

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

AERIAL SURVEY OF SPRING CHINOOK SALMON REDDS  
IN THE SALMON AND WEISER RIVER DRAINAGES, IDAHO  
1958

Columbia River Fishery Development Program

By  
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Introduction

In order to manage properly the anadromous fish populations, knowledge of the numbers of these fish, which constitute the annual spawning escapement, is of the utmost importance.

Salmon spawning surveys were begun in Idaho as a Dingell-Johnson project in 1951.

The Idaho Department of Fish and Game, in July, 1953, entered into an agreement with the United States Army Corps of Engineers to determine the size and timing of the runs of adult spring chinook salmon in the Columbia and Snake Rivers and tributaries thereof above their confluence (Pirtle, 1957). This work included aerial and ground redd counts in the principal spawning tributaries. Only major tributaries, which were known to have a minimum spawning escapement of 200 chinook salmon, were surveyed. The contract with the Corps of Engineers was completed in 1956.

These surveys were continued in 1958 as part of biological investigations conducted under the Columbia River Fishery Development Program so that current spawning ground escapement information will be available to evaluate improvements accomplished by the Program. Spawning escapement studies were confined to the Salmon and Weiser River drainages.

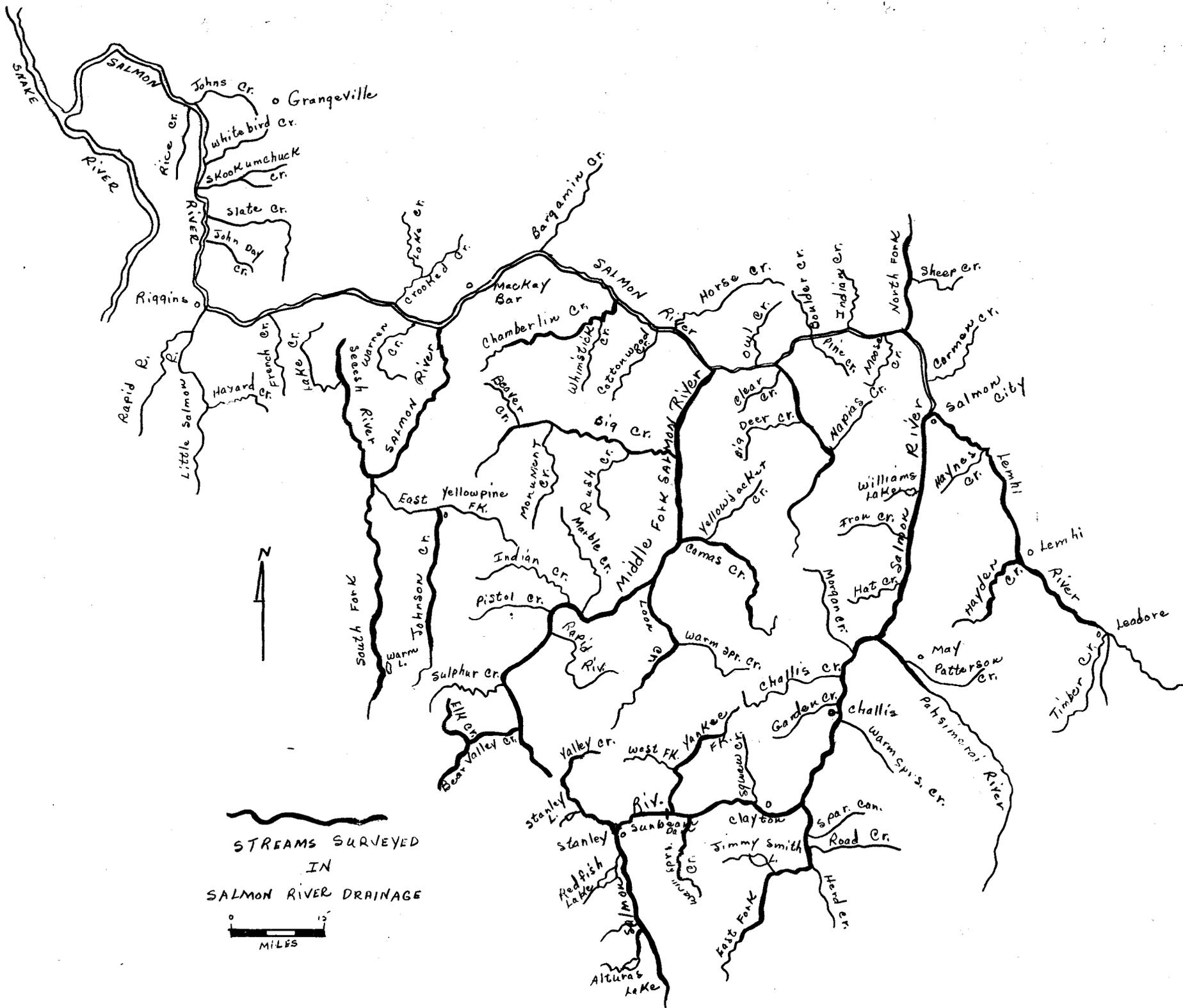
Methods

The observations were made by two aerial observers, one in a Cessna 182 at altitudes of 100 to 300 feet and one in a Piper P.A. 18 at elevations of 200 to 400 feet. Flying speeds for the two airplanes varied from 35 to 65 miles per hour depending on the terrain and air conditions. Redd counts were made while

flying downstream. Redds were tabulated with a mechanical hand tally and were recorded on prepared maps within the boundaries of recognizable landmarks.

Some streams were flown twice when poor weather conditions or the concentration of redds made counting difficult. Other streams were flown twice when the appearance of fish or redds indicated that spawning activity was far from completed and observations at a later date would provide more accurate information. Portions of some streams were observed from the ground in order to provide checks on the accuracy of aerial counts.

The percentage of spawning completed was estimated for each stream by observations of the appearance of the redds and the number and condition of the adult fish. If no adult fish were seen and the redds showed evidence of age, spawning was considered to be 100 per cent completed.



STREAMS SURVEYED  
IN  
SALMON RIVER DRAINAGE





Salmon River Drainage  
Findings

Alturas Lake Creek

The stream was flown on August 29 under excellent flying conditions. No fish or redds were observed above the Breckenridge irrigation diversion near the outlet of the lake. Spawning was 90 per cent completed and 96 redds were recorded.

Bear Valley Creek

Bear Valley Creek from the dredges in Big Meadows to the pack bridge near the mouth of Fir Creek was flown on August 30. Due to siltation from the dredge operations at the upper end of Big Meadows, spawning was limited in the portion of the creek from the dredges to Cub Creek and observation of redds was difficult. The aerial count showed 21 redds in the area from the dredges to Cub Creek while a ground count on September 2 showed 36 redds.

Spawning was completed above the confluence of Elk and Bear Valley Creeks. With the substitution of the ground count for the aerial count above Cub Creek, the count for this section of the stream totaled 197 redds.

Spawning was estimated to be 90 per cent completed in the stream section from the Stanley-Cascade bridge to Fir Creek. The estimated number of redds for this area was 130. A ground check on September 3 over the area from the Stanley-Cascade bridge to Cold Creek showed close agreement with the aerial count over the same stream section. Total estimated number of redds for Bear Valley Creek was 341.

Beaver Creek

Poor flying conditions prevented an accurate count on August 28. On August 29, flying conditions were excellent. No fish or redds were seen on Winnemucca Creek. Spawning was 100 per cent completed and 52 redds were recorded

### Big Creek

An aerial redd count was made on Big Creek on September 5. Spawning had been completed for some time above Smith Creek and observation of redds was difficult from Jacob's Ladder Creek downstream to Logan Creek. A ground count made on August 19 over the area from Jacob's Ladder Creek to Logan Creek was considered to be the more accurate of the two counts and was substituted for the aerial count. Spawning, from Smith Creek to the mouth, was estimated to be 98 per cent completed. Total estimated number of redds for Big Creek was 485.

### Camas Creek

This stream, which flows through a steep, narrow valley, was surveyed on August 30. The survey was made in the morning in order to take advantage of stable air conditions. However, light conditions in the canyon were poor at times because of dark shadows and some redds may have been missed. Spawning was 98 per cent completed and 123 redds were recorded.

### Capehorn Creek

The stream was surveyed on August 29 under excellent flying conditions. Spawning was 100 per cent completed and 59 redds were recorded.

### Chamberlain Creek

The character of this stream indicated that aerial counts would tend to be low. On August 28, a ground count was made over the area from the pack bridge at the upper end of the airport downstream to the Hostel Ranch. The redd count for this section of the stream totaled 30.

The aerial survey was made September 1 from Moose Creek to the mouth of Lodgepole Creek. A total of 38 redds was observed with 15 redds being counted in the area previously ground checked. Spawning was completed at the time of the aerial survey. The adjusted total estimated number of redds in Chamberlain Creek was 76.

### Chamberlain Creek, West Fork

The West Fork of Chamberlain Creek was checked for the first time in 1958. A ground count was made on August 28 over a portion of the stream and an aerial count from the forks of the creek to the mouth was made on September 1. There was close agreement between the ground count and the aerial count. Spawning was completed at the time of the survey. The total aerial count was 117 redds.

### Elk Creek

Elk and Bearskin Creeks, tributaries to Bear Valley Creek, were flown on August 30. Spawning was completed in the three miles of Bearskin Creek and in Elk Creek upstream from the Cascade road. Spawning was estimated to be 95 per cent completed on the stream section from the Cascade road down to the mouth. Because of heavy utilization and congestion of redds upstream from the Cascade road, the section of Elk Creek from Porter Creek to the road was surveyed from the ground on September 3. Bearskin Creek was not considered suitable for aerial survey so it also was checked from the ground on September 3. The ground checks showed 196 redds on the surveyed section of Elk Creek and 14 redds on Bearskin Creek as compared to aerial counts of 155 and 6, respectively. The ground counts were substituted for the aerial counts in Bearskin Creek and in the ground-checked portion of Elk Creek. A redd count adjustment was made for the remainder of Elk Creek above the Cascade road which was not counted from the ground. The adjusted total estimated redd count for Elk and Bearskin Creeks was 410.

### Johnson Creek

Johnson Creek, from Boulder Creek to the mouth, was flown on September 22. There were four redds counted above the Landmark Ranger Station. Spawning was completed and the total redd count was 269. There was close agreement between a ground count on September 9 over a portion of the stream and the aerial count of the same area. Spawning had been completed before the time of the ground survey.

### Knapp Creek

The stream was surveyed on September 2 under excellent flying conditions. Most of the redds were observed in a small area above the Bear Valley-Stanley road. Spawning was 100 per cent completed and 12 redds were recorded.

### Lemhi River

The river was surveyed on September 2 under excellent flying conditions. No fish or redds were seen above the Klinger ditch at Leadore. Spawning was 95 per cent completed and 628 redds were recorded. Hayden Creek, the major tributary to the Lemhi River, was largely overgrown with brush and trees which resulted in poor observation conditions.

### Loon Creek

The stream was first surveyed on August 28 under rough flying conditions and 106 redds were recorded. It was flown again on September 1 under excellent flying conditions and 193 redds were recorded. Spawning was 90 per cent completed.

### Marsh Creek

The stream was surveyed on August 29 under excellent flying conditions. Spawning was 100 per cent completed and 139 redds were recorded.

### Pahsimeroi River

The river was surveyed on September 10 under excellent flying conditions. No fish or redds were seen above the May Ranger Station. Spawning was 90 per cent completed and 106 redds were recorded. The section between Ellis and Dowton Lane contained 60 redds. On September 17, this section was reflowed and 66 redds were observed.

### Panther Creek

The stream was flown on August 30 under excellent flying conditions. Mine effluent from Blackbird Creek and placer mining on Napias Creek resulted in turbid water conditions.

Panther Creek has two separate runs of salmon. The early run spawns above Cobalt and the later run utilizes the area above Clear Creek. Spawning in the

lower portion of the creek was 80 per cent completed and 73 redds were recorded between Clear Creek and Cobalt.

#### Rapid River

The river was surveyed on September 1 from Float Creek road to the mouth, a distance of 11 miles. Flying conditions were extremely rough. Despite the excellent spawning gravel available, only 17 redds were recorded. No migratory blocks were observed.

#### Salmon River

Above Stanley. This section was surveyed on August 29 under excellent flying conditions. No fish or redds were seen above the Breckenridge irrigation diversion. Inadequate flow precluded spawning from the diversion dam to approximately one mile downstream. Spawning was 90 per cent completed and 471 redds were recorded.

Stanley to Sunbeam. This section was surveyed on September 10 under excellent flying conditions. Spawning was 95 per cent completed and 113 redds were recorded.

Sunbeam to East Fork. This section was surveyed on September 10 under excellent flying conditions. Spawning was 95 per cent completed and 165 redds were recorded. The survey on September 10 was terminated below Bayhorse Creek because of extremely turbid water resulting from a cloudburst on Malm Gulch.

East Fork to Challis. This section was surveyed on September 17 under excellent flying conditions. Spawning was 95 per cent completed and 74 redds were recorded.

Challis to Ellis. This section was surveyed on September 17 under good flying conditions. Spawning was 95 per cent completed and 97 redds were recorded.

Ellis to Salmon. This section was flown on September 17 under fair flying conditions. No live fish were observed and the redd count total was 9.

#### Salmon River, East Fork

The river was surveyed on August 31 under excellent flying conditions.

Spawning was 90 per cent completed and 488 redds were recorded. Some spawning was noted on the lower end of Herd Creek but could not be accurately counted because of dense overhanging brush.

#### Salmon River, Middle Fork

The river was surveyed on September 11 under excellent flying conditions. Spawning was 100 per cent completed and 79 redds were recorded. No concentration of fish or redds was apparent below Dagger Falls.

#### Salmon River, North Fork

The river was surveyed on August 30 under good flying conditions. Dense growth of cottonwood trees along the entire length of the river prevented accurate observations. Spawning was 90 per cent completed and the redd count totaled 121.

#### Salmon River, South Fork.

The Stolle Meadows area from Blue Point Creek to the Knox bridge was flown on September 5. Previous ground checks indicated that the area from Blue Point Creek to Cougar Rock Trail would be difficult to survey from the air and a ground count was made on September 3. This ground count was subsequently substituted for the aerial count over this area. Spawning was estimated to be 98 per cent completed upstream from Knox bridge. The total estimated redd count for Stolle Meadow area was 343.

The stream section from the Knox bridge to the South Fork Guard Station was flown on September 22 with 893 redds being counted. Spawning was completed in this stream section. Allowing for differences in survey times, there was relatively close agreement between ground counts made on September 10 in the Poverty Flat area and the aerial count over the same area. The total number of redds for the South Fork of the Salmon River was estimated to be 1236.

#### Secesh River and Lake Creek

Lake Creek and the Secesh River from the confluence of Lake Creek to the mouth were flown on September 5. Spawning was completed in Lake Creek and

estimated to be 90 per cent completed in the Secesh River. There was close agreement between aerial and ground counts on Lake Creek from the Burgdorf Guard Station to the mouth of the creek. The total estimated number of redds in Lake Creek and the Secesh River was 478.

#### Sulphur Creek

Sulphur Creek, from the North Fork to the mouth, was flown on August 30. Spawning had been completed for some time and the redds were old and difficult to detect. The redd count total was 131 but this count must be considered to be questionable.

#### Valley Creek

The stream was surveyed on August 29 under excellent flying conditions. Poor light and troublesome reflections were encountered in some places which undoubtedly influenced the accuracy of the count. Spawning was 75 per cent completed and 122 redds were recorded.

#### Warm Springs Creek

The stream was surveyed on August 31 under fair flying conditions. No fish were seen and only three redds were observed. These redds were near the Robinson Bar Ranch.

#### Yankee Fork

The stream was surveyed on August 31 under excellent flying conditions. Spawning was 100 per cent completed and 120 redds were recorded.

### Weiser River Drainage Findings

Streams of the Weiser River drainage were flown on September 5. Areas flown coincided with those flown in 1957, (Metsker, 1957). Favorable flying conditions at mid-day and the absence of turbidity allowed thorough coverage with excellent visibility of all stream areas.

No redds were observed in the stream areas flown. Ground checks by the Conservation Officer in the area also failed to disclose the presence of any redds

although live chinook salmon were reported observed in the Middle Fork of the Weiser River in mid-September.

Table 1.--Numbers of chinook salmon redds counted by aerial survey, Salmon River, 1958

Stream	Date Surveyed	Miles Flown	Aerial Redd Count	Percent Spawning Completed	Ground Count Adjust. <sup>1/</sup>	Total Redds	Description Page No.	Survey Map Page No.
Alturas Creek	8/29	6	96	90		107	5	
Bear Valley Creek	8/30	27	312	90 <sup>2/</sup>	15	341	5	18
Beaver Creek	8/29	10	52	100		52	5	
Big Creek	9/5	36	444	98 <sup>3/</sup>	34	485	6	19
Camas Creek	8/30	20	123	98		125	6	20
Capehorn Creek	8/29	6	59	100		59	6	
Chamberlain Creek	9/1	23	155	100 <sup>5/</sup>	38 <sup>4/</sup>	193	6	21
Elk Creek	8/30	24	337	95 <sup>5/</sup>	67	410 <sup>6/</sup>	7	22
Johnson Creek	9/22	34	269	100		269	7	23
Knapp Creek	8/29	6	12	100		12	8	
Lemhi River	9/2	61	641	95		675	8	24
Loon Creek	9/1	30	193	90		214	8	25
March Creek	8/29	15	139	100		139	8	26
Pahsimeroi River	9/30	18	106	90		116	8	27
Panther Creek	8/30	20	92	80		115	8	28
Rapid River	9/1	12	17	100		17	9	29
Salmon River:								
Above Stanley	8/29	30	471	90		523	9	30
Stanley to Sunbeam	9/10	12	113	95		119	9	30
Sunbeam to East Fork	9/10	26	165	95		173	9	30
East Fork to Challis	9/17	21	74	95		78	9	31
Challis to Ellis	9/17	18	97	95		102	9	31
Ellis to Salmon	9/17	42	9	100		9	9	32
Salmon River, East Fork	8/31	33	488	90		542	9	33
Salmon River, Middle Fork	8/11	100	79	100		79	10	34 & 35
Salmon River, North Fork	8/30	25	121	90 <sup>7/</sup>		134	10	36
Salmon River, South Fork	9/5-22	30	1,217	98 <sup>8/</sup>	12	1,236	10	37
Secesh River and Lake Cr.	9/5	33	449	90 <sup>8/</sup>		478	10	38
Sulphur Creek	9/1	12	131	100		131	11	39
Valley Creek	8/29	17	122	75		163	11	40
Warm Springs Creek	8/31	8	3	100	5	8	11	41
Yankee Fork	8/31	23	120	100		120	11	42

- 1/ Counts adjusted or ground counts substituted due to unfavorable aerial observation conditions.
- 2/ Spawning completed above the confluence of Elk Creek.
- 3/ Spawning completed above the Cascade road.
- 4/ Ground count adjustment on main Chamberlain Creek, only.
- 5/ Spawning completed above Smith Creek.
- 6/ Bearskin Creek mileage and redd count included in Elk Creek mileage and redd count.
- 7/ Spawning completed on August 22 below Knox bridge.
- 8/ Spawning completed in Lake Creek.

$\frac{772}{6706} = 11.5\%$

Table 2.--Numbers of chinook salmon redds counted by aerial survey, Weiser River, 1958

<u>Stream</u>	<u>Date Surveyed</u>	<u>Miles Flown</u>	<u>Aerial= Redd Count</u>	<u>Survey Map Page No.</u>
Weiser River	9/5	77	0	43 & 44
Weiser River, Little	9/5	34	0	45
Weiser River, West Fork	9/5	11	0	46

## Recommendations

1. That the Stolle Meadows portion of the South Fork of the Salmon River and Big Creek above Smith Creek be flown earlier than the remaining lower portions of these streams.

2. That Sulphur Creek be checked for spawning progress not later than August 20.

3. That ground counts be substituted, where possible, for aerial counts over areas of poor visibility or where redds are heavily concentrated in small streams.

4. That further investigation be made of the relatively small Salmon River and Middle Fork of the Salmon River tributaries to determine if they are being utilized by spawning chinook salmon.

It was obvious during the 1958 survey that some streams or sections of these streams are not adaptable to aerial survey because of trees or heavy, overhanging brush. Other sections, which contained little spawning area, often presented hazardous flying conditions. Following is a list of streams and stream sections which should be eliminated from future aerial redd surveys:

- a. Camas Creek, one mile below Fluorospar Mine to the mouth (hazardous)
- b. Hayden Creek (trees and brush)
- c. Loon Creek, below Falconberry Ranch to the mouth (hazardous)
- d. North Fork of the Salmon River (unless incorporated with a ground count from Volter Creek to Hughes Creek)
- e. Warm Springs Creek (trees and brush)

LITERATURE CITED

Metsker, Howard E.

1957. Aerial survey of spring chinook salmon redds in the Salmon and Weiser River drainages, 1957. Idaho Department of Fish and Game. Mimeo.

Pirtle, Ralph B.

1957. Field studies to estimate the size and timing of runs of anadromous species of fish in the Columbia and Snake Rivers and their tributaries above the confluence of the Snake River. Final report to the U. S. Army, Corps of Engineers. Idaho Department of Fish and Game. Mimeo.

LEGEND

Ground Survey Sections

Aerial Survey Sections

Ground Redd Counts

Aerial Redd Counts

Aerial-Ground Check areas

Migratory Block

Road

Trail

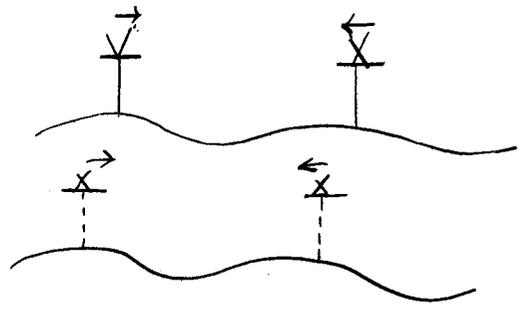
Forest Service Stations

Landing strip

Fence

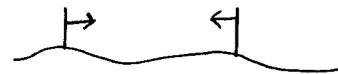
Pack Bridge

Highway Bridge



④

③



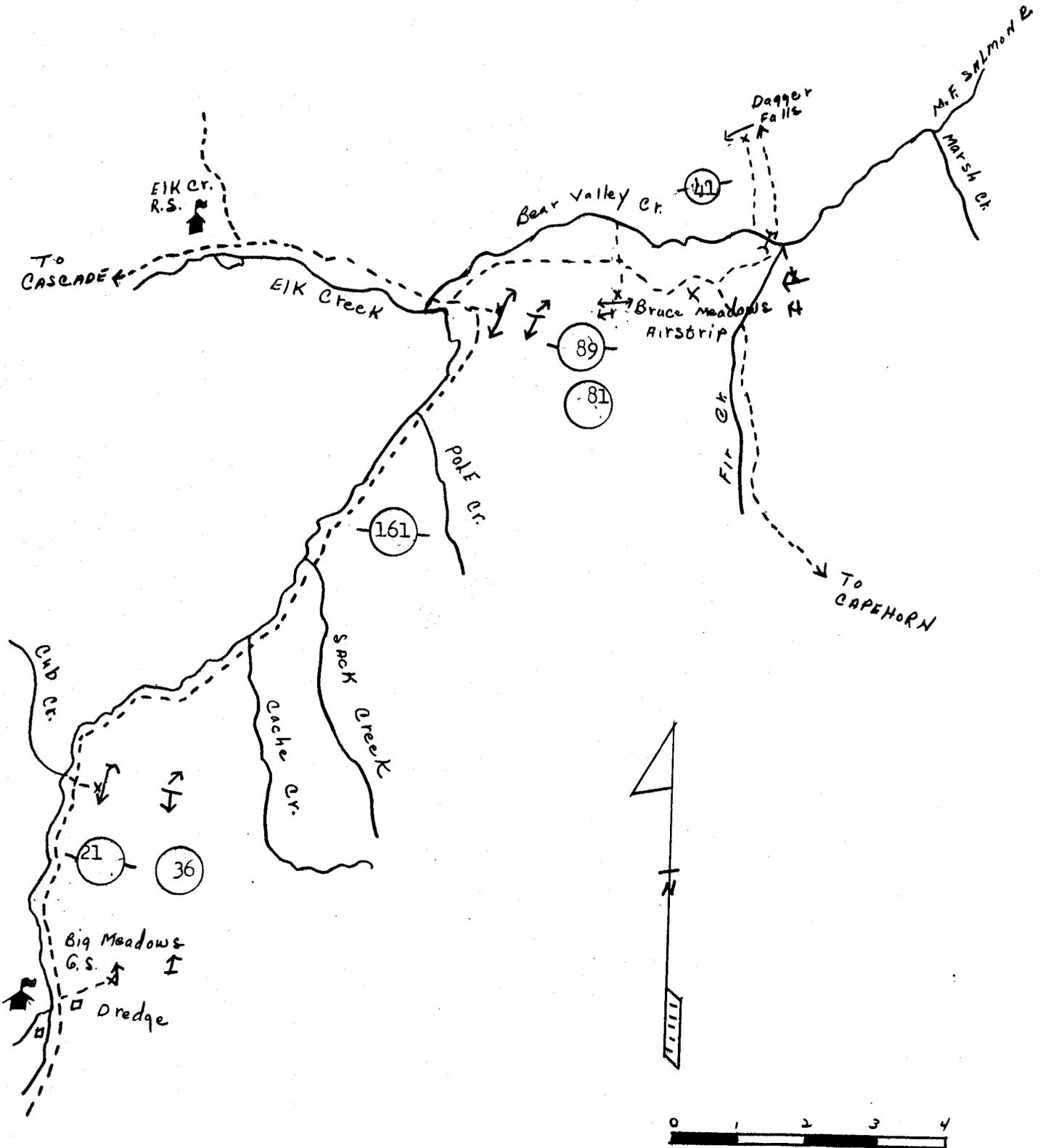
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/30/58

STREAM Bear Valley Creek

MAP SCALE 1/2" = 1 mile

OBSERVATION CONDITIONS Good



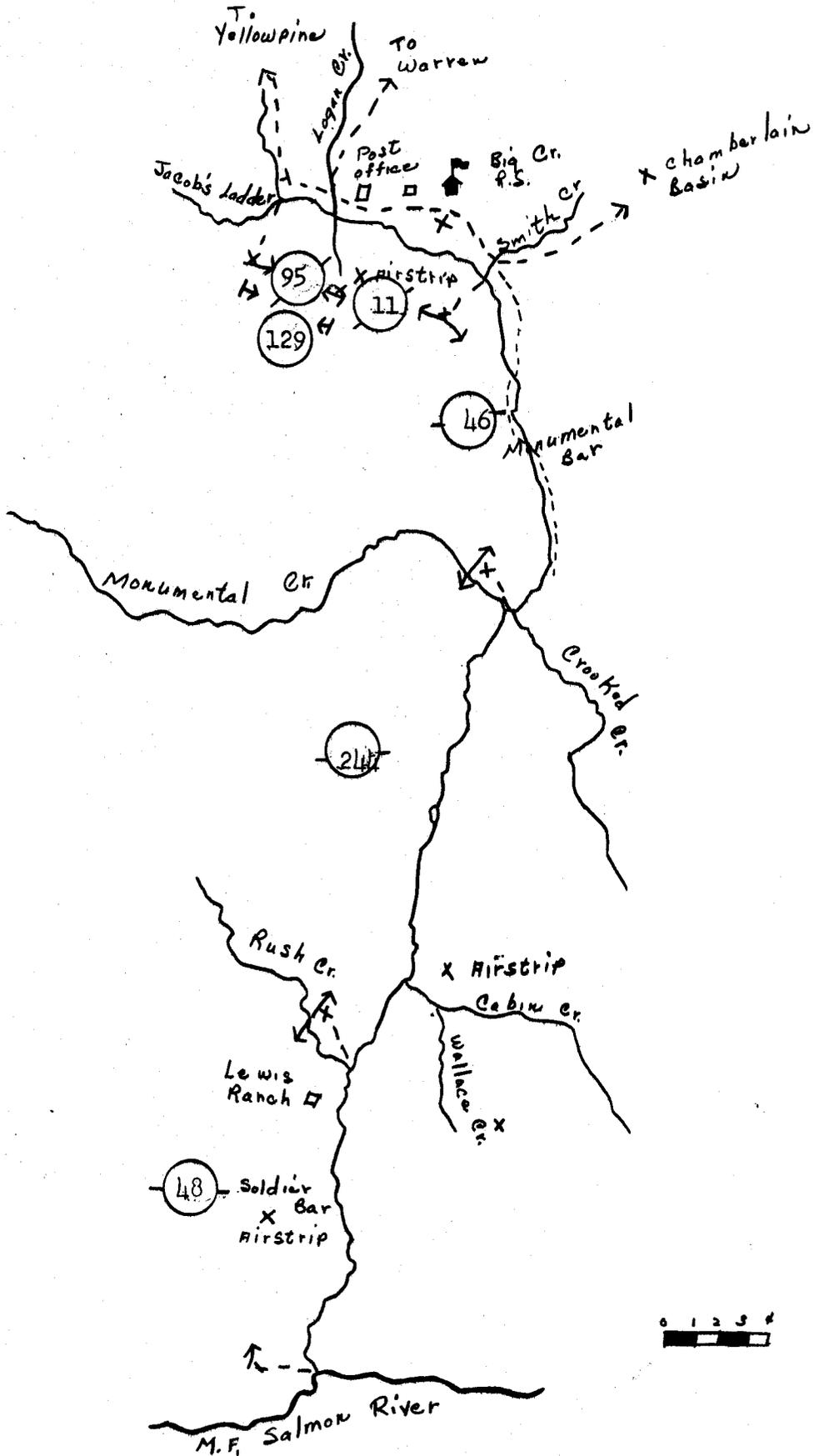
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/5/58

STREAM Big Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Excellent



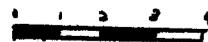
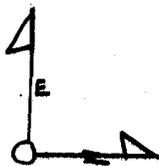
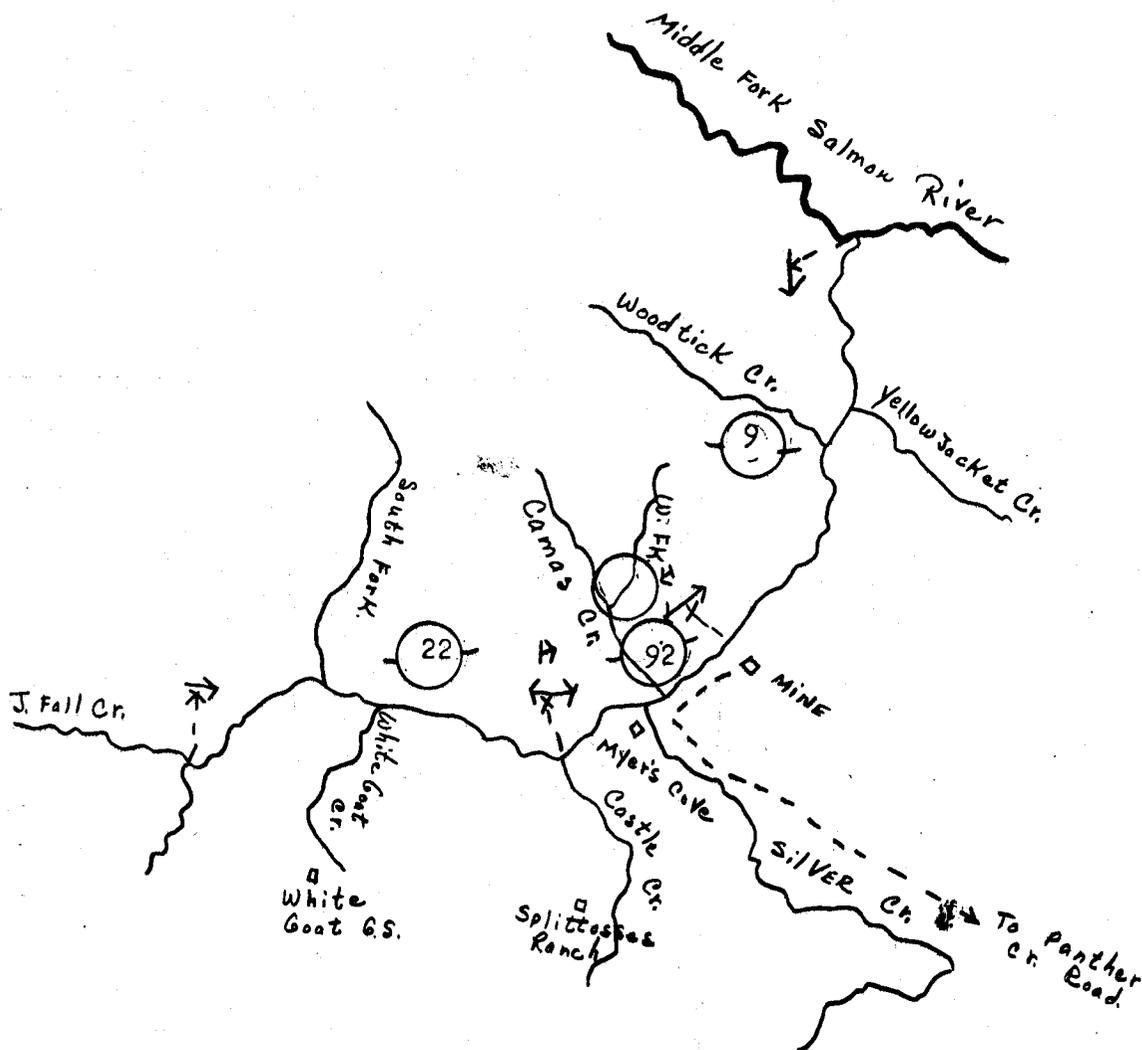
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/30/58

STREAM Camas Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Good - rough flying conditions



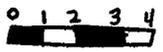
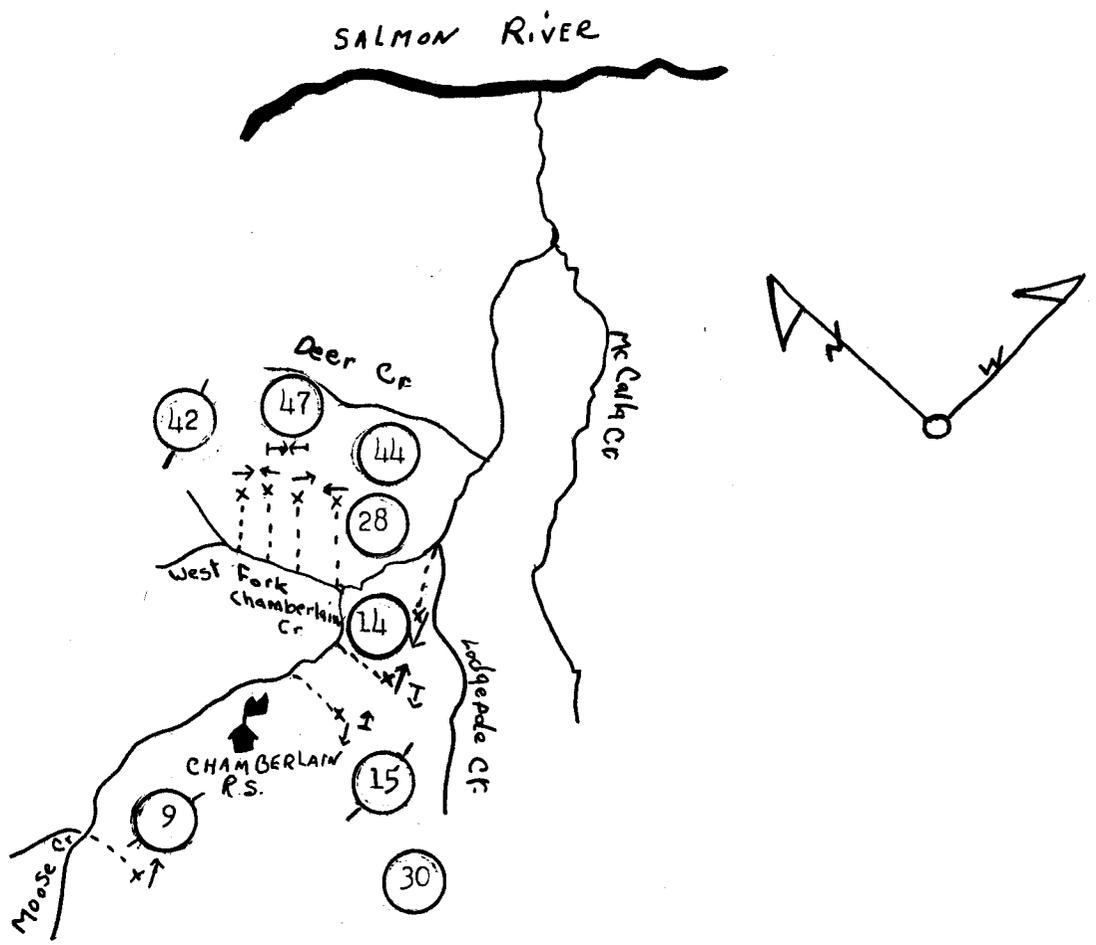
DRAINAGE, Salamon River

SURVEY DATE 9/1/58

STREAM Chamberlain Creek

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS \_\_\_\_\_



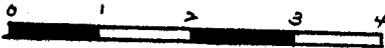
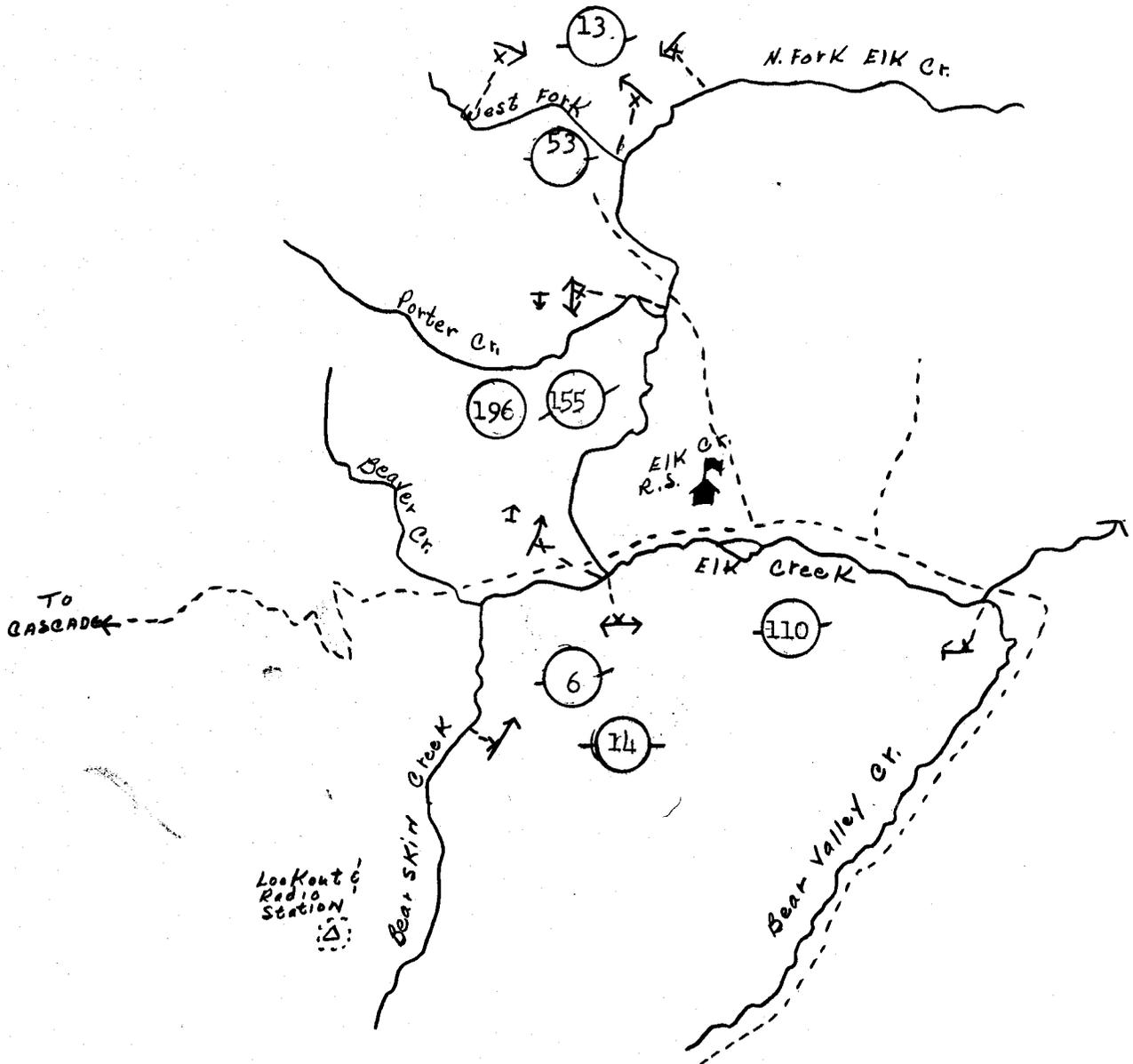
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/30/58

STREAM Elk Creek

MAP SCALE 1/2" = 1 mile

OBSERVATION CONDITIONS Good



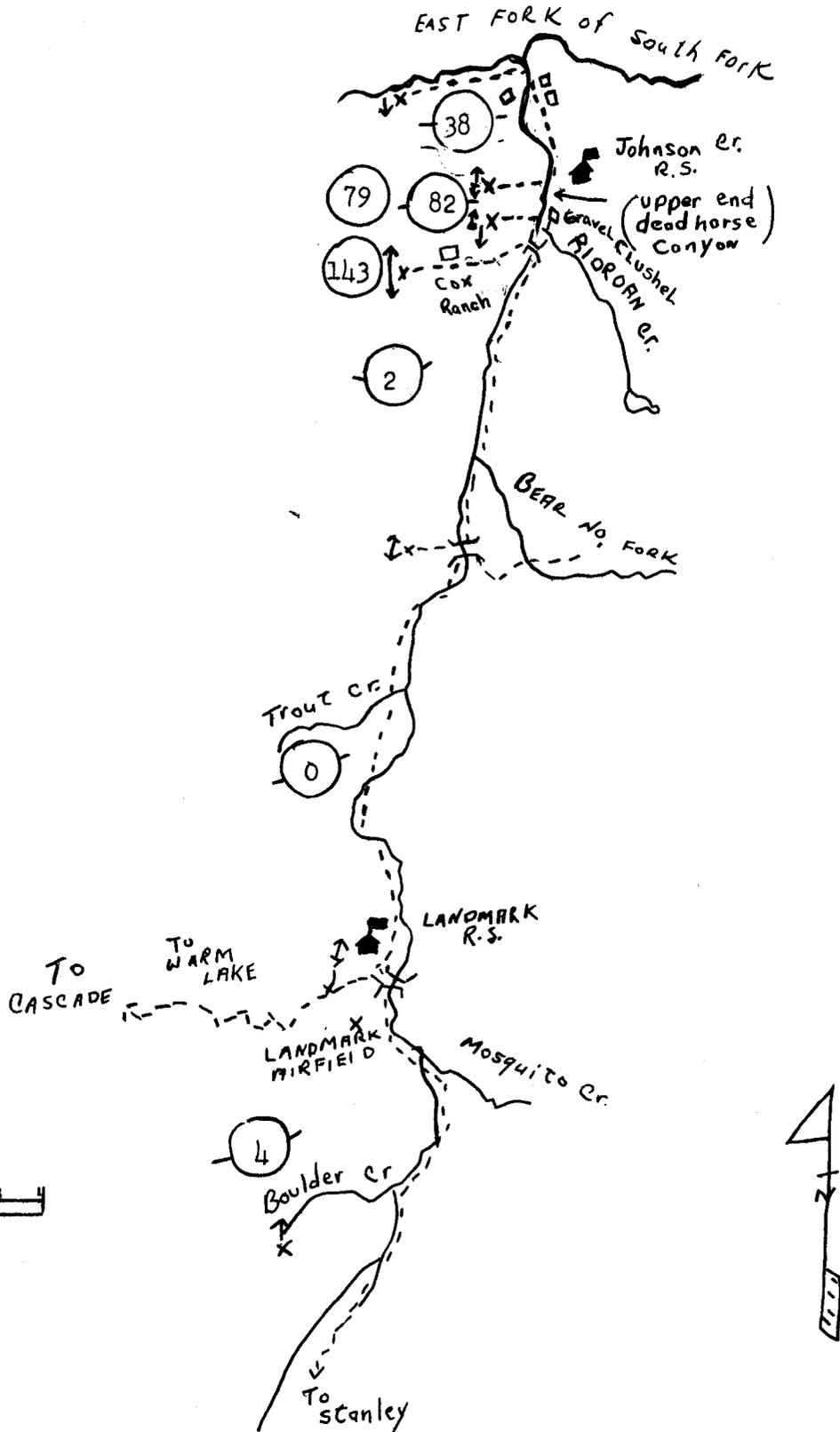
DRAINAGE East Fork of South Fork

SURVEY DATE 9/22/58

STREAM Johnson Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITION Fair



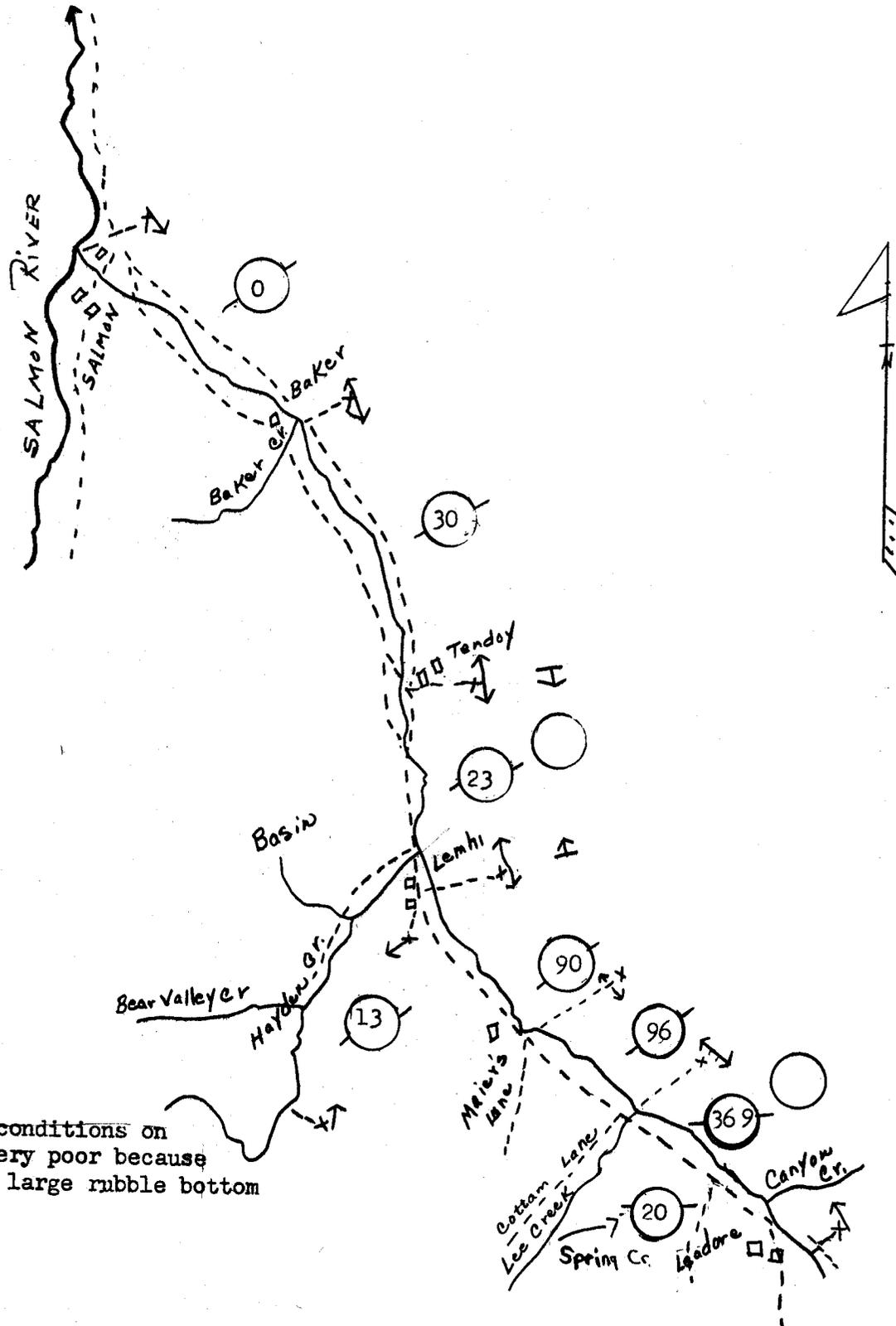
DRAINAGE Salmon River

SURVEY DATE 9/2/58

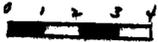
STREAM Lemhi River

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Excellent



Observation conditions on Hayden Cr. very poor because of trees and large rubble bottom



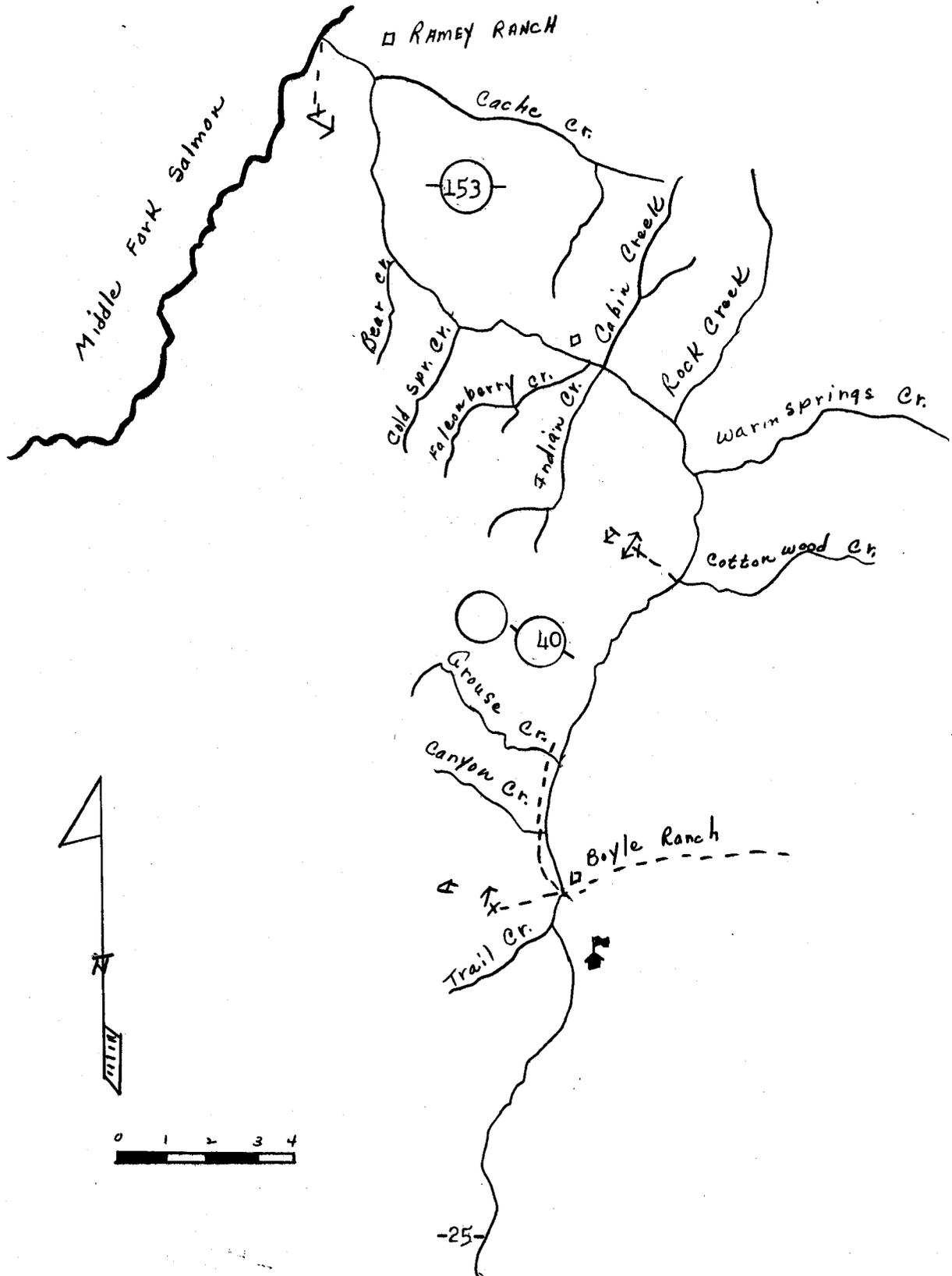
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/1/58

STREAM Loon Creek

MAP SCALE 1/3" = 1 mile

OBSERVATION CONDITIONS Excellent



DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/29/58

STREAM Marsh Creek

MAP SCALE 2/3" = 1 mi.

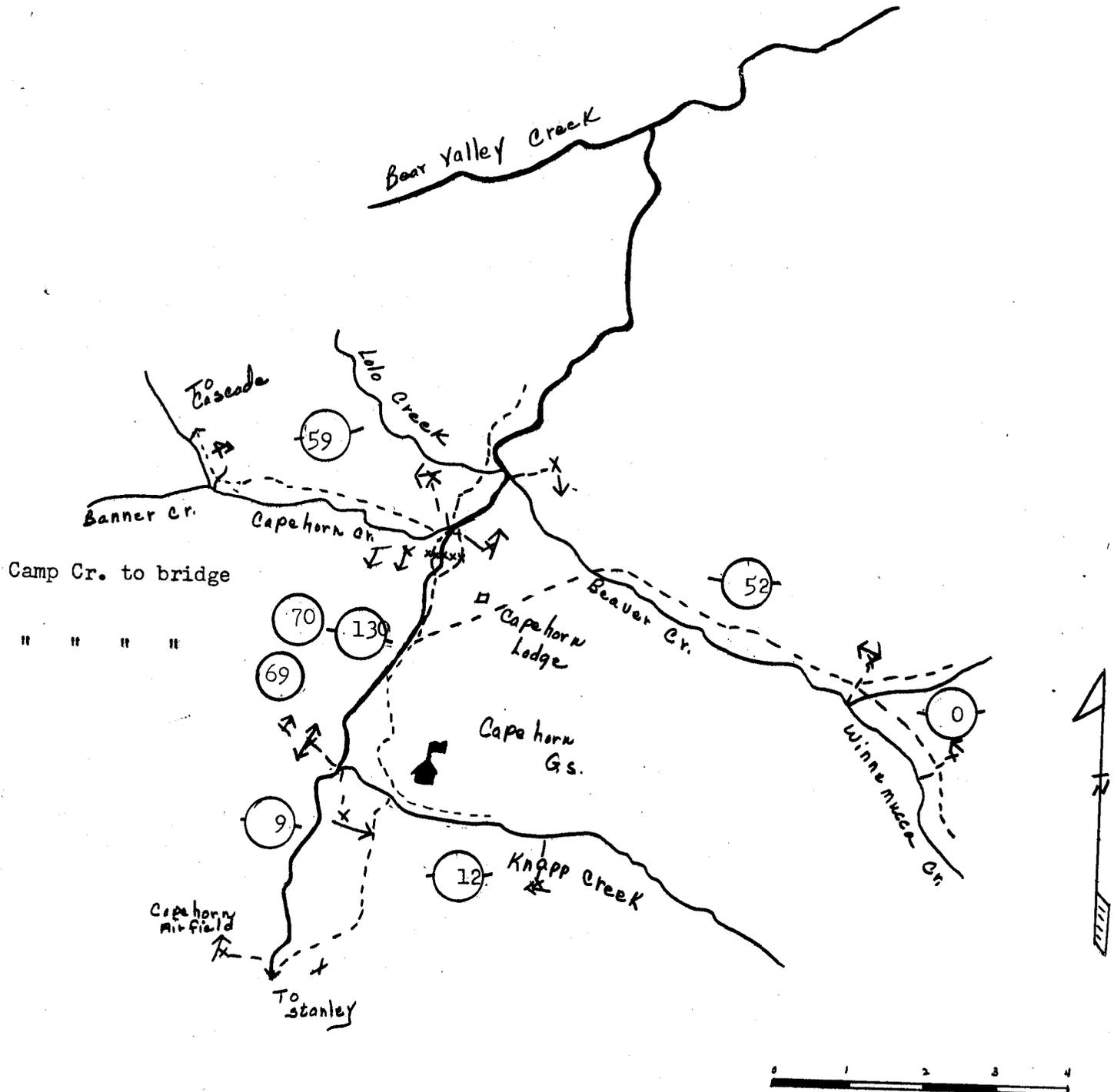
OBSERVATION CONDITIONS Excellent

Total Redds, Capehorn Cr. - 59

" " Beaver Cr. - 52

" " Knapp Cr. - 12

" " Marsh Cr. - 139



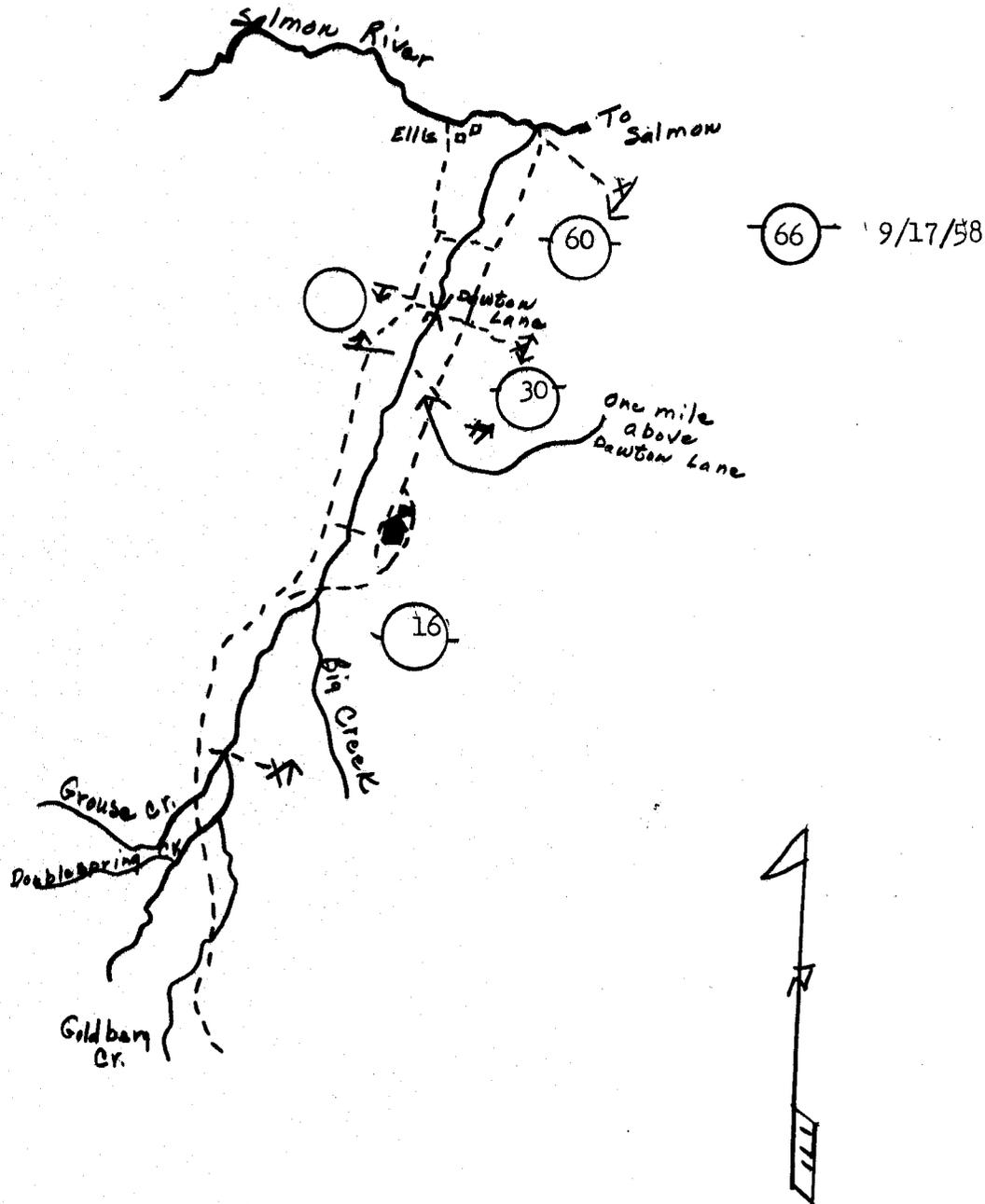
DRAINAGE Salmon River

SURVEY DATE 9/10/58

STREAM Pahsimeroi River

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Excellent



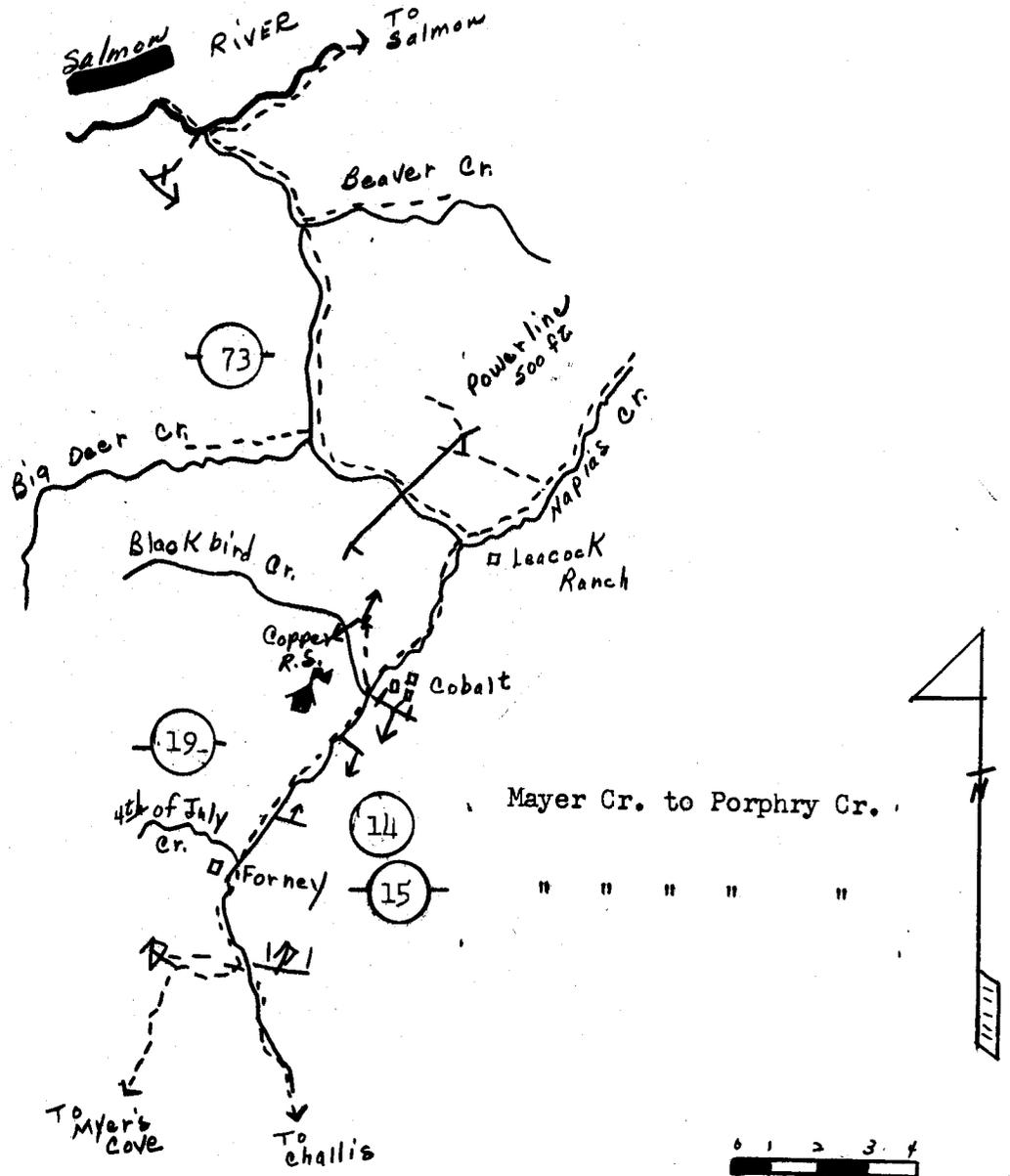
DRAINAGE Salmon River

SURVEY DATE 8/30/58

STREAM Panther Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS. Excellent above Cobalt - spawning 100% completed  
Poor to fair below Cobalt; Napias Creek muddy from placer  
mining. Spawning 80% completed below Big Deer Cr.



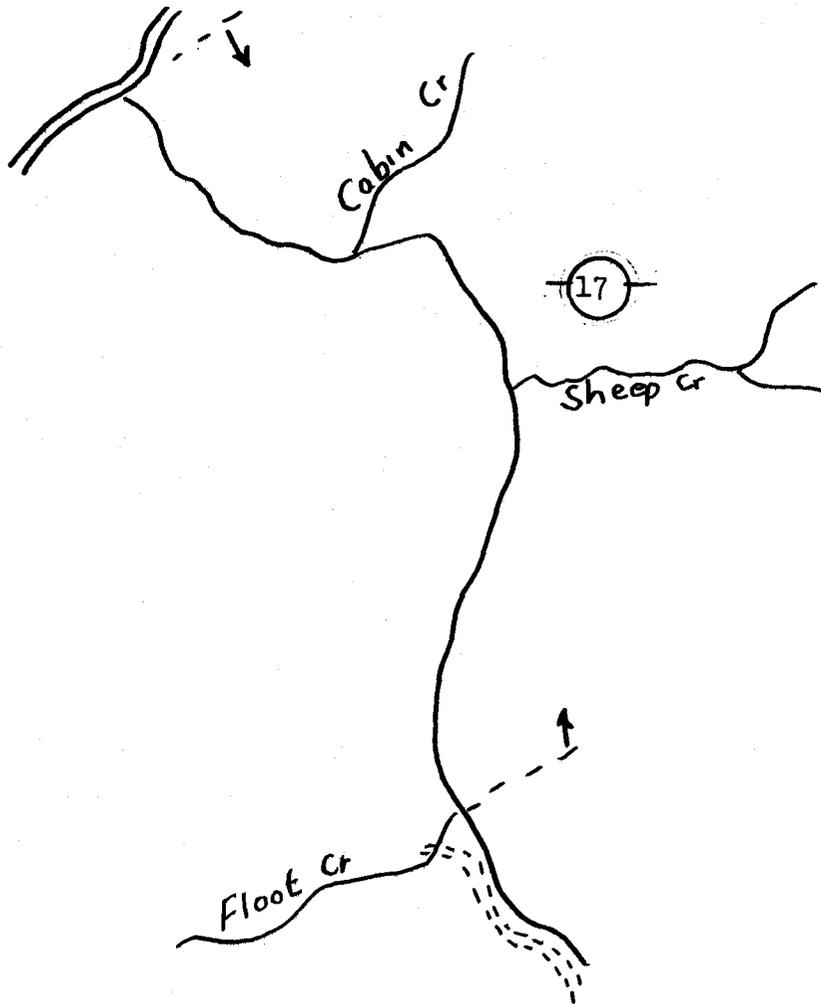
DRAINAGE Middle Fork Salmon River

SURVEY DATE 9/1/58

STREAM Rapid River

MAP SCALE 1/3" = 1 mile

OBSERVATION CONDITIONS Fair



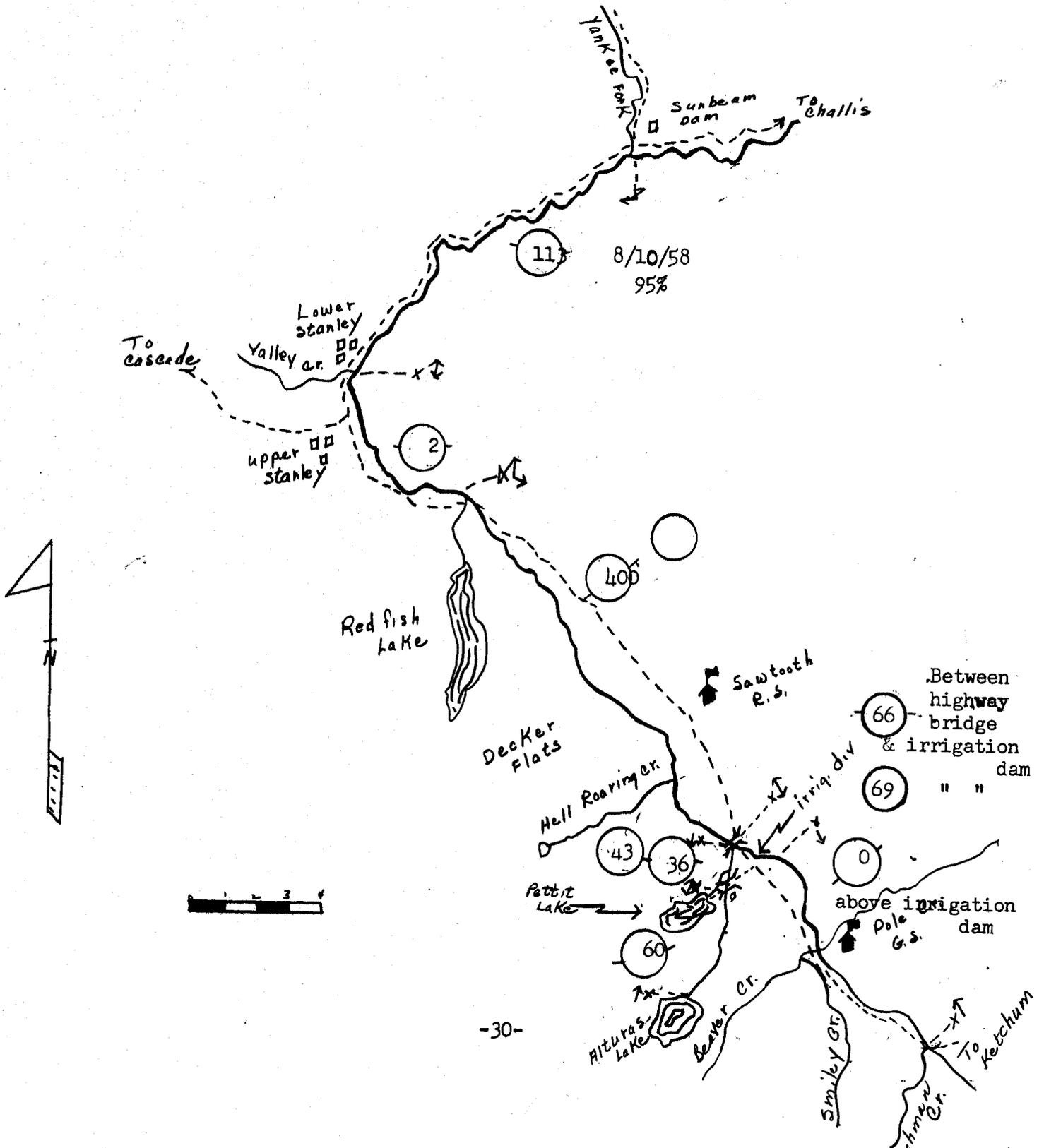
DRAINAGE Salmon River

SURVEY DATE 8/10/58 & 8/20/58

STREAM Headwaters Salmon River

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Excellent



DRAINAGE Salmon River

SURVEY DATE 9/10/58 & 9/17/58

STREAM Salmon River

MAP SCALE 1/6" = 1 mile

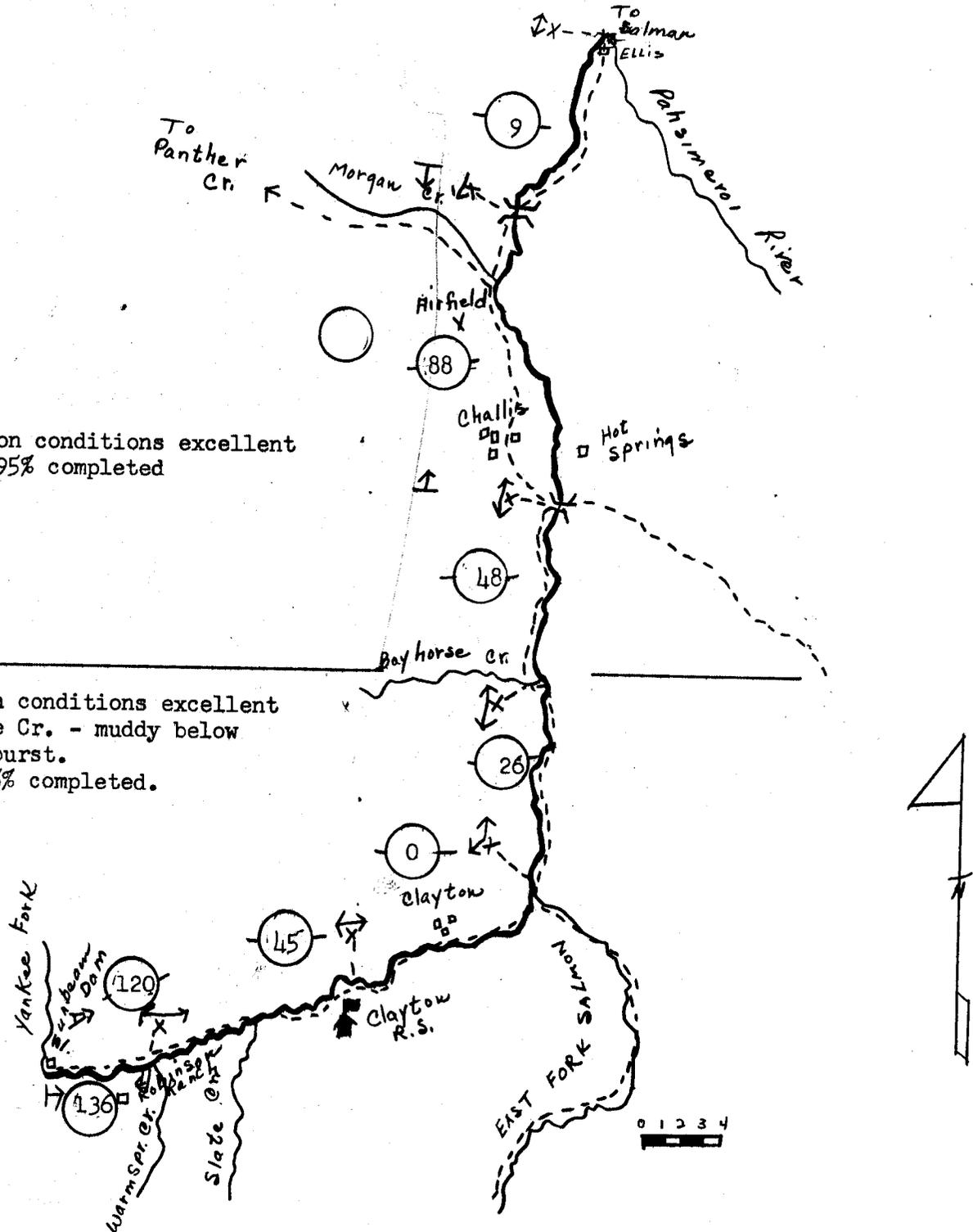
OBSERVATION CONDITIONS \_\_\_\_\_

9/17/58

Observation conditions excellent  
Spawning 95% completed

9/10/58

Observation conditions excellent  
to Bayhorse Cr. - muddy below  
from cloudburst.  
Spawning 95% completed.



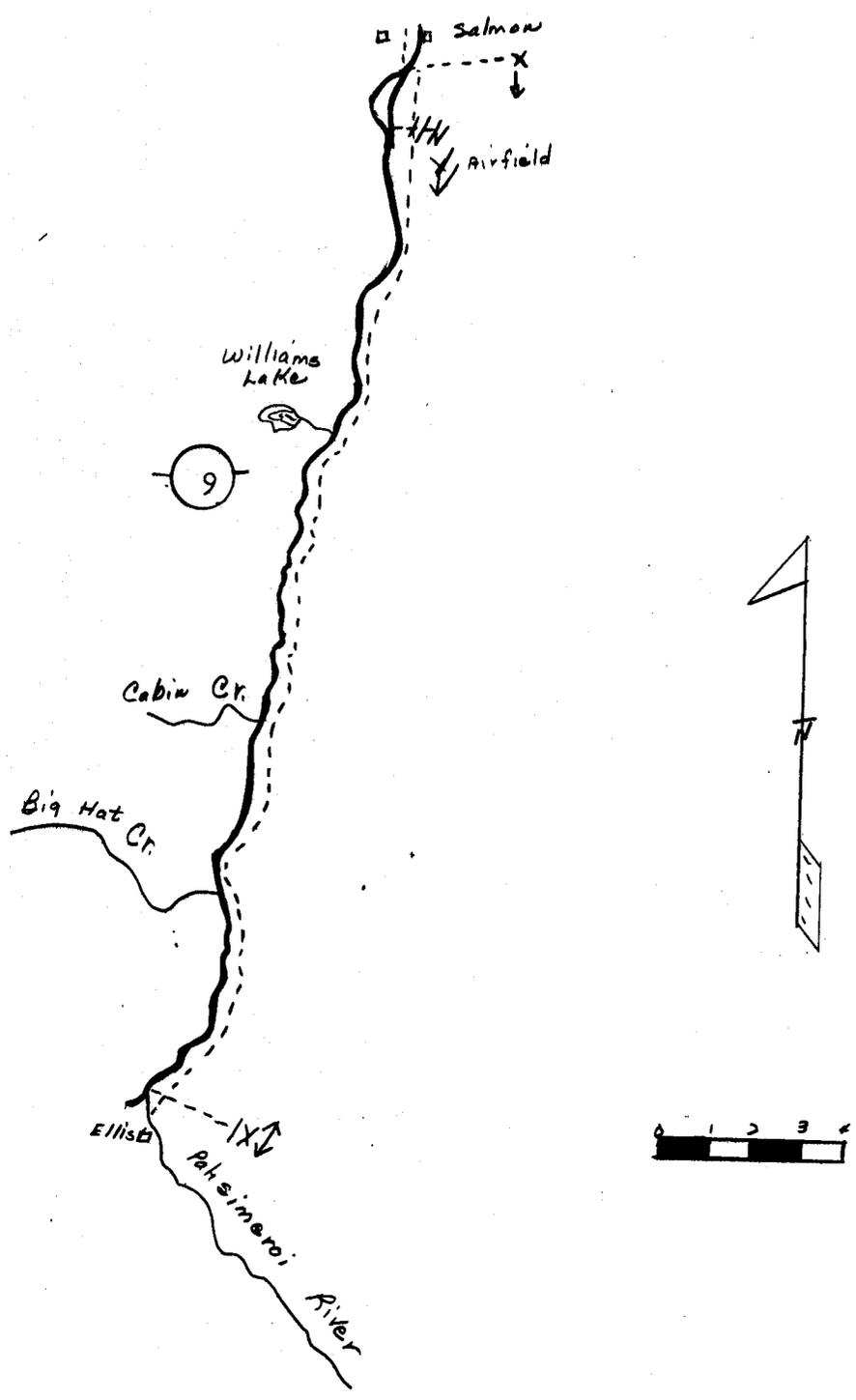
DRAINAGE Salmon River

SURVEY DATE 9/17/58

STREAM Salmon River

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Excellent



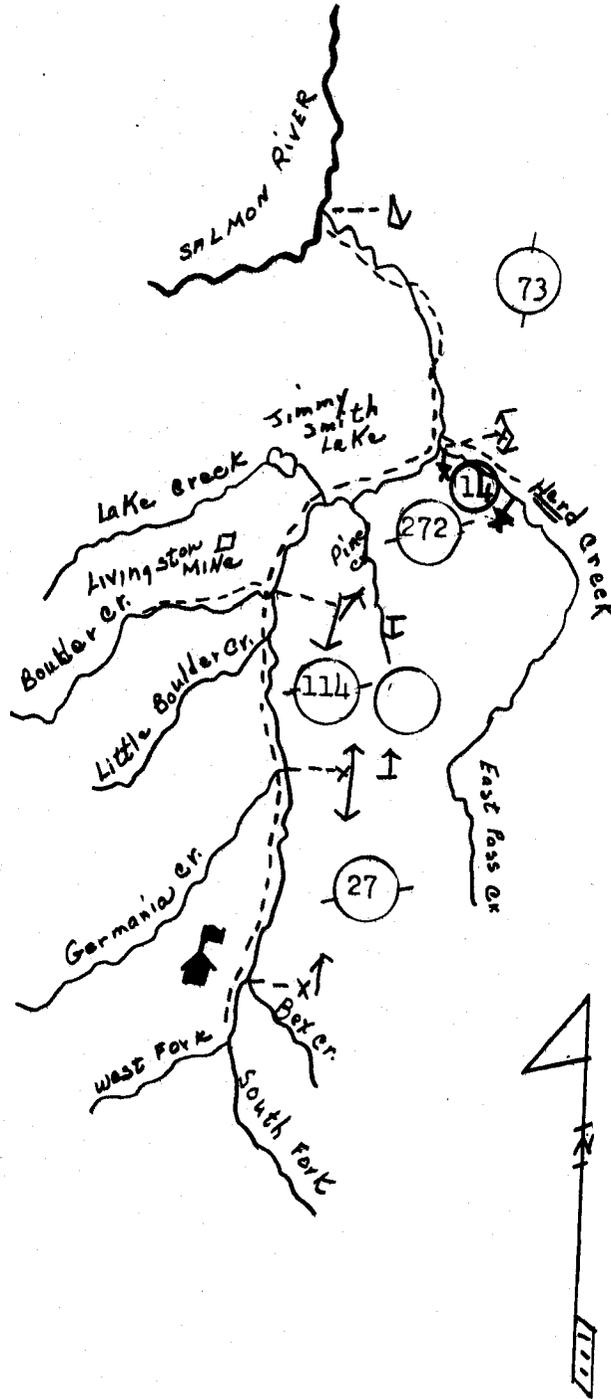
DRAINAGE Salmon River

SURVEY DATE 8/31/58

STREAM East Fork Salmon River

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Excellent



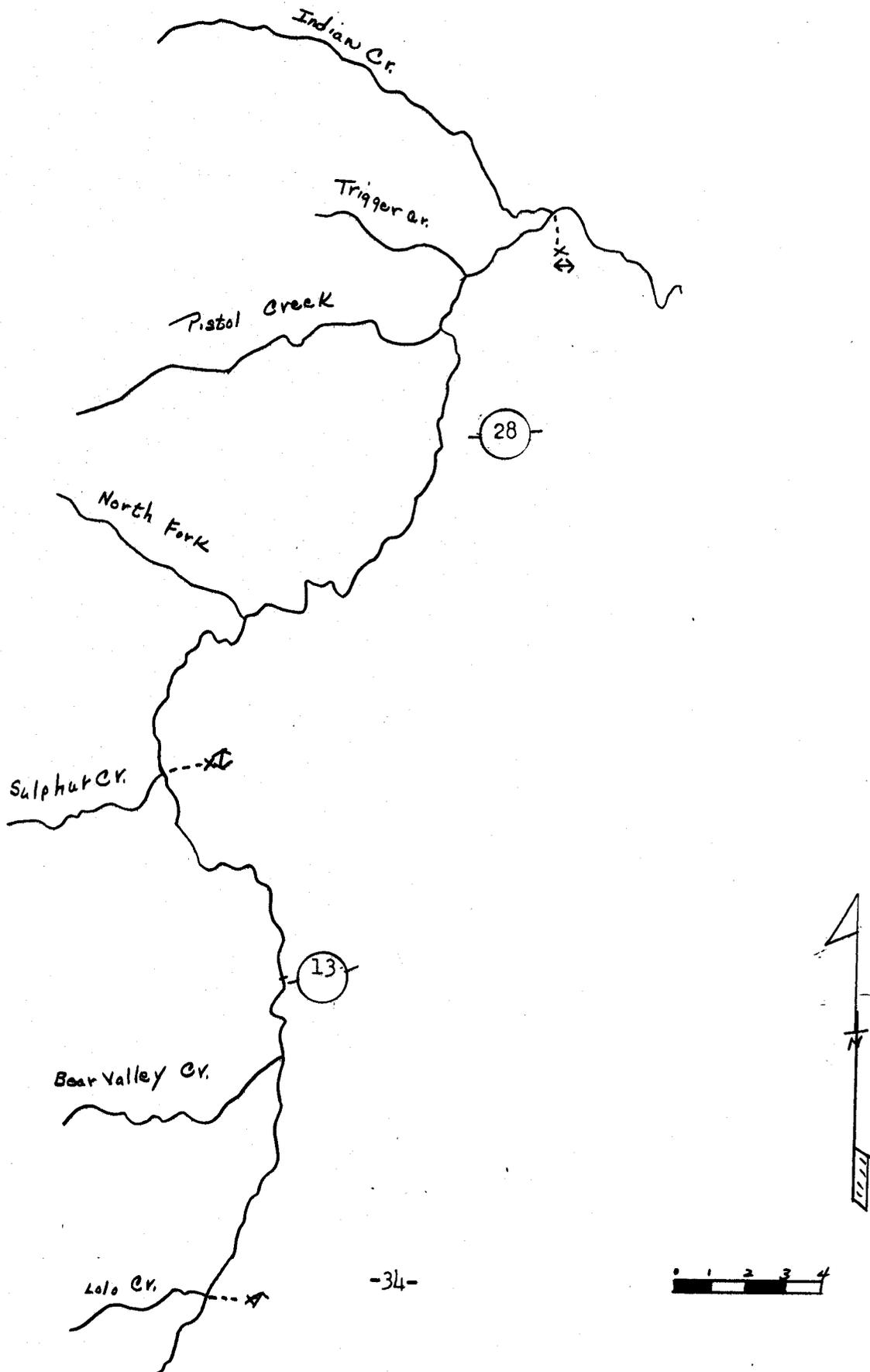
DRAINAGE Salmon River

SURVEY DATE 9/11/58

STREAM Middle Fork Salmon River

MAP SCALE 1/4" = 1 mi.

OBSERVATION CONDITIONS Excellent



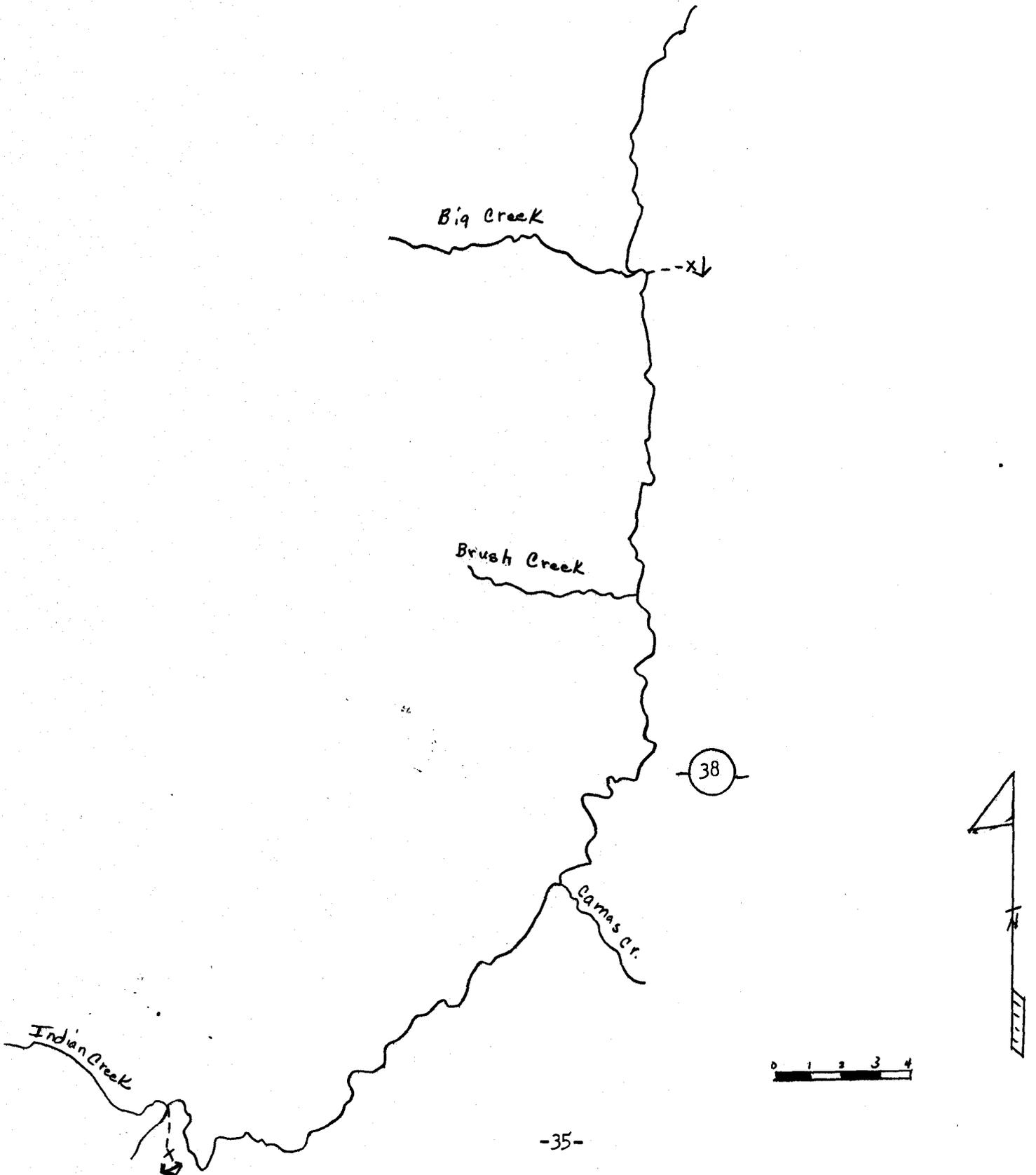
DRAINAGE Salmon River

SURVEY DATE 9/11/58

STREAM Middle Fork Salmon River

MAP SCALE 1/4" = 1 mi.

OBSERVATION CONDITIONS Excellent



DRAINAGE Salmon River

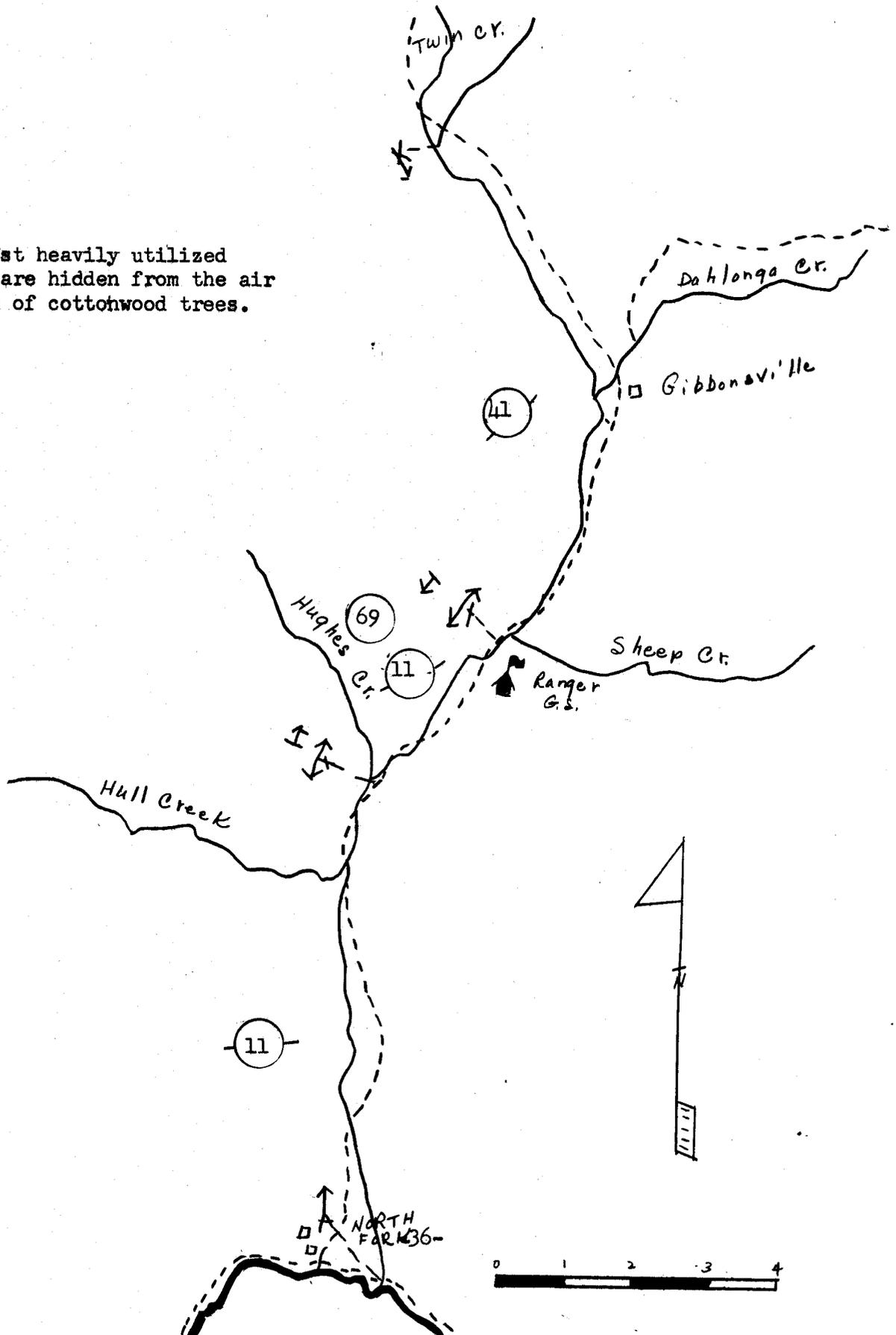
SURVEY DATE 8/30/58

STREAM North Fork Salmon River

MAP SCALE 1/2" = 1 mile

OBSERVATION CONDITIONS Poor because of trees

Many of the most heavily utilized spawning areas are hidden from the air by dense growth of cottonwood trees.



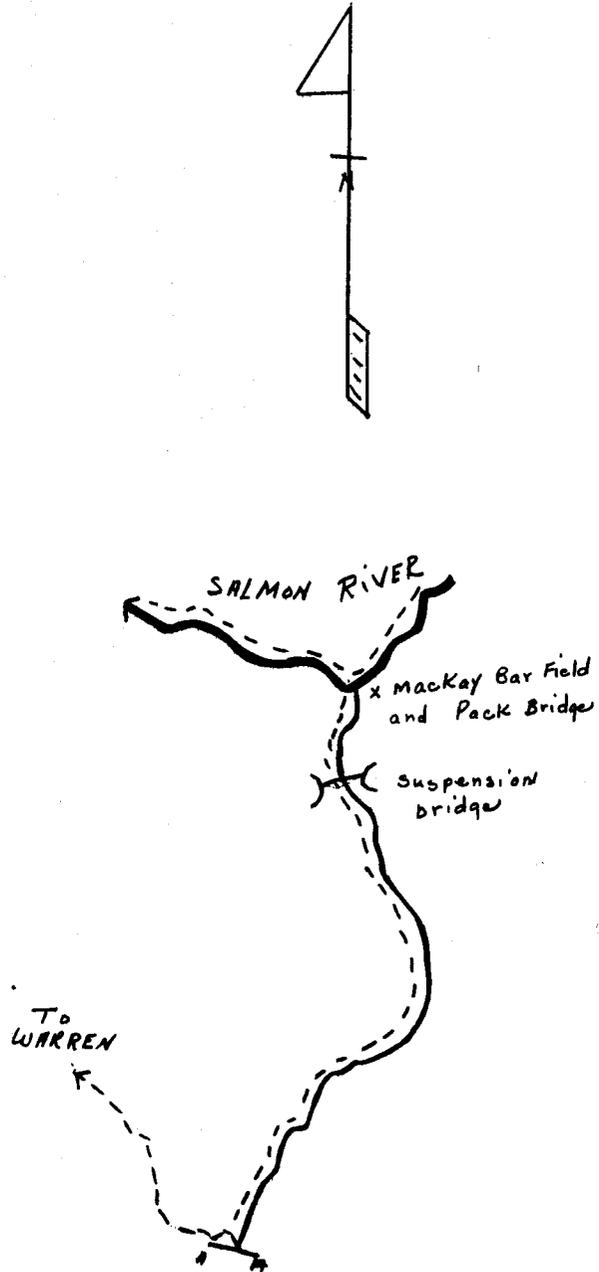
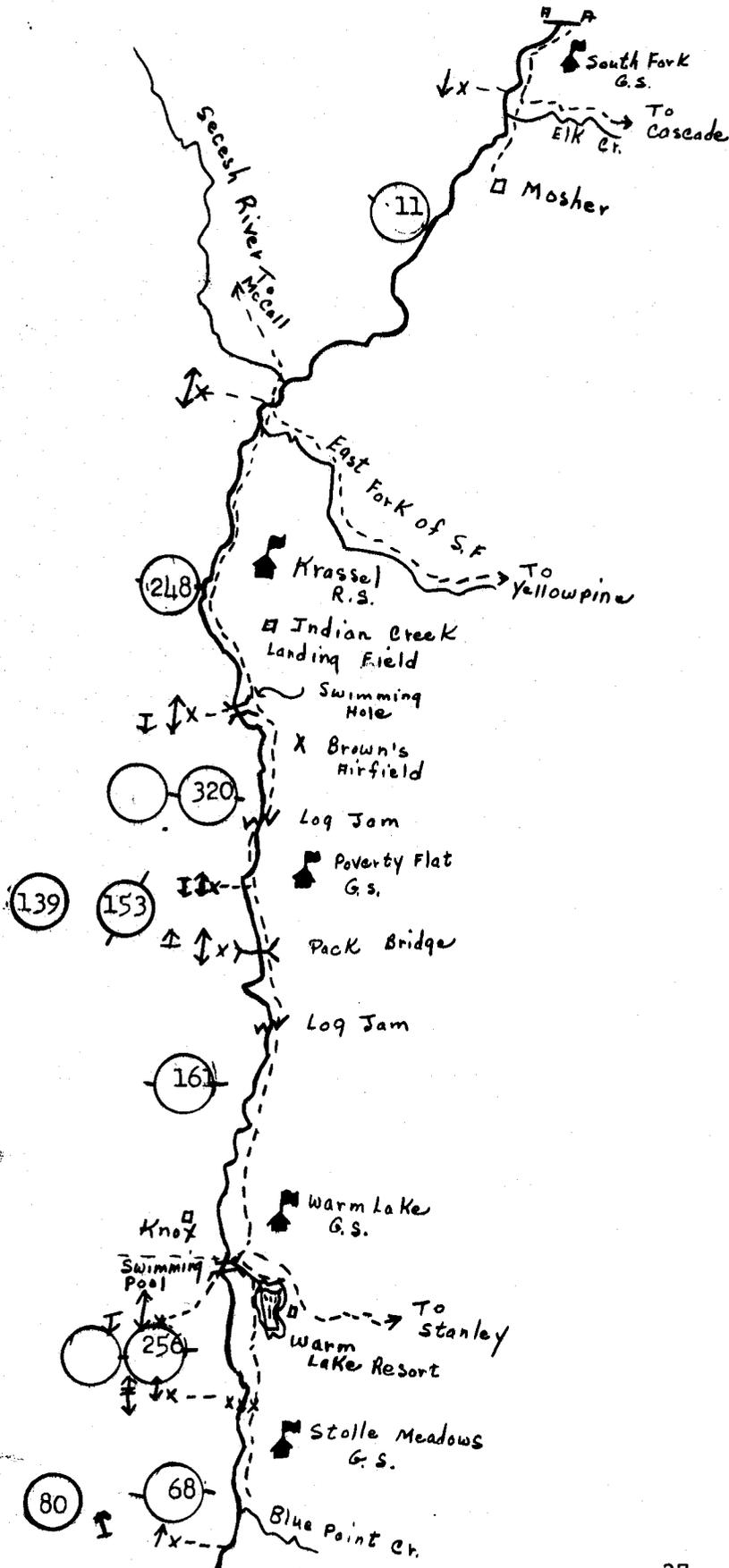
DRAINAGE Salmon River

SURVEY DATE 9/5/58 & 9/22/58

STREAM South Fork Salmon River

MAP SCALE 1/4" = 1 mi.

OBSERVATION CONDITIONS Good



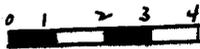
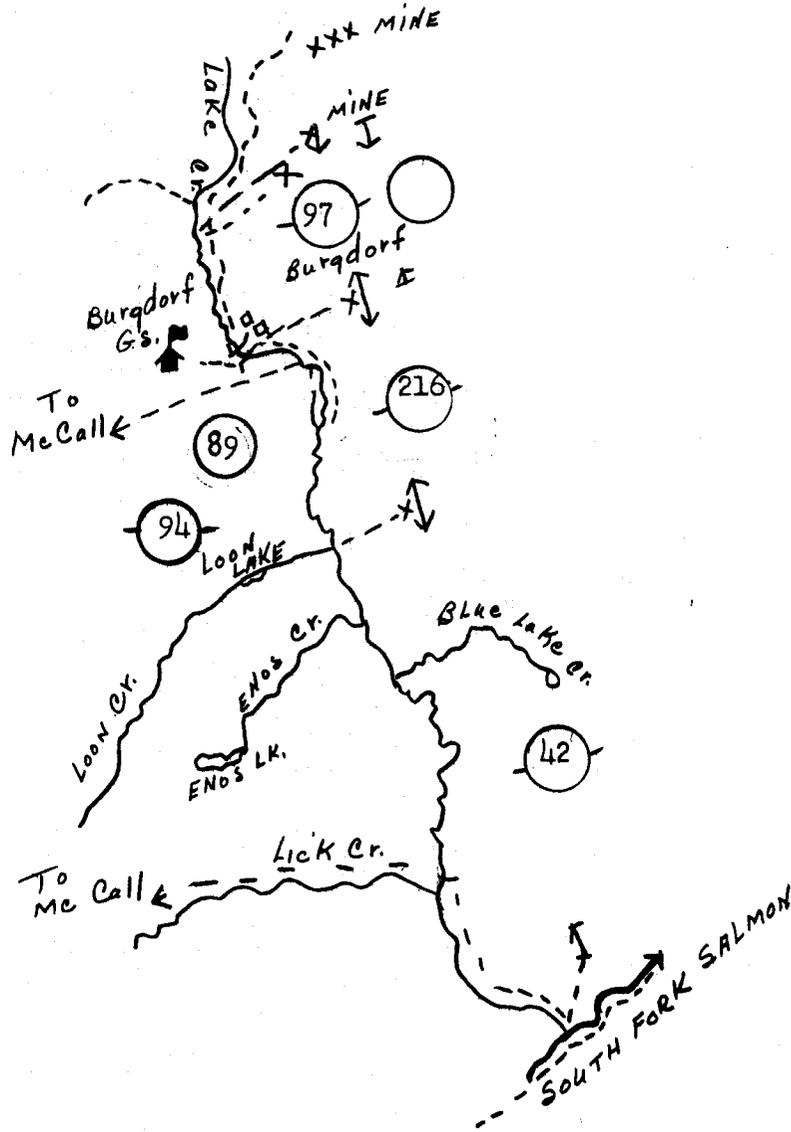
DRAINAGE South Fork Salmon River

SURVEY DATE 9/5/58

STREAM Secesh & Lake Creek

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS Excellent



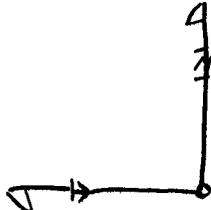
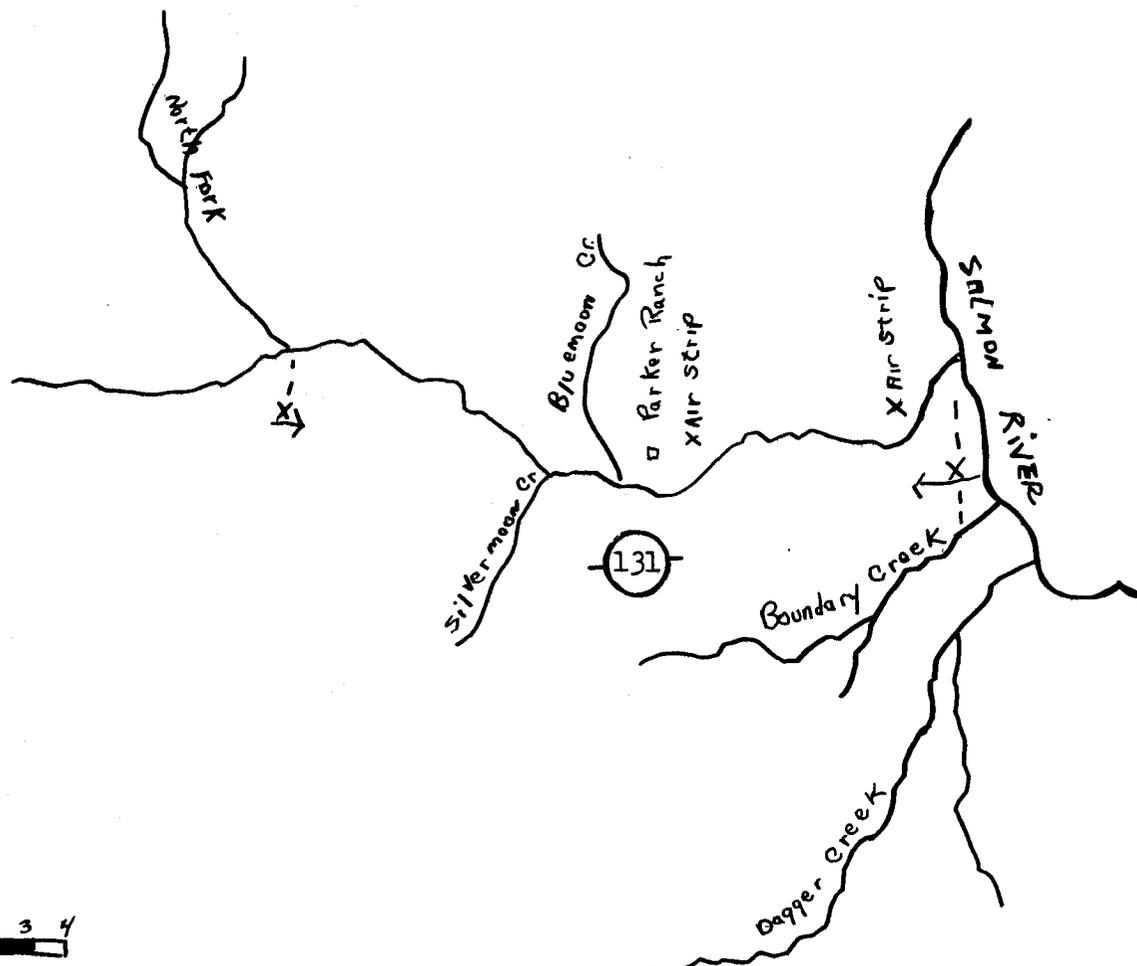
DRAINAGE Middle Fork Salmon River

SURVEY DATE 8/30/58

STREAM Sulphur Creek

MAP SCALE 1/6" = 1 mi.

OBSERVATION CONDITIONS Poor



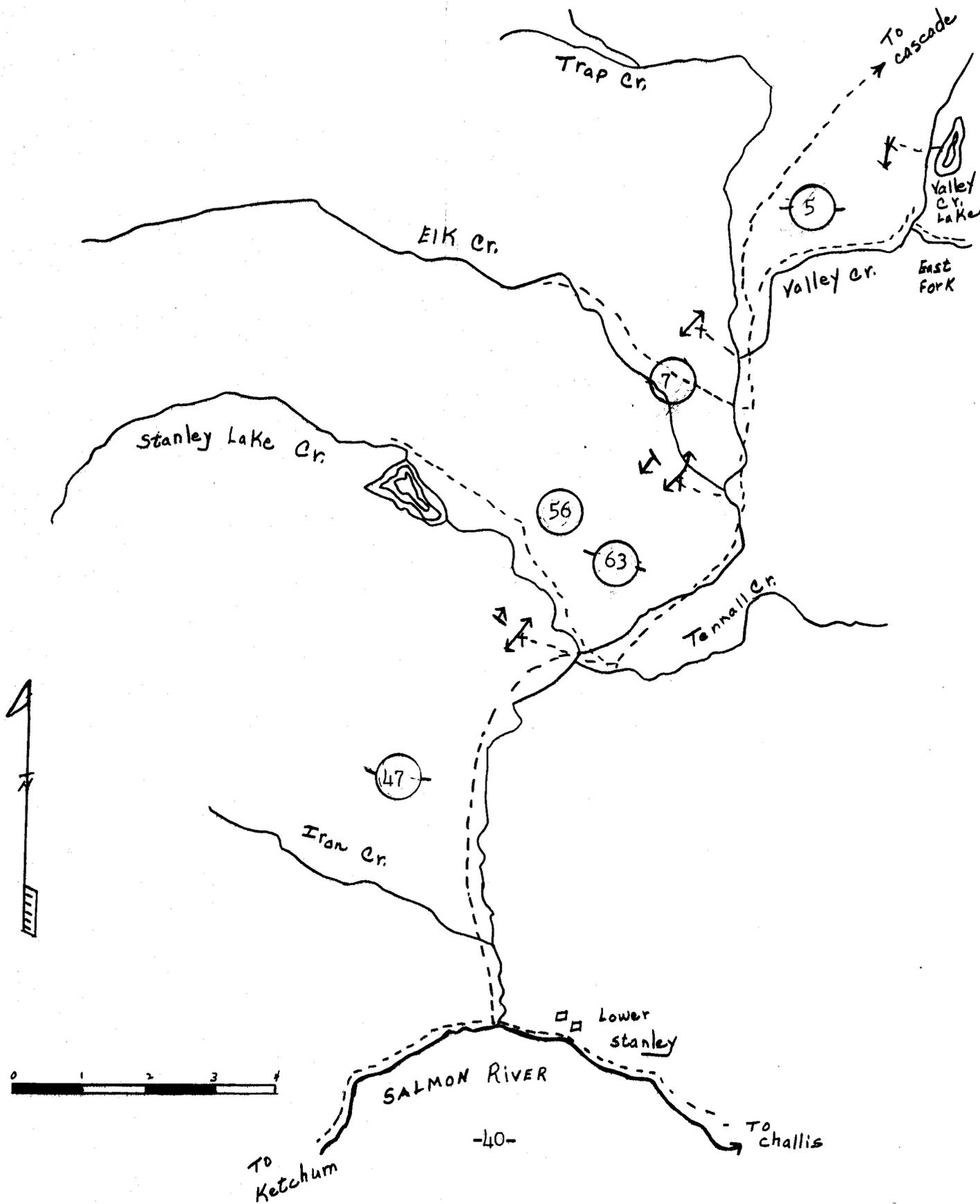
DRAINAGE Salmon River

SURVEY DATE 8/20/58

STREAM Valley Creek

MAP SCALE 2/3" = 1 mi.

OBSERVATION CONDITIONS Good to fair (rain)



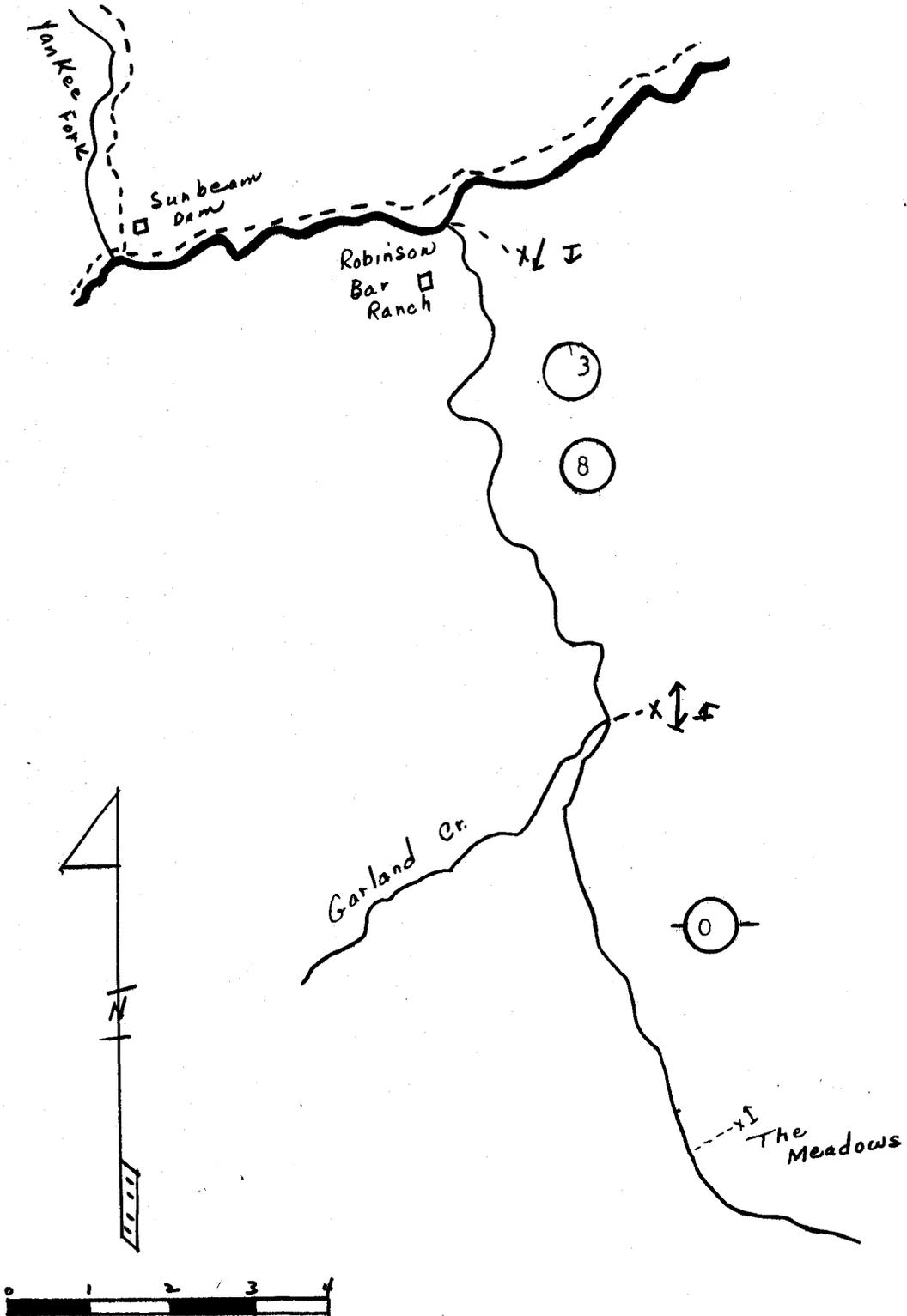
DRAINAGE Salmon River

SURVEY DATE 8/31/58

STREAM Warm Springs Creek

MAP SCALE 1/2" = 1 mile

OBSERVATION CONDITIONS Fair - rough flying conditions



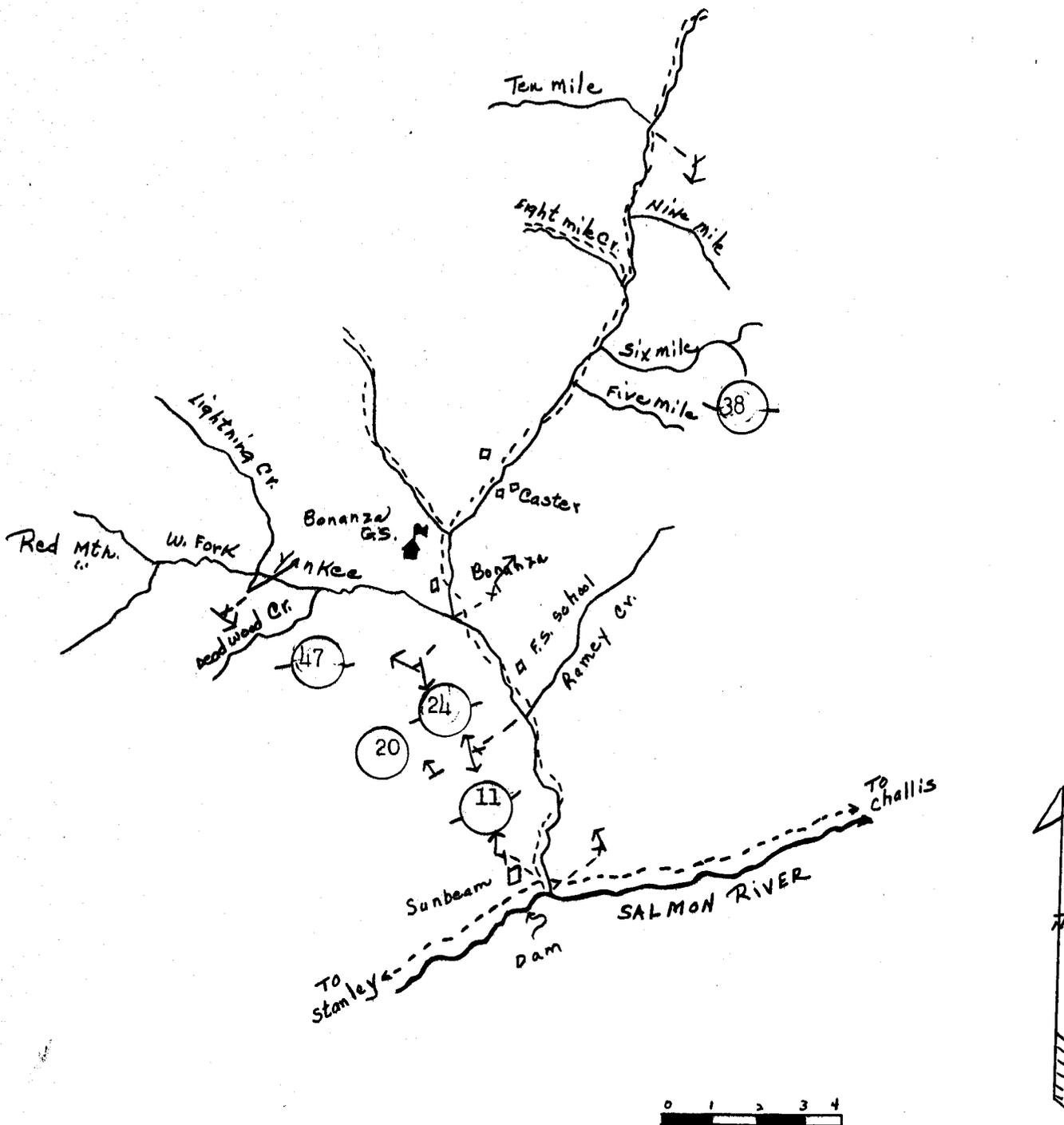
DRAINAGE Salmon River

SURVEY DATE 9/31/58

STREAM Yankee Fork

MAP SCALE 1/3" = 1 mi.

OBSERVATION CONDITIONS Excellent



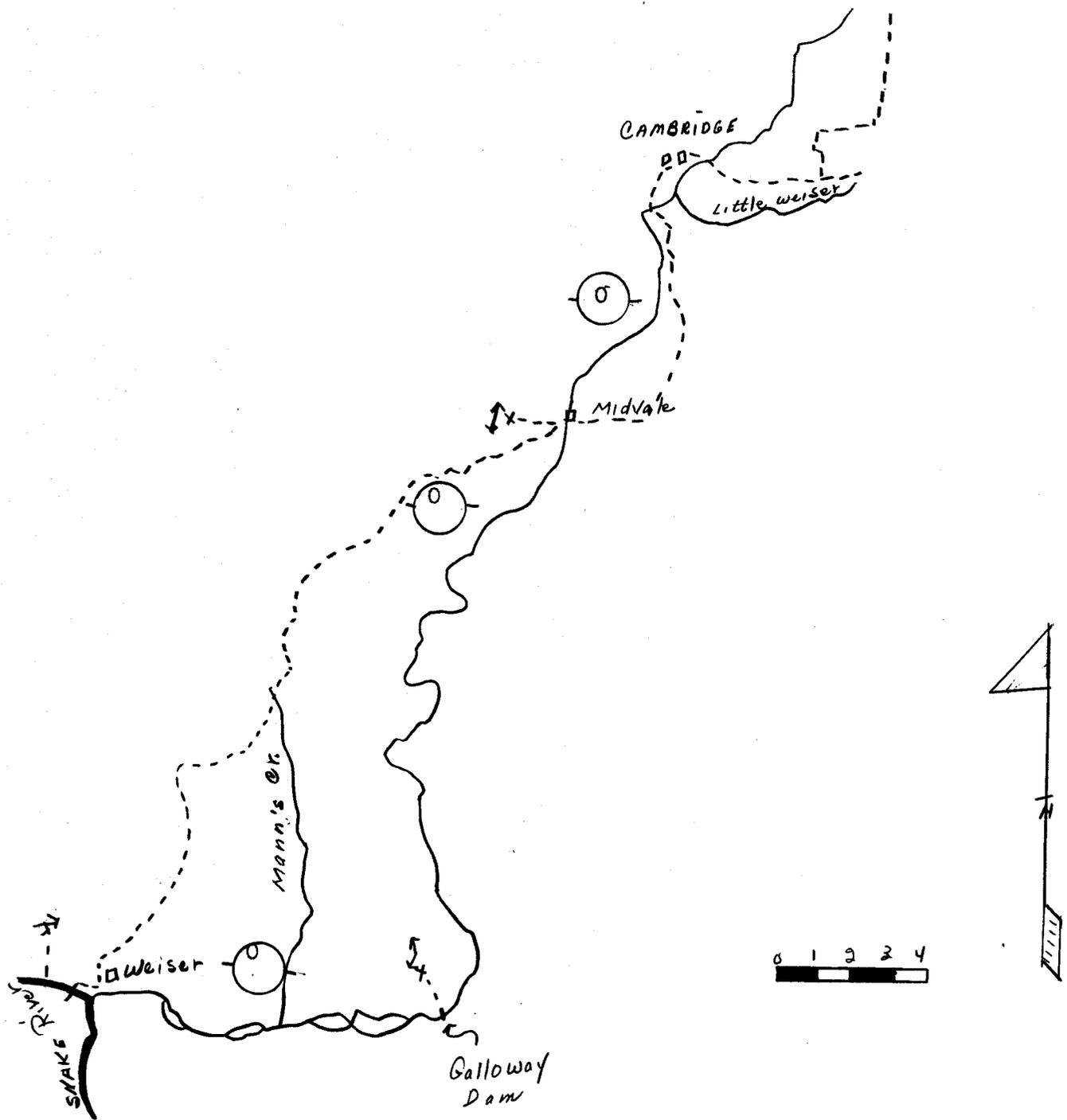
DRAINAGE Weiser River

SURVEY DATE 9/5/58

STREAM Weiser River - Weiser to Cambridge

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS \_\_\_\_\_



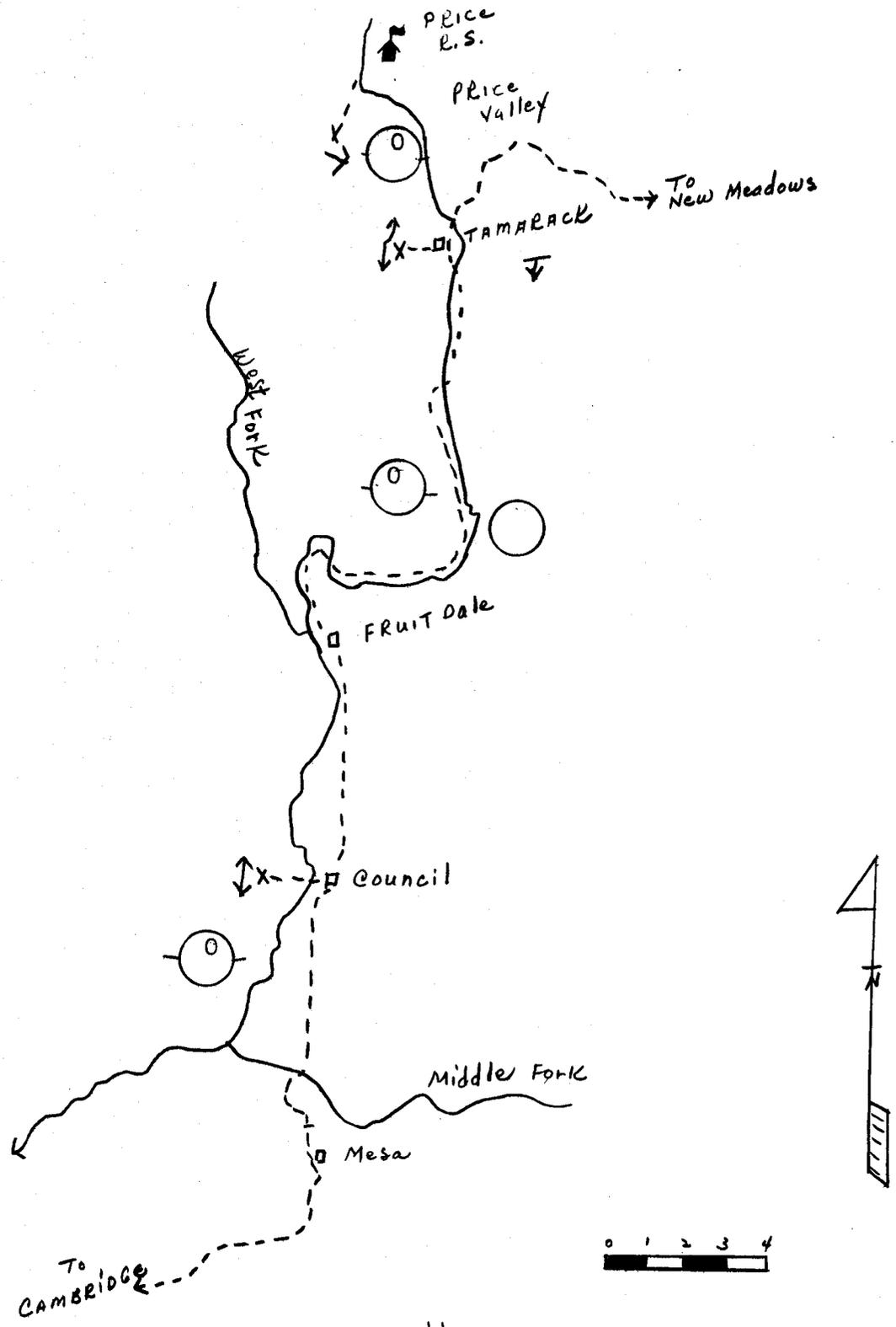
DRAINAGE Weiser River

SURVEY DATE 9/5/58

STREAM Weiser River - Cambridge to Price Valley

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS \_\_\_\_\_



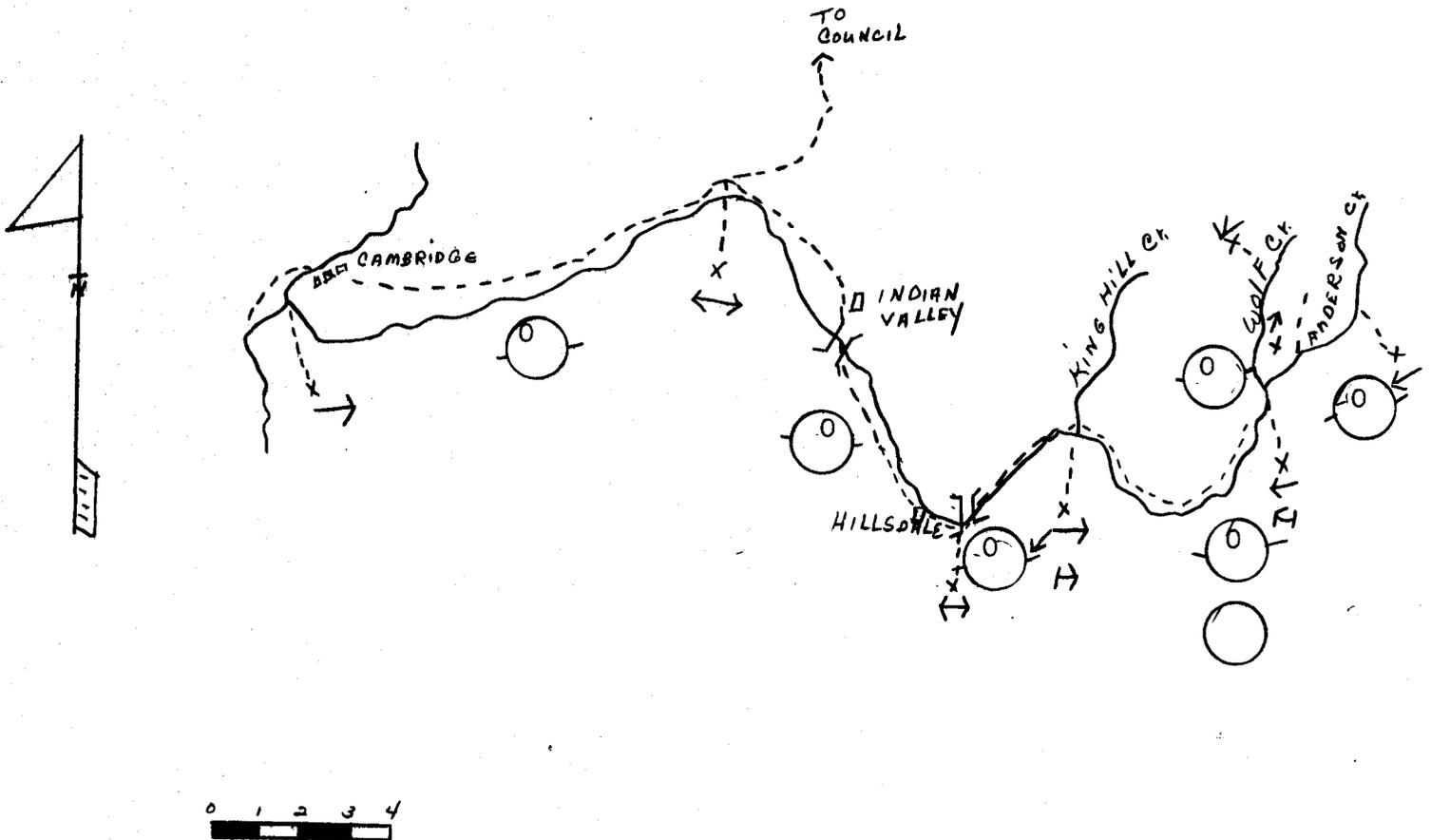
DRAINAGE Weiser River

SURVEY DATE 9/5/58

STREAM Little Weiser

MAP SCALE 1/4" = 1 mile

OBSERVATION CONDITIONS \_\_\_\_\_



DRAINAGE Weiser River

SURVEY DATE 9/5/58

STREAM West Fork Weiser River

MAP SCALE 1/3" = 1 mile

OBSERVATION CONDITIONS \_\_\_\_\_

