(Rowley, W. 1955)

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1954 CREEL CENSUS, NORTH FORK FEATHER RIVER [1/]

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INTRODUCTION

The California Department of Fish and Game and the Pacific Gas and Electric Company have embarked on a Cooperative Fish Study aimed at providing a factual basis for setting water releases from power diversion dams in trout waters. This paper reports the Department's portion of the second year of the study.

The North Fork of the Feather River, like many California streams, is being harnessed for power production. At the present time there are three power developments on the North Fork between Lake Almanor and Cresta Powerhouse below Storrie, by means of which the bulk of the river water has been transferred from river bed to tunnel. Flow regimens for these river sections were set by the Federal Power Commission with no data available to indicate what flows would be adequate to maintain fish life.

The section of the North Fork, between the Caribou Powerhouse and Belden, at present contains the full flow of the river, but is scheduled for power development and flow reduction within several years. In order to obtain an accurate measure of the existing fishery in this river section and to learn to what degree it is sustained under reduced flow, a creel census was initiated in 1954 and will be continued for a number of years both before and after flow reduction. Results of the first year are reported under "Caribou Creel Census".

As a corollary of this nearly complete creel census of the Caribou Section, a streamside creel census was carried out on selected days during the 1954 season in the Rock Creek and Cresta Sections of reduced flow, and on their respective forebays, in order to provide a gross comparison of angling effort and success with that in the Caribou Section. The results of this census are given in another report.

Acknowledgments

The author wishes to express his gratitude for the helpful suggestions offered by Joe Wales, Brian Curtis, and Harry Chandler in the planning of this creel census. Thanks also are due the Pacific Gas and Electric Company which generously supplied meals and lodging for the checking crew on holiday weekends, and which was otherwise helpful during the season through Bill Cheney, engineer in charge of the PG&E Fish Study. Biologists John Skinner, Ed Best, and Harry Chandler assisted at the Gansner Bar check station on holiday weekends. During the season the check station was very ably manned by Dick Heimann, seasonal aid, who also helped with calculations.

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CARIBOU CREEL CENSUS

Description

The North Fork of the Feather River is widely known for the large and exceptionally fat, hard-fighting rainbow trout that it produces. The section between Caribou Powerhouse and Gansner Bar is particularly popular and heavily fished. This section is an unusually favorable creel census site, since almost all of the anglers leave the section via the lower end, to Highway 24 (Figure 1). The upper road, to Lake Almanor, is very steep, tortuous, and uninviting to the traveler.

The river flows through the pine-covered slopes of a deep, scenic canyon, dropping rapidly from 2,960 feet elevation at Caribou Powerhouse to 2,325 feet at Gansner Bar, 8.3 miles downstream. A dirt road parallels the river so closely that "running-board fishing" is literally possible in many places. Only in the upper two or three miles is a five or ten-minute walk to the river necessary. Numerous cable crossings allow fishermen to reach the other side. However, the river is so wide that the midsection gets very little fishing. Wading is hazardous even at flows of 600-700 cfs.

Mosquito Creek, with a summer flow of about 20 cfs, is the only tributary in this section of the river that is large enough to support fish life. It is permanently closed to fishing.

The flow in this stream section is unnaturally large and constant throughout the year because of the large storage capacity of the Pacific Gas and Electric Company's Lake Almanor above. Average discharge from the Caribou Powerhouse is about 1,000 cfs, and in the river above the powerhouse the normal flow during June and July in past years was about 100 cfs. Thus, in past years the flow in the Caribou Section averaged about 1,100 cfs during June and July. In 1954, however, releases from Lake Almanor down the river channel were much greater; the flow in the Caribou Section averaged 1,700-1,800 cfs during June and July. At 1,100 cfs the North Fork here is an extremely fast and turbulent stream, while at 1,700 cfs some anglers consider it unfishable. The effect of this increased flow on the fishing will be difficult to assess, since it is to be continued until the power diversion project is completed.

No trout were planted in the Caribou Section in 1954. In 1953 and 1952 the plants were 38,500 and 40,000 rainbow trout fingerlings, respectively. These trout were planted in the fall, and on the basis of results from such plants elsewhere are not considered to have added appreciably to the catch.

Methods

The upper and lower limits of the census section were designated as Caribou Powerhouse and the lower end of the Gansner Bar Trailer Campground, respectively, which included an 8.3 mile stretch of the river.

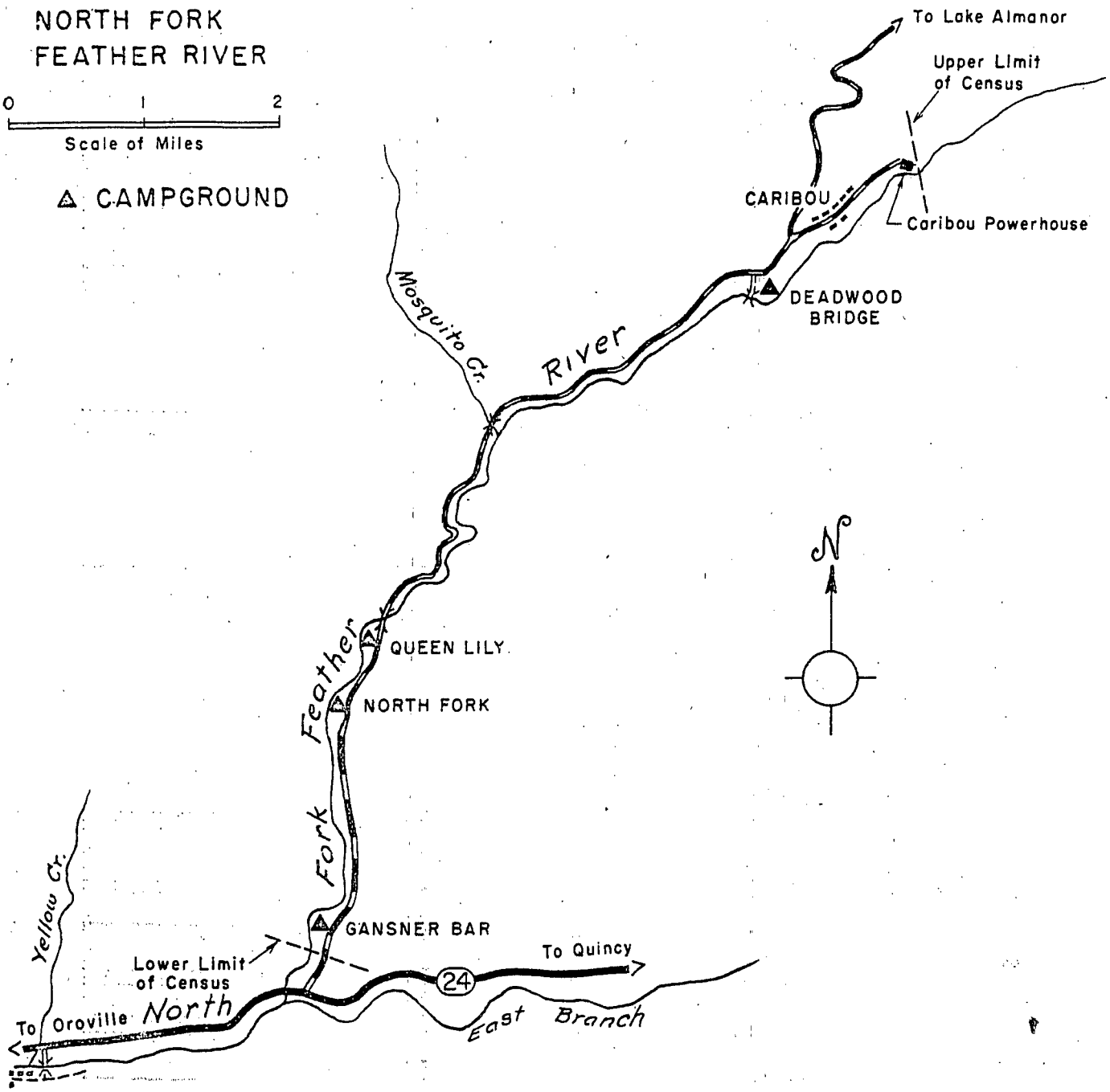
NORTH FORK
FEATHER RIVER
0
1
2
Scale of Miles
CAMPGROUND
To Lake Almanor
Upper Limit
of Census
CARIBOU
Caribou Powerhouse
DEADWOOD
BRIDGE
Mosquito Cr.
River
N
QUEEN LILY
NORTH FORK
Feather
Fork
Yellow Cr.
GANSNER BAR
To Quincy
Lower Limit
of Census
24
To Oroville
North
East Branch

Figure I.

During the first three weeks of the season the check station was located at the lower limit of the census section, but for the remainder of the season was moved 1/8 mile upstream to a more comfortable site near the Gansner Bar Guard Station. Campers fishing along the lower end of the campground were urged to report to the check station before leaving, and many obliged.

The check station was manned five days a week, with the days off falling on weekdays according to a rotating schedule which allowed an estimate of fishing on any given day off, say Tuesday, for example, to be taken as an average of the totals from the previous and following Tuesday. The census was carried on for a period of 15 weeks, between May 29 (opening day) and September 10. All weekend days were checked, and each weekday was checked ten times in the 15 weeks.

The check station was opened at 10:00 A.M. and closed at 9:00 P.M., except on the three-day holiday weekends (Memorial Day, July 4th, and Labor Day) when it was opened at 8:00 A.M. and closed at 9:45 P.M.

Taking the Data

Data was recorded on census sheets, one per party of anglers, and included: the date, county of residence, number of anglers (only those who fished on the day checked were counted as anglers), number of non-anglers, lures used, number of nights camped, number of hours each angler fished on the day checked, number of trout caught by each angler on the day checked, number of suckers and number of hardheads caught by the whole party on the day checked, and the number of trout caught by the whole party on previous days and not already checked. In addition, all trout in measurable condition were measured, and all those not dressed were weighed. Scale samples were taken occasionally throughout the season.

Only time spent and fish caught in the census section were counted. Hours fished were taken to the nearest 1/4 hour. Trout were measured from the tip of the snout to the next larger 1/10 inch beyond the fork of the tail. Weights were taken with a small spring balance.

Treatment of Data

Section Breakdown

The data were segregated into two halves, according to their place of origin in the census section, using the conveniently located Mosquito Creek as the dividing line. Since some anglers fished both above and below Mosquito Creek, there were three data categories: upper section, lower section, and both sections.

Distances as measured on the Pacific Gas and Electric Company's Belden Project Maps (scale 1" = 1,000') were: upper section (Caribou Powerhouse to Mosquito Creek), 4.0 stream miles; lower section (Mosquito Creek to the lower end of the Gansner Bar Trailer Campground), 4.3 stream miles. The upper section has a 360-foot drop in elevation and the lower, 275 feet. Superficially, both sections look much the same, with fast, turbulent riffles and very few pools.

The slightly greater accessibility of the lower section is reflected in the 1/5 greater fishing effort expended in that section. The road hugs the river-bank through nearly the entire lower section, but leaves the river somewhat about one mile above Mosquito Creek. At no point, however, is it more than a ten-minute walk from the river.

Time Breakdown

Data collected in the 15-week census period were grouped into three five-week periods, each of which included one of the three-day holiday weekends. Because such a large percentage of the total catch was made early in the season the totals of the first five-week period were further divided between the first week and the remaining four weeks.

Completeness of the Census

It is believed that about 75 percent of the fishing done in the test section was accounted for in the census. Estimated totals for the non-check days added 17 percent to the angler-day total, 14 percent to the trout-caught-on-day-of-check total, and 18 percent to the trout-caught-on-days-previous-to-check total. In addition, the following groups were missed in the census: anglers leaving the census area before 10:00 A.M. or after 9:00 P.M. (except on holiday weekends); anglers leaving the census area via the upper road; some of the campers who fished along the lower end of the Gansner Bar Campground; and the occasional anglers who hiked up from the highway on the other side of the river. These groups are believed to add about 10 percent to the total angling effort and catch in the census section.

In making the estimates of the total angling effort and success in the census section, the estimated totals for the non-check days were added to the totals obtained at the check station. Then, an additional 10 percent was added to obtain the seasonal total. The total number of trout caught in the census section was, of course, the sum of the estimates of trout-caught-on-day-checked and trout-caught-previous-to-check-day. The total number of angler-days spent in the census section was the sum of the estimates of angler-days on day-checked and angler-days on-days-previous-to-check. The latter estimate was obtained by multiplying the ratio $\frac{\text{trout-caught-on-day-checked}}{\text{angler-days spent on-day-checked}}$ by the estimated season total of trout-caught-on-days-previous-to-check-day.

RESULTS

Angling Pressure and Success

A total of 3,853 angler-days and 11,511½ angler-hours was spent in catching 3,795 trout on the days the anglers were checked, for a catch of 1.0 per angler-day and 0.33 per angler-hour. An additional 2,820 trout were reported caught by campers on days prior to check day, as they left the census area. Table 1 shows this information segregated into the four time periods of the 15-week census.

TABLE 1

Summary of Creel Census Data
by Time Periods

	Week 1 (May 29 - June 4)	Weeks 2-5 (June 5 - July 2)	Weeks 6-10 (July 3 - Aug. 6)	Weeks 11-15 (Aug. 7 - Sept. 10)	Season totals
Angler-days	1,075	996	1,021	761	3,853
Angler-hours	4,068 1/2	3,072 3/4	2,557 3/4	1,812 1/2	11,511 1/2
Hours per day	3.8	3.1	2.5	2.4	3.0
Trout caught	1,450	1,161	662	522	3,795
Catch per hr.	0.36	0.38	0.26	0.29	0.33
Catch per day	1.4	1.2	0.6	0.7	1.0
Zero catches (percent)	60	67	79	78	71
Trout caught by campers on days previous to check days	1,277	585	601	357	2,820
Total trout catch	2,727	1,746	1,263	879	6,615
Percent of season catch	41.2	26.4	19.1	13.3	0.0
Total number measured	1,651	1,030	719	567	3,967
Average size (FL in inches)	10.7	10.0	9.6	9.8	10.2

Also see table 13

Table 2 shows the seasonal variation in effort and success. Both were much greater during the first five-week period than later in the season. Decreasing angling success through midsummer would presumably imply poorer fishing at that time. However, early in the season the river is fished more heavily by the more expert local anglers, while most of the less expert vacationists fish during July and August (as shown in Table 9). Note that success per angler hour was very poor in the weeks of July 4th and Labor Day when vacationists were most abundant. Table 3 shows an interesting comparison of the success of all anglers from Plumas County with all those from Los Angeles County who fished in the census section. The expert listed in the table is a local angler but for purposes of comparison was not included in the Plumas County totals. Anglers from Los Angeles County, of course, did the bulk of the complaining about poor fishing.

TABLE 2

Weekly Angling Effort and Success
as Percentages of Seasonal Totals

	Angler-days	Trout caught	Average flow (cfs)	Trout per angler-hour
May 29 - June 4	27.9	38.2	700	0.36
June 5 - 11	6.3	10.8	1,700	0.52
June 12 - 18	7.3	7.6	1,700	0.34
June 19 - 25	7.2	7.1	1,800	0.30
June 26 - July 2	5.0	5.1	1,800	0.35
July 3 - 9	9.5	5.4	1,800	0.23
July 10 - 16	3.9	2.5	1,800	0.30
July 17 - 23	4.4	3.9	1,800	0.29
July 24 - 30	4.3	2.9	1,700	0.25
July 31 - Aug. 6	4.4	2.7	1,850	0.26
Aug. 7 - 13	2.5	1.1	1,850	0.18
Aug. 14 - 20	4.8	3.7	1,900	0.31
Aug. 21 - 27	3.3	2.9	2,000	0.36
Aug. 28 - Sept. 3	2.7	2.9	2,100	0.46
Sept. 4 - 10	6.4	3.2	1,950	0.20

TABLE 3

Angling Skill Comparisons

	Angler-days	Angler-hours	Hours per day	Trout caught	Trout per hour	Trout per day	Time required to catch one trout
Los Angeles County residents	310	563 3/4	1.8	27	0.05	0.09	20.0
Plumas County residents	457	1,513 3/4	3.3	944	0.62	2.1	1.6
A single expert angler	9	31 1/2	3.5	107	3.4	11.9	0.3

Here, as in most creel censuses, most of the trout were caught by a small percentage of the anglers (Table 4). Approximately 50 percent of the catch was made in the 5.5 percent of angler-days that resulted in catches of more than five. And, as usual, most of the angler-days (71 percent) resulted in zero catches.

TABLE 4

Distribution of Catch

Catch	Angler-days	Percentage of total angler-days	Percentage of trout catch
0	2,729	70.8	--
1	398	10.3	10.5
2	232	6.0	12.3
3	133	3.5	10.5
4	90	2.3	9.5
5	63	1.6	8.3
6	46	1.2	7.3
7	39	1.0	7.2
8	29	0.8	6.1
9	26	0.7	6.2
10	21	0.6	5.5
11	10	0.3	2.9
12	5	0.1	1.6
13	5	0.1	1.7
14	4	0.1	1.5
15	22	0.6	8.7
TOTALS	3,852	100.0	100.0

Table 5 shows the frequency of anglers who spent a given number of hours fishing. The average number of hours per angler-day decreased during the season, due apparently to the decrease both in the quality of the angler (the more skillful anglers fishing early in the season tend to fish longer) and the quality of the angling.

TABLE 5

Frequency Distribution of Angling Time

Hours spent angling	Angler-days	Percentage of seasonal total of angler-days
1/4 - 3/4	605	15.7
1 - 1 3/4	625	16.2
2 - 2 3/4	774	20.1
3 - 3 3/4	553	14.4
4 - 4 3/4	502	13.0
5 - 5 3/4	317	8.2
6 - 6 3/4	205	5.3
7 - 7 3/4	65	1.7
8 - 8 3/4	106	2.8
9 - 9 3/4	24	0.6
10 -10 3/4	24	0.6
11 -11 3/4	13	0.3
12 -12 3/4	27	0.7
13 and over	12	0.3

Table 6 shows the number of anglers and trout checked on each day of the week. In order to see how much of the week's fishing could be expected to occur on any given day (Table 7), the first check of the season for each day was subtracted to nullify the huge opening week-end totals, and the resulting totals for Saturday and Sunday were multiplied by 9/14 to make them comparable to the weekday totals.

Table 8 shows the various regions anglers fishing in the census section came from, and in what proportions. Table 9 illustrates the seasonal shift in numbers of local and southern California anglers.

TABLE 6

Angling Effort and Success
by Days of the Week*

	Angler-days	Angler-hours	Trout caught	Mean daily catches
Saturdays	1,026	3,527 3/4	1,384	92.3
Sundays	1,268	4,061	1,321	88.1
Mondays	687	1,908 1/2	429	42.9
Tuesdays	229	492 1/2	101	10.1
Wednesdays	197	465	149	14.9
Thursdays	220	492 1/4	176	17.6
Fridays	226	564 3/4	235	23.5

*Saturdays and Sundays were checked 15 times each, weekdays only 10 times each.

TABLE 7

Adjusted Percentage of Total Angling Effort
by Days of the Week*

	Percentage of angler-days	Percentage of angler-hours	Percentage of trout caught
Saturdays	20	23	20
Sundays	28	32	39
Mondays	17	16	13
Tuesdays	9	7	4
Wednesdays	8	7	6
Thursdays	9	7	8
Fridays	9	8	10

*Percentages are on the basis of the last nine of all the weekday check-days and 9/14ths of the last 14 of the week-end check-days.

TABLE 8

Feather River Anglers
by Area of Residence

	Number of anglers*	Percentage of total
LOCAL (Butte, Plumas, and Lassen Counties)	1,389	22
SACRAMENTO VALLEY	858	13
BAY AREA	2,845	45
SAN JOAQUIN VALLEY	230	3
SOUTHERN CALIFORNIA	682	11
OTHER	294	5
OUT OF STATE	61	1

*Includes non-anglers who accompanied anglers, comprising about 2/5ths of the total.

TABLE 9

	Week 1	Weeks 2-5	Weeks 6-10	Weeks 11-15
NO. OF LOCAL ANGLERS (Plumas, Butte, and Lassen Counties)	352	467	279	291
NO. OF SOUTHERN CALIFORNIA ANGLERS	19	110	230	323

Characteristics of the Trout Population

A total of 3,967 rainbow trout (about 60 percent of the total recorded catch) and 12 brown trout were measured. Length-frequencies of the trout caught in the various time periods are shown in Table 10. Average size decreased in each successive period except the last. In the last two five-week periods the bulk of the catch apparently consisted of two-year-old trout, so that the growth of this age group may account for the slight increase in the average size in the final five-week period.

TABLE 10

Length-frequency Distribution in Percentage by Time Periods

Rainbow Trout

Length interval in inches (Fork length)	Week 1 Percentage	Weeks 2-5 Percentage	Weeks 6-10 Percentage	Weeks 11-15 Percentage
5.0 - 5.9	0.5	0.4	0.3	0.2
6.0 - 6.9	3.6	6.4	4.9	1.8
7.0 - 7.9	6.5	15.1	17.5	13.2
8.0 - 8.9	8.7	16.6	23.8	24.2
9.0 - 9:9	13.9	10.7	14.7	23.6
10.0 -10.9	19.9	17.6	11.7	13.6
11.0 -11.9	20.6	13.2	12.5	8.3
12.0 -12.9	14.0	10.2	7.5	7.0
13.0 -13.9	6.8	4.8	4.4	4.8
14.0 -14.9	3.3	2.8	1.7	1.9
15.0 -15.9	1.2	1.4	1.0	1.0
16.0 -16.9	0.8	0.4	0.0	0.2
17.0 -17.9	0.1	0.2	0.0	0.2
Number measured	1,566	1,107	719	567
Average size	10.7"	10.0"	9.6"	9.8"

A total of 663 rainbow trout (about 10 percent of the total recorded catch) was weighed (Figure 2). The length-weight curve of trout from the upper section during the first five-week period was drawn by eye. The curve from the lower section for that same period and from the entire census section during the last five-week period was virtually identical. The trout were in very good condition throughout the season. A sample of 58 rainbow trout from the reduced flow Rock Creek Section 5-15 miles downstream weighed decidedly less for any given length.

Rough Fish

Of the 4,788 fish caught by anglers on the day they were checked, 20 percent were rough fish. The percentage of suckers (Catostomus occidentalis) in the catch remained remarkably similar throughout the summer, while the percentage of hardheads[1] in the catch increased greatly (Table 11). That this may represent a migration of hardheads into the lower census section is suggested by Table 12. The hardheads apparently did not migrate to any extent into the upper section, since the catch there remained small throughout the summer, while the catch in the lower section quadrupled. Rock Creek Reservoir, two miles downstream, is presumably the source, since it is known to contain large numbers of hardheads.

TABLE 11

Rough Fish

	Total number of fish caught	Percentage trout	Percentage suckers	Percentage hardheads
Weeks 1 - 5	3,234	80.7	11.8	7.5
Weeks 6 - 10	840	78.8	11.1	10.1
Weeks 11 - 15	714	73.2	11.3	15.5
Season totals	4,788	79.3	11.6	9.1

[1] Includes two species of cyprinids, the hardhead, Mylopharodon conocephalus, and the Sacramento squawfish, Ptychocheilus grandis, which are called variously, pike, whitefish, or chub, and not differentiated by the angler.

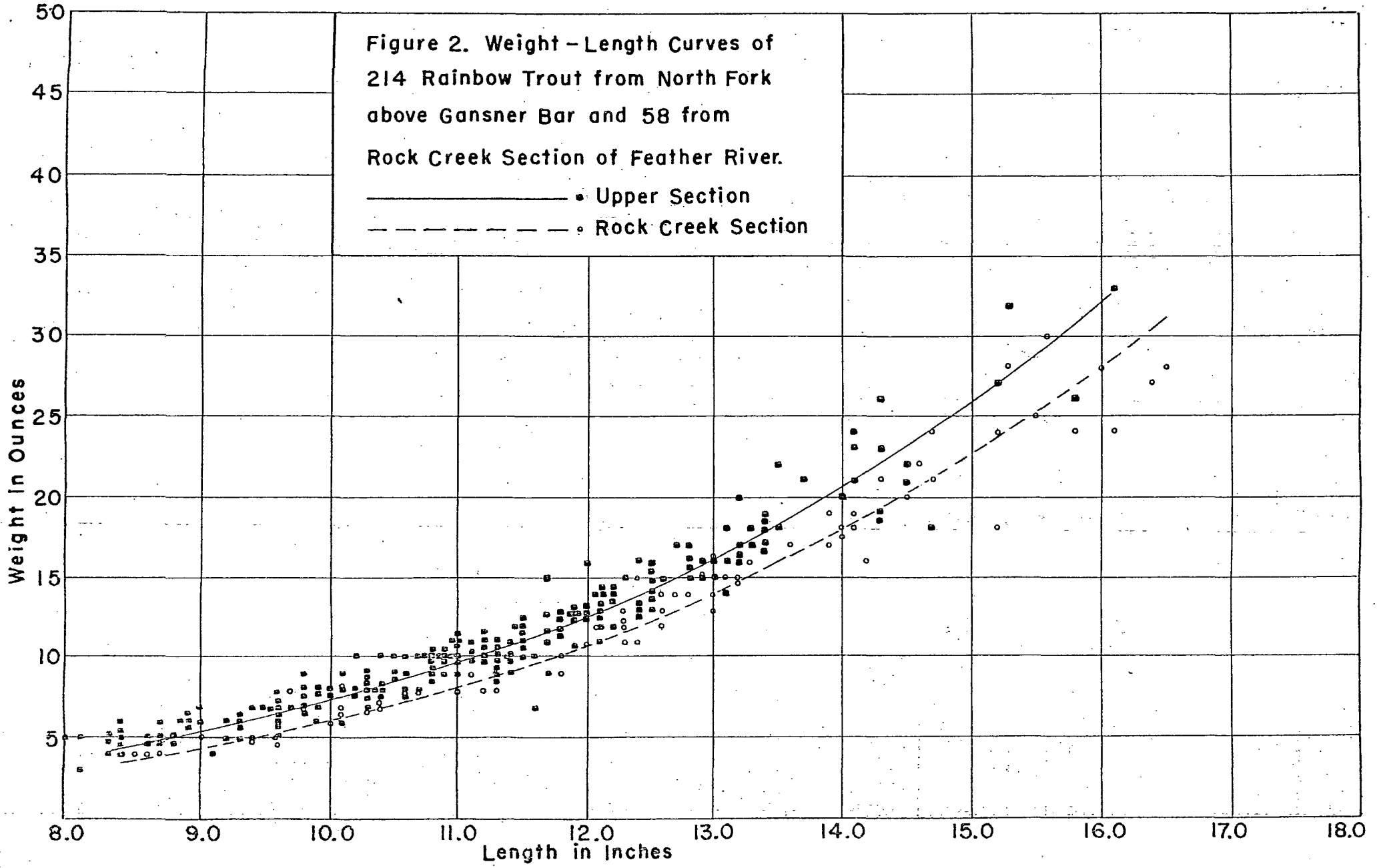
Figure 2. Weight – Length Curves of 214 Rainbow Trout from North Fork above Gansner Bar and 58 from Rock Creek Section of Feather River.
Upper Section
Rock Creek Section
Weight In Ounces
50
45
40
35
30
25
20
15
10
5
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
16.0
17.0
18.0
Length in Inches

TABLE 12

Rough Fish

		Total number of fish caught	Percentage suckers	Percentage hardheads
Weeks 1 - 5	(Upper	1,331	11.6	2.4
	(Lower	1,507	12.9	12.1
	(Both*	396	8.1	7.1
Weeks 6 -10	(Upper	342	7.6	2.9
	(Lower	380	13.2	17.6
	(Both	118	14.4	6.8
Weeks 11 -15	(Upper	333	15.9	3.6
	(Lower	287	7.0	31.4
	(Both	94	8.5	9.6
Season totals	(Upper	2,006	11.7	2.7
	(Lower	2,174	12.1	15.6
	(Both	608	9.4	7.4

*Anglers reporting fishing in both sections.

Comparison of Upper and Lower Sections

Differences in angling effort and success in the upper and lower sections are shown in Table 13. Greater effort was expended in the lower section, but with considerably less success than in the upper section. This difference is probably due more to a difference in relative skill of the anglers fishing each section than to a difference in the abundance of trout. It appears that more of the skilled anglers fish in the less accessible upper section. The time period of weeks 2-5 is the only one in which a greater number of hours were spent fishing the upper than the lower section, and this is also the time period when the greatest number of local anglers fished in the census section (Table 9).

Conditions for growth were equally good in each section, since weight-length curves were virtually identical.

Lures

Categories of lures used by the anglers are shown in Table 14. The census section is known primarily as a bait stream. Even a well-known dry fly manufacturer from Oakland used the most popular bait, a stonefly larva found abundantly in the river. Some fly fishermen, however, made consistently good catches.

TABLE 13

Summary of Creel Census Data
by Sections

		Angler-days	Angler-hours	Trout caught	Catch per hr.	Zero catches (percent)	Trout caught by campers on days previous to check days	Total trout catch	Percent of season catch	Total number measured	Average size (FL in inches)
Week 1	Upper	393	1,632 1/2	633	0.39	56	575	1,208	18.3%	702	10.77
	Lower	611	2,114 1/2	699	0.33	64	589	1,288	19.5%	831	10.69
	Both*	71	321 1/2	118	0.37	56	113	231	3.5%	118	9.97
Weeks 2-5	Upper	354	1,321 3/4	511	0.39	58	170	681	10.3%	429	10.09
	Lower	511	1,231 1/4	432	0.35	75	250	682	10.3%	371	10.00
	Both	131	519 3/4	218	0.42	62	165	383	5.8%	230	9.76
Weeks 6-10	Upper	298	892	306	0.34	71	182	488	7.4%	335	9.71
	Lower	554	1,115	263	0.24	83	142	405	6.1%	285	9.43
	Both	169	550 3/4	93	0.17	79	277	370	5.6%	99	9.84
Weeks 11-15	Upper	177	568 1/2	268	0.47	68	51	319	4.8%	298	9.65
	Lower	465	857 3/4	177	0.21	84	8	185	2.8%	157	9.80
	Both	119	386 1/4	77	0.20	72	298	375	5.7%	112	10.00
Season totals	Upper	1,222	4,414 3/4	1,718	0.39	62	978	2,696	40.8%	1,764	10.21
	Lower	2,141	5,318 1/2	1,571	0.30	76	989	2,560	38.7%	1,644	10.23
	Both	490	1,778 1/4	506	0.28	70	853	1,359	20.5%	559	9.87
All seasons combined		3,853	11,511 1/2	3,795	0.33	71	2,820	6,615	100.0%	3,967	10.17

*Anglers reporting fishing in both sections.

TABLE 14

Lures Used

	Bait	Spinners	Flies	Combinations
Week 1	85.6%	6.7%	5.5%	2.2%
Weeks 2 - 5	76.6%	8.7%	10.8%	3.8%
Weeks 6 - 10	70.9%	14.6%	7.6	6.9%
Weeks 11 - 15	69.1%	13.1%	11.8%	5.9%
Season totals	76.1%	10.6%	8.7%	4.6%

Comparison of 1953 and 1954 Opening Weekends

Fishing was somewhat better on the two-day 1953 opening weekend than on the three-day 1954 opener (Table 15). Differences in methods of recording the data may account for some of the difference, however. In 1953 there was no category of trout-caught-on-days-previous-to-check-day, so that the trout totals for the second day may have included this category. Presumably 420 of the trout recorded on the third day in 1954 were caught on the second day. Moreover, it is difficult to make an accurate comparison of two-day and three-day opening weekends.

Trout caught on opening weekend of 1954 averaged a full inch longer than those caught in 1953 (Table 16).

TABLE 15

Comparison of 1953 and 1954
Opening Weekends
Caribou Powerhouse to Gansner Bar

	Angler-days	Trout caught	Catch per day	Trout caught on days previous to check day
May 30, 1953	381	1,042	2.7	--
May 29, 1954	360	847	2.4	--
May 31, 1953	432	708	1.6	*
May 30, 1954	336	296	0.9	326
May 31, 1954	319	206	0.7	840
Opening weekend, 1953	813	1,750	2.2	--
Opening weekend, 1954	1,015	1,349	1.3	1,166

*Apparently included in total of trout caught May 31, 1953.

TABLE 16

Comparison of Length-frequencies
Opening Weekends of 1953 and 1954

Inch group	1953[1]	1954[2]
4.0 - 4.9	0.2%	--
5.0 - 5.9	3.0%	0.5%
6.0 - 6.9	9.5%	3.6%
7.0 - 7.9	11.0%	6.5%
8.0 - 8.9	13.5%	8.7%
9.0 - 9.9	17.1%	13.9%
10.0 - 10.9	13.5%	19.9%
11.0 - 11.9	14.3%	20.6%
12.0 - 12.9	7.6%	14.0%
13.0 - 13.9	7.0%	6.8%
14.0 - 14.9	2.1%	3.3%
15.0 - 15.9	0.8%	1.2%
16.0 - 16.9	0.2%	0.8%
17.0 - 17.9	0.2%	0.1%

1953 - Ave. size = 9.7"
1954 - " " = 10.7"

[1] From a sample of 466 trout
[2] " " " " 1,566 "

Recreation

Estimates of the total recreational use of the census section between May 29 and September 10, 1954 are shown in Table 17. Actual recorded data amounted to about 75 percent of the total estimate. An estimated two and one-half tons of trout were caught by 8,690 anglers in the 8.3 miles of the census section during the 15 weeks of the census. An estimated 7,750 camper-nights were spent in the census section during the period of the census, and 3,500 vacationists who did not fish accompanied the anglers. An additional large number of picnickers and tourists who enjoyed the scenic canyon and turbulent river were not counted in the census because they did not camp or fish.

TABLE 17

Total Recreational Use and Angling Success
Caribou Powerhouse to Gansner Bar
May 29 - September 10
(Estimated)

Angler-days	Trout caught	Total weight	Trout per stream mile	Pounds per stream mile	Camper nights	Number of non-anglers accompanying anglers
8,690	8,420	4,940 lbs.	1,014	595	7,750	3,500

SUMMARY

1. A creel census was carried out on the North Fork of the Feather River, Plumas County, California, between Caribou Powerhouse and Gansner Bar, a distance of 8.3 stream miles. The census extended from May 29 (opening day) to September 10, 1954, a period of 15 weeks. The check station was open from 8:00 A.M. to 9:45 P.M. on holiday weekends and from 10:00 A.M. to 9:00 P.M. on other days. Two weekdays each week were not checked.

2. Trout were not planted in the census area in 1954. Thirty-eight thousand five hundred (38,500) fingerling rainbows were planted in the fall of 1953, but are not believed to have entered the catch in appreciable numbers.

3. A total of 3,853 angler-days and 11,511½ angler-hours were spent in catching 3,795 trout on the days the anglers were checked, for an average catch of 1.0 trout per angler-day and 0.33 per angler-hour. Average angler-day was 3.0 hours. An additional 2,820 trout were reported by campers as they left the census area.

4. Thirty-eight percent of the season catch was made on opening weekend by 28 percent of the season total of anglers, and 68 percent in the first five weeks, by 54 percent of the season total of anglers.

5. The 310 anglers from Los Angeles County who fished in the census section caught 0.09 trout per day; the 457 anglers from Plumas County caught 2.1 trout per day; and an expert who was checked nine times caught 11.9 trout per day. Seventy-one percent of all angler-days resulted in zero catches. Approximately 50 percent of the season catch was taken in 5.5 percent of the angler-days spent by those anglers catching five or more fish.

6. A total of 3,967 rainbow trout and 12 brown trout was measured. Average size (fork length) decreased from 10.7" in the first week to 9.8" in the third five-week period.

7. A total of 663 rainbow trout were weighed. Length-weight curves did not change between the first and third five-week periods.

8. Of the 4,788 fish caught by anglers on the day they were checked, 21 percent were rough fish. The percentage of suckers in the catch remained remarkably similar throughout the summer, while the percentage of hardheads in the catch increased greatly. This increase apparently represented a migration of hardheads into the census section from the Rock Creek Reservoir, two miles downstream.

9. Angling success was greater on opening weekend in 1953 (2.2 trout per angler-day) than on opening weekend in 1954 (1.3 trout per angler-day). Trout caught on the 1954 opening averaged one inch larger, however.

10. Estimates of the total recreational use of the census section between May 29 and September 10 were: 8,690 angler-days, 7,750 camper-nights, and 3,500 non-anglers who accompanied anglers.