Preliminary Catalogue of Salmon Streams and Spawning Escapements of Mission-Harrison Sub-District

R. F. Brown and M.M.Musgrave

Enhancement Services Branch
Fisheries and Oceans
Vancouver, B.C. V6E 2P1

April 1979

Fisheries & Marine Service
Data Report No.133

LIBRARY
DEPT. OF THE ENVIRONMENT
ENVIRONMENTAL PROTECTION SERVICE
PACIFIC REGION

ABSTRACT

Brown, R. F. and M. M. Musgrave. 1979. Preliminary catalogue of salmon streams and spawning escapements of Mission - Harrison Sub-District. Fisheries and Marine Service Data Report No. 133. 151 pp.

Catalogue containing each stream's location, spawning distribution, barriers and points of difficult ascent, escapement records and other general data pertaining to the stream. The catalogue also includes a topographical map of the stream's location and in some cases a sketch which further describes the surrounding area.

Key Words: British Columbia, Mission, Harrison Lake, salmon streams, spawning escapements.

RÉSUMÉ

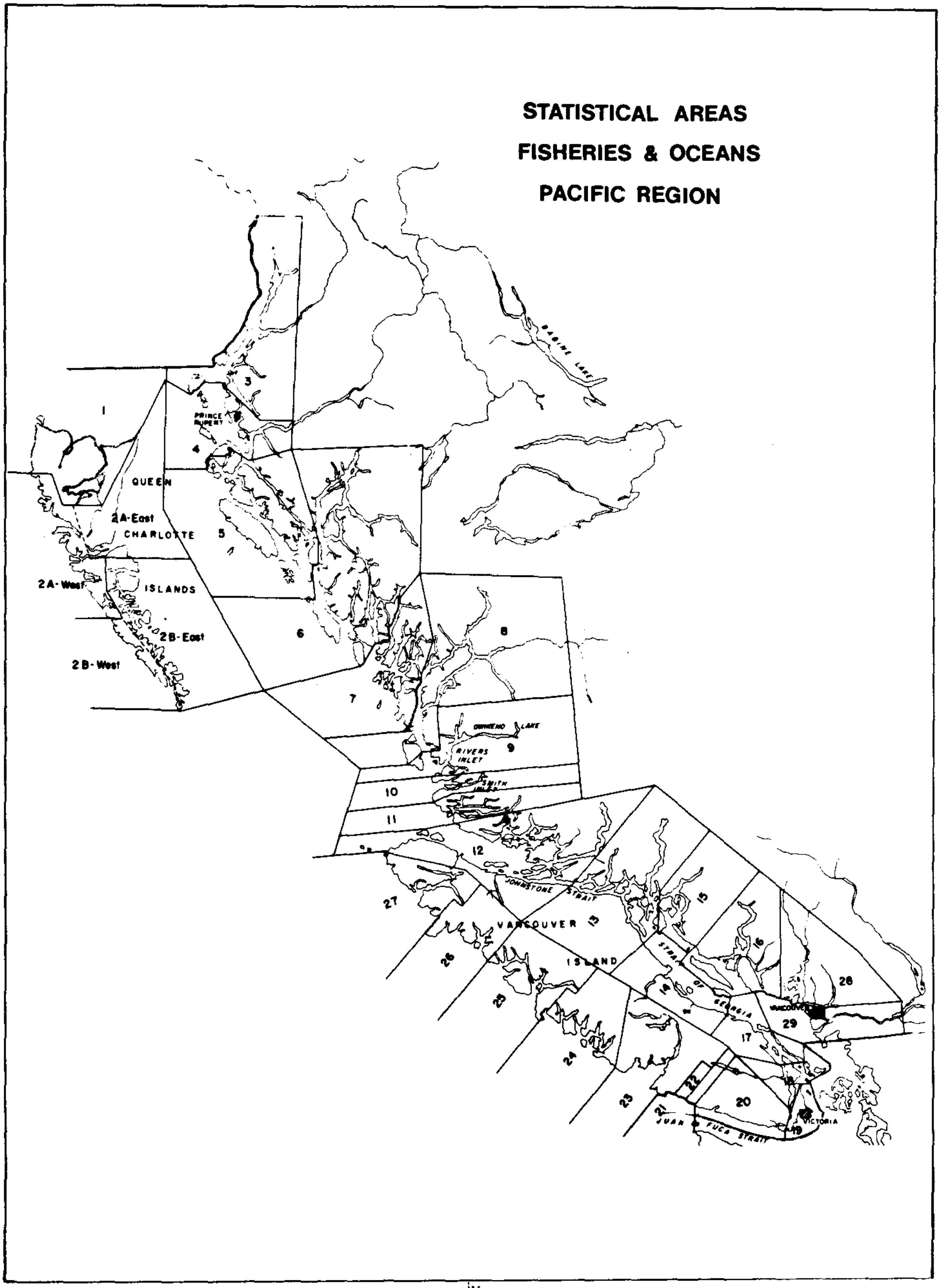
Brown, R. F. and M. M. Musgrave. 1979. Preliminary catalogue of salmon streams and spawning escapements of Mission - Harrison Sub-District. Fisheries and Marine Service Data Report No. 133. 151 pp.

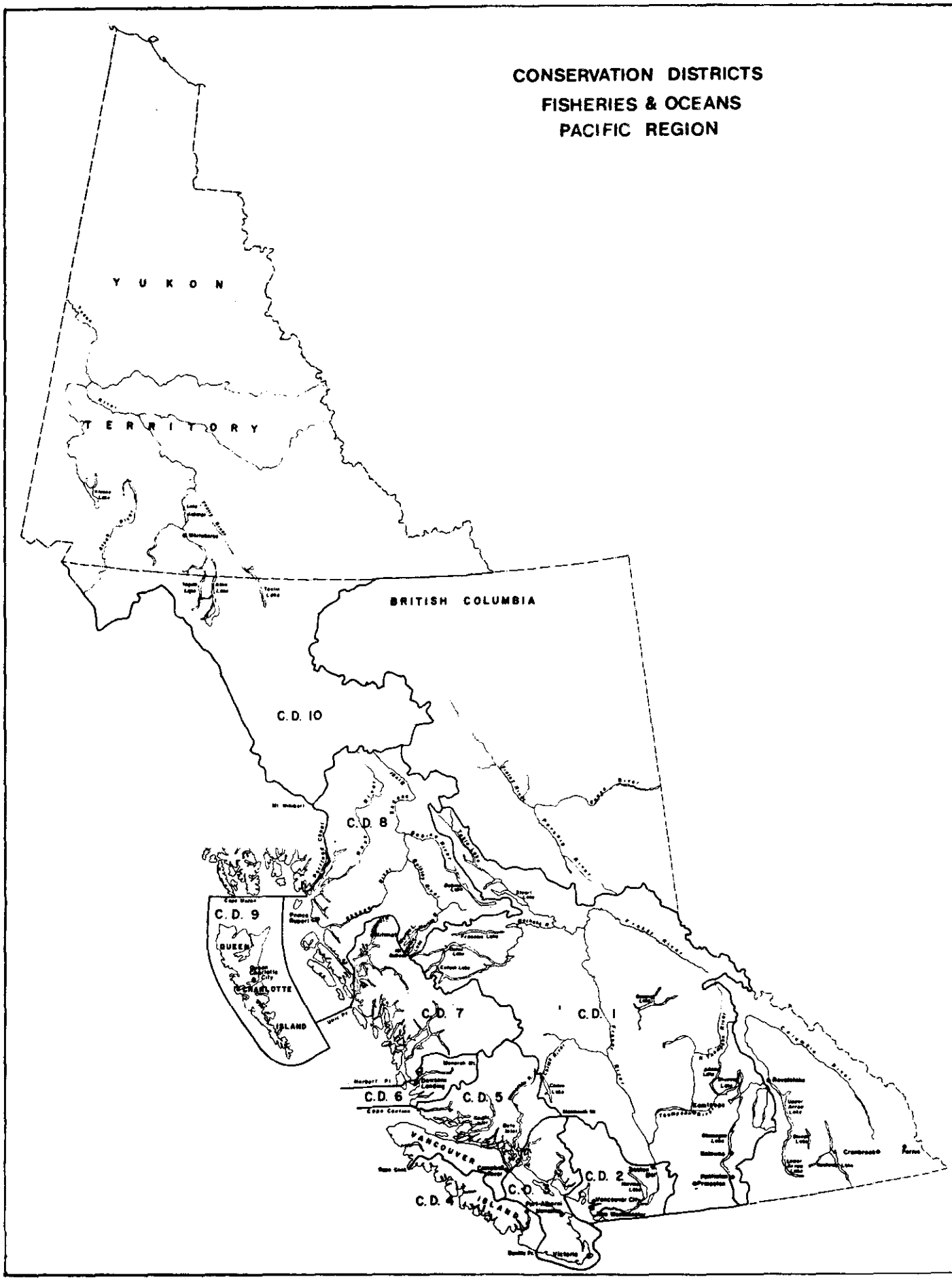
Catalogue contenant la situation de chaque cours d'eau, la distribution de l'aire de reproduction, les barrières et les points de remontée difficile, les données sur la remonte et d'autres données générales sur le cours d'eau. Le catalogue comprend aussi une carte topographique montrant la situation du cours d'eau et, dans certain cas, un schéma de la région environnante.

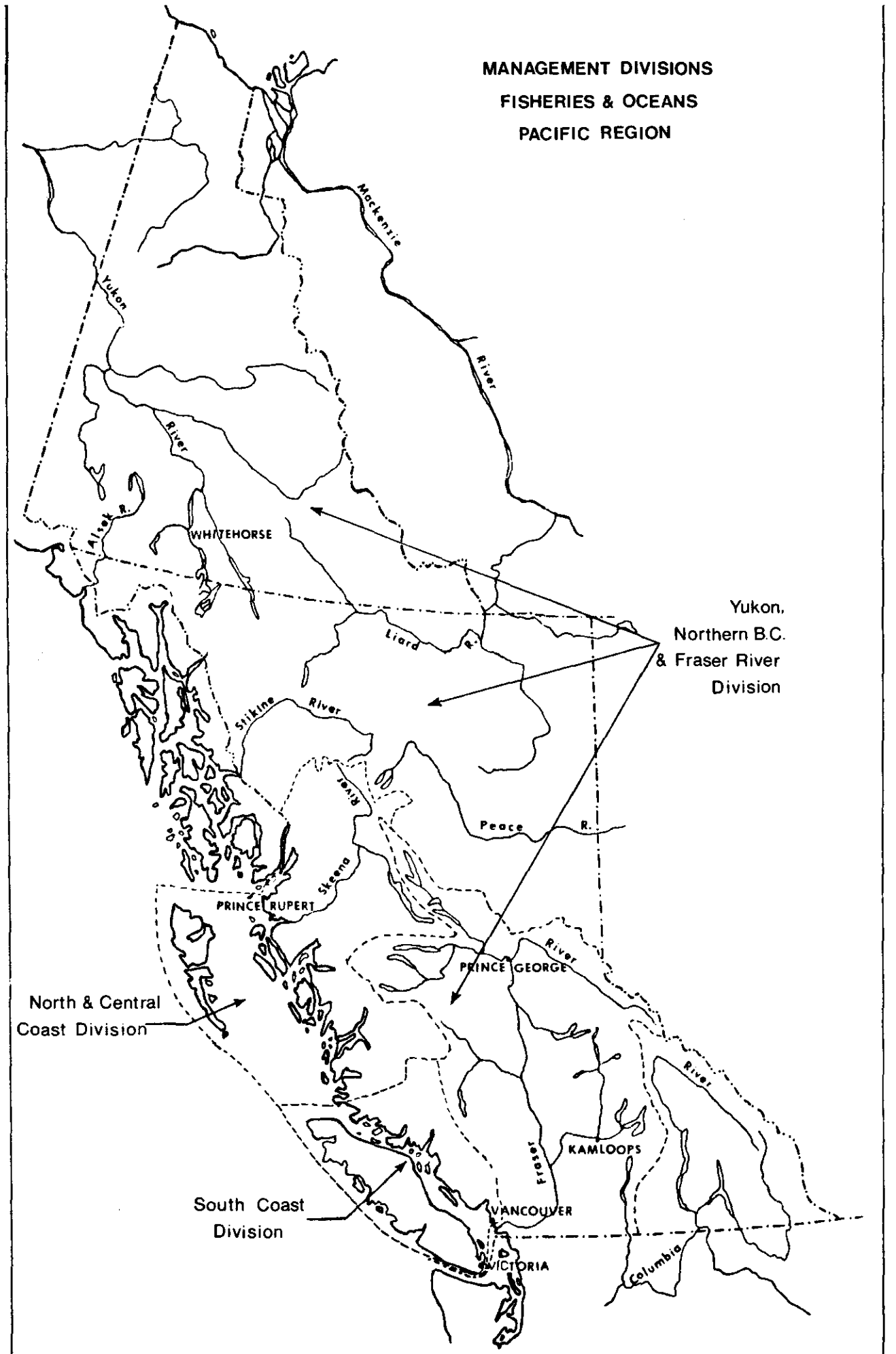
Mots-clés: Colombie-Britannique, Mission, lac Harrison, rivières à saumons, remontes de saumons.

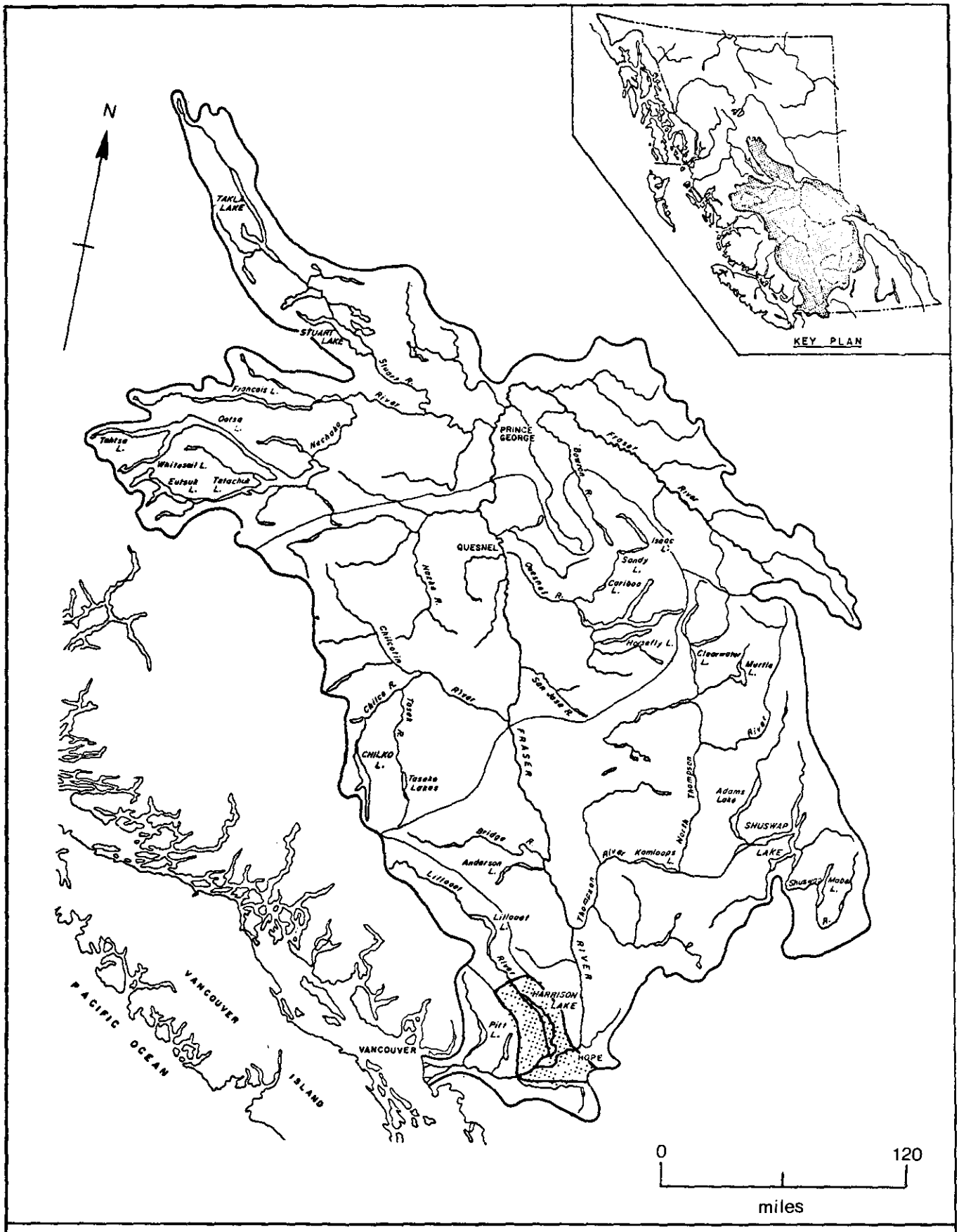
CONTENTS

CONTENTS (continued)


STATISTICAL AREAS
FISHERIES & OCEANS
PACIFIC REGION
BABINE LAKE
PRINCE RUPERT
QUEEN
CHARLOTTE
ISLANDS
2A-East
2A-West
2B-East
2B-West
OWIKENO LAKE
RIVERS INLET
SMITH INLET
JOHNSTONE STRAIT
VANCOUVER
ISLAND
STRAIT OF GEORGIA
VANCOUVER
VICTORIA
JUAN DE FUCA STRAIT
1
2
3
4
5
6
7
8
9
10
11
12
13
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29


CONSERVATION DISTRICTS
FISHERIES & OCEANS
PACIFIC REGION
YUKON
TERRITORY
BRITISH COLUMBIA
C.D. 10
C.D. 8
C.D. 9
QUEEN
CHARLOTTE
ISLAND
C.D. 7
C.D. 1
C.D. 6
C.D. 5
VANCOUVER
ISLAND
C.D. 2
C.D. 3
C.D. 4


MANAGEMENT DIVISIONS
FISHERIES & OCEANS
PACIFIC REGION
Mackenzie
River
Yukon
River
Alsek R.
WHITEHORSE
Liard
River
Stikine
River
Skeena
River
PRINCE RUPERT
Peace
R.
PRINCE GEORGE
River
Fraser
KAMLOOPS
River
VANCOUVER
VICTORIA
Columbia
Yukon,
Northern B.C.
& Fraser River
Division
North & Central
Coast Division
South Coast
Division



FRASER RIVER WATERSHED

STANDARDS USED ON STREAM DATA PAGE

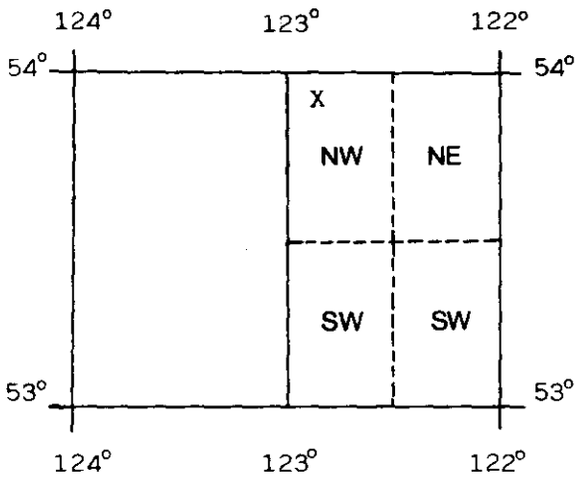
Name of Stream: Name as given in Gazetteer of Canada, British Columbia edition; local or non-gazetted names are added in lower case type.

Conservation District: As defined by the Conservation and Protection Service (April 1965).

Statistical Area: As defined by Department of Fisheries Statistical Map (June 1957).

Location and Position: Defined by quadrant indexing. Each geographical quadrilateral of the earth's surface of 1 degree in extent in latitude and longitude is divided into the SE, SW, NE and NW quarters. The south-east corner of each quadrilateral gives the initial point for the figure of reference (Gazetteer of Canada).

EXAMPLE "X"
53° 122° NW



Length: The portion of the stream accessible to spawning salmon.

Width: Average width, estimated to the nearest foot for the described length.

Drainage: Area in square miles of the entire drainage basin feeding the stream.

Composition:

Bedrock	bedrock
Boulder	>256 mm (>10")
Coarse	50.9 - 256 mm (2 - 10")
Fine	3.37 - 50.8 mm (1/8 - 2")
Sand & Silt	<3.37 mm
Unclassified	where bottom cannot be observed, e.g. log jam, pools, water colour, etc.

Gradient: Average vertical drop per thousand linear feet.

Wetted Area: Number of square yards of stream bed under water at average flows within the described length.

Spawning Area: Estimated square yardage of stream bed suitable for salmon spawning within the described length.

Discharge: Mean annual discharge. Maximum and minimum values are either daily means or instantaneous discharges. The latter are identified by (Inst.). Discharge data is taken from "Historical Stream Flow Summary", British Columbia, Water Survey of Canada.

Temperature: As described.

Barriers and Points of Difficult Ascent: Complete and partial barriers to salmon and their distance from the stream mouth. Species likely to be affected may be listed. Both natural and man-made obstructions are defined.

Spawning Distribution: Portion of the stream utilized by each species. Distribution is indicated by brief comments opposite the species.

Potential of Inaccessible Portion of Stream: Indicates whether or not the inaccessible portion of the stream could be utilized by spawning salmon.

General Remarks: Emphasizes features of stream and spawning populations. Also includes industrial activity, routes of accessibility, etc. The comments with dates are taken from "Annual Reports of Salmon Streams & Spawning Grounds" (B.C. 16's) and Stream Management Files. In some cases, references to additional information not included in the General Remarks may be given.

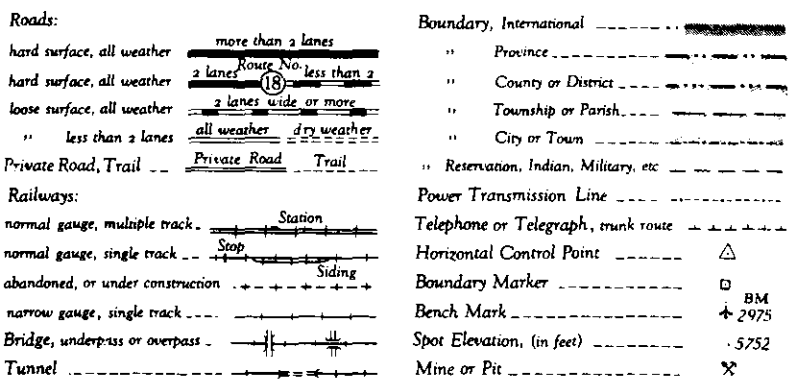
Escapement Records: The escapement represents the mid point of the coded range of escapement for each species. For example: the letter "H" representing 5000-10000 fish would be entered as 7500. Where absolute numbers are provided by Fisheries Personnel, these numbers are entered. N/O means the stream was inspected but no fish were observed; UNK means there was evidence of fish present but no estimates were made; NO RECORDS means no escapement records for the applicable years could be found in the escapement files.

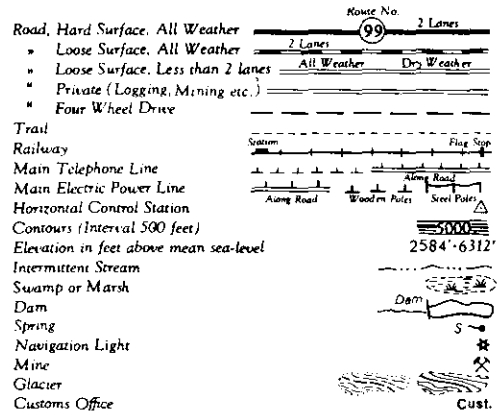
Timing: Dates which salmon arrive in the stream, begin to spawn, reach peak spawning period and finish spawning.

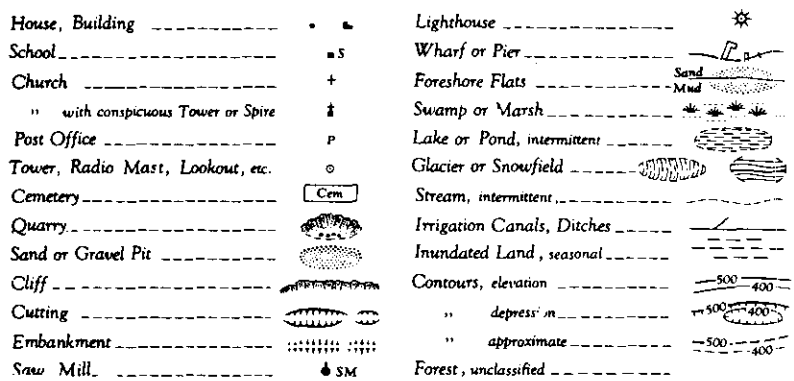
E = early (1st to 10th of the month)
M = mid (11th to 20th of the month)
L = late (21st to 31st of the month)

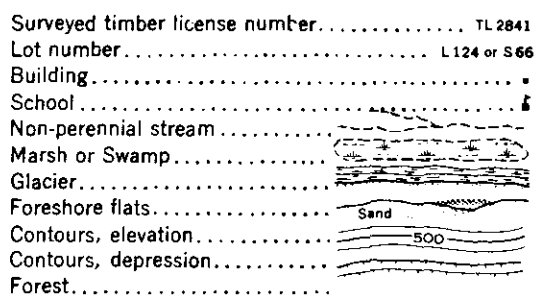
NB: Distance references are from the mouth of the stream unless otherwise stated.

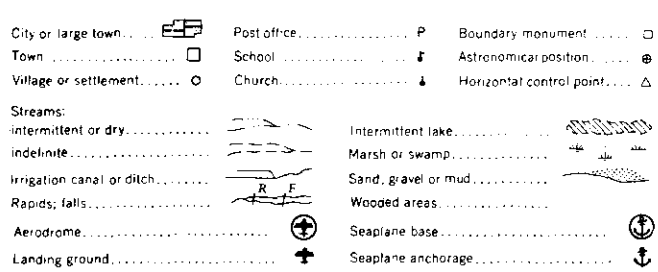
MAP REFERENCES

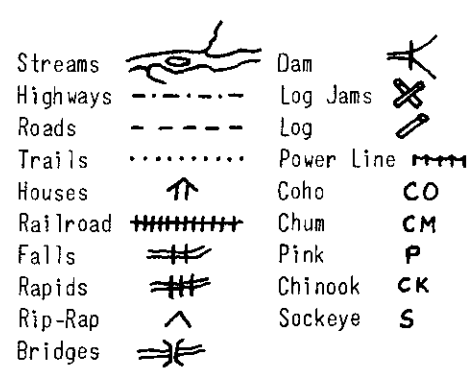




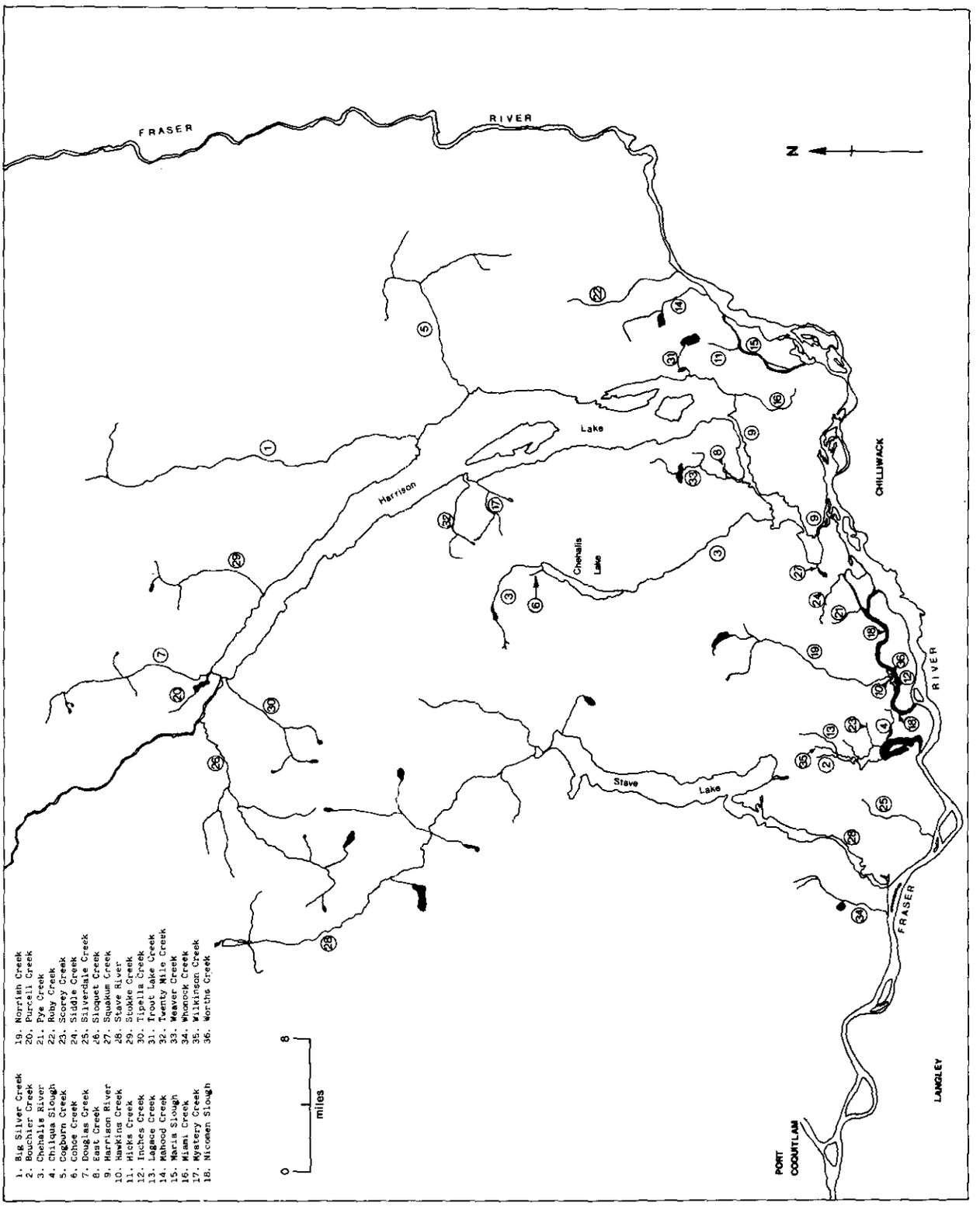








Salmon Spawning Streams of
Mission/Harrison Sub-District



ESCAPEMENT RECORD FOR MISSION/HARRISON SUB-DISTRICT

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	51500	1700	800	80550	125200	
48	38550	1750	2000	148350		
49	15975	3900	10475	94875	513125	
50	50125	975	6050	125475	25	
51	19150	2050	7475	88850	95225	
52	38375	76925	25000	83650		
53	19175	15675	25925	94175	114675	
54	50275	16025	17225	56775	25	
55	42725	8200	8350	80725	163175	
56	16675	3875	5700	22175		
57	18925	3925	14225	60730	270300	
58	52400	16625	7730	75725		
59	37030	18150	10575	145025	118295	
60	28807	3875	10175	86395		
61	47684	5175	12750	50550	203616	
62	24790	2450	22550	65900		
63	36925	13859	6900	88425	660693	
64	7623	6100	16050	85345		
65	26907	8750	12941	81325	77871	
66	53393	9219	23466	240650		
67	30450	7800	13600	128275	84675	
68	12900	7725	10475	248050		
69	50500	8000	11675	226025	14950	
70	18875	7800	15700	185075		
71	7350	15200	22125	119325	17400	
72	37550	15500	5425	200250		
73	39425	35500	11325	124375	120200	
74	90925	35350	11875	196925		
75	39075	15225	16225	93900	92100	
76	84050	7675	12900	155675		
77	60750	25350	15000	200800	169575	
78	91650	15325	8000	242550		
79						
80						
81						
82						
83						
84						
85						

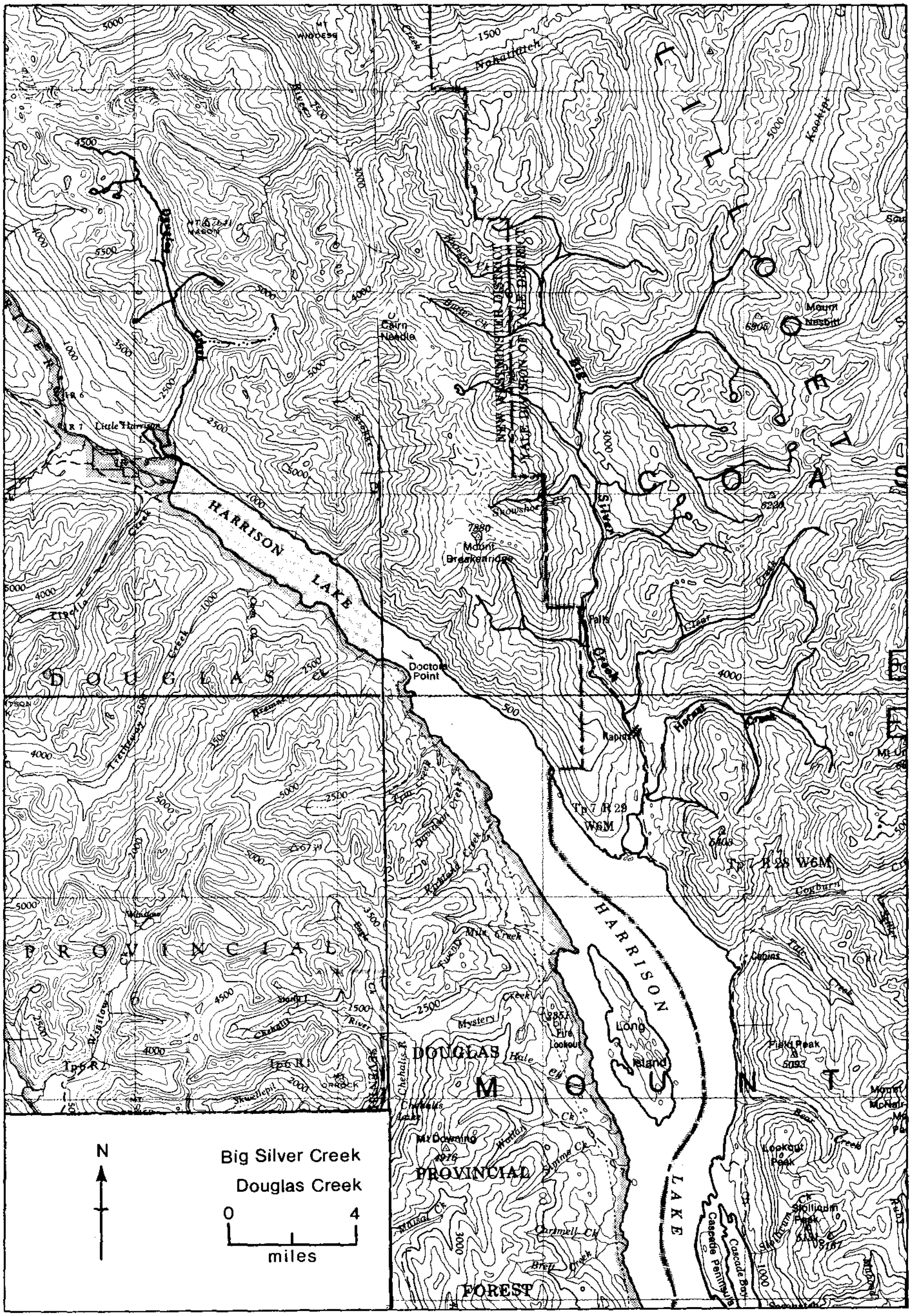
TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS

STREAM DATA

MISSION/HARRISON SUB-DISTRICT


N
Big Silver Creek
Douglas Creek
0
4
miles
HARRISON LAKE
HARRISON
LAKE
Cairn Needle
Mount Breckenridge
Mount Nesbitt
Doctors Point
Long Island
Falls
Rapids
Fire Lookout
Tp 7 R 29 W6M
Tp 7 R 28 W6M
DOUGLAS
PROVINCIAL
FOREST
Little Harrison
Snowshoe Ck
Big Silver Creek
Hornet Creek
Mystery Creek
Twenty Mile Creek
Chehalis
Cascade Peninsula
Lookout Peak
Field Peak
Stollicum Peak
Cogburn
Cabins
M O U N T
L I L L O O E T
C O A S T

#1

NAME OF STREAM BIG SILVER CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Harrison L., Yale Dist.

POSITION 49 121 NW

LENGTH 5.5* MI. WIDTH 40 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK 1% BOULDER 40% COARSE 28% FINE 23%

SILT & SAND 5% UNCLASSIFIED 3%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 129,000 SQ. YD. SPAWNING AREA 65,790 SQ. YD.

DISCHARGE 250 cfs (March 16/71)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 16 foot waterfall at 4 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	- throughout west fork
CHINOOK	- throughout entire length
COHO	- throughout entire length; Hornet Creek
CHUM	- throughout entire length
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

There is good potential above the falls for another 8 miles. 45-50% of the area could be used for spawning.

GENERAL REMARKS:

- 1951. This stream contains many acres of very good gravel.
- 1952. Rapid increase of logging activity in the watershed will make this stream unstable.
- 1963. The watershed is still being logged off at a rapid rate. As a result, flash floods scour the spawning grounds. The watershed can not store water and levels in the stream are very low early in the year.
- Accurate assessment of escapements is difficult due to access problems and high water levels during the fall.

GENERAL REMARKS (cont.) - Big Silver Creek

- Hornet Creek runs into the Big Silver at 2 miles from the mouth. It is accessible for .75 miles, is 25 feet wide and approximately 25% of the streambed is suitable for spawning.
  The south arm of this creek has some underground springwater.

* This stream becomes impassable at 4.0 miles but the west fork is 1.5 miles long and this has been added to the accessible length.

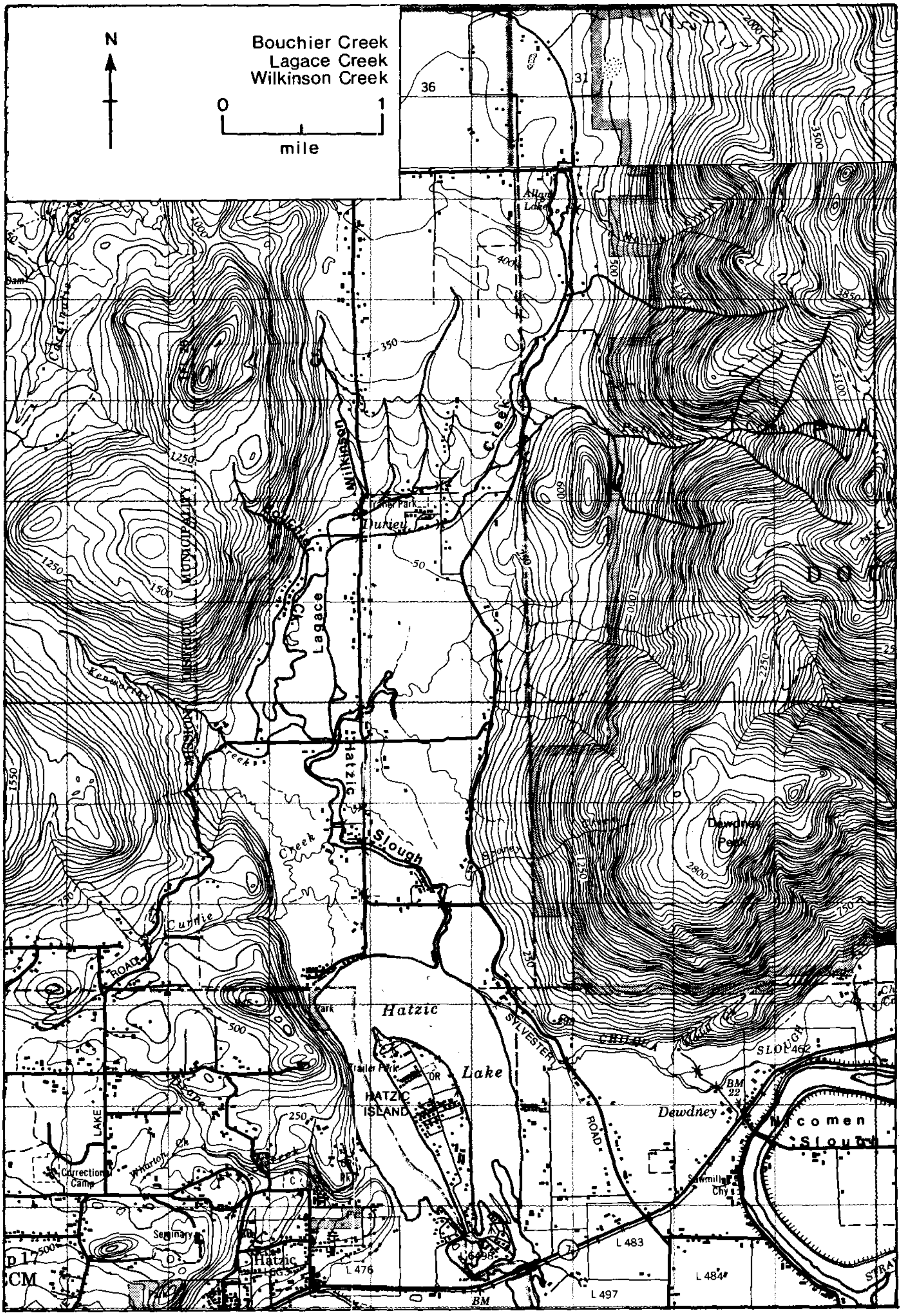
ESCAPEMENT RECORD FOR BIG SILVER CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48	7500	25				
49	750	UNK	UNK	UNK		
50	25	25				
51	200	75	200	75	75	200
52	7500	200				
53	400	200	25	25	25	25
54	200	75	UNK	UNK	UNK	UNK
55	200	75				
56	7500	300				
57	400	200		75	25	
58	25	25				
59	64	75	UNK	UNK		
60	4522	300	UNK	UNK		
61	398	75	UNK	25	25	
62	400	50	UNK	UNK		
63	64	24	UNK		200	
64	3926	25	UNK	200		
65	596	50		25	25	
66	350	25		25		
67	25	25	75	25	75	25
68	1500	25	200	200		
69	200	75	200		200	
70	200	75	200			
71	200	75	200	25		
72	1500	200	75	200		
73	750	200	75	25		
74	750	200	200	25		
75	400	75	75	25		
76	1500	25	200	75		
77	1500	75	200	75		
78	1500	25	75	200		
79	$\bar{x}$= 922.222	$\bar{x}$ = 105.556	$\bar{x}$ = 144.444	$\bar{x}$ = 8.25		
80	SD = 582.081	SD = 73.715	SD = 65.880	SD = 75.473		
81	Var = 301172.24	Var = 4830.246	Var = 3858.02	Var = 5117.187		
82						
83						
84						
85						

TIMING:

ARRIVE	SEP	AUG	SEP	OCT		
START	SEP	SEP	SEP	OCT		
PEAK	SEP	OCT	NOV	OCT		
END	OCT	NOV	JAN	NOV		

REMARKS



N
Bouchier Creek
Lagace Creek
Wilkinson Creek
0
1
mile
Wilkinson
Lagace
Creek
Durieu
Trailer Park
MISSION DISTRICT MUNICIPALITY
Hatzic
Slough
Currie
ROAD
Hatzic
Lake
HATZIC ISLAND
Trailer Park
SYLVESTER ROAD
LAKE
Correctional Camp
Seminary
Hatzic
Dewdney Peak
Dewdney
Nicomen Slough
Sawmill Chy
L 483
L 484
L 476
L 497
BM
BM 22
CHILQUA
SLOUGH
Allan Lake

NAME OF STREAM BOUCHIER CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Kenworthy Cr., N. of Hatzic L., New Westminster Dist. POSITION 49 122 SE

LENGTH 2 MI. WIDTH 15 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 20% COARSE 30% FINE 25%

SILT & SAND 15% UNCLASSIFIED 10%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 17,600 SQ. YD. SPAWNING AREA 9,680 SQ. YD.

DISCHARGE _____ CFS MAX 52.0 cfs (Nov. 26/63) MIN 0.6 cfs (Jan. 22/60)

TEMPERATURE 44.0° F (Feb. 22/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

The stream becomes very narrow at 2.0 miles and tends to become jammed with logs and debris at this point.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- scattered through upper reaches
CHUM	- scattered through upper reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Approximately 30% of the stream above the falls is composed of coarse and fine gravel.

GENERAL REMARKS:

- The streambed at the mouth of Bouchier Creek is composed of mud and silt. The best spawning area in the creek is from Durieu to 1 mile upstream.
- Salmon migrating to and from this stream must pass through Hatzic Pumping Station.
- Local farming, Hatzic Pumping Station and land development have all contributed to the deterioration of this stream.

ESCAPEMENT RECORD FOR BOUCHIER CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25	25	25	
48			N/O	400		
49			75	400		
50			25	400		
51			25	750		
52			25	200		
53			25	750		
54			75	200		
55			25	400		
56			25	200		
57			75	750		
58			25	400		
59			25	75		
60			25	200		
61			25	200		
62			25	200		
63			UNK	125		
64			UNK	200		
65			25	280		
66			25	750		
67			25	25		
68			25	400		
69			25	400		
70			25	200		
71			25	75		
72			25	400		
73			25	400		
74			25	75		
75			25	75		
76			25	400		
77			25	400		
78			25	200		
79			$\bar{x} = 25$	$\bar{x} = 247.222$		
80			$SD = 0$	$SD = 152.809$		
81			$Var = 0$	$Var = 20756.173$		
82						
83						
84						
85						

TIMING:

ARRIVE			OCT	SEP		
START			OCT	SEP		
PEAK			NOV	NOV		
END			JAN	DEC		

REMARKS


N
Chehalis River
Norrish Creek
0
4
miles
PROVINCIAL
FOREST
DOUGLAS
PROVINCIAL
FOREST
HARRISON LAKE
STAVE LAKE
Chehalis River
Long Island
Echo Island
Weaver Creek Provincial Park
Harrison Mills
Harrison Hot Springs
Agassiz
KENT DISTRICT MUN
Rosedale
Chilliwack
CHILLIWACK (DISTRICT MUNICIPALITY)
Sardis
Vedder Crossing
Yarrow
Arnold
NICOMEN ISLAND
FRASER RIVER
Dewdney
Hatzic
Mission
Steelhead
Straiton
Kilgard
Clayburn
Sumas
Cultus Lake
Chilliwack River Provincial Park
Lake Errock
Deroche
Nicomen
Tp 4 R 29 W6M

NAME OF STREAM CHEHALIS RIVER

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Harrison R., New Westminster Dist

POSITION 49 121 SW

LENGTH 12 MI. WIDTH 90 FT. DRAINAGE 148 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE _____

SILT & SAND _____ UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 634,000 SQ. YD. SPAWNING AREA _____ SQ. YD.

DISCHARGE 1,600 CFS MAX 22,000 cfs (Jan. 6/14) MIN 120 cfs (Sept. 6/14)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT

Skwellepil Creek (tributary flowing SE into Chehalis Lake) - 30 foot impassable falls at 0.75 miles.

Upper Chehalis - 30 foot impassable falls at 4.0 miles above Chehalis Lake.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	- scattered throughout the mainstream
COHO	- scattered throughout the mainstream
CHUM	- near mouth and lower reaches/extreme right bank
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- 1960. Flood damage caused a 30% loss of chum redds.
- 1962. Logging of the watershed has caused this stream to be very unstable. The stream is subject to high waters in December which usually results in scouring of the spawning beds.

(also see Harrison River General Remarks page 34)

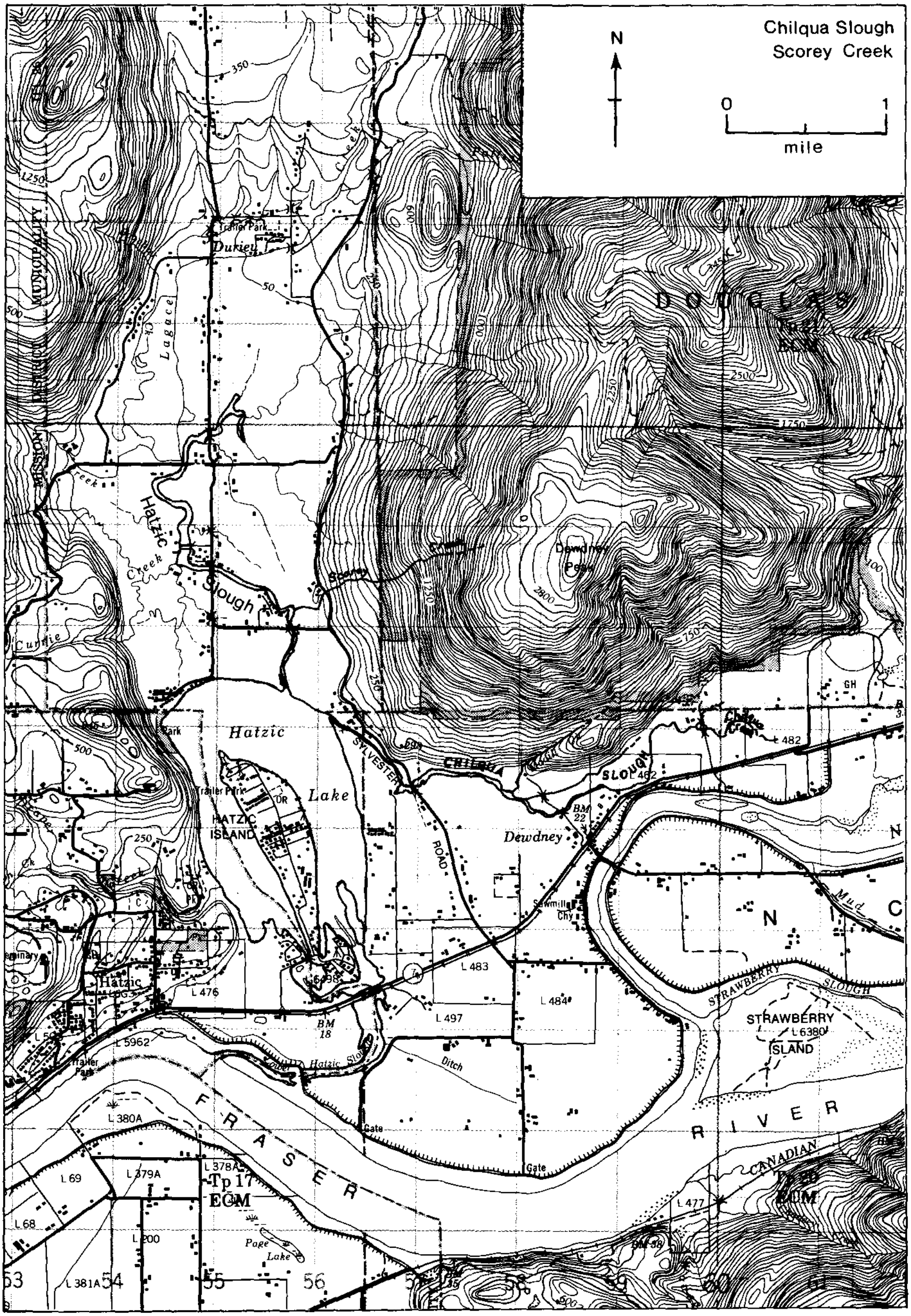
ESCAPEMENT RECORD FOR CHEHALIS RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			200	35000	75000	
48			LIGHT	35000		
49			3500	35000	7500	
50	25	UNK	3500	35000		750
51	25	400	3500	35000	15000	1500
52	400	750	7500	35000		UNK
53	25	75	15000	7500	35000	1500
54		750	7500	15000	25	3500
55		400	3500	35000	75000	UNK
56		N/O	2500	3500		UNK
57		25	7500	3500	11500	UNK
58	25	25	3500	30000		UNK
59		25	3500	50000	6700	UNK
60		25	7500	35000		UNK
61	25	25	7500	15000	11921	UNK
62		200	15000	28000		UNK
63		25	3500	28000	12394	UNK
64		25	8000	23500		UNK
65		25	7500	27000	7621	UNK
66		25	15000	35000		UNK
67		25	7500	35000	7500	
68		75	3500	75000		
69		N/O	3500	35000	3500	
70		N/O	7500	15000		UNK
71		25	7500	35000	35000	UNK
72		75	1500	35000		UNK
73		75	1500	35000	15000	UNK
74	25	25	1500	35000		UNK
75		25	750	35000	15000	UNK
76		25	750	35000		
77		25	1500	45000	35000	
78		25	1500	100000+		
79		$\bar{x}$ = 33.333	$\bar{x}$ = 2666.667	$\bar{x}$ = 41111.111	$\bar{x}$ = 25000	
80		SD = 25	SD = 2758.509	SD = 23922.449	SD = 11547.005	
81		VAR = 555.55	VAR = 6763889	VAR = 4.87×10^8	VAR = 1×10^8	
82						
83						
84						
85						

TIMING:

ARRIVE		MAY	SEP	SEP	SEP	
START		MAY	OCT	SEP	SEP	
PEAK		JUN	DEC	NOV	OCT	
END		JUL	JAN	JAN	NOV	

REMARKS


Chilqua Slough
Scorey Creek
N
0
1
mile
DOUGLAS
Hatzic
Slough
Hatzic
Lake
HATZIC
ISLAND
SYLVESTER
ROAD
Dewdney
CHILQUA
SLOUGH
Dewdney
Peak
FRASER
RIVER
STRAWBERRY
SLOUGH
STRAWBERRY
ISLAND
CANADIAN
Tp 17
ECM
Page
Lake
MISSION
DISTRICT
MUNICIPALITY
Lagace
Durieu
Trailer Park
Hatzic
Mud
Ditch
Gate
L 476
L 483
L 484
L 497
L 5962
L 380A
L 378A
L 379A
L 69
L 68
L 200
L 381A
L 477
L 482
L 6380
53
54
55
56

NAME OF STREAM CHILQUA SLOUGH (Thompson Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH E. of Hatzic Slough, N. of Fraser R., New Westminster Dist.

POSITION 49 122 SE

LENGTH 2.5 MI. WIDTH 45 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 2% COARSE 10% FINE 15%

SILT & SAND 70% UNCLASSIFIED 3%

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 66,000 SQ. YD. SPAWNING AREA 16,500 SQ. YD.

DISCHARGE 8.5 cfs (Feb. 17/71)

TEMPERATURE 46° F (Feb. 17/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

The stream becomes swamp at 2.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- over the entire length in the pools
CHUM	- above Catherwood Road
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- 1956. This stream is fast becoming a farm drainage ditch.
- Considerable amounts of water are used for irrigation during summer months.
- Below Catherwood Road the creek has an average width of 85 feet and contains approximately 10% good spawning area. Above Catherwood Road the stream has an average width of 8 feet.

ESCAPEMENT RECORD FOR CHILQUA SLOUGH

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25	200		
48			N/O	25		
49			200	25		
50			25	75		
51			75	200		
52			200	25		
53			25	25		25
54			25	25		
55			25	25		
56			UNK	N/O		
57			25	25		
58			25	25		
59			25	25		
60			25	25		
61			25	25		
62			25	25		
63			25	25		
64			75	25		
65			25	25		
66			25	25		
67			25	75		
68			75	750		
69			75	400		
70			75	400		
71			75	750		
72			75	200		
73			25	200		
74			25	750		
75			75	750		
76			25	25		
77			25	1900		
78			N/O	750		
79			$\bar{x}$ = 44.444	$\bar{x}$ = 636.111		
80			SD = 30.046	SD = 554.401		
81			Var = 902.469	Var = 273209.88		
82						
83						
84						
85						
TIMING:						
ARRIVE			NOV	NOV		
START			NOV	NOV		
PEAK			DEC	NOV		
END			JAN	DEC		

REMARKS

COGBURN CREEK - for topographical map refer to Harrison River, page 33.

NAME OF STREAM COGBURN CREEK (Fifteen Mile Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows W. into Harrison L., Yale Dist.

POSITION 49 121 NW

LENGTH 1.5 MI. WIDTH 25 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 84% COARSE 8% FINE 3%

SILT & SAND 1% UNCLASSIFIED 4%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 22,000 SQ. YD. SPAWNING AREA 2,400 SQ. YD.

DISCHARGE 170 cfs (March 17/71)

TEMPERATURE 37° F (Feb. 17/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable (except to steelhead) 15 foot falls and canyon at 1.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	- lower 1/2 mile
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	- scattered over stream from mouth to 6 miles

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Above the falls, approximately 10% of the area is good for spawning. Above 6 miles, the stream has a heavy boulder content.

GENERAL REMARKS:

- Logging of the watershed has made this a very unstable stream.
- Inspections have been very infrequent because of access difficulty. Reports are generally made by local loggers and anglers.
- This is a rapid flowing stream with a large delta.

ESCAPEMENT RECORD FOR COGBURN CREEK

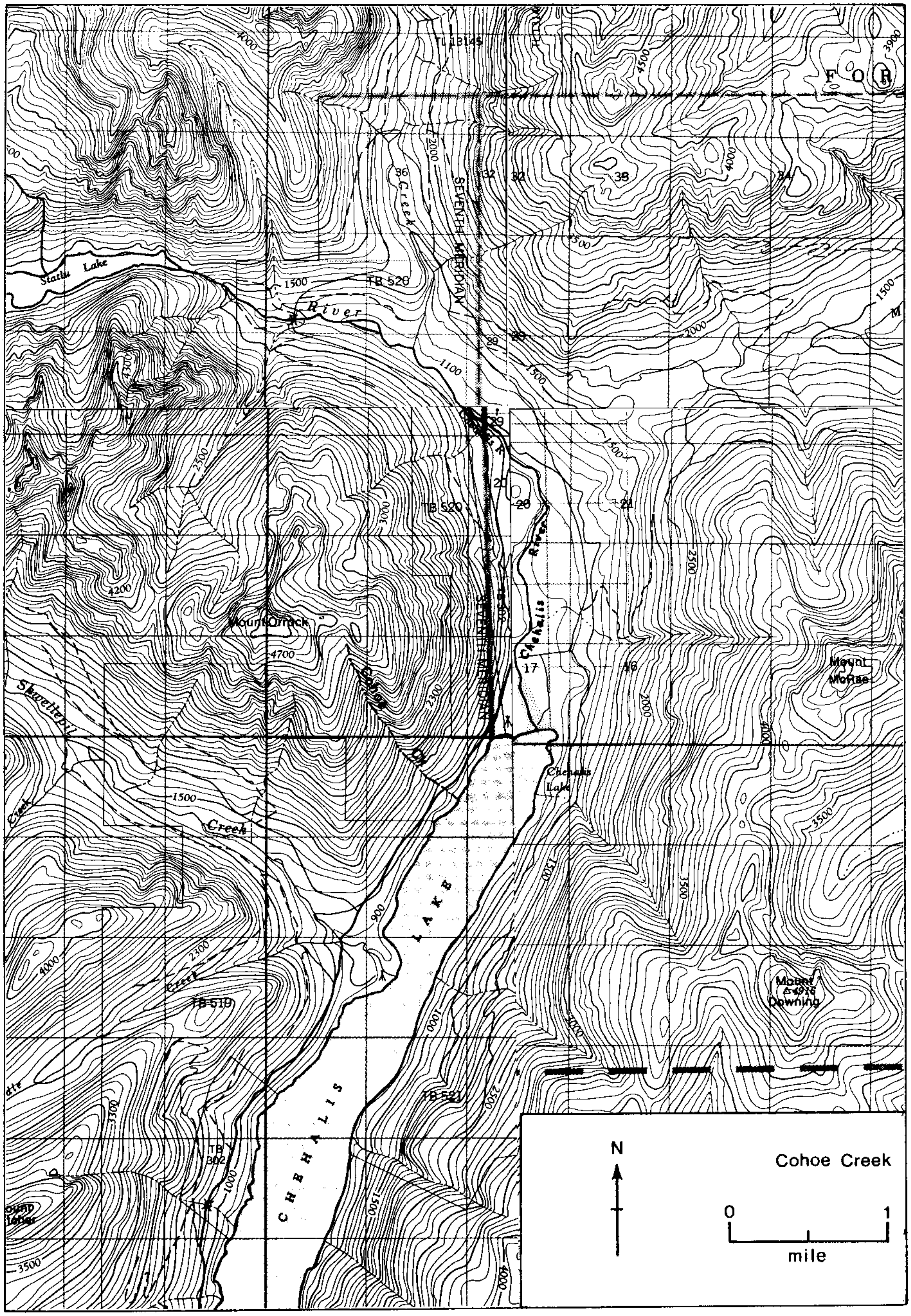
YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947 *						
48				200		
49 *						
50 *						
51 *						
52	200	UNK	UNK	200		
53 *						
54	25	25	UNK	UNK		
55 *						
56 *						
57					75	
58						
59						
60	189					
61	25	25		25	25	25
62						
63	25			25		
64	25					
65						
66	25	25	25	25		25
67	25	25	25	25		75
68				25		
69						
70						
71						
72	25					
73						
74						
75	25					
76						
77		25	25	25		
78		25	25	25		
79	$\bar{x} = 25$	$\bar{x} = 25$	$\bar{x} = 25$	$\bar{x} = 25$		
80	SD = 0	SD = 0	SD = 0	SD = 0		
81	Var = 0	Var = 0	Var = 0	Var = 0		
82						
83						
84						
85						

TIMING:

ARRIVE	SEP					
START	SEP					
PEAK	SEP					
END	SEP					

REMARKS

* No records for these years.


Cohoe Creek
N
0
1
mile
Statlu Lake
River
SEVENTH MERIDIAN
TB 520
TL 13145
Mount Orrock
Mount McRae
Mount Downing
Chehalis River
Chehalis Lake
CHEHALIS LAKE
TB 519
TB 521
TB 302
Skwellepil Creek

NAME OF STREAM (Cohoe Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows E. into Chehalis L., New Westminster Dist.

POSITION 49 122 SE

LENGTH 0.75 MI. WIDTH 9 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 6% COARSE 21% FINE 39%

SILT & SAND 29% UNCLASSIFIED 5% logs

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 3,960 SQ. YD. SPAWNING AREA 2,376 SQ. YD.

DISCHARGE 6 cfs (March 24/71)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- 1954. This is an excellent spawning stream. There is excellent gravel content, good flow all summer, the forest cover is good and the stream forms a series of shallow pools which are ideal for fry.
- 1963. Most of the forest cover was removed by logging operations along and across the stream.
- 1964-67. Since the removal of the forest cover, this stream has been deteriorating as a salmon spawning stream.
- 1970. Extra spawning area was produced by stream improvement work and the removal debris accumulation.

GENERAL REMARKS (cont.) - Cohoe Creek

- 1975. The forest cover is returning and the stream is once again in good condition.

ESCAPEMENT RECORD FOR COHOE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52		NO RECORDS	PRIOR TO 1954			
53						
54			400			
55			N/O			
56			NO REC			
57			400			
58			400			
59			400			
60			400			
61			500			
62			400			
63			400			
64			350			
65			250			
66			600			
67			200			
68			200			
69			400			
70			750			
71			750			
72			400			
73			400			
74			400			
75			1500			
76			750			
77			1200			
78			1500			
79			$\bar{X} = 850$			
80			$S^2 = 447.911$			
81			$V_{\bar{X}} = 128333.33$			
82						
83						
84						
85						

TIMING:

ARRIVE			OCT			
START			NOV			
PEAK			DEC			
END			JAN			

REMARKS

DOUGLAS CREEK - for topographical map refer to Big Silver Creek, page 1.

NAME OF STREAM DOUGLAS CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. and SW. into Little Harrison L., New Westminster Dist.

POSITION 49 122 NE

LENGTH 1.0 MI. WIDTH 35 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 76% COARSE 12% FINE 8%

SILT & SAND _____ UNCLASSIFIED 4%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 20,600 SQ. YD. SPAWNING AREA 4,100 SQ. YD.

DISCHARGE 60 cfs (March 15/71)

TEMPERATURE 40° F (Feb. 15/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 25 foot falls at 1 mile.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	- lower 1/2 mile
CHINOOK	- lower 1/2 mile
COHO	- lower 1/2 mile
CHUM	- lower 1/2 mile
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

The stream above the falls has no potential as spawning ground. This section of the stream contains a series of falls, large boulders and has a steep gradient.

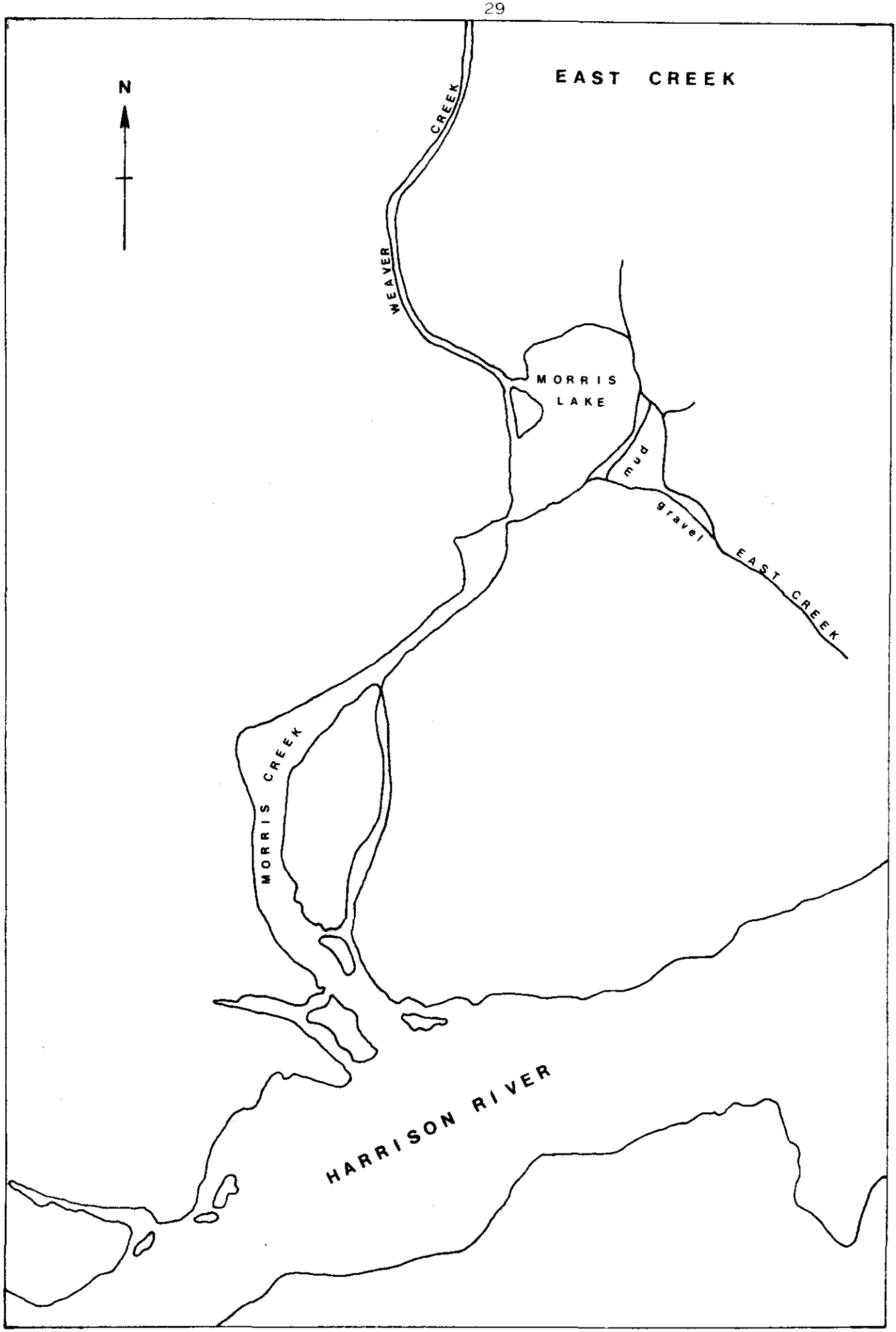
GENERAL REMARKS:

- Logging of the watershed in 1952 and 1953 has left this stream extremely unstable. Egg losses occur every year as the stream is subject to flash floods scouring the stream bed.
- There is a small side channel at 0.5 miles which is good for spawning.
- Small runs to this stream are attributed to the limited spawning area available and to the large amount of poaching which occurs.
- The top 0.5 miles of accessible length have heavy boulder content.
- There is a great deal of algae growing on the rocks in this stream.

ESCAPEMENT RECORD FOR DOUGLAS CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	7500					
48	750	25		75		
49	200					
50	75					
51	25		75			
52	200		25	25		
53	200					
54	25	25	25			
55						
56	75					
57	25					
58	N/O					
59	N/O					
60	UNK					
61	25					
62	UNK					
63	30					
64	75					
65	90					
66	175					
67	200	25	25			
68	200	25	25			
69	75	25		25		
70	75	25		25		
71	75	25	25	25		
72	75	25	25			
73	75	25	25			
74	25	25	25			
75	25	25		25	25	
76	25	25	25			
77	25	25	25	25		
78	25	25	25	25		
79	$\bar{x}$ = 47.222	$\bar{x}$ = 25	$\bar{x}$ = 25	$\bar{x}$ = 25		
80	SD = 26.352	SD = 0	SD = 0	SD = 0		
81	VAR = 694.283	VAR = 0	VAR = 0	VAR = 0		
82						
83						
84						
85						
TIMING:						
ARRIVE	AUG					
START	AUG					
PEAK	SEP	SEP	NOV	NOV		
END	OCT					

REMARKS


N
EAST CREEK
WEAVER CREEK
MORRIS LAKE
mud
gravel
EAST CREEK
MORRIS CREEK
HARRISON RIVER

NAME OF STREAM (East Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows NW. into Morris Lake, New Westminster Dist.

POSITION 49 121 SW

LENGTH 1.0 MI. WIDTH 15 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 40% COARSE 15% FINE 20%

SILT & SAND 23% UNCLASSIFIED 2%; pools, logs

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 8,800 SQ. YD. SPAWNING AREA 3,000 SQ. YD.

DISCHARGE 35 cfs (March 11/71)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

This stream has no potential for spawning above 1 mile as it has a very steep gradient.

GENERAL REMARKS:

- No salmon have been observed in this stream since 1971.
- This stream is a poor salmon producer because of the very limited spawning area (lower 50 yds. only). There is often heavy silting and very low water levels.

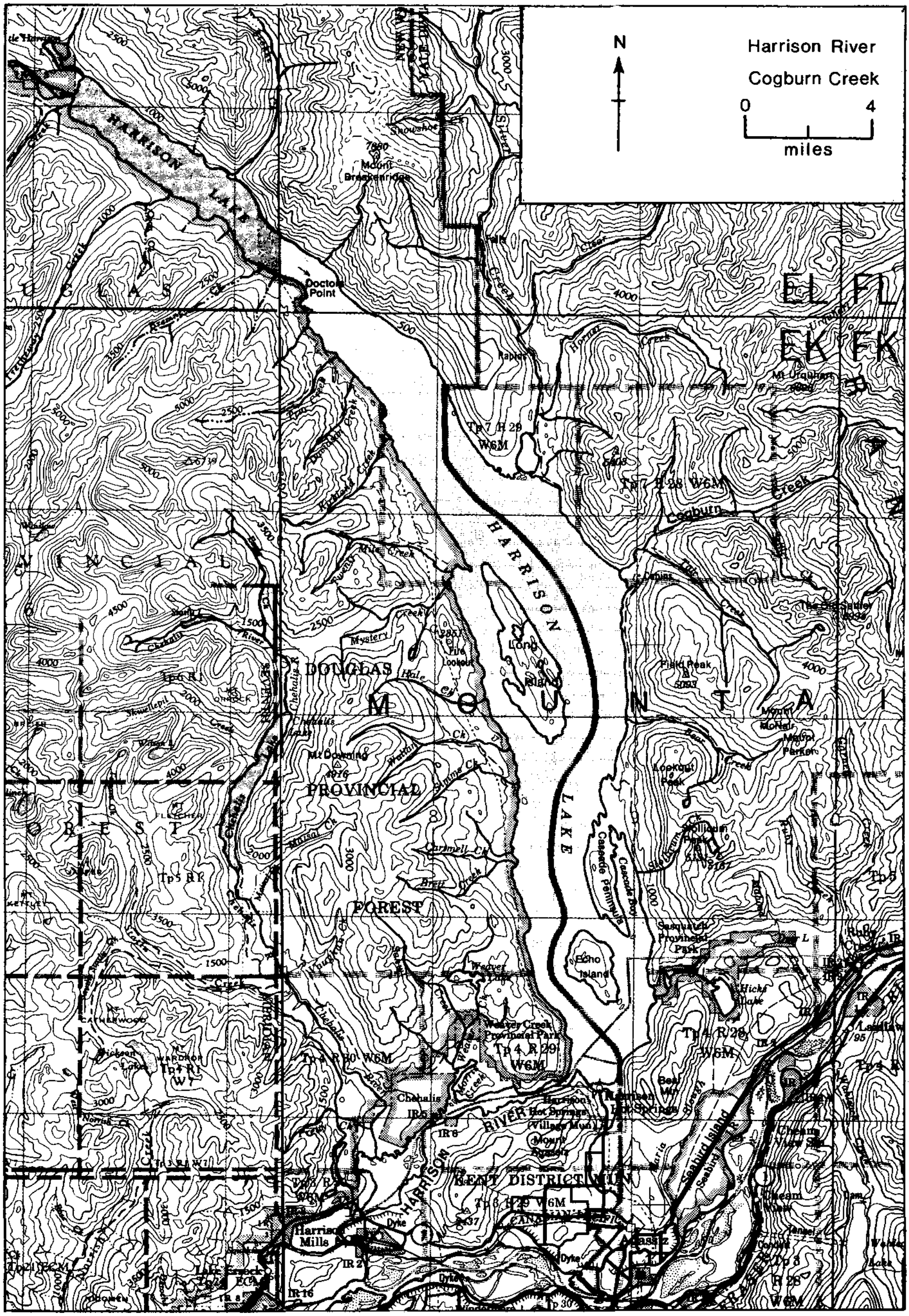
ESCAPEMENT RECORD FOR EAST CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947 *						
48	75					
49 *						
50 *						
51	200		25			
52 *						
53 *						
54 *						
55	25					
56	25		25			
57 *						
58	25		25			
59	25		UNK			
60	N/O		N/O			
61						
62	25		UNK			
63	N/O		N/O			
64	N/O		N/O			
65	25		25			
66	25		25			
67	N/O		N/O			
68	N/O		N/O			
69	N/O		N/O			
70	N/O		N/O			
71	N/O		25			
72	N/O		N/O			
73	N/O		N/O			
74	N/O		N/O			
75	N/O		N/O			
76	N/O		N/O			
77	25		25			
78	N/O		N/O			
79	$\bar{x}$ = 2.777		$\bar{x}$ = 5.555			
80	SD = 8.333		SD = 11.024			
81	Var = 61.728		Var = 108.024			
82						
83						
84						
85						

TIMING:						
ARRIVE						
START						
PEAK						
END						

REMARKS

* No records for these years


N
Harrison River
Cogburn Creek
0
4
miles
HARRISON LAKE
Doctors Point
Mount Breakenridge
Mt Urquhart
Tp 7 R 29 W6M
Tp 7 R 28 W6M
Cogburn Creek
HARRISON
Long Island
The Old Settler
Field Peak
DOUGLAS
M O U N T A I
Mount McNair
Mount Parker
Lookout Peak
PROVINCIAL
Mt Downing
Mystery Creek
LAKE
Cascade Peninsula
Cascade Bay
Sasquatch Provincial Park
Echo Island
Hicks Lake
FOREST
Weaver Creek Provincial Park
Tp 4 R 29 W6M
Tp 4 R 28 W6M
Tp 4 R 30 W6M
Tp 5 R 1
Chehalis
IR 5
Harrison Hot Springs (Village Mun)
Mount Agassiz
Harrison Mills
KENT DISTRICT MUN
Tp 3 R 29 W6M
Agassiz
Cheam View
Seabird Island
CANADIAN PACIFIC

NAME OF STREAM HARRISON RIVER

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows SW. and SE. from Harrison L. into Fraser R., N. of Chilliwack, New Westminster Dist. POSITION 49 121 SW

LENGTH 12 MI. WIDTH _____ FT. DRAINAGE 3,040 SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 10% COARSE 35% FINE 30%

SILT & SAND 25% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA _____ SQ. YD. SPAWNING AREA see remarks SQ. YD.

DISCHARGE 16428.6 CFS MAX 66300 cfs (June 24/67) MIN 2340 cfs (Feb. 27/56)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	Most spawning takes place from 4 miles to 7 miles, along bars and in side channels.
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- 1952-1958. The Public Works Department was maintaining a dredged shipping channel through the most productive section of the river.
- 1959-1965. An undiagnosed disease killed off a large number of spring salmon.
- The Harrison River is the major chum salmon producing stream of the Fraser River system.
- Most spawning occurs throughout Chehalis Flats (see sketch p. 36) in numerous groundwater fed channels which were originally part of the Chehalis River. These channels have been designated as Areas 1A, 1B, 3A, 3B, 5A, 5B and 5C.

Harrison River - General Remarks (cont.)

Area 1A: This channel has a clear, groundwater supply from the Chehalis River and contains approximately 4,000 sq. yds. of spawning gravel.

Area 1B: This area contains the Chehalis River from its mouth to 1.0 mile. In this section the Chehalis is broken into several channels which frequently change course. It contains approximately 40,000 sq. yds. of spawning gravel.

Area 3A: This area includes a section of small channels on the right bank of the Harrison River, just above its confluence with the Chehalis River. The spawning area available in these channels is dependent upon discharge from the Harrison River - high flows creating extensive spawning areas and low flows creating minimal spawning areas. The average spawning area contained in these channels is approximately 7,000 sq. yds.

Area 3B: The 3B channel is the largest, most stable, chum salmon producing area of the Harrison River. It comprises 30 - 40% of the chum escapements to the Harrison and Chehalis Rivers. The channel has an average discharge of 25 cfs. It contains 35 - 45,000 sq. yds. of spawning gravel over 2 miles. It is supplied with groundwater from the Chehalis River which is 10^{o} - 12^{o} F warmer than the Chehalis itself; 6^{o} - 8^{o} F warmer than the Harrison River.

Area 5A(Smokehouse Slough), 5B and 5C: This area covers a 7,000 ft. distance on the right bank of the Harrison River. The combined spawning area of the channels is 24,000 sq. yds. In 1977-78, improvement work was done on Billy Harris Slough by Salmon Enhancement Branch. The gravel was removed, washed and replaced; the banks were lined with rip rap to maintain the integrity of the spawning grounds; and the channel was was divided by berms into 3 sections to maintain sufficient water levels for fish migration and spawning.
The spawning area of this channel is 9389 sq. yds.

- The total spawning area for the Harrison River system is estimated at 176,000 sq. yds.

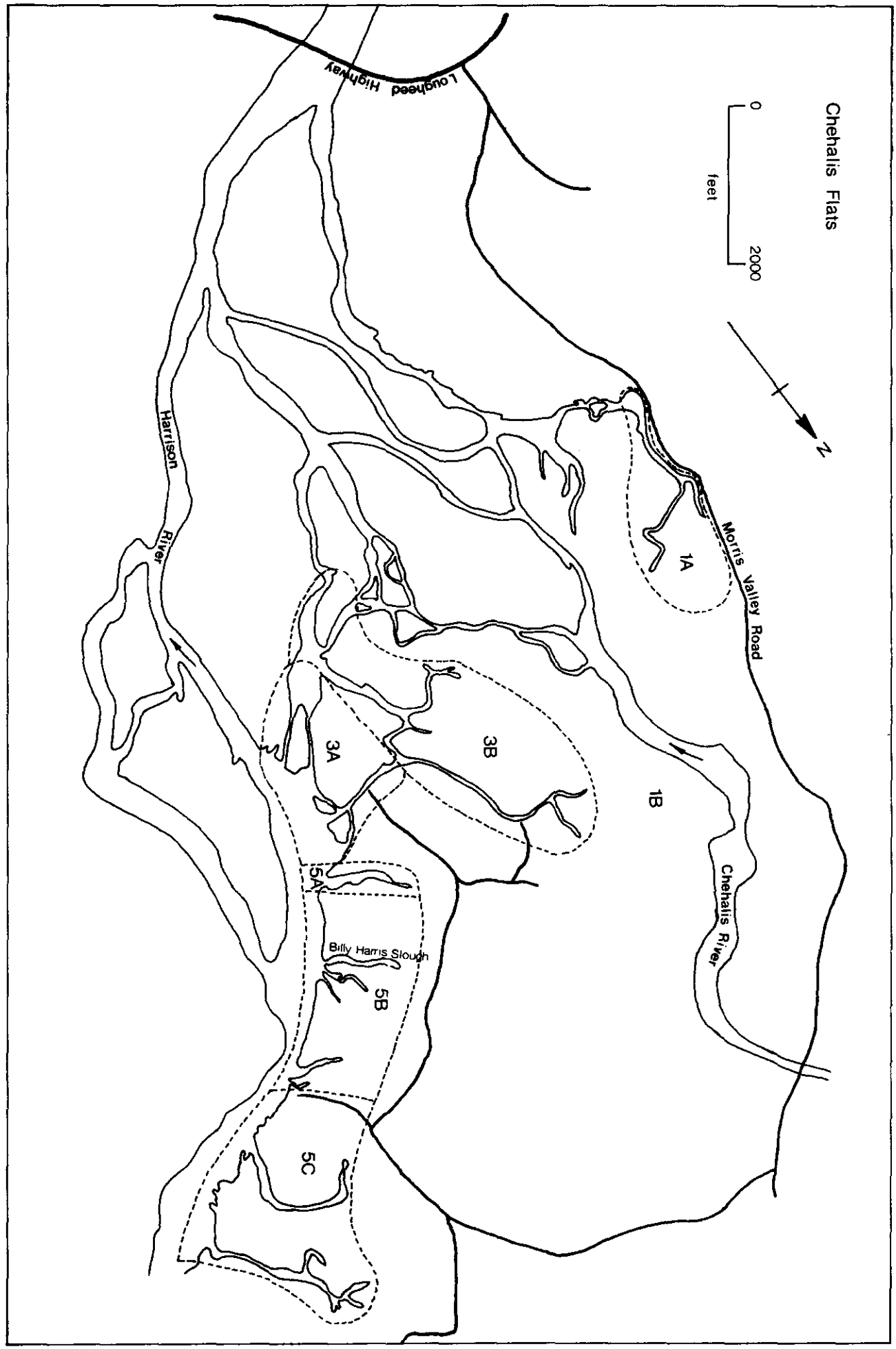
References:

Cooper, A. C. 1958. The salmon spawning grounds of the Fraser River below Hope and the Harrison River in relation to the dredging of shipping channels. I.P.S.F.C. Report 1958.

Dietz, K. G. 1968. Chum salmon survival in three tributaries of the Harrison River. Memo. Gov. of Canada 30-1-H2. 5 pp.

Dickson, F. V. 1971. Harrison River - Inches Creek oxygen monitoring program 1970-1971. Dept. of Environment, Fisheries Service, Tech. Rept. 1971-10. 30 pp.

Palmer, R. N. 1972. Fraser River chum salmon. Dept. of Environment, Fisheries Service, Tech. Rept. 1972-1. 283 pp.
(This report is a summary of studies done from 1960-1969. It includes " a discussion of the productivity of the stock, escapement requirements, proposed fishing patterns, exploitation rates and potential for stock enhancement.")


Chehalis Flats
0
2000
feet
N
Loughead Highway
Harrison River
Morris Valley Road
Chehalis River
Billy Harris Slough
1A
1B
3A
3B
5A
5B
5C

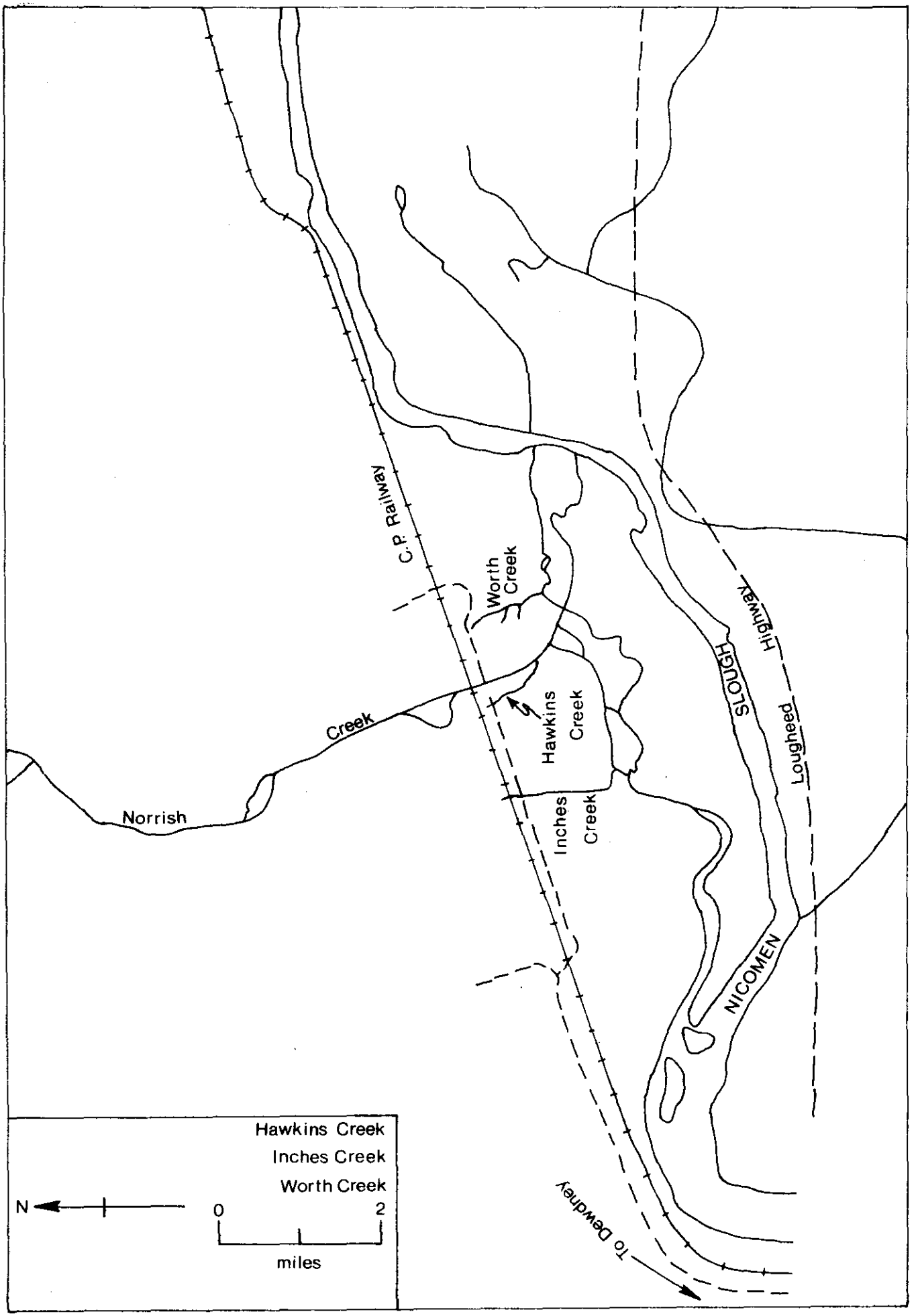
ESCAPEMENT RECORD FOR HARRISON RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	35000	1500	UNK	35000	35000	
48	15000	1500		75000		
49	UNK	3500	UNK	35000	35000	
50	15000	750	UNK	75000		
51	3500	1500	UNK	35000	75000	UNK
52	15000	75000	3500	35000		
53	3500	15000		75000	75000	
54	15000	15000		35000		
55	7500	7500		35000	75000	
56	3500	3500		15000		
57	3500	3500		35000	250000	
58	14701	16500		35000		
59	28562	18000		60000	110000	
60	17029	3500		35000		
61	42778	5000		15000	186137	
62	8403	2000		20000		
63	22287	13500		40000	645476	
64	2202	6000	200	35000		
65	15034	8500		25000	69213	
66	32672	9000		110000		
67	15000	7500	75	35000	75000	
68	3500	7500	1500	75000		
69	15000	7500	1500	75000	7500	
70	7500	7500	1500	75000		
71	3500	15000	3500	35000	75000	UNK
72	750	15000	1500	75000		
73	3500	35000	1500	35000	100000+	
74	15000	35000	1500	75000		
75	3500	15000	1500	15000	75000	
76	7500	7500	750	75000		
77	3000	25000	2500	85000	130000	
78	15000	15000	1500	75000		
79	$\bar{x}$ = 6583.333	$\bar{x}$ = 18868.889	$\bar{x}$ = 1750	$\bar{x}$ = 60555.556	$\bar{x}$ = 95000	
80	SD = 5229.125	SD = 10466.547	SD = 790.569	SD = 25055.494	SD = 26140.645	
81	VAR = 24305556	VAR = 97376543	VAR = 555555.56	VAR = 5.58×10^8	VAR = 5.12×10^8	
82						
83						
84						
85						

TIMING:

ARRIVE	OCT	OCT	OCT	SEP	SEP	
START	NOV	OCT	OCT	OCT	OCT	
PEAK	NOV	NOV	NOV	DEC	OCT	
END	DEC	DEC	JAN	FEB	DEC	

REMARKS


C.P. Railway
Worth Creek
Hawkins Creek
Inches Creek
Creek
Norrish
SLOUGH
Highway
Lougheed
NICOMEN
To Dewdney
Hawkins Creek
Inches Creek
Worth Creek
N
0
2
miles

#10

NAME OF STREAM (Hawkins Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows into Norrish Cr., E. of Hatzic Lake, New Westminster Dist.

POSITION 49 122 SE

LENGTH 0.5 MI. WIDTH 30 FT. DRAINAGE SQ. MI.

COMPOSITION: BEDROCK BOULDER COARSE 23% FINE 15%

SILT & SAND 60% UNCLASSIFIED 2%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 8,880 SQ. YD. SPAWNING AREA 3,300 SQ. YD.

DISCHARGE CFS MAX MIN

TEMPERATURE

BARRIERS OR POINTS OF DIFFICULT ASCENT

There is an area of minimal water flow at 0.5 miles making the rest of the stream inaccessible to the salmon.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- concentrated at mouth
CHUM	- concentrated at mouth
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

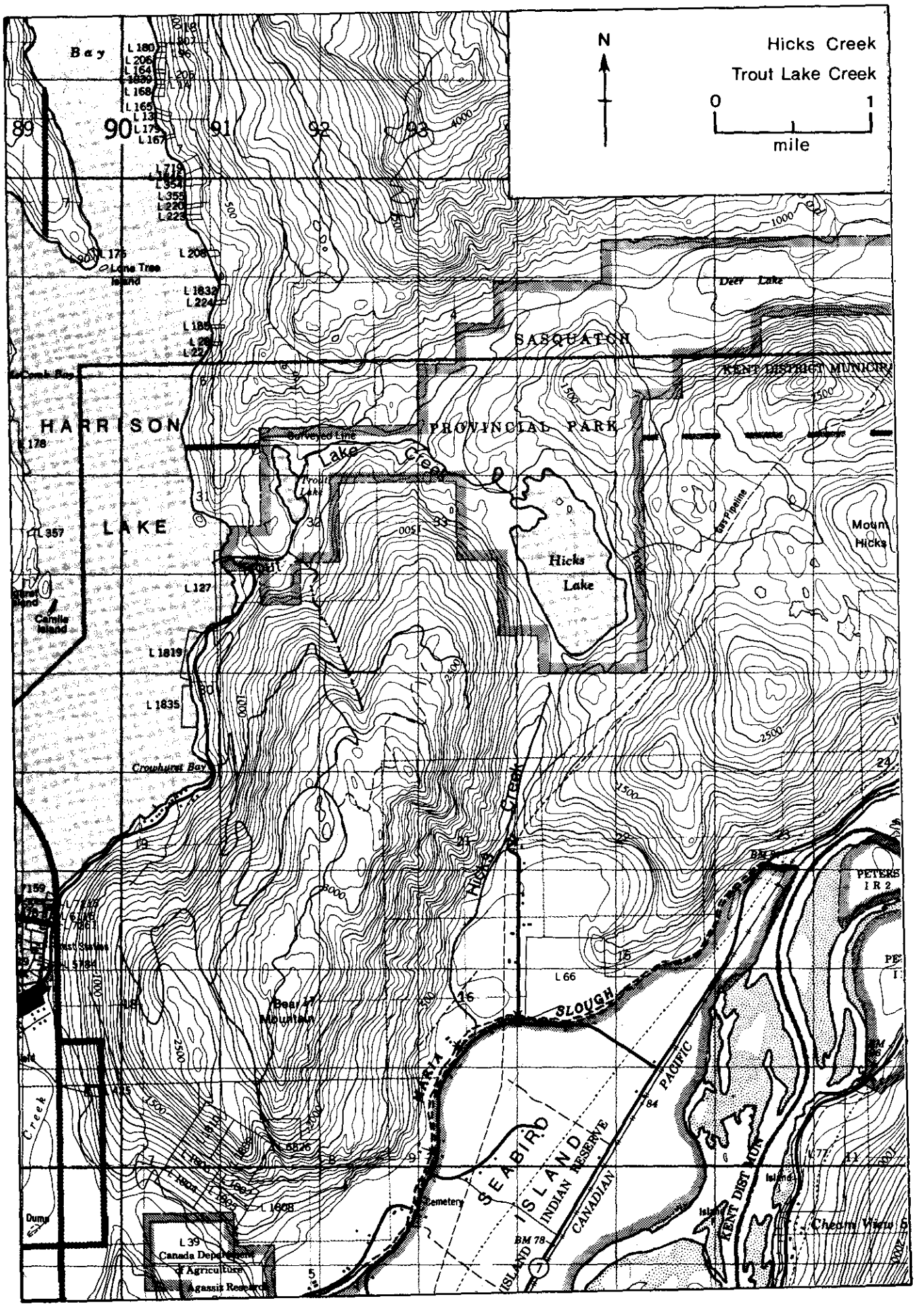
GENERAL REMARKS:

- 1955. Norrish Creek overflowed in Nov. and destroyed pink and chum spawn in this stream.
- 1958-1965. This stream is turning into a farm drainage ditch.
- 1968-1976. At normal water levels there is no flow in this creek due to lowering of the water table through gravel removal in Norrish Creek.

ESCAPEMENT RECORD FOR HAWKINS CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49			200	25	25	
50			25	25		
51			75	75	25	
52			25	25		
53			75	25	N/O	
54			75	25		
55			25	25	25	
56			25	N/O		
57			25	25	25	
58			25	25		
59			25	25	N/O	
60			25	25		
61			25	25		
62			75	25		
63			25	25		
64			200	N/O		
65			25	N/O		
66			125	50		
67			400	200		
68			400	400		
69			75	200		
70			25	25		
71			25	25		
72			N/O	N/O		
73			N/O	N/O		
74			N/O	N/O		
75			N/O	N/O		
76			N/O	N/O		
77			N/O	N/O		
78			N/O	75		
79			$\bar{X} = 5.55$	$\bar{X} = 13.88$		
80			SD = 11.023	SD = 25.344		
81			Var = 108.024	Var = 570.987		
82						
83						
84						
85						
TIMING:						
ARRIVE						
START						
PEAK						
END						

REMARKS


N
Hicks Creek
Trout Lake Creek
0
1
mile
Bay
89
90
91
92
93
Lone Tree Island
Deer Lake
SASQUATCH
KENT DISTRICT MUNICIPA
HARRISON
PROVINCIAL PARK
Surveyed Line
Lake
Creek
Trout Lake
LAKE
Hicks Lake
Gas Pipeline
Mount Hicks
Camille Island
Crowhurst Bay
Hicks Creek
SLOUGH
Bear Mountain
SEABIRD ISLAND INDIAN RESERVE
CANADIAN PACIFIC
PETERS I R 2
Cemetery
Canada Department of Agriculture Agassiz Research
KENT DIST MUN
Cheam View 6
BM 78
Dump

NAME OF STREAM (Hicks Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. in NE. end of Maria Slough, New Westminster Dist.

POSITION 49 121 SW

LENGTH 2 MI. WIDTH 18 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 10% COARSE 10% FINE 28%

SILT & SAND 50% UNCLASSIFIED 2%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 22,000 SQ. YD. SPAWNING AREA 8,300 SQ. YD.

DISCHARGE 7 cfs (March 3/71)

TEMPERATURE 38° F (Feb. 3/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 12 foot waterfall at 2 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout
CHUM	- in lower reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

There is little potential for spawning above the falls as the stream has a steep gradient and the bed is composed of 80 - 90% boulder.

GENERAL REMARKS:

- 1953. An exceptional run of coho to this stream. Biologists are using it as a source of eggs for experimental purposes.
- 1972. A rock slide in 1971 started the alteration of channels in the upper area.
- 1973. The alteration was continued through construction work, a new natural gas pipeline and installation of a high voltage powerline. All of these projects have some adverse effect upon upper reaches of this creek.
- 1977. Water licence holders create an excessive water demand for irrigation.
- A small spring area at 1.5 miles provides about 300 yds. of the best spawning grounds.

ESCAPEMENT RECORD FOR HICKS CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			400			
49			750			
50			750			
51			750	25		UNK
52			750	25		
53			3500	25		25
54			1500			
55			1500			
56			1500	25		
57			1500	25		
58			400	25		
59			1500	25		
60			500			
61			750	25		
62			2000	25		
63			700	25		
64			2200	25		
65			800	25		
66			2200	50		
67			1500	25		
68			750	25		
69			1500	25		
70			750	75		
71			1500	25		
72			75	25		
73			400	25		
74			750	25		
75			1500	25		
76			750			
77			600	250		
78			75	25		
79			$\bar{x}$ = 711.111	59.375		
80			SD = 520.533	78.986		
81			var = 240848.7	5458.984		
82						
83						
84						
85						

TIMING:

ARRIVE			OCT	NOV		
START			NOV	NOV		
PEAK			JAN	NOV		
END			FEB	DEC		

REMARKS

INCHES CREEK - for topographical map refer to Hawkins Creek, page 39.

#12

NAME OF STREAM (Inches Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows into Norrish Creek at tributary of Nicomen Slough, New Westminster Dist. POSITION 49 122 SE

LENGTH 0.75 MI. WIDTH 12 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 10% FINE 40%

SILT & SAND 50% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 5,300 SQ. YD. SPAWNING AREA 2,650 SQ. YD.

DISCHARGE 4 cfs (Feb. 17/71)

TEMPERATURE 38° F (March 10/65) 49° F (Feb. 17/71) 48° F (Feb. 26/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- upper reaches
CHUM	- upper reaches
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- 1956. The forest cover was removed for the development of a goat farm.
- 1967. The stream was damaged by a large deposit of silt caused by flushing action when a channel to supply extra flow was cut from Norrish Creek.
- 1968. The lower creek was bulldozed causing silting of 100% of the stream. An attempt to clear silt from the streambed resulted in the bed being widened and the water flow being spread over an excessive area with no holding pools.
- 1970. Major stream improvement work was done by the Resource Development Branch involving; replacement of spawning gravel, construction of a small weir to control water depth and velocity and installation of an infiltration gallery to supply

GENERAL REMARKS (cont.) - Inches Creek

additional ground water.

- 1970. This stream was chosen for the first major chum salmon enhancement project in the lower Fraser Valley. The pilot project was started using two 500,000 egg capacity incubation boxes. The 1964-1973 escapement average of 2100 was increased to a 1974-1977 escapement average of 6700 chum. The average egg-to-fry survival rate is 76%.
- A proposed facility upstream of the pilot project will use incubation boxes to incubate 1.8 million chum eggs and 1.5 million coho eggs.

References:

Dickson, F. V. 1971. Harrison River - Inches Creek oxygen monitoring program, 1970-1971. Dept. of Environment, Fisheries Service Technical Report 1971-10. 30 pp.

Tully, T. J. and G. A. C. Wilson. MS. 1970. Inches Creek rehabilitation program. Canada Dept. Fish. For. report. 7pp.

Turner, W. R. and W. B. Brown. 1969. Groundwater development, Inches Creek, Dewdney, B. C. Canada Dept. of Fisheries Project 31-1-I3.

Wilson, G. A. C. MS. 1969. Report on Inches Creek. Canada Dept. Fish. For. report. 11 pp.

ESCAPEMENT RECORD FOR INCHES CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			UNK	1500		
49			200	1500	75	
50			75	3500		
51			75	750	25	
52			25	750		
53			25	400	25	
54			200	1500		
55			N/O	200	25	
56			25	400		
57			25	3500	75	
58			200	750		
59			75	3000	N/O	
60			75	550		
61			75	200		
62			400	3000		
63			200	3000		
64			200	750		
65			430	1800		25
66			500	3000		
67			750	3500		25
68			200	3500		
69			200	1500		
70			25	3500		
71			200	750		
72			25	400		
73			25	1500		
74			200	7400		
75			75	7500		
76			200	7500		
77			250	6500		
78			N/O	3500		
79			$\bar{x} = 111.111$	$\bar{x} = 4283.333$		
80			SD = 99.3031	2997.981		
81			var = 8765.432	7984444.4		
82						
83						
84						
85						
TIMING:						
ARRIVE			NOV	OCT		
START			NOV	NOV		
PEAK			DEC	DEC		
END			FEB	JAN		

REMARKS

LAGACE CREEK - for topographical map refer to Bouchier Creek, page 5.

#13

NAME OF STREAM LAGACE CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. and E. into Hatzic Slough, N. of Hatzic L., New Westminster Dist. POSITION 49 122 SE

LENGTH 3.2 MI. WIDTH 20 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 30% COARSE 20% FINE 13%

SILT & SAND 30% UNCLASSIFIED 7%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 37,500 SQ. YD. SPAWNING AREA 12,400 SQ. YD.

DISCHARGE 33 cfs (Feb. 22/71)

TEMPERATURE 44° F (Feb. 18/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Fish must pass through Hatzic Pumping Station on their way to and from this stream.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout several small tributaries
CHUM	- throughout several small tributaries
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- 1948-1975. Dredging of the stream and gravel removal for flood control is destroying the spawning beds.
- 1955. Flood control work done by Provincial Government while eggs were in the gravel has contributed to the loss of runs to this formerly productive stream.
- The stream bed at the mouth of this creek is composed of silt and sand. Above this there is an area of dredged gravel.

ESCAPEMENT RECORD FOR LAGACE CREEK

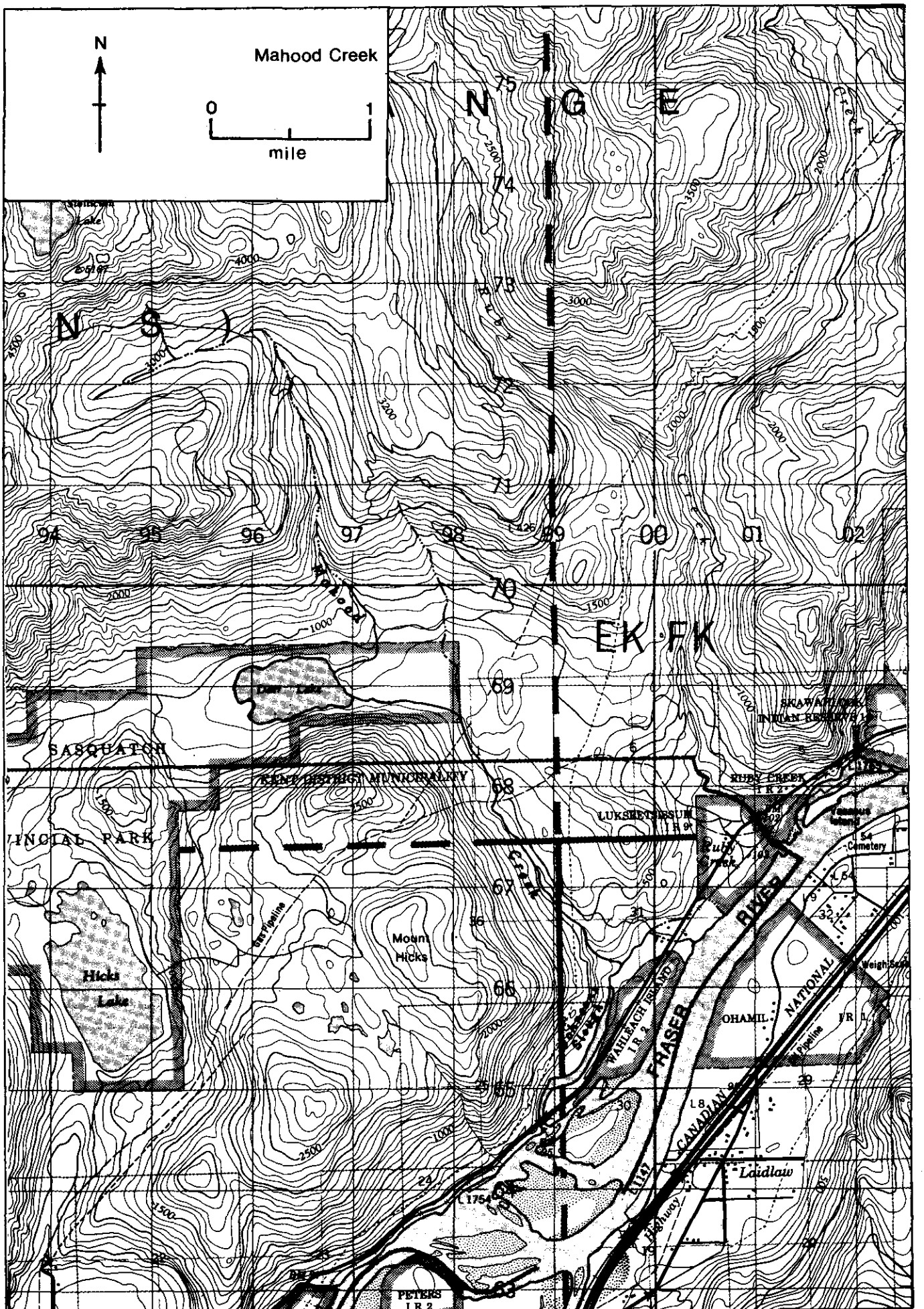
YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			UNK	400	25	
48			N/O	25		
49			UNK	25	N/O	
50 *						
51 *						
52			UNK	400		
53			25	75		
54			25	25		
55			N/O	N/O		
56			N/O	N/O		
57			25	75		
58			25	25		
59			UNK	25		
60			N/O	25		
61			N/O	N/O		
62						
63						
64						
65				25		
66						
67						
68						
69						
70			25			
71			25			
72			N/O			
73			25			
74 *						
75			400	200		
76						
77			50	400		
78			25	75		
79			$\bar{X}$ = 78.571	$\bar{X}$ = 225		
80			SD = 142.459	163.935		
81			Var = 17397.959	17916.67		
82						
83						
84						
85						

TIMING:

ARRIVE			NOV			
START			NOV			
PEAK			DEC			
END			JAN			

REMARKS

* No records for these years


N
Mahood Creek
0
1
mile
N I G E
EK FK
SASQUATCH
KENT DISTRICT MUNICIPALITY
INCIAL PARK
Hicks Lake
Mount Hicks
Gas Pipeline
Dairy Lake
SKAWAHLOOK INDIAN RESERVE 1
RUBY CREEK I R 2
LUKSEETSISUM I R 9
Ruby Creek
Cemetery
FRASER RIVER
NATIONAL
OHAMIL I R 1
WAHLEACH ISLAND I R 2
CANADIAN
Laidlaw
Highway
PETERS I R 2

NAME OF STREAM MAHOOD CREEK (Gallagher Creek, Johnson Slough)

CONSERVATION DISTRICT 1 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows SE. into Fraser R., E. of Hicks L., Yale Dist.

POSITION 49 121 SW

LENGTH 2 MI. WIDTH 25 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 14% COARSE 10% FINE 7%

SILT & SAND 66% UNCLASSIFIED 3%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	1' /000 0 - 1.25 miles
2.5 - 5.0	3' /000 1.25 - 2.0 miles
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 29,000 SQ. YD. SPAWNING AREA 4,900 SQ. YD.

DISCHARGE 76 cfs (March 2/71)

TEMPERATURE 33° F (March 2/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable falls at 2 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- top portion of Johnson Slough; in stream to falls
CHUM	- top portion of Johnson Slough; in stream to falls
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

There is no potential for spawning above the falls as the streambed is composed mainly of boulder.

GENERAL REMARKS:

- High water levels and flash floods are common to this stream as a result of the watershed being logged off.
- There is often heavy silting of the streambed.
- The best spawning gravel is from 1 mile to 1.25 miles.

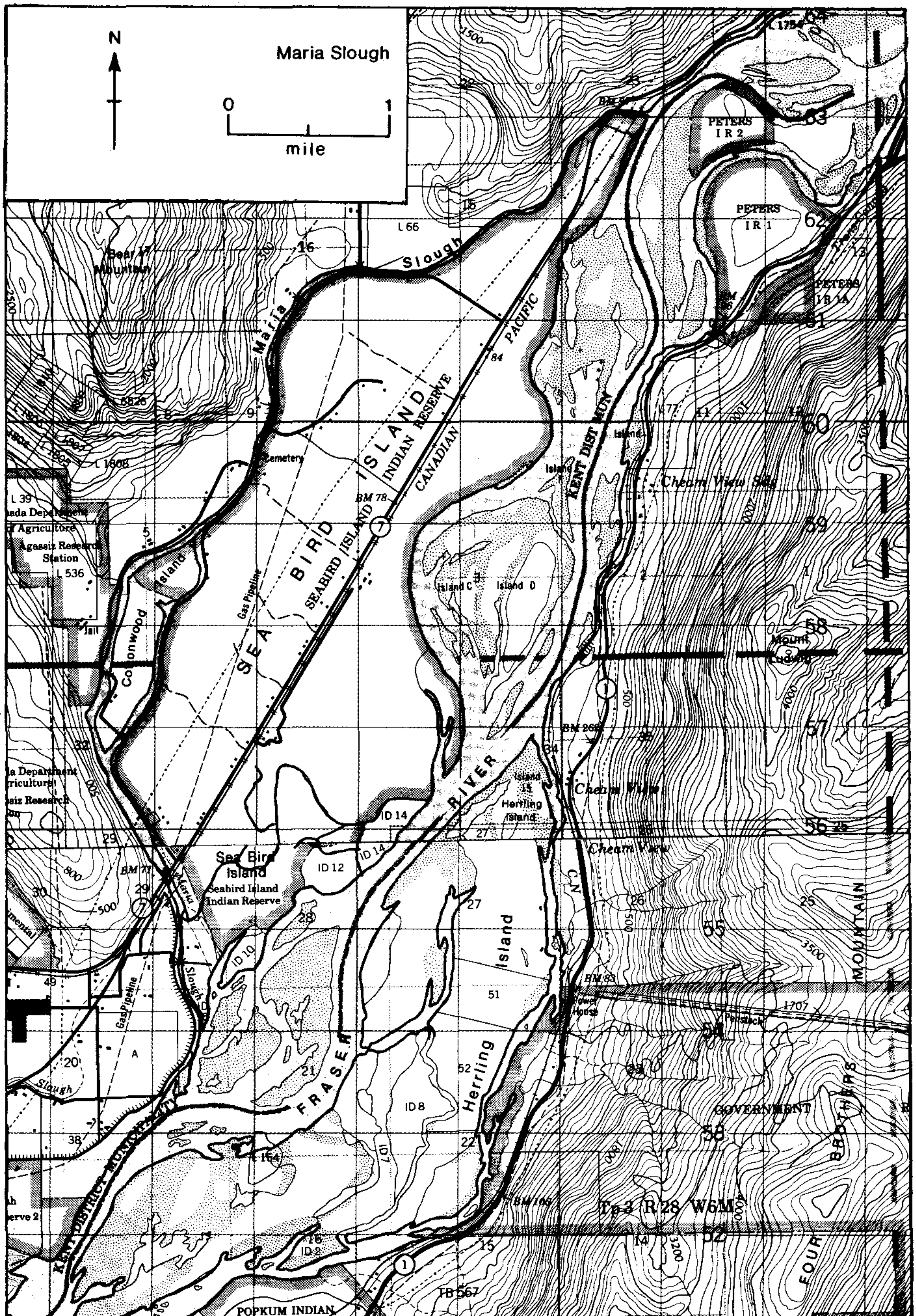
ESCAPEMENT RECORD FOR MAHOOD CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56			NO RECORDS	PRIOR TO 1958		
57						
58	1000		75	75		
59			75	400		
60						
61	25		75	UNK		
62	N/O		N/O	N/O		
63	N/O		N/O	N/O		
64			NO	RECORD		
65	N/O		N/O	N/O		
66			6	4		
67			25	75	400	
68			75	75		
69			75	75	1500	
70			25	N/O		
71			200	25	3500	
72			25	200		
73			200	25	3500	
74			200	25		
75			25	25	25	
76			25	75		
77			50	200	50	
78	25		25	400		
79			$\bar{x}$ = 86.111	108.333	1768.75	
80			SD = 85.796	133.463	1999.1014	
81			Var = 6543.209	15833.33	2997304.7	
82						
83						
84						
85						

TIMING:

ARRIVE			OCT	OCT	SEP	
START			OCT	OCT	SEP	
PEAK			NOV	NOV	OCT	
END			JAN	DEC	NOV	

REMARKS



Maria Slough
N
0
1
mile
Maria
Slough
Bear 17 Mountain
SEA BIRD ISLAND
INDIAN RESERVE
SEABIRD ISLAND
CANADIAN
PACIFIC
Gas Pipeline
Cemetery
Cottonwood
Island
Agassiz Research Station
L 536
L 39
L 66
L 1608
PETERS IR 2
PETERS IR 1
PETERS IR 1A
KENT DIST MUN
Cheam View
Island C
Island D
Herrling Island
Island
RIVER
FRASER
Sea Bird Island
Seabird Island Indian Reserve
ID 14
ID 12
ID 10
ID 8
ID 2
Herrling
Island
Power House
Penstock
Mount Ludwig
GOVERNMENT
FOUR BROTHERS MOUNTAIN
Tp 3 R 28 W6M
KENT DISTRICT MUNICIPALITY
POPKUM INDIAN
TB 567
Slough
Gas Pipeline

NAME OF STREAM MARIA SLOUGH

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Fraser R., W. of Seabird I., Yale Dist.

POSITION 49 121 SW

LENGTH 7 MI. WIDTH 240 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 4% FINE 25%

SILT & SAND 71% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	1'/000
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 990,000 SQ. YD. SPAWNING AREA 280,000 SQ. YD.

DISCHARGE 82 CFS MAX 735 cfs (Nov. 20/62) MIN 18 cfs (April 17/63)

TEMPERATURE 44° F (Feb. 5/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Beaver dams are a problem and must be removed annually.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	- scattered throughout
CHINOOK	- scattered throughout
COHO	- scattered throughout
CHUM	- scattered throughout
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

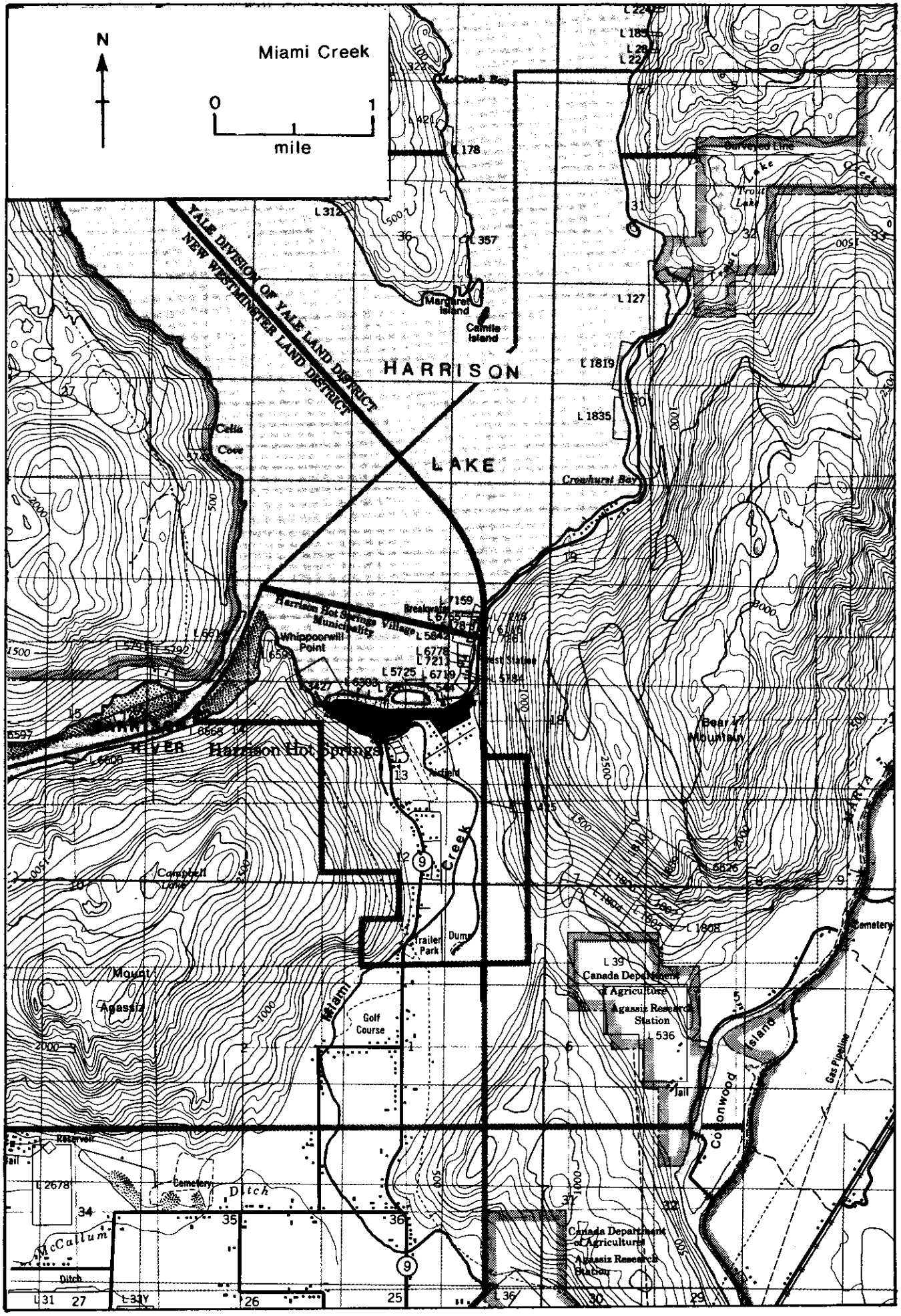
GENERAL REMARKS:

There are areas of gravel throughout the stream, although a very heavy build up of plant growth and mud deposits restrict available spawning areas. CPR cut off the natural flow from the Fraser River causing insufficient flow to this stream and allowing silt and weeds to accumulate. Silting of the beds after the salmon spawn is one reason for small returns. If a sufficient flow to the stream was maintained by obtaining a flow of water from the Fraser, silting of beds would not occur and another 500,000 sq. yds. of spawning area would be available.

ESCAPEMENT RECORD FOR MARIA SLOUGH

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	N/O	200	25	25	N/O	25
48		200	25	400		
49		400	200	400		
50		200	25	750		
51		75	75	400		
52		200	200	200		
53		200	750	400		
54		75	400	25		
55		25	200	25		
56		75	400	75		
57		200	400	400	200	
58	400	25	200	400		
59		25	400	200		
60		25	200	200		
61	25	25	200	200		
62	N/O	150	400	25		
63	25	260	200	1500		
64	25	UNK	200	175		
65		150	200	200		
66		119	200	251		
67	200	200	75	400		
68	200	75	200	75		
69	200	400	400	1500	400	
70	75	200	200	1500		
71	75	75	200	400	400	
72	200	200	200	750		
73	75	200	200	200		
74	75	75	200	400		
75	75	75	200	200		
76	25	25	75	200		
77	200	200	200	400		
78	75	200	200	200		
79	$\bar{x}$ = 97.222	38.888	186.111	472.222		
80	s_{n-1} = 60.524	74.068	41.666	425.081		
81	s^2 = 3256.17	4826.543	1543.2099	160617.28		
82						
83						
84						
85						
TIMING:						
ARRIVE	SEP	SEP	SEP	OCT		
START	SEP	SEP	OCT	OCT		
PEAK	OCT	OCT	DEC	NOV		
END	NOV	NOV	JAN	DEC		

REMARKS


N
Miami Creek
0
1
mile
YALE DIVISION OF YALE LAND DISTRICT
NEW WESTMINSTER LAND DISTRICT
HARRISON
LAKE
Margaret Island
Camille Island
Celia Cove
Crowhurst Bay
Harrison Hot Springs Municipality
Village
Whippoorwill Point
Harrison Hot Springs
RIVER
Bear Mountain
Miami Creek
Campbell Lake
Mount Agassiz
Golf Course
Trailer Park
Dump
Canada Department of Agriculture
Agassiz Research Station
Colonwood Island
Gas Pipeline
Cemetery
Reservoir
Ditch
McCallum
Jail

NAME OF STREAM MIAMI CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows N. into S. end of Harrison L., New Westminster Dist.

POSITION 49 121 SW

LENGTH 5.0 MI. WIDTH 30 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE 6%

SILT & SAND 91% UNCLASSIFIED 3%; logs, brush

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	5'/000 upper stream
5.0 - 7.5	7'/000
7.5 - 10.0	
> 10.0	

WETTED AREA 88,000 SQ. YD. SPAWNING AREA 5,200 SQ. YD.

DISCHARGE _____ CFS MAX 422 (Jan. 15/61) MIN 0.2 (Sept. 9/61)

TEMPERATURE 36° F (Feb. 11/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

This area has become mostly swamp. No salmon have been reported since 1969.

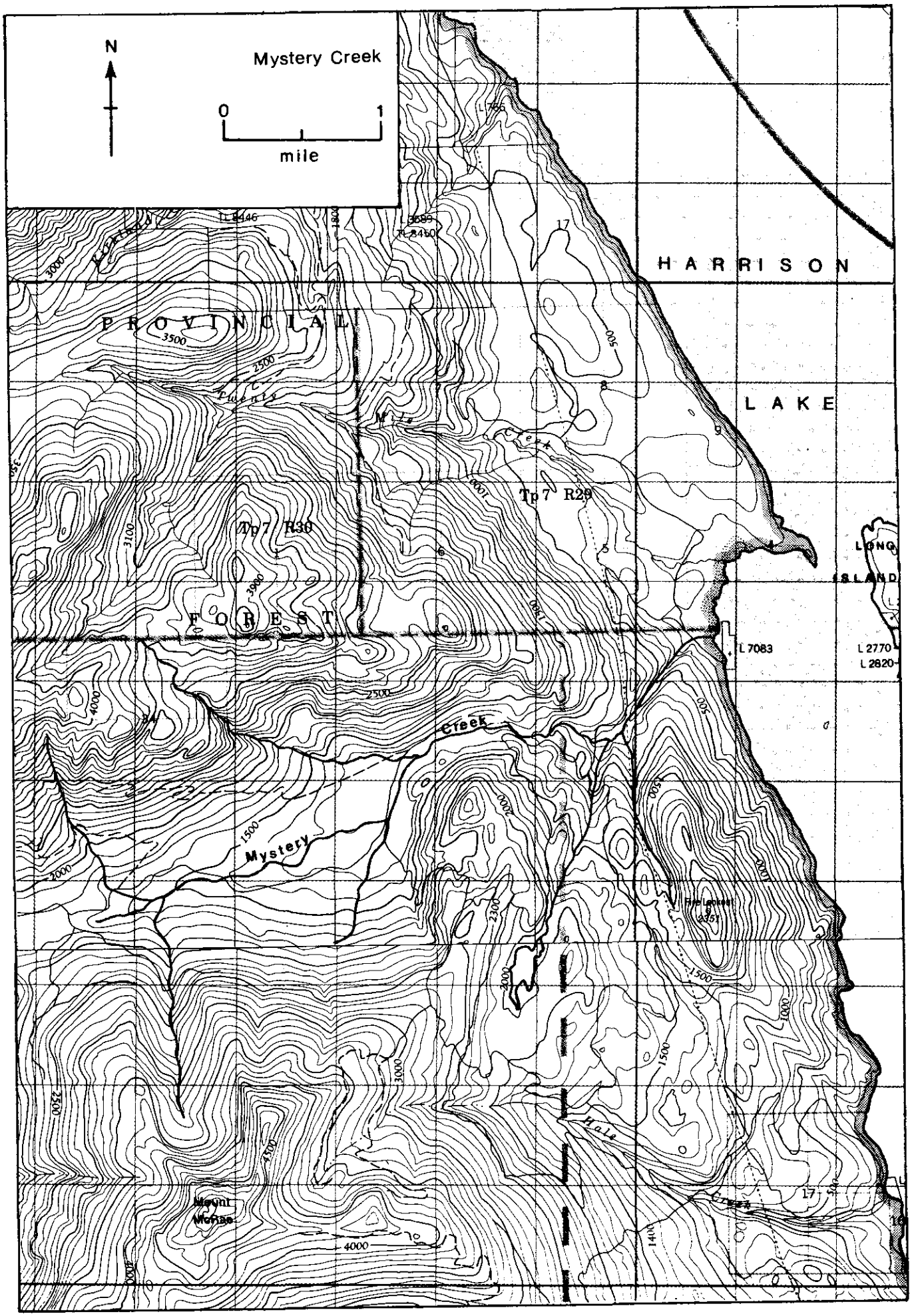
ESCAPEMENT RECORD FOR MIAMI CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51		NO	RECORDS PRIOR TO 1953			
52						
53			200			
54			NO REC			
55			NO REC			
56			75			
57			75			
58			25			
59			NO REC			
60			N/O			
61			25			
62			200			
63			75			
64			75			
65			25			
66			25			
67			N/O			
68			N/O			
69			25			
70			N/O			
71			N/O			
72			N/O			
73			NO REC			
74			NO REC			
75			N/O			
76						
77			N/O			
78			N/O			
79						
80						
81						
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS


N
Mystery Creek
0
1
mile
HARRISON
PROVINCIAL
FOREST
LAKE
LONG
ISLAND
Tp 7 R29
Tp 7 R30
L 7083
L 2770
L 2820
Mystery
Creek
Mount
Morgan

NAME OF STREAM MYSTERY CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows NE. into Harrison L., W. of Long I., New Westminster Dist.

POSITION 49 121 NW

LENGTH 0.5 MI. WIDTH 27 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 75% COARSE 15% FINE 5%

SILT & SAND _____ UNCLASSIFIED 5%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 7,900 SQ. YD. SPAWNING AREA 1,600 SQ. YD.

DISCHARGE 120 cfs (Feb. 12/71)

TEMPERATURE 39° F (Feb. 12/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable waterfall at 0.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- at mouth near lake (bottom 200 yds.)
CHUM	- at mouth near lake
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

The stream above the falls has high boulder content and many small falls.

GENERAL REMARKS:

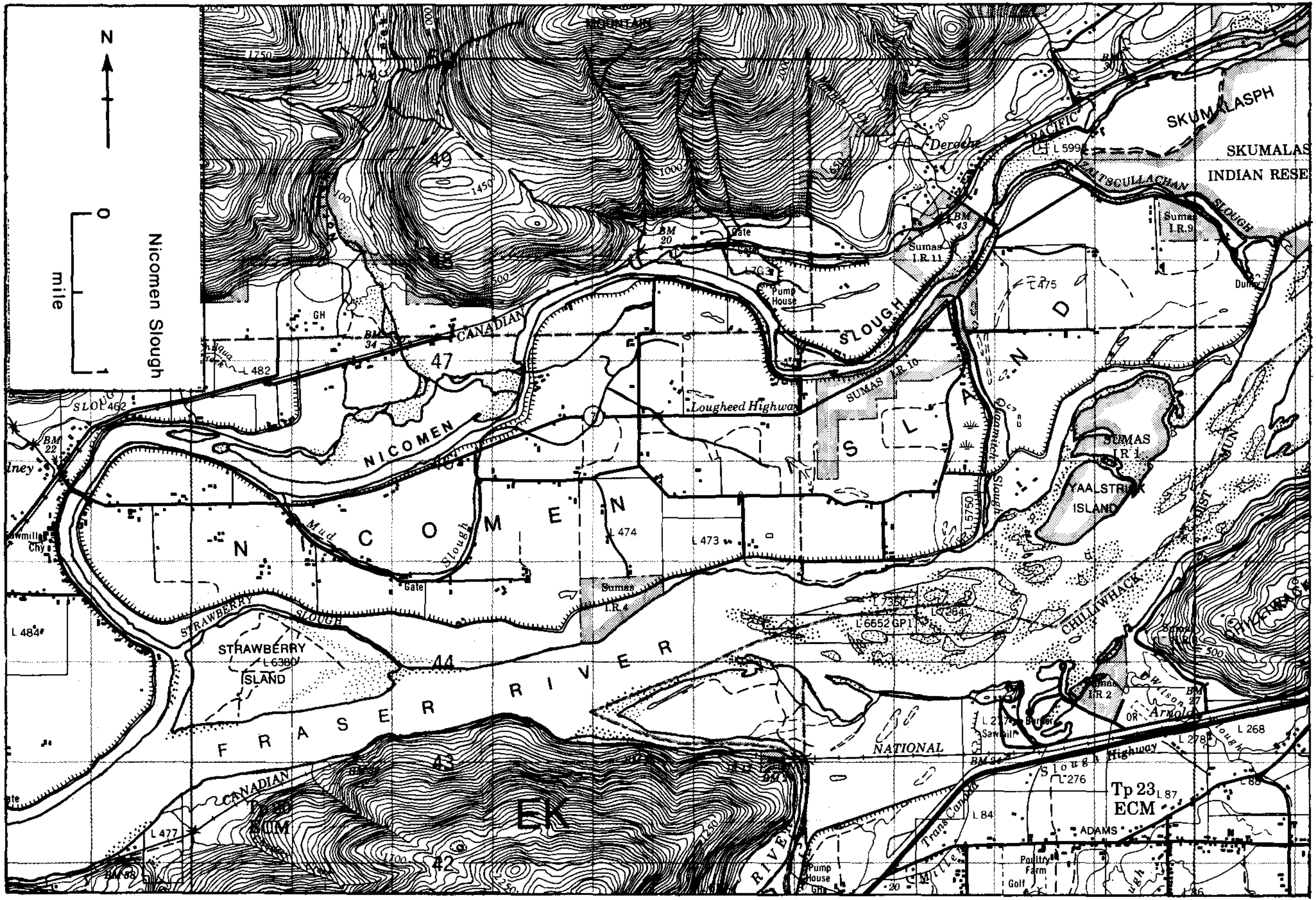
- The watershed of this area has been logged off which results in flash floods washing the good gravel out of the creek.
- Some spawning occurs along the beach of Harrison Lake between the mouths of Mystery and Twenty Mile Creeks.

ESCAPEMENT RECORD FOR MYSTERY CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48				200		
49						
50						
51			UNK	75		
52	25	25	25	75		
53						
54						
55						
56						
57						
58						
59						
60						
61			25	25		
62						
63						
64						
65				25		
66				25		
67						
68				200		
69			25	25		
70			25	25		
71			25	25		
72			N/O	N/O		
73			75	25		
74			25	75		
75			25	25		
76			25	25		
77			25	25		
78			25	75		
79			$\bar{x}$ = 27.778	33.333		
80			SD = 19.543	25		
81			VAR = 339.506	555.555		
82						
83						
84						
85						

TIMING:						
ARRIVE			OCT	OCT		
START			OCT	OCT		
PEAK			NOV	NOV		
END			JAN	NOV		

REMARKS



Nicomen Slough
N
0
mile
MOUNTAIN
1750
1450
1000
500
49
48
47
Deroche
PACIFIC
L 5998
SKUMALASPH
SKUMALAS
INDIAN RESE
TSCULLACHAN
SLOUGH
Sumas I.R.9
BM 43
Sumas I.R.11
BM 20
Gate
Pump House
L 475
Dunville
D
N
A
L
S
I
SLOUGH
SUMAS I.R.10
CANADIAN
BM 34
L 482
L 462
BM 22
Lougheed Highway
NICOMEN
SUMAS I.R.1
YAALSTRICK ISLAND
L 5750
Nicomen Slough
N
I
C
O
M
E
N
Mud Slough
L 474
L 473
Gate
Sumas I.R.4
L 484
STRAWBERRY
SLOUGH
STRAWBERRY
L 6380
ISLAND
44
FRASER RIVER
L 7350
L 6652 GP1
L 264
CHILLIWHACK
500
Sumas I.R.2
Wilson Slough
Arnold
BM 27
L 268
L 278
Sawmill
NATIONAL
43
CANADIAN
EK
Slough Highway
L 276
Tp 23
ECM
L 87
L 88
L 84
ADAMS
Trans Canada
L 477
BM 58
42
1100
Pump House
Poultry Farm
Golf
RIVER

#18

NAME OF STREAM NICOMEN SLOUGH

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH N. side of Nicomen I., Fraser R., E. of Hatzic Lake, New Westminster Dist. POSITION 49 122 SE

LENGTH 12 MI. WIDTH 270 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE _____ FINE 1%

SILT & SAND 99% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	0.5/000 over length
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 1,900,000 SQ. YD. SPAWNING AREA 19,000 SQ. YD.

DISCHARGE _____ CFS MAX _____ MIN _____

TEMPERATURE 41° F (Feb. 24/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT
Bell's Dam (earthfill and dyke) at 12 miles. Culvert needed.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	} mainly at the mouths of small tributaries
CHUM	} and gravel patches in the slough proper
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:
- This stream contains very good gravel but over the years it has become covered with silt (up to 6 inches in some places) and plant growth.
- Tributary: Barnes Creek (NE end of Nicomen Slough - see map page 83)
  length = 200 ft.
  width = 15 ft.
  composition: boulder = 5%; coarse = 40%; fine = 30%; unclassified = 25%
  gradient: 1.5' /000
  wetted area = 335 sq. yds.

(cont.)

GENERAL REMARKS - Nicomen Slough (cont.)

spawning area = 235 sq. yds.
- There is an impassable CPR culvert at 200 ft. but above this, another 4 miles of suitable spawning ground is available.

ESCAPEMENT RECORD FOR NICOMEN SLOUGH

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25	3500		
48				3500		
49			200	3500	25	
50			75	3500		
51			750	7500	25	
52			200	750		
53			400	1500	25	
54			750	1500		
55			400	400	N/O	
56			75	25		
57			1500	3500		
58			400	750		
59			400	1500		
60			200	750		
61			400	750		
62			750	750		
63			400	2000		
64			750	750		
65			750	750		
66			750	3500		
67			200	750		
68			200	400		
69			200	750		
70			200	1500		
71			400	1500		
72			75	400		
73			400	400		
74			400	750		
75			400	3500		
76			200	7500		
77			1500	6500		
78			750	3500		
79			$\bar{X}$ = 480.565	$\bar{X}$ = 2838.888		
80			SD = 427.159	2642.179		
81			VAR = 162191.36	6205432.1		
82						
83						
84						
85						
TIMING:						
ARRIVE			SEP	OCT		
START			OCT	OCT		
PEAK			DEC	NOV		
END			JAN	DEC		

REMARKS

Escapements include a number of small tributaries flowing into Nicomen Slough.

NORRISH CREEK - for topographical map refer to Chehalis River, page 9.

#19

NAME OF STREAM NORRISH CREEK (Suicide Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. and W. into Nicomen Slough, E. of Hatzic L., New Westminster Dist. POSITION 49 122 SE

LENGTH 13.4 MI. WIDTH 60 FT. DRAINAGE 45.2 SQ. MI.

COMPOSITION: BEDROCK ____ BOULDER 60% COARSE 14% FINE 11%

SILT & SAND 12% UNCLASSIFIED 3%

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

*WETTED AREA 140,000 SQ. YD. *SPAWNING AREA 35,000 SQ. YD.

DISCHARGE 460 CFS MAX 3,090 cfs (July 12/72) MIN 27.4 cfs (Sept. 16/73)

TEMPERATURE 39° F (Feb 16/71) 35° F (Feb. 26/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Although the creek is accessible over its length, no salmon have been seen above the lower canyon at 4 miles which may present access difficulties depending on the water level.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- throughout (to canyon)
CHUM	- lower section
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Some areas above the canyon have extremely good spawning gravel.

GENERAL REMARKS:

- This is a very fast moving stream subject to heavy erosion, silting and scouring due to past logging and gravel removal operations.
- 1950. Frequent floods damaged 25% - 50% of all redds.
- 1968. The west channel spawning area was lost when construction of a dyke cut off surface water flow. This surface water supported a small coho population.

* area includes from 0 - 4 miles

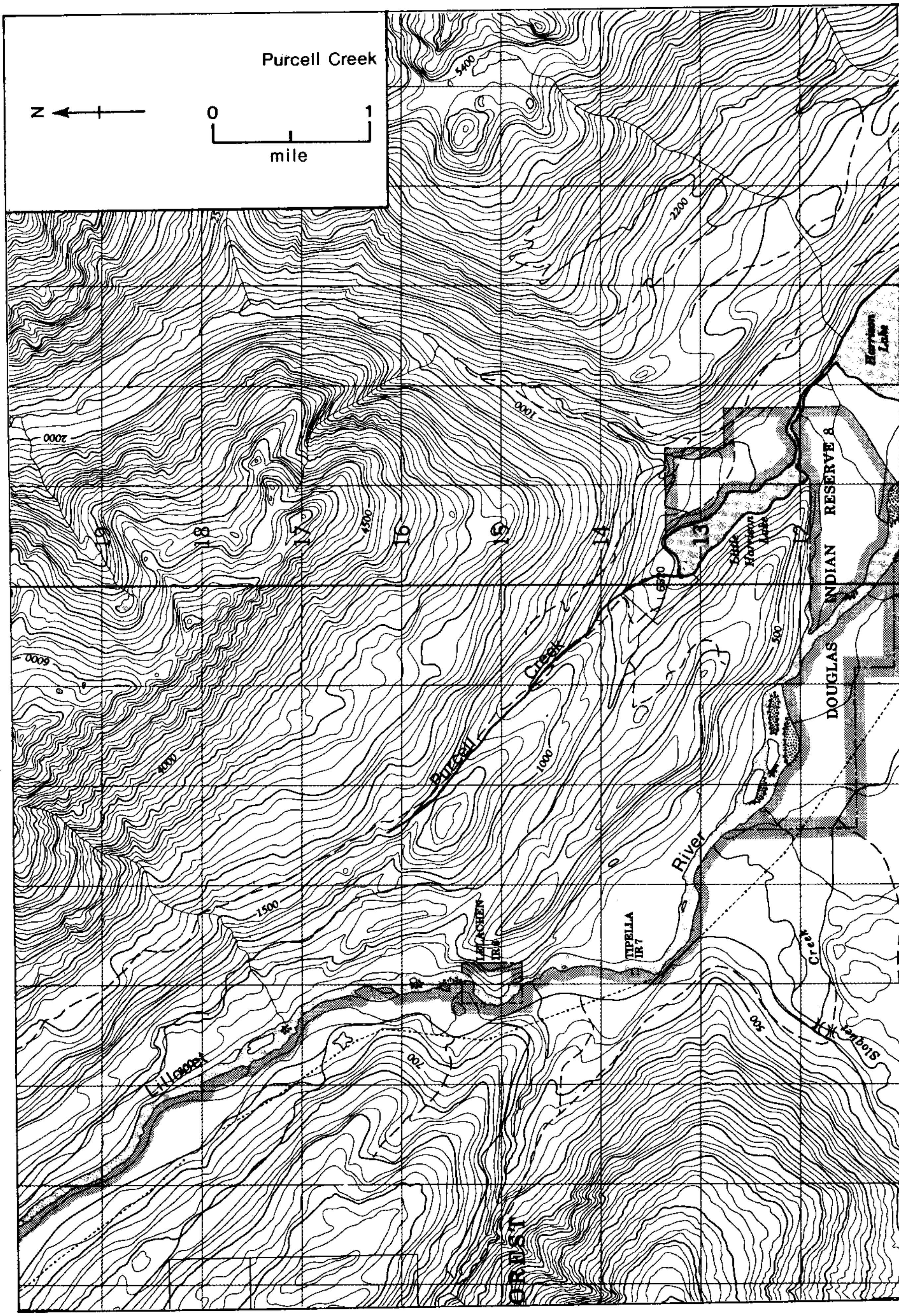
ESCAPEMENT RECORD FOR NORRISH CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25	750	750	25
48				200		
49			400	750	75	
50			400	400		
51			NO REC	NO REC		
52			1500	200		200
53			400	400	25	200
54			3500	75		400
55			400	1500	200	75
56			75	200		200
57			200	200	25	UNK
58			400	75		
59			400	25	N/O	25
60			400	200		200
61			300	200	25	25
62			400	25		25
63			200	25		25
64			750	25		200
65			200	400		
66			200	200		
67			400	400		
68			400	3500		
69			400	3500		
70			200	1500		
71			1500	750		
72			200	1500		
73			400	750		
74			400	1500		
75			400	7500		
76			200	1500		
77			400	4000		
78			400	3500		
79			$\bar{x}$ = 455.555	$\bar{x}$ = 2500		
80			SD = 403.457	2190.1769		
81			VAR = 162691.36	4263888.9		
82						
83						
84						
85						

TIMING:

ARRIVE			OCT	OCT		
START			NOV	OCT		
PEAK			DEC	NOV		
END			JAN	DEC		

REMARKS


Purcell Creek
N
0
1
mile
Harrison Lake
DOUGLAS INDIAN RESERVE 8
Little Harrison Lake
Purcell Creek
River
Lillooet
TIPELLA IR 7
Sloquet Creek
13
14
15
16
17
18
19
5400
2200
2000
1000
4500
4000
6000
1500
500
700

NAME OF STREAM PURCELL CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows SE. into Harrison L. near head, New Westminster Dist.

POSITION 49 122 NE

LENGTH 1.0 MI. WIDTH 12 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 49% COARSE 30% FINE 15%

SILT & SAND _____ UNCLASSIFIED 6%

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 7,000 SQ. YD. SPAWNING AREA 3,200 SQ. YD.

DISCHARGE 30 cfs (March 15/71)

TEMPERATURE 40° F (Feb. 15/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Above 1.0 mile the stream becomes very narrow with a steep gradient and contains many small falls.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

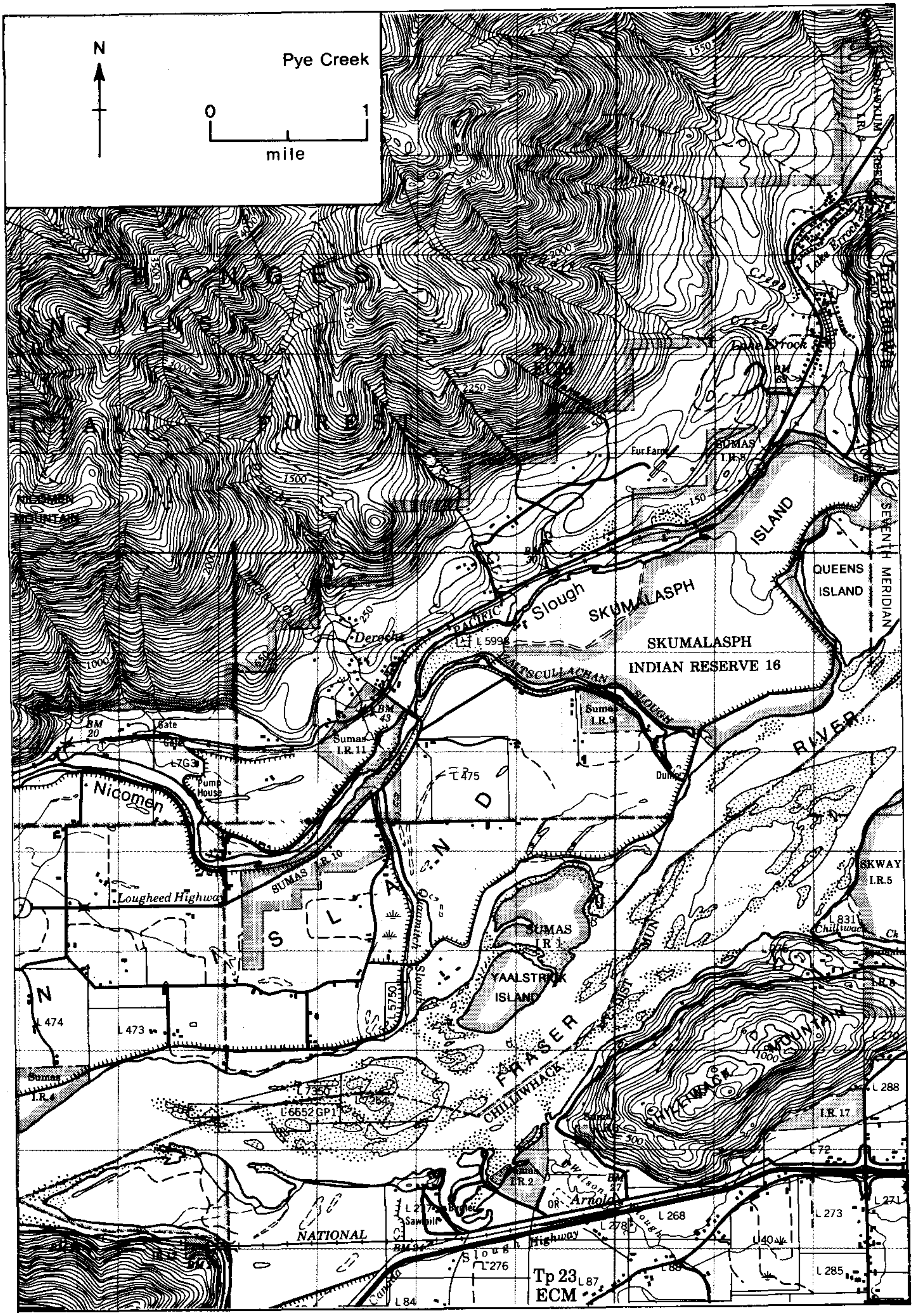
- No salmon have been reported since 1968.
- This stream flows through an Indian Reserve and a large logging camp.

ESCAPEMENT RECORD FOR PURCELL CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			25			
49						
50						
51			75			
52						
53						
54			200			
55			UNK			
56						
57			UNK			
58						
59						
60			25			
61						
62			UNK			
63			UNK			
64						
65			6			
66						
67						
68						
69			25	25		
70			25			
71				25		
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						

TIMING:						
ARRIVE						
START						
PEAK						
END						

REMARKS



Pye Creek
N
0
1
mile
SKUMALASPH
SKUMALASPH
INDIAN RESERVE 16
QUEENS
ISLAND
ISLAND
SEVENTH MERIDIAN
Slough
PACIFIC
Deroche
Sumas
I.R. 11
Sumas
I.R. 9
Nicomen
Pump
House
Lougheed Highway
SUMAS I.R. 10
SUMAS
I.R. 1
YAALSTRICK
ISLAND
FRASER
RIVER
CHILLIWHACK
SKWAY
I.R. 5
L 831
I.R. 17
L 288
L 273
L 268
L 271
L 285
L 474
L 473
L 475
L 5750
L 7350
L 6652 GP1
L 7264
NATIONAL
Sumas
I.R. 4
I.R. 2
Arnold
Highway
Sawmill
L 276
L 84
L 87
Tp 23
ECM
Fur Farm
SUMAS
I.R. 8
Lake Errock
BM
65
Dump
Canada

#21

NAME OF STREAM PYE CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows SE. into Nicomen Slough, NE. of Deroche, New Westminster Dist. POSITION 49 122 SE

LENGTH 0.5 MI. WIDTH 7 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 15% FINE 25%

SILT & SAND 60% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 2,000 SQ. YD. SPAWNING AREA 800 SQ. YD.

DISCHARGE 6.0 cfs (Feb. 16/71)

TEMPERATURE 41° F (Feb. 16/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable highway culvert at 0.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- concentrated at mouth
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

The stream above the culvert is usually dry.

GENERAL REMARKS:

- 1975. The creek was diverted in a December flood which resulted in a near total loss of spawn.

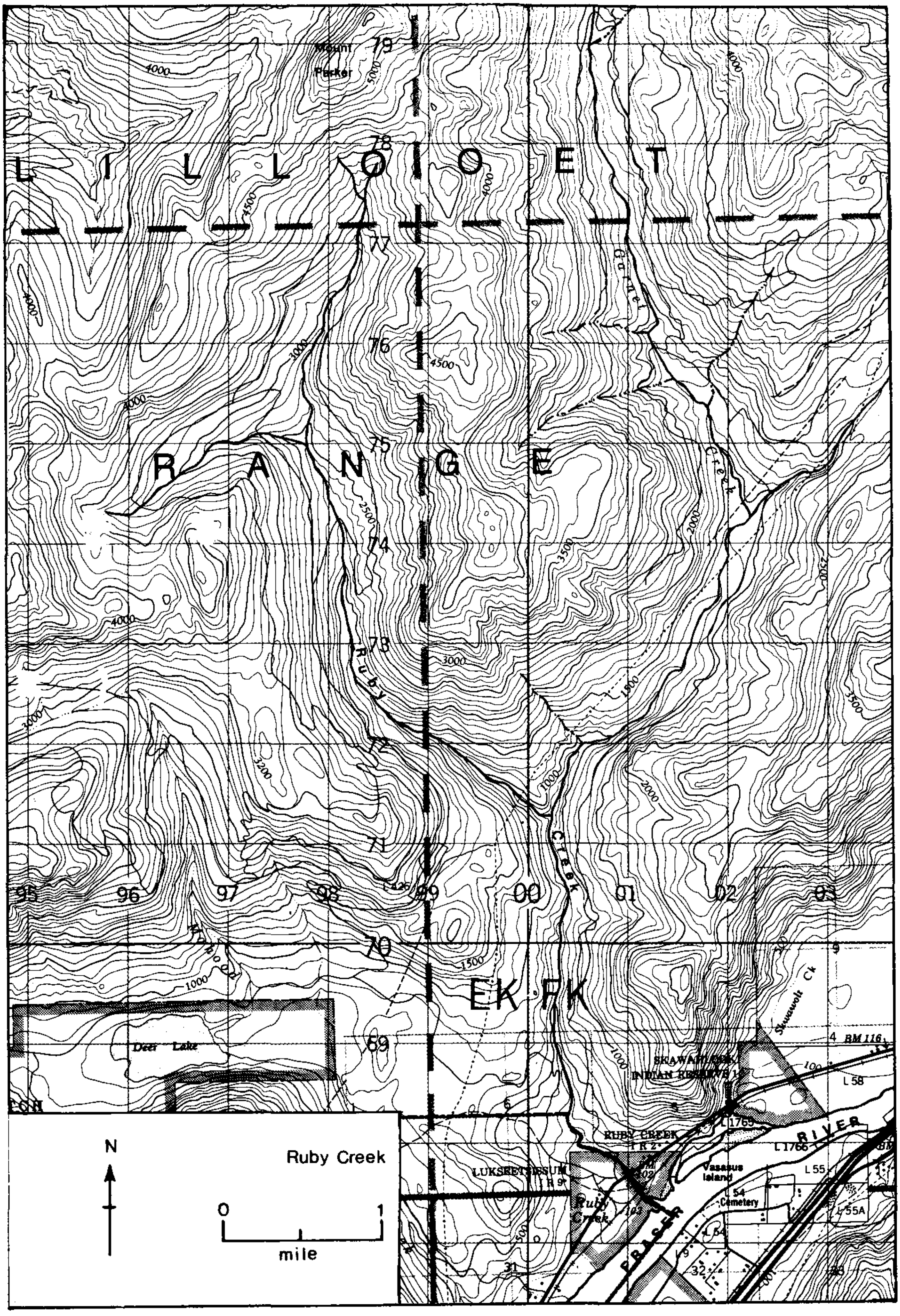
ESCAPEMENT RECORD FOR PYE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51			NO RECORDS PRIOR TO 1953			
52						
53			200			
54			NO REC			
55			NO REC			
56			NO REC			
57			200			
58			25			
59			25			
60			25			
61			25			
62			200			
63			25			
64			200			
65			75			
66			200			
67			75			
68			75			
69			25			
70			200			
71			200			
72			25			
73			75			
74			75			
75			25			
76			25			
77			400			
78		1978	DATA INCLUDED WITH NICOMEN SLOUGH			
79			$\bar{y} = 128.125$			
80			$SD = 131.907$			
81			$VAR = 15224.69$			
82						
83						
84						
85						

TIMING:

ARRIVE			NOV			
START			NOV			
PEAK			DEC			
END			JAN			

REMARKS



Mount Pecker
L I L L O O E T
R A N G E
Garnet Creek
Ruby Creek
Creek
EKFK
Deer Lake
SKAWAHLOOK INDIAN RESERVE
RUBY CREEK
LUKSEETSISSUM
Ruby Creek
Vasasus Island
Cemetery
Skawalook Ck
FRASER
RIVER
N
Ruby Creek
0
1
mile

NAME OF STREAM RUBY CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Fraser R., E. of Harrison L., Yale Dist.

POSITION 49 121 SW

LENGTH 2 MI. WIDTH 36 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK 1% BOULDER 64% COARSE 17% FINE 9%

SILT & SAND 3% UNCLASSIFIED 6%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	3/000
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 42,000 SQ. YD. SPAWNING AREA 11,000 SQ. YD.

DISCHARGE 153 cfs (March 2/71)

TEMPERATURE 33° F (March 2/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable canyon and rocks at 2 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- scattered throughout
CHUM	- near mouth
PINK (ODD YEAR)	- scattered throughout
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

Above the falls, 10% of the area has potential as spawning grounds.

GENERAL REMARKS:

- 1967. Very little gravel remains in this streambed. The watershed is logged off which results in freshets every period of heavy rain.

ESCAPEMENT RECORD FOR RUBY CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58		NO	RECORDS PRIOR TO 1960			
59						
60			UNK	UNK		UNK
61			UNK	UNK	650	UNK
62						
63			UNK	25	614	UNK
64			25	25		UNK
65			25	25	221	25
66			25	25		25
67			25	25	400	
68			25	25		
69			25	25	75	
70			25	25		
71			200	25	1500	
72			25			
73			25	25	750	
74			25	25		
75			25	25	75	
76			25	25		
77			25	25	75	
78			25	25		
79			$\bar{x}$ = 44.44	25	600	
80			SD = 58.33	0	679.153	
81			Var = 3024.69	0	345937.5	
82						
83						
84						
85						
TIMING:						
ARRIVE			OCT	OCT	SEP	
START			OCT	OCT	SEP	
PEAK			NOV	NOV	OCT	
END			JAN	NOV	OCT	

REMARKS

SCOREY CREEK - for topographical map refer to Chilqua Slough, page 13.

#23

NAME OF STREAM SCOREY CREEK (Rouleau Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows W. into Hatzic Slough, N. of Hatzic L., New Westminster Dist. POSITION 49 122 SE

LENGTH 1.5 MI. WIDTH 12 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 10% COARSE 10% FINE 27%

SILT & SAND 50% UNCLASSIFIED 3%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 10,560 SQ. YD. SPAWNING AREA 3,900 SQ. YD.

DISCHARGE 7 cfs (Feb. 2/71)

TEMPERATURE 43° F (Feb. 22/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

The stream becomes very narrow with very little water flow at 1.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- Farm development and Hatzic Pumping Station are blamed for the loss of runs to this stream.

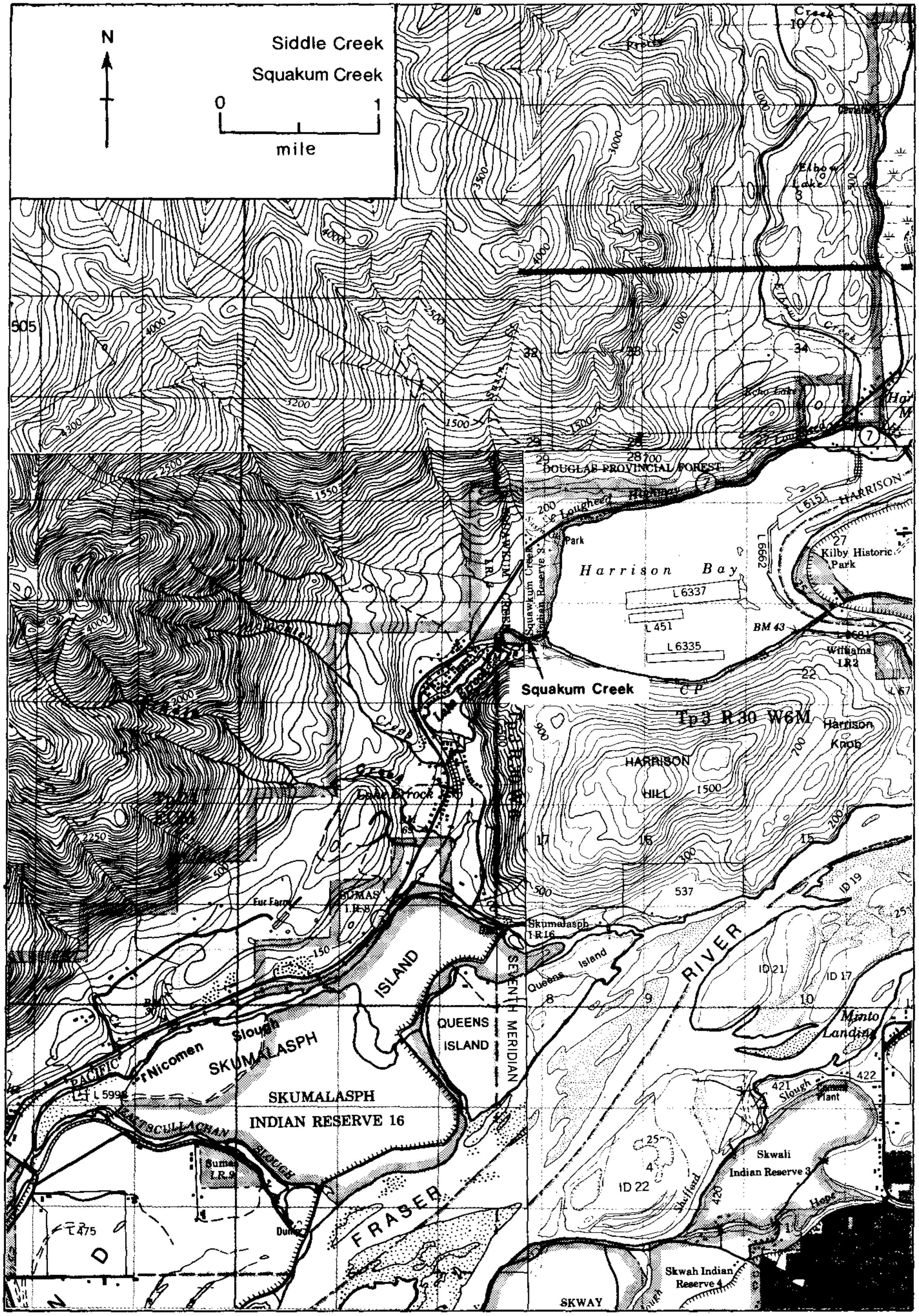
ESCAPEMENT RECORD FOR SCOREY CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49			200	75		
50				25		
51			25	25		
52			200	25		
53			25	25		
54			75	25		
55			25			
56			N/O			
57			25	25		
58			25	25		
59			25	25		
60			25	N/O		
61			25			
62			N/O			
63			N/O			
64			25			
65			N/O			
66			N/O			
67			N/O			
68			N/O			
69			N/O			
70			N/O			
71			25			
72			NO REC			
73			25			
74			25			
75			25			
76			N/O			
77			N/O			
78			N/O			
79			$\bar{X} = 12.5$			
80			SD = 13.363			
81			var = 156.25			
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS


N
Siddle Creek
Squakum Creek
0
1
mile
Squakum Creek
DOUGLAS PROVINCIAL FOREST
Harrison Bay
HARRISON
Kilby Historic Park
Tp 3 R 30 W6M
Harrison Knob
HARRISON HILL
Williams I.R.2
Squawkum Creek Indian Reserve 2
L 6337
L 451
L 6335
L 6151
L 6662
SUMAS I.R.8
Fur Farm
Skumalasph I.R.16
Queens Island
ISLAND
QUEENS ISLAND
SEVENTH MERIDIAN
RIVER
FRASER
Minto Landing
SKUMALASPH
SKUMALASPH INDIAN RESERVE 16
Nicomen Slough
PACIFIC
L 5998
Sumas I.R.9
Skwali Indian Reserve 3
Skwah Indian Reserve 4
SKWAY
ID 17
ID 19
ID 21
ID 22
L 475
537
Plant
Slough
Lake Errock
Echo Lake
Elbow Lake

#24

NAME OF STREAM SIDDLE CREEK (Tathams or Bell's Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Nicomen Slough, New Westminster Dist.

POSITION 49 122 SE

LENGTH 4 MI. WIDTH 17 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 38% COARSE 23% FINE 20%

SILT & SAND 15% UNCLASSIFIED 4%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 40,000 SQ. YD. SPAWNING AREA 17,200 SQ. YD.

DISCHARGE 60 cfs (Feb. 15/71)

TEMPERATURE 42° F (Feb.15/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 15 foot waterfall at 4 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- in upper portions
CHUM	- in lower portions
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- 1955. The most productive area of this stream is dredged out by the Provincial Dept. of Public Works each year.
- 1972. CPR bulldozed the creekbed in September causing damage to the resident fry.
- 1973. The awareness of the general public to environmental problems is an asset in this area. Residents are immediately reporting any pertinent problems.

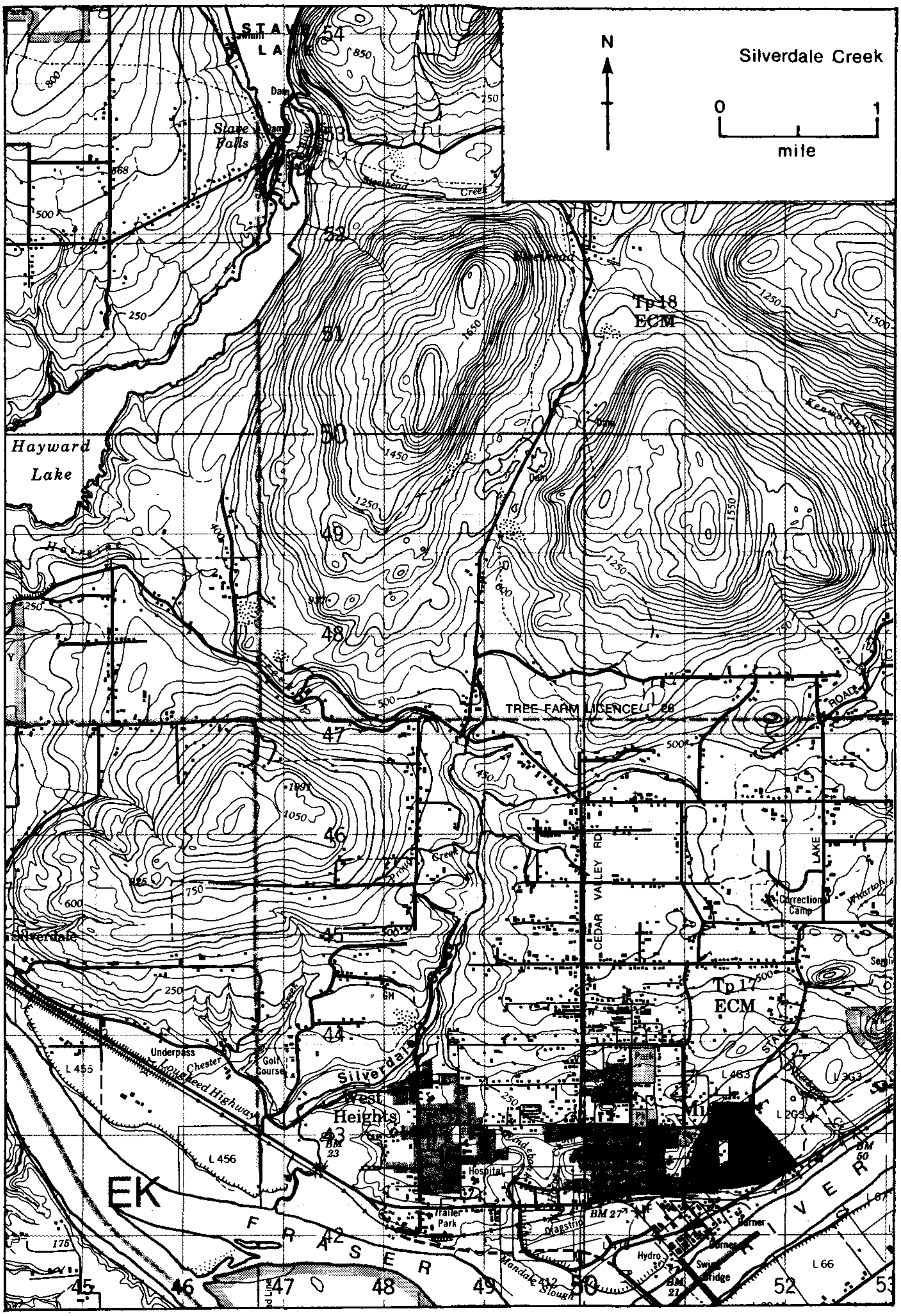
ESCAPEMENT RECORD FOR SIDDLE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48						
49						
50			75	25		
51			75	75		
52			NO	RECORD		
53			200	25		
54			200	25		
55			25	25		
56			25	25		
57			200	200		
58			25	25		
59			25	25		
60			25	25		
61			75	25		
62			400	25		
63			75	25		
64			400	25		
65			75	25		
66			200	200		
67			200	25		
68			750	25		
69			750	25		
70			750	25		
71			400	25		
72			200	25		
73			400	25		
74			750	75		
75			750	25		
76			750	25		
77			1500	25		
78			200	25		
79			$\bar{x}$ = 633,333	$\bar{x}$ = 30.555		
80			SD = 401.559	16.666		
81			VAR = 143333.33	246.913		
82						
83						
84						
85						

TIMING:

ARRIVE			NOV	OCT		
START			NOV	NOV		
PEAK			DEC	NOV		
END			JAN	DEC		

REMARKS


Silverdale Creek
N
0
1
mile
STAVE LAKE
Stave Falls
Hayward Lake
Tp 18 ECM
Tp 17 ECM
TREE FARM LICENCE 26
CEDAR VALLEY RD
LAKE
Correction Camp
Silverdale
Underpass
Golf Course
Lougheed Highway
West Heights
Hospital
Trailer Park
Hydro
Swing Bridge
L 455
L 456
L 463
L 263
L 66
F R A S E R
R I V E R
45
46
47
48
49
50
52
53
54
52
51
50
49
48
47
46
45
44
43
42

NAME OF STREAM SILVERDALE CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Fraser R., E. of Stave R., New Westminster Dist.

POSITION 49 122 SE

LENGTH 4.5 MI. WIDTH 24 FT. DRAINAGE 6.6 SQ. MI.

COMPOSITION: BEDROCK ____ BOULDER 30% COARSE 20% FINE 22%

SILT & SAND 20% UNCLASSIFIED 8%; pools, logs

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 63,400 SQ. YD. SPAWNING AREA 27,900 SQ. YD.

DISCHARGE 31.4 CFS MAX 796 cfs (Jan. 19/68) MIN 2.6 (Sep. 12/73)

TEMPERATURE 42° F (Feb. 23/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT
Impassable rockfalls at 4.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	- scattered throughout
CHINOOK	
COHO	- scattered throughout
CHUM	- scattered throughout
PINK (ODD YEAR)	- scattered throughout
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:
- 1955. This stream could accomodate 10 to 20 times as many spawners without overcrowding.
- 1959. Smolts suffer during summer months because of the increasing demand for water from the creek by farmers.
- 1970. The rockfalls were made passable to coho this year by the use of sand bags.
- Stream flow is mainly dependent upon rainfall.

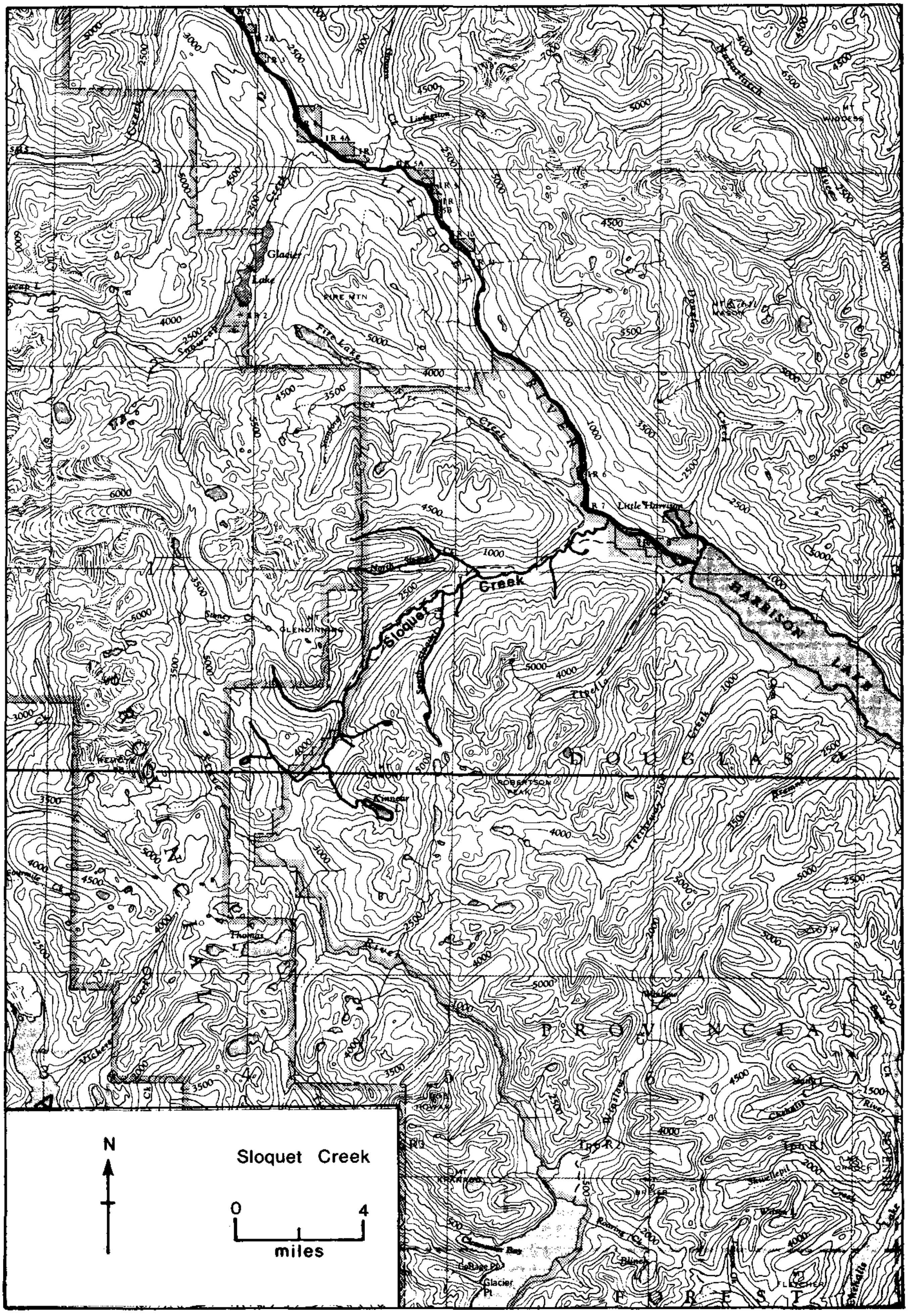
ESCAPEMENT RECORD FOR SILVERDALE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25	200	1500	
48				25		
49			25	400	3500	
50			25	400	25	
51			400	750	400	75
52			750	1500		200
53			200	400	400	
54			200	200		UNK
55			200	400	400	
56			25	75		
57			200	400	75	
58			75	200		
59			200	350	68	
60			25	45		
61			75	200	75	
62			200	300		
63			200	550	151	
64			200	25		
65			200	270	3	
66			200	200		
67			200	400	75	
68			75	750		
69	25		200	750	75	
70	25		400	750		
71			400	75	25	
72			75	750		
73	25		400	750	75	
74	25		400	750		
75	25		200	400		
76			25	75		
77			250	650		
78			200	400		
79	$\bar{X} = 25$		$\bar{X} = 261.111$	$\bar{X} = 511.111$	$\bar{X} = 50$	
80	SD = 0		147.9606	285.621	35.355	
81	VAR = 0		19459.877	72515.43	625	
82						
83						
84						
85						

TIMING:

ARRIVE	OCT		OCT	OCT	OCT	
START	OCT		OCT	OCT	OCT	
PEAK	OCT		DEC	NOV	OCT	
END	NOV		FEB	DEC	NOV	

REMARKS


Sloquet Creek
N
0
4
miles
LILLOOET
RIVER
HARRISON
LAKE
Little Harrison
Glacier
Lake
Fire Lake
FIRE MTN
Sloquet
Creek
North Sloquet
Thomas L.
Kinnear
ROBERTSON PEAK
MT GLENDINNING
DOUGLAS
PROVINCIAL
FOREST
MT MASON
Glacier Pt.
Cabbage Pt.
Roaring Ck.
Tipella
Chehalis
River
Livingston Ck.

NAME OF STREAM SLOQUET CREEK (Spring Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows NE. into Lillooet R., NW. of Harrison L., New Westminster Dist POSITION 49 122 NE

LENGTH 8 MI. WIDTH 40 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 46% COARSE 33% FINE 16%

SILT & SAND 2% UNCLASSIFIED 3%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 188,000 SQ. YD. SPAWNING AREA 92,000 SQ. YD.

DISCHARGE 280 cfs (March 18/71)

TEMPERATURE 40° F (Feb. 18/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 20 foot waterfall at 8 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- Although 8 miles of stream are accessible, salmon only migrate up to 1.5 miles from the mouth, however, the rest of the stream is utilized by steelhead.
- Logging in the watershed has made this stream very unstable. It suffers from severe scouring during heavy rains.
- Inspections of this stream are very infrequent due to rugged terrain and access difficulty.

ESCAPEMENT RECORD FOR SLOQUET CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48			1500	400		200
49			NO	RECORDS		
50			NO	RECORDS		
51			NO	RECORDS		
52	25	750	UNK	UNK		UNK
53	25	200	400	400	400	400
54	25					
55						
56	75					
57			UNK			
58						
59		UNK	2000	UNK	UNK	UNK
60						
61		UNK	UNK			UNK
62						
63		UNK	UNK			UNK
64		UNK	UNK			UNK
65		UNK	UNK	UNK	UNK	UNK
66						
67						
68						
69						
70						
71		UNK	UNK			UNK
72		UNK	UNK			UNK
73		UNK	UNK			UNK
74		25	25			25
75		25	25			25
76		75	75			
77		UNK	UNK			
78		UNK	UNK			
79		$\bar{x}$ = 41.666	41.66			
80		SD = 28.867	28.867			
81		Var = 555.55	555.55			
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS

SQUAKUM CREEK - for topographical map refer to Siddle Creek, page 95.

NAME OF STREAM (Squakum Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows NE. from Squakum L. into Harrison Bay, Harrison R., New Westminster Dist. POSITION 49 122 SE

LENGTH 1 MI. WIDTH 24 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 15% FINE 55%

SILT & SAND 30% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 14,000 SQ. YD. SPAWNING AREA 9,800 SQ. YD.

DISCHARGE 25-50 CFS MAX _____ MIN _____

TEMPERATURE 44° F (March 7/65)

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- in upper portions
CHUM	- scattered throughout
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

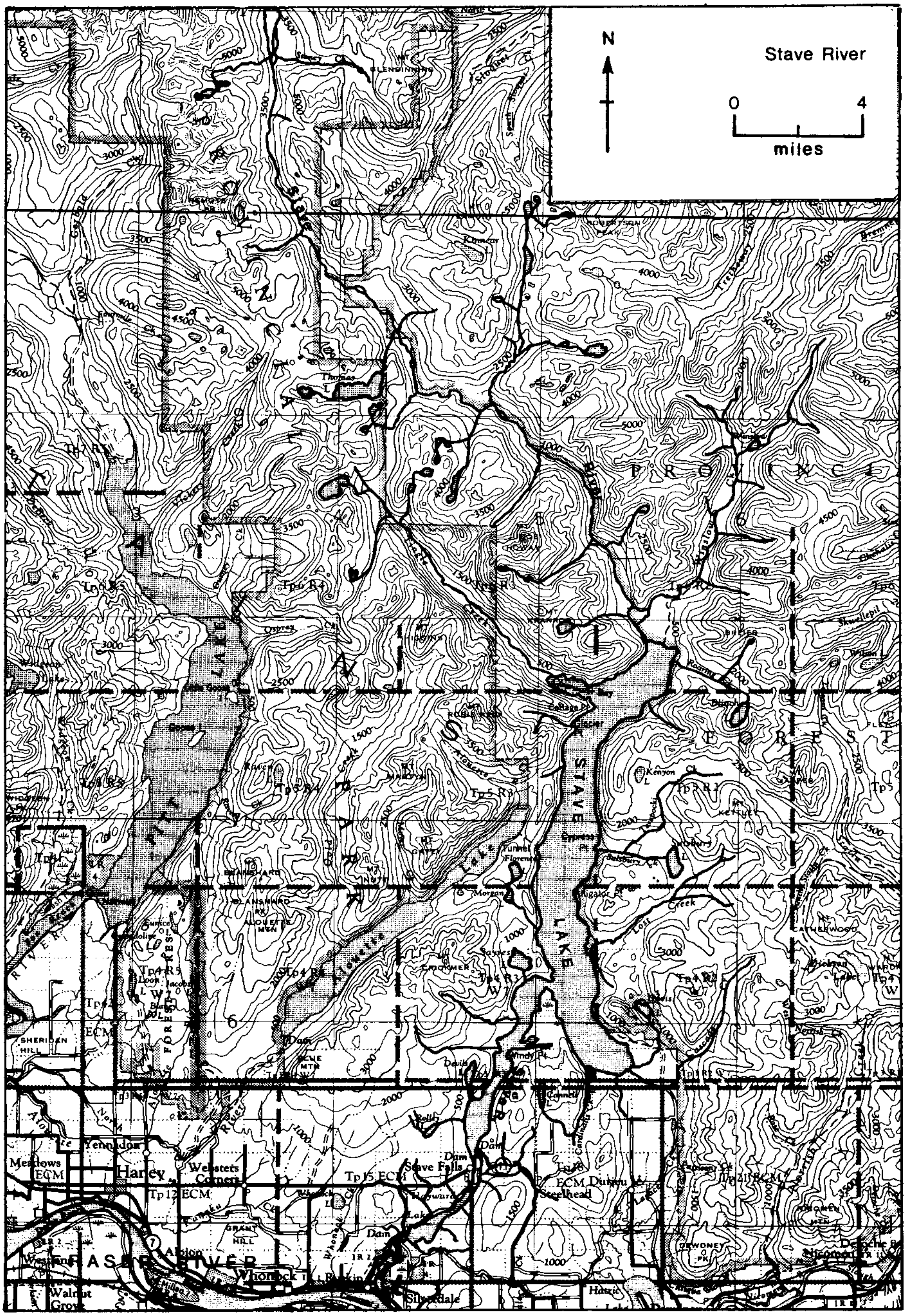
GENERAL REMARKS:

- 1971. 10,000 coho fry from Weaver Creek spawning channel were placed into this stream.
- 1974. Critically low water levels this year caused 5% of adult chum salmon to die before they had spawned.
- 1977. Preliminary plans were started for the rehabilitation of chum salmon in Squakum Creek. Proposed plans include the construction of gabion drops (to control stream velocity and erosion during high discharge) and replacement of the existing gravel.

ESCAPEMENT RECORD FOR SQUAKUM CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			75	1500	400	
48				15000		
49			25	7500	200	
50			200	3500		
51			25	750	25	
52			200	200		
53			400	3500	25	
54			200	1500		
55			75	1000	25	
56			25	400		
57			400	7500		
58			200	2400		
59			200	2000		
60			NO REC	NO REC		
61			200	7500	25	
62			400	3500		
63			200	3000		
64			400	3500		
65			200	3500		
66			750	7500		
67			400	15000		
68			200	7500		
69			400	15000		
70			75	7500		
71			200	7500		
72			75	15000		
73			400	7500	400	
74			200	3500		
75			200	3500		
76			200	3500		
77			150	4500		
78			200	3500		
79			$\bar{x}$ = 188.38	6222.22		
80			SD = 95.288	3784.1042		
81			Var = 8078.987	12728395		
82						
83						
84						
85						
TIMING:						
ARRIVE			OCT	OCT		
START			NOV	OCT		
PEAK			DEC	NOV		
END			FEB	DEC		

REMARKS


N
Stave River
0
4
miles
STAVE LAKE
PITT LAKE
Haney
Stave Falls
FRASER RIVER

NAME OF STREAM STAVE RIVER

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Fraser R., W. of Harrison L., New Westminster Dist.

POSITION 49 122 SE

LENGTH 1.5 MI. WIDTH 270 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 20% COARSE 35% FINE 20%

SILT & SAND 25% UNCLASSIFIED _____

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 237,600 SQ. YD. SPAWNING AREA 120,000 SQ. YD.

DISCHARGE 4840 CFS MAX 36000 cfs (Nov. 18, 1908) MIN 1200 cfs (Jan. 18, 1907)

TEMPERATURE 40° F (March 25/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable Hydro-electric dam (Ruskin) at 1.5 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- scattered throughout
CHUM	- concentrated in upper .5 miles
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

A number of tributaries to the Stave River above the dam have good potential as salmon spawning streams.

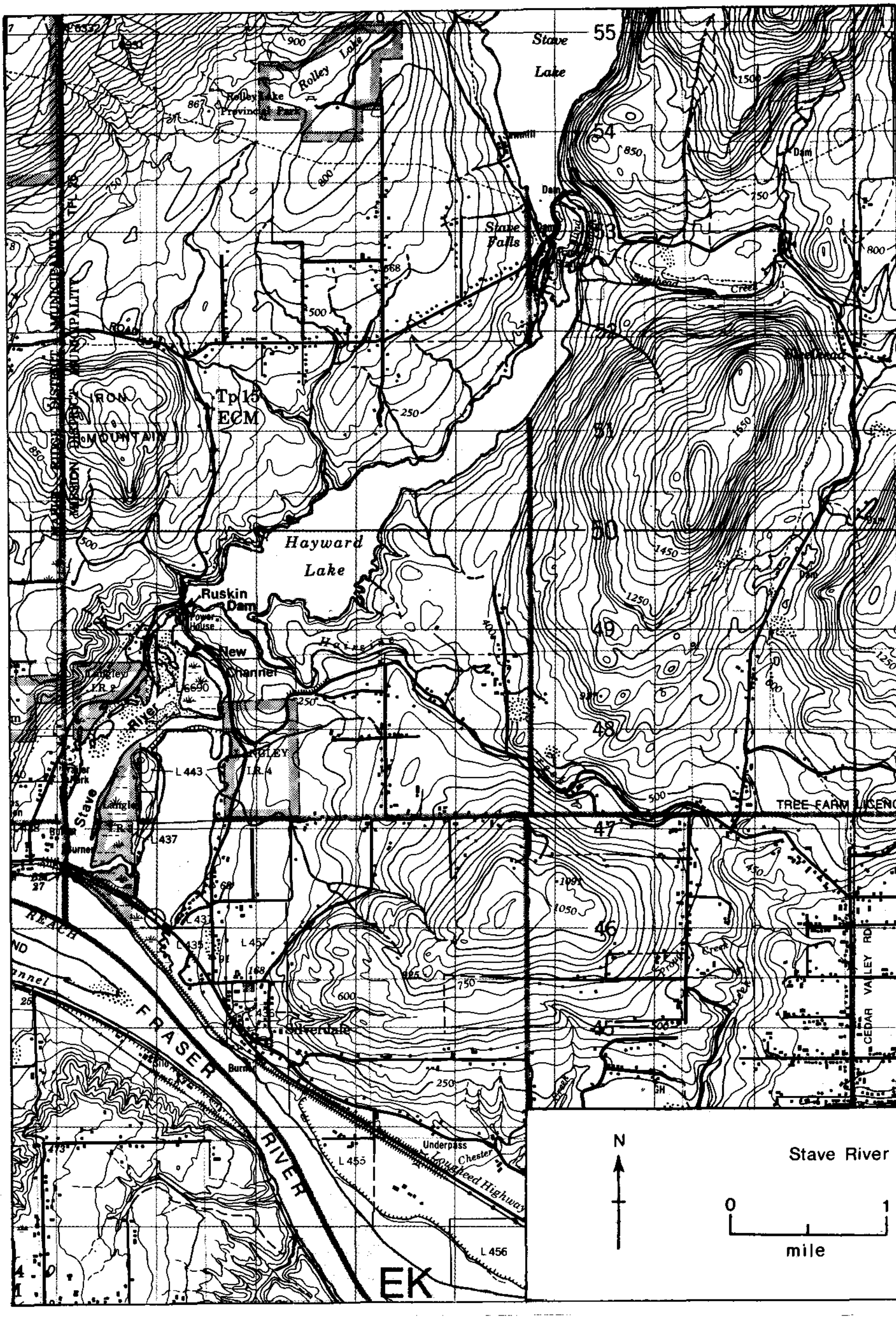
GENERAL REMARKS:

- 1962-1970. The daily stream flow fluctuation through Ruskin Dam varies from 500 cfs to 12,000 cfs.
- Serious losses occur every spring due to fluctuations in discharge from Ruskin Power House. Large numbers of fry and adult spawners are often left stranded during periods of low discharge.
- 1978. A high water level channel was opened up to accomodate all water levels (see map page 114). This operation also resulted in an increase in spawning area.

Stave River - General Remarks (cont.)

References:

Palmer, R. N. 1972. Fraser River chum salmon. Dept. of Environment, Fisheries Service, Tech. Rept. 1972-1. 283 pp.
(This report is a summary of studies done from 1960-1969. It includes "a discussion of the productivity of the stock, escapement requirements, proposed fishing patterns, exploitation rates and potential for stock enhancement.")

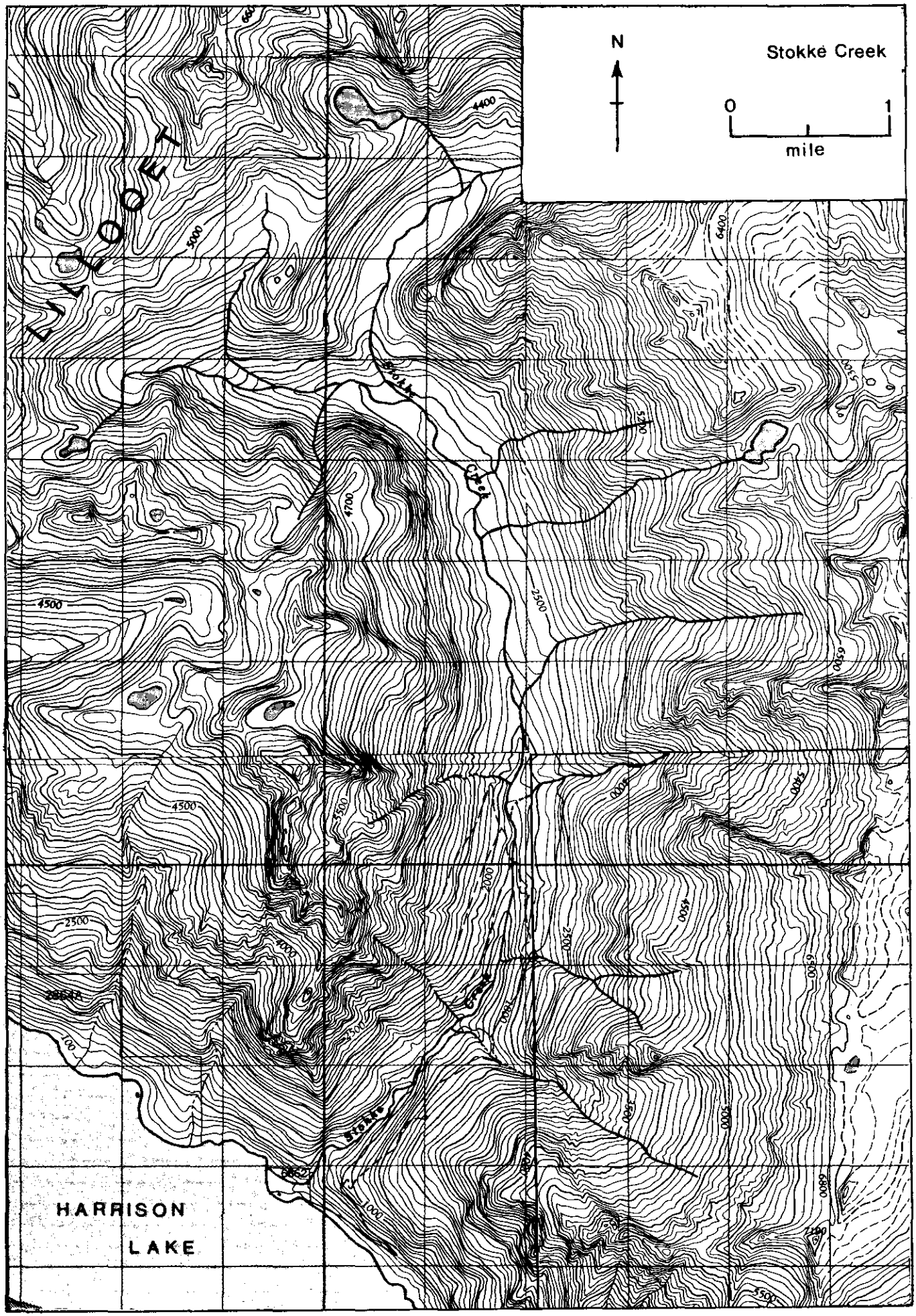

Stave Lake
Rolley Lake
Rolley Lake Provincial Park
Stave Falls
Dam
Tp 15 ECM
IRON MOUNTAIN
Hayward Lake
Ruskin Dam
Power House
New Channel
Stave River
Silverdale
FRASER RIVER
Lougheed Highway
Underpass
TREE FARM LICENC
CEDAR VALLEY RD
EK
N
Stave River
0
1
mile

ESCAPEMENT RECORD FOR STAVE RIVER

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			200	1500	1500	
48				7500		
49				3500	1500	
50				400		
51			200	1500	750	75
52			1500	3500		200
53			75	1500	1500	75
54		75	75	750		75
55		200	200	5000	7500	UNK
56		UNK	25	1500		UNK
57		UNK	400	3500	7500	200
58		25	75	750		UNK
59		25	75	5000	1383	25
60		25	25	6000		UNK
61		25	25	10000	3994	UNK
62		25	25	6000		25
63		25	25	7500	910	25
64		25	200	20000		25
65		25	200	18000	226	25
66		25	200	75000		25
67		25	400	35000	750	
68		25	400	75000		
69			400	75000	1500	
70			400	75000		
71			400	35000	400	
72			200	35000		
73			750	15000	400	
74			750	35000		
75			200	3500	400	
76			75	7500		
77			400	12000	400	
78	25	25	200	15000		
79			$\bar{x} = 375$	$\bar{x} = 25888.888$	$\bar{x} = 400$	
80			SD = 241.071	22165.257	0	
81			VAR = 51666.67	4.36×10^8	0	
82						
83						
84						
85						

TIMING:						
ARRIVE			OCT	OCT	SEP	
START			OCT	OCT	SEP	
PEAK			NOV	NOV	OCT	
END			JAN	DEC	NOV	

REMARKS


N
Stokke Creek
0
1
mile
HARRISON
LAKE

NAME OF STREAM STOKKE CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows SW. into Harrison L., New Westminster Dist.

POSITION 49 122 NE

LENGTH .75 MI. WIDTH 20 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 87% COARSE 8% FINE 3%

SILT & SAND _____ UNCLASSIFIED 2%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 8,800 SQ. YD. SPAWNING AREA 1,000 SQ. YD.

DISCHARGE 50 cfs (March 18/71)

TEMPERATURE 35° F (March 18/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable rockfall at .75 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- This stream is very fast running and the gravel is coarse.
- No salmon have been reported since 1951.

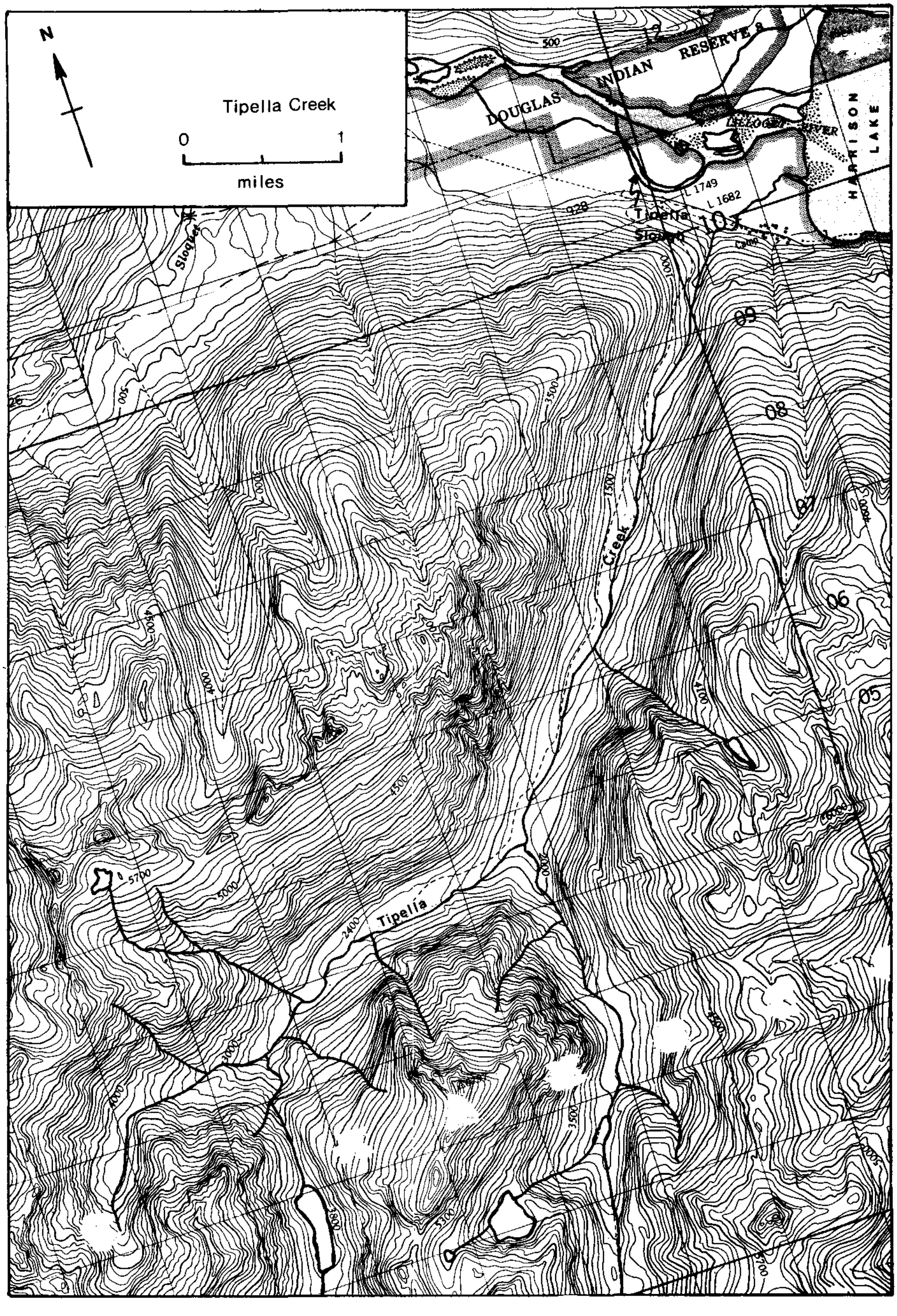
ESCAPEMENT RECORD FOR STOKKE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48	25					
49						
50						
51			25			
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS


N
Tipella Creek
0
1
miles
INDIAN RESERVE 8
DOUGLAS
LILLOOET RIVER
HARRISON LAKE
L 1749
L 1682
Tipella Slough
Sloquet
Creek
Tipella
500
1000
1500
2400
3000
3500
4000
4500
5000
5700

NAME OF STREAM TIPELLA CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows NE. into N. end of Harrison L., New Westminster Dist.

POSITION 49 122 NE

LENGTH 1 MI. WIDTH 21 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 60% COARSE 18% FINE 11%

SILT & SAND 4% UNCLASSIFIED 7%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 12,300 SQ. YD. SPAWNING AREA 3,600 SQ. YD.

DISCHARGE 30 cfs (March 18/71)

TEMPERATURE 36° F (March 18/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 25 foot waterfall at 1 mile.
Beaver dams are a problem each year.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

This stream has a steep gradient above 1 mile.

GENERAL REMARKS:

- Transportation difficulties to this stream make inspections infrequent.

ESCAPEMENT RECORD FOR TIPELLA CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48				750		
49						
50						
51				1500	UNK	
52						
53						
54						
55						
56						
57			UNK		UNK	
58	25	25	75	200		
59			200	200		
60						
61			UNK			
62						
63	25		UNK	UNK	UNK	
64	UNK		UNK	UNK		
65			75			
66						
67						
68						
69			25	25		
70						
71						
72						
73			25			
74			25			
75			25			
76			N/O			
77			N/O			
78		NOT	INSPECTED			
79						
80						
81						
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS

TROUT LAKE CREEK - for topographical map refer to Hicks Creek, page 43.

NAME OF STREAM TROUT LAKE CREEK (Hatchery Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows W. into SE. end of Harrison L., Yale Dist.

POSITION 49 121 SW

LENGTH 1.25 MI. WIDTH 20 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 70% COARSE 18% FINE 9%

SILT & SAND _____ UNCLASSIFIED 3%: pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	3' /000 0.0 - 0.5 miles
5.0 - 7.5	5' /000 0.75 - 1.25 miles
7.5 - 10.0	
> 10.0	

WETTED AREA 15,000 SQ. YD. SPAWNING AREA 4,050 SQ. YD.

DISCHARGE 43 cfs (March 2/71)

TEMPERATURE 38° F (March 1/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 30 foot waterfall at 1.25 miles

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	- concentrated at mouth
CHINOOK	
COHO	- lower reach
CHUM	- concentrated at mouth
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

The stream has good potential as spawning ground above the falls. There is a 500 yd. length of good spawning gravel between the falls and Trout Lake (good rearing area).

GENERAL REMARKS:

- This stream is usually dry until mid-December. The B. C. Hydro dam which used to store water for release during droughts was washed out in 1949.
- 1956. The watershed is completely logged off.
- 1960. The Department of Recreation bulldozed out most of the coho redds.
- 1971. Work was done on the highway culvert to make the upper region of the stream accessible to coho.

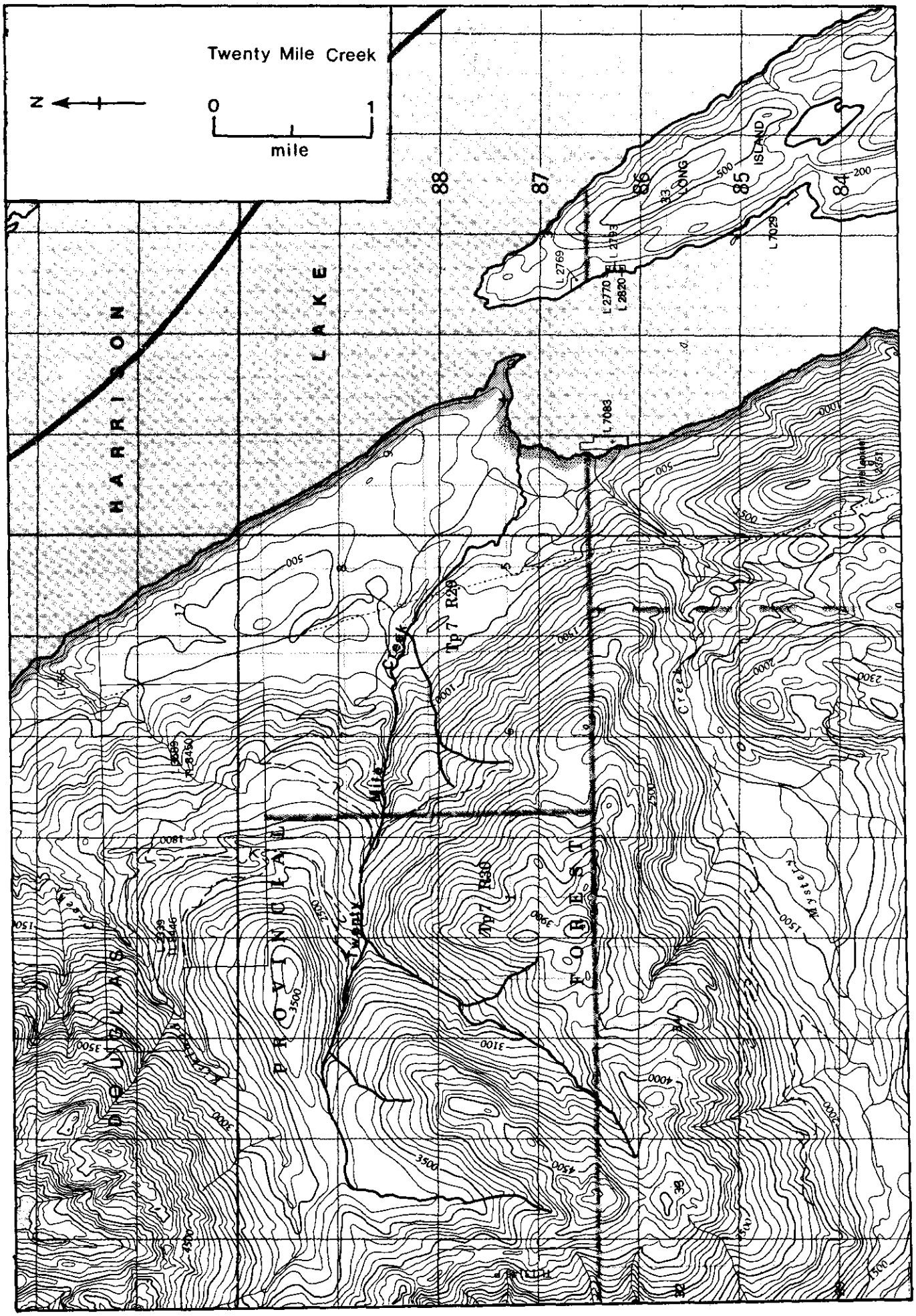
ESCAPEMENT RECORD FOR TROUT LAKE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	1500		75	200	UNK	
48	200		25			
49	25		25	75	200	
50		NO	RECORDS FOR 1950			
51	200		25	25		
52	25		25	75		
53	25		25	25		
54		NO	RECORDS FOR 1954			
55						
56						
57						
58						
59						
60	25		25			
61				25		
62			UNK			
63						
64			25			
65			25			
66			25	150		
67						
68						
69			25			
70			25			
71			200			
72			25			
73			25			
74	25		25	25		
75	25		75	75		
76			25			
77			25			
78			25	75		
79						
80	$\bar{x}$ 25		50	58,333		
81	σ - 0		58,630	28,867		
82	Var = 0		3055.556	555.555		
83						
84						
85						

TIMING:

ARRIVE	SEP		OCT	OCT		
START	SEP		OCT	OCT		
PEAK	OCT		DEC	NOV		
END	NOV		JAN	NOV		

REMARKS


Twenty Mile Creek
N
0
1
mile
HARRISON LAKE
DOUGLAS PROVINCIAL FOREST
Twenty Mile Creek
Tp 7 R29
Tp 7 R30
88
87
86
85
84
ISLAND
L 2769
L 2770
L 2820
L 7029
L 7083

NAME OF STREAM TWENTY MILE CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows SE. into Harrison L., W. of Long I., New Westminster Dist.

POSITION 49 121 NW

LENGTH 3 MI. WIDTH _____ FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 56% COARSE 27% FINE 13%

SILT & SAND _____ UNCLASSIFIED 4%; pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA _____ SQ. YD. SPAWNING AREA _____ SQ. YD.

DISCHARGE 50 cfs (March 12/71)

TEMPERATURE 38° F (March 12/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

Impassable 15 foot falls at 3 miles.

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- lower 500 yards
CHUM	- lower 500 yards
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

There is no potential above the falls - heavy boulder content.

GENERAL REMARKS:

- This stream dries up during the summer.
- Due to access problems, this stream was not inspected many years.

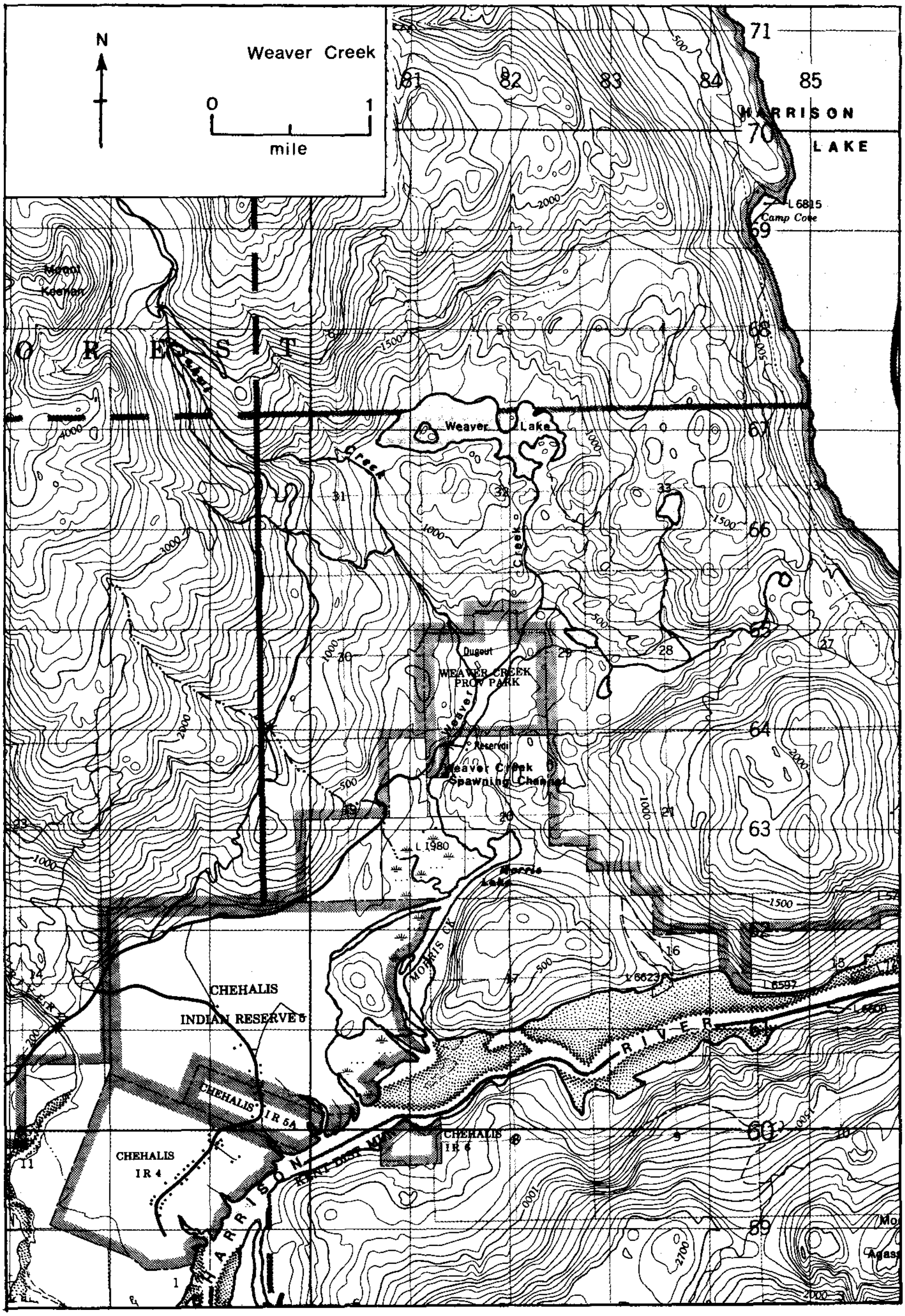
ESCAPEMENT RECORD FOR TWENTY MILE CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48				25		
49						
50						
51			UNK	25		
52						
53						
54						
55						
56						
57						
58						
59						
60						
61				25		
62						
63				25		
64				25		
65				200		
66				200		
67						
68			25	200		
69			25	200		
70						
71						
72						
73			25	25		
74			25	25		
75			25	25		
76						
77			25	200		
78			25	25		
79			$\bar{x} = 25$	60		
80			SD = 0	78.262		
81			VAR = 0	4900		
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS


Weaver Creek
N
0
1
mile
HARRISON
LAKE
Camp Cove
L 6815
Weaver Lake
Creek
WEAVER CREEK PROV PARK
Dugout
Weaver
Reservoir
Weaver Creek Spawning Channel
L 1980
Morris Lake
MORRIS CK
CHEHALIS INDIAN RESERVE 5
CHEHALIS IR 5A
CHEHALIS IR 4
CHEHALIS IR 6
RIVER
HARRISON
L 6623
L 6597
L 6600

NAME OF STREAM WEAVER CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Morris L., W. of S. end of Harrison L., New Westminster Dist. POSITION 49 121 SW

LENGTH _____ MI. WIDTH 28 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 21% COARSE 22% FINE 38%

SILT & SAND 13% UNCLASSIFIED 6%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 38,700 SQ. YD. SPAWNING AREA 23,000 SQ. YD.

DISCHARGE 78.9 CFS MAX 473 cfs (Feb. 26/57) MIN 2.0 cfs (Sept. 14/56)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	- scattered throughout; in artificial spawning channel
CHINOOK	
COHO	- upper portion
CHUM	- scattered throughout
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

The International Pacific Salmon Fisheries Commission completed a spawning channel at Weaver Creek in 1965, in time for the sockeye run that year. The channel was built to increase the sockeye run but it is also utilized by chum (lower 3200 sq. yds.) and a few pinks. The channel accomodates approximately 26,000 spawners. The main water source is Weaver Creek just above the confluence with Sakwi Creek. Additional water comes from Sakwi Creek during periods of low discharge from Weaver Creek. During extreme low water, water can be drawn from Weaver Lake via a submerged pipeline.

A temporary fence across Weaver Creek is used to divert the fish into the spawning

GENERAL COMMENTS (cont.) - Weaver Creek

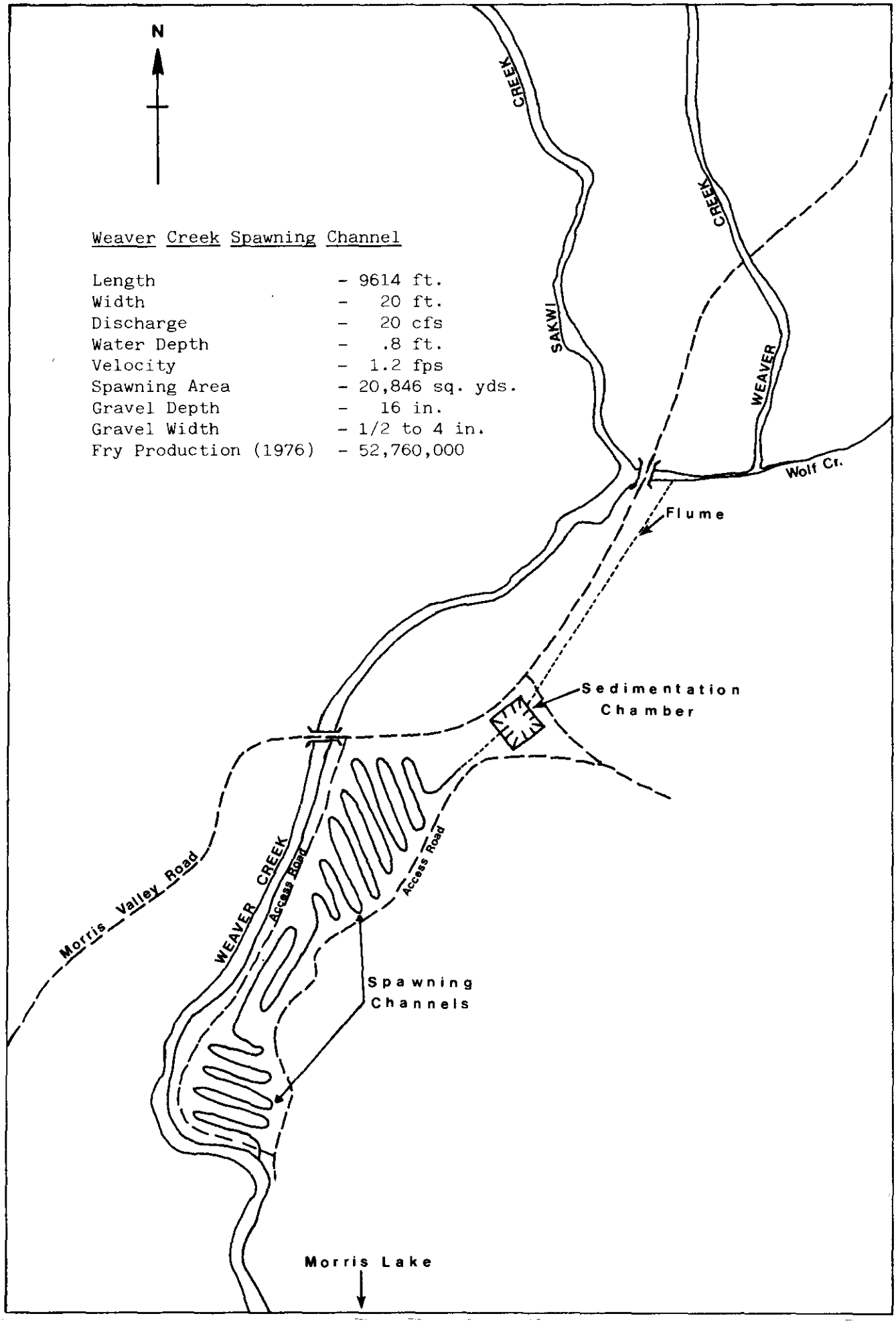
channel. When the channel is filled to capacity, the barrier is removed and the remainder allowed to spawn in Weaver Creek.
The number of spawners is estimated by counts along the channel and a final figure is obtained from a dead pitch. The dead fish are removed from the channel and buried.

- The stream is very unstable now that the watershed has been logged off. Most damage is done by flood waters from Sakwi Creek.
- 1967. A flood washed out the fence of the spawning channel and allowed sockeye to travel over the entire stream.
- 1975. Heavy rains in December damaged much of the natural stream. There was 100% silting and much of the gravel was carried away.
- 1977. Heavy flooding caused the number of fry in the spawning channel to be cut to 1/3.

References:

Cooper, A. C. 1977. Evaluation of the production of sockeye and pink salmon spawning and incubation channels in the lower Fraser River system. I.P.S.F.C. Progress Rep. 36, 80 pp.

I.P.S.F.C. 1964. Proposed artificial spawning channel for Weaver Creek sockeye salmon.



Weaver Creek Spawning Channel

Length	- 9614 ft.
Width	- 20 ft.
Discharge	- 20 cfs
Water Depth	- .8 ft.
Velocity	- 1.2 fps
Spawning Area	- 20,846 sq. yds.
Gravel Depth	- 16 in.
Gravel Width	- 1/2 to 4 in.
Fry Production (1976)	- 52,760,000

ESCAPEMENT RECORD FOR WEAVER CREEK

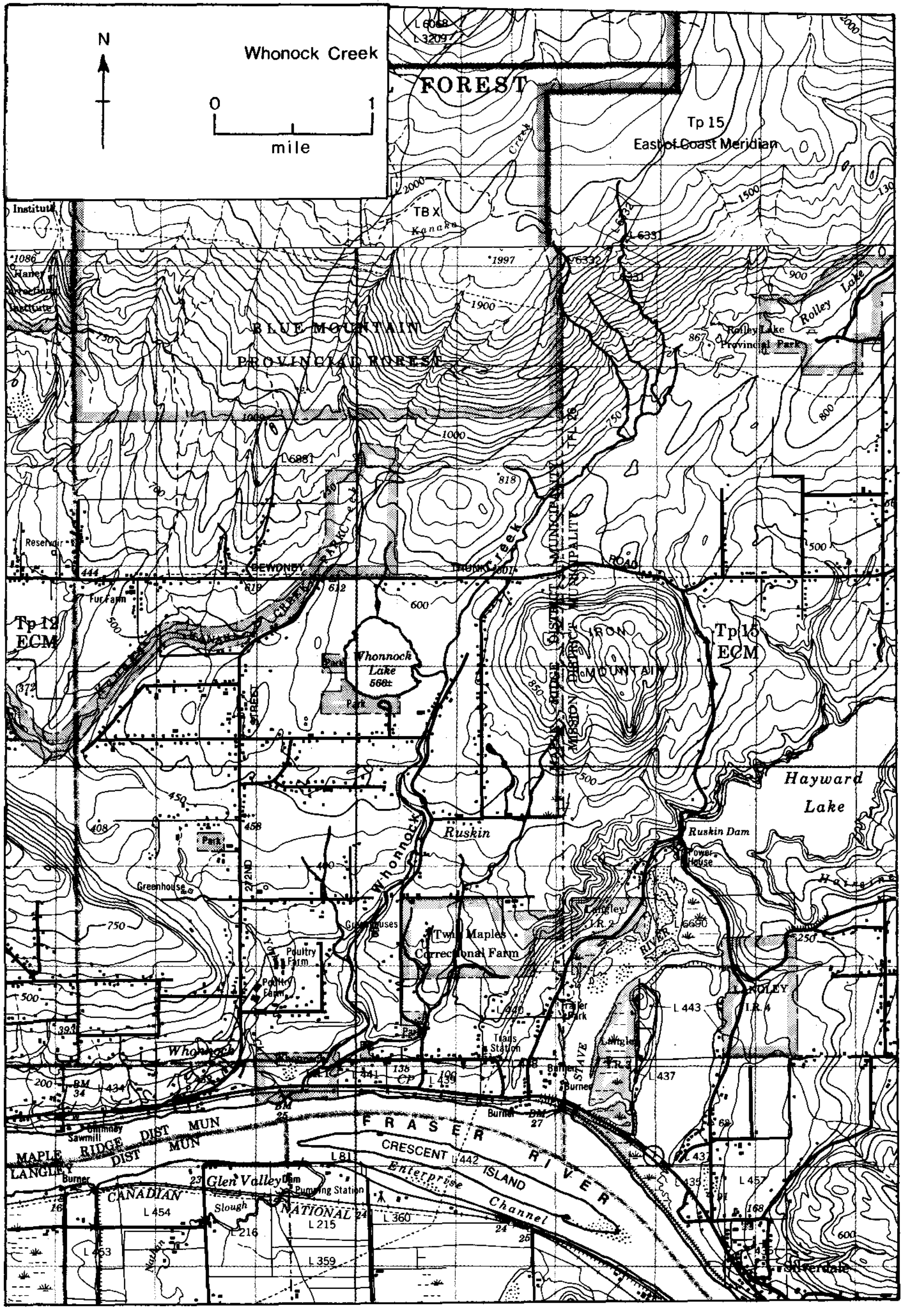
YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947	7500		75	750	7500	
48	15000		25	400		
49	15000		750	3500	3500	
50	35000		750	1500		
51	15000		750	750	400	75
52	15000		7500	1500		25
53	15000		3500	400	750	75
54	35000		1500	400		
55	35000		1500	750	1500	
56	5500		750	75		
57	15000		750	400	400	400
58	36199		1500	3500		400
59	8379		750	2000	87	
60	7042		400	750		200
61	4383		2100	400	539	200
62	15962	25	1500	3500		200
63	14469	25	400	1500	693	200
64	1370	25	1000	750		200
65	11162		1500	3500	528	
66	20146		1580	3670		
67	15000		750	1500	400	
68	7500		750	3500		
69	35000		750	15000		
70	11000		1500	1500		
71	3500		3500	1500	1500	
72	35000		400	35000		
73	35000		3500	26000		
74	75000		3500	35000		
75	35000		7500	15000	1500	
76	75000		7500	15000		
77	56000		3000	30000	4000	
78	75000		750	35000		
79	$\bar{x}$ 44500		346.111	21555.556	2333.33	
80	SD 27379.28		2583.817	13800.916	1443.3757	
81	Var 6.6×10^8		5934321	1.69×10^8	1388888.9	
82						
83						
84						
85						

TIMING:

	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
ARRIVE	OCT		OCT	SEP	OCT	
START	OCT		OCT	OCT	OCT	
PEAK	OCT		DEC	NOV	OCT	
END	NOV		FEB	DEC	NOV	

REMARKS

Escapement totals include the natural creek plus the artificial spawning channel.



Whonock Creek
N
0
1
mile
FOREST
Tp 15
East of Coast Meridian
BLUE MOUNTAIN
PROVINCIAL FOREST
Rolley Lake
Rolley Lake Provincial Park
Whonnock Lake
Park
Tp 12 ECM
Tp 15 ECM
IRON MOUNTAIN
Hayward Lake
Ruskin Dam
Power House
Ruskin
Whonnock
Twin Maples Correctional Farm
Greenhouse
Greenhouses
Poultry Farm
Fur Farm
Reservoir
Langley I.R. 2
LANGLEY I.R. 4
STAVE
RIVER
FRASER RIVER
CRESCENT ISLAND
Enterprise Channel
MAPLE RIDGE DIST MUN
LANGLEY DIST MUN
Glen Valley
Pumping Station
CANADIAN NATIONAL
Slough
Silverdale
Sawmill
Burner
Trans Station

#34

NAME OF STREAM WHONOCK CREEK

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows S. into Fraser R., W. of Stave R., New Westminster Dist.

POSITION 49 122 SE

LENGTH 7 MI. WIDTH 18 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 70% COARSE 8% FINE 11%

SILT & SAND 7% UNCLASSIFIED 4%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 73,900 SQ. YD. SPAWNING AREA 14,000 SQ. YD.

DISCHARGE 39.0 CFS MAX 630 cfs (Jan. 10/61) MIN 0.1 cfs (Oct. 15/62)

TEMPERATURE 37° F (March 26/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- scattered in upper reaches
CHUM	- in lower 2 miles
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- 1958. Salmon gillnets operating at the stream mouth collected most of the fish as they schooled there.
- 1968. Flood conditions in January caused silting and erosion in 100% of the stream.
- 1970. There is better access to the stream, as a trail has been cut over the lower 4 miles.
- 1974. Critically low water levels in October caused many of the early fish to die before spawning.

ESCAPEMENT RECORD FOR WHONOCK CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947			25	1500	3500	
48				200		
49			200	1500	1500	
50			75	750		
51			200	3500	3500	75
52			750	3500		200
53			400	1500	1500	25
54			200	400		25
55			200	750	3500	
56			25	200		
57			200	750	400	
58			25	300		
59			200	1600	57	
60			200	750		
61			75	400	200	25
62			100	275		25
63			200	1000	255	UNK
64			200	300		25
65			200	200	34	25
66			200	400		
67			200	750	75	
68			400	1500		
69			400	1500	200	
70			750	1500		
71			200	400	75	
72			200	400		
73			400	1500	75	
74			200	1500		
75			200	1500	75	
76			200	750		
77			600	2200	50	
78			200	750		
79			$\bar{x}$ = 327.777	$\bar{x}$ = 1166.666	$\bar{X}$ = 68.75	
80			SD = 210-818	615.93425	125	
81			VAR = 395066.17	337222.22	117.187	
82						
83						
84						
85						

TIMING:

ARRIVE			COT	OCT	OCT	
START			OCT	OCT	OCT	
PEAK			DEC	NOV	OCT	
END			JAN	DEC	NOV	

REMARKS

WILKINSON CREEK - for topographical map refer to Bouchier Creek, page 5.

#35

NAME OF STREAM (Wilkinson Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows into Bouchier Creek, N. of Hatzic L., New Westminster Dist.

POSITION 49 122 SE

LENGTH 1.4 MI. WIDTH 10 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER 20% COARSE 30% FINE 35%

SILT & SAND 10% UNCLASSIFIED 5%; logs, pools

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 8,200 SQ. YD. SPAWNING AREA 5,340 SQ. YD.

DISCHARGE 11 cfs (Feb. 22/71)

TEMPERATURE 45° F (Feb. 19/71)

BARRIERS OR POINTS OF DIFFICULT ASCENT

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	
CHUM	
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM

GENERAL REMARKS:

- Salmon migrating to and from this stream must pass through Hatzic Pumping Station.
- 1967. This creek, like other Hatzic Valley streams, has been lost partly due to the pumping station at Hatzic Lake, partly to logging, farming and flood control.

ESCAPEMENT RECORD FOR WILKINSON CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48				25		
49			25	200		
50			UNK	25		
51			25	75		
52			75	75		
53			25	200		
54			75	25		
55			25	25		
56			25	75		
57			75	200		
58			25	25		
59			25	25		
60			25	25		
61			25	75		
62			25	25		
63			25	25		
64			75	25		
65			25	25		
66						
67						
68						
69						
70						
71			25			
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						

TIMING:

ARRIVE						
START						
PEAK						
END						

REMARKS

WORTHS CREEK - for topographical map refer to Hawkins Creek, page 39.

#36

NAME OF STREAM (Worth's Creek)

CONSERVATION DISTRICT 2 STATISTICAL AREA Mission/Harrison

LOCATION OF MOUTH Flows into Norrish Creek, E. of Hatzic L., New Westminster Dist.

POSITION 49 122 SE

LENGTH 1 MI. WIDTH 8 FT. DRAINAGE _____ SQ. MI.

COMPOSITION: BEDROCK _____ BOULDER _____ COARSE 10% FINE 15%

SILT & SAND 60% UNCLASSIFIED 15%

GRADIENT:

FALL IN FT/000	
0.0 - 2.5	
2.5 - 5.0	
5.0 - 7.5	
7.5 - 10.0	
> 10.0	

WETTED AREA 4,700 SQ. YD. SPAWNING AREA 1,200 SQ. YD.

DISCHARGE 3.4 cfs (Feb. 16/71)

TEMPERATURE _____

BARRIERS OR POINTS OF DIFFICULT ASCENT _____

SPAWNING DISTRIBUTION:

SPECIES	SECTION OF STREAM USED
SOCKEYE	
CHINOOK	
COHO	- concentrated at mouth
CHUM	- concentrated at mouth
PINK (ODD YEAR)	
PINK (EVEN YEAR)	
STEELHEAD	

POTENTIAL OF INACCESSIBLE PORTION OF STREAM _____

GENERAL REMARKS:

- 1954. Removal of forest cover from this stream has turned it into a drainage ditch.
- 1969. There is very little water flow due to the lowered level of Norrish Creek streambed.

ESCAPEMENT RECORD FOR WORTHS CREEK

YEAR	SOCKEYE	CHINOOK	COHO	CHUM	PINK	STEELHEAD
1947						
48				7500		
49			3500	1500	25	
50			25	200		
51			25	25		
52			25	400		
53			25	75		
54			25	75		
55			25	200		
56			75	400		
57			25	750		
58			25	750		
59			25	500		
60			25	25		
61			200	200		
62			25	200		
63			25	25		
64			300	200		
65			80	25		
66			400	400		
67			75	75		
68			25	25		
69			25	75		
70			25	25		
71			200	400		
72			N/0	N/0		
73			N/0	N/0		
74			N/0	N/0		
75				N/0		
76				1500		
77			25	500		
78			25	200		
79			$\bar{x} = 39.285$	$\bar{x} = 291.666$		
80			$SD = 71.962$	491.807		
81			$Var = 4438.77$	215000		
82						
83						
84						
85						

TIMING:

ARRIVE				NOV		
START				NOV		
PEAK				DEC		
END				DEC		

REMARKS

METRIC EQUIVALENTS

Length

centimeter	=	0.3937	in.
meter	=	3.28	ft.
meter	=	1.094	yd.
kilometer	=	0.621	mi.
inch	=	2.54	cm.
foot	=	0.3048	m.
yard	=	0.9144	m.
mile	=	1.61	km.

Area

sq. cm.	=	0.1550	sq. in.
sq. m.	=	10.76	sq. ft.
sq. m.	=	1.196	sq. yd.
sq. km.	=	0.386	sq. mi.
sq. in.	=	6.45	sq. cm.
sq. ft.	=	0.0929	sq. m.
sq. yd.	=	0.836	sq. m.
sq. mi.	=	2.59	sq. km.
acre	=	0.405	hectare
hectare	=	2.47	acres
acre	=	43560	sq. ft.

Volume

cu. cm.	=	0.061	cu. m.
cu. m.	=	35.315	cu. ft.
cu. m.	=	1.308	cu. yd.
cu. in.	=	16.38	cu. cm.
cu. ft.	=	0.028	cu. m.
cu. yd.	=	0.7645	cu. m.

Capacity

liter	=	0.0353	cu. ft.
liter	=	0.2199	gal. (Br.)
liter	=	61.023	cu. in.
cu. in.	=	0.0164	l.
cu. ft.	=	28.32	l.
gallon(Br.)	=	4.5459	l.

Weight

gram	=	15.432	grains
gram	=	0.0353	oz.
kilogram	=	2.2046	lbs.
kilogram	=	0.0011	ton (sht)
metric ton	=	1.1025	ton (sht)
grain	=	0.0648	grams

ounce	=	28.35	grams
pound	=	0.454	kg.
ton (sht)	=	907.18	kg.
ton (sht)	=	0.907	met. ton
ton (sht)	=	2000	lbs.

Degrees Centigrade = 5/9 (Degrees Fahr. - 32)
Degrees Fahrenheit = 9/5 (Degrees Cent.) + 32

WATER QUANTITIES AND FLOW MEASUREMENTS

1 cubic foot per second (cfs) or second foot	=	373.2 gallons per min. (gpm)
1 cubic foot per second (cfs) or second foot	=	.537408 million gallons
1 second foot	=	approximately 2 acre-feet per day
1 second foot	=	86,400 cubic feet per day
1 million gallons per day	=	1.86 cfs
1 acre-foot	=	43,560 cubic feet or 271,379 gal.
1 cubic foot of water	=	6.23 gal. and weighs 62.4 lbs.
1 cubic meter per second	=	35.31 cubic feet per sec. (cfs)
1 meter per second	=	3.28 feet per second
1233.5 cubic meters	=	1 acre-foot