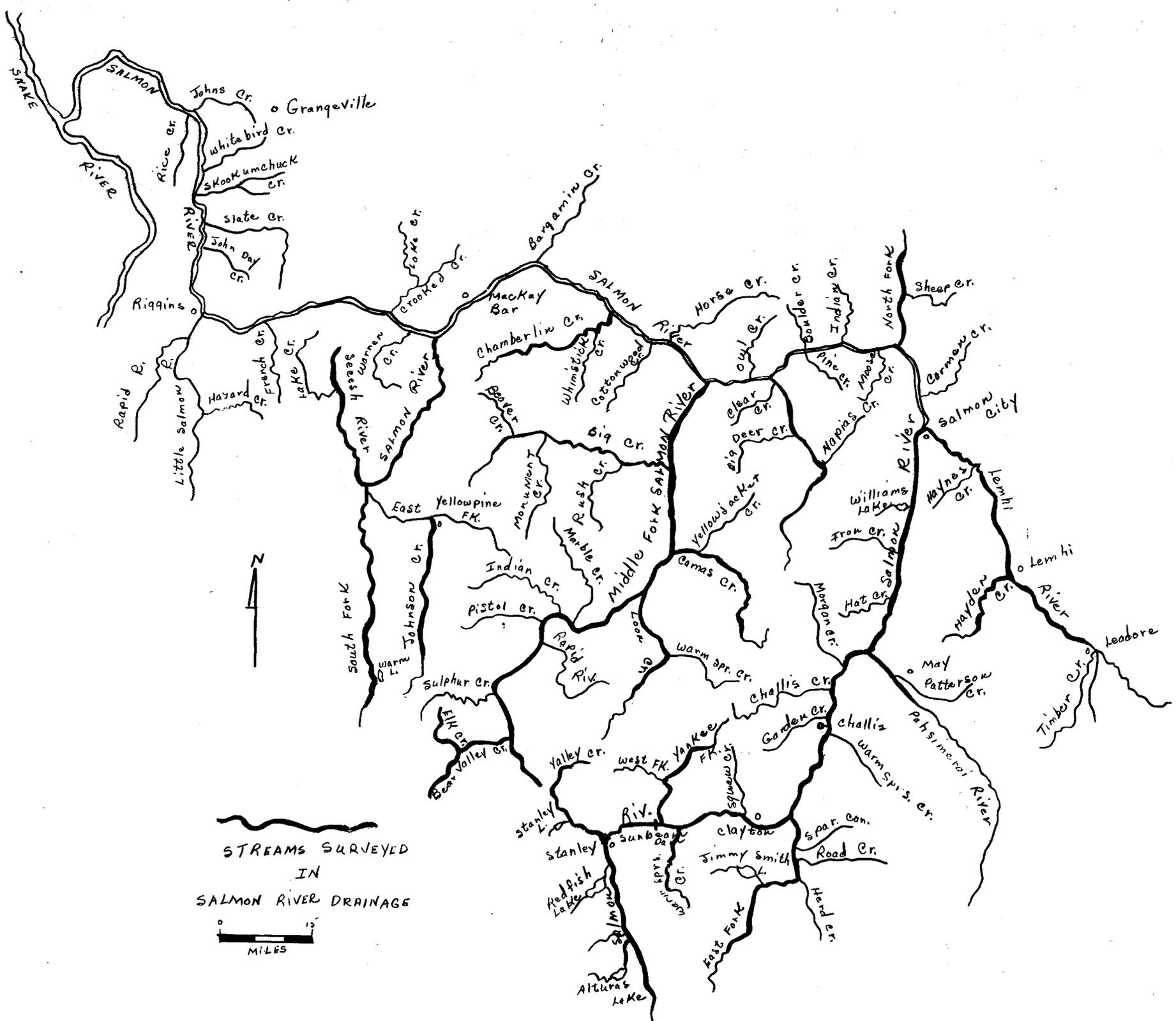


State of Idaho
DEPARTMENT OF FISH AND GAME
Ross Leonard, Director

AERIAL SURVEY OF CHINOOK SALMON REDDS
IN THE SALMON AND WEISER RIVER DRAINAGES, IDAHO
1959

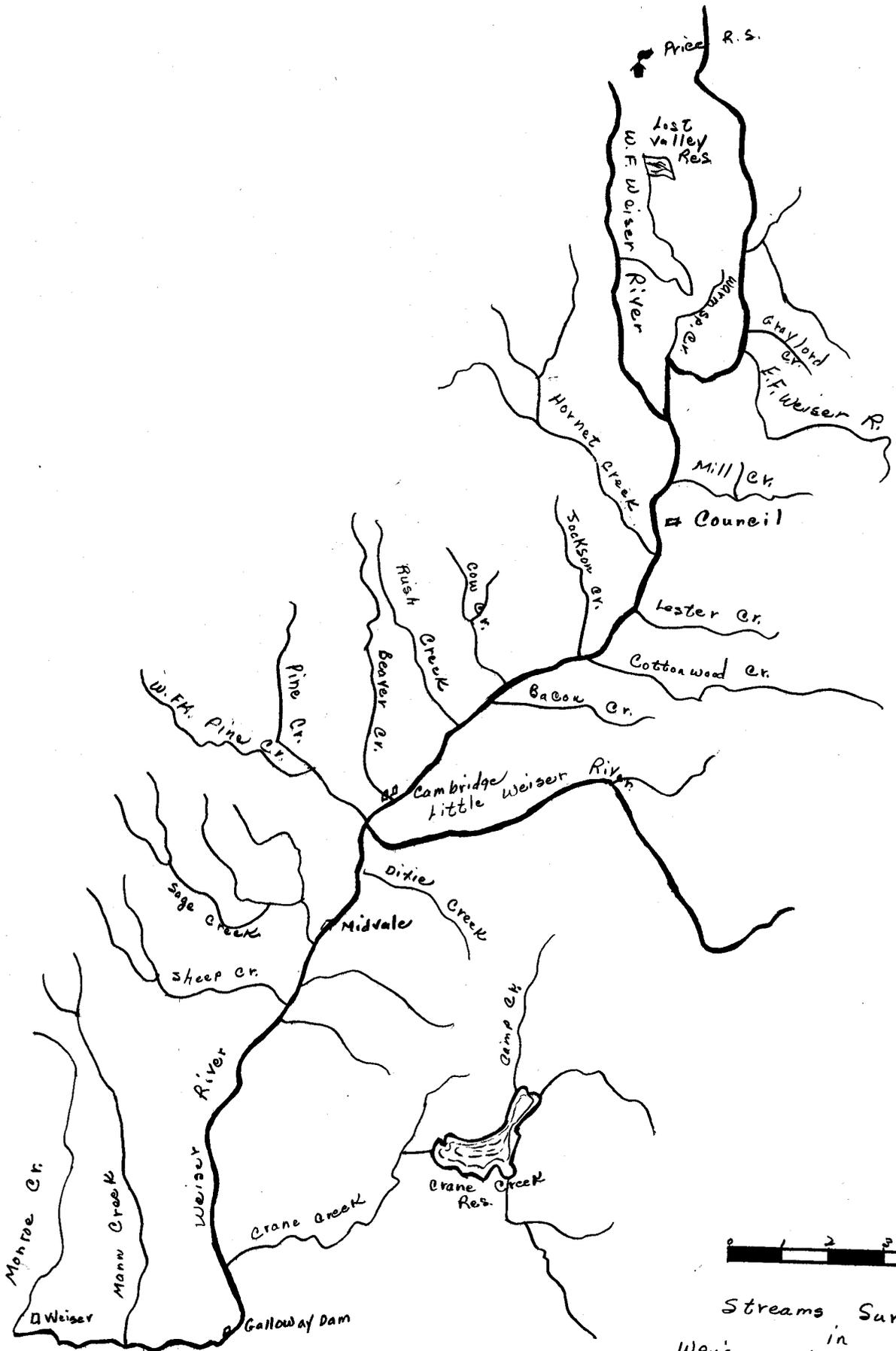
Columbia River Fishery Development Program

By
Monte Richards and Ted C. Bjornn
Fisheries Biologists
January 21, 1960



STREAMS SURVEYED
IN
SALMON RIVER DRAINAGE





Streams Surveyed
in
Weiser River Drainage

AERIAL SURVEY OF CHINOOK SALMON REDDS
IN THE SALMON AND WEISER RIVER DRAINAGES, IDAHO

INTRODUCTION

The aerial survey of spring chinook salmon redds in the Salmon and Weiser River drainages was continued in 1959 as part of the biological investigations conducted under the Columbia River Fishery Development Program. The methods are the same as those used in 1958. Changes in areas of observation are as noted.

FINDINGS

Salmon River Drainage

Alturas Lake Creek

This stream was surveyed on September 9 and only 18 redds were observed as compared with 96 in 1958. No live fish were seen. During August, six salmon were observed in Alturas Lake Creek immediately below Perkins Lake. These fish were above the Breckenridge diversion. Two redds were found in the stream above the diversion.

Bear Valley Creek

Bear Valley Creek, from the dredges in Big Meadows to the Fir Creek pack bridge, was flown on August 30. Spawning was completed. The count for the stream section from Big Meadows to the confluence of Elk Creek was 215 redds. There was close agreement between aerial and ground counts in the area from the dredges to Cub Creek. The count from the confluence of Elk Creek to the Fir Creek pack bridge was 166 redds. Total number of redds counted in Bear Valley Creek was 381.

Beaver Creek

This stream was surveyed on September 1 and a total of 36 redds were observed (including seven on Winnemucca Creek). No live fish were seen and the redds were difficult to distinguish. The count on this stream should be made between August 20-25.

Big Creek

The area from Jacobs Ladder Creek to Logan Creek was counted from the ground on September 5. Spawning was completed and 88 redds were observed in this stream section. The remainder of the stream from Logan Creek to the mouth was aerially surveyed on September 10 with 225 redds being counted. Spawning was also completed in this area. Total number of redds counted in Big Creek was 313.

Camas Creek

This stream was surveyed on September 9 and 70 redds were observed. No live fish were seen. That portion of Camas Creek surveyed in 1959 was from Fall Creek down to the end of the meadow one mile below the Fluorospar Mine; a distance of approximately 10 miles. The lower 10 miles of the stream were not flown in 1959 and will not be flown in the future due to the hazardous flying conditions and the small amount of suitable spawning area present.

Capehorn Creek

This stream was flown on September 1 and 18 redds were observed. No live fish were seen. The redds in this stream should be counted August 20-25.

Chamberlain Creek

The aerial survey of Chamberlain Creek, from Moose Creek to the mouth of Lodgepole Creek, was made on September 10. Spawning was completed and 40 redds were counted. Based on past ground checks, the redd count was increased by 100 percent, making the estimated number of redds for Chamberlain Creek, 80.

Chamberlain Creek, West Fork

The West Fork Chamberlain Creek was surveyed on September 10. A total of 109 redds was counted. Spawning was completed.

Elk Creek

Elk Creek was first flown on August 29. Flying conditions were unfavorable and the stream was re-flown on August 30. Spawning was completed at this time.

Because of heavy stream utilization and congestion of redds in the area from Porter Creek to the Cascade road, this stream section was also counted from the ground on September 1 and a redd count adjustment made for the creek above the Cascade road. The adjusted total estimated redd count for Elk Creek was 516.

Johnson Creek

The survey of Johnson Creek was made on September 24. Spawning was completed. High water and resultant silting prior to the aerial count made observation of redds difficult and the count must be considered as minimum. Redds observed totaled 294. No redds were observed above the Landmark Ranger Station.

Knapp Creek

This stream was surveyed on September 1 and 10 redds were observed. No live fish were seen. The redds in this stream should be counted August 20-25.

Lemhi River

This river was surveyed September 11 and 524 redds were observed. Few live fish were seen and spawning was apparently complete. Hayden Creek, a tributary to the Lemhi, was not flown in 1959 and will not be flown in the future because an accurate count cannot be made from the air due to trees and brush.

Loon Creek

This stream was surveyed on September 9 and 123 redds were observed. Few live fish were observed and spawning was apparently completed. The lower 10 miles of Loon Creek below the meadow at the Falconberry Ranch was flown in 1959 and no redds were observed. This section will not be flown in the future due to hazardous flying conditions and the small amount of suitable spawning area present.

Marsh Creek

This stream above the mouth of Lola Creek was surveyed September 1 and 31 redds were observed. No live fish were seen. The redds in this stream should be counted August 20-25. The redds are hard to distinguish by the first of September.

Phasimeroi River

This river was surveyed September 29 and 117 redds were observed. No live fish were seen.

Panther Creek

Panther Creek above the mouth of Blackbird Creek was surveyed on September 11 and no redds were observed. The stream below Blackbird Creek was turbid and it was not possible to count the redds.

Rapid River

This stream was surveyed September 1 and 11 redds were observed. No live fish were seen. It is recommended that this stream be eliminated from future aerial surveys because of the hazardous flying conditions and limited amount of spawning area present. Suitable spawning area was present only at the lower edges of the few pools in the stream.

Salmon River

The Salmon River above Stanley was surveyed September 9 and 502 redds were observed. A few live fish were observed. No redds were found above the Breckenridge irrigation diversion.

The Salmon River from Salmon to Stanley was surveyed September 29 and 336 redds were observed. Very few live fish were observed. The count was delayed several days because of poor flying weather, however, the redds were still plainly visible.

Salmon River, East Fork

This stream was flown September 12 and 315 redds were observed. Live fish were observed spawning in the lower 15 miles.

Salmon River, Middle Fork

This stream was flown September 2 and 46 redds were observed. No live fish were observed.

Salmon River, South Fork

The Stolle Meadows portion of the South Fork Salmon River was first flown on August 30. Many fish were still spawning and no count was made. A ground count was made over the area from Blue Point Creek to Cougar Rock Trail on September 5. Spawning was completed in this stream section and 73 redds were counted. The remainder of the Stolle Meadows area was aerially counted on September 10 when spawning was completed and 224 redds were observed. The total count for the Stolle Meadows area was 297 redds.

The stream section from the Knox bridge to the South Fork Guard Station was flown on September 24 and 1008 redds were counted. Spawning was completed. The count on this section must be considered minimum because of high water and silting prior to the count. The total count for the South Fork Salmon River was 1305.

Secesh River and Lake Creek

Lake Creek was flown on August 30. Spawning had been completed for some time and redd observation was difficult. A ground check was made from the Burgdorf Guard Station to the mouth of the creek on September 6. The ground check showed 41 redds as compared to the aerial count of 28 and a corresponding adjustment was made. The adjusted estimated redd count for Lake Creek was 116.

The Secesh River from the confluence of Lake Creek to the mouth was aerially surveyed on September 10. Spawning was completed and 169 redds were counted. The combined adjusted redd count for Lake Creek and the Secesh River was 285.

Sulphur Creek

The survey of Sulphur Creek was made on August 29. Unfavorable flying conditions caused the survey to be late and spawning had been completed for some time. Observation of redds was difficult and the count of 100 redds must be considered questionable.

Valley Creek

This stream was surveyed September 9 and 94 redds were observed. A number of live fish were observed on redds near the mouth of the creek.

Yankee Fork

This stream was flown September 7 and 53 redds were observed. No live fish were seen.

Weiser River Drainage

There were no redds observed in the Weiser River Drainage on the aerial survey. Turbid waters in the Little Weiser and West Fork Weiser Rivers and the Main Weiser River from the West Fork to Cambridge prevented aerial observation of redds in these stream sections. Ground redd counts were made over known spawning areas and substituted for aerial counts in streams where aerial observation was not adequate.

Main Weiser River

Galloway Dam to Cambridge

This stream section was flown on September 2. No redds were observed.

Cambridge to Price Valley Ranger Station

The area from the confluence of the West Fork Weiser to Price Valley was flown on September 2. No redds were observed in this stream section. Selected areas from the West Fork Weiser to Cambridge were surveyed from the ground on September 9 and six redds were observed.

Little Weiser River

All available spawning area in the Little Weiser River was ground surveyed on September 12. Spawning was completed and 39 redds were counted.

Middle Fork Weiser

All available spawning area in the Middle Fork Weiser was ground surveyed on September 10. Spawning was completed but moribund fish were still present. Six redds were observed.

West Fork Weiser

The West Fork Weiser was ground surveyed from the confluence of Lost Creek to the mouth on September 9. Spawning was still in progress but all live fish were on redds. The count for the West Fork Weiser was 19 redds.

RECOMMENDATIONS

1. That ground counts be made in place of aerial counts on Big Creek from Jacobs Ladder Creek to Logan Creek, on Elk Creek from the West Fork to the Cascade road and on the South Fork Salmon River from Blue Point Creek to Cougar Rock Trail.
2. That ground surveys be set up on the West Fork, Middle Fork and Little Weiser Rivers and on the Main Weiser River from the confluence of the West Fork to Cambridge.

Table 1. Number of Chinook Salmon redds counted by aerial survey, Salmon River, 1959.

<u>Stream^{1/}</u>	<u>Date Surveyed</u>	<u>Miles Flown</u>	<u>Aerial Redd Count</u>	<u>Percent Spawning Completed</u>	<u>Ground Count Adjust.^{2/}</u>	<u>Total Redds</u>	<u>Description Page No.</u>	<u>Survey Map Page No.</u>
Alturas Creek	9/9	6	18	100		18	4	28
Bear Valley Creek	8/30	27	381	100		381	4	14
Beaver Creek	9/1	10	36	100		36	4	15
Big Creek	9/5 & 10	36	313*	100		313	5	16
Camas Creek	9/9	10	70	100		70	5	17
Capehorn Creek	9/1	6	18	100		18	5	15
Chamberlain Creek	9/10	23	40	100	40	80	5	18
Chamberlain Creek, West Fork	9/10	4	109	100		109	5	18
Elk Creek	8/30	24	377	100	139	516	5	19
Johnson Creek	9/24	34	294	100		294	6	20
Knapp Creek	9/1	6	10	100		10	6	15
Lemhi River	9/11	61	524	100		524	6	21
Loon Creek	9/9	30	123	100		123	6	22
Marsh Creek	9/1	15	31	100		31	7	15
Phasimeroi River	9/29	18	117	100		117	7	23
Panther Creek ^{1/}	9/11	20	0			0	7	25
Rapid River	9/1	12	11	100		11	7	24
Salmon River:								
Above Stanley	9/9	30	502	100		502	7	28
Stanley to Salmon	9/29	119	336	100		336	7	27
Salmon River, East Fork	9/12	33	315	100		315	7	29
Salmon River, Middle Fork	9/2	100	46	100		46	8	30-31
Salmon River, South Fork:								
Stolle Meadows area	9/5 & 9/10	7	297*	100		297	8	32
Knox Bridge to So. Fk. G.S.	9/24	28	1008	100		1008	8	32
Secesh River and Lake Cr.	8/30 & 9/5	33	248	100	37	285	8	33
Sulphur Creek	8/29	12	100	100		100	8	34
Valley Creek	9/9	17	94	100		94	9	35
Yankee Creek	9/7	23	53	100		53	9	36

^{1/} Aerial counts were not made on the following streams because accurate counts could not be made from the air due to trees and brush obscuring the stream: North Fork of the Salmon River, Warm Springs Creek, and Hayden Creek. The lower portion of Panther Creek could not be counted due to turbid waters from mining activities.

^{2/} Aerial counts adjusted due to unfavorable observation conditions.

* Partial ground count substitution.

Table 2. Number of Chinook Salmon redds counted by aerial survey, Weiser River, 1959.

<u>Stream</u>	<u>Date Surveyed</u>	<u>Miles Flown</u>	<u>Aerial Redd Count</u>	<u>Percent Spawning Completed</u>	<u>Ground Count Substitute.</u>	<u>Total Redds</u>	<u>Description Page No.</u>	<u>Survey Map Page No.</u>
Weiser River:								
Galloway Dam to Cambridge	9/2	28	0			0	9	37
Cambridge to Price Valley	9/2 & 9	54	0	100	6	6	9	38
Weiser River, Little	9/2 & 12	34	0	100	39	39	9	39
Weiser River, Middle Fork	9/2 & 10	8	0	100	6	6	9	38
Weiser River, West Fork	9/2 & 9	11	0	100	19	19	10	40

1/ Due to unfavorable observation conditions, ground counts over known spawning areas were substituted for aerial counts.

LEGEND

Ground Survey Sections

Aerial Survey Sections

Ground Redd Counts

Aerial Redd Counts

Aerial-Ground Check Areas

Aerial-Ground Check Area Count

Migratory Block

Road

Trail

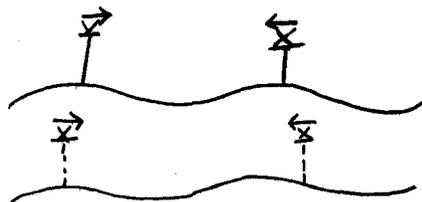
Forest Service Stations

Landing Strip

Fence

Pack Bridge

Highway Bridge



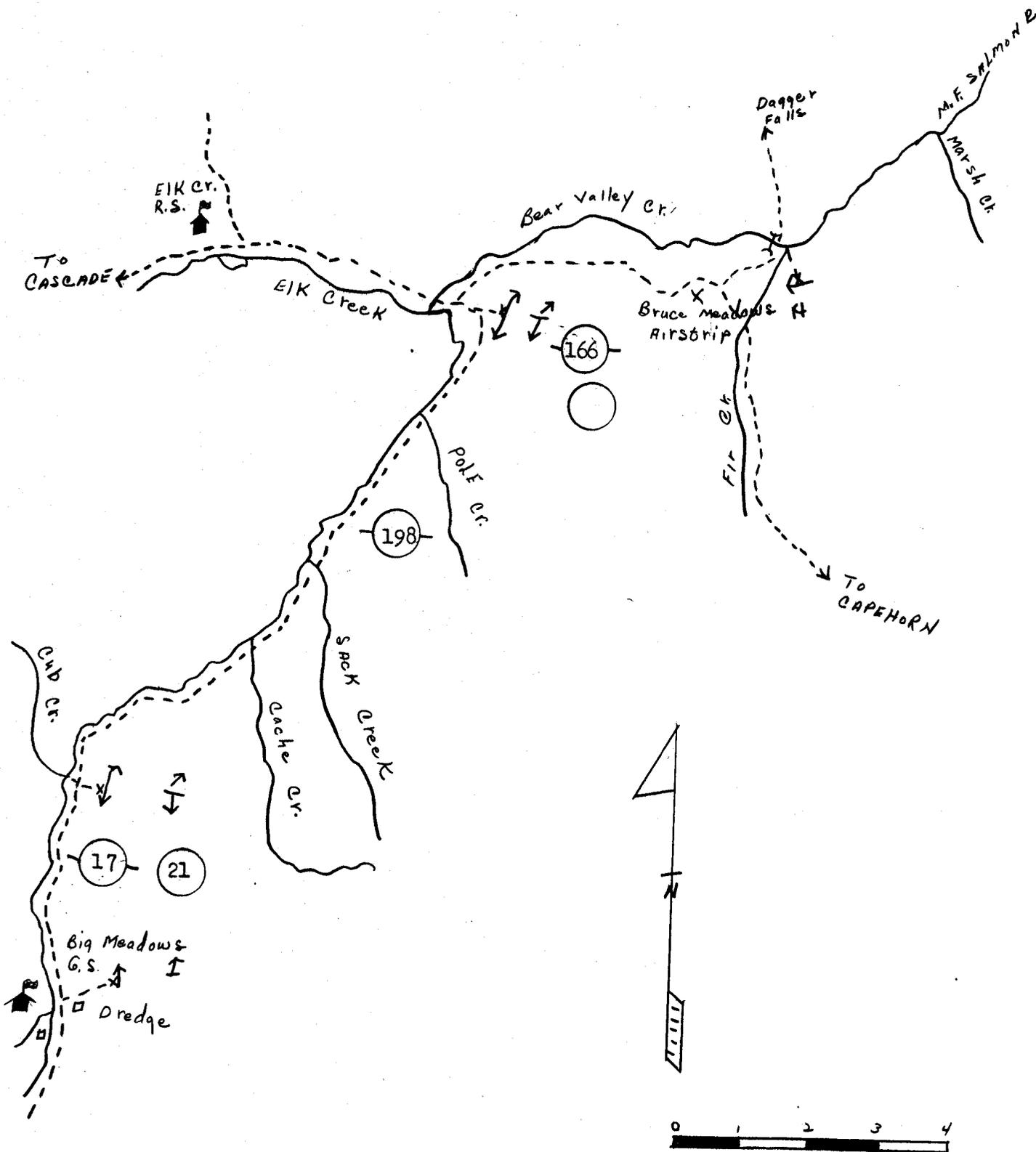
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/30/59

STREAM Bear Valley Creek

MAP SCALE 1/2" = 1 mile

OBSERVATION CONDITIONS Good



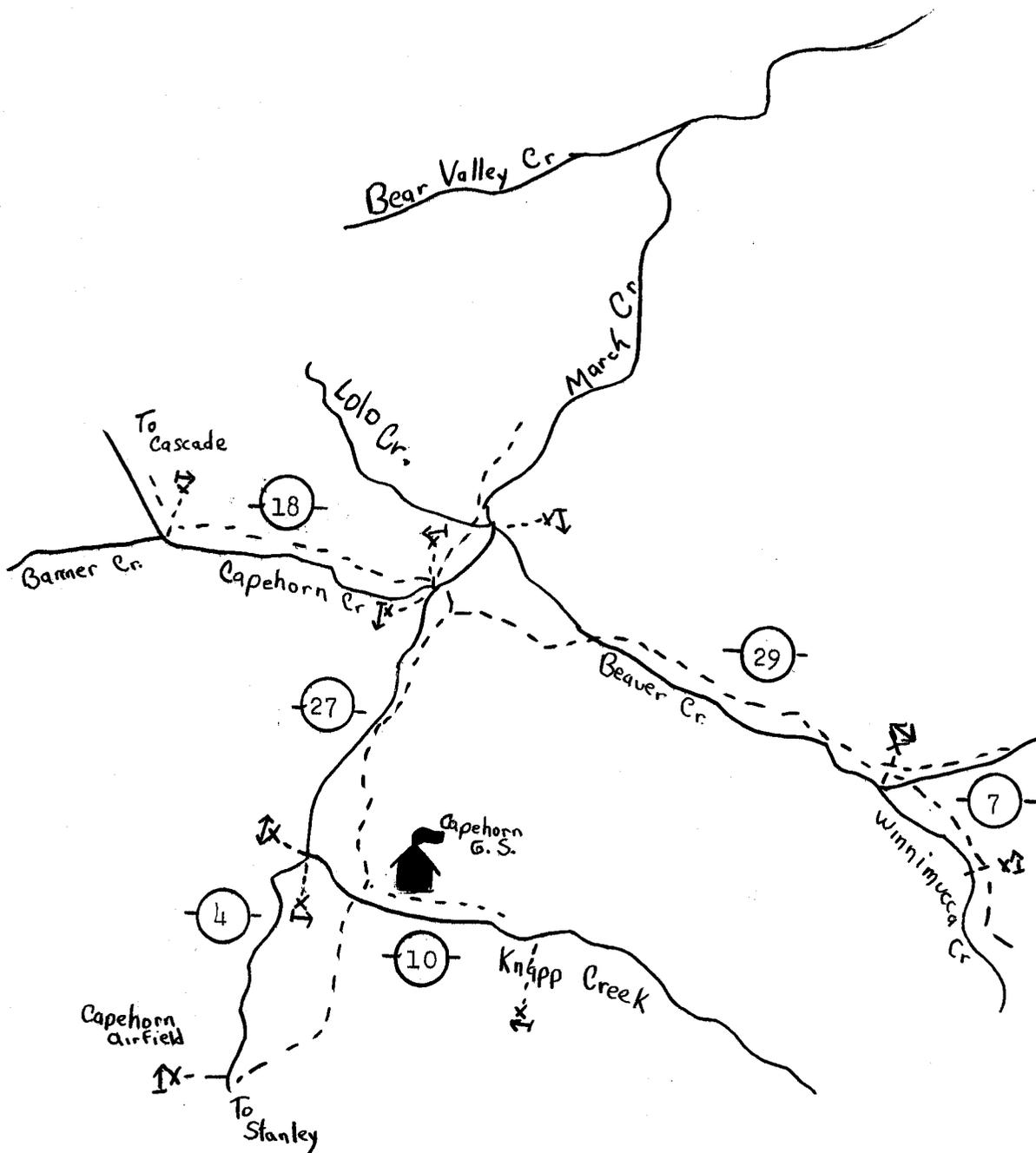
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/1/59

STREAM Marsh, Beaver, Knapp, Capehorn Creeks

MAP SCALE 2/3" = 1 mile

OBSERVATION CONDITIONS Good



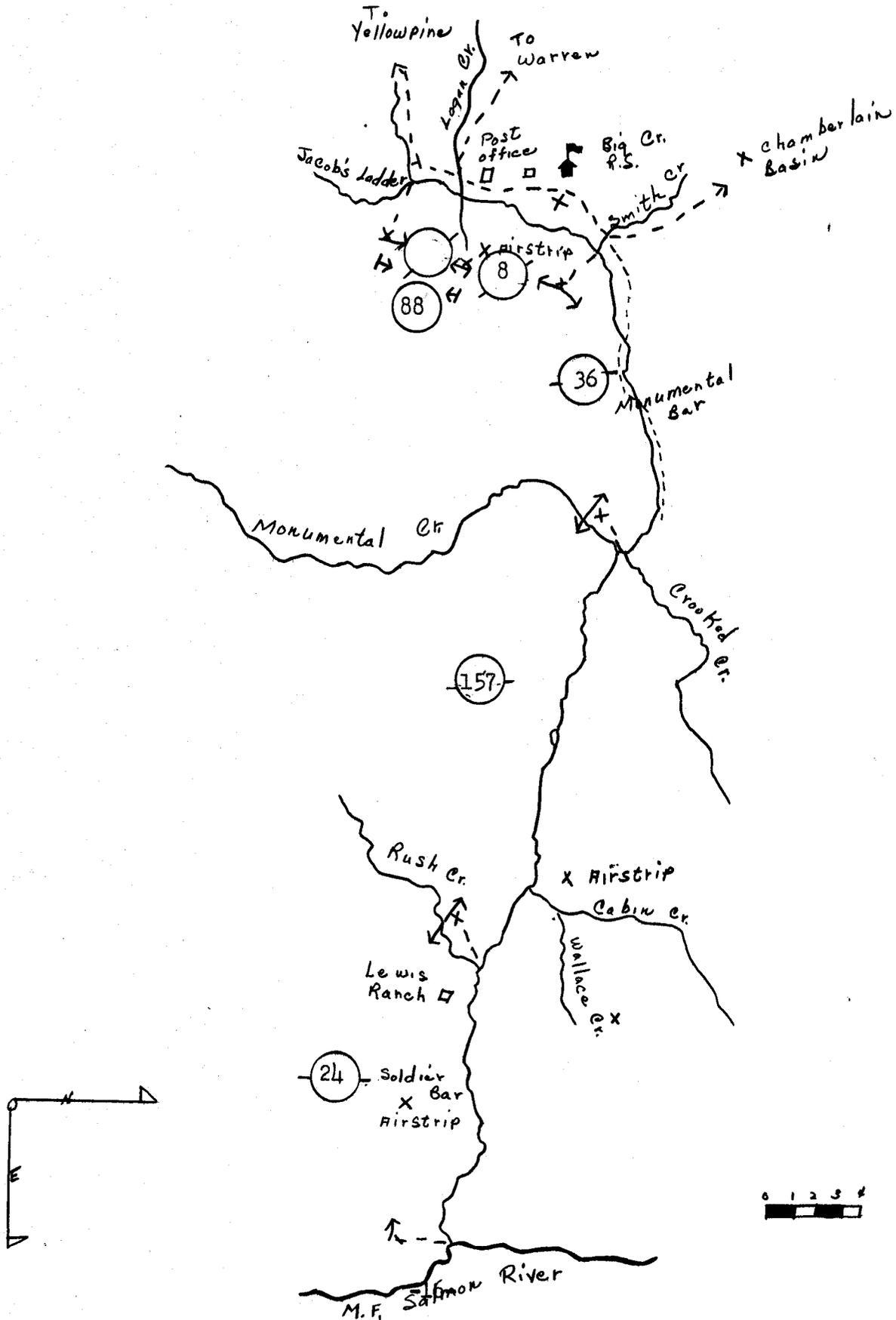
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/5-10/59

STREAM Big Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Good



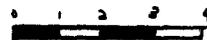
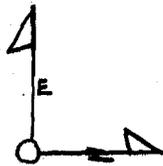
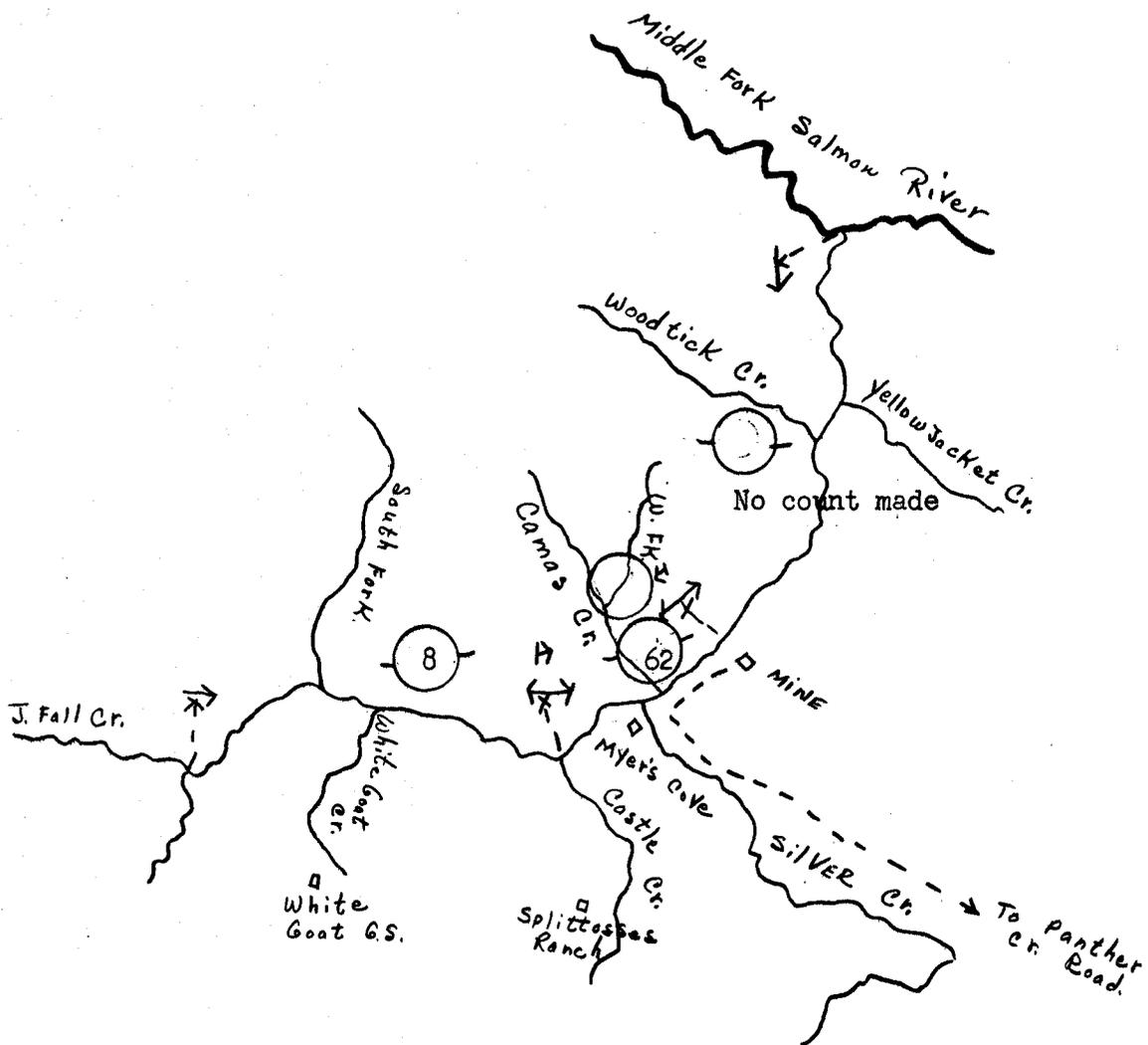
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/9/59

STREAM Camas Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Good



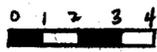
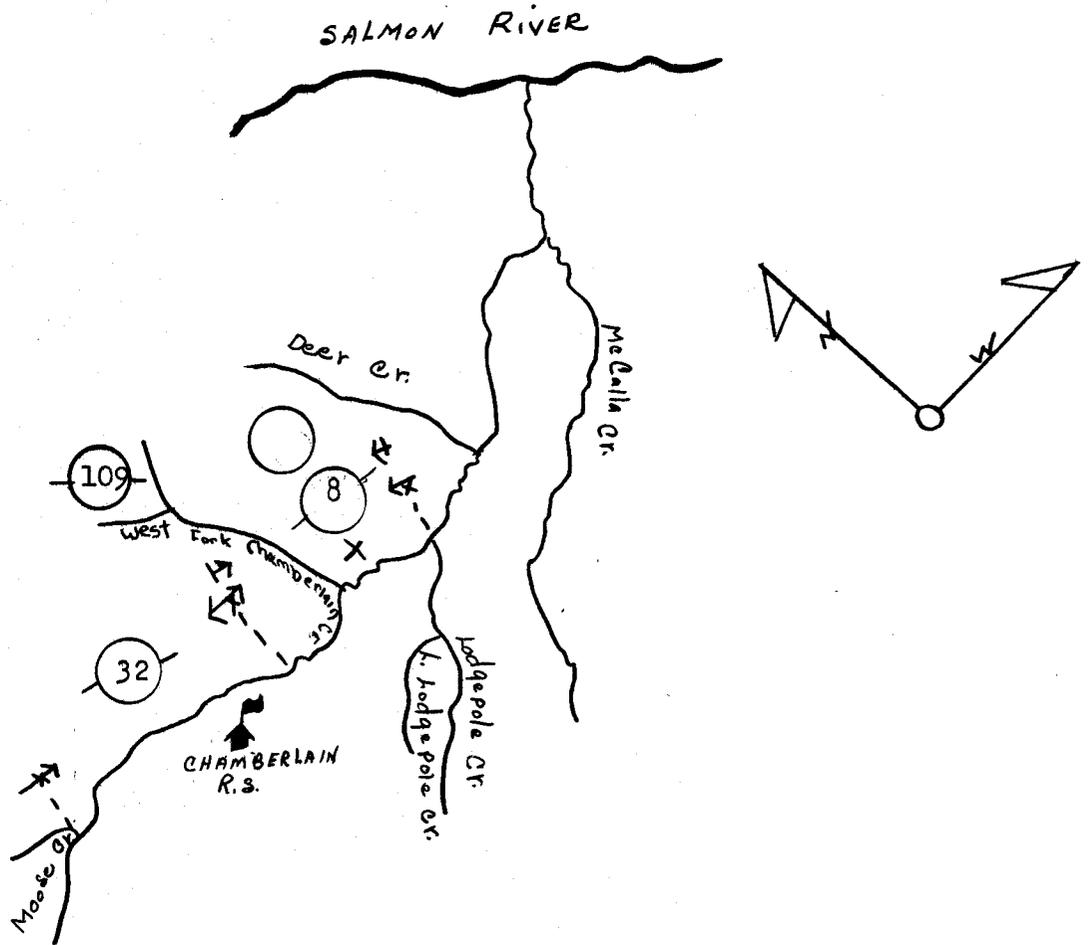
DRAINAGE Salmon River

SURVEY DATE 9/10/59

STREAM Chamberlain Creek

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Good



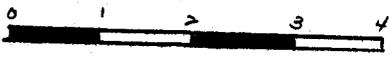
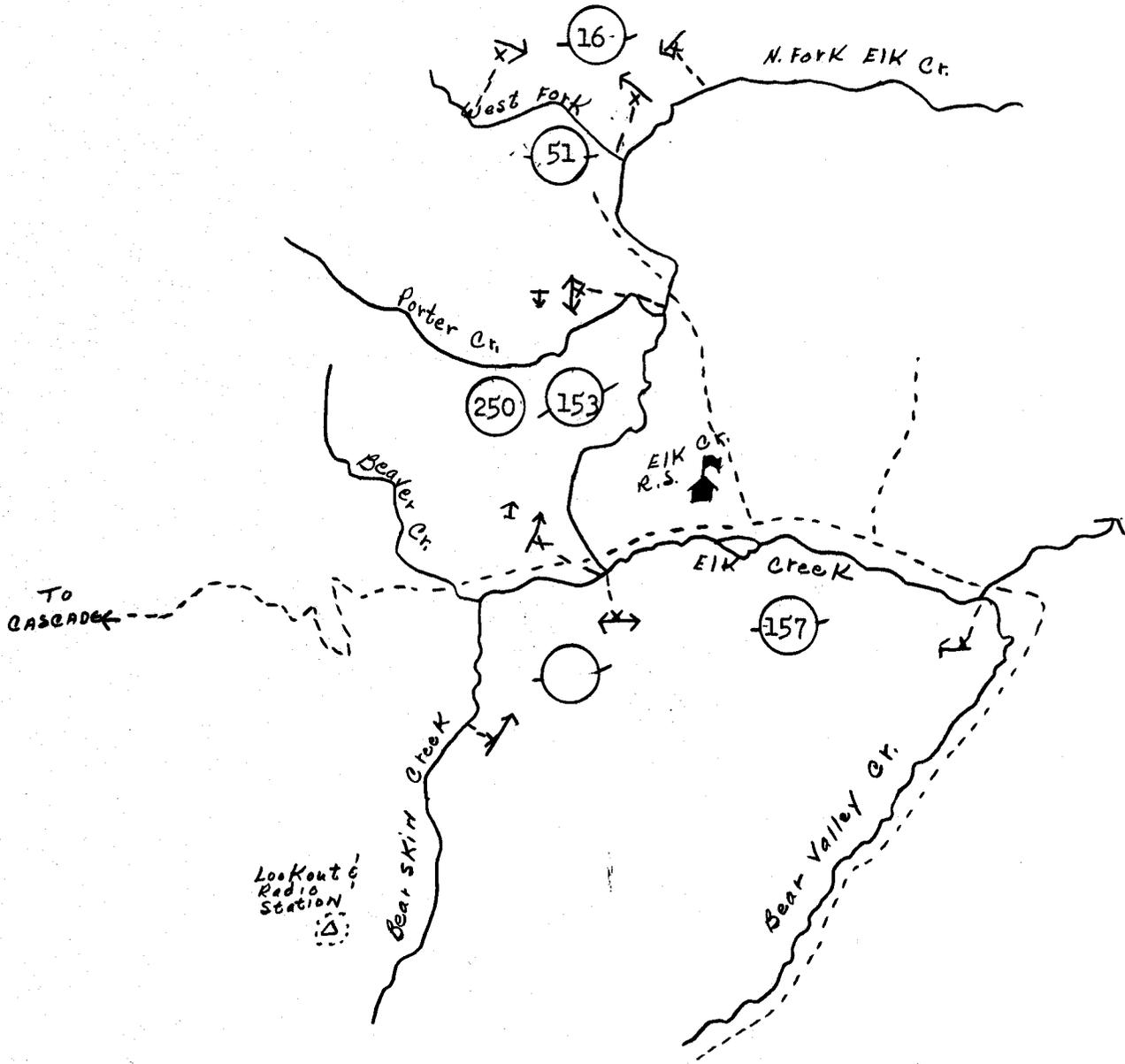
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/30/59

STREAM Elk Creek

MAP SCALE 1/2" = 1 mile

OBSERVATION CONDITIONS Good



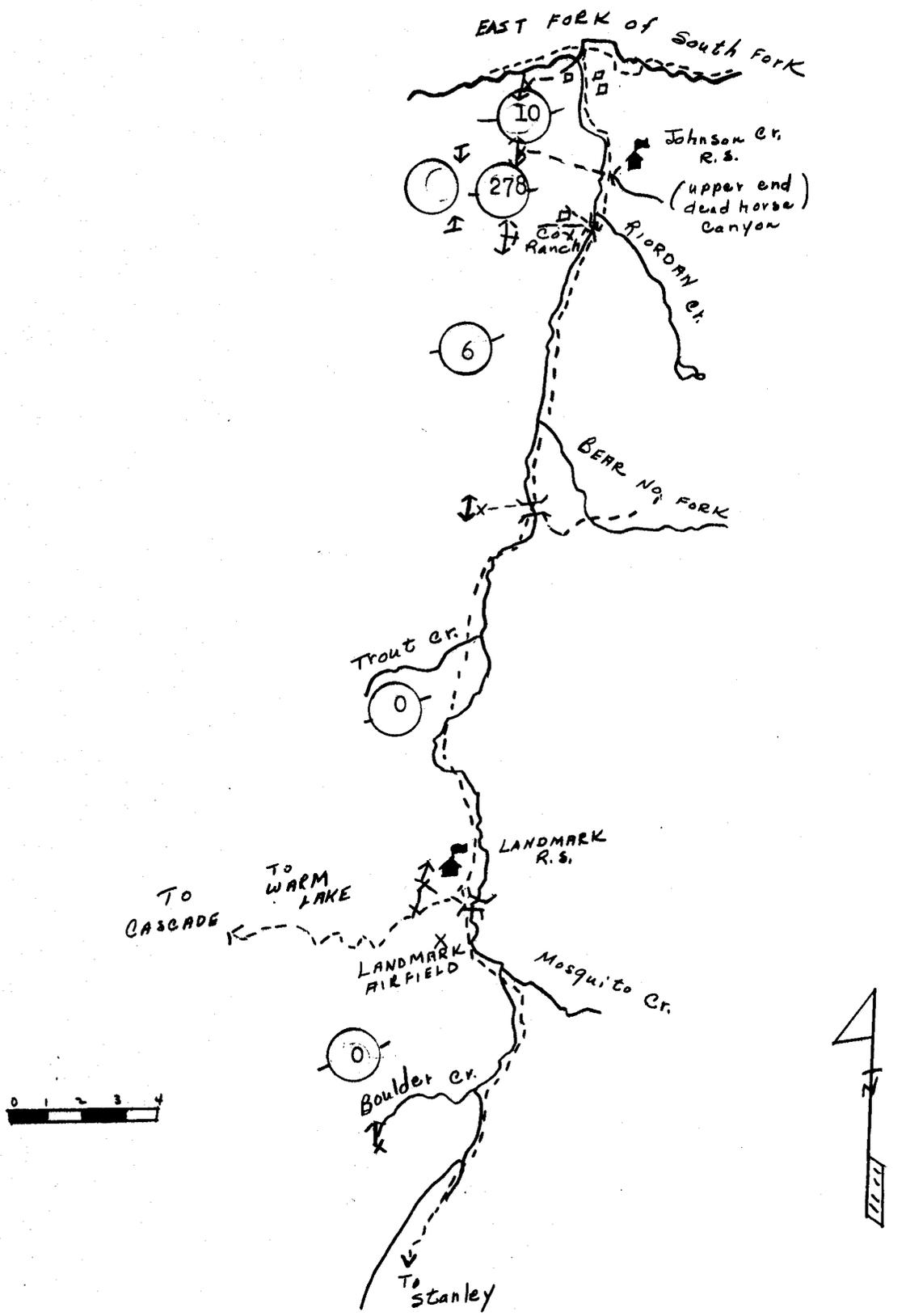
DRAINAGE East Fork of South Fork

SURVEY DATE 9/24/59

STREAM Johnson Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Poor



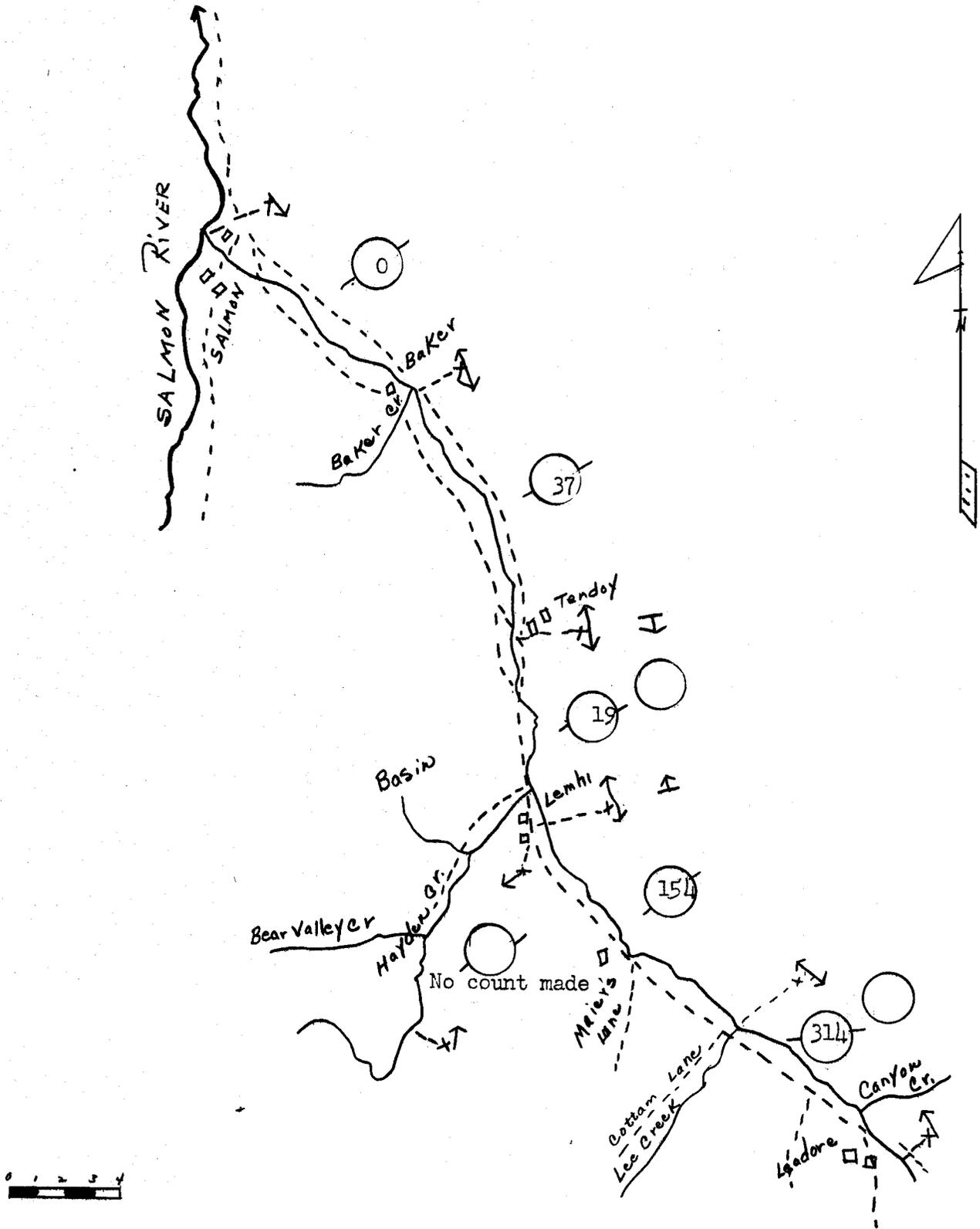
DRAINAGE Salmon River

SURVEY DATE 9/11/59

STREAM Lemhi River

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Good



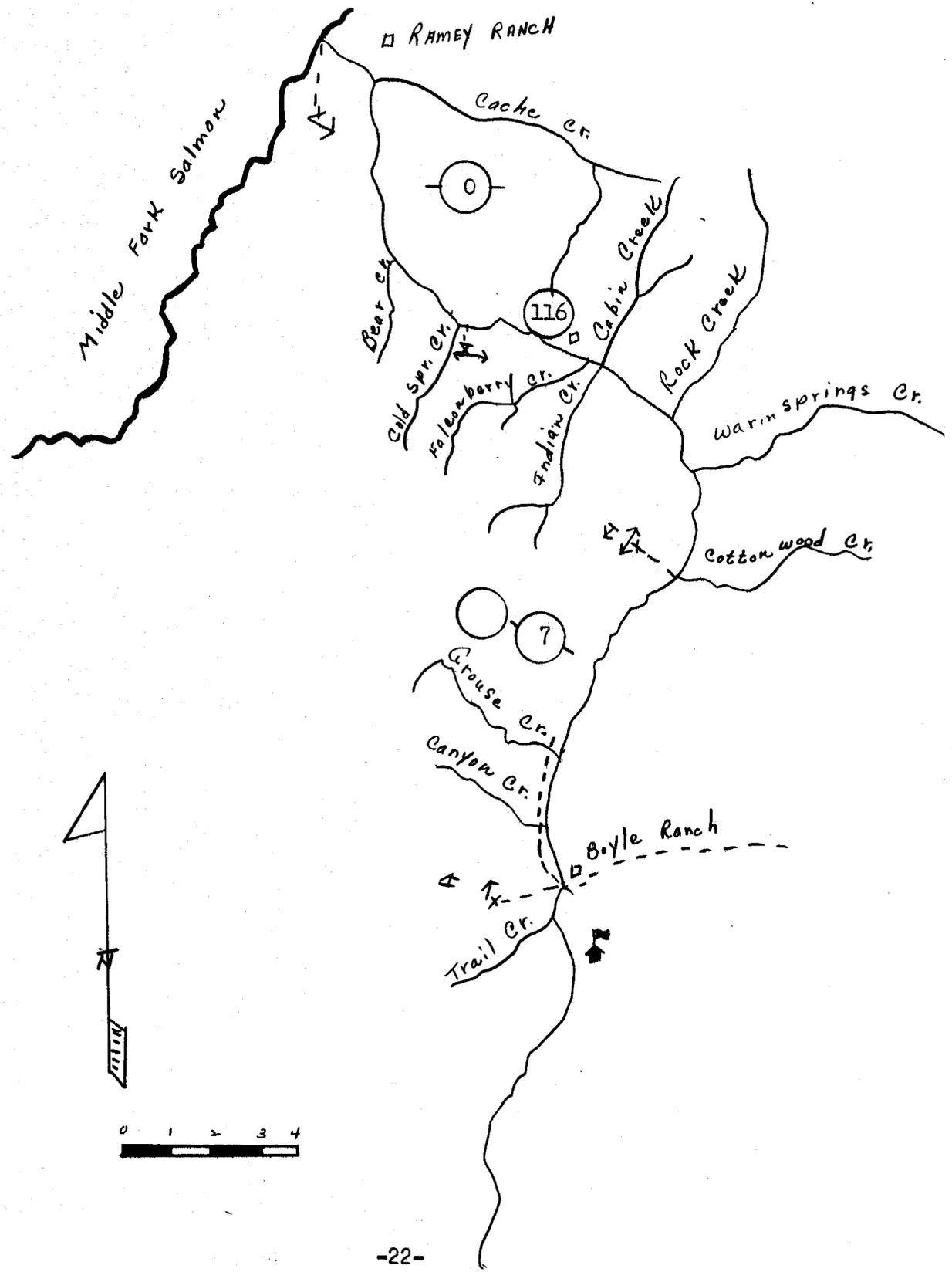
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/9/59

STREAM Loon Creek

MAP SCALE 1/3" = 1 mile

OBSERVATION CONDITIONS Good



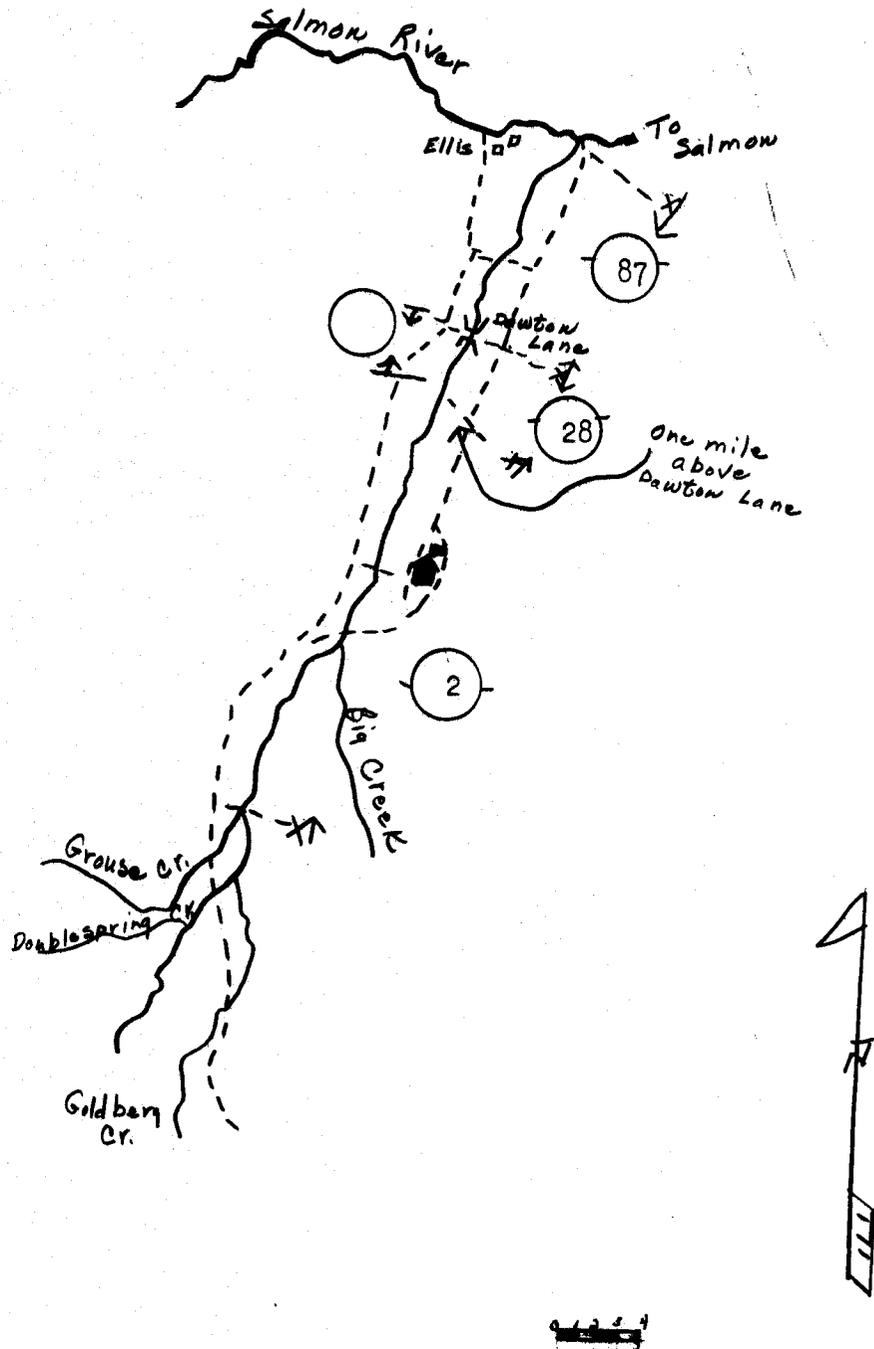
DRAINAGE Salmon River

SURVEY DATE 9/29/59

STREAM Pahsineroi River

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Good



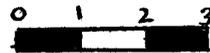
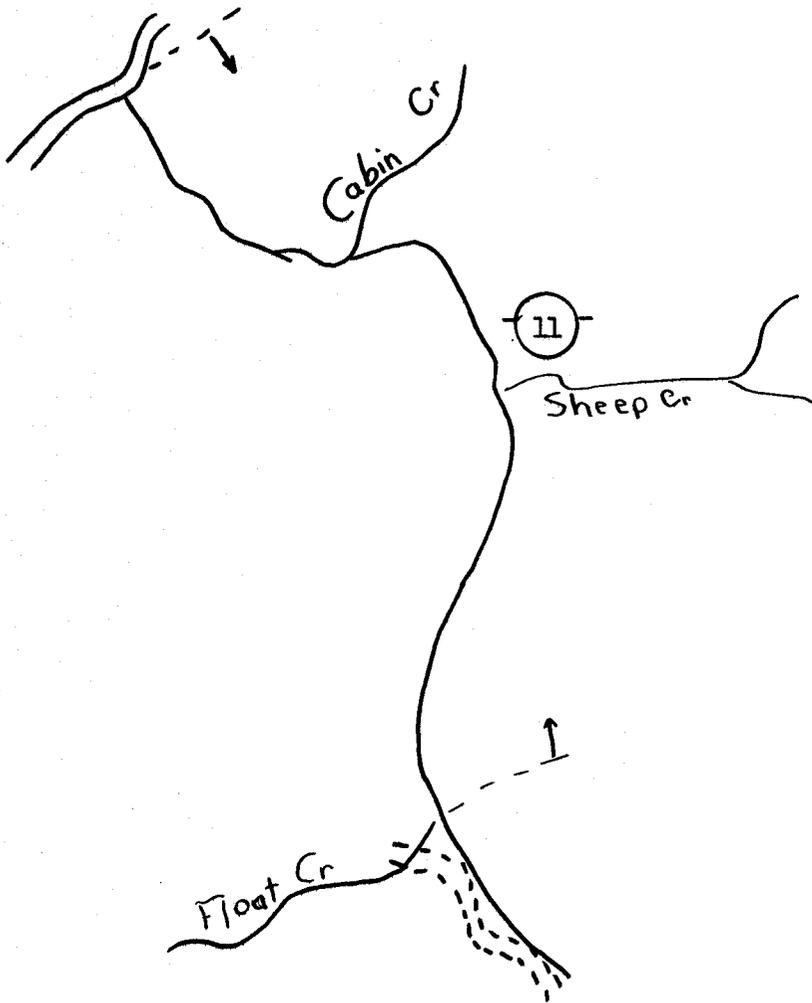
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/1/59

STREAM Rapid River

MAP SCALE 1/3" = 1 mile

OBSERVATION CONDITIONS _____



DRAINAGE Salmon River

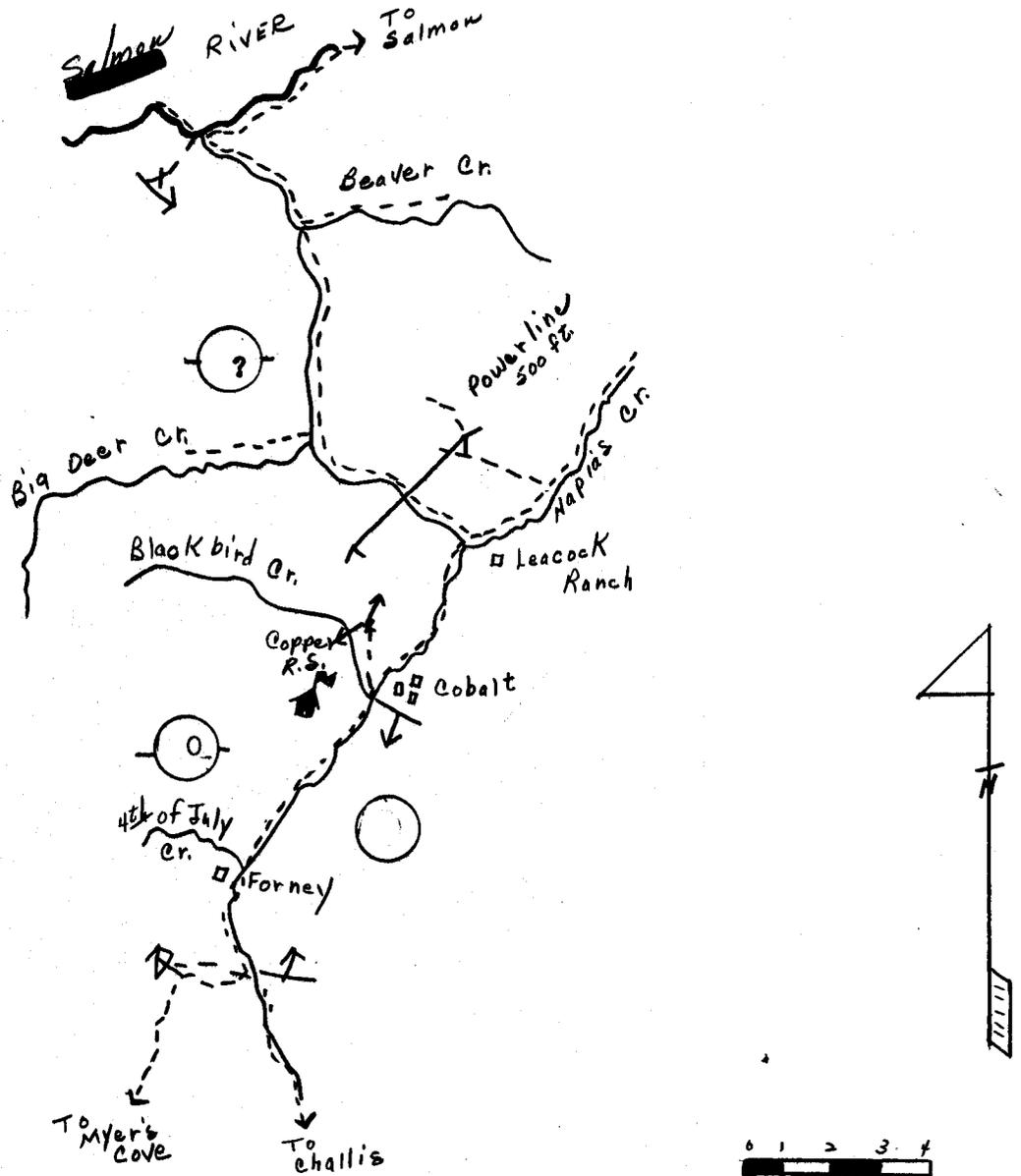
SURVEY DATE 9/11/59

STREAM Panther Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Partial Overcast

Panther Creek muddy below mouth of Blackbird Creek due to Calera Mining Co. operations and placer mine on Napius Cr.



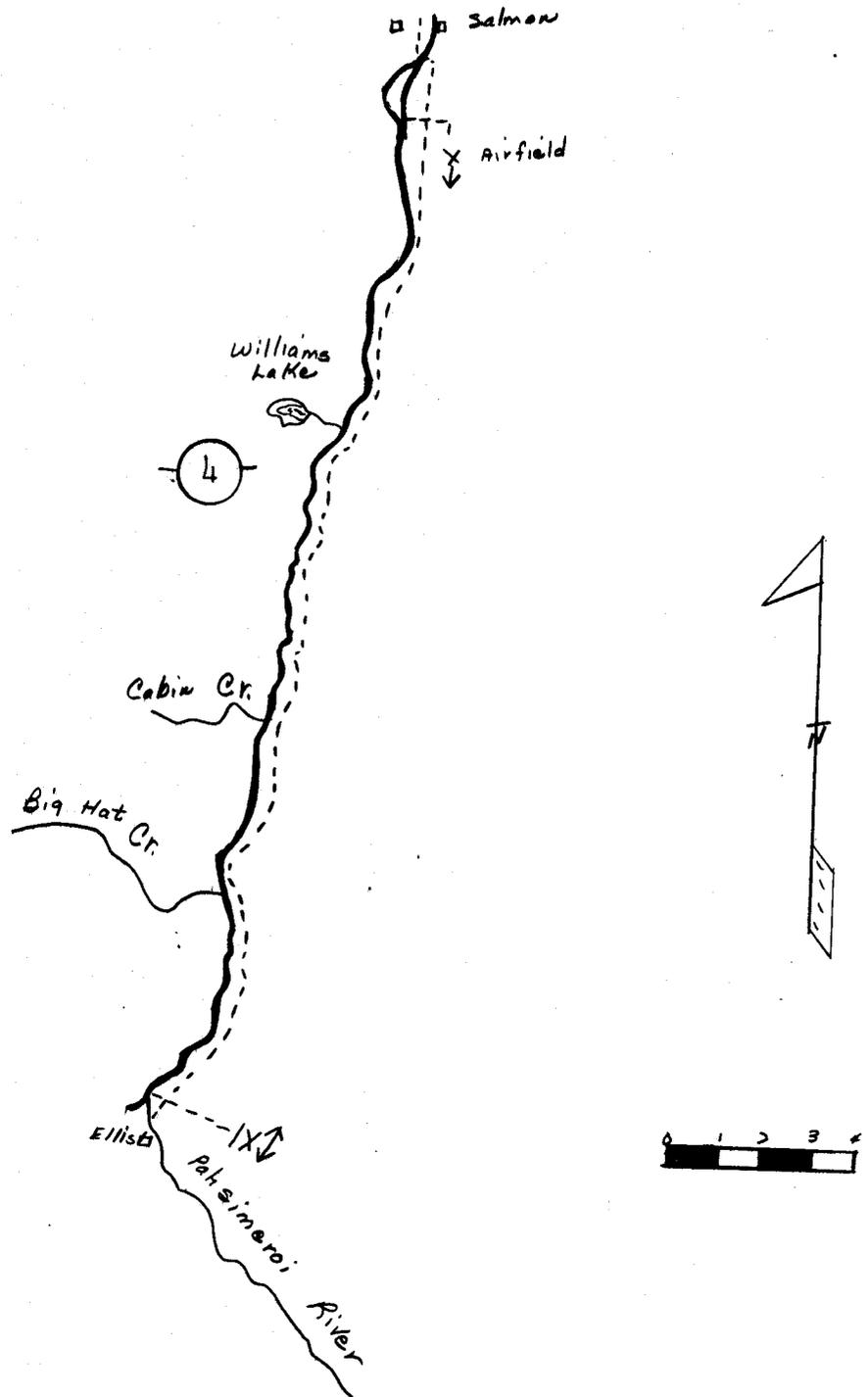
DRAINAGE Salmon River

SURVEY DATE 9/29/59

STREAM Salmon River

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Good



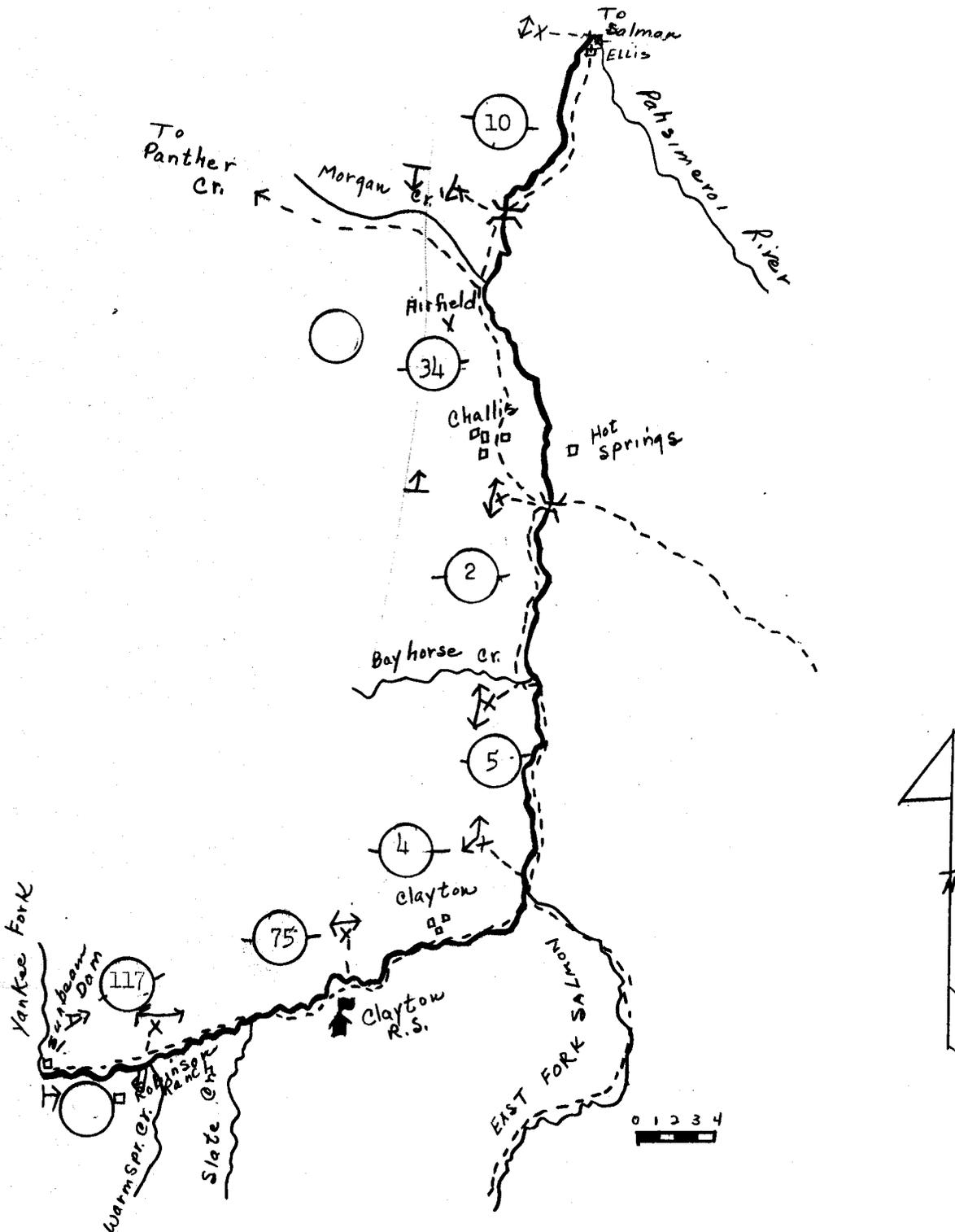
DRAINAGE Salmon River

SURVEY DATE 9/29/59

STREAM Salmon River

MAP SCALE 1/6" = 1 mile

OBSERVATION CONDITIONS Good



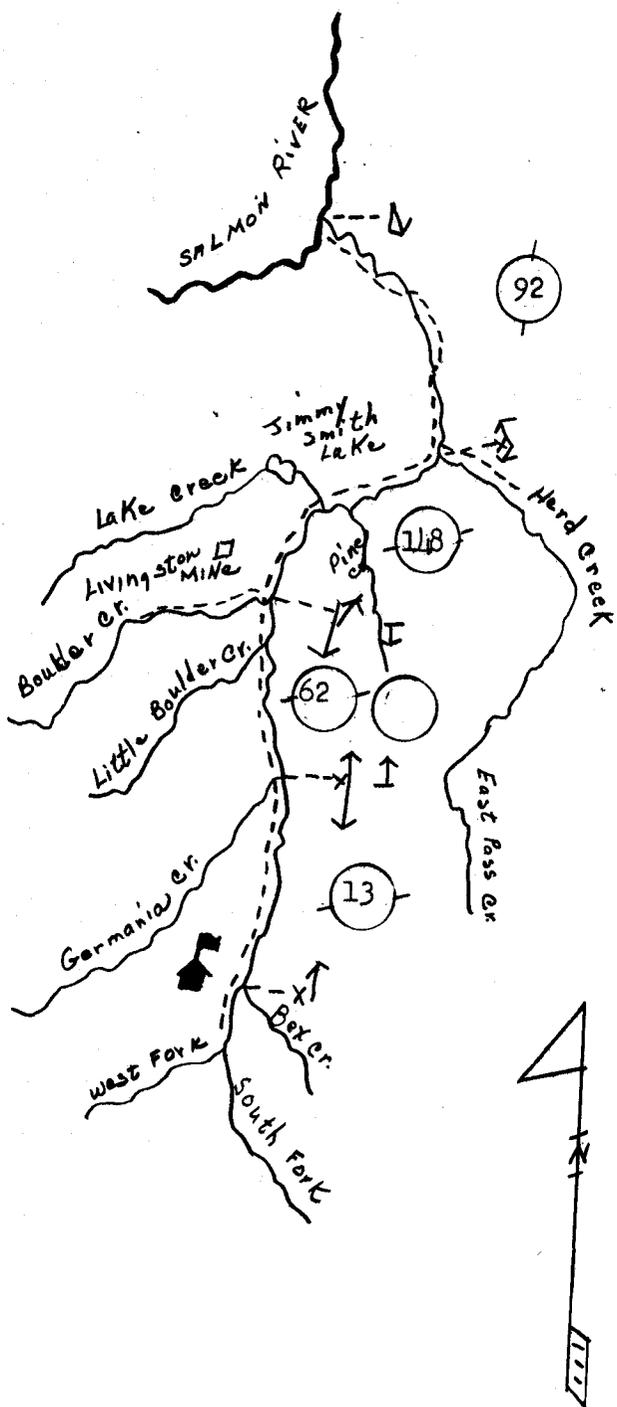
DRAINAGE Salmon River

SURVEY DATE 9/12/59

STREAM East Fork Salmon River

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Partial overcast



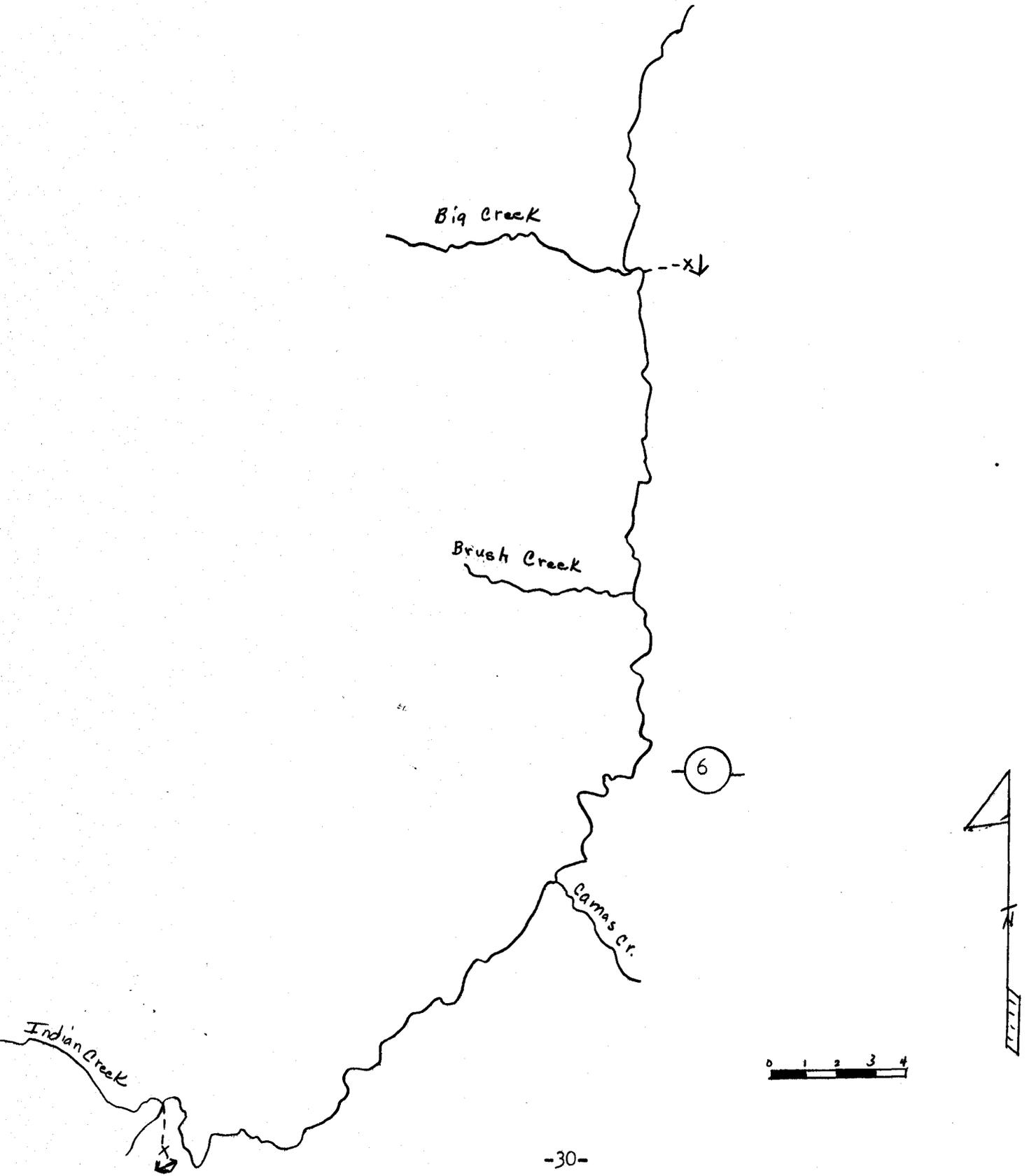
DRAINAGE Salmon River

SURVEY DATE 9/2/59

STREAM Middle Fork Salmon River

MAP SCALE 1/4" = 1 mi.

OBSERVATION CONDITIONS Good



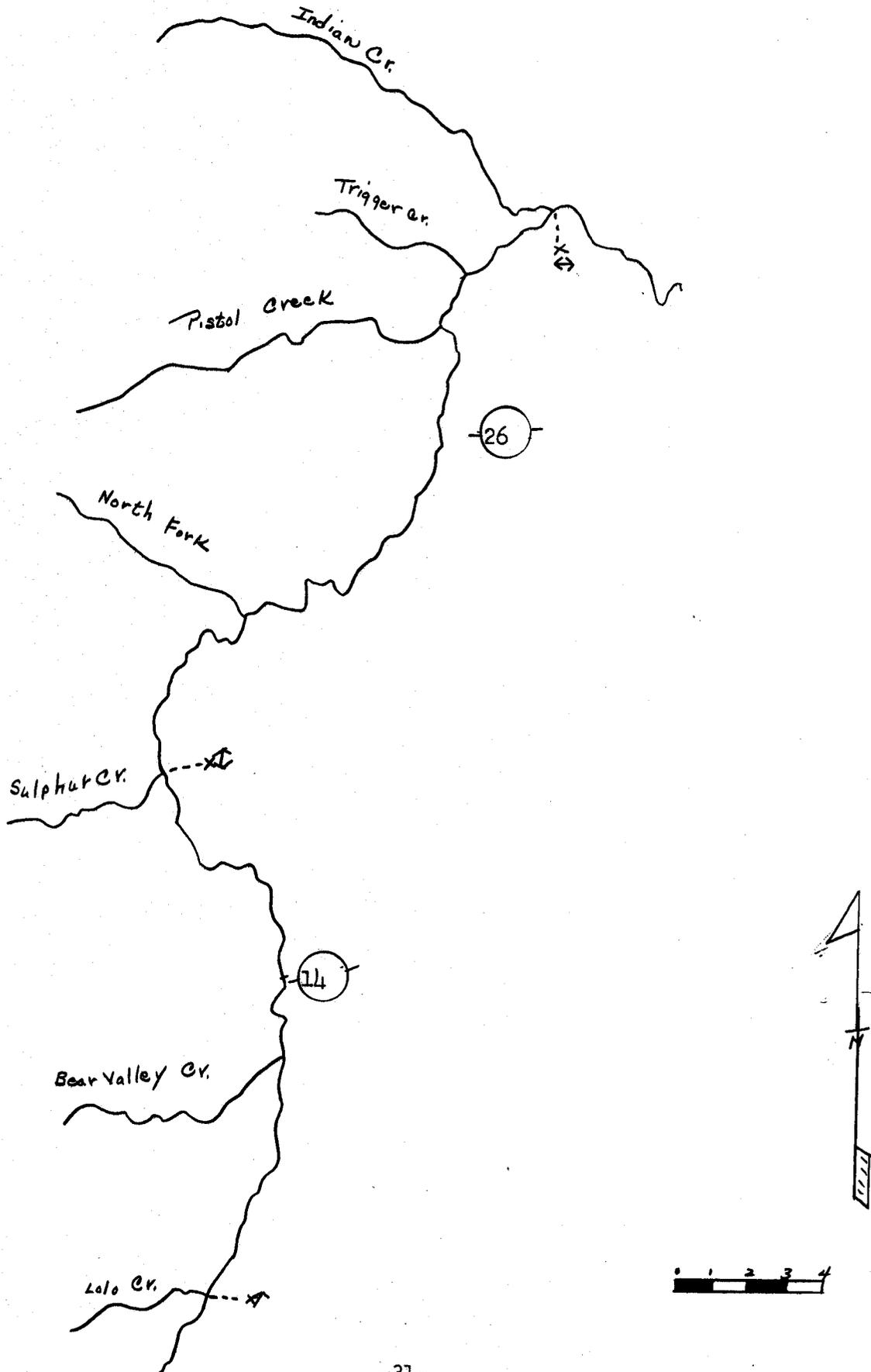
DRAINAGE Salmon River

SURVEY DATE 9/2/59

STREAM Middle Fork Salmon River

MAP SCALE 1/4" = 1 mi.

OBSERVATION CONDITIONS Good



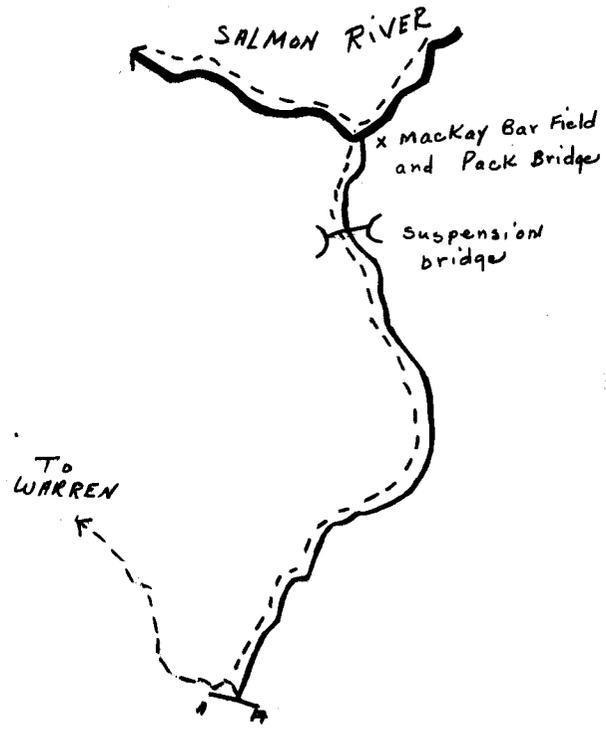
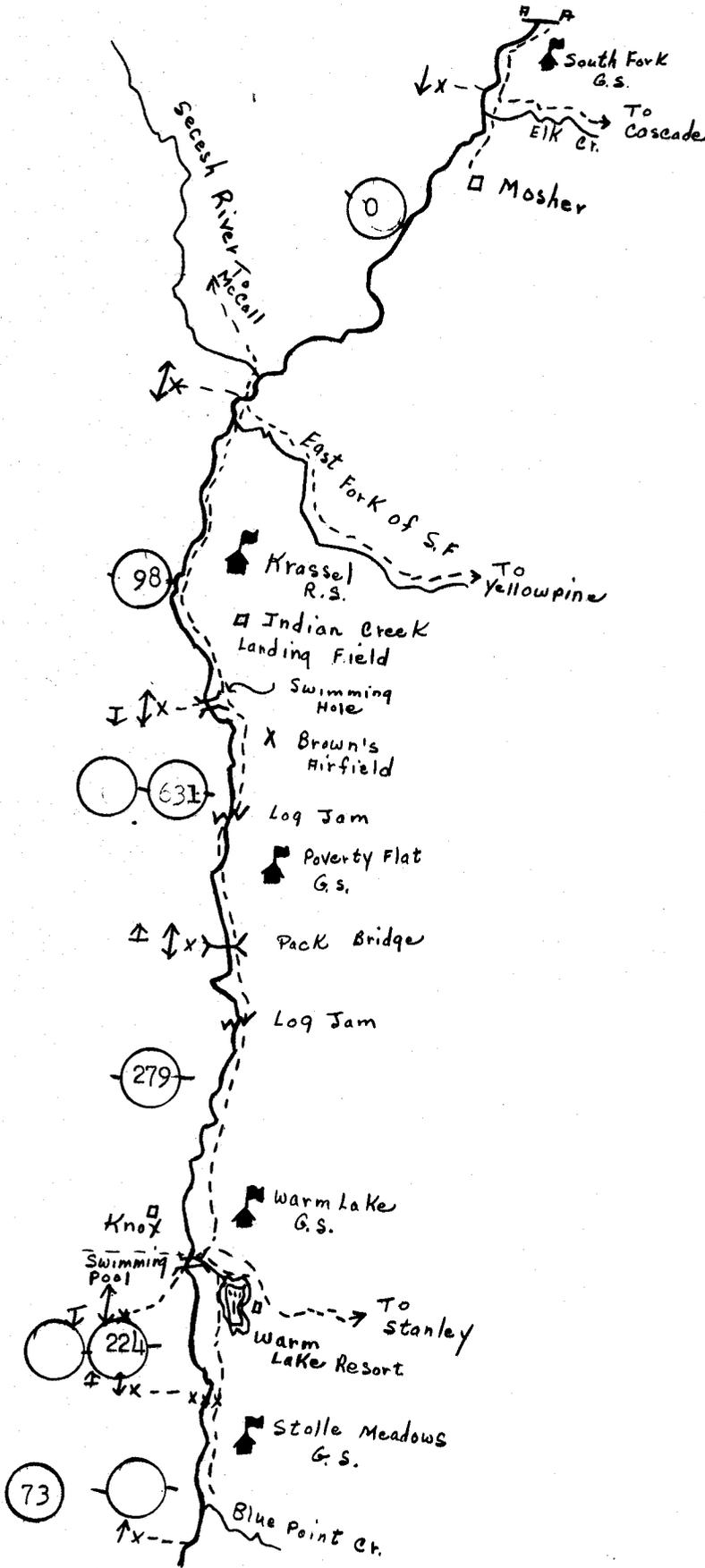
DRAINAGE Salmon River

SURVEY DATE 9/5-10-24/59

STREAM South Fork Salmon River

MAP SCALE 1/4" = 1 mi.

OBSERVATION CONDITIONS Fair to Poor



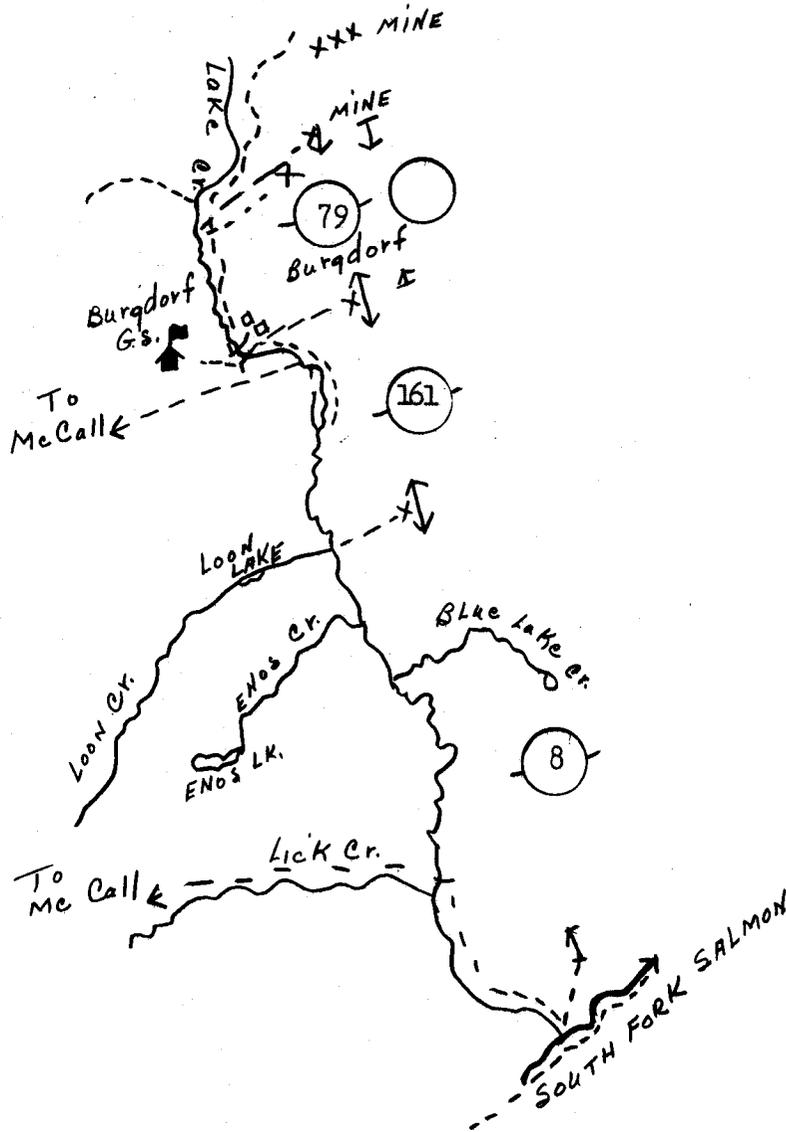
DRAINAGE South Fork Salmon River

SURVEY DATE 8/30 - 9/10/59

STREAM Secesh & Lake Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Fair



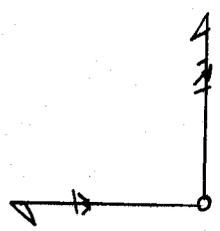
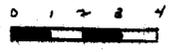
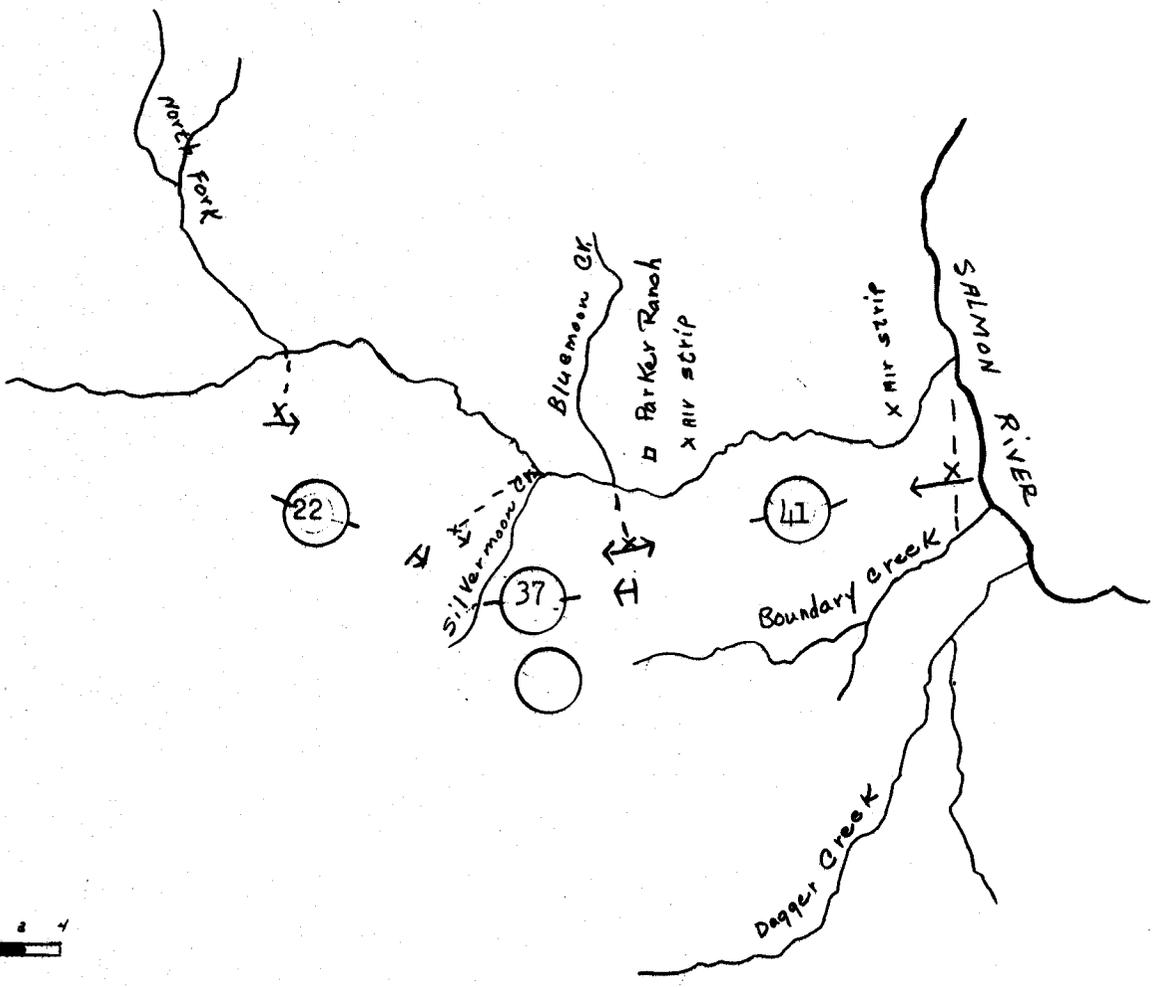
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/29/59

STREAM Sulphur Creek

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Poor



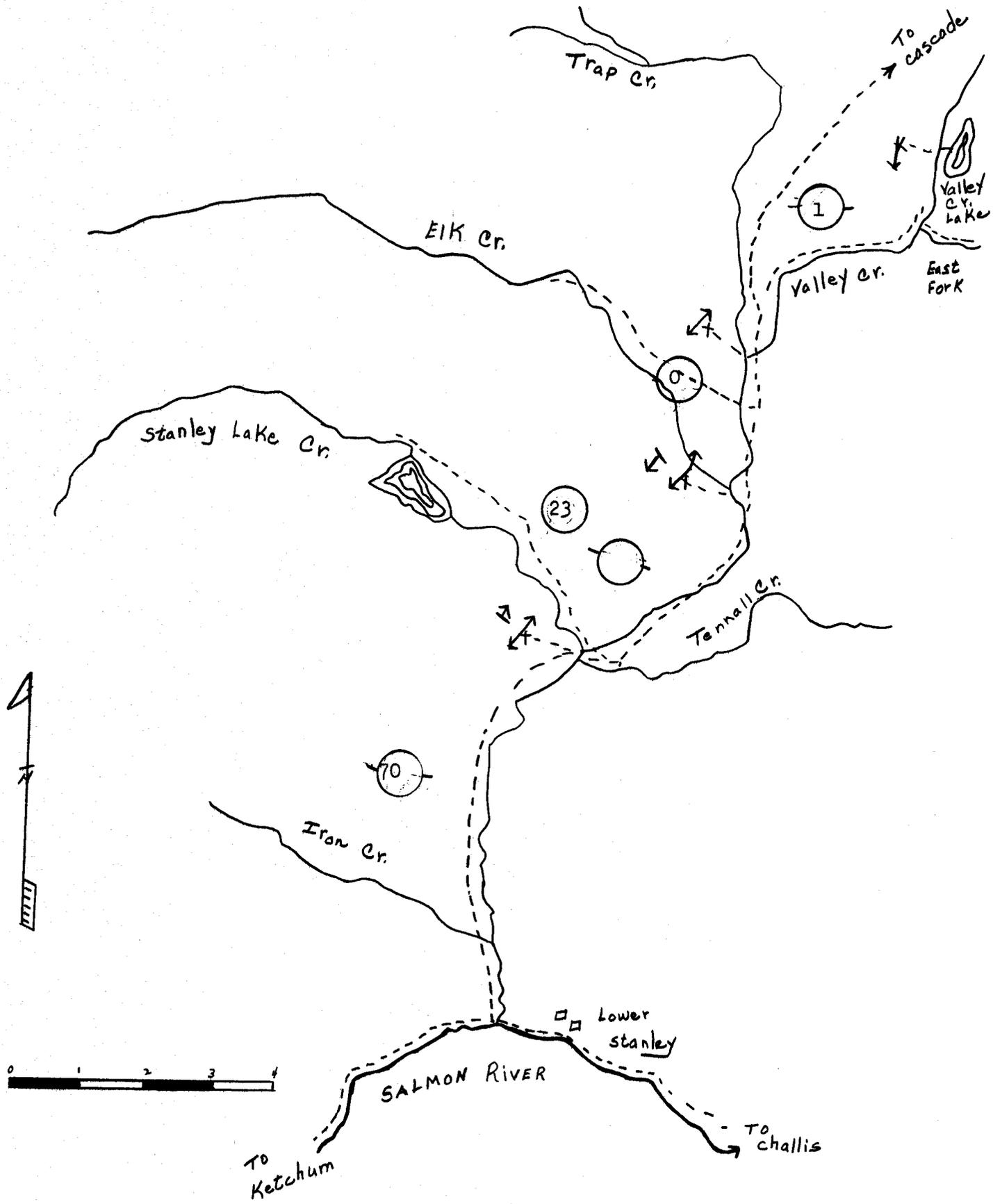
DRAINAGE Salmon River

SURVEY DATE 9/9/59

STREAM Valley Creek

MAP SCALE 2/3" = 1 mi.

OBSERVATION CONDITIONS Good



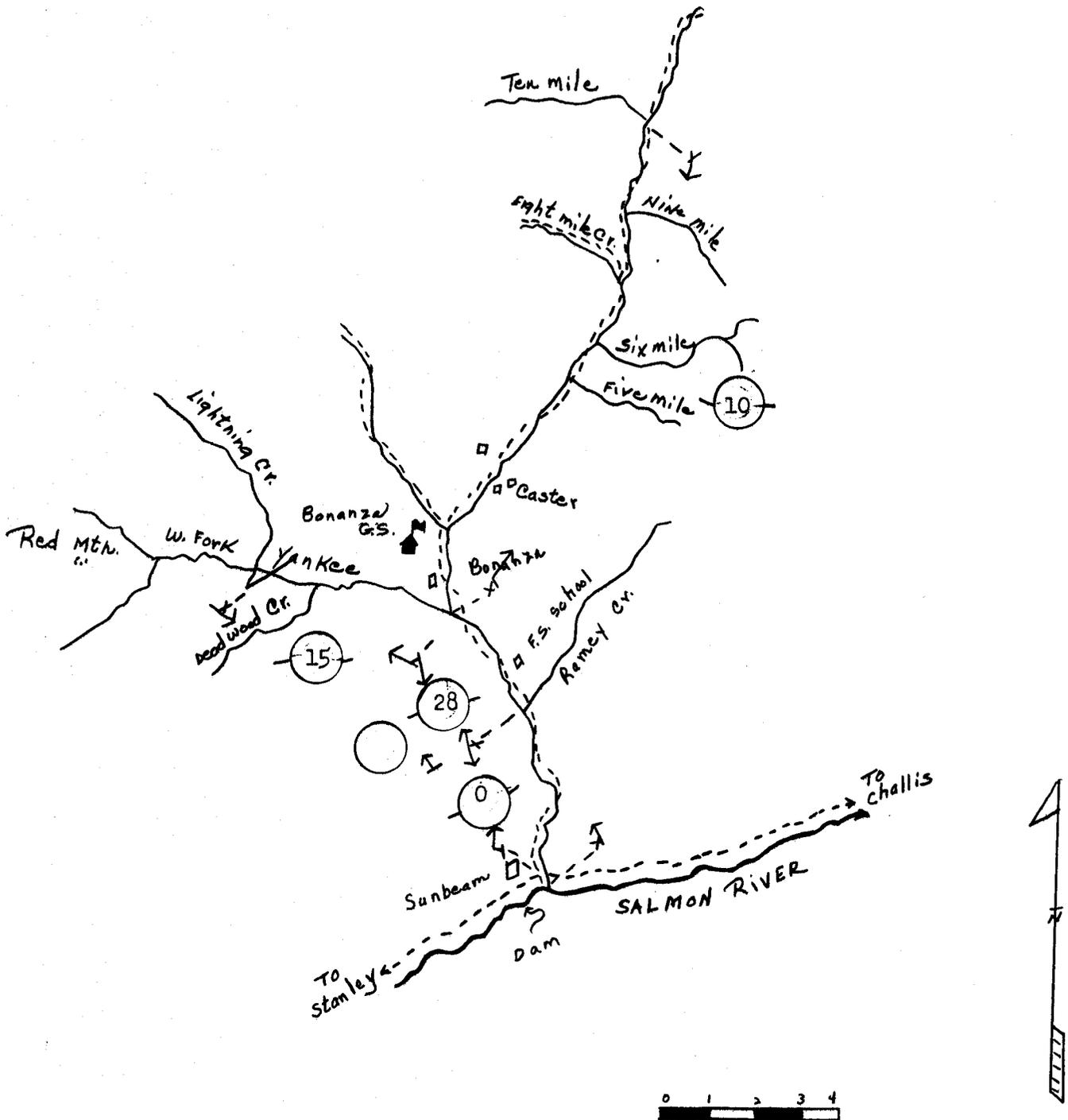
DRAINAGE Salmon River

SURVEY DATE 9/7/59

STREAM Yankee Fork

MAP SCALE 1/3" = 1 mi.

OBSERVATION CONDITIONS Good



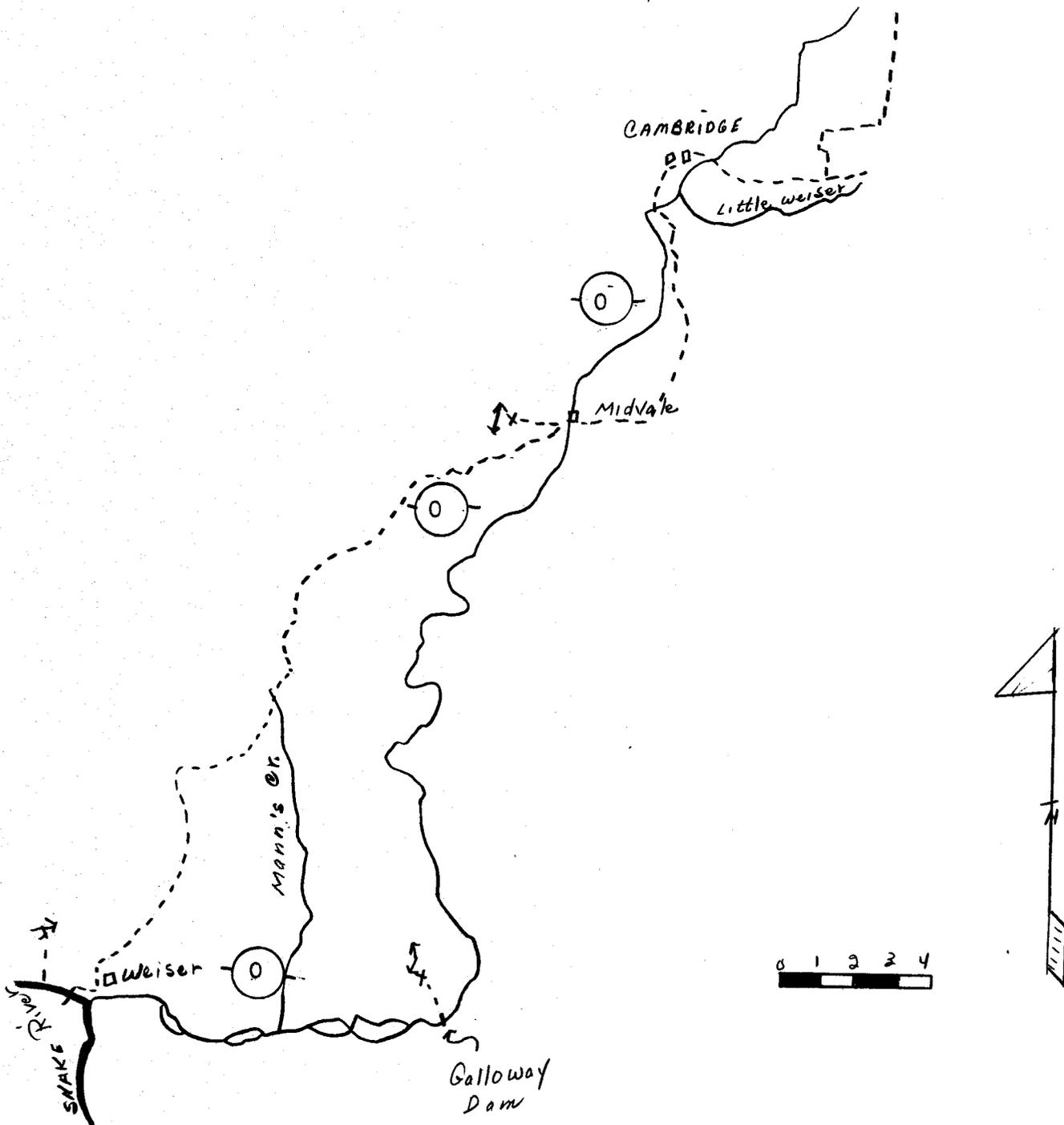
DRAINAGE Weiser River

SURVEY DATE 9/2/59

STREAM Weiser River - Weiser to Cambridge

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Good



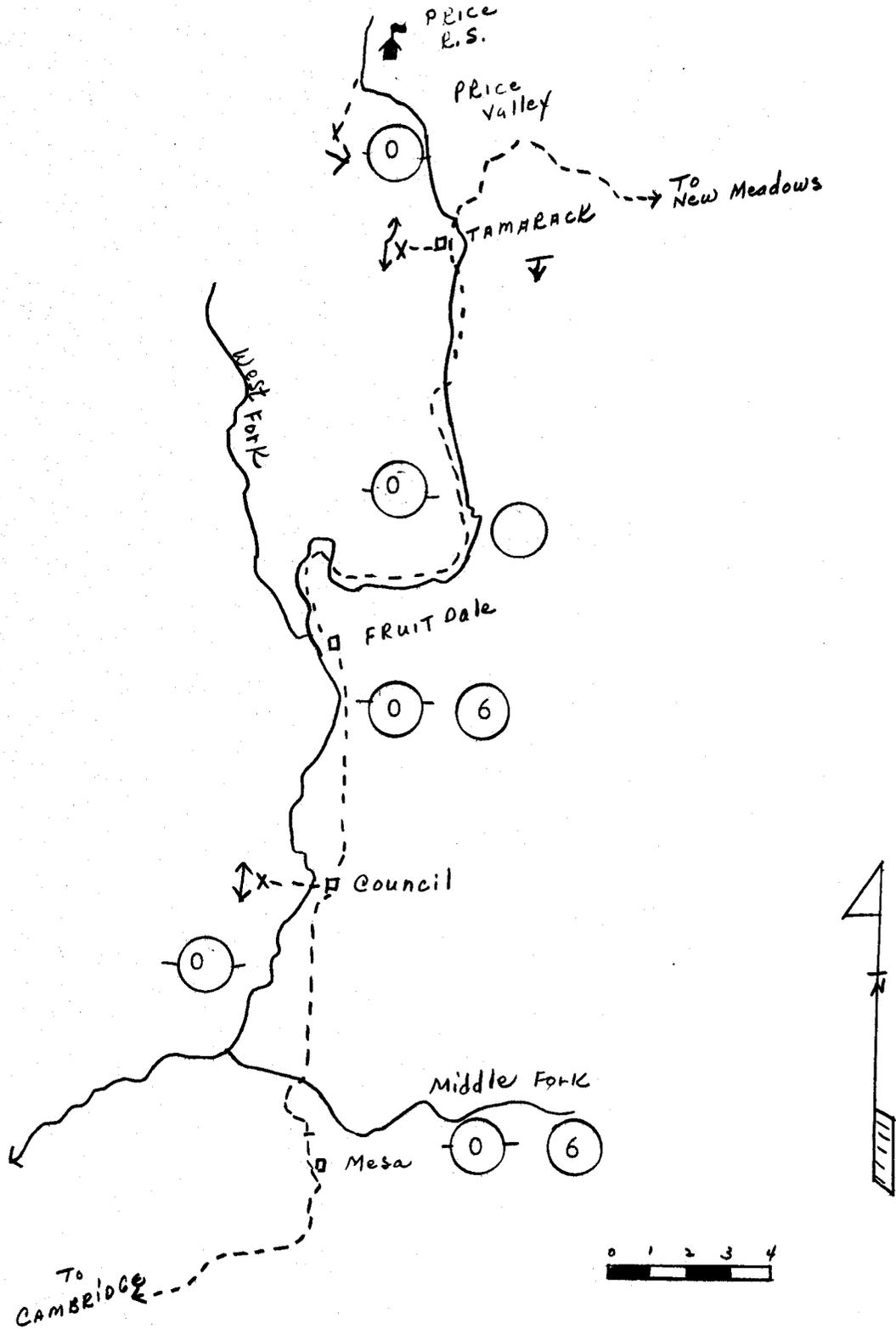
DRAINAGE Weiser River

SURVEY DATE 9/2-9-10/59

STREAM Weiser River - Cambridge to Price Valley

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Poor



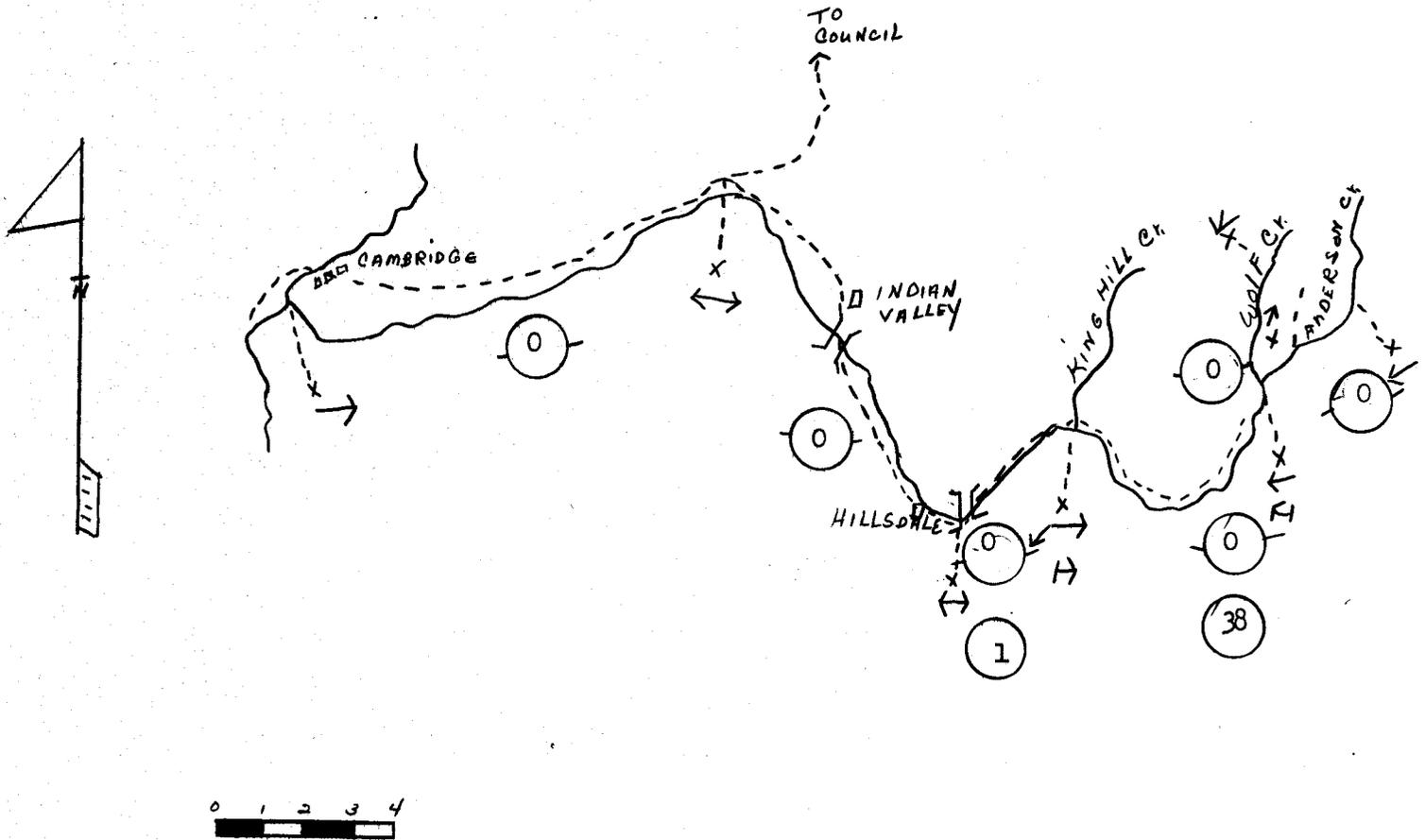
DRAINAGE Weiser River

SURVEY DATE 9/2-12/59

STREAM Little Weiser

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Poor



DRAINAGE Weiser River

SURVEY DATE 9/2 - 9/59

STREAM West Fork Weiser River

MAP SCALE 1/3" = 1 mile

OBSERVATION CONDITIONS Poor

