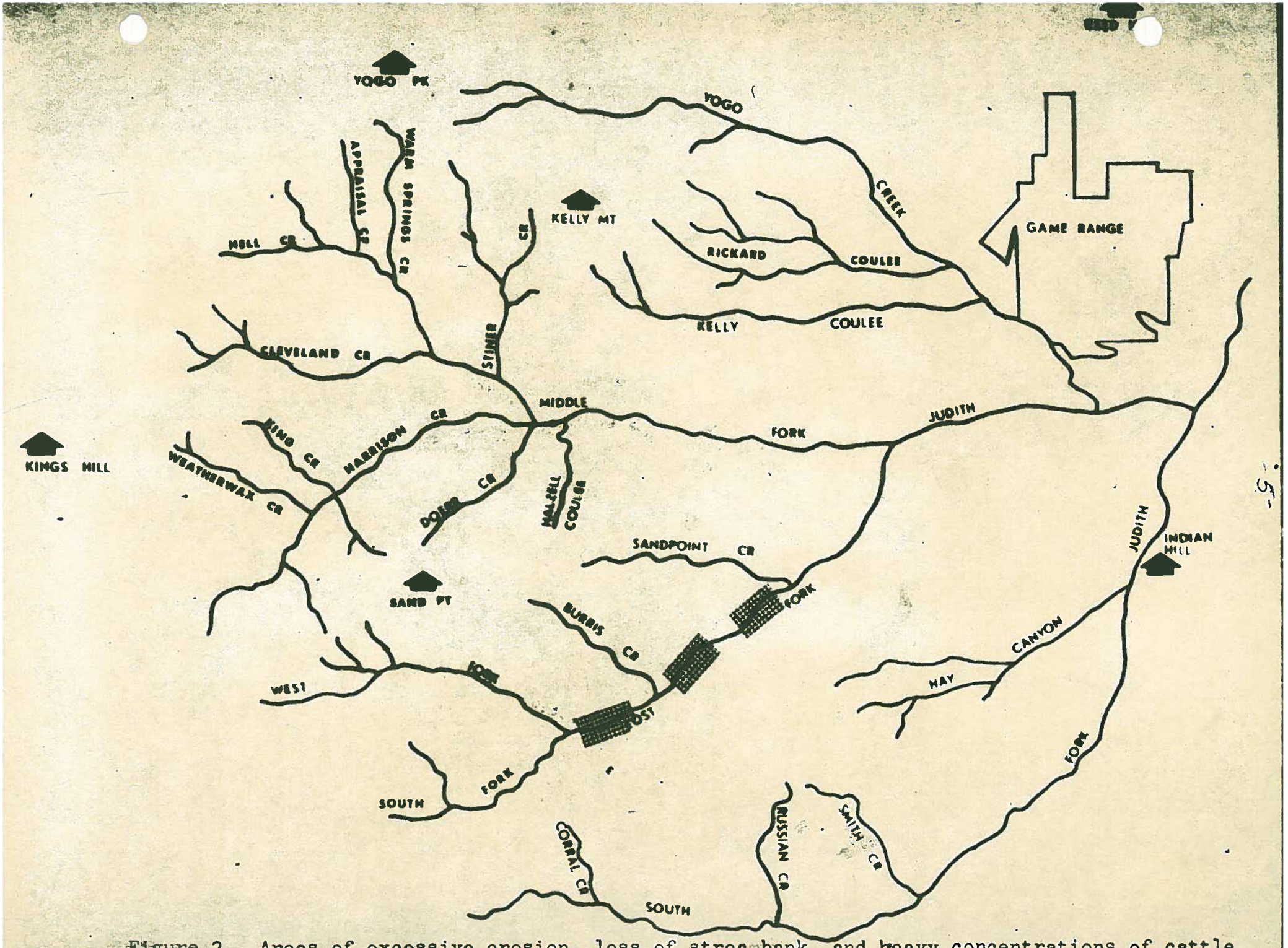

Figure 2. Areas of excessive erosion, loss of streambank, and heavy concentrations of cattle.

FIGURE 3. SOUTH FORK OF WEST FORK LOST FORK