USDA-FOREST SERVICE
REGION 5

STREAM SURVEY

FOREST: Eldorado	DISTRICT: Georgetown
1. NAME OF STREAM: Long Canyon Creek (South Fork)	2. RIVER SYSTEM: Rubicon River
3. TRIBUTARY TO: Rubicon River	4. TOTAL LENGTH: 14 miles
5. STREAM SECTION — FROM: Blacksmith Flat footbridge	TO: National Forest Boundary (near headwater)
6. LOCATION OF MOUTH OR LOWERMOST POINT — TOWNSHIP: 13N	RANGE: 12E SECTION: 7
7. DESCRIPTION OF STREAM: (USE PAGE 4 OR SEPARATE SHEET TO RECORD NOTES MADE DURING SURVEY). August 10 & 15, 1973	

SECTION DATA

	LOWER	MIDDLE	UPPER (August 9, 1973 — T15N& 14E& 4&)
8. LOCATION	TWP RG SEC	TWP 13N RG 13E SEC 8	TWP 14N RG &13E SEC 24
9. ALTITUDE RANGE	FT. TO FT.	4,640 FT. TO 3,280 FT.	6,080 FT. TO 4,640 FT.
10. WIDTH OF STREAM	RANGE FT. AVE FT	RANGE 2-16 FT. AVE 7 FT	RANGE 0-12 FT. AVE 6 FT
11. DEPTH	RANGE FT. AVE FT	RANGE 1-9 FT. AVE 1 FT	RANGE 0-6 FT. AVE ½ FT
12. FLOW	c.f.s.	2 to 3 (est.) c.f.s.	2 (est.) c.f.s.
13. VELOCITY		Rapid	Rapid-some slow areas
14. AIR TEMPERATURE	°F	62 °F	64 °F
15. WATER TEMPERATURE	°F	52 °F	54 °F
16. HOUR AND SKY	HOUR SKY	HOUR 1000 SKY Clear	HOUR 1000 SKY Clear
17. POOLS-ABUNDANCE		Common	Common
a. Size (diameter)	RANGE FT. AVE FT	RANGE 3-20 FT. AVE 8 FT	RANGE 3-20 FT. AVE 6 FT
b. Formed by		Boulders & bedrock	Boulders-some logjams
c. Shelter		Medium	Good
18. RIFFLES-ABUNDANCE		Abundant	Common

19. BOTTOM TYPE	BOULDERS	ROCKS	RUBBLE	GRAVEL	SAND	SILT	MUD
a. Pools (LOWER)							
b. Riffles (LOWER)							
a. Pools (MIDDLE)	10	10	20	20	10	15	15
b. Riffles (MIDDLE)	15	20	40	15	5	5	-
a. Pools (UPPER)	-	5	20	25	20	10	20
b. Riffles (UPPER)	5	20	60	15	-	-	-

	LOWER	MIDDLE	UPPER
20. SHADE CANOPY		Dense	Dense
a. Species		Indian rhubarb-conifer	Conifer, Alder, oak
21. AQUATIC VEGETATION			None seen
a. Species		~~Unidentified~~ 2 types (see photo)	
22. AQUATIC FOOD ORGANISMS			
a. Caddisflies		Abundant larvae	Abundant (larvae)
b. Mayflies		None seen	None seen
c. Stoneflies		Abundant larvae	Few larvae
d. Diptera		abundant larve-adults	Few (identification?)
e. Beetles		Common larvae	Common larvae
f. Other Insects		Abundant waterstriders	Abun. waterstriders
g. Crustacea		None seen	None seen
h. Others		Planeria, forbs, aquatic	Leech or planeria
		Isopads, salamander	Frogs & tadpoles
23. OVERALL AQUATIC FOODS		Abundant	Common
24. FISHES PRESENT			Above Big Meadow few
a. All Species Combined		Abundant	Below " " Abundant
b. Species		Rainbow trout	Rainbow trout above BM
(1) Abundance		Abundant	Few
(2) Ave. No. per 100 ft.		50	1 or 2
(3) Length Range	INCHES	Fry - 9 INCHES	Fry - 8 INCHES
(4) Ave. Length	INCHES	7 INCHES	6 INCHES

SUMMARY-ENTIRE STREAM

39. STREAM CLASSIFICATION:	LOWER I	MIDDLE I	UPPER I

REMARKS:

40. STREAM CHARACTERISTICS AND REMARKS

Upper section marginal salmonid habitat - light use. Middle section fair-good salmonid habitat - light use. Lower section steep gradient, inaccessible, trout present.

41. MANAGEMENT RECOMMENDATIONS:

SEE ATTACHED SHEET.

This stream receives locally moderate fishing pressure at easy access points. Overall importance as a fishery is slight however. Water flows sufficient to effect the water quality of the Rubicon River.

42. DATE OF SURVEY	43. SURVEY MADE BY
August 9,10,15,16, 1973	Larry Week

STREAM MANAGEMENT ANALYSIS-(May be filled out at Office)

1. TYPE OF FISHERY	2. PRIMARY SPECIES
Cold	Rainbow trout

3. OVERALL PRESENT FISHERY RATING	a. Size of Stream	b. Fishing Use
Good	Small stream	Light
c. Other Uses	**d. Productivity**	**e. Habitat Condition**
Swimming, hiking, domestic water	Medium-high	Good

4. IMPROVEMENT POTENTIAL

Fair - Increase of summer flows is basic need.

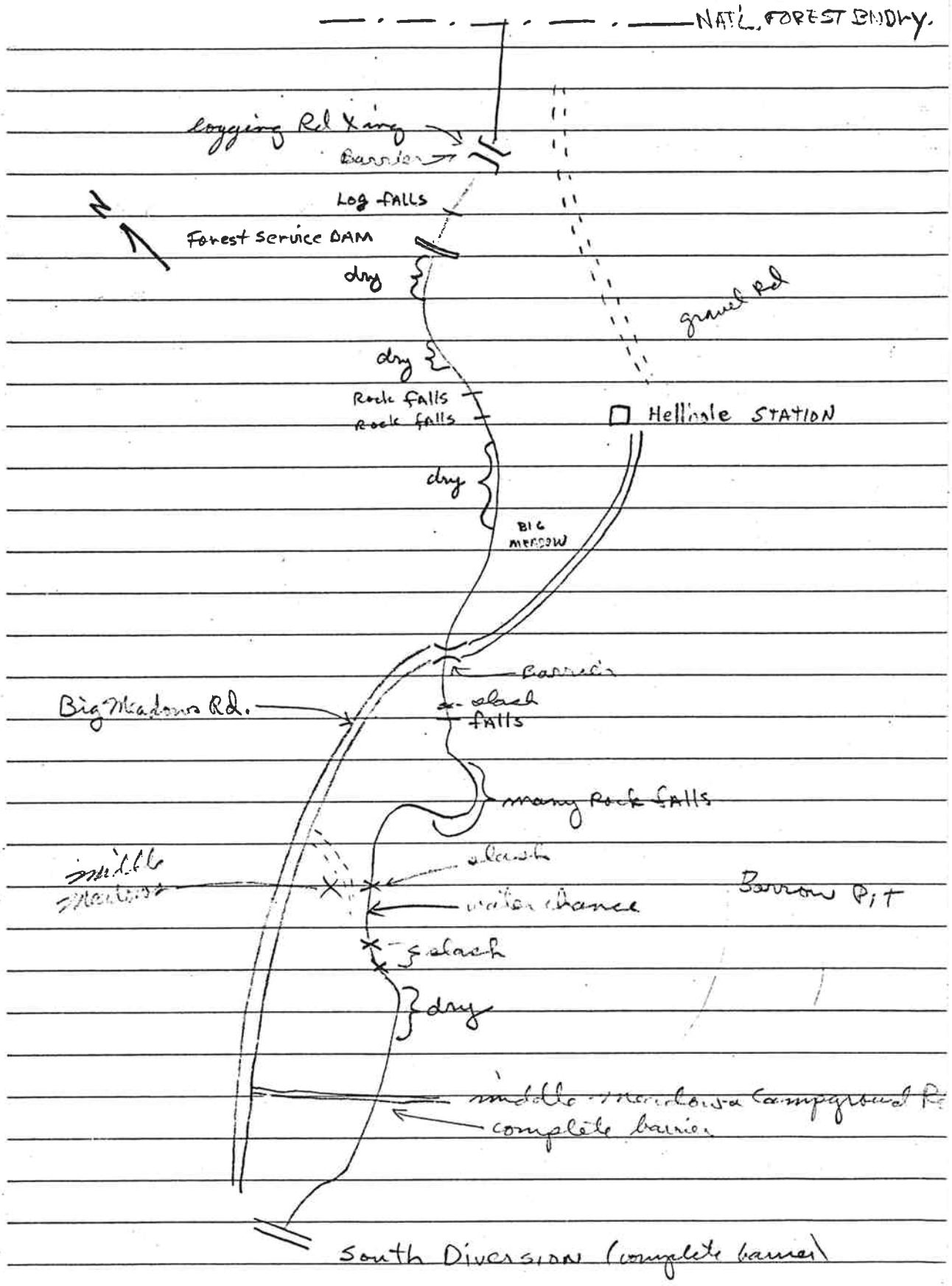
5. FISH MANAGEMENT RECOMMENDATIONS:

a. Chemical Rehabilitation	No
b. Fishery Regulation	No
c. Regulation of Other Activities	Regulate road crossing, water chances
d. Introduction of Exotic Fish Species	No
e. Maintenance Stocking of Established Fish Species	No
f. Others	None

6. HABITAT MANAGEMENT:

a. Watershed Management	Encourage sound logging practices.
b. Stream Protection Belt Management	Keep streamside disturbance to a minimum.
c. Water Quality Management	Monitor siltation from road crossing, water chances, logging
d. Physical Corrective Measures	Remove major areas of slash to reduce streambank erosion.
e. Others	Get water chances out of streambed.
7. [illegible]	Have CA F&G enforce streambed alteration laws.
8. PUBLIC USE FACILITIES	Develop camp area at Georgetown Road Bridge crossing.

Map of Upper Section of Long Canyon Cr. (S. Fork)



Scale: 2 inches = 1 mile

Notes on Upper Section of South Fork of Long Canyon Creek:
The upstream end of the upper section runs from the National Forest boundary (approximately) to the south diversion near lower Meadow.

The headwaters of the creek are densely shaded by stands of alder and mature conifers (photo A-1). The streamflow here is approximately 1 cfs gradually increasing to 2 cfs by the south diversion.

There are several natural barriers upstream from Big Meadows Road crossing. Near the end of the Forest Service gravel road which follows the south side of the stream a logging road crossing with a large culvert becomes a complete barrier. (Photo A-2). There is evidence of heavy equipment operation in and near the creekbed at this site (Photo A-3). Approximately 1/2 to 3/4 mile downstream from this road crossing is an old concrete dam (Forest Service) to provide a water source for the Big Meadows Campground and the Forest Service barracks (Photo A-5). Downstream movement of rubble has completely filled the pool in back of this structure and it is a complete barrier to fish movements. The creekbed is dry for several hundred yards below this structure possibly due to water removal at this site. From this area to the Big Meadows Road crossing there are several natural barriers - mostly boulder and bedrock waterfalls, a few incomplete slash barriers, and several places where the stream runs underground. Immediately upstream from the Big Meadows Campground the creekbed is dry for approximately one-third mile.

Approximately one-quarter mile below the Big Meadows Road crossing the creek makes a north-south loop. This is fairly steep terrain and there are several natural barriers where the creek cascades over bedrock. There are several deep pools in this area essential to fish survival during low flows in the fall.

There are several areas around Middle Meadow where there is extensive slash in and near the streambed. These are incomplete barriers to fish movements.

The creek again runs dry at the downstream end of Middle Meadows and does not reappear for approximately one-eighth mile.

The Middle Meadows Campground Road is a complete barrier with water flowing over the blacktop (Photo A-11). Apparently downstream movement of rubble and gravel have filled the road's culverts.

The South Diversion Dam is also a complete barrier to fish movements (Photo A-12).

The headwaters of South Fork Long Canyon Creek were devoid of fish life to a point just upstream of the Forest Service Dam. Rainbow trout are the only fish species present and occur in scattered populations all the way down to Big Meadow (Photo A-6). Although relatively rare upstream from the Big Meadows Road crossing they become abundant immediately downstream from the road culvert. With the exception of the dry portion of stream by Middle Meadow they are abundant to the South Diversion Dam.

All fish observed were less than nine inches long. Fry and fingerling were common throughout the upper section. Sexually mature trout were noted at a length of finches. Spawning gravels, food availability, temperature and dissolved oxygen are not limiting factors. In my opinion the limiting factor for this stretch of stream is space. The minimum low flows each year directly determine the carrying capacity. Competition for space has resulted in the small size of the fish in this population.

MANAGEMENT RECOMMENDATIONS:

The upper sections of this stream are marginal salmonid habitat due to the low flows. One possible remedy would be the construction of a dam near the headwaters to conserve water for a minimum flow release during the late summer. I did not observe any suitable sites and I doubt if this plan would be economically feasible.

The slash areas around Middle Meadow pose no direct threat to fish production in this creek (Photo A-10). The barriers are incomplete and fish would have little difficulty moving by them during the spawning season (during spring runoffs for rainbow trout). In some cases where slash build up is excessive the decaying vegetation consumes dissolved oxygen or creates bacterial slimes both potentially lethal to salmonids. This appeared not to be a problem in this area.

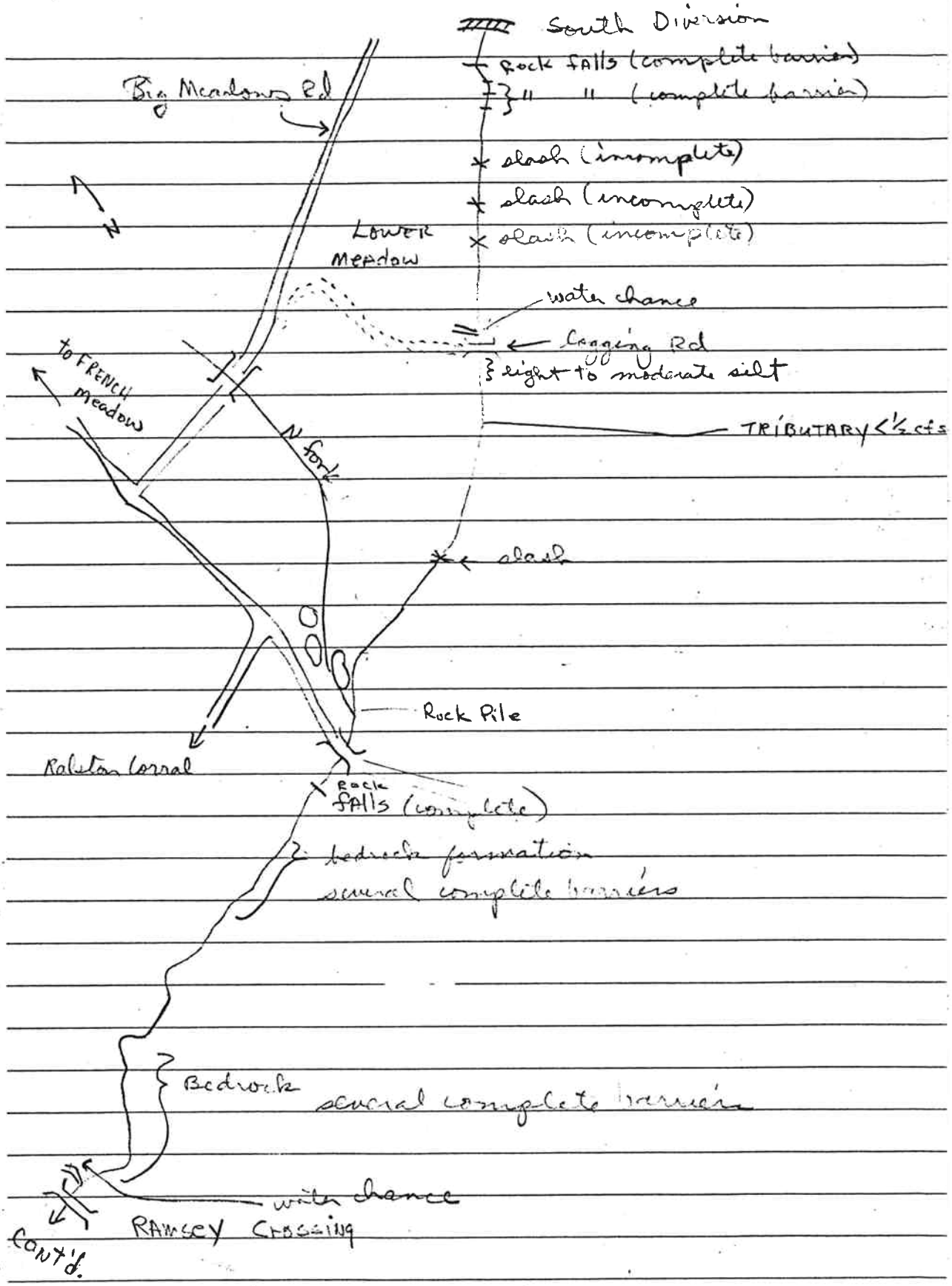
Some slash areas do pose an indirect threat, however, in that they cause partial blockage of high streamflows forcing the current out into surrounding streambanks where serious erosion occurs. This erosion not only increases the silt load in the stream but aggrevates the problem when mature trees topple into the water. A small amount of slash is good cover area for trout.

I recommend that some of the heavy slash areas be removed from the Middle Meadow area. If possible heavy equipment should not be used in the stream channel.

There is a water chance for tanker trucks near the upstream end of Middle Meadow (Photo A-9). This poses a siltation threat, especially during high flows. Possibly a small swimming pool or similar apparatus can be constructed 25 to 40 feet from the stream channel with a water pump to fill

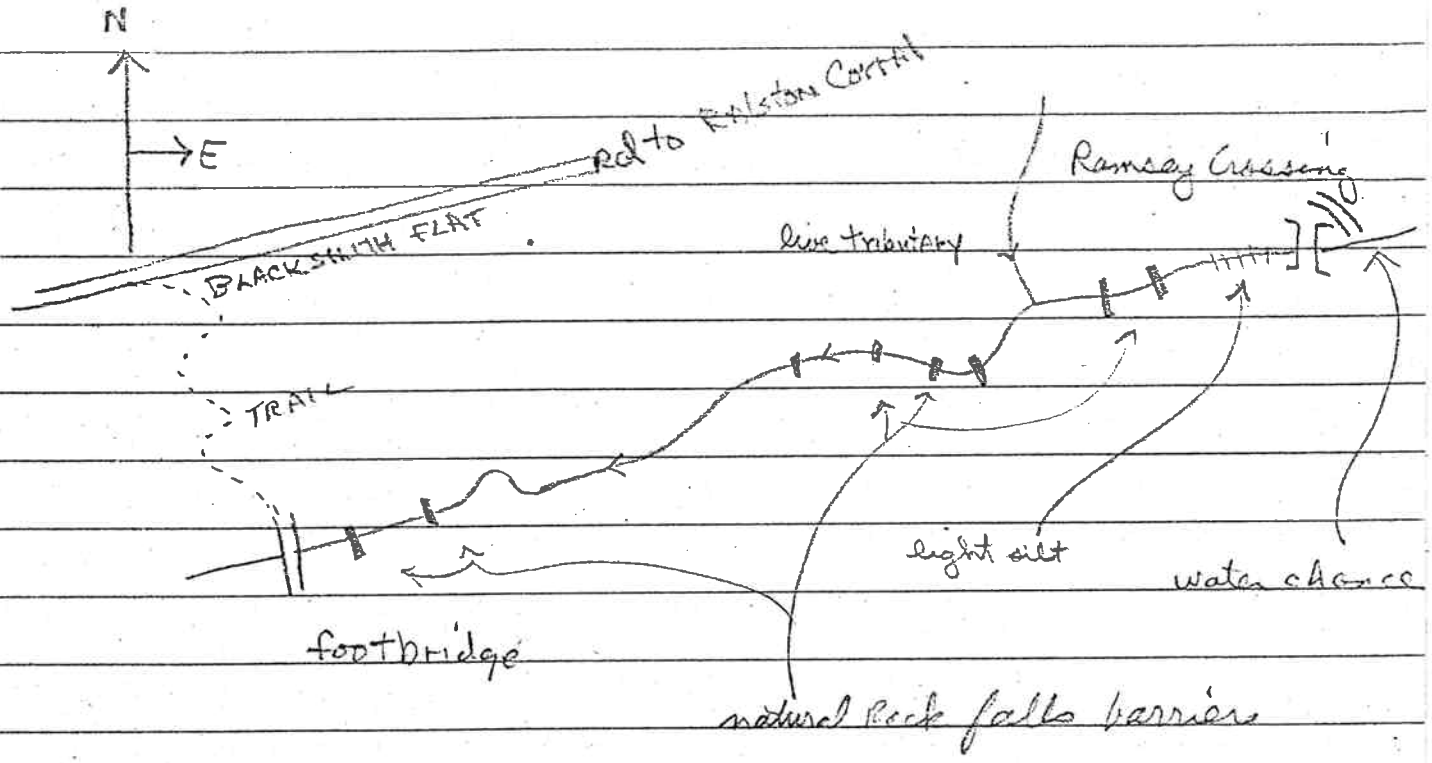
Map of Middle Section of Long Canyon Creek (S Fork) 9/73

WEEK



scale: 2 inches = 1 mile

Map of middle Section of Long Canyon Creek
contd. Sept. 73



Scale: 2" = 1 mile

it. The filling area could be graveled with crushed rock from the tunnel material deposited by the road crossing several miles downstream. This would ease the problem of slop-over as the truck leaves with its load of water.

The Middle Meadows Campground Road should be rebuilt with adequate culverts.

Notes on Middle Section of South Fork of Long Canyon Creek:
The middle section of the creek extends from the South Diversion Dam downstream to the Blacksmith Flat Footbridge.

Several hundred yards downstream from the South Diversion Dam the creek flows over a section of bedrock with a fairly steep gradient. There are many rock-caused falls that are complete barriers to upstream fish movement (Photo A-13).

Approximately one-half mile, two-thirds mile and three-quarter mile downstream from the dam there are areas of slash in the stream channel (Photos A-14 and A-16). These are all incomplete barriers to fish movements. The last slash area and logjam (three-quarter mile is a result of mature trees falling into the stream because of streambank erosion.

Approximately in the middle of Lower Meadow there is a water chance for tanker trucks followed immediately by a logging road crossing (Photos A-17 and A-18). The water chance road descends a steep grade vertically for 100 feet (estimate) to the stream channel. Several yards of fill dirt have been pushed into the dry portion of the stream channel to extend the road to the water's edge. Truck slop-over is evident.

The logging road crossing consists of several logs lying parallel to the streamflow covered with dirt (Photos A-19 and A-20). There is considerable local disturbance of the ground cover in this area increasing the siltation potential,
The 100 yards of creek immediately downstream from this area contains light to moderate amounts of silt. A live tributary enters the creek approximately one-quarter mile downstream from this point. It is flowing at less than ½ cfs (estimate) amd is shown on the map as being in the

eastern portion of Section 26, T.14N., R.13E.

Approximately one mile downstream from this point the North Fork of Long Canyon Creek enters the stream on the north bank. Its flow is negligible.

Approximately one-eighth mile upstream from the road 14N08 bridge there is a large rock pile (tunnel muck). This area appears to have little effect on the stream.

The water gauge at the pump house by the bridge read 3.22.

There are several people camped by the bridge crossing with no apparent sanitary facilities. This could prove to be a source of pollution.

A complete barrier is to be found one-eighth mile downstream from the road 14N08 crossing, formed by bedrock waterfalls. There is extensive bedrock formations approximately one mile downstream from the 14N08 road crossing (Photo A-24). There are many falls and pool areas in this area. The barrier one-half mile upstream from Ramsey's crossing, is also bedrock.

At Ramsey's Crossing there is a water chance (Photos A-27 and A-28). Again fill materials have been pushed into the dry stream channel and are in danger of washing out during the spring runoff.

The only fish species in this section is the rainbow trout (Photo A-25). Fry, fingerling, and adult fish were abundant throughout this section with the exception of the bedrock areas where they were few to common. Adult fish again were small with a nine inch fish rare. Aquatic organisms were common throughout this section with the exception of the bedrock areas where they were few.

There are light amounts of silt in the stream immediately below Ramsey Crossing due to the bridge construction and associated disturbances.

There are numerous bedrock and rock falls from Ramsey Crossing to Blacksmith Flat Footbridge (Photo A-30). These are mostly complete barriers to fish movements.

A live tributary flows into the creek approximately one-quarter mile downstream from Ramsey Crossing on the north bank (Photo A-29). This flow adds less than ½ cfs to the stream.

There are several areas where a considerable amount of insolation reaches the stream due to a lack of sufficient canopy. This occurs in areas of bedrock and boulders. This causes slightly higher water temperatures. The temperature was 59°F at 0930 at Ramsey Crossing as opposed to 54°F at 1000 near the headwaters.

MANAGEMENT RECOMMENDATIONS:

There are three areas of moderate to heavy slash between the South Diversion Dam and the logging road crossing at Lower Meadow. These are all incomplete barriers to fish movements. They should be removed from the channel, however, as the bank erodes around both sides of the jams and introduces more silt into the stream channel. Mature trees then topple into the creek further compounding the problem.

The water chance and road crossing in the Lower Meadow area are a potential siltation problem during spring runoff. Presently only light amounts of silt are present in this area. The road to the water chance has been pushed across the now dry streambed to reach the present streamflow. This fill material crosses the stream channel below the high flow mark and

will be washed out if it is not removed this fall. Water chances should be constructed away from the stream channel to avoid this problem.

The road to the water chance descends a steep slope. Water bars or slash should be placed on this road to prevent soil slippage.

The logging road crossing immediately downstream from the water chance, consists of a series of logs parallel to the streamflow over which dirt has been piled. This entire "bridge" will wash out during the spring runoff. It should be removed this fall. There is considerable local disturbance of the soil in this area. Proper arrangement of slash and water bars could help this situation.

Install sanitary facilities or post as "no camping" the area where the creek flows under the bridge on the Georgetown Road (14N48).

Remove the water chance at Ramsey Crossing from stream channel.

This stream should not be planted with catchable trout in the future. It appears to be at the maximum carrying capacity now and addition of more fish would further reduce the rate of growth for the individuals now present.

Notes on the Lower Section of Long Canyon Creek:

The last five miles of stream from Blacksmith Flat to the Rubicon River was not checked at this time.

Access is by the Blacksmith Flat Trail or by the Tilletson Trail which runs from Ralston Corral to a point approximately two miles upstream from the confluence with the Rubicon River.

This section of stream flows through exceedingly steep canyon and is difficult to traverse. From personal communications with individuals who have been through this area the creek becomes a series of cascading waterfalls and pools. A population of rainbow trout exists. Brown trout are known to exist in the lower section from the mouth to the first major falls (approximately one-quarter mile).

Because of the steep terrain the canyon walls would be extremely sensitive to disturbance. Forest fire or poor logging technique could have a serious effect on this drainage.