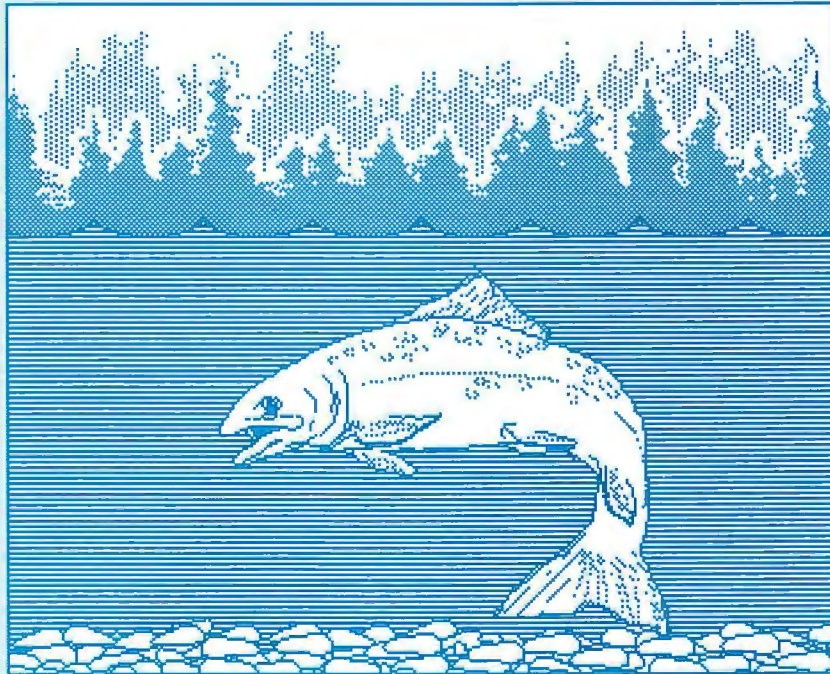


# Fish Habitat Inventory & Information Program

## STREAM SUMMARY CATALOGUE

SUBDISTRICT # 291

PRINCE GEORGE VOLUME 2



Fisheries  
and Oceans

BC  
Ministry of Environment

Canada

**Fish Habitat  
Inventory & Information Program**

**STREAM SUMMARY  
CATALOGUE**

**SUBDISTRICT # 291  
PRINCE GEORGE VOLUME 2  
STUART-TAKLA**

**Fraser River, Northern B.C. & Yukon Division  
Fisheries Branch  
Department of Fisheries & Oceans**

**January 1991**

## PREFACE

This catalogue contains a summary of information on fish and fish habitat for 84 streams on DFO Subdistrict 29I, Prince George. The catalogue is organized as follows:

- 1.0 Map Indices;
- 2.0 User Guides;
- 3.0 Stream Summaries;
- 4.0 Bibliography; and
- 5.0 Stream Information Summary maps

Stream Information Summaries and escapement records are arranged by watershed code. Cross indices of watershed codes and stream names are included in section 1.0 of this catalogue. Stream Information Summaries and maps will be updated as more information becomes available. Users are encouraged to contact the Department of Fisheries and Oceans or B.C. Ministry of Environment habitat inventory staff if they have additional fish or fish habitat information or can correct inaccuracies in the existing data.

## ACKNOWLEDGEMENTS

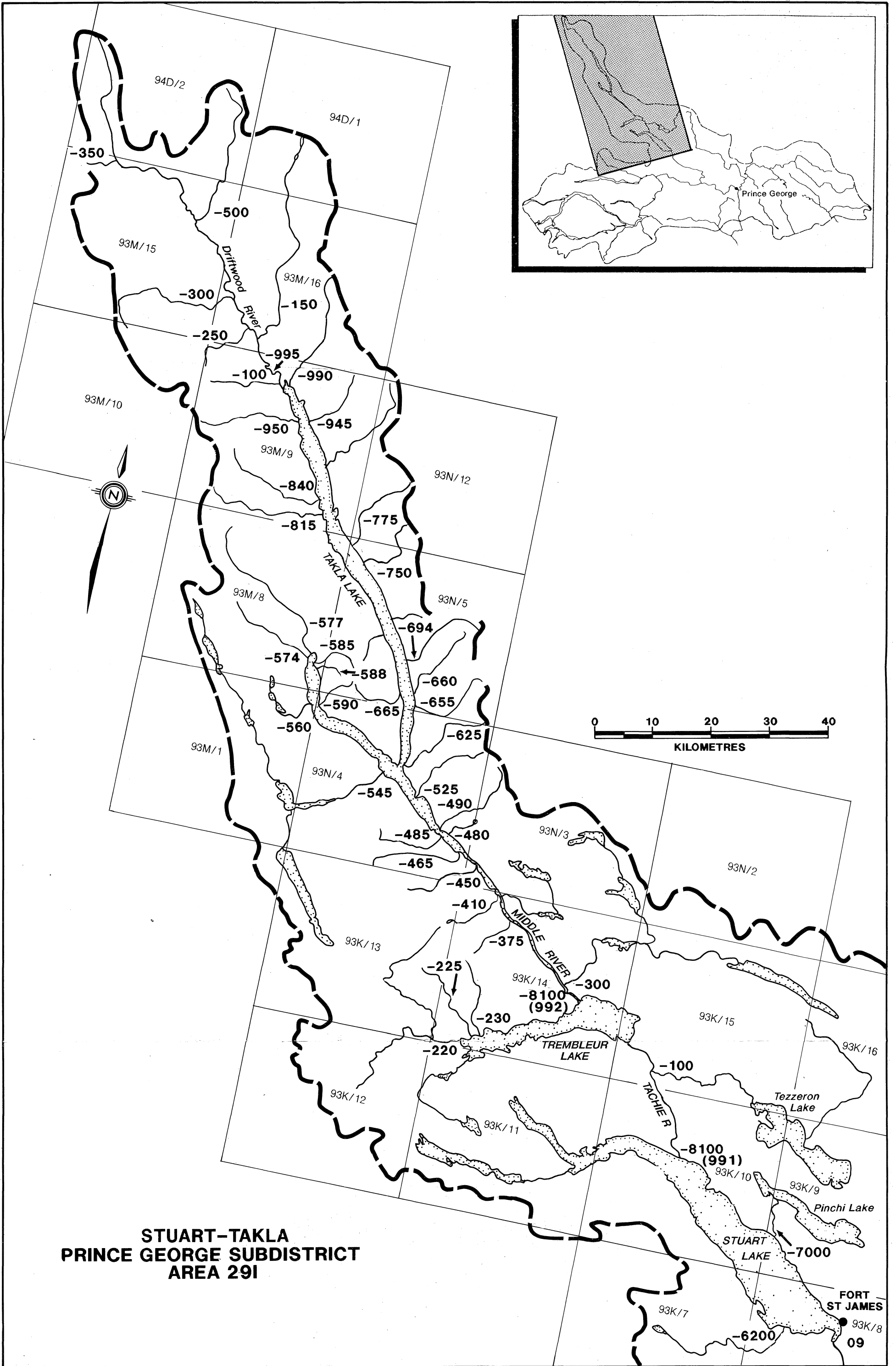
Stream Information Summaries and maps were prepared by G.E. Rosberg and Associated, G. Farrell and R. DeMarco, R. Sauve under contracts managed by L. Jaremovic, and K. Conlin, Fraser River, Northern B.C. and Yukon Division. Catalogue production was coordinated by B. Reid and K. Pontus, Habitat Management Division. The assistance of DFO District 1, subdistrict 29I Fishery Officer B. Huber, Habitat Biologist B. MacDonald and B.C. Ministry of The Environment (MOE) Region 7 staff in providing and verifying much of the information is greatly appreciated. Stream Information Summaries were produced by K. Pontus using the Stream Information Summary System (SISS). Escapement graphics were developed by G. Serbic and data was compiled by L. Lapi, M. Holmes and G. Hudson, Pacific Biological Station, Nanaimo, using the Salmon Escapement Data System (SEDS).

Correct citation for this publication:

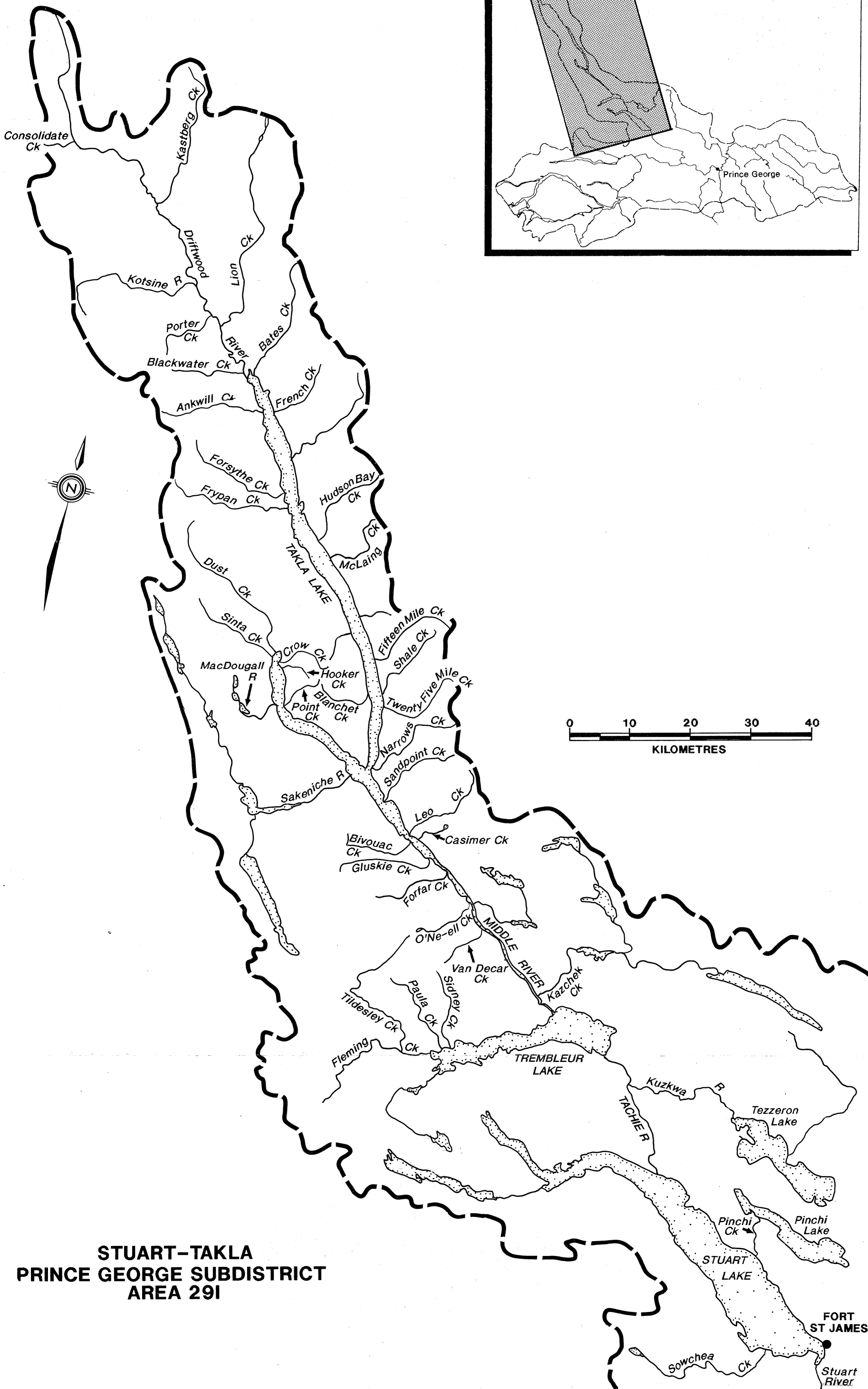
Fish Habitat Inventory and Information Program. 1990. Stream Summary Catalogue. Subdistrict 29I Prince George. Department of Fisheries and Oceans, Vancouver, B.C.

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**STUART-TAKLA  
PRINCE GEORGE SUBDISTRICT  
AREA 29I**



**STUART-TAKLA  
PRINCE GEORGE SUBDISTRICT  
AREA 291**

LISTING OF STREAMS NUMERICALLY - SUBDISTRICT #29I (STUART-TAKLA)

<b>Watershed Code</b>	<b>Gazetted Name</b>	<b>Local Name</b>
09	STUART R	
09-6200	SOWCHEA C	SOUCHI C
09-7000	PINCHI C	
09-8100	TACHIE/MIDDLE R	
09-8100-000-000-000-991	TACHIE R	
09-8100-000-000-000-992	MIDDLE R	
09-8100-100	KUZKWA R	
09-8100-220	FLEMING C	FERRIER C
09-8100-225	PAULA C	
09-8100-230	SIDNEY C	FELIX C
09-8100-300	KAZCHEK C	HAY C
09-8100-375	VAN DECAR C	ROSETTE C
09-8100-410	O'NE-ELL C	KYNOCK C
09-8100-450	FORFAR C	
09-8100-465	GLUSKIE C	
09-8100-480	CASIMER C	
09-8100-485	BIVOUAC C	
09-8100-490	LEO C	
09-8100-525	SANDPOINT C	
09-8100-545	SAKENICHE R	HAUTETE C
09-8100-560	MACDOUGALL R	MCDUGALL C
09-8100-574	SINTA C	
09-8100-577	DUST C	
09-8100-585	CROW C	
09-8100-588	HOOKE R	
09-8100-590	POINT C	
09-8100-625	NARROWS C	
09-8100-655	TWENTY-FIVE MILE C	
09-8100-660	SHALE C	
09-8100-665	BLANCHET C	
09-8100-694	FIFTEEN MILE C	
09-8100-750	MACLAING C	FIVE MILE C
09-8100-775	HUDSON BAY C	
09-8100-815	FRYPAN C	
09-8100-840	FORSYTHE C	
09-8100-945	FRENCH C	
09-8100-950	ANKWILL C	
09-8100-990	BATES C	
09-8100-995	DRIFTWOOD R	
09-8100-995-100	BLACKWATER C	
09-8100-995-150	LION C	
09-8100-995-250	PORTER C	
09-8100-995-300	KOTSINE R	
09-8100-995-350	CONSOLIDATE C	
09-8100-995-500	KASTBERG C	

LISTING OF STREAMS ALPHABETICALLY – SUBDISTRICT #29I (STUART-TAKLA)

Watershed Code	Gazetted Name	Local Name
09-8100-950	ANKWILL C	
09-8100-990	BATES C	
09-8100-485	BIVOUAC C	
09-8100-995-100	BLACKWATER C	
09-8100-665	BLANCHET C	
09-8100-480	CASIMER C	
09-8100-995-350	CONSOLIDATE C	
09-8100-585	CROW C	
09-8100-995	DRIFTWOOD R	
09-8100-577	DUST C	
09-8100-694	FIFTEEN MILE C	
09-8100-220	FLEMING C	FERRIER C
09-8100-450	FORFAR C	
09-8100-840	FORSYTHE C	
09-8100-945	FRENCH C	
09-8100-815	FRYPAN C	
09-8100-465	GLUSKIE C	
09-8100-588	HOOKER C	
09-8100-775	HUDSON BAY C	
09-8100-995-500	KASTBERG C	
09-8100-300	KAZCHEK C	HAY C
09-8100-995-300	KOTSINE R	
09-8100-100	KUZKWA R	
09-8100-490	LEO C	
09-8100-995-150	LION C	
09-8100-560	MACDOUGALL R	MCDUGALL C
09-8100-750	MACLAING C	FIVE MILE C
09-8100-000-000-000-992	MIDDLE R	
09-8100-625	NARROWS C	
09-8100-410	O'NE-ELL C	KYNOCK C
09-8100-225	PAULA C	
09-7000	PINCHI C	
09-8100-590	POINT C	
09-8100-995-250	PORTER C	
09-8100-545	SAKENICHE R	HAUTETE C
09-8100-525	SANDPOINT C	
09-8100-660	SHALE C	
09-8100-230	SIDNEY C	FELIX C
09-8100-574	SINTA C	
09-6200	SOWCHEA C	SOUCHI C
09	STUART R	
09-8100-000-000-000-991	TACHIE R	
09-8100	TACHIE/MIDDLE R	
09-8100-655	TWENTY-FIVE MILE C	
09-8100-375	VAN DECAR C	ROSETTE C

**DFO PACIFIC REGION - SUBDISTRICTS AND DISTRICTS**

DISTRICT/  
Subdistrict

Address

DISTRICT #1

- Kamloops  
1278 Dalhousie Dr., Kamloops, V2C 2E9  
Salmon Arm (29K) Box 1160, Salmon Arm, VOE 2T0  
Prince George (29I) 2392 Ospika Blvd., Prince George, V2N 3N5  
Clearwater (29J) Box 610, Clearwater, VOE 1N0  
Lillooet (29F) Box 315, Lillooet, V0K 1V0  
Quesnel (29H) 1205 North Highway 97, Quesnel, V2J 2Y3  
Williams Lake (29G) 260-D N. Broadway, Williams Lake, V2G 2X9

DISTRICT #2

- New Westminster  
301-80 6th St., New Westminster, V3L 5B3  
Vancouver (28A) 301-80 6th St., New Westminster, V3L 5B3  
Surrey (29B) 301-80 6th St., New Westminster, V3L 5B3  
Coquitlam (29C) 301-80 6th St., New Westminster, V3L 5B3  
Steveston (29A) 12551 No. 1 Road, Richmond, V7E 1T7  
Squamish (28B) Box 85, Squamish, V0N 3G0  
Mission (29D) Box 3308, Mission, V2V 4J5  
Chilliwack (29E) 45742A Yale Rd. West, Chilliwack, V2P 2N4

DISTRICT #3

- Nanaimo  
305-60 Front St., Nanaimo, V9R 5H7  
Nanaimo/Ladysmith(17) 305-60 Front St., Nanaimo, V9R 5H7  
Qualicum Beach (14S) Box 1270, Qualicum Beach, V0R 2T0  
Comox (14N) 148 Port Augusta St., Comox, V9N 7Z4  
Duncan (Cowichan)(18) Box 241, Duncan, V9L 3X3  
Powell River (15) 7255 Duncan St., Powell River, V8A 5M6

DISTRICT #4

- Port Alberni  
3019 Fourth Ave., Port Alberni, V9Y 2B8  
Port Alberni (23) 3019 Fourth Ave., Port Alberni, V9Y 2B8  
Nitinat (22) 3019 Fourth Ave., Port Alberni, V9Y 2B8  
Kyuquot (26) Box 549, Tahsis, V0P 1X0  
Tahsis (25) Box 549, Tahsis, V0P 1X0  
Tofino (24) Box 48, Tofino, V0R 2Z0

DISTRICT #5

- Campbell River  
940 Alder St., Campbell River, V9W 2P8  
Campbell River (13A) 940 Alder St., Campbell River, V9W 2P8  
Sayward (13B) 940 Alder St., Campbell River, V9W 2P8  
Port Hardy (12B) Box 10, Port Hardy, V0N 2P0  
Alert Bay (12A) Box 9, Alert Bay, V0N 1A0  
Seymour Inlet (11) Box 10, Port Hardy, V0N 2P0  
Quatsino Sound (27) Box 10, Port Hardy, V0N 2P0

DISTRICT/  
Subdistrict

Address

DISTRICT #6

- Victoria  
423-1230 Government St., Victoria, V8W 1Y3  
Victoria/Saanich (19) 423-1230 Government St., Victoria, V8W 1Y3  
Sooke (20) Box 460, Sooke, V0S 1N0

DISTRICT #7

- Central Coast  
117-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Kitimat (6N) 315-450 Federal Building, Kitimat, V8C 1T6  
Butedale (6S) 115-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Bella Bella (7) Box 38, Bella Bella, V0T 1B0  
Bella Coola (8) Box 130, Bella Coola, V0T 1C0  
Rivers Inlet (9) Dawsons Landing P.O., Rivers Inlet, V0N 1M0  
Smith Inlet (10) Dawsons Landing P.O., Rivers Inlet, V0N 1M0

DISTRICT #8

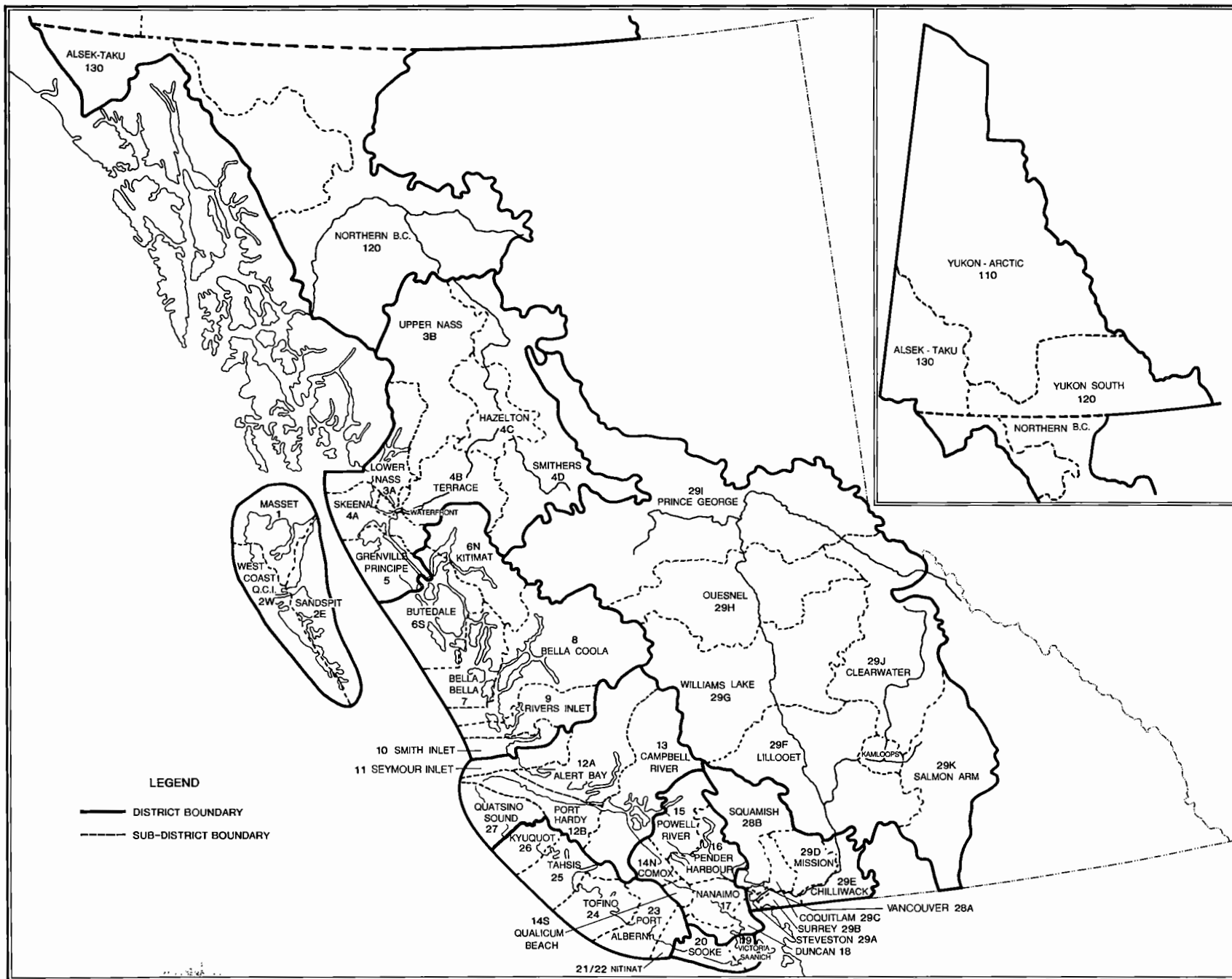
- Prince Rupert  
109-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Waterfront 109-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Lower Skeena (4A) 109-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Grenville-Principe(5) 109-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Lower Nass (3A) 109-417 2nd Ave. West, Prince Rupert, V8J 1G8  
Upper Nass (3B) Box 29, Nass Camp, V0J 3J0  
Hazelton (4C) Box 490, New Hazelton, V0J 2J0  
Smithers (4D) Box 578, Smithers, V0J 2N0  
Terrace (4B) 4721-B Lazelle Ave., Terrace, V8G 1R6

DISTRICT #9

- Queen Charlotte Islands  
Box 99, Queen Charlotte City, V0T 1S0  
West Coast Q.C.I.(2W) Box 99, Queen Charlotte City, V0T 1S0  
Masset (1) Box 99, Masset, V0T 1M0  
Sandspit (2E) Box 222, Sandspit, V0T 1T0

DISTRICT #10

- Whitehorse  
122 Industrial Rd., Whitehorse, Y.T., Y1A 2T9  
Yukon-North B.C. (120) 122 Industrial Rd., Whitehorse, Y.T., Y1A 2T9  
Yukon-Arctic (110) 122 Industrial Rd., Whitehorse, Y.T., Y1A 2T9  
Alesk-Taku (130) Box 5341, Haines Junction, Y.T., Y0B 1L0



**LEGEND**

- DISTRICT BOUNDARY
- - - - SUB-DISTRICT BOUNDARY

- DISTRICT #1 — KAMLOOPS**
  - Subdist 29F - Lillooet
  - Subdist 29G - Williams Lake
  - Subdist 29H - Quesnel
  - Subdist 29I - Prince George
  - Subdist 29J - Clearwater
  - Subdist 29K - Salmon Arm
- DISTRICT #2 — NEW WESTMINSTER**
  - Subdist 28A - Vancouver
  - Subdist 28B - Squamish
  - Subdist 29A - Steveston
  - Subdist 29B - Surrey
  - Subdist 29C - Coquitlam
  - Subdist 29D - Mission
  - Subdist 29E - Chilliwack
- DISTRICT #3 — NANAIMO**
  - Subdist 14S - Qualicum Beach
  - Subdist 14N - Comox
  - Subdist 15 - Powell River
  - Subdist 16 - Pender Harbour
  - Subdist 17 - Nanaimo/Ladysmith
  - Subdist 18 - Duncan (Cowichan)
- DISTRICT #4 — PORT ALBERNI**
  - Subdist 21/22 - Nitinat
  - Subdist 23 - Port Alberni
  - Subdist 24 - Tofino
  - Subdist 25 - Tahsis
  - Subdist 26 - Kyuquot
- DISTRICT #5 — CAMPBELL RIVER**
  - Subdist 11 - Seymour Inlet
  - Subdist 12 - Alert Bay/Port Hardy
  - Subdist 13 - Campbell River
  - Subdist 27 - Quatsino Sound
- DISTRICT #6 — VICTORIA**
  - Subdist 19 - Victoria/Saanich
  - Subdist 20 - Sooke
- DISTRICT #7 — CENTRAL COAST**
  - Subdist 6 - Kitimat/Butedale
  - Subdist 7 - Bella Bella
  - Subdist 8 - Bella Coola
  - Subdist 9 - Rivers Inlet
  - Subdist 10 - Smith Inlet
- DISTRICT #8 — PRINCE RUPERT**
  - Subdist 3A - Lower Nass
  - Subdist 3B - Upper Nass
  - Subdist 4A - Lower Skeena
  - Subdist 4B - Terrace
  - Subdist 4C - Hazelton
  - Subdist 4D - Smithers
  - Subdist 5 - Grenville Principe
- DISTRICT #9 — QUEEN CHARLOTTE ISLANDS**
  - Subdist 1 - Masset
  - Subdist 2W - West Coast Q.C.I.
  - Subdist 2E - Sandspit
- DISTRICT #10 — WHITEHORSE**
  - Subdist 110 - Yukon Arctic
  - Subdist 120 - Yukon - North B.C.
  - Subdist 130 - Alsek - Taku

**DFO PACIFIC REGION SUBDISTRICTS AND DISTRICTS**

MINISTRY OF ENVIRONMENT

Region 1: VANCOUVER ISLAND

Regional Headquarters: Nanaimo  
2569 Kenworth Rd.,  
Nanaimo, B.C.  
V9T 4P7

Region 2: LOWER MAINLAND

Regional Headquarters: Surrey  
10334-152A St.,  
Surrey, B.C.  
V5R 7P8

Region 3: SOUTHERN INTERIOR

Regional Headquarters: Kamloops  
1259 Dalhousie Dr.,  
Kamloops, B.C.  
V2C 5Z5

Sub-Regional Office: Penticton  
3547 Skaha Lake Rd.,  
Penticton, B.C.  
V2A 7K2

Region 4: KOOTENAY

Regional Headquarters: Nelson  
310 Ward St.,  
Nelson, B.C.  
V1L 5S4

Cranbrook Office  
106-5th Ave. S.,  
Cranbrook, B.C.  
V1C 2G2

Region 5: NORTHERN

Regional Headquarters: Prince George  
1011-4th Ave.,  
Prince George, B.C.  
V2L 3H9

Sub-Regional Office: Williams Lake  
540 Borland St.,  
Williams Lake, B.C.  
V2G 1R8

Fort St. John Office  
10142-101st Ave.,  
Fort St. John, B.C.  
V1J 2B3

Region 6: SKEENA

Regional Headquarters: Smithers  
3726 Alfred Ave.,  
Bag 5000  
Smithers, B.C.  
V0J 2N0

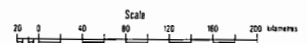


Province of British Columbia

**MINISTRY OF ENVIRONMENT  
REGIONAL BOUNDARIES**

Revised October 1989

- Regional Boundary and Number .....—4
- Regional Centre .....●
- Sub Regional Centre .....○



Drawn and Produced by Mapping Section, Surveys and Mapping Branch, Ministry of Environment, Victoria, British Columbia

**1:250 000 NATIONAL  
TOPOGRAPHIC SERIES  
(FEDERAL EDITIONS)**

**MAP INDEX**

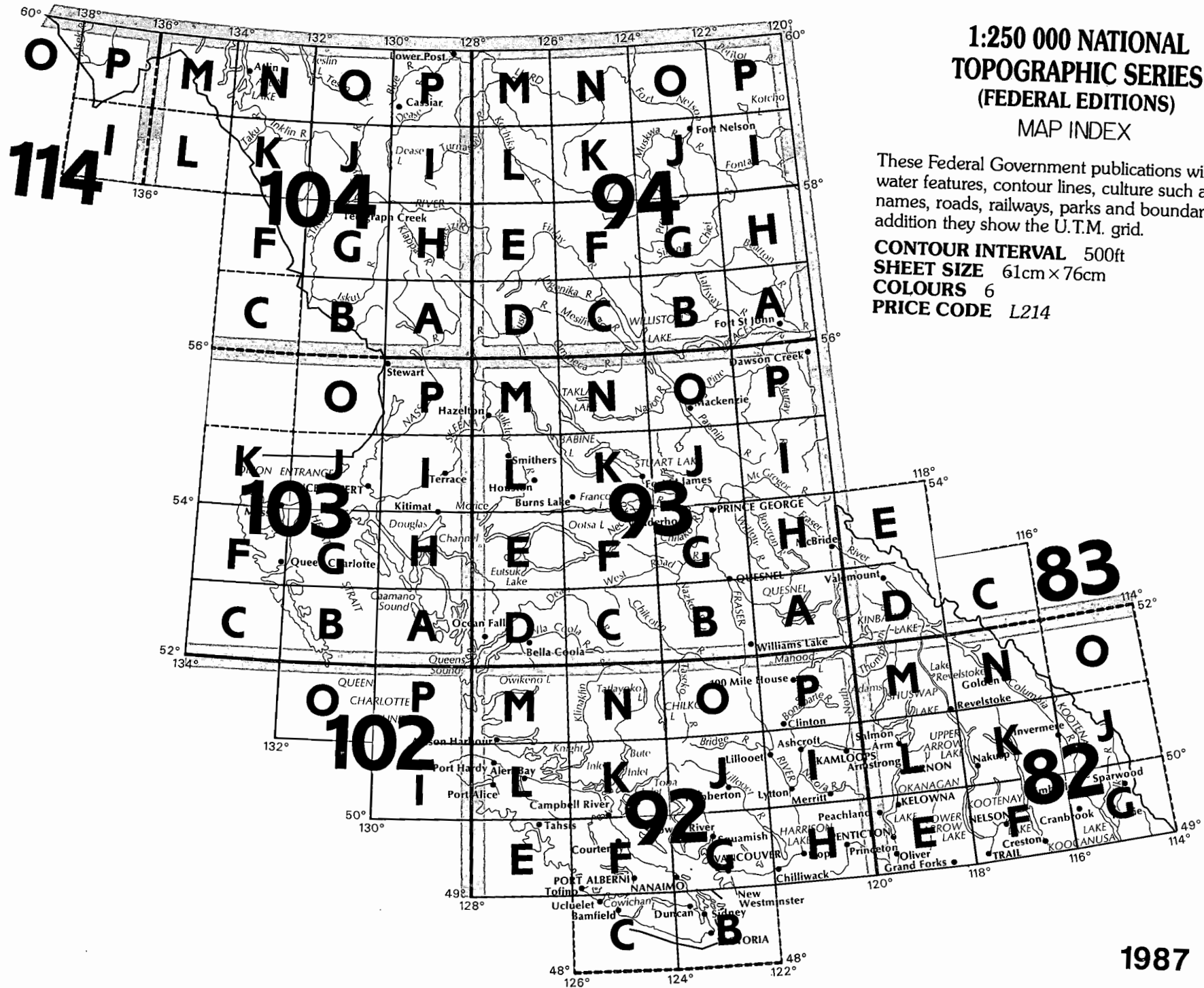
These Federal Government publications will show water features, contour lines, culture such as place names, roads, railways, parks and boundaries. In addition they show the U.T.M. grid.

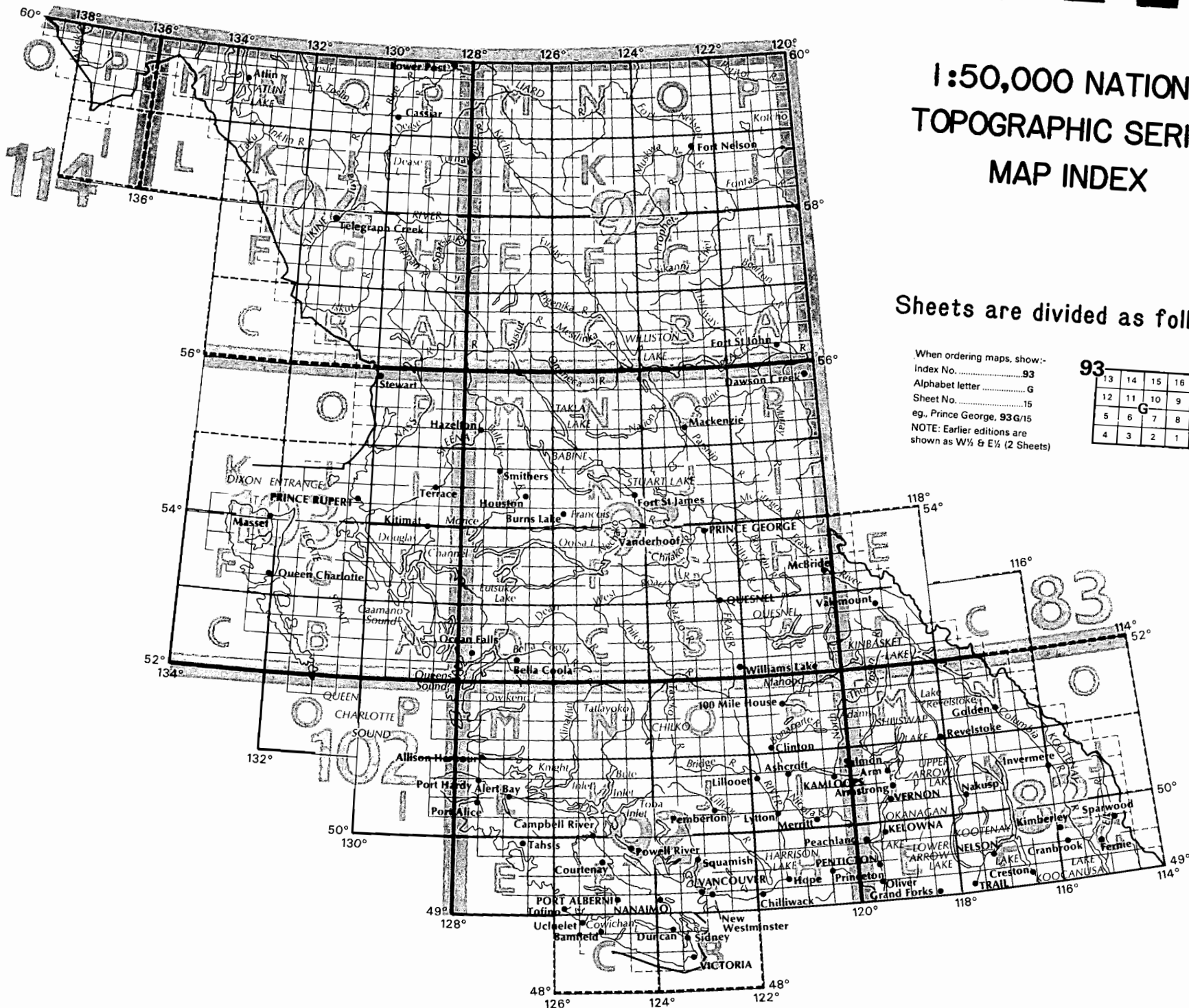
**CONTOUR INTERVAL 500ft**

**SHEET SIZE 61cm x 76cm**

**COLOURS 6**

**PRICE CODE L214**





# 1:50,000 NATIONAL TOPOGRAPHIC SERIES MAP INDEX

Sheets are divided as follows:

When ordering maps, show:-  
 Index No. .... 93  
 Alphabet letter ..... G  
 Sheet No. .... 15  
 eg., Prince George, 93G/15  
 NOTE: Earlier editions are shown as W½ & E½ (2 Sheets)

13	14	15	16
12	11	10	9
5	6	7	8
4	3	2	1

114

83

102

# 1:20 000 PLANIMETRIC

## MAP INDEX

DATE various  
 CONTOUR INTERVAL planimetric (no contours)  
 SHEET SIZE 56cm x 86cm  
 COLOURS 1 (diaz)  
 PRICE CODE B303

In addition to the 1:20 000 sheets, older planimetric maps are available at imperial scales of 1" = 1/4 mile (20 chains) 1" = 1/2 mile (40 chains). Obtain a list of available sheets by indicating the exact geographical reference and writing to MAPS-B.C.

When ordering prints, show:

Index No. .... 93

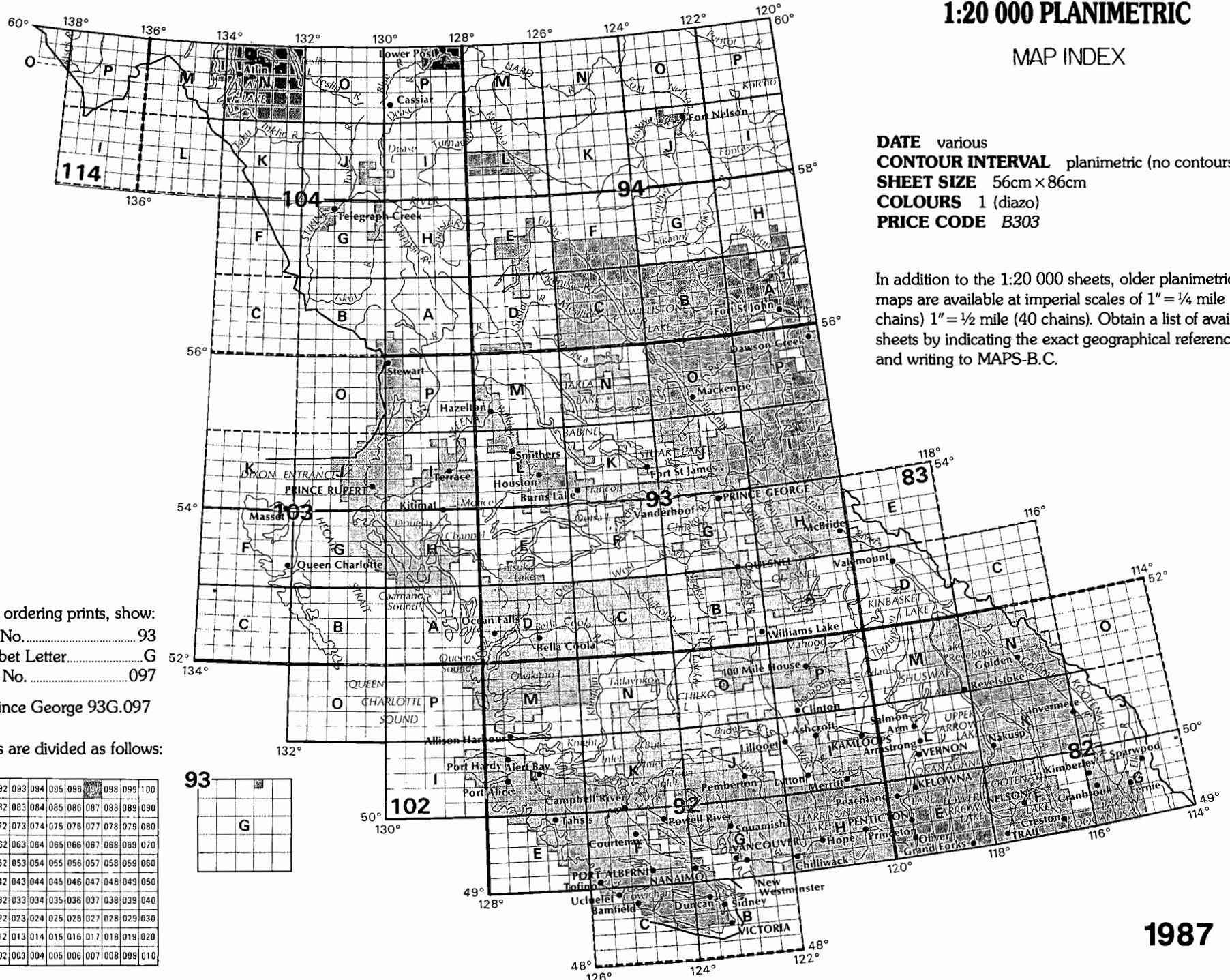
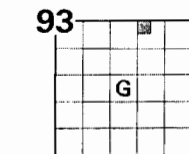
Alphabet Letter ..... G

Sheet No. .... 097

eg. Prince George 93G.097

Sheets are divided as follows:

091	092	093	094	095	096	097	098	099	100
081	082	083	084	085	086	087	088	089	090
071	072	073	074	075	076	077	078	079	080
061	062	063	064	065	066	067	068	069	070
051	052	053	054	055	056	057	058	059	060
041	042	043	044	045	046	047	048	049	050
031	032	033	034	035	036	037	038	039	040
021	022	023	024	025	026	027	028	029	030
011	012	013	014	015	016	017	018	019	020
001	002	003	004	005	006	007	008	009	010



## 2.0 USER GUIDES

### 2.1 STREAM INFORMATION SUMMARY (SIS)

The Stream Information Summary (SIS) form, designed by the Fish Habitat Inventory & Information Program, has been used by Departmental staff and contractors to compile existing information on a stream by stream basis. A companion computer database, the Stream Information Summary System (SISS), is designed for the input, storage and output of SIS information. The SISS "User's Manual" provides details on coding SIS forms and operation of the computer system. A number of codes are used during data entry to SISS. In all cases the equivalent of the code is printed on the SISS output. Notwithstanding, a complete list of codes is provided in Tables 1 and 2. Most information on the SIS form is linked to a reference number. The source of the information can, therefore, be determined from the reference list at the back of each SIS printout. Although the preparation of Stream Information Summaries has been thorough, the focus has been on collecting key information rather than all information. The phrase "no information available" appears on the SIS printout when no information on that subject is contained in the database. The summaries will be updated using SISS as more information becomes available or as more detailed literature searches are undertaken.

Stream Information Summaries, arranged by watershed code, are included in Section 3.0 of the catalogue. The following describes the content of each section in the SIS form and printout (Fig. 2.1).

#### A. DESCRIPTION

##### A.1 Stream Name:

The official stream name listed in the "Gazetteer of Canada" or the primary alias is displayed here. The primary alias may be used if the gazetted name is unavailable.

##### A.2 Local Name

Any local name(s) are listed.

##### A.3 Watershed Code:

The watershed code is a unique number which identifies a stream and the watershed that it is in. The hierarchical nature of the watershed coding system allows features associated with basins or channels to be aggregated or separated to the desired level of detail. A dictionary of watershed codes is available from the Water Management Branch, Ministry of Environment, Victoria.

##### A.4 Tributaries:

A list of tributaries to the stream is provided. The "code" when added to the stream's watershed code gives the tributary watershed code. Example:

Cowichan River watershed code= 92-4800  
Koksilah River code= 020  
Koksilah River watershed code= 92-4800-020

**A.5 DFO Division, District, Subdistrict & Statistical Subarea:**

The DFO management areas in which the stream mouth is located are listed.

**A.6 MOE Region, Management Unit:**

The MOE management areas in which the stream mouth is located are listed.

**A.7 Topographic (1:50K) Map, BCGS (1:20K) Map:**

Codes of the National Topographic Series (NTS) map sheet and the British Columbia Geographic System (BCGS) map sheet that show the stream mouth are listed here.

**A.8 U.T.M. Mouth:**

The Universal Transverse Mercator (UTM) coordinates of the stream mouth are listed. UTM is a metric grid reference system displayed on most 1:50,000 scale NTS maps.

**A.9 Lat./Long. Mouth:**

The latitude and longitude (degrees, minutes and seconds) of the stream mouth are listed.

**A.10 Mainstream Length:**

The total mainstem length is provided in kilometres.

**A.11 Watershed Area:**

The area of the stream's watershed is given in square kilometers.

**A.12 Location:**

The general location of the stream is listed.

**A.13 Gradient:**

Location(s) given as a range of kilometers upstream from the mouth are provided for five gradient classes: 0-0.5%, 0.5-2%, 2-5%, 5-10%, 10+%. Any comments on gradient are also listed in this field.

**B. OBSTRUCTIONS TO MIGRATION**

This section lists barrier type, the height of the barrier (m) as appropriate, the barrier location in kilometers upstream from mouth, the species that are obstructed and any additional comments.

**C. FLOW**

This section indicates if there is flow control on the system (Y or N), if there is a Water Survey of Canada (WSC) Flow Gauge (Y or N), the station nos. and any comments on flow (eg. low flows, floods).

**D. DISTRIBUTION SUMMARY**

Species and watershed distribution including spawning, rearing, overwintering, holding, and migration areas are listed.

**E. ESCAPEMENT SUMMARY**

This section lists the species, mean escapement for a specified period of record, maximum recorded escapement for the same period, management target escapement and any comments on escapement.

**F. LIFE HISTORY TIMING**

Life history timing is provided by species for each one-half month period by the following activities: migration, spawning, incubation and rearing. The timing of these activities is indicated by an X and the peak by a P.

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Listed in this section are the type of activity, the species affected by the activity, location of the facility in kilometers upstream of the mouth, comments and period of operation.

**H. LAND USE/WATER USE/WATER QUALITY**

This section lists the type of activity and description of land use; water use or activities affecting water quality.

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

This section may provide comments on fish production potential including habitat potential, constraints to production, opportunities for restoration or enhancement, watershed sensitivity, quality of information to assess the above and the need for inventory data collection.

**J. FISHERY OFFICER NARRATIVE**

This section indicates the date and person who may have prepared a Fishery Officer Narrative on the stream.

**K. SIS COMPLETED BY:**

The name of the person(s) completing, checking or updating the information and date (year/month/day) are listed. "Updated by" indicates that some sections of the Stream Information Summary have been revised. These sections are indicated in the database.



**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

--

**J. FISHERY OFFICER NARRATIVE**

Date Prepared:    /    /	Prepared By:
--------------------------	--------------

**K. SIS COMPLETED BY**

Completed by:	Date:
---------------	-------

TABLE 1. LIST OF CODESStream Name

R River  
 C Creek  
 S Slough  
 B Brook  
 G Gulch

Management Activities

CC Creel Census  
 CF Counting Fence  
 FS Fish Sampling  
 MR Mark Recovery

Barrier Type

BD Beaver Dam  
 C Cascade, Chute  
 CV Culvert  
 D Dam  
 F Falls (type unknown)  
 R Rock  
 X Log Jam

Land Use/Water Use/Water Quality

AG Agriculture  
 DA Dams  
 FO Forestry  
 IP Industrial Processing  
 LD Linear Development  
 MI Mining  
 PR Parks  
 RE Reserves  
 UD Urban Development  
 WQ Water Quality (ie. activities adversely affecting water quality)  
 WW Water Withdrawal

Enhancement Activities

BX Incubation box  
 CH Spawning channel  
 CO Colonization from existing hatchery  
 EI Estuary improvement  
 FC Flow control  
 FP Multiple fish production strategies  
 FT Lake fertilization  
 FW Fishway  
 HC Combination channel/hatchery  
 HX Multiple combination hatchery, channel, flow control  
 HY Conventional hatchery  
 JH Hatchery, primarily Japanese style technique  
 LJ Log jam removal  
 OR Obstruction removal  
 SC Side channel  
 SI Stream improvement  
 TR Transplant  
 TT Trap/truck over obstruction

TABLE 2. FISH SPECIES CODES

AGB	BROWN TROUT (ANAD)	GR	GRAYLING ARCTIC
AC	ARCTIC CHAR	GSG	GREEN STURGEON
ACT	CUTTHROAT TROUT (ANAD)	HW	HUMPBACKED WHITFISH
ADV	DOLLY VARDEN (ANAD)	IN	INCONNU
ACB	BROOK TROUT (ANAD)	KO	KOKANEE
AF	ALL FISH	L	LAMPREYS (GENERAL)
AL	ARCTIC LAMPREY	LDC	LEOPARD DACE
AO	<u>ALL ONCORHYNCHUS</u>	LKC	LAKE CHUB
AS	ATLANTIC SALMON	LMB	LARGEMOUTH BASS
ASM	ARCTIC SMELT	LNC	LONGNOSE DACE
BB	BURBOT	LSM	LONGFIN SMELT
BCB	BLACK CRAPPIE	LSU	LONGNOSE SUCKER
BH	CATFISH NERAL	LT	LAKE TROUT
BKH	BLACK BULLHEAD	LW	LAKE WHITEFISH
BL	WESTERN BROOK LAMPREY	MSU	NORTHERN MOUNTAIN SUCKER
BMC	BRASSY MINNOW	MW	ROCKY MOUTAIN WHITEFISH
BNH	BROWN BULLHEAD	NP	NORTHERN PIKE
BS	BASS/SUNFISH (GENERAL)	NSC	NORTHERN SQUAWFISH
BSB	BROOK STICKLEBACK	P	PERCH (GENERAL)
BSU	BRIDGELIP SUCKER	PCC	PEAMOUTH CHUB
BW	BROAD WHITEFISH	PDC	NORTHERN PEARL DACE
C	MINNOWS (GENERAL)	PK	PINK SALMON
CA	ARCTIC CISCO	PL	PACIFIC LAMBREY
CAL	ALEUTIAN SCULPIN	PMB	PUMPKINSEED
CAS	PRICKLY SCULPIN	PW	PIGMY WHITEFISH
CBA	MOTTLED SCULPIN	RB	RAINBOW TROUT
CBC	CHUB (GENERAL)	RDC	NORTHERN REDBELLY DACE
CC	SCULPINS (GENERAL)	RL	RIVER LAMPREY
CCG	SLIMY SCULPIN	RSC	REDSIDED SHINER
CCN	SHORTHEAD SCULPIN	RW	ROUND WHITEFISH
CH	CHINOOK SALMON	SA	SALMON (GENERAL)
CL	LAKE HERRING/CISCO/TULIBEE	SB	STICKLEBACKS (GENERAL)
CLA	STAGHORN SCULPIN	SDC	SPECKLED DACE
CM	CHUM SALMON	SFL	STARRY FLOUNDER
CMC	CHISELMOUTH CHUB	SG	STURGEONS (GENERAL)
CO	COHO SALMON	SH	AMERICAN SHAD
CP	CARP	SK	SOCKEYE SALMON
CRH	TORRENT SCULPIN	SM	SMELTS (GENERAL)
CRI	SPOONHEAD SCULPIN	SMB	SMALLMOUTH BASS
CS	LEAST CISCO	ST	STEELHEAD
CSU	LARGESCALE SUCKER	STC	SPOTTAIL SHINER
CT	CUTTHROAT TROUT	SU	SUCKERS (GENERAL)
DC	DACE	TC	TENCH
DV	DOLLY VARDEN	TP	TROUTPERCH
EB	BROOK TROUT	TR	TROUT (GENERAL)
ESC	EMERALD SHINER	TSB	THREESPINE STICKLEBACK
EU	EULACHON	WF	WHITEFISH (GENERAL)
FDC	FINESCALE DACE	WP	WALLEYE
FHC	FLATHEAD CHUB	WSG	WHITE STURGEON
GAM	MOSQUITOFISH	WSU	WHITE SUCKER
GB	BROWN TROUT	YCT	YELLOWSTONE CUTTHROAT
GC	GOLDFISH	YP	YELLOWPERCH
GE	GO		

## 2.2 ESCAPEMENT

The last feature of a Stream Information Summary is the Escapement Profile (Fig. 2.2). Briefly this Escapement profile contains the following:

- Page A: The first page is a tabular summary of annual escapement by species from 1953 to the most current data year.
- Pages B & C: When five or more years of data are available, graphs and tables of species escapement and spawn timing are displayed.
- Page D: Two diagrams portray average watershed escapement by species, and escapement as a percentage of the Department of Fisheries and Oceans management units - Subdistrict / District / Division.

A detailed description of each page follows.

### Escapement Profile: Detailed Description.

#### Page A:

The first page is a tabular summary of annual escapement by species from 1953 to the most current data year.

#### Pages B & C:

Pages B & C contain three rows of panels for the five species of salmon plus steelhead. When data are not available, the panel appears blank. The species are always arrayed from left to right in the following order:

sockeye, coho, pink, chum, chinook, steelhead.

The upper row of six panels contain the annual escapement by species for the past twenty years. The middle row of six panels display spawn timing for the same species and period. The vertical bar indicates the annual start and end of spawning, while the lateral connecting line indicates each year's peak of spawning. The lower row of six panels contain the annual escapement and spawn timing data presented in the upper and middle row of panels.

#### Page D:

This page contains two diagrams:

- The upper pie chart diagram portrays by species the ten year average watershed escapement and proportional species percentage. Pink even and odd year runs have been combined to provide a 10 year mean.
- The lower histogram illustrates the watershed's escapement as a proportion of the Department of Fisheries and Oceans management units (SUB=Subdistrict / DIS=District / DIV=Division).

The escapement information displayed in pages A, B&C, and D of the Escapement Profile was compiled from the Salmon Escapement Data System (SEDS) managed by Department of Fisheries and Oceans Pacific and Biological Station, Nanaimo. The escapement numbers in this system are from the DFO Annual Report of Salmon Streams and Spawning Populations (BC 16) completed by each subdistrict fishery officer/patrolman following annual stream inspections. Wherever possible SEDS data has been checked against Farwell, M.K., et al. (1987) Can. Data Rep. Fish. Aquat. Sci. #601, Salmon Escapements to Streams Entering Statistical Areas 28 and 29, 1951 to 1985 and Fraser River, Northern B.C. and Yukon Division management biologist's 1986 and 1987 escapement records in order to provide the best escapement numbers available at the time of publishing. The design and layout of the Escapement Profile was cooperatively developed by the SIS Working Group and SEDS managers.

### 3 BIBLIOGRAPHY

Section 4.0 contains a bibliography of all references used in preparing the Stream Information Summaries. References are arranged both numerically and alphabetically by author. Each citation contains a **reference number**, **author**, **description** including title, date and publisher, **location** where the reference can be obtained and **keywords** describing the reference.

#### 2.4 STREAM INFORMATION SUMMARY MAP

During the preparation of Stream Information Summary (SIS) forms, maps of fish distribution, major spawning areas, obstructions to migration and enhancement facilities were drafted on 1:50,000 National Topographic Series bases. Reduced (11" x 17") black and white copies of 1:50,000 topographic maps are contained in Section 5.0 of this catalogue.

## ESCAPEMENT : EXAMPLE RIVER

WATERSHED-CODE : 93-1000

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	0	1500	0	750	400	400
1954	0	3500	1500	1500	400	400
1955	0	3500	0	400	200	750
1956	0	7500	1500	200	25	750
1957	0	7500	N/O	750	200	750
1958	0	15000	750	1500	200	750
1959	0	7500	N/O	750	200	750
1960	75	15000	400	1500	1500	400
1961	75	35000	N/O	400	400	750
1962	75	15000	400	1500	400	0
1963	25	7500	0	400	400	750
1964	25	75000	25	1500	1500	0
1965	1500	15000	0	1500	750	0
1966	1500	15000	0	400	1500	0
1967	1500	35000	750	750	400	0
1968	1500	15000	0	3500	750	0
1969	200	15000	0	200	400	400
1970	3500	75000	0	7500	7500	0
1971	25	7500	0	N/O	400	0
1972	1500	15000	0	3500	3500	0
1973	N/O	15000	0	200	3500	N/O
1974	75	7500	75	N/O	750	0
1975	75	1500	N/O	200	200	N/O
1976	75	750	75	N/O	75	0
1977	200	400	0	25	75	0
1978	200	2850	0	25	50	150
1979	0	3500	25	25	400	0
1980	0	3000	200	100	500	0
1981	N/O	3500	75	200	750	0
1982	400	8400	200	225	775	0
1983	400	7500	200	200	775	0
1984	0	9000	200	500	1200	0
1985	N/O	500	N/O	300	150	0
1986	100	16000	100	10500	487	0
1987	N/O	12000	N/O	2000	600	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

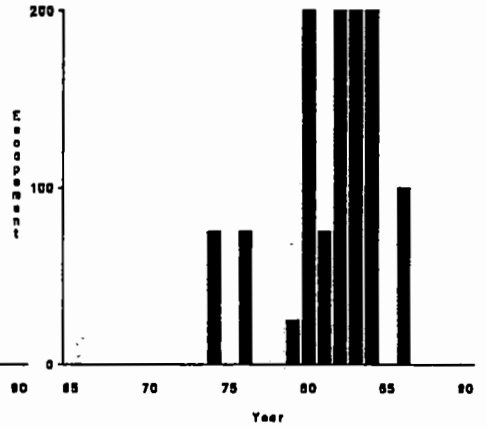
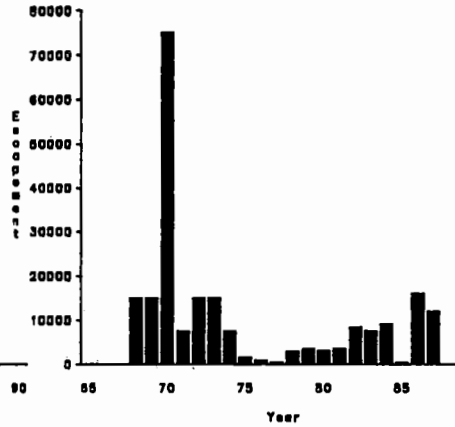
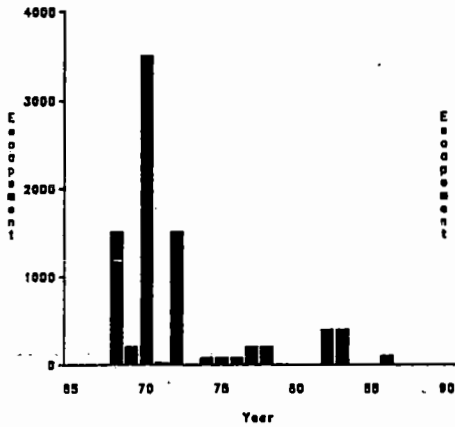
# EXAMPLE RIVER (93-1000)

## Escapement & Run Timing

**Sockeye (SK)**

**Coho (CO)**

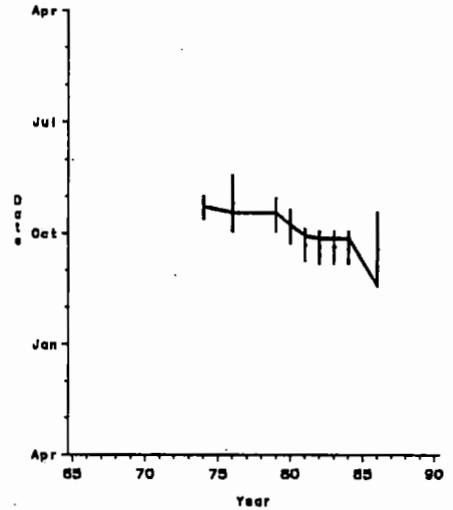
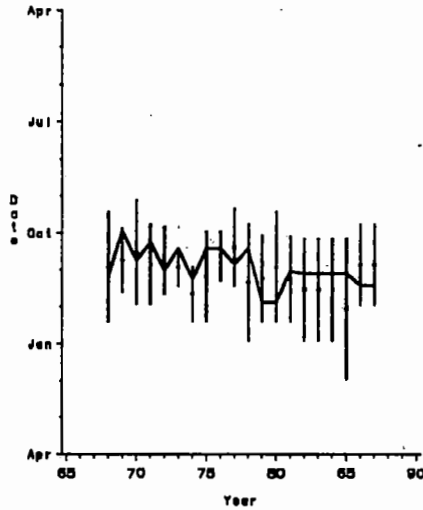
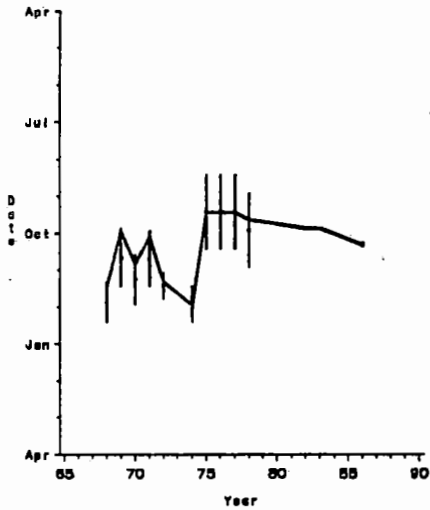
**Pink (PK)**



**Sockeye**

**Coho**

**Pink**



Sockeye				
Year	Escapement	Start	Peak	End
1968	1,500	12NOV	18NOV	15DEC
1969	200	28SEP	30SEP	18NOV
1970	3,500	29OCT	29OCT	30NOV
1971	25	30SEP	09OCT	18NOV
1972	1,500	04NOV	12NOV	23NOV
1973	0	-	-	-
1974	75	18NOV	01DEC	15DEC
1975	75	18AUG	15SEP	15OCT
1976	75	18AUG	15SEP	15OCT
1977	200	15AUG	15SEP	15OCT
1978	200	26AUG	21SEP	26OCT
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	400	28SEP	28SEP	21OCT
1983	400	28SEP	28SEP	28SEP
1984	0	-	-	-
1985	0	-	-	-
1986	100	19OCT	12OCT	13OCT
1987	0	-	-	-

Coho				
Year	Escapement	Start	Peak	End
1968	15,000	15SEP	07NOV	15DEC
1969	15,000	28SEP	30SEP	10NOV
1970	75,000	08SEP	25OCT	30NOV
1971	7,500	23SEP	19OCT	30NOV
1972	15,000	27SEP	02NOV	23NOV
1973	15,000	10OCT	10OCT	15NOV
1974	7,500	30OCT	11NOV	15DEC
1975	1,500	01OCT	15OCT	15DEC
1976	750	01OCT	15OCT	11NOV
1977	400	12SEP	29OCT	15NOV
1978	2,500	23SEP	15OCT	31OCT
1979	3,500	04OCT	27NOV	15DEC
1980	2,000	10SEP	27NOV	15DEC
1981	2,500	08OCT	02NOV	15DEC
1982	5,400	07OCT	05NOV	31DEC
1983	7,500	07OCT	05NOV	31DEC
1984	9,000	07OCT	05NOV	31DEC
1985	800	07OCT	05NOV	31AUG
1986	15,000	25SEP	15NOV	01DEC
1987	12,000	28SEP	14NOV	01DEC

Pink				
Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	75	01SEP	10SEP	20SEP
1975	0	-	-	-
1976	75	15AUG	15SEP	30SEP
1977	0	-	-	-
1978	0	-	-	-
1979	25	03SEP	15SEP	30SEP
1980	200	13SEP	28SEP	10OCT
1981	75	28SEP	04OCT	25OCT
1982	250	30SEP	06OCT	27OCT
1983	250	30SEP	06OCT	27OCT
1984	250	30SEP	06OCT	27OCT
1985	0	-	-	-
1986	100	15SEP	15NOV	15NOV
1987	0	-	-	-

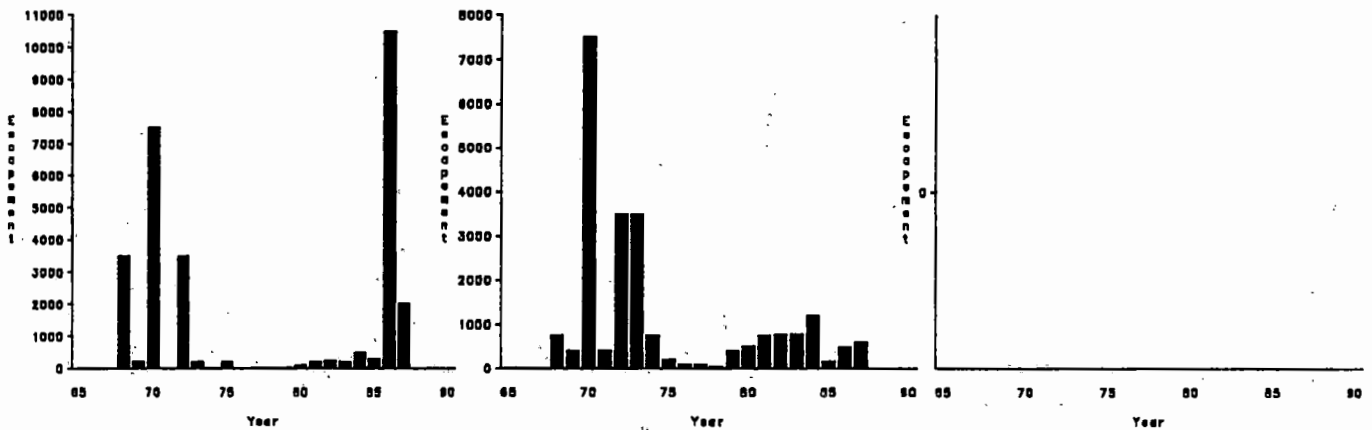
# EXAMPLE RIVER (93-1000)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

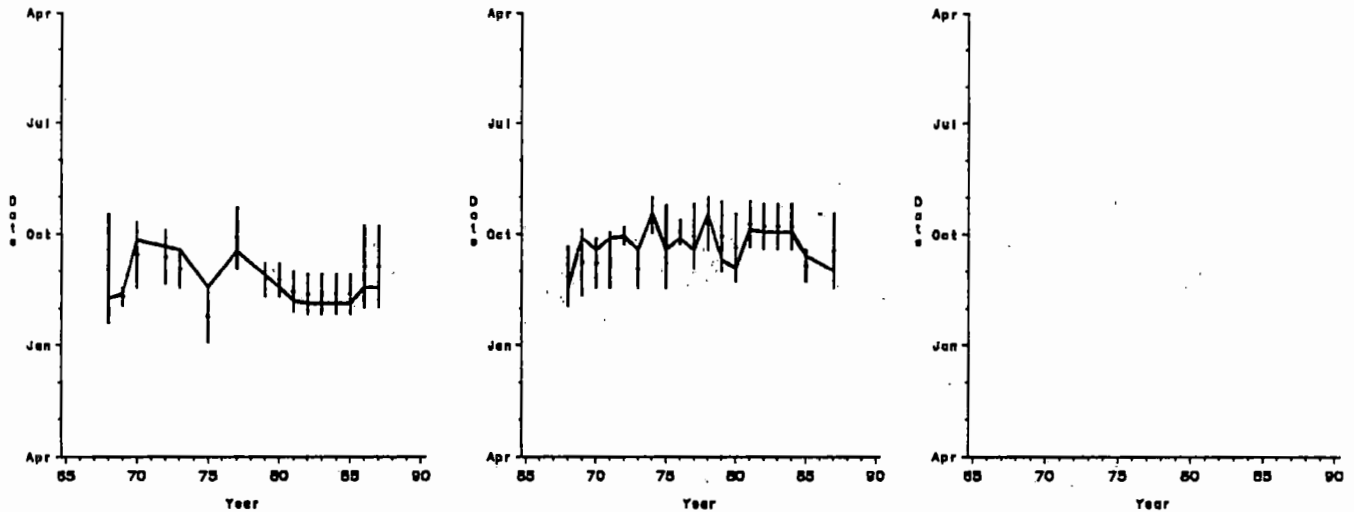
Steelhead (ST)



Chum

Chinook

Steelhead



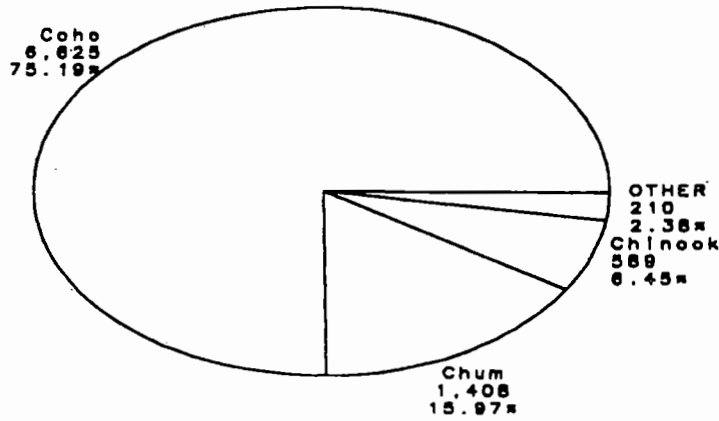
Year	Escapement	Start	Peak	End
1968	3,500	18SEP	24NOV	18DEC
1969	300	15NOV	20NOV	24NOV
1970	7,500	23SEP	07OCT	18NOV
1971	0	-	-	-
1972	3,500	29SEP	-	13NOV
1973	200	18OCT	19OCT	19NOV
1974	0	-	-	-
1975	200	17NOV	18NOV	31DEC
1976	0	-	-	-
1977	25	10SEP	10OCT	24OCT
1978	25	-	-	-
1979	28	24OCT	06NOV	21NOV
1980	100	28OCT	18NOV	21NOV
1981	200	02NOV	26NOV	08DEC
1982	225	04NOV	18NOV	07DEC
1983	200	04NOV	18NOV	07DEC
1984	500	04NOV	18NOV	07DEC
1985	300	04NOV	18NOV	07DEC
1986	10,500	28SEP	18NOV	01DEC
1987	1,600	28SEP	18NOV	01DEC

Year	Escapement	Start	Peak	End
1968	700	12OCT	18NOV	24NOV
1969	400	28SEP	05OCT	21NOV
1970	7,500	05OCT	18OCT	18NOV
1971	400	30SEP	05OCT	18NOV
1972	3,500	28SEP	04OCT	10OCT
1973	3,000	10OCT	18OCT	18NOV
1974	700	01SEP	18SEP	01OCT
1975	200	08SEP	15OCT	18NOV
1976	75	20SEP	05OCT	10OCT
1977	75	07SEP	18OCT	30OCT
1978	50	01SEP	15SEP	10OCT
1979	400	06SEP	20OCT	01NOV
1980	500	15SEP	20OCT	10NOV
1981	700	06SEP	28SEP	12OCT
1982	775	07SEP	30SEP	14OCT
1983	775	07SEP	30SEP	14OCT
1984	1,200	07SEP	30SEP	14OCT
1985	100	10OCT	20OCT	10NOV
1986	487	15SEP	-	-
1987	800	15SEP	01NOV	18NOV

Year	Escapement	Start	Peak	End
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

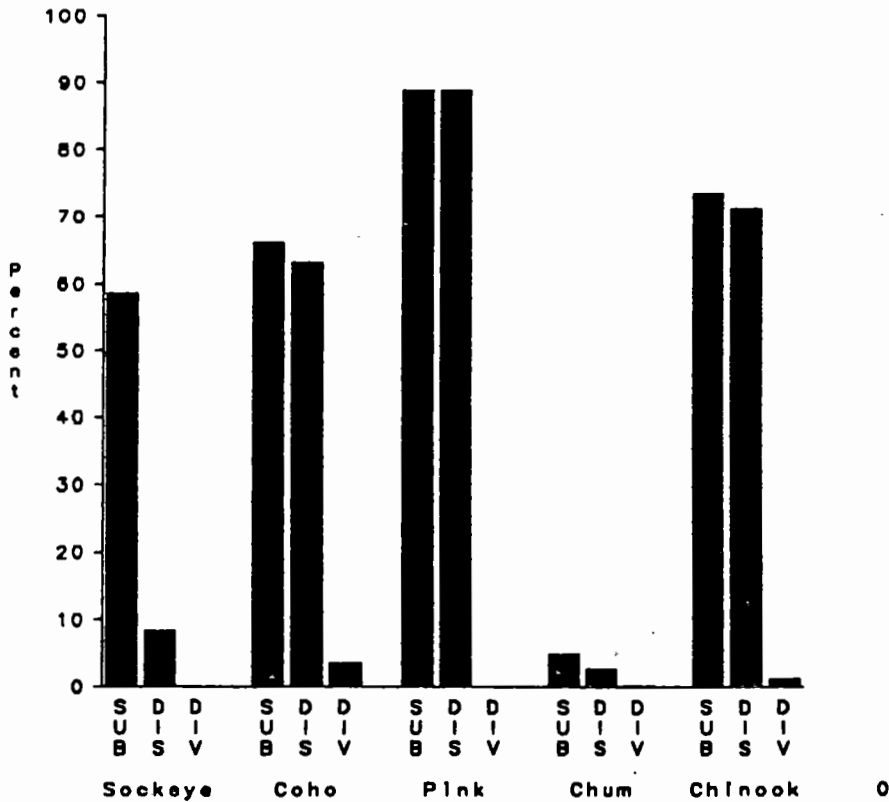
EXAMPLE RIVER (93-1000)

10-yr Mean Escapement  
(1978-1987)



EXAMPLE RIVER : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



### **3.0 STREAM SUMMARY**

This section of the catalogue contains Stream Information Summaries and Escapement Profiles arranged in ascending order of watershed code. An index of watershed codes and stream names is found in Section 1.0.

**A. DESCRIPTION**

Stream Name: STUART RIVER	D.F.O. Division: FRASER RIVER
Local Name:	District: 1 KAMLOOPS
Watershed Code: 09	Subdistrict: 291 PRINCE GEORGE
	Statistical Subarea: -
	M.O.E. Region: 7 OMINECA-PEACE
	Management Unit: 13

Tributaries	Code	Topographic (1:50k) Map: 936/13E B.C.G.S. (1:20k) Map:
SAXTON CREEK	1200	U.T.M. Mouth: 644822
BURNSTEAD CREEK	1600	Lat./Long. Mouth: 53 06. 59' 0'' 123 06. 22' 0''
MANDALAY CREEK	2000	Mainstem Length: 112.0 km Ref. No.: 291-12
CHINOHMCHAY CREEK	2400	Watershed Area: 1243.0 km2 Ref. No.: 291-75
BREADALBANE CREEK	3500	
BEARCUB CREEK	4000	Location: FLOWS S FROM STUART L. INTO NECHAKO R., NORTH OF FINMORE, CARIBOO DISTRICT.
KEC CREEK	4200	
DOG CREEK	4900	
NECISKUE RIVER	5700	
SOWCHEA CREEK	6200	
PINCHI CREEK	7000	
MUD CREEK	9999	
QH CREEK	9999	
WEASEL CREEK	9999	
WELCH CREEK	9999	

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	GRADIENT IN LOWER SECTION (0-40.5KM) IS 0.082%, IN MIDDLE AND UPPER SECTIONS (40.5-110KM) IS 0.021%. (REF. 291-14)
0.0-110.0	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
NB NO BARRIER				FISH ACCESS THROUGHOUT. (REF. 291-100)

**C. FLOW**

Flow Control: N	Water Survey of Canada (WSC) Flow Gauge: Y
W.S.C. Station No. 1: 08JE001	No. 2: 08JE003      No. 3:      No. 4:
Comments: MINIMUM, MAXIMUM, MEAN, DAILY, YEARLY DISCHARGE INFORMATION. (REF. 291-2, REF. 291-12, REF. 291-14)	
STUART LAKE. (REF. 291-85)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	MIGRATION ROUTE FOR EARLY STUART AND LATE STUART STOCKS. THE EARLY STUART SK SPAWN PRIMARILY IN TRIBUTARIES TO TAKLA L. AND LATE STUART SK SPAWN IN THE TACHIE AND MIDDLE RIVERS, IN KAZCHEK C. AND KUJUKWA R. (REF. 291-100)
CH CHINOOK SALMON	SPAWN MAINLY IN UPPER PORTION. MAIN SPAWNING FROM HIGHWAY 27 BRIDGE (AT OUTLET OF STUART LAKE) DOWNSTREAM FOR 30 KM. THE HIGHEST CONCENTRATION OCCURS IN VICINITY OF DOG CREEK. (REF. 291-2, REF. 291-3, REF. 291-8)
CH CHINOOK SALMON	CHINOOK FRY APARENTLY UTILIZED ALL ACCESSIBLE STREAM AREAS. (REF. 291-12)
DV DOLLY VARDEN	PRESENCE NOTED. (REF. 291-12)
RB RAINBOW TROUT	PRESENCE NOTED. (REF. 291-12)

E. ESCAPEMENT SUMMARY

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
CH CHINOOK SALMON	1627	1978 - 1987	28A-18	5000	28A-18		
Comments: ESTIMATED 182,400 SQ. METRES SPAWNING AREA. (REF. 29I-14)							

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing					X	X						
CH CHINOOK SALMON	Migration Spawning Incubation Rearing	X X	X X	X X	X	X X			X	X X	X X	X X	X X
Comments: CHINOOK, SOCKEYE TIMING INFORMATION. (REF. 29I-3, REF. 29I-12)													
IT APPEARS THAT A LARGE MAJORITY OF CHINOOK DO NOT OVERWINTER IN THE STUART RIVER. (REF. 29I-12)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
MR MARK RECOVERY	CH CHINOOK SALMON		CODED WIRE TAG RELEASES. (REF. 29I-12)	1980/1980
FS FISH SAMPLING	CH CHINOOK SALMON		DOWNSTREAM FRY TRAPPING; JUVENILE DISTRIBUTION; FRY QUALITY; REARING HABITAT ASSESSMENT. (REF. 29I-12)	1980/1980
FS FISH SAMPLING	CH CHINOOK SALMON		SPAWNER COUNTS; DISTRIBUTION; CARCASS RECOVERY; SPAWNING HABITAT ASSESSMENT. (REF. 29I-14)	1980/1980
HY HATCHERY	CH CHINOOK SALMON	0.0	FORT ST. JAMES FACILITY OPERATED BY THE NECOSLI INDIAN BAND. SMOLTS RELEASED TO STUART R. EGG PRODUCTION HAS INCREASED FROM 60,000 IN 1983 TO 175,000 IN 1988. (REF. 29I-87)	1983/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
PR PARKS	STUART LAKE PROVINCIAL FOREST. (REF. 29I-85)
LD LINEAR DEVELOPMENT	VERY LITTLE ROAD ACCESS; ONE MAJOR CROSSING (HIGHWAY 27) AT FORT ST. JAMES. (REF. 29I-87)
MI MINING	DESIGNATED PLACER MINING AREA ON THE SOWCHEA AND DOG C. WATERSHEDS; A CORRIDOR ALONG THE NECOSLI R.; MOST OF THE STUART IS EXCLUDED FROM PLACER STAKING; 9 MINERAL CLAIMS. (REF. 29I-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

NON- SALMONID SPECIES COMPRISED OVER 90% IN BOTH MAIN RIVER AND TRIBUTARY SAMPLING. SOME POTENTIAL FOR REARING JUVENILE CHINOOK MAY EXIST UPSTREAM OF OBSTRUCTIONS IN THE MAJOR TRIBUTARIES. (REF. 29I-12)
REARING POTENTIAL IS MODERATE TO GOOD BETWEEN KEC CREEK AND FORT ST. JAMES. ISOLATED SPAWNING GRAVELS ARE RESTRICTED TO THE TRIBUTARY FANS. (REF. 29I-2)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS CONTINUED

SPAWNING ABOVE ISLAND LOT 1614A IS IN DEEP WATER, POOR VISIBILITY. (REF. 29I-87)
WATER TEMPERATURE AND CHEMISTRY DATA AVAILABLE. (REF. 29I-12, REF. 29I-14)
MANY TRIBUTARIES ACCESSIBLE FOR 1 OR 2 KM WERE USED FOR REARING AND SUPPORTED A HIGHER DENSITY OF FRY THEN THE MAINSTEM. (REF. 29I-12)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/07
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : STUART RIVER

WATERSHED-CODE : 09-0000

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	0	0	0	0	1500	0
1954	0	0	0	0	75	0
1955	0	0	0	0	400	0
1956	200	0	0	0	200	0
1957	0	0	0	0	200	0
1958	200	0	0	0	750	0
1959	N/O	0	0	0	200	0
1960	N/O	0	0	0	75	0
1961	0	0	0	0	750	0
1962	0	0	0	0	200	0
1963	0	0	0	0	350	0
1964	0	0	0	0	400	0
1965	0	0	0	0	60	0
1966	0	0	0	0	55	0
1967	0	0	0	0	200	0
1968	0	0	0	0	200	0
1969	0	0	0	0	400	0
1970	0	0	0	0	750	0
1971	0	0	0	0	750	0
1972	0	0	0	0	75	0
1973	0	0	0	0	200	0
1974	0	0	0	0	400	0
1975	0	0	0	0	750	0
1976	0	0	0	0	225	0
1977	0	0	0	0	225	0
1978	0	0	0	0	1000	0
1979	0	0	0	0	750	0
1980	0	0	0	0	1800	0
1981	0	0	0	0	140	0
1982	0	0	0	0	600	0
1983	0	0	0	0	475	0
1984	0	0	0	0	500	0
1985	0	0	0	0	3000	0
1986	0	UNK	UNK	UNK	3000	0
1987	0	0	0	0	5000	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

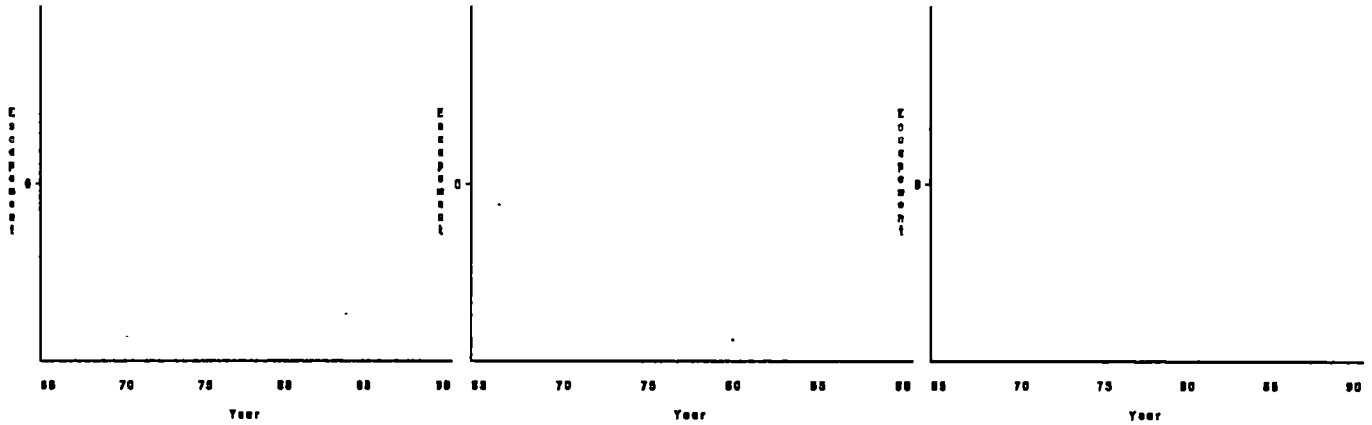
# STUART RIVER (09-0000)

## Escapement & Run Timing

Sockeye (SK)

Coho (CO)

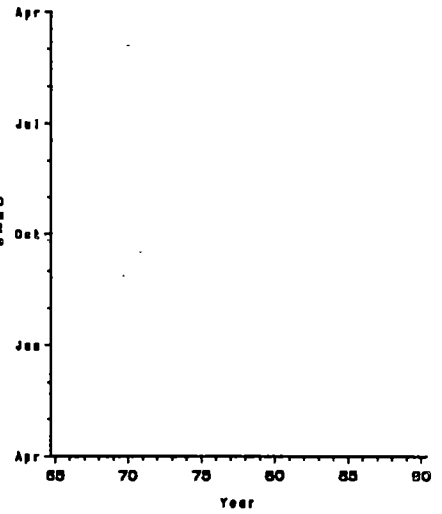
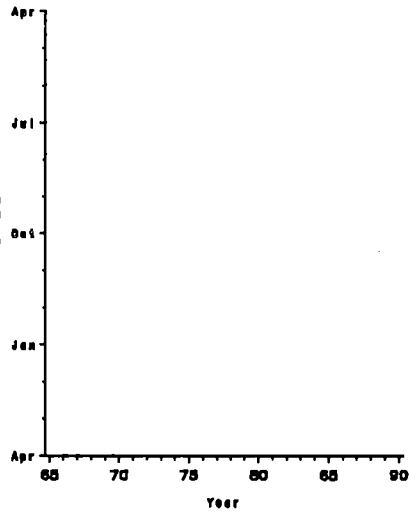
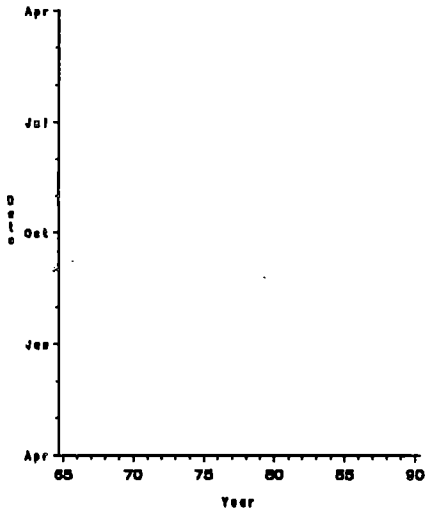
Pink (PK)



Sockeye

Coho

Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1979	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

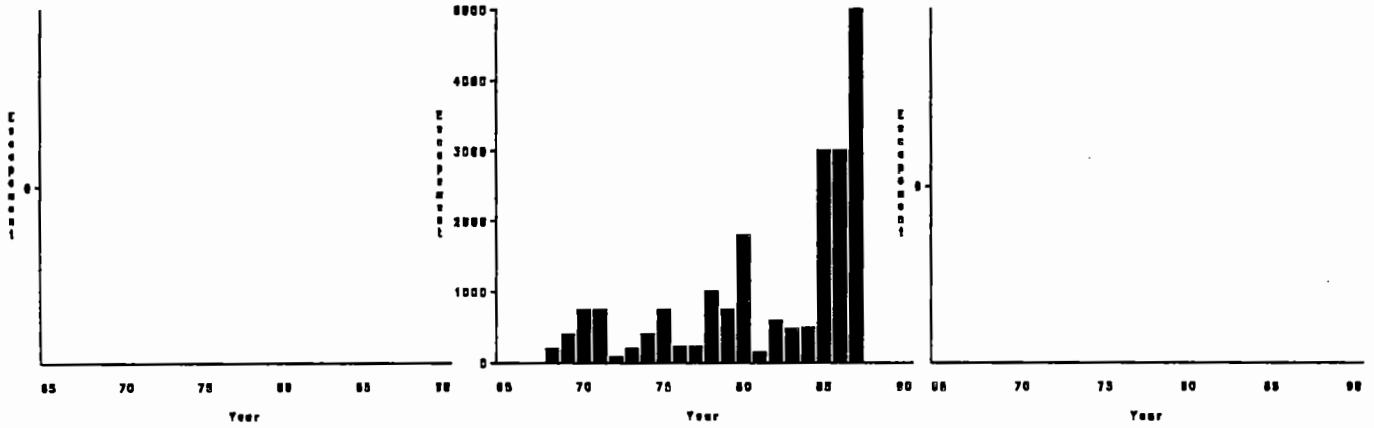
# STUART RIVER (09-0000)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

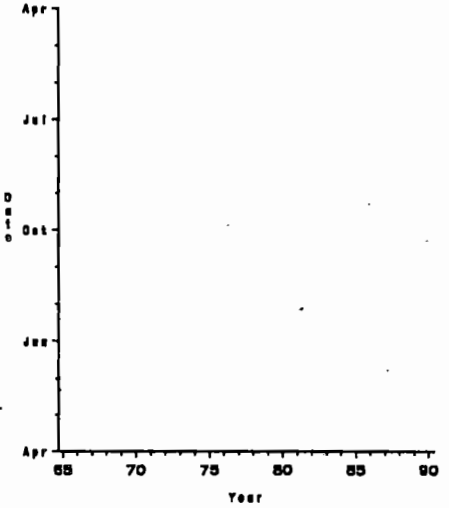
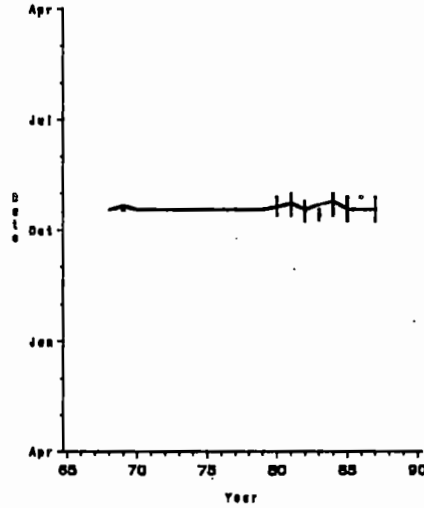
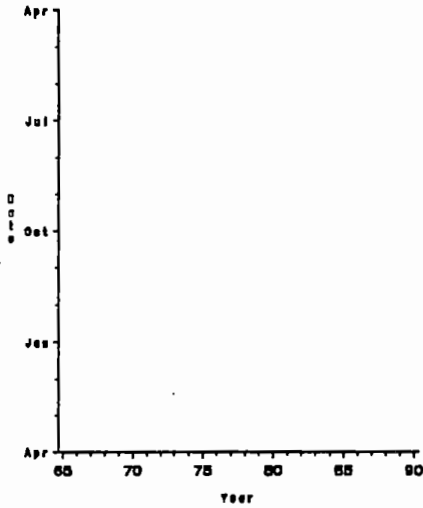
Steelhead (ST)



Chum

Chinook

Steelhead



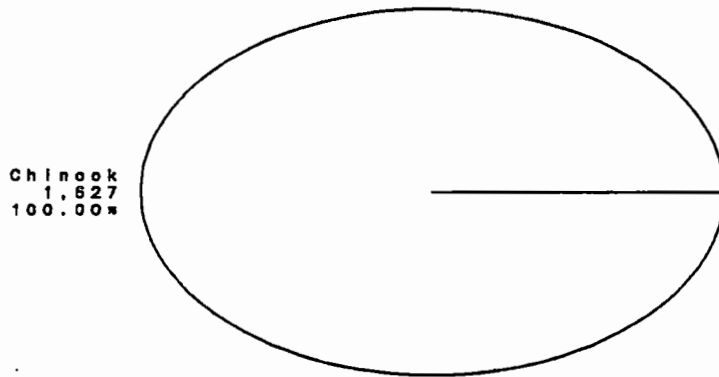
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	200	-	19SEP	-
1967	400	19SEP	13SEP	16SEP
1968	700	-	19SEP	-
1969	700	-	19SEP	-
1970	75	-	19SEP	-
1971	200	-	19SEP	-
1972	400	-	19SEP	-
1973	400	-	19SEP	-
1974	700	-	19SEP	-
1975	225	-	19SEP	-
1976	225	-	19SEP	-
1977	1,000	19SEP	-	-
1978	700	-	19SEP	-
1979	1,000	09SEP	13SEP	20SEP
1980	140	01SEP	19SEP	20SEP
1981	800	09SEP	19SEP	20SEP
1982	475	10SEP	11SEP	24SEP
1983	300	01SEP	09SEP	20SEP
1984	1,000	09SEP	19SEP	20SEP
1985	1,000	09SEP	19SEP	20SEP
1986	1,000	09SEP	19SEP	20SEP
1987	1,000	09SEP	19SEP	20SEP

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

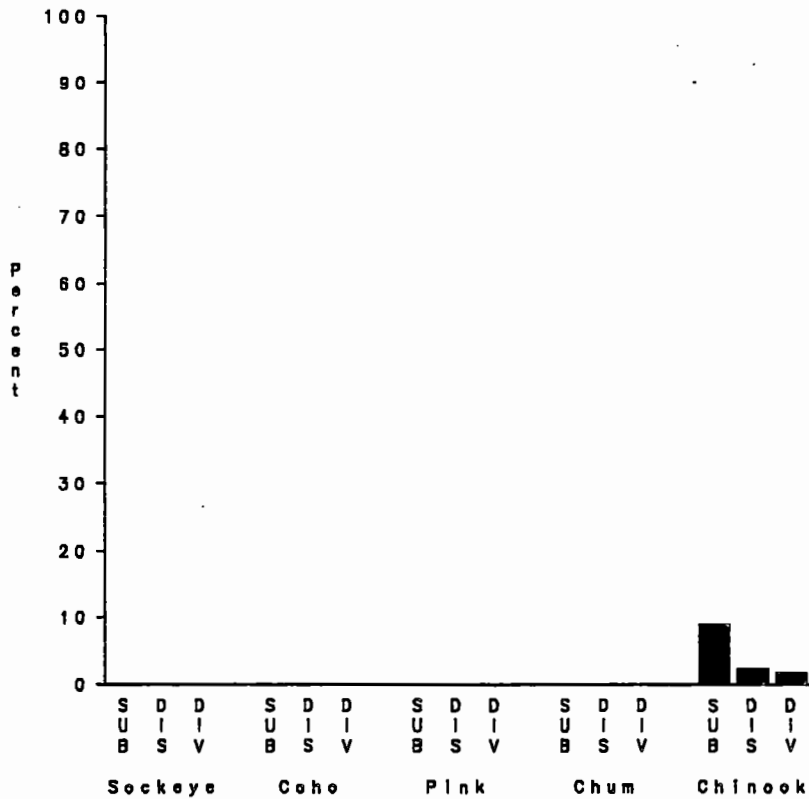
# STUART RIVER (09-0000)

10-yr Mean Escapement  
(1978-1987)



## STUART RIVER: Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>SOWCHEA CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>SOUCHI CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-6200</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>25</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/8</b>
<b>MARIE CREEK</b>	<b>310</b>	B.C.G.S. (1:20k) Map: <b>093317</b>
<b>NIELSP CREEK</b>	<b>500</b>	U.T.M. Mouth: <b>54 DG. 26' 0'' 124 DG. 24' 0''</b>
<b>MC KNAB L. OUTLET CREEK</b>	<b>999</b>	Mainstem Length: <b>16.0 km</b> Ref. No.: <b>291-15</b>
		Watershed Area: Ref. No.:
Location: <b>FLows E INTO SOUTH END OF STUART LAKE, RANGE 5, COAST DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	
<b>NO INFORMATION AVAILABLE</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>NO INFORMATION AVAILABLE</b>				

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: <b>1984 DISCHARGE INFORMATION (REF. 291-15)</b>	
<b>MCKNAB LAKE (REF. 291-85)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWNING TO BRIDGE. (REF. 291-15, REF. 291-88)</b>
<b>DC DACE</b>	<b>PRESENCE NOTED IN UPPER REACHES. (REF. 291-15)</b>
<b>DV DOLLY VARDEN</b>	<b>SPAWNING IN LOWER REACHES. (REF. 291-15)</b>
<b>KD KOKANEE</b>	<b>SPAWN THROUGHOUT AND UPSTREAM OF MARIE C. (REF. 291-15, REF. 291-93)</b>
<b>RB RAINBOW TROUT</b>	<b>SPAWNING IN LOWER REACHES. (REF. 291-15, REF. 291-93)</b>
<b>SDC SPECKLED DACE</b>	<b>PRESENCE NOTED. (REF. 291-15)</b>
<b>SU SUCKERS (GENERAL)</b>	<b>PRESENCE NOTED. (REF. 291-15)</b>
<b>WF WHITEFISH (GENERAL)</b>	<b>PRESENCE NOTED. (REF. 291-15)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON		1978 - 1987		50	28A-18		
Comments: LATE AND EARLY SOCKEYE RUN. (REF. 29I-1)							
RECORD SHOWS 50 SOCKEYE IN 1979 ONLY. (REF. 28A-18)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X X	X X	X	X		
DV DOLLY VARDEN	Migration Spawning Incubation Rearing										X X		
KD KOKANEE	Migration Spawning Incubation Rearing								X X				
RB RAINBOW TROUT	Migration Spawning Incubation Rearing					X X	X X						
Comments: SOCKEYE, RAINBOW, KOKANEE, DOLLY VARDEN, WHITEFISH, SJ TIMING INFORMATION. (REF. 29I-3, REF. 29I-15).													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY. (REF. 29I-15)	1984/1984

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	MODERATE LOGGING ACTIVITY (REF. 29I-93)
MI MINING	ACTIVE MINING (PLACER) ON AND OFF SINCE 1930'S TO PRESENT ACTIVITY; DESIGNATED PLACER MINING AREA. (REF. 29I-3, REF. 29I-93, REF. 29I-101)
UD URBAN DEVELOPMENT	AT MOUTH (REF. 29I-88, REF. 29I-93)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

FLWS AFFECT PRODUCTION SOME YEARS. (REF. 29I-93)
GOOD SUBSTRATE (GRAVEL) UPPER REACHES FIRE/LOGGING. (REF. 29I-88)

J. FISHERY OFFICER NARRATIVE

Date Prepared:     /     /	Prepared By:
----------------------------	--------------

K. SIS COMPLETED BY

Completed by:     D. FARRELL	Date: 1987/01/06
Last updated by:  CATHY GEE	Date: 1990/10/04
Last checked by:  L. JARENOVIC	Date: 1990/10/04

ESCAPEMENT : SOWCHEA CREEK

WATERSHED-CODE : 09-6200

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	N/O	0	0	0	0	0
1954	N/O	0	0	0	0	0
1955	11	0	0	0	0	0
1956	11	0	0	0	0	0
1957	N/O	0	0	0	0	0
1958	N/O	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	63	0	0	0	0	0
1961	N/O	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	N/O	0	0	0	0	0
1970	25	0	0	0	0	0
1971	N/O	0	0	0	10	0
1972	90	0	0	0	0	0
1973	158	0	0	0	0	0
1974	N/O	0	0	0	0	0
1975	N/O	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	N/O	0	0	0	0	0
1978	N/O	0	0	0	0	0
1979	50	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	N/O	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	N/O	UNK	UNK	UNK	UNK	UNK
1984	0	0	0	0	0	0
1985	N/O	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

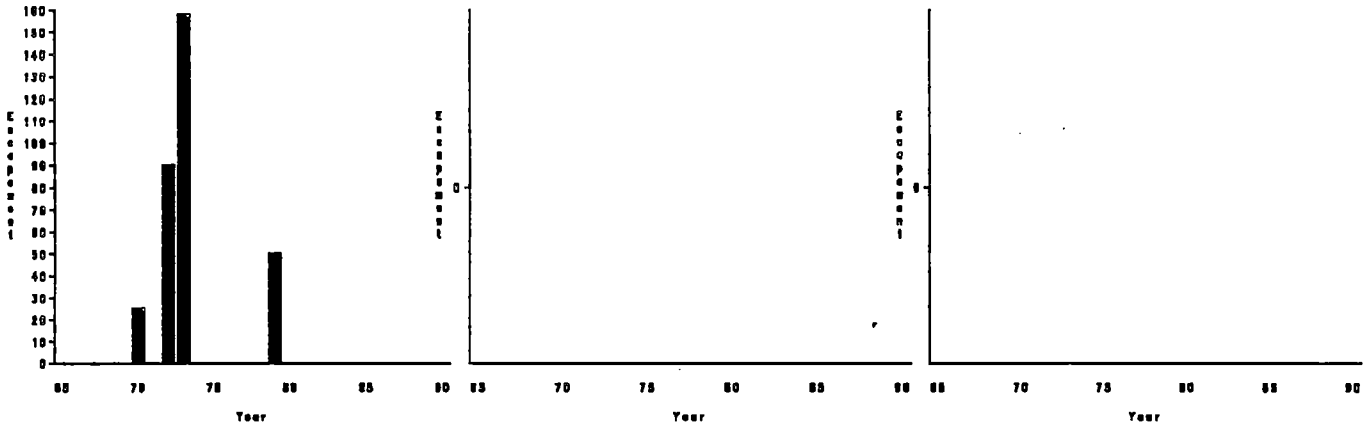
# SOWCHEA CREEK (09-6200)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

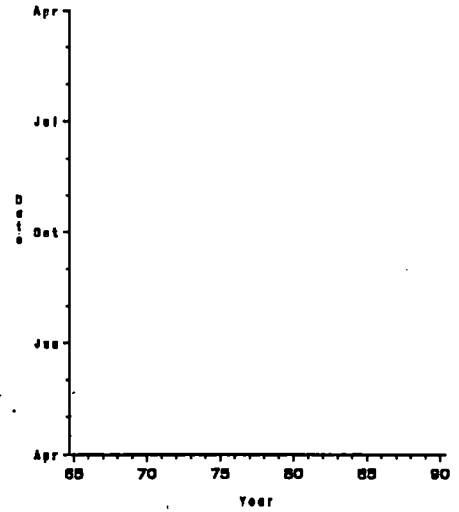
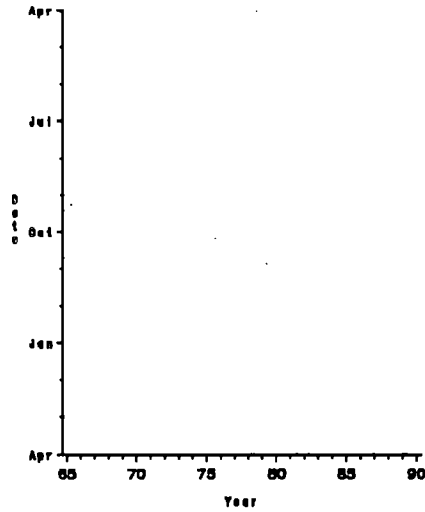
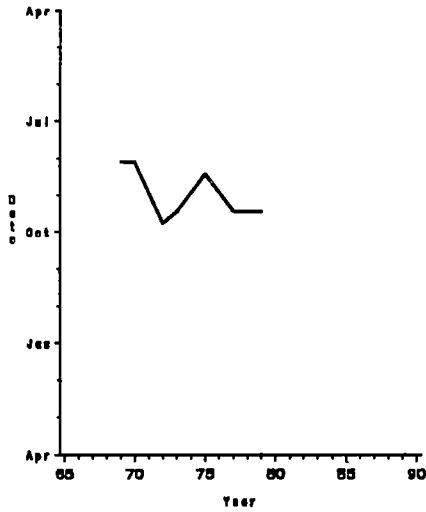
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	25	-	08AUG	-
1971	0	-	-	-
1972	155	-	28SEP	-
1973	100	-	18SEP	-
1974	0	-	-	-
1975	0	-	18AUG	-
1976	0	-	-	-
1977	0	-	18SEP	-
1978	0	-	18SEP	-
1979	40	-	18SEP	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

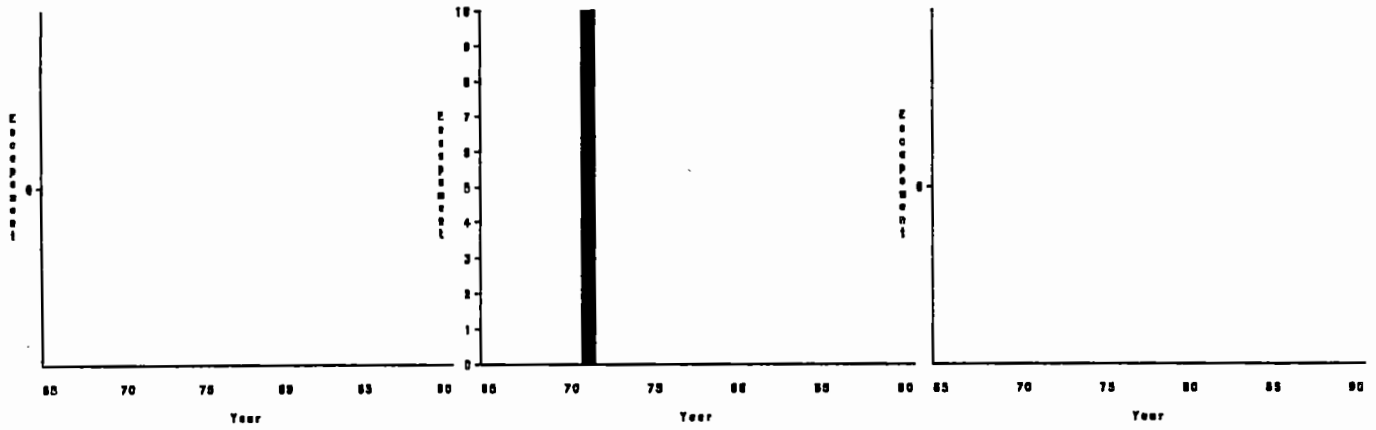
# SOWCHEA CREEK (09-6200)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

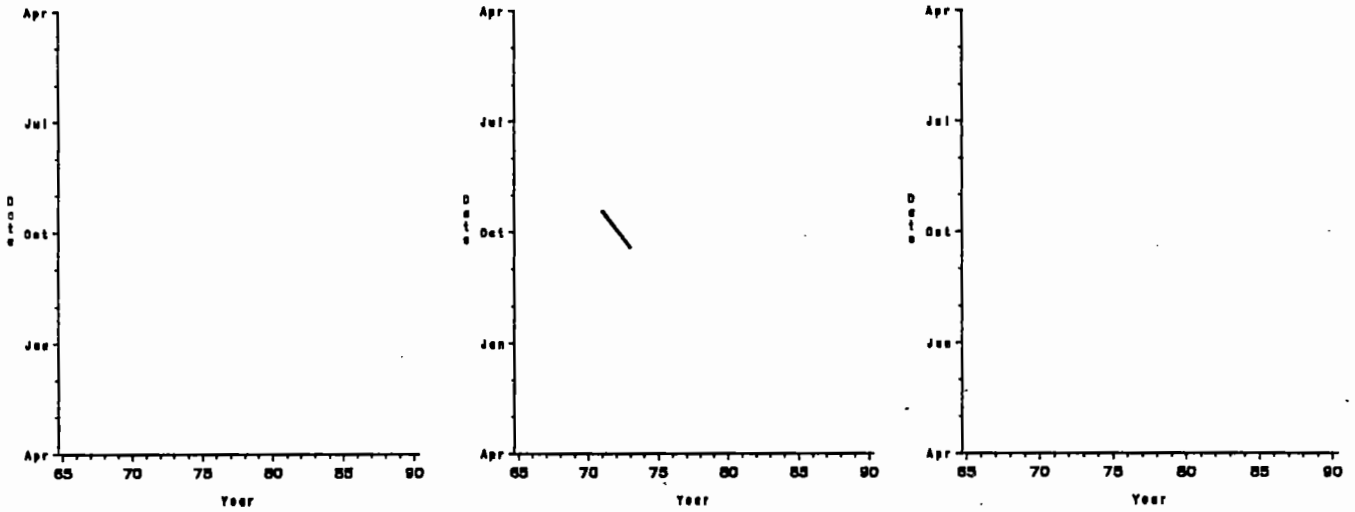
Steelhead (ST)



Chum

Chinook

Steelhead



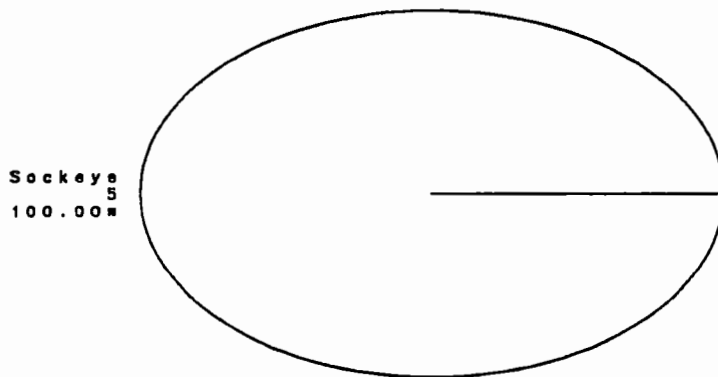
Chum				
Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	10	-	19SEP	-
1972	0	-	-	-
1973	0	-	19OCT	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

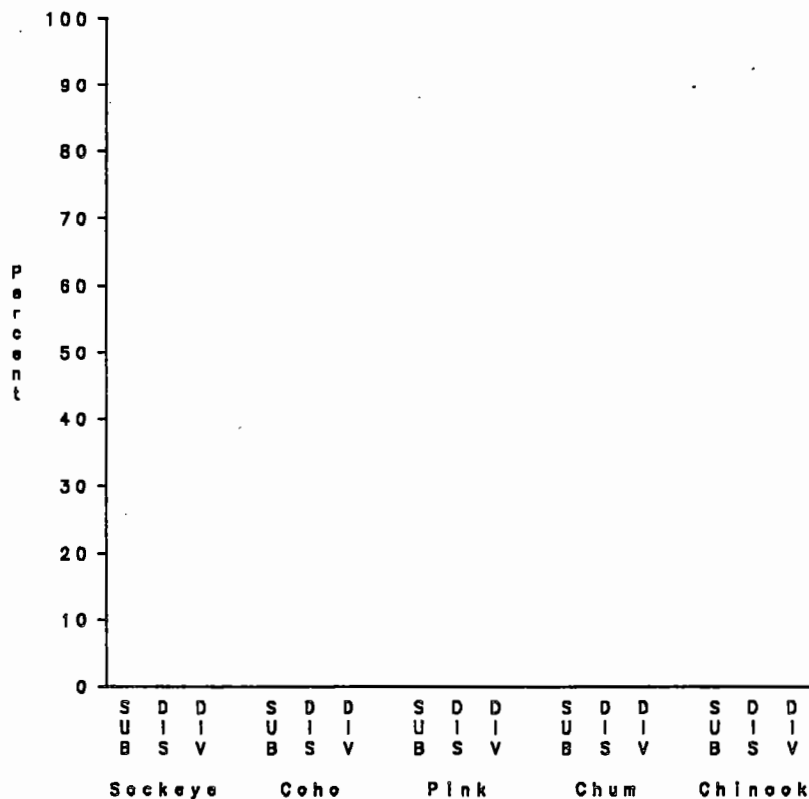
# SOWCHEA CREEK (09-6200)

10-yr Mean Escapement  
(1978-1987)



## SOWCHEA CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>PINCHI CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-7000</b>	Subdistrict: <b>29I PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 ONINECA-PEACE</b>
	Management Unit: <b>25</b>

Tributaries	Code	Topographic (1:50k) Map: 93K/9
TSILCOH RIVER	860	B.C.G.S. (1:20k) Map:
OCOCK RIVER	930	U.T.M. Mouth: 034534
		Lat./Long. Mouth: 54 DG. 34' 0" 124 DG. 30' 0"
		Mainstem Length: 6.5 km Ref. No.: 29I-3
		Watershed Area: 990.0 km <sup>2</sup> Ref. No.: 29I-101
Location: FLOWS S INTO STUART LAKE, RANGE 5, COAST DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	SECTION 1,3 HAVE 0.5% GRADIENT. SECTION 2 HAS 3% GRADIENT (REF. 29I-24)
0.0- 2.5 4.1- 8.0                      2.5-, 4.6	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
F FALLS	12.0	5.1	CH CHINOOK SALMON SK SOCKEYE SALMON	AT OUTLET OF PINCHI LAKE (REF. 29I-3)

**C. FLOW**

Flow Control: N	Water Survey of Canada (WSC) Flow Gauge: N
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: PINCHI LAKE (REF. 29I-85)	
DISCHARGE REPORT 1974 (REF. 29I-26)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPREAD OUT FROM 1 KM UPSTREAM TO THE FALLS. (REF. 29I-88)
CH CHINOOK SALMON	MAJOR REARING AREA BELOW THE FALLS, FEW IN NUMBER (REF. 29I-26, REF. 29I-88)
KO KOKANEE	LARGE KO RUN. (REF. 29I-3, REF. 29I-100)
NSC NORTHERN SQUAMFISH	PRESENCE NOTED (REF. 29I-26)
RB RAINBOW TROUT	THROUGHOUT (REF. 29I-88)
WF WHITEFISH (GENERAL)	PRESENCE NOTED (REF. 29I-26)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				

**E. ESCAPEMENT SUMMARY CONTINUED**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	362	1978 - 1987	28A-18	1494	28A-18		
CH CHINOOK SALMON	6	1978 - 1987	28A-18	25	28A-18		

Comments: 1973-1977 LARGE RUN KOKANEE (REF. 29I-3)

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing									X			
CH CHINOOK SALMON	Migration Spawning Incubation Rearing							X	X	X			

Comments: CHINOOK, WHITEFISH, RAINBOW AND NSC TIMING INFORMATION. (REF. 29I-26)  
 SOCKEYE TIMING INFORMATION. LATE STUART STOCK; DOMINANT CYCLE, 1985/1989. (REF. 29I-3, REF. 29I-100)

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	CH CHINOOK SALMON RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 - 0.8KM (REF. 29I-26)	1974/1974

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FD FORESTRY	PAST LOGGING IN WATERSHED; NO CUTTING PLANS FOR 1989/1994. (REF. 29I-88)
LD LINEAR DEVELOPMENT	RAILROAD AND HIGHWAY BRIDGE; LOGGING ACCESS ROADS. (REF. 29I-3, REF. 29I-88)
MI MINING	HISTORY OF MINING ON PINCHI LAKE, MERCURY CONTAMINATION OF LAKE - NO DIRECT EFFECT ON STREAM. (REF. 29I-88)
RE RESERVES	IR #2 AT MOUTH, FOOD FISHERY AT MOUTH (REF. 29I-88)
MI MINING	UPPER WATERSHED ABOVE PINCHI L. IS WITHIN A DESIGNATED PLACER STAKING AREA; FIVE MINERAL CLAIMS FOR HG. (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

POTENTIAL SPAWNING AREA ABOVE FALLS; RECOMMENDATIONS CONCERNING LOGGING IMPACT, RAILWAY RIGHT OF WAY PROBLEMS AND EROSION. (REF. 29I-26)
WATER QUALITY INFORMATION. (REF. 29I-2)
MERCURY CONTAMINATION MAY LIMIT ENHANCEMENT OPPORTUNITIES. (REF. 29I-100)
PINCHI C. IS A BOUNDED CHANNEL FROM STUART L. TO PINCHI L. WITH SOME LATERAL CHANNEL MOVEMENT; VALLEY WALLS ARE UNSTABLE. (REF. 29I-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared:     /   /	Prepared By:
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K. SIS COMPLETED BY

Completed by:	D. FARRELL	Date:	1987/01/06
Last updated by:	CATHY GEE	Date:	1990/10/04
Last checked by:	L. JARENOVIC	Date:	1990/10/04

ESCAPEMENT : PINCHI CREEK

WATERSHED-CODE : 09-7000

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	72	0	0	0	0	0
1954	5	0	0	0	0	0
1955	2	0	0	0	0	0
1956	N/0	0	0	0	0	0
1957	6390	0	0	0	0	0
1958	850	0	0	0	0	0
1959	N/0	0	0	0	0	0
1960	N/0	0	0	0	0	0
1961	527	0	0	0	0	0
1962	142	0	0	0	0	0
1963	N/0	0	0	0	0	0
1964	N/0	0	0	0	0	0
1965	N/0	0	0	0	0	0
1966	76	0	0	0	0	0
1967	N/0	0	0	0	25	0
1968	N/0	0	0	0	0	0
1969	756	0	0	0	0	0
1970	N/0	UNK	UNK	UNK	UNK	UNK
1971	35	0	0	0	0	0
1972	N/0	0	0	0	0	0
1973	1271	0	0	0	0	0
1974	N/0	0	0	0	0	0
1975	N/0	0	0	0	0	0
1976	N/0	0	0	0	0	0
1977	1719	0	0	0	25	0
1978	74	0	0	0	25	0
1979	627	0	0	0	25	0
1980	N/0	UNK	UNK	UNK	UNK	UNK
1981	1494	0	0	0	N/0	0
1982	133	0	0	0	0	0
1983	43	0	0	0	N/0	0
1984	36	UNK	UNK	UNK	UNK	UNK
1985	0	0	0	0	0	0
1986	464	UNK	UNK	UNK	2	0
1987	785	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/0 = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

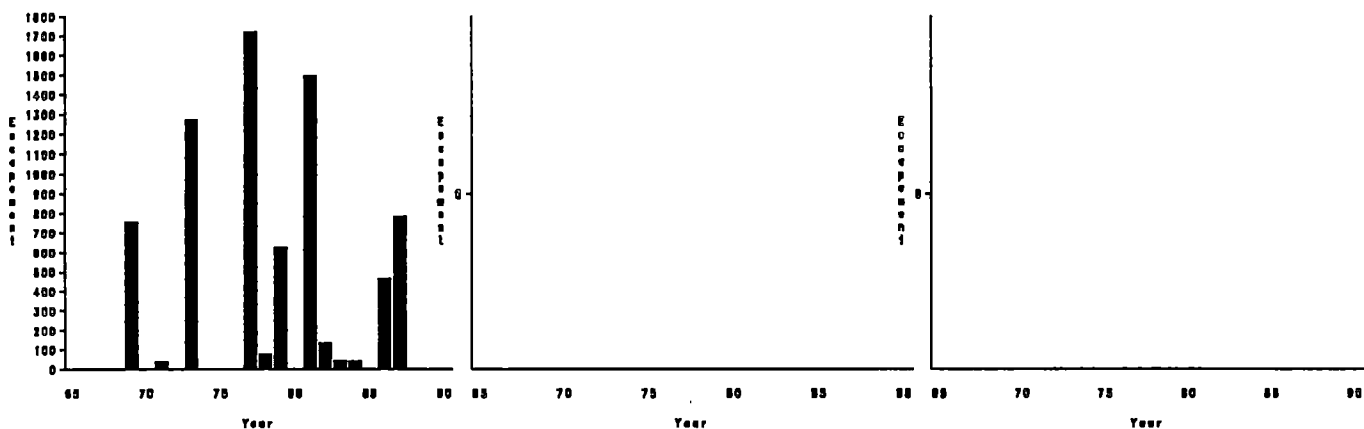
# PINCHI CREEK (09-7000)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

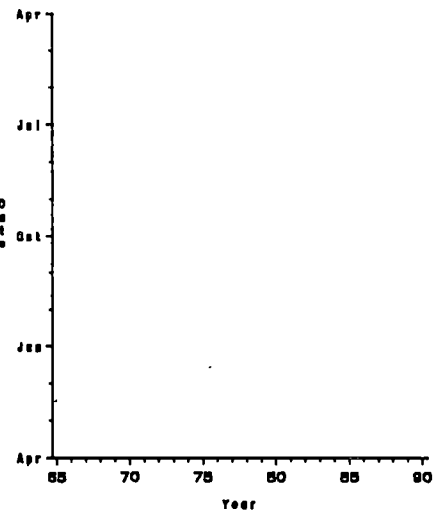
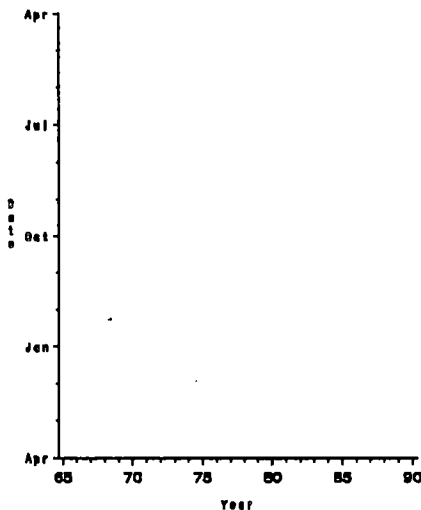
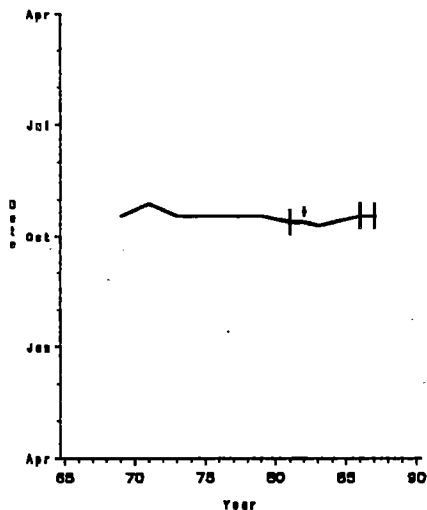
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	700	-	18SEP	-
1967	0	-	-	-
1968	30	-	08SEP	-
1969	0	-	-	-
1970	1,271	-	18SEP	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	1,710	-	19SEP	-
1977	74	-	15SEP	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	1,404	14SEP	20SEP	30SEP
1982	132	08SEP	20SEP	15SEP
1983	43	-	23SEP	-
1984	30	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	400	08SEP	10SEP	20SEP
1988	700	08SEP	10SEP	20SEP

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

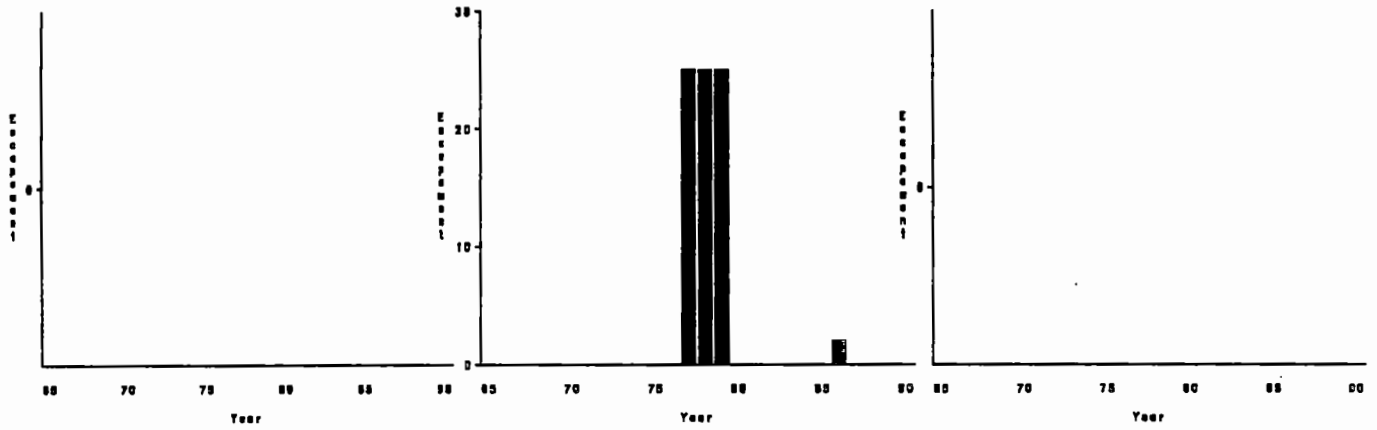
# PINCHI CREEK (09-7000)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

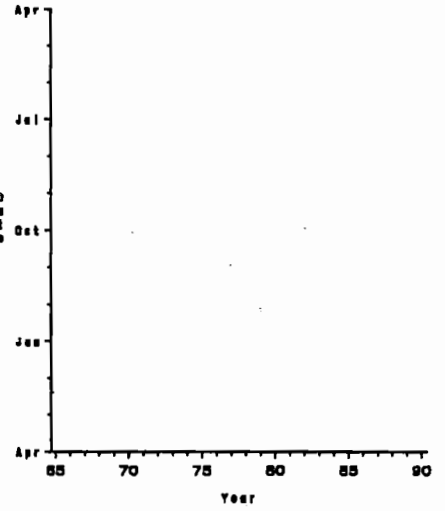
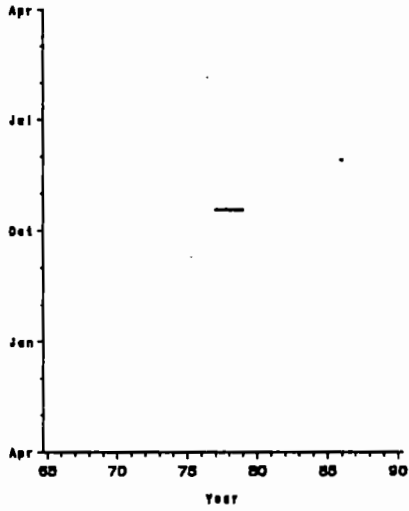
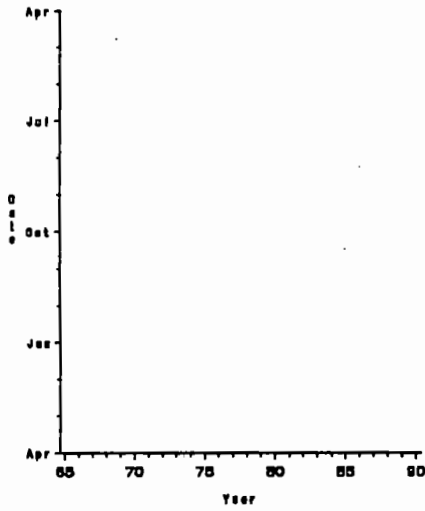
Steelhead (ST)



Chum

Chinook

Steelhead



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	-	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	-	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	-	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	25	-	15SEP	-
1978	25	-	15SEP	-
1979	25	-	15SEP	-
1980	-	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	-	-	-	-
1985	0	-	-	-
1986	2	28AUG	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-



**A. DESCRIPTION**

Stream Name: <b>TACHIE/MIDDLE RIVER</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>25</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/15</b>
KUZKWA RIVER	100	B.C.G.S. (1:20k) Map:
FLEMING CREEK	220	U.T.M. Mouth: <b>739760</b>
PAULA CREEK	225	Lat./Long. Mouth: <b>54 DG. 49' 00" 124 DG. 58' 00"</b>
SIDNEY CREEK	230	Mainstem Length: Ref. No.:
KAZCHEK CREEK	300	Watershed Area: Ref. No.:
VAN DECAR CREEK	375	Location: THE TACHIE R. HAS BEEN DIVIDED INTO THE TACHIE R. (09-8100-000-000-000-991) ABOVE STUART LAKE AND THE MIDDLE R. (09-8100-000-000-000-992) BETWEEN TREMBLEUR AND TAKLA LAKES.
O'NE-ELL CREEK	410	
FORFAR CREEK	450	
GLUSKIE CREEK	465	
CASIMER CREEK	480	
BIVOJAC CREEK	485	
LEO CREEK	490	
SANDPOINT CREEK	525	
SAKENICHE RIVER	545	
MACDUGALL RIVER	560	
SINTA CREEK	574	
DUST CREEK	577	
CROW CREEK	585	
HOOKEK CREEK	588	
POINT CREEK	590	
NARROWS CREEK	625	
TWENTY-FIVE MILE CREEK	655	
SHALE CREEK	660	
BLANCHET CREEK	665	
FIFTEEN MILE CREEK	694	
MACLAING CREEK	750	
HUDSON BAY CREEK	775	
FRYPAN CREEK	815	
FORSYTHE CREEK	840	
SIDNEY CREEK	940	
FRENCH CREEK	945	
ANKWILL CREEK	950	
PAULA CREEK	970	
BATES CREEK	990	
DRIFTWOOD RIVER	995	

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 291-87)

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
NB NO BARRIER				SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 291-87)

**C. FLOW**

Flow Control:	Water Survey of Canada (WSC) Flow Gauge:		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 291-87)			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
AF ALL SPECIES	SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 29I-87)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
Comments: SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 29I-87)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 29I-87)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
EN ENHANCEMENT ACTS			SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 29I-87)	/

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
LU LAND USE	SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 29I-87)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

SEE TACHIE OR MIDDLE R. FOR INFORMATION. (REF. 29I-87)
--------------------------------------------------------

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: RENE E SAUVE	Date: 1990/01/02
Last checked by: LYDIA JARENOVIC	Date: 1990/02/20

**A. DESCRIPTION**

Stream Name: TACHIE RIVER	O.F.O. Division: FRASER RIVER
Local Name:	District: 1 KAMLOOPS
Watershed Code: 09-8100-000-000-000-991	Subdistrict: 291 PRINCE GEORGE
	Statistical Subarea: -
	M.O.E. Region: 7 OMINECA-PEACE
	Management Unit: 25

Tributaries	Code	Topographic (1:50k) Map: 93K/15 B.C.G.S. (1:20k) Map: U.T.M. Mouth: 739760 Lat./Long. Mouth: 54 DG. 49' 0" 124 DG. 58' 0" Mainstem Length: 25.0 km Ref. No.: 291-3 Watershed Area: Ref. No.:
		Location: FLOWS S. FROM TREMBLEUR LAKE TO STUART LAKE, RANGE 5, COAST DISTRICT. TRIBUTARIES TO THE TACHIE R. HAVE WATERSHED CODES FROM 100 TO 230. (SEE TACHIE/MIDDLE R. FOR LISTING).

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5% .5 - 2% 2 - 5% 5 - 10% >10%	SECTION BETWEEN KUJKWA R. AND STUART LAKE HAS A VERY LOW GRADIENT. IT IS CHARACTERIZED BY MUD AND SAND SUBSTRATE AND AQUATIC VEGETATION. (REF. 291-87)

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
NB NO BARRIER				FISH ACCESS THROUGHOUT. (REF. 291-100)

**C. FLOW**

Flow Control: N	Water Survey of Canada (WSC) Flow Gauge: N
W.S.C. Station No. 1:	No. 2: No. 3: No. 4:
Comments: STUART LAKE; VERY STABLE DISCHARGE. (REF. 291-85)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	MAIN SPAWNING AT AND BELOW GRAND RAPIDS IMMEDIATELY BELOW KUJKWA R. CONFLUENCE. (REF. 291-3, REF. 291-100)
CH CHINOOK SALMON	SPAWN IN KUJKWA R. (REF. 291-88, REF. 291-100)
KO KOKANEE	MAJOR POPULATION SPAWN IN SAME AREA AS SOCKEYE AS WELL AS IN OTHER AREAS. (REF. 291-100)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	29469	1978 - 1987	28A-18	155655	28A-18		
Comments: LARGE NUMBER OF KOKANEE SPAWNED IN THE FALL OF 1976. (REF. 291-3)							

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X	X X			
CH CHINOOK SALMON	Migration Spawning Incubation Rearing								X	X			

Comments: SOCKEYE AND CHINOOK TIMING INFORMATION. LATE STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
CH SPawning CHANNEL	CH CHINOOK SALMON KD KOKANEE SK SOCKEYE SALMON		PROPOSED SPawning CHANNEL FOR SOCKEYE, CHINOOK AND KOKANEE BY IPSFC. TWO SITES HAVE BEEN IDENTIFIED; 2 AND 8 KM BELOW KUJKWA R. CONFLUENCE. ENHANCEMENT WOULD UTILIZE REARING CAPABILITY OF STUART LAKE. PLACEMENT OF GRADED GRAVELS IS ALSO BEING CONSIDERED FOR ENHANCEMENT. (REF. 291-100, REF. 291-103)	/
FS FISH SAMPLING	SK SOCKEYE SALMON	0.0	SURVEY FOR PROPOSED SPawning CHANNEL BELOW GRAND RAPIDS. (REF. 291-88)	1986/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	CUTBLOCK IN UPPER WATERSHED LOGGED IN 1981/1982; CUTTING PLANS FOR 1989/1990. (REF. 291-88, REF. 291-101)
RE RESERVES	GRAND RAPIDS IR (REF. 291-85)
LD LINEAR DEVELOPMENT	BCR LINE AND BRIDGE CROSSING 2 KM ABOVE MOUTH; UPGRADING PLANNED. LOGGING ROAD ACCESS ON WESTSIDE. (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

FAST FLOWING STREAM WITH NUMEROUS RIFFLES, NAVIGABLE BY BOATS UNDER THEIR OWN POWER. (REF. 291-3)
VERY STABLE CHANNEL; SEDIMENT SOURCES FOR GRAVEL ARE RESTRICTED TO THE KUJKWA RIVER. (REF. 291-101)
WATER QUALITY AND WATER TEMPERATURE DATA AVAILABLE. (REF. 291-103)
SUBSTRATE QUALITY STUDIES. (REF. 291-116)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/06
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : TACHIE RIVER

WATERSHED-CODE : 09-8100-000-000-000-000-991

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	112853	0	0	0	75	0
1954	1529	0	0	0	25	0
1955	4000	0	0	0	0	0
1956	600	0	0	0	0	0
1957	118257	0	0	0	25	0
1958	13738	0	0	0	25	0
1959	3445	0	0	0	0	0
1960	1687	0	0	0	7	0
1961	177047	0	0	0	25	0
1962	6750	0	0	0	25	0
1963	1035	0	0	0	25	0
1964	1157	0	0	0	0	0
1965	62469	0	0	0	0	0
1966	3600	0	0	0	0	0
1967	576	0	0	0	25	0
1968	149	0	0	0	0	0
1969	86431	0	0	0	0	0
1970	2776	0	0	0	0	0
1971	360	0	0	0	0	0
1972	7527	0	0	0	25	0
1973	97445	0	0	0	0	0
1974	4680	0	0	0	0	0
1975	7525	0	0	0	0	0
1976	2637	0	0	0	0	0
1977	54282	0	0	0	0	0
1978	8028	0	0	0	0	0
1979	10940	0	0	0	0	0
1980	756	0	0	0	0	0
1981	94050	0	0	0	N/O	0
1982	7528	0	0	0	0	0
1983	853	0	0	0	0	0
1984	810	0	0	0	0	0
1985	155655	0	0	0	0	0
1986	13617	UNK	UNK	UNK	UNK	0
1987	2450	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

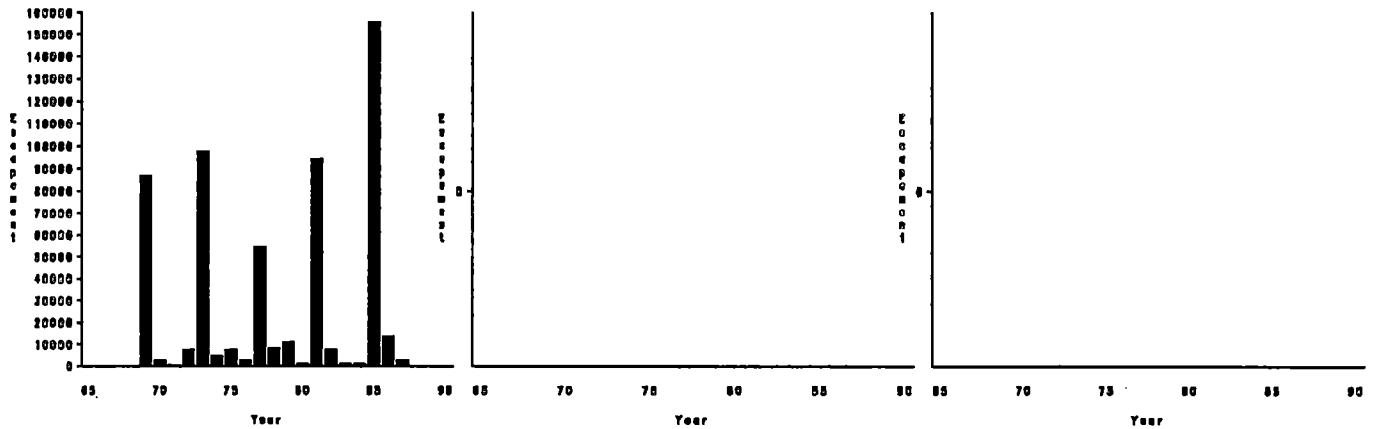
# TACHIE RIVER (09-8100-000-000-000-000-991)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

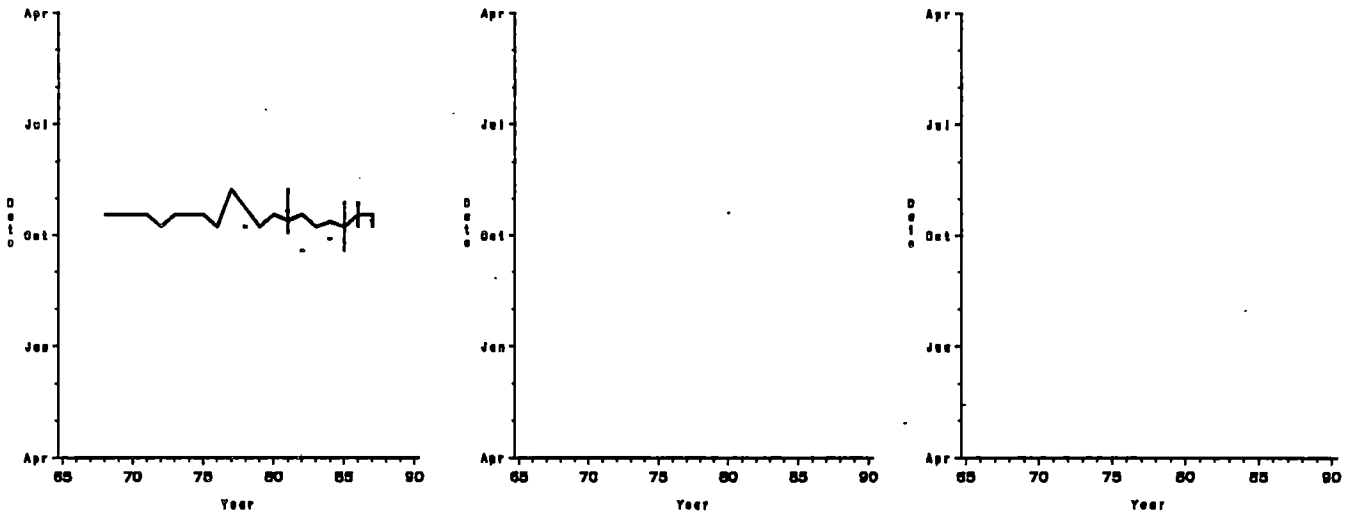
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	140	-	19SEP	-
1968	88,431	-	19SEP	-
1970	2,770	-	19SEP	-
1971	300	-	19SEP	-
1972	7,827	-	20SEP	-
1973	97,440	-	19SEP	-
1974	4,800	-	19SEP	-
1975	7,820	-	19SEP	-
1976	2,437	-	20SEP	-
1977	54,302	-	20SEP	-
1978	6,420	20SEP	-	-
1979	10,540	-	20SEP	-
1980	780	-	19SEP	-
1981	94,400	20SEP	20SEP	30SEP
1982	7,320	-	19SEP	19OCT
1983	800	-	20SEP	-
1984	810	-	21SEP	09OCT
1985	150,000	09SEP	20SEP	19OCT
1986	12,617	09SEP	19SEP	20SEP
1987	2,400	19SEP	19SEP	20SEP

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

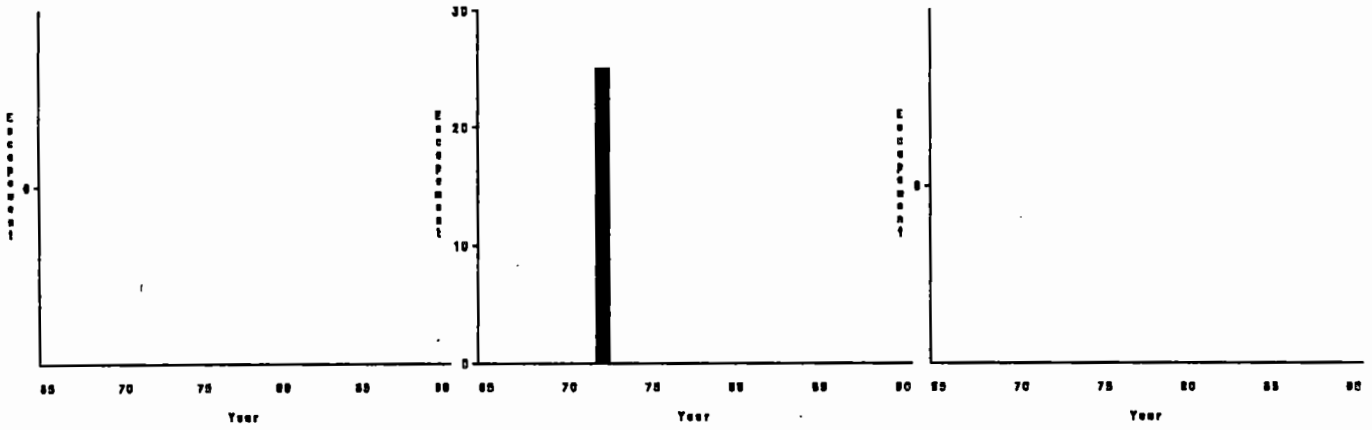
# TACHIE RIVER (09-8100-000-000-000-000-991)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

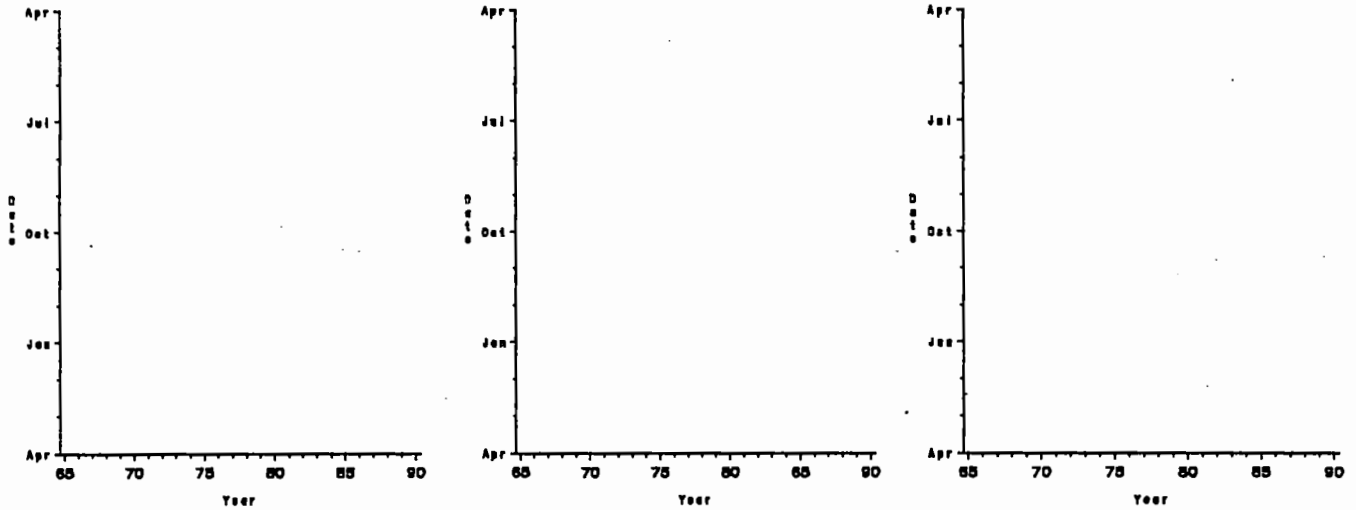
Steelhead (ST)



Chum

Chinook

Steelhead

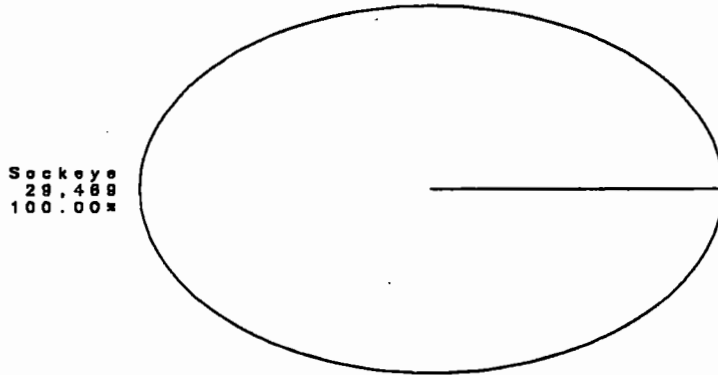


Chum				
Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

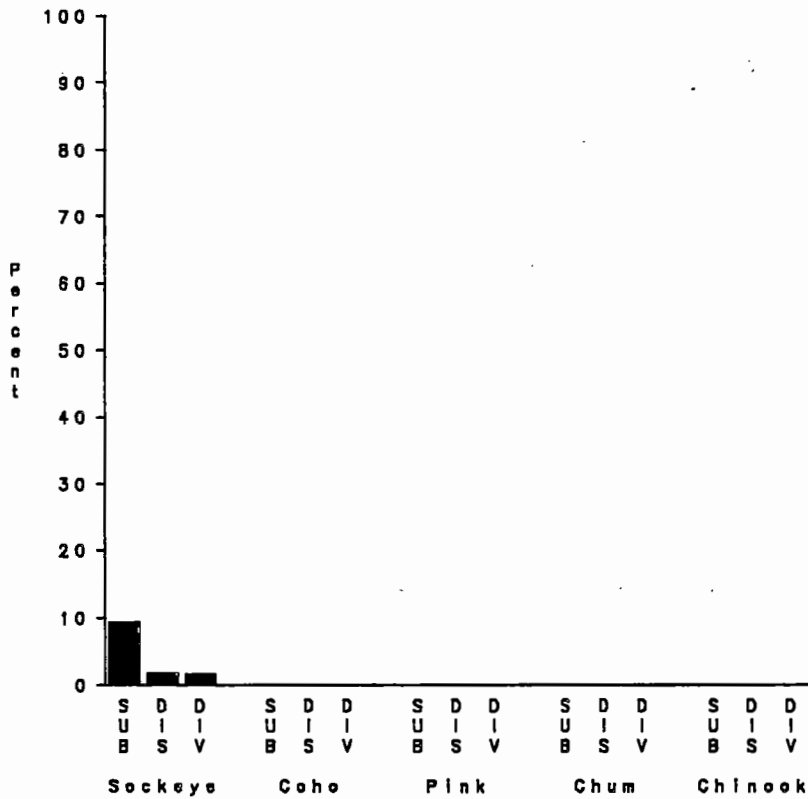
Chinook				
Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	25	-	20SEP	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

TACHIE RIVER (09-8100-000-000-000-000-991)  
 10-yr Mean Escapement  
 (1978-1987)



TACHIE RIVER : Escapement (1978-1987)  
 Species Escapement as a Proportion of DFO Management Units  
 (ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>MIDDLE RIVER</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-000-000-000-992</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 ONINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/14</b>
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>642818</b>
		Lat./Long. Mouth: <b>54 DG. 11' 00'' 122 DG. 07' 00''</b>
		Mainstem Length: <b>35.2 km</b> Ref. No.: <b>291-24</b>
		Watershed Area: Ref. No.:
Location: FLOWS FROM TAKLA LAKE SE. INTO TREMBLEUR LAKE. TRIBUTARIES TO THE MIDDLE R. HAVE WATERSHED CODES FROM 300 TO 995. SEE TACHIE/MIDDLE R. FOR TRIBUTARY LISTING.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	EXTREMELY LOW GRADIENT WITH AN ESTIMATED DROP OF 3 M OVER ITS ENTIRE LENGTH. (REF. 291-101)

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
NO INFORMATION AVAILABLE				

**C. FLOW**

Flow Control:	Water Survey of Canada (WSC) Flow Gauge:		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: TAKLA LAKE. (REF. 291-86)			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	MOST SPAWNING OCCURS ON BARS AT THE MOUTH OF VAN DECAR C. (ROSETTE C.), O'NE-ELL C. (KYNOCK C.) AND FORFAR C. AND IN AREA EXTENDING 1 KM BELOW AND 4 KM ABOVE KAZCHEK C. (REF. 291-3, REF. 291-88)
CH CHINOOK SALMON	REMINANT POPULATIONS; SPAWN IN THE LOWER END AND ON VAN DECAR C. (ROSETTE C.) AND FORFAR C. BARS. (REF. 291-3, REF. 291-88)
DV DOLLY VARDEN	PRESENCE NOTED. (REF. 291-24)
LT LAKE TROUT	PRESENCE NOTED. (REF. 291-24)
RB RAINBOW TROUT	PRESENCE NOTED. (REF. 291-24)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	26648	1978 - 1987	28A-18	125630	28A-18		
CH CHINOOK SALMON		1978 - 1987		25	28A-18		

**E. ESCAPEMENT SUMMARY CONTINUED**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
Comments: CH RECORDED IN 1978 AND 1981 ONLY. (REF. 28A-18)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X	X X			
CH CHINOOK SALMON	Migration Spawning Incubation Rearing								X	X X			
Comments: LATE STUART STOCK; DOMINANT CYCLE 1985/1989. CHINOOK AND SOCKEYE TIMING INFORMATION. (REF. 29I-3)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	LOGGING ACTIVITY PRIOR TO 1982; CUTTING PLANS FOR 1989/1990. (REF. 29I-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM (CM). (REF. 29I-101)
LD LINEAR DEVELOPMENT	BCR LINE ALONG EAST BANK BETWEEN TREMBLEUR AND STUART LAKES; UPGRADING PLANNED. (REF. 29I-101)
LD LINEAR DEVELOPMENT	LOGGING ROAD FROM TAKLA LAKE DAM WEST BANK TO VAN DECAR C.; NO BRIDGE CROSSINGS. (REF. 29I-101)
RE RESERVES	IR #1. (REF. 29I-88)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

HIGH WATER TEMPERATURE PROBLEMS DURING SOCKEYE SPANNING IN SOME YEARS; OCCASIONAL HIGH PRE-SPAWN MORTALITY OBSERVED. (REF. 29I-100)
MIDDLE RIVER ACCOUNTS FOR OVER 40% OF THE ESTIMATED PRODUCTION CAPABILITY (EARLY AND LATE STOCKS) FOR THE SYSTEM. (REF. 29I-101)
PROPOSED GRAVEL INTRODUCTION; LARGE SCALE EGG TAKES AND RIVER SIDE INCUBATION PROGRAMS TO UTILIZE REARING CAPABILITY OF TREMBLEUR LAKE. (REF. 29I-100)
RIVER CHANNEL IS VERY STABLE; ALL SEDIMENT PRODUCTION FOR THIS STREAM COMES FROM ITS TRIBUTARIES. (REF. 29I-101)
SUBSTRATE QUALITY STUDIES. (REF. 29I-116)

J. FISHERY OFFICER NARRATIVE

Date Prepared:     /   /	Prepared By:
--------------------------	--------------

K. SIS COMPLETED BY

Completed by:       RENEE SAUVE	Date: 1990/01/02
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ESCAPEMENT : MIDDLE RIVER

WATERSHED-CODE : 09-8100-000-000-000-000-992

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	244405	0	0	0	0	0
1954	3853	0	0	0	0	0
1955	3598	0	0	0	0	0
1956	500	0	0	0	0	0
1957	336301	0	0	0	0	0
1958	8388	0	0	0	0	0
1959	4773	0	0	0	0	0
1960	1269	0	0	0	25	0
1961	177516	0	0	0	25	0
1962	11706	0	0	0	25	0
1963	1838	0	0	0	25	0
1964	743	0	0	0	25	0
1965	139186	0	0	0	25	0
1966	4917	0	0	0	0	0
1967	972	0	0	0	25	0
1968	288	0	0	0	25	0
1969	11322	0	0	0	25	0
1970	12115	0	0	0	25	0
1971	873	0	0	0	0	0
1972	972	0	0	0	0	0
1973	91879	0	0	0	12	0
1974	8990	0	0	0	25	0
1975	6704	0	0	0	0	0
1976	330	0	0	0	0	0
1977	80420	0	0	0	0	0
1978	4061	0	0	0	25	0
1979	18111	0	0	0	0	0
1980	198	0	0	0	0	0
1981	125630	0	0	0	2	0
1982	7450	0	0	0	0	0
1983	639	0	0	0	0	0
1984	184	0	0	0	0	0
1985	114122	0	0	0	0	0
1986	9940	UNK	UNK	UNK	UNK	0
1987	2441	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

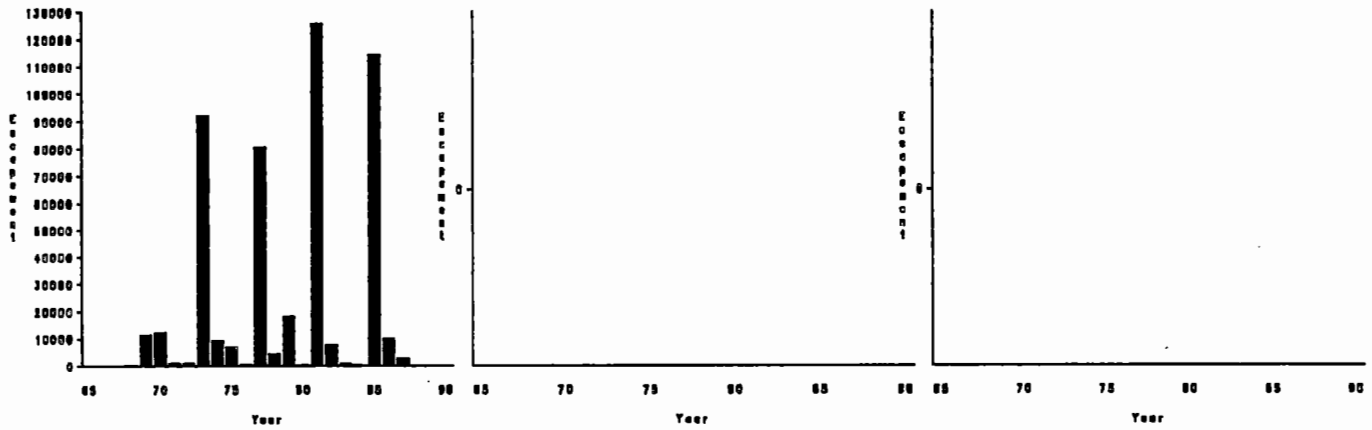
# MIDDLE RIVER (09-8100-000-000-000-000-992)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

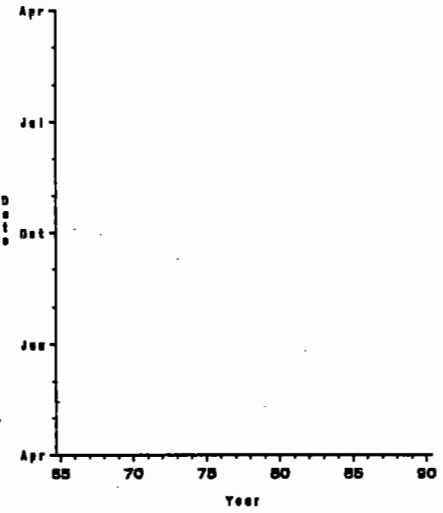
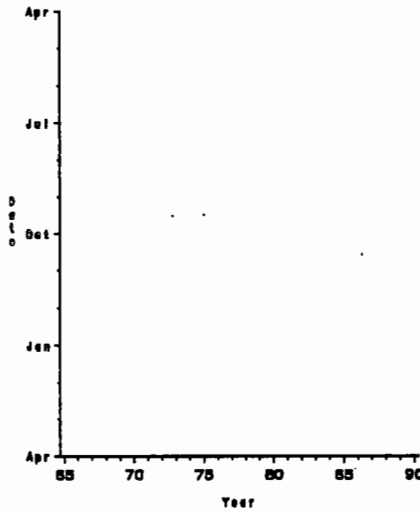
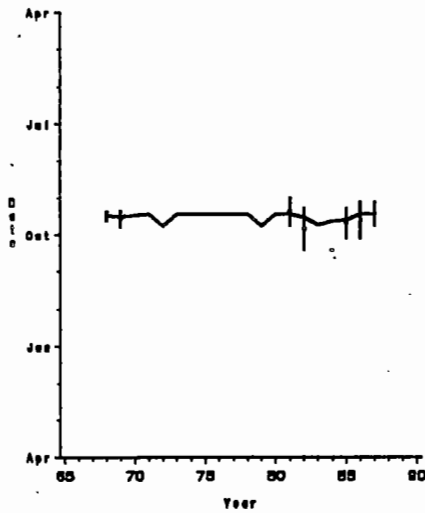
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	200	12SEP	14SEP	21SEP
1968	11,222	12SEP	17SEP	24SEP
1970	12,110	-	-	-
1971	872	-	19SEP	-
1972	872	-	29SEP	-
1973	91,870	-	14SEP	-
1974	8,500	-	14SEP	-
1976	8,764	-	14SEP	-
1978	220	-	15SEP	-
1977	80,620	-	15SEP	-
1979	4,001	-	14SEP	-
1979	10,111	-	29SEP	-
1980	100	-	19SEP	-
1981	120,420	01SEP	14SEP	24SEP
1982	7,400	14SEP	14SEP	13OCT
1983	830	-	24SEP	-
1984	104	-	21SEP	13OCT
1988	114,122	14SEP	29SEP	9OCT
1988	8,940	02SEP	14SEP	01OCT
1987	2,441	08SEP	14SEP	25SEP

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1988	0	-	-	-
1988	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1988	0	-	-	-
1988	-	-	-	-
1987	0	-	-	-

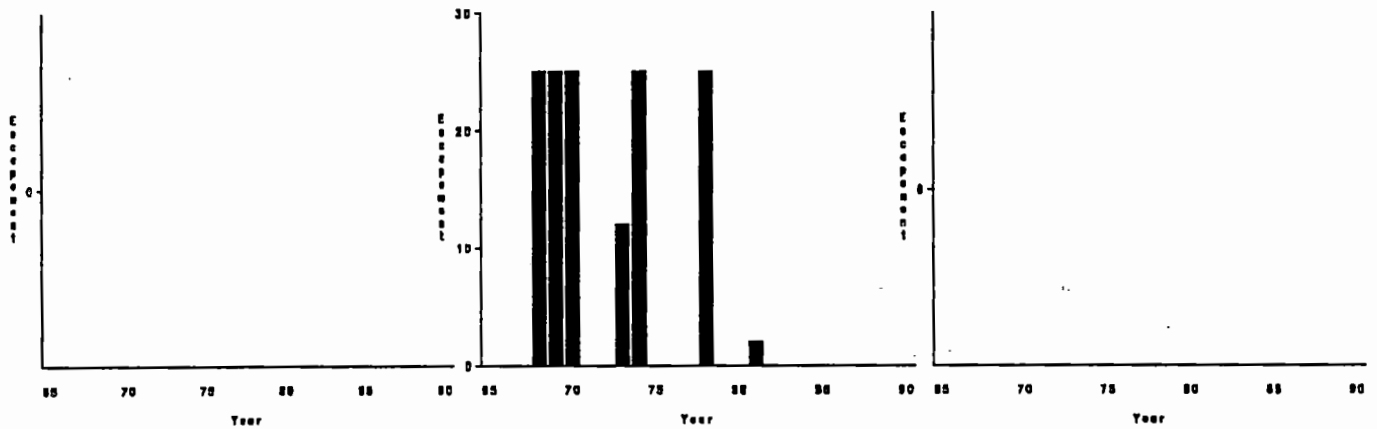
# MIDDLE RIVER (09-8100-000-000-000-000-992)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

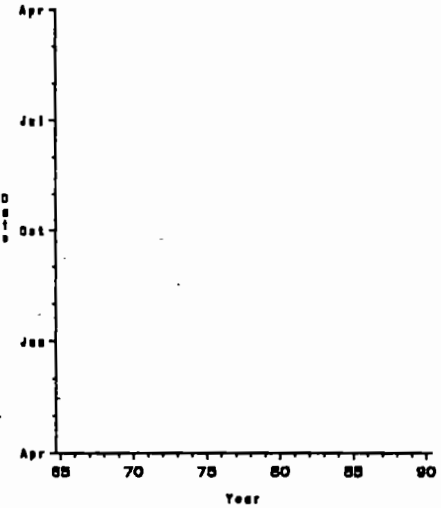
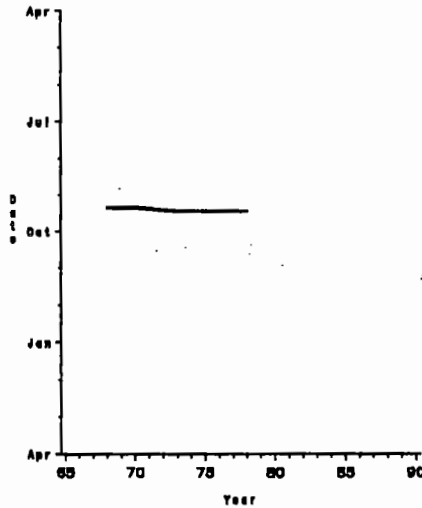
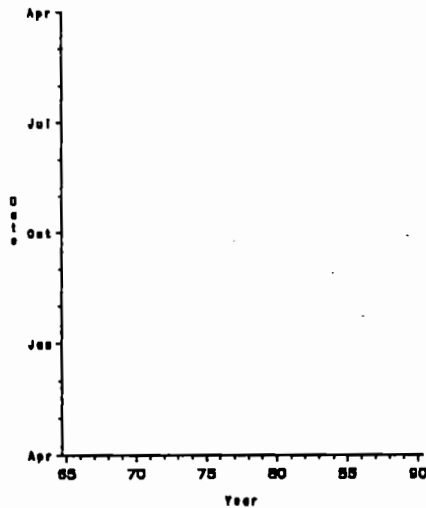
Steelhead (ST)



Chum

Chinook

Steelhead

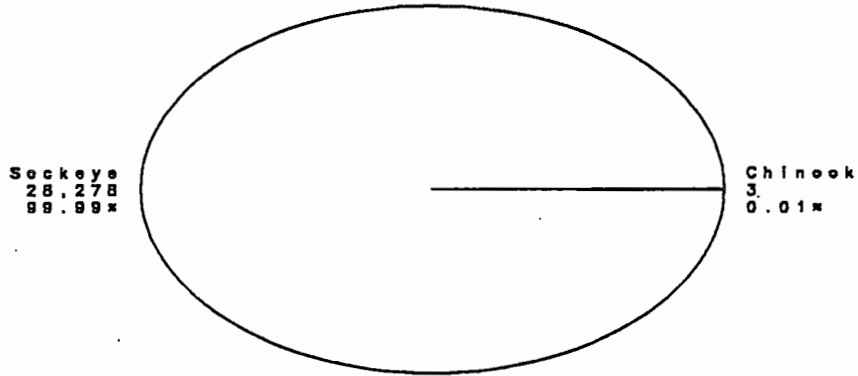


Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

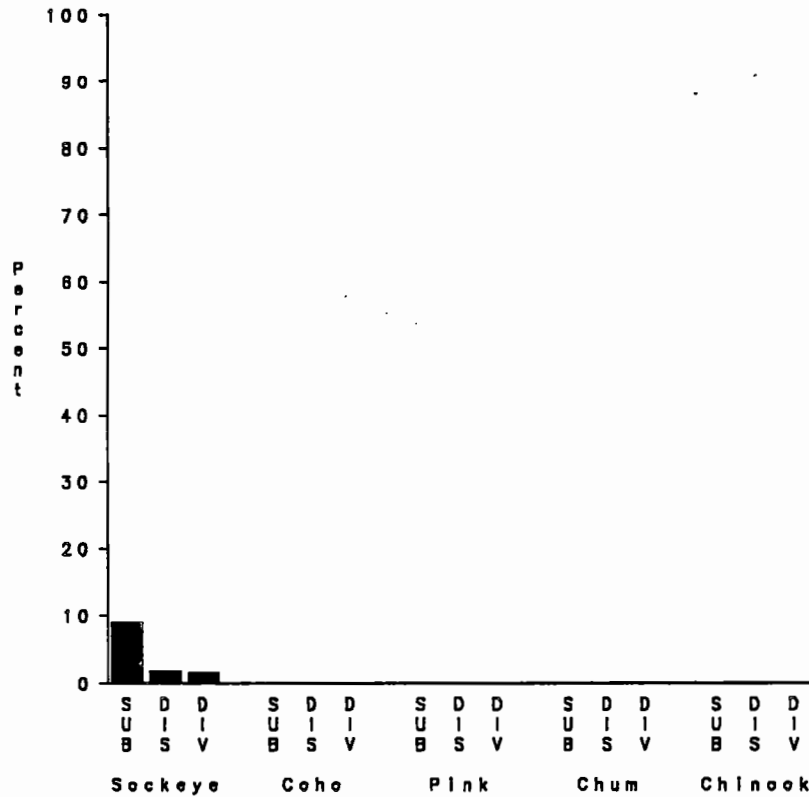
Year	Escapement	Start	Peak	End
1966	25	-	12SEP	-
1968	25	-	12SEP	-
1970	25	-	12SEP	-
1971	0	-	-	-
1972	0	-	-	-
1973	12	-	10SEP	-
1974	25	-	10SEP	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	25	-	10SEP	-
1979	0	-	-	-
1980	0	-	-	-
1981	2	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

MIDDLE RIVER (09-8100-000-000-000-000-992)  
 10-yr Mean Escapement  
 (1978-1987)



MIDDLE RIVER : Escapement (1978-1987)  
 Species Escapement as a Proportion of DFO Management Units  
 (ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>KUJKWA RIVER</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-100</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>25</b>

Tributaries	Code	Topographic (1:50k) Map: 93K/15
GROSTETE CREEK	640	B.C.G.S. (1:20k) Map:
HATDUDATEHL CREEK	780	U.T.M. Mouth: 793727
TEZZERON CREEK	980	Lat./Long. Mouth: 54 DG. 47' 0" 124 DG. 37' 0"
		Mainstem Length: 28.0 km Ref. No.: 291-28
		Watershed Area: 120.0 km2 Ref. No.: 291-28
Location: FLOWS W INTO TACHIE RIVER, BETWEEN TEZZERON AND TREMBLEUR LAKES, RANGE 5, COAST DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	REACH 1 US 1.5%, REACH 2 IS 1.5% (REF. 291-28)
0.0- 18.4	
18.4- 28.0	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (Species)	Comments
NO INFORMATION AVAILABLE				

**C. FLOW**

Flow Control: <b>M</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: DISCHARGE REPORTED 1976. (REF. 291-28)	
TEZZERON LAKE. THE LARGEST TRIBUTARY IN THE TACHIE/MIDDLE R. SYSTEM (WITH THE EXCEPTION OF DRIFTWOOD). (REF. 291-85)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN THROUGHOUT, MOSTLY FROM BELOW FOREST SERVICE ACCESS ROAD TO TEZZERON LAKE. (REF. 291-3, REF. 291-100)
CH CHINOOK SALMON	SPAWN MOSTLY IN UPPER REACHES, SPAWN BELOW BRIDGE (200-300M FROM MOUTH). (REF. 291-3, REF. 291-28, REF. 291-88)
BB BURBOT	UPSTREAM TO 14.4 KM, ASSUMED THROUGHOUT TO TEZZERON LAKE. (REF. 291-28, REF. 291-88)
CT CUTTHROAT TROUT	MODERATE TO LOW RUN (REF. 291-2)
KD KOKANEE	ASSUMED UPSTREAM TO 14.4 KM., LARGE RUN (REF. 291-2, REF. 291-28)
RB RAINBOW TROUT	UPSTREAM TO 14.4 KM., ASSUMED THROUGHOUT TO TEZZERON LAKE. (REF. 291-28)
SU SUCKERS (GENERAL)	JUVENILES SHOCKED FROM REACH 1. (REF. 291-28)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	3289	1978 - 1987	28A-18	20520	28A-18		
CH CHINOOK SALMON	53	1978 - 1987	28A-18	200	28A-18		

Comments: 1967- LARGE NUMBER OF KOKANEE PRESENT. (REF. 291-3)

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X	X			
CH CHINOOK SALMON	Migration Spawning Incubation Rearing								X	X			

Comments: SOCKEYE AND CHINOOK TIMING INFORMATION. LATE STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 - 28 KM. (REF. 291-28)	1976/1976

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	EXTENSIVE LOGGING IN WATERSHED; AREA LOGGED IN 1981 TO 1982; CUTTING PLANS FOR 1989/1990. (REF. 291-3, REF. 291-88, REF. 291-101)
LD LINEAR DEVELOPMENT	LOGGING ROAD AND BRIDGE 20 KM UPSTREAM FROM MOUTH. (REF. 291-3, REF. 291-88)
MI MINING	UPPER WATERSHED ABOVE TEZZERON LAKE IS WITHIN A DESIGNATED PLACER MINING AREA; 6 MINERAL CLAIMS. (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

A MODERATE TO HIGH POTENTIAL STREAM FOR SALMONID SPAWNING, REARING, AND RESIDENT HABITAT. LIMITED BY VELOCITY AND SCARCITY OF SIDE AND BACK CHANNELS; STREAM MORPHOLOGY DISCUSSED REACH BY REACH. (REF. 291-28)
WATER QUALITY TESTS. EXCELLENT SPAWNING AND REARING HABITAT. (REF. 291-2)
NO LAKE STORAGE FEASIBLE DUE TO WIDE, FLAT OUTLET; TOO COSTLY TO DEVELOP A FLOW REGULATION FACILITY. (REF. 291-100)
LOWER CHANNEL (BELOW TEZZERON LAKE) IS CHARACTERIZED BY NUMEROUS MEANDERS. STEEP CLAY AND SILT BANKS CONTRIBUTE TO HIGH SEDIMENT LOAD DURING HIGH DISCHARGE EVENTS. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by:	D. FARRELL
Last updated by:	CATHY GEE
Last checked by:	L. JAREMOVIC

Date:	1987/01/09
Date:	1990/10/04
Date:	1990/10/04

## ESCAPEMENT : KUZKWA RIVER

WATERSHED-CODE : 09-8100-100

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	3686	0	0	0	75	0
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	50006	0	0	0	75	0
1958	N/O	0	0	0	25	0
1959	N/O	0	0	0	25	0
1960	N/O	0	0	0	N/O	0
1961	39245	0	0	0	75	0
1962	14	0	0	0	75	0
1963	N/O	0	0	0	25	0
1964	N/O	0	0	0	25	0
1965	10000	0	0	0	25	0
1966	295	0	0	0	25	0
1967	2	0	0	0	75	0
1968	N/O	0	0	0	25	0
1969	8370	0	0	0	75	0
1970	90	0	0	0	75	0
1971	227	0	0	0	25	0
1972	50	0	0	0	75	0
1973	20124	0	0	0	200	0
1974	718	0	0	0	200	0
1975	N/O	0	0	0	75	0
1976	N/O	0	0	0	UNK	0
1977	9031	0	0	0	200	0
1978	742	0	0	0	200	0
1979	2090	0	0	0	75	0
1980	25	0	0	0	25	0
1981	20520	0	0	0	13	0
1982	1237	0	0	0	15	0
1983	700	0	0	0	10	0
1984	198	0	0	0	0	0
1985	2624	0	0	0	UNK	0
1986	4039	UNK	UNK	UNK	125	0
1987	711	0	0	0	10	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

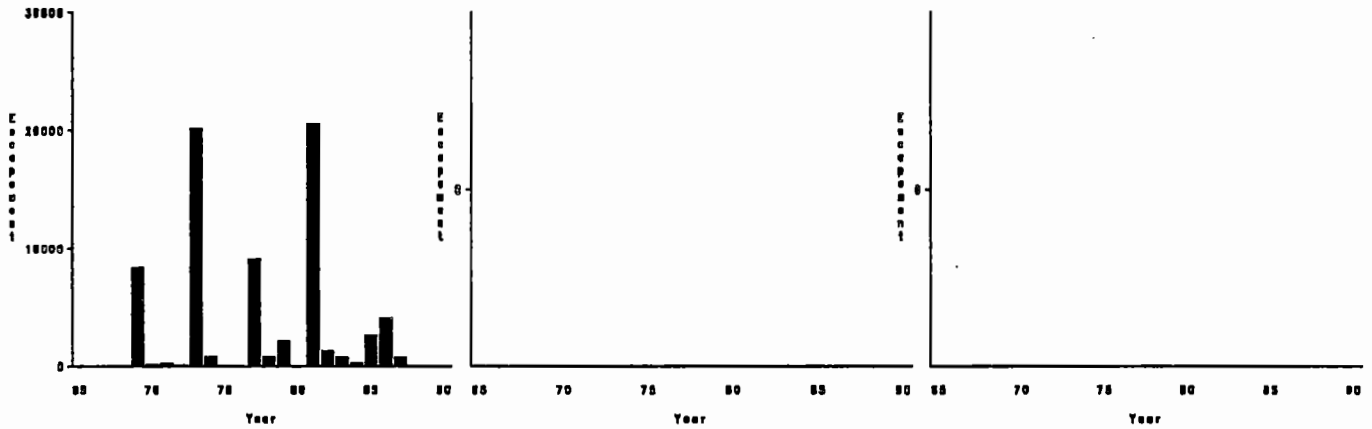
# KUZKWA RIVER (09-8100-100)

## Escapement & Run Timing

**Sockeye (SK)**

**Coho (CO)**

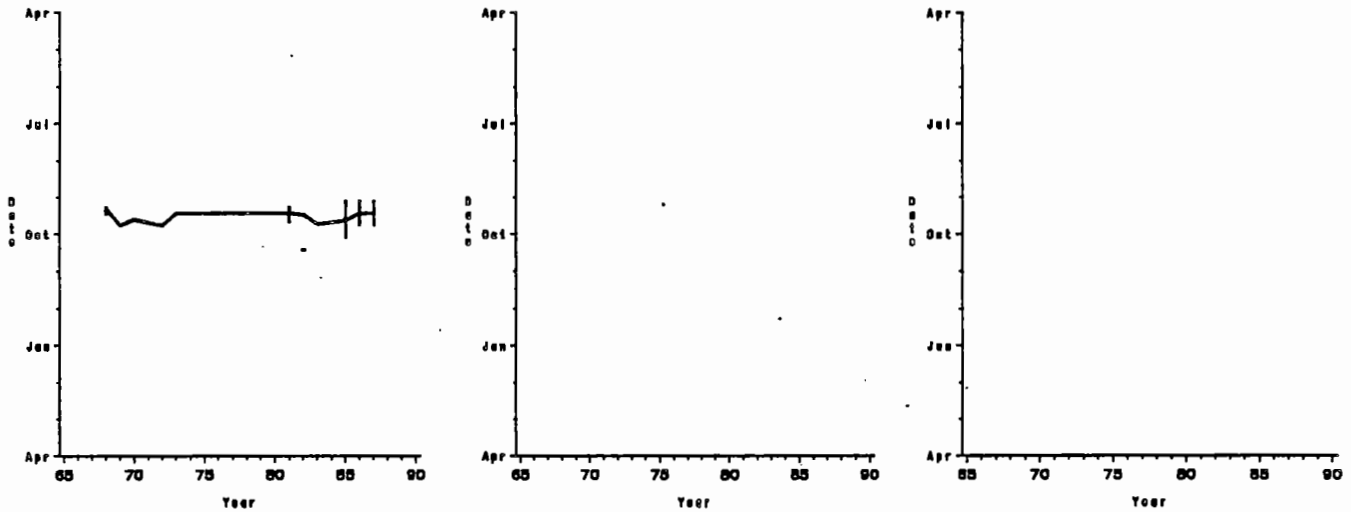
**Pink (PK)**



**Sockeye**

**Coho**

**Pink**



Year	Escapement	Start	Peak	End
1966	0	14SEP	12SEP	14SEP
1968	2,376	-	26SEP	-
1970	98	-	26SEP	-
1971	327	-	23SEP	-
1972	36	-	28SEP	-
1973	20,124	-	16SEP	-
1974	712	-	18SEP	-
1975	0	-	18SEP	-
1976	0	-	13SEP	-
1977	0,031	-	15SEP	-
1978	743	-	18SEP	-
1979	2,698	-	18SEP	-
1980	28	-	18SEP	-
1981	20,020	14SEP	16SEP	28SEP
1982	1,237	-	16SEP	18OCT
1983	700	-	24SEP	-
1984	100	-	-	-
1985	2,824	08SEP	21SEP	08OCT
1986	4,020	08SEP	18SEP	24SEP
1987	711	08SEP	18SEP	28SEP

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

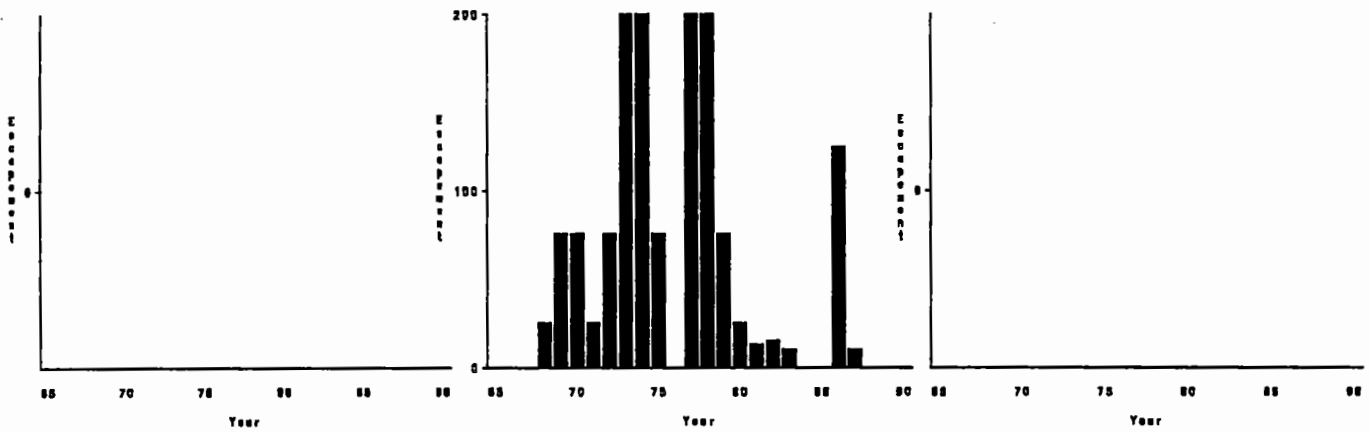
# KUZKWA RIVER (09-8100-100)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

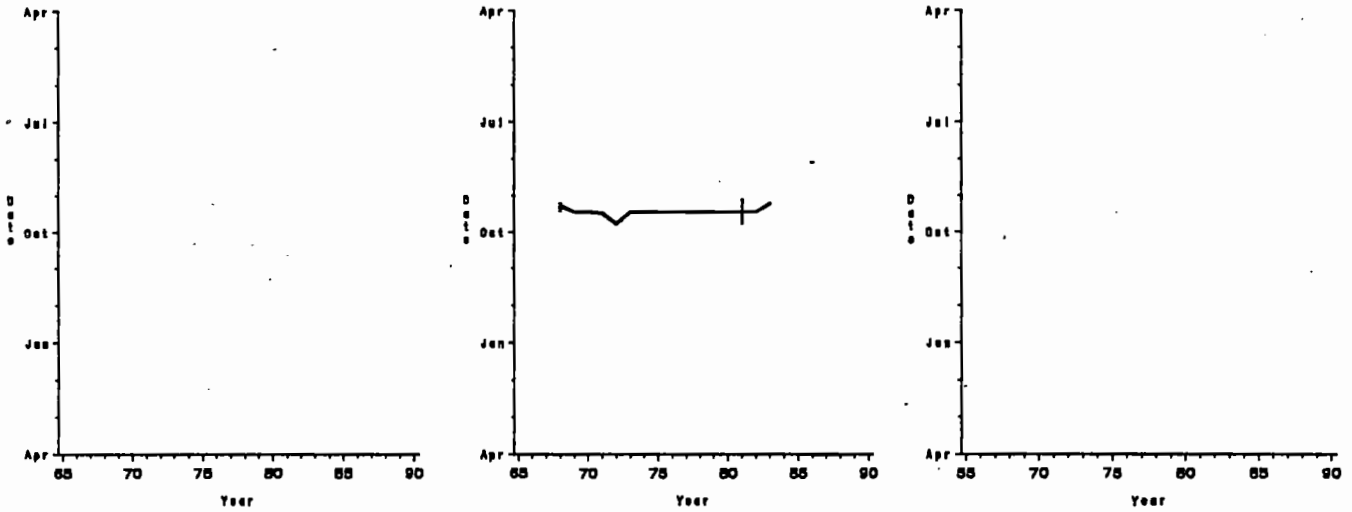
Steelhead (ST)



Chum

Chinook

Steelhead



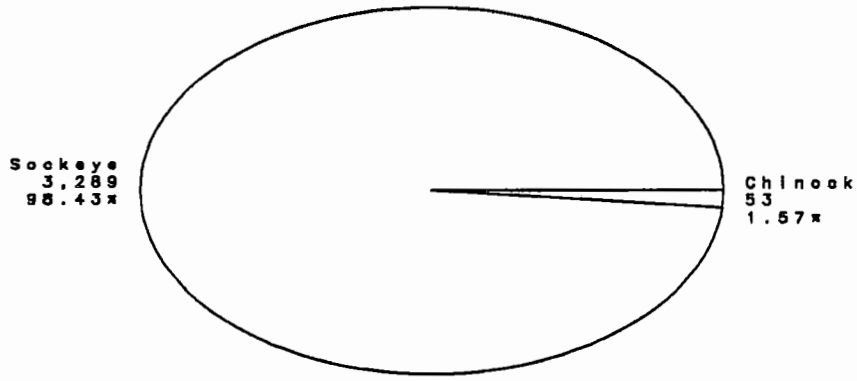
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	10	09SEP	10SEP	14SEP
1967	70	-	15SEP	-
1970	75	-	15SEP	-
1971	20	-	15SEP	-
1972	75	-	25SEP	-
1973	200	-	15SEP	-
1974	200	-	15SEP	-
1975	70	-	15SEP	-
1976	-	-	15SEP	-
1977	200	-	15SEP	-
1978	200	-	15SEP	-
1979	70	-	15SEP	-
1980	15	-	15SEP	-
1981	10	09SEP	10SEP	20SEP
1982	15	-	15SEP	-
1983	10	-	05SEP	-
1984	0	-	-	-
1985	-	-	-	-
1986	150	09SEP	-	-
1987	10	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

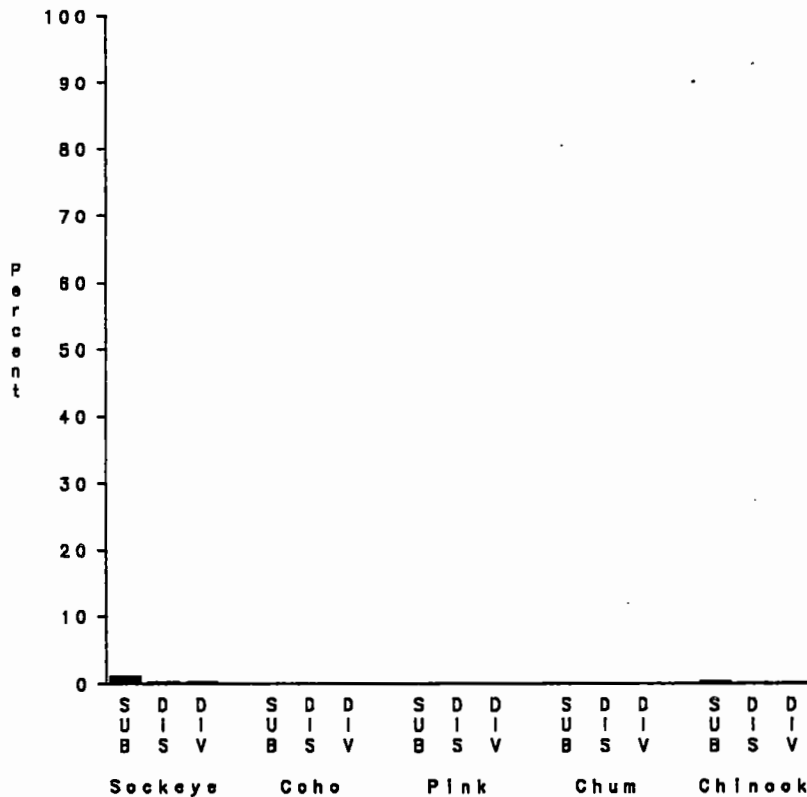
# KUZKWA RIVER (09-8100-100)

10-yr Mean Escapement  
(1978-1987)



## KUZKWA RIVER : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>FLEMING CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>FERRIER CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-220</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/14</b>
<b>TILDESLEY CREEK</b>	<b>200</b>	B.C.G.S. (1:20k) Map: <b>448715</b>
		U.T.M. Mouth: <b>448715</b>
		Lat./Long. Mouth: <b>54 DG. 46' 0" 125 DG. 27' 0"</b>
		Mainstem Length: <b>22.0 km</b> Ref. No.: <b>291-27</b>
		Watershed Area: <b>99.0 km2</b> Ref. No.: <b>291-27</b>
Location: <b>FLows E INTO TREMBLEUR LAKE, RANGE 5, COAST DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>GRADIENT COMMENTS. (REF. 291-27)</b>
<b>0.0- 8.0</b>	
<b>8.0- 22.0</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>X LOG JAMS</b>				<b>NUMEROUS LOG JAMS AND BEAVER DAMS. WASH OUT WITH HIGH WATER. (REF. 291-27, REF. 291-88)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>
W.S.C. Station No. <b>1:</b>	No. <b>2:</b> No. <b>3:</b> No. <b>4:</b>
Comments: <b>DISCHARGE REPORT 1975 REACH 1 AND 2. (REF. 291-27)</b>	
<b>FLEMING CREEK FLOWS OUT OF FLEMING LAKE, WHICH IS A SMALL, SHALLOW LAKE PRONE TO SUMMER ALGAL BLOOMS. MAJOR FLOW CONTRIBUTION FROM TILDESLEY C. (REF. 291-85, REF. 291-100)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>BULK OF SPAWNING IN TILDESLEY C. AND SCATTERED SPAWNING IN FLEMING C. (REF. 291-3, REF. 291-88, REF. 291-100)</b>
<b>CC SCULPINS (GENERAL)</b>	<b>PRESENCE NOTED (REF. 291-27)</b>
<b>RB RAINBOW TROUT</b>	<b>PRESENCE NOTED. (REF. 291-27)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>1167</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>3500</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
CC SCULPINS (GENERAL)	Migration Spawning Incubation Rearing										X		
RB RAINBOW TROUT	Migration Spawning Incubation Rearing										X		
Comments: SOCKEYE, RAINBOW AND SCULPIN TIMING INFORMATION. (REF. 29I-27)													
SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 29I-3, REF. 29I-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	UPPER WATERSHED ABOVE FLEMING LAKE HAS BEEN HEAVILY LOGGED. (REF. 29I-88, REF. 29I-101)
LD LINEAR DEVELOPMENT	FORESTRY ACCESS ROAD AND ONE BRIDGE CROSSING IN LOWER REACH. (REF. 29I-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; 5 MINERAL CLAIMS (CR, CU, MO). (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

TILDESLEY C. HAS ONLY RECENTLY BEEN INSPECTED (LAST 2 YEARS) FOR SPAWNERS. (REF. 29I-100)
SPAWNING, REARING HABITAT IS EXCELLENT. SIDE CHANNELS ARE NUMEROUS. BANKS AND HILLSIDE STABLE. SECTION ABOVE THE LAKE - WATER CHEMISTRY DUBIOUS - HIGH TURBIDITY, A SPECULATED OXYGEN DEFICIENCY. (REF. 29I-27)
FLEMING C. IN LOWER REACHES HAS HIGH TEMPERATURES; IT IS SUSPECTED THAT TEMPERATURES ARE COOLER IN TILDESLEY C. AND SPAWNER SUCCESS IS GREATER THAN IN FLEMING C. (REF. 29I-100)
POTENTIAL FOR MODERATE EROSION PROBLEMS IN LOWER CREEK. FLEMING LAKE PROVIDES A BUFFER FROM ACTIVITIES IN UPPER WATERSHED. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
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**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/06
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : FLEMING CREEK

WATERSHED-CODE : 09-8100-220

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	20	0	0	0	0	0
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	N/O	UNK	UNK	UNK	UNK	UNK
1958	N/O	UNK	UNK	UNK	UNK	UNK
1959	N/O	UNK	UNK	UNK	UNK	UNK
1960	N/O	0	0	0	0	0
1961	14	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	9	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	6	0	0	0	0	0
1969	593	0	0	0	0	0
1970	106	0	0	0	0	0
1971	N/O	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	3243	0	0	0	0	0
1974	20	0	0	0	0	0
1975	1878	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	621	0	0	0	0	0
1978	590	0	0	0	0	0
1979	3677	0	0	0	0	0
1980	17	0	0	0	0	0
1981	343	0	0	0	0	0
1982	2	0	0	0	0	0
1983	21	0	0	0	0	0
1984	8	0	0	0	0	0
1985	1687	0	0	0	0	0
1986	11	UNK	UNK	UNK	UNK	0
1987	5311	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

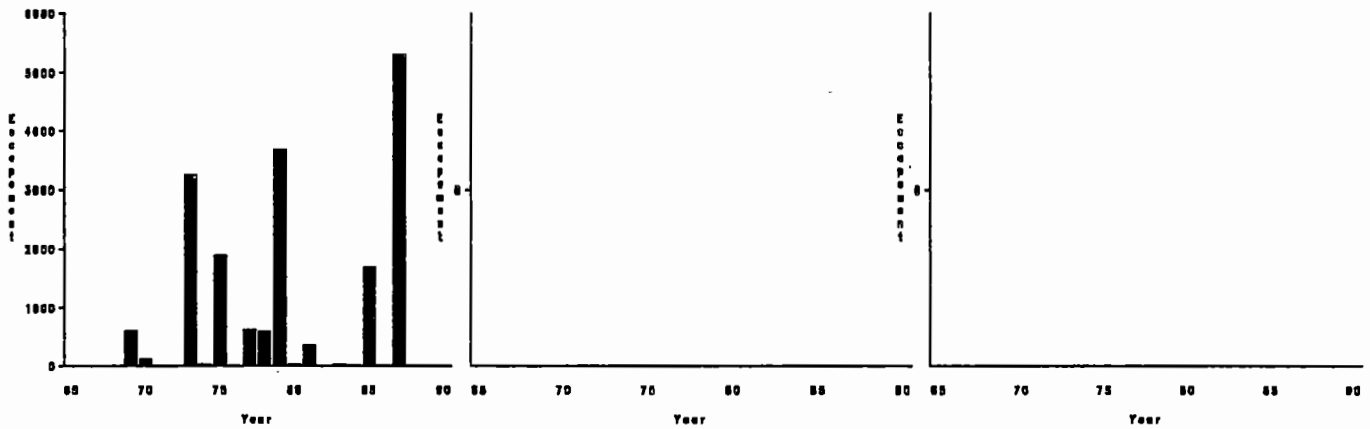
# FLEMING CREEK (09-8100-220)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

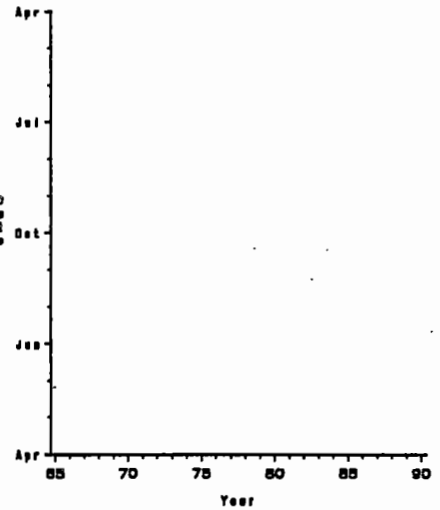
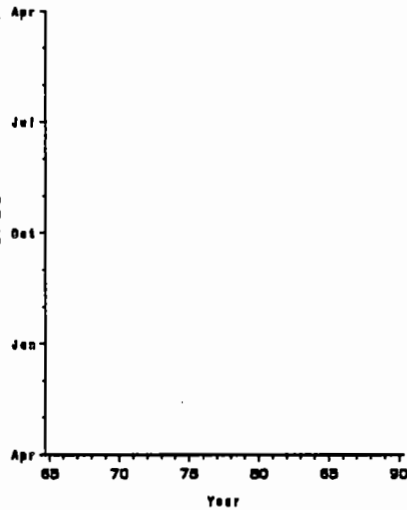
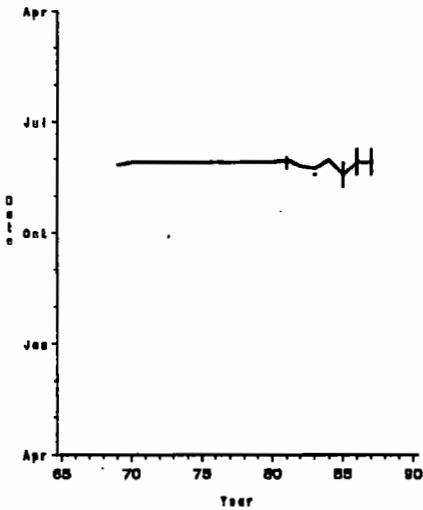
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	100	-	07AUG	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	3,200	-	08AUG	-
1975	20	-	08AUG	-
1976	1,870	-	08AUG	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-
1991	0	-	-	-
1992	0	-	-	-
1993	0	-	-	-
1994	0	-	-	-
1995	0	-	-	-
1996	0	-	-	-
1997	0	-	-	-
1998	1,407	08AUG	10AUG	20AUG
1999	11	20JUL	08AUG	10AUG
2000	0,211	20JUL	08AUG	10AUG

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-
1991	0	-	-	-
1992	0	-	-	-
1993	0	-	-	-
1994	0	-	-	-
1995	0	-	-	-
1996	0	-	-	-
1997	0	-	-	-
1998	0	-	-	-
1999	0	-	-	-
2000	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-
1991	0	-	-	-
1992	0	-	-	-
1993	0	-	-	-
1994	0	-	-	-
1995	0	-	-	-
1996	0	-	-	-
1997	0	-	-	-
1998	0	-	-	-
1999	0	-	-	-
2000	0	-	-	-

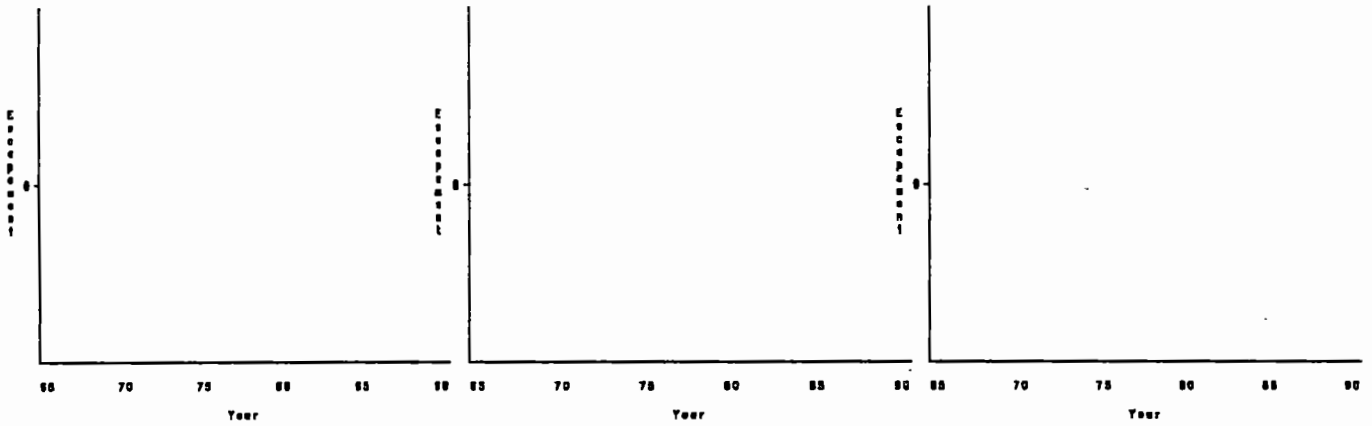
# FLEMING CREEK (09-8100-220)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

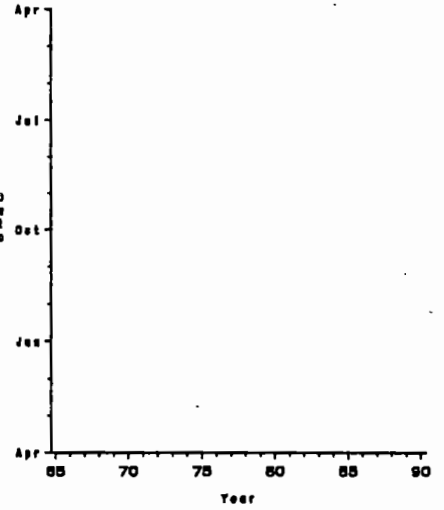
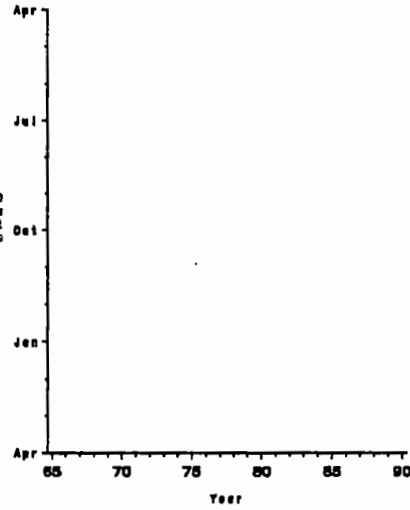
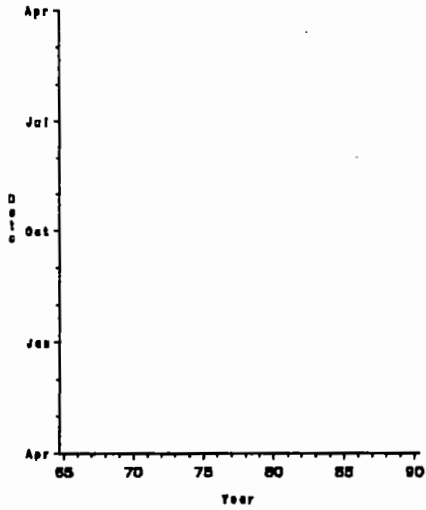
Steelhead (ST)



Chum

Chinook

Steelhead



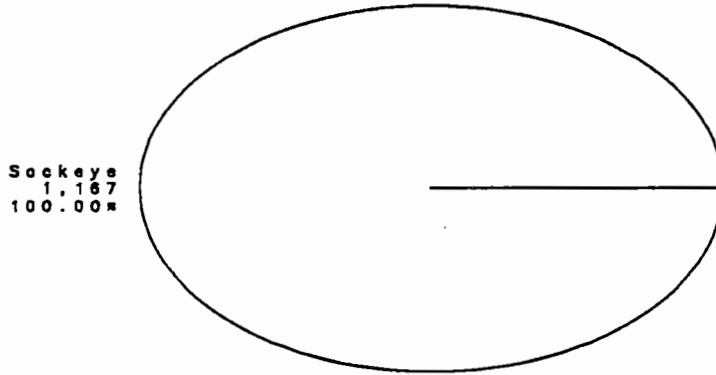
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

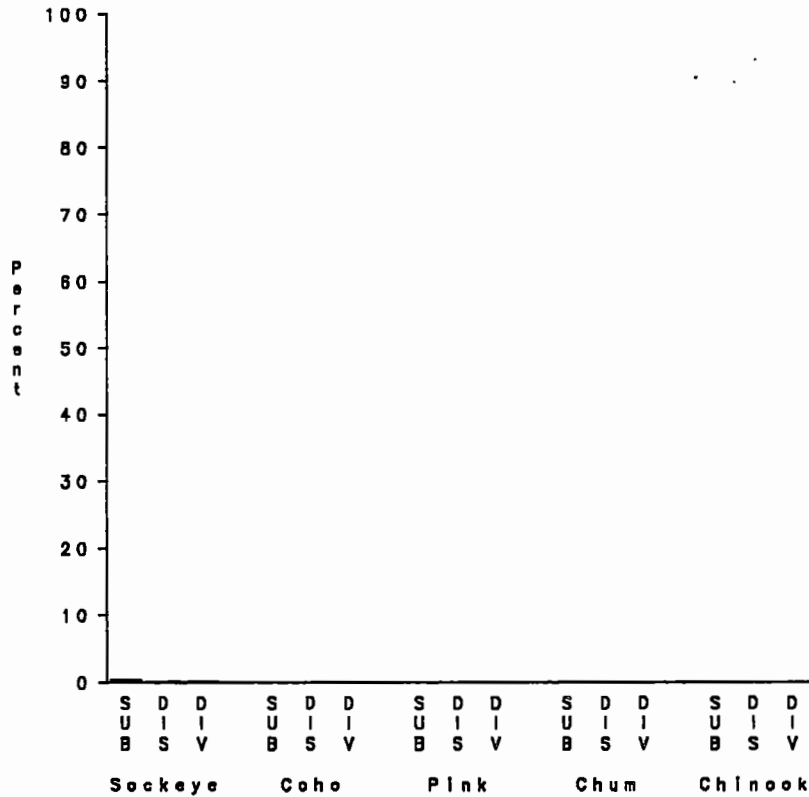
# FLEMING CREEK (09-8100-220)

10-yr Mean Escapement  
(1978-1987)



## FLEMING CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>PAULA CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-225</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OWINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/14</b>
		B.C.G.S. (1:20k) Map: <b>467729</b>
		U.T.M. Mouth: <b>54 DG. 46' 20'' 125 DG. 23' 0''</b>
		Mainstem Length: <b>19.0 km</b> Ref. No.: <b>291-27</b>
		Watershed Area: <b>50.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLWS SE INTO TREMBLEUR LAKE AT WEST END, RANGE 5, COAST DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>GRADIENT UP TO 11 KM IS LESS THAN 1%. ABOVE 11 KM THE GRADIENT INCREASES RAPIDLY TO 8%. (REF. 291-27)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>X LOG JAMS</b>				<b>NUMEROUS LOG JAMS, BEAVER DAMS RESTRICT SOCKEYE UPSTREAM MOVEMENT TO ABOUT 2.5 KM. BEAVER DAM REMOVED (1988). (REF. 291-27, REF. 291-100)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>
W.S.C. Station No. <b>1:</b>	No. <b>2:</b> No. <b>3:</b> No. <b>4:</b>
Comments: <b>DISCHARGE REPORT 1975. (REF. 291-27)</b>	
<b>SUBJECT TO LOW FLOWS. (REF. 291-87)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWN THROUGHOUT LOWER 1.6 KM IN LOW WATER YEARS; HAVE BEEN OBSERVED UP TO 3 KM (1988) AND COULD MOVE FURTHER UPSTREAM. (REF. 291-3, REF. 291-87, REF. 291-88)</b>
<b>DV DOLLY VARDEN</b>	<b>THROUGHOUT (REF. 291-88)</b>
<b>KO KOKANEK</b>	<b>THROUGHOUT (REF. 291-88)</b>
<b>RB RAINBOW TROUT</b>	<b>THROUGHOUT (REF. 291-88)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>1539</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>4642</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 29I-3, REF. 29I-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY FROM 0 - 13 KM. (REF. 29I-27)	1975/1975
LJ LOG JAM REMOVAL		0.0	LOG JAM REMOVAL ANNUALLY, ACTIVE BEAVER AREA. (REF. 29I-88)	/1986

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 29I-101)
LD LINEAR DEVELOPMENT	ACCESSED BY FORESTRY ROAD, ONE BRIDGE CROSSING IN LOWER REACH. (REF. 29I-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

SPAWNING POTENTIAL IS HIGH, FAVOURABLE FLOW AND SUBSTRATE. REARING POTENTIAL GOOD WITH PROTECTED AREAS. BANKS ARE UNSTABLE, COMPOSED OF CLAY AND SILT. TRIBUTARIES NUMEROUS BUT OF LITTLE IMPORTANCE. (REF. 29I-27)

HIGH DEGREE OF LATERAL INSTABILITY IN THE LOWER 4 KM FAN AS WELL AS HILL SLOPE INSTABILITY IN THE UPPER WATERSHED. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / / Prepared By:

**K. SIS COMPLETED BY**

Completed by: D. FARRELL Date: 1987/01/06  
 Last updated by: CATHY GEE Date: 1990/10/04  
 Last checked by: L. JAREMOVIC Date: 1990/10/04

ESCAPEMENT : PAULA CREEK

WATERSHED-CODE : 09-8100-225

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	1406	0	0	0	0	0
1954	36	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	N/O	0	0	0	0	0
1957	7918	0	0	0	0	0
1958	428	0	0	0	0	0
1959	45	0	0	0	0	0
1960	54	0	0	0	0	0
1961	1418	0	0	0	0	0
1962	405	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	79	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	27	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	794	0	0	0	0	0
1970	565	0	0	0	0	0
1971	1465	0	0	0	0	0
1972	9	0	0	0	0	0
1973	2787	0	0	0	0	0
1974	2059	0	0	0	0	0
1975	2292	0	0	0	0	0
1976	68	0	0	0	0	0
1977	918	0	0	0	0	0
1978	1604	0	0	0	0	0
1979	2715	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	1626	0	0	0	0	0
1982	68	0	0	0	0	0
1983	813	0	0	0	0	0
1984	536	0	0	0	0	0
1985	3219	0	0	0	0	0
1986	171	UNK	UNK	UNK	UNK	0
1987	4642	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

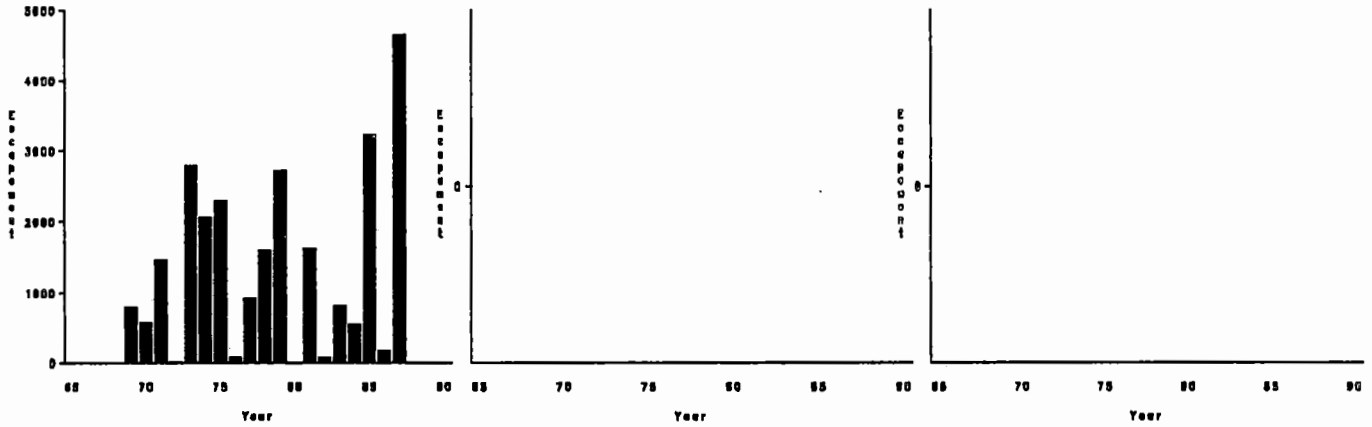
# PAULA CREEK (09-8100-225)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

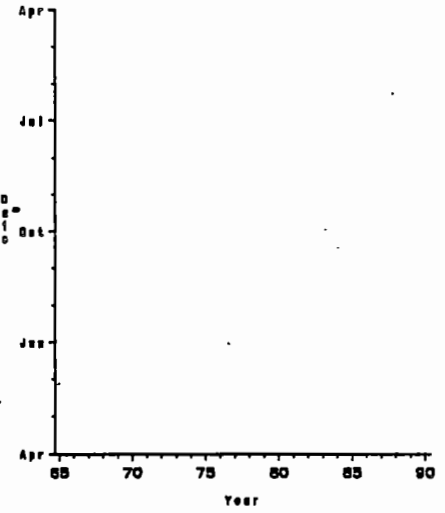
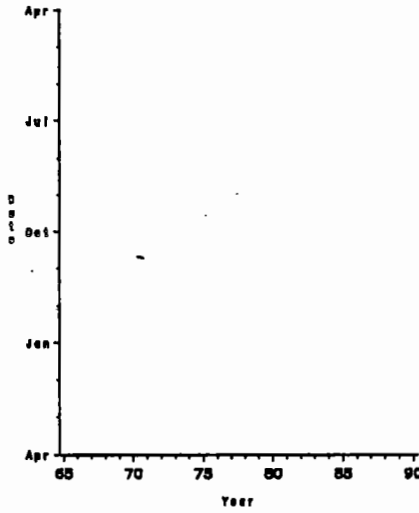
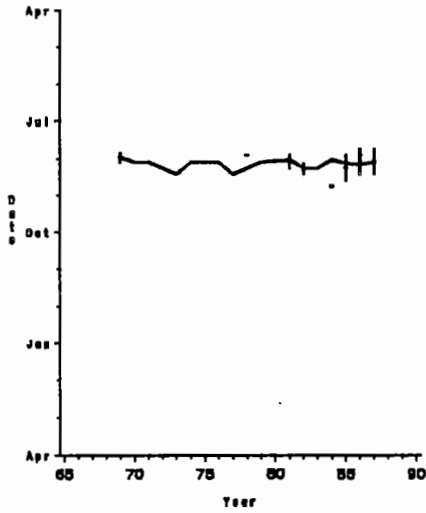
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	794	26JUL	01AUG	02AUG
1970	902	-	02AUG	-
1971	1,400	-	02AUG	-
1972	9	-	-	-
1973	2,707	-	10AUG	-
1974	2,800	-	02AUG	-
1976	2,202	-	02AUG	-
1978	0	-	02AUG	-
1977	0	-	10AUG	-
1978	1,604	26JUL	20AUG	-
1979	2,718	-	02AUG	-
1980	0	-	-	-
1981	1,020	26JUL	02AUG	10AUG
1982	0	02AUG	10AUG	12AUG
1983	0	-	10AUG	-
1984	0	-	02AUG	20AUG
1985	3,210	26JUL	02AUG	20AUG
1986	171	26JUL	07AUG	10AUG
1987	4,642	26JUL	02AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

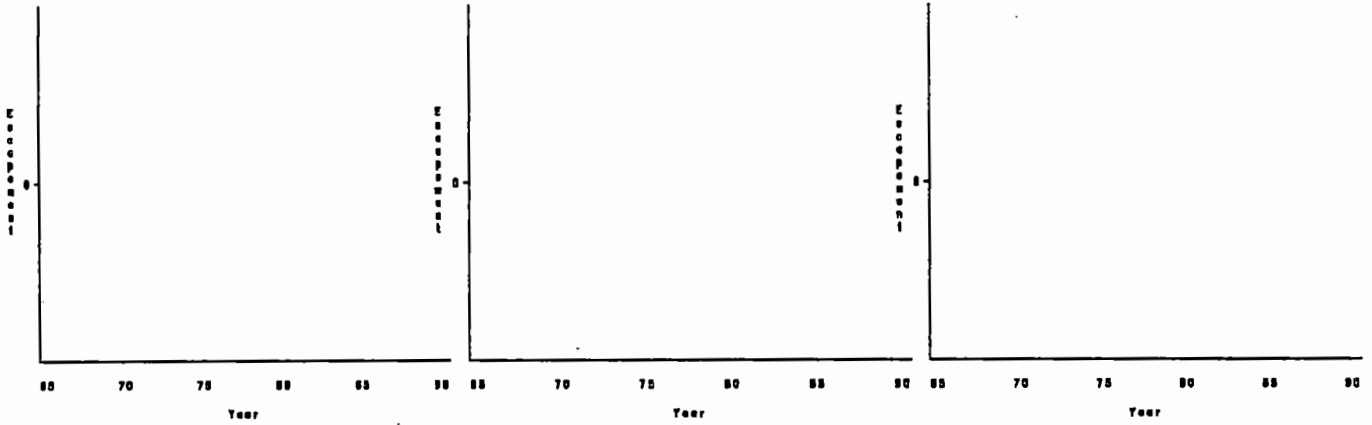
# PAULA CREEK (09-8100-225)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

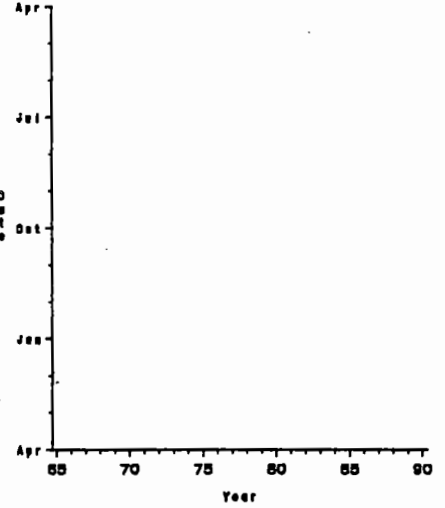
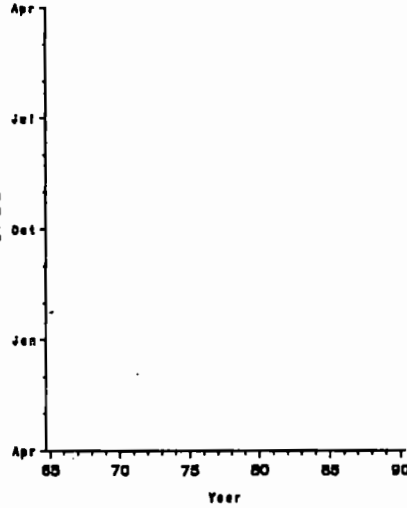
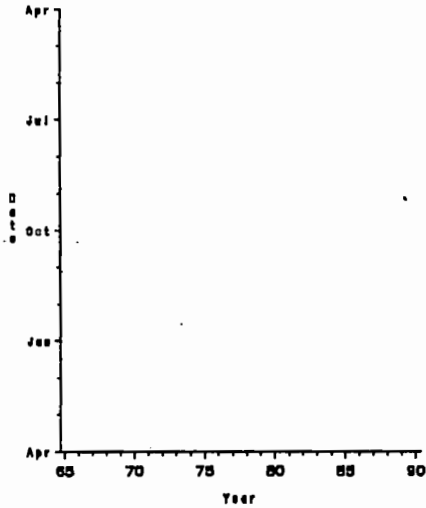
Steelhead (ST)



Chum

Chinook

Steelhead



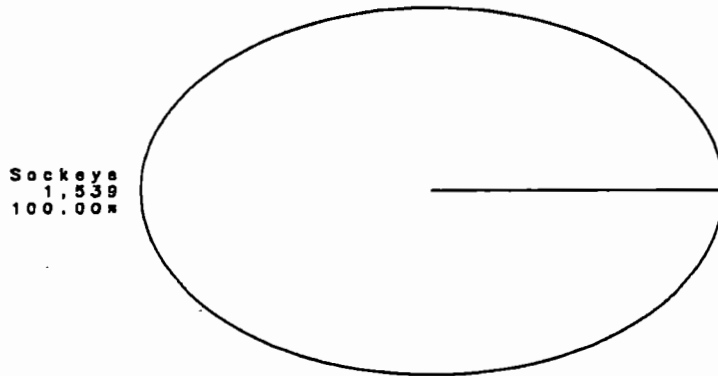
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1976	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

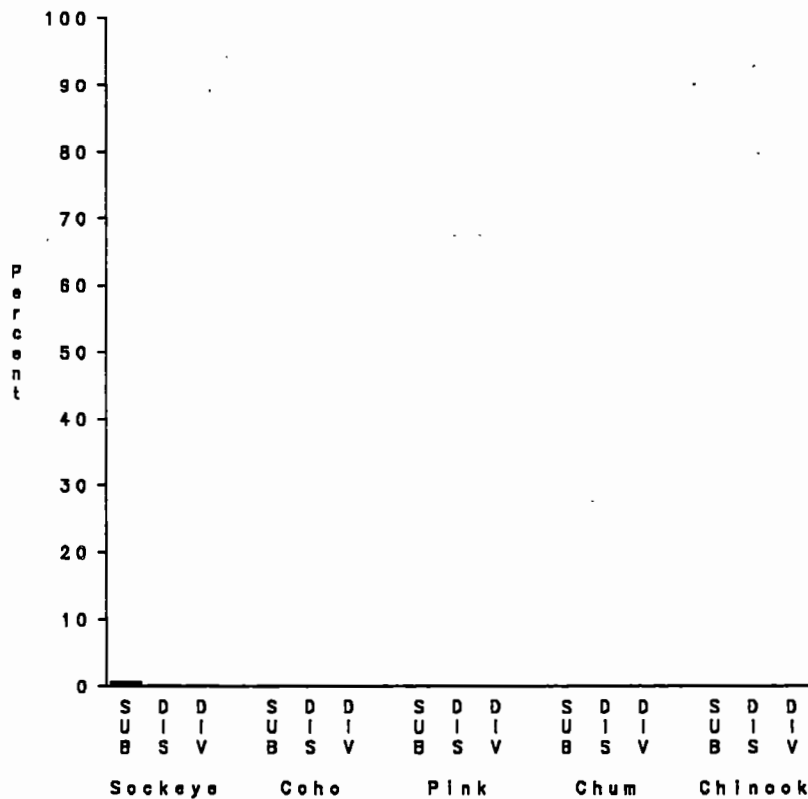
# PAULA CREEK (09-8100-225)

10-yr Mean Escapement  
(1978-1987)



## PAULA CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>SIDNEY CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>FELIX CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-230</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/14</b>
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>478735</b>
		Lat./Long. Mouth: <b>54 DG. 47' 0'' 125 DG. 22' 0''</b>
		Mainstem Length: <b>15.0 km</b> Ref. No.: <b>291-27</b>
		Watershed Area: <b>57.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLOWS S INTO WEST END OF TREMBLEUR LAKE, RANGE 5, COAST DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>GRADIENT COMMENTS (REF. 291-27)</b>
0.0- 2.5    2.5- 5.0    10.0- 15.0 5.0- 10.0	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>BD BEAVER DAM</b>	<b>3.0</b>			<b>BEAVER DAMS NEAR MOUTH OF CREEK REMOVED ANNUALLY BY HIGH WATER OR MANUALLY (REF. 291-3, REF. 291-88)</b>
<b>C CASCADE</b>	<b>1.0</b>	<b>2.5</b>	<b>SK SOCKEYE SALMON</b>	<b>TWO 1 M HIGH CHUTES CREATES A BARRIER FOR SMALLER FISH (POSSIBLE BARRIER). (REF. 291-27)</b>
<b>C CASCADE</b>	<b>3.0</b>	<b>3.5</b>		<b>TWO 3 M HIGH 30 DEGREE SLOPE CHUTES CREATE PARTIAL BARRIERS AGAINST SMALLER RAINBOW AND SALMON. (REF. 291-27)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE REPORT 1975 (REF. 291-27)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPREAD THROUGHOUT UP TO FALLS (CASCADE) AT 3.5 KM. (REF. 291-3, REF. 291-88, REF. 291-100)</b>
<b>KD KOKANEE</b>	<b>PRESENT IN SMALL NUMBERS 1.6 KM TO 2.4 KM. (REF. 291-88)</b>
<b>RB RAINBOW TROUT</b>	<b>DISTRIBUTED 1.6 KM TO 2.4 KM. (REF. 291-88)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>5220</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>20606</b>	<b>28A-18</b>		

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 - 15KM. (REF. 291-27)	1975/1975

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
UD URBAN DEVELOPMENT	LODGE AT MOUTH. PRIVATE LAND HOLDINGS. (REF. 291-88)
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; 2 MINERAL CLAIMS. (REF. 291-101)
LD LINEAR DEVELOPMENT	FORESTRY ROAD ACCESS; ONE BRIDGE CROSSING IN LOWER REACH. (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

PRODUCTIVITY IS HIGH IN TERMS OF SALMONID REARING AND SPAWNING HABITAT, RESIDENT HABITAT IS MARGINAL TO NONEXISTENT. CONSTRUCTION OF A FISHWAY AT 2.5 KM AND 3.5 KM MAY BE WORTHWHILE. (REF. 291-27)

HIGH DEGREE OF TERRAIN INSTABILITY IN UPPER WATERSHED. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / / Prepared By:

K. SIS COMPLETED BY

Completed by: D. FARRELL Date: 1987/01/06  
 Last updated by: CATHY GEE Date: 1990/10/04  
 Last checked by: L. JAREMOVIC Date: 1990/10/04

ESCAPEMENT : SIDNEY CREEK

WATERSHED-CODE : 09-8100-230

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	805	0	0	0	0	0
1954	218	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	N/O	0	0	0	0	0
1957	7081	0	0	0	0	0
1958	662	0	0	0	0	0
1959	31	0	0	0	0	0
1960	182	0	0	0	0	0
1961	3082	0	0	0	0	0
1962	1600	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	18	0	0	0	0	0
1965	1404	0	0	0	0	0
1966	979	0	0	0	0	0
1967	659	0	0	0	0	0
1968	22	0	0	0	0	0
1969	5879	0	0	0	0	0
1970	2866	0	0	0	0	0
1971	2954	0	0	0	0	0
1972	36	0	0	0	0	0
1973	7465	0	0	0	0	0
1974	3201	0	0	0	0	0
1975	2182	0	0	0	0	0
1976	184	0	0	0	0	0
1977	2160	0	0	0	0	0
1978	5575	0	0	0	0	0
1979	3846	0	0	0	0	0
1980	232	0	0	0	0	0
1981	6200	0	0	0	0	0
1982	454	0	0	0	0	0
1983	1412	0	0	0	0	0
1984	1490	0	0	0	0	0
1985	20606	0	0	0	0	0
1986	3756	UNK	UNK	UNK	UNK	0
1987	8628	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED,NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

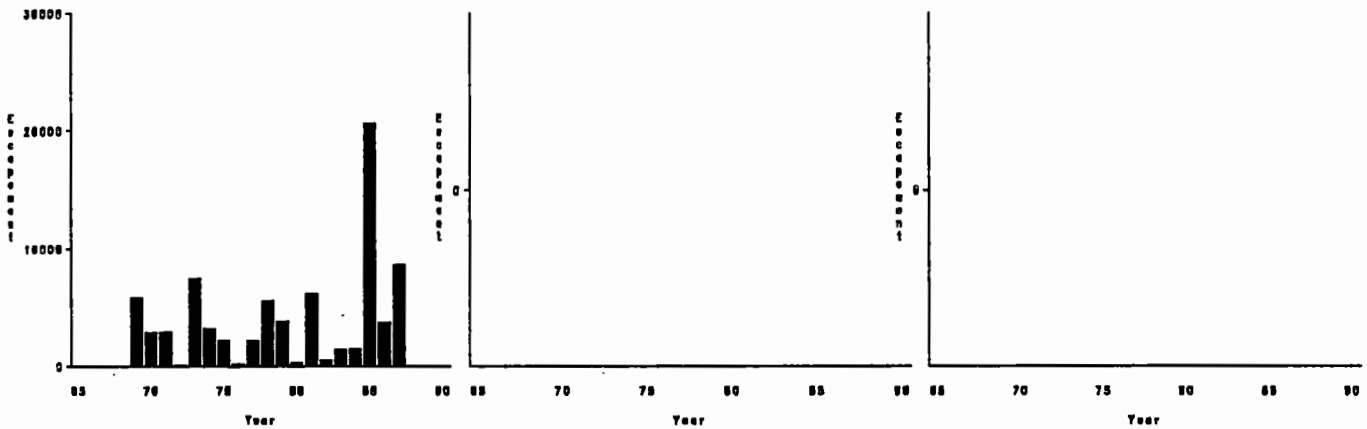
# SIDNEY CREEK (09-8100-230)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

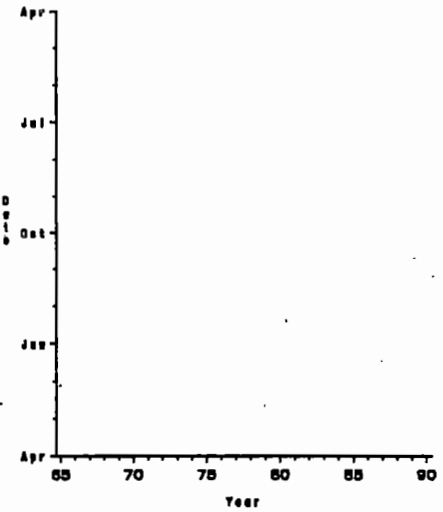
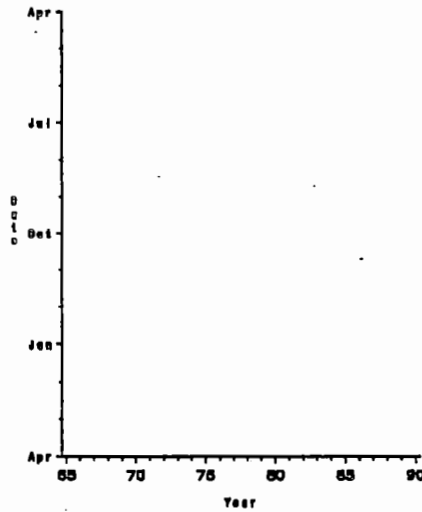
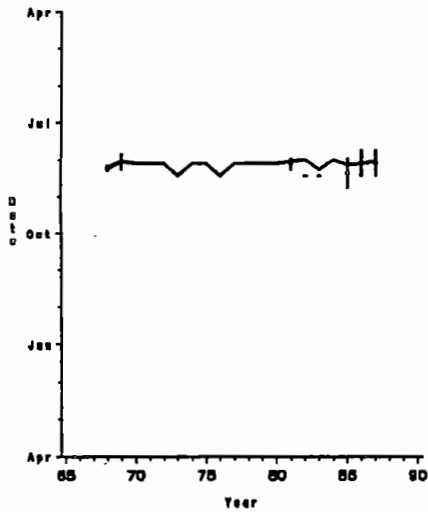
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	22	07AUG	09AUG	11AUG
1968	5,078	28JUL	03AUG	10AUG
1970	2,800	-	06AUG	-
1971	2,094	-	06AUG	-
1972	30	-	05AUG	-
1973	7,400	-	10AUG	-
1974	2,201	-	06AUG	-
1976	2,102	-	06AUG	-
1978	104	-	15AUG	-
1977	2,100	-	06AUG	-
1978	2,070	-	03AUG	-
1979	2,040	-	06AUG	-
1980	332	-	06AUG	-
1981	8,200	01AUG	02AUG	10AUG
1982	404	-	02AUG	12AUG
1983	1,412	12AUG	10AUG	18AUG
1984	1,400	-	02AUG	-
1986	20,000	01AUG	06AUG	20AUG
1988	2,700	20JUL	08AUG	12AUG
1987	9,020	20JUL	02AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1988	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1988	0	-	-	-
1987	0	-	-	-

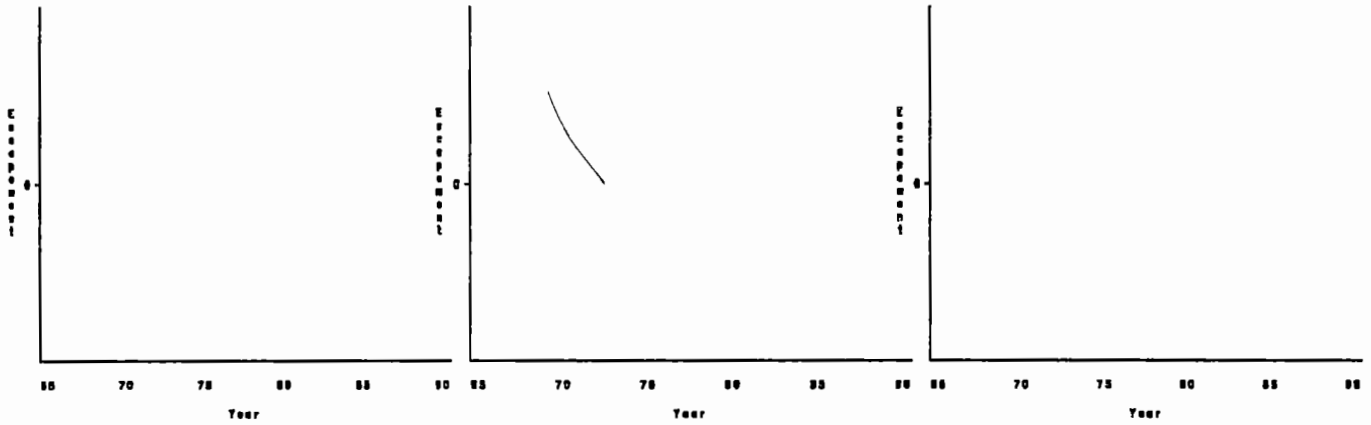
# SIDNEY CREEK (09-8100-230)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

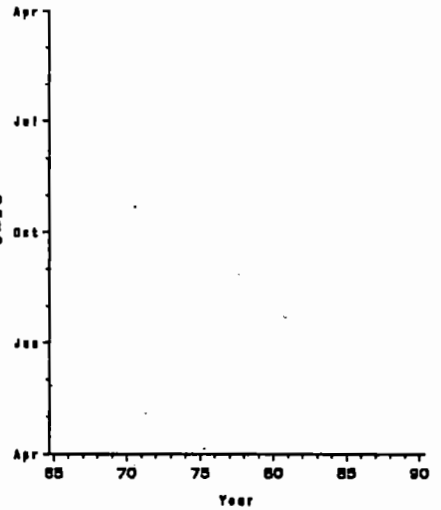
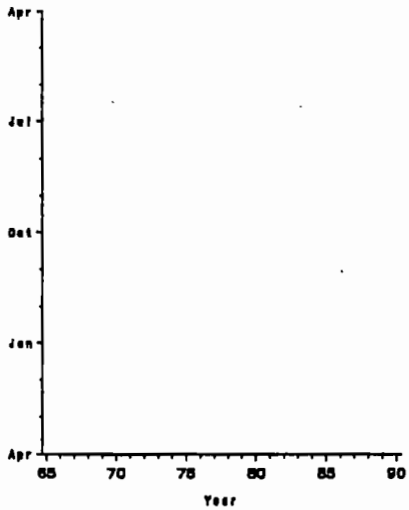
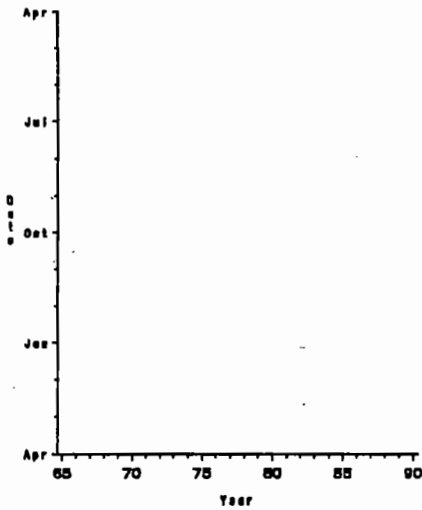
Steelhead (ST)



Chum

Chinook

Steelhead



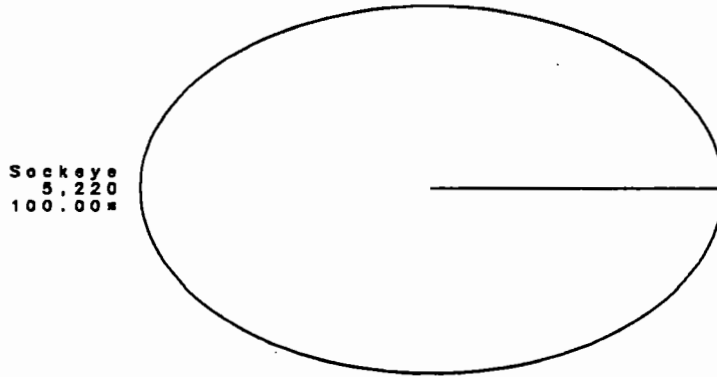
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

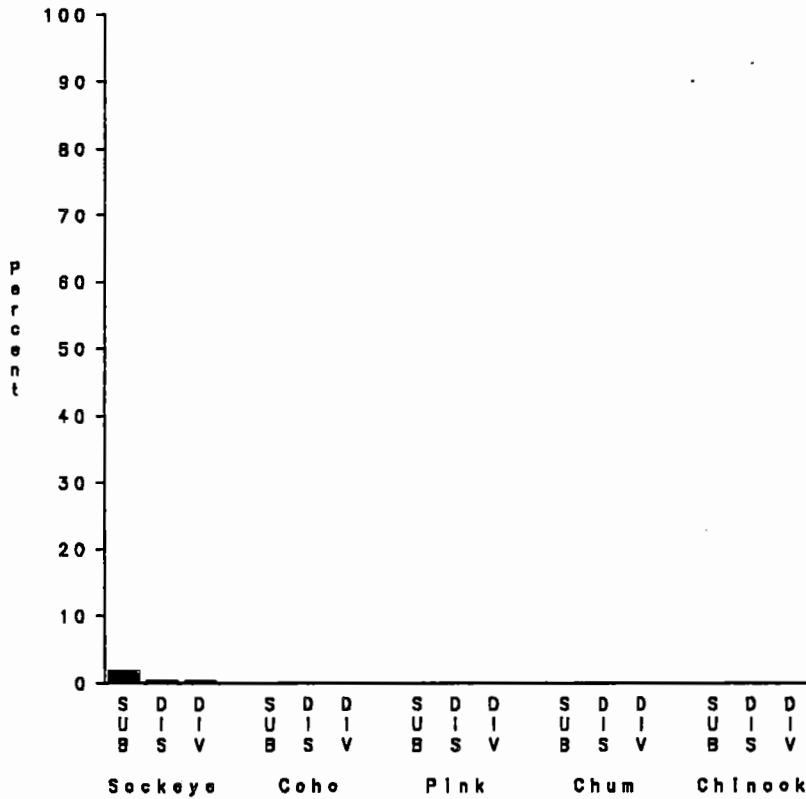
# SIDNEY CREEK (09-8100-230)

10-yr Mean Escapement  
(1978-1987)



## SIDNEY CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>KAZCHEK CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>HAY CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-300</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/14</b>
<b>INZA CREEK</b>	<b>910</b>	B.C.G.S. (1:20k) Map:
<b>KLOCH CREEK</b>	<b>930</b>	U.T.M. Mouth: <b>609840</b>
<b>CHU LAKE CREEK</b>	<b>960</b>	Lat./Long. Mouth: <b>54 DG. 54' 0" 125 DG. 10' 0"</b>
		Mainstem Length: <b>15.2 km</b> Ref. No.: <b>291-24</b>
		Watershed Area: <b>875.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLOWS SW INTO MIDDLE RIVER, NORTH OF TREMBLEUR LAKE, RANGE 5, COAST DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>0.5 % OVERALL, ABOUT 1% FOR FIRST 3.5 MILES, THEN THERE IS A CANYON WITH SERIES OF FALLS. (REF. 291-24, REF. 291-25)</b>
<b>0.0- 3.5</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>F FALLS</b>		<b>3.0</b>	<b>CH CHINOOK SALMON SK SOCKEYE SALMON</b>	<b>IMPASSABLE FALLS (REF. 291-3)</b>
<b>F FALLS</b>		<b>3.2</b>		<b>A SERIES OF CHUTES AND WATERFALLS IN THE CANYON AT 3.5 KM. (REF. 291-24)</b>
<b>F FALLS</b>		<b>3.5</b>		<b>SERIES OF FALLS IN ORDER 1.8M, 4.6M, 4.6M, 1.8M, 7.6M. (REF. 291-25)</b>
<b>F FALLS</b>		<b>14.4</b>		<b>1.8M. (REF. 291-25)</b>

**C. FLOW**

Flow Control: <b>M</b>	Water Survey of Canada (WSC) Flow Gauge: <b>Y</b>		
W.S.C. Station No. 1: <b>08JE005</b>	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE REPORT 1974. GAUGE ESTABLISHED 1979. (REF. 291-24)</b>			
<b>INZANA LAKE. KAZCHEK LAKE. (REF. 291-85)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWN THROUGHOUT, HEAVIEST JUST BELOW THE CANYON. (REF. 291-3, REF. 291-88)</b>
<b>CH CHINOOK SALMON</b>	<b>SPAWN THROUGHOUT, HEAVIEST JUST BELOW THE CANYON. (REF. 291-3, REF. 291-88)</b>
<b>DV DOLLY VARDEN</b>	<b>THROUGHOUT FROM KAZCHEK LAKE. (REF. 291-88)</b>
<b>KD KOKANEK</b>	<b>SPAWN THROUGHOUT LOWER REACHES. LARGE POPULATION OF KOKANEK. (REF. 291-88, REF. 291-100)</b>
<b>NSC NORTHERN SQUAWFISH</b>	<b>PRESENCE NOTED (REF. 291-25)</b>
<b>RB RAINBOW TROUT</b>	<b>THROUGHOUT FROM KAZCHEK LAKE, SPORT FISHERY CONCENTRATED IN POOL BELOW FALLS AT 14.4 KM. (REF. 291-25, REF. 291-88)</b>

D. DISTRIBUTION SUMMARY CONTINUED

Species	Watershed Distribution
TR TROUT	THROUGHOUT FROM KAZCHEK LAKE. (REF. 291-88)
WF WHITEFISH (GENERAL)	PRESENCE NOTED. (REF. 291-25)

E. ESCAPEMENT SUMMARY

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	1122	1978 - 1987	28A-18	7203	28A-18		
CH CHINOOK SALMON	6	1978 - 1987	28A-18	25	28A-18		
Comments: EARLY AND LATE RUN SOCKEYE. INTERMITTENT USE BY EARLY RUN. (REF. 291-1, REF. 291-100)							
LARGE RUN OF KOKANEE 1972, 1975, 1976, 1978, 1979. (REF. 291-3)							

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X	X X			
CH CHINOOK SALMON	Migration Spawning Incubation Rearing									X			
Comments: SOCKEYE AND CHINOOK TIMING INFORMATION. LATE STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100, REF. 291-103)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING		0.0	HABITAT SAMPLING 0 - 15.2 KM (REF. 291-24)	1974/1974
CH SPawning CHANNEL	SK SOCKEYE SALMON	0.0	SURVEY FOR SPawning CHANNEL JUST BELOW FALLS SEP. NOT CONSTRUCTED. (REF. 291-88)	1985/1986

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	LOGGED BETWEEN 1986 AND 1988; CUTTING PLANS FOR 1989/1990. (REF. 291-101)
LD LINEAR DEVELOPMENT	LOGGING ACCESS ROAD FROM KUZKWA R. TO WEST END OF KAZCHEK LAKE. (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM (HG), (TAKATOOT LAKE). (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

FIRST 3.5 KM EXCELLENT SPawning AND REARING AREAS, OVERALL PRODUCTIVITY IS RELATIVELY HIGH. (REF. 291-24)
GOOD SPawning AREAS ABOVE THE FALLS, ENHANCEMENT POSSIBILITIES: INACCESSIBLE PORTIONS COULD PROVIDE AN ADDITIONAL 90,000 SQ YARDS OF SPawning GRAVEL. REMOVE BARRIERS OR IPSFC PROPOSED CONSTRUCTION OF SALMON SPawning CHANNELS. FLOW CONTROL POSSIBILITIES. (REF. 291-2, REF. 291-88)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS CONTINUED

WATER QUALITY TESTS. (REF. 29I-2)
TARGET MAY BE TOO HIGH WITHOUT ENHANCEMENT. SEDIMENT PROBLEM IN LOWER RIVER. (REF. 29I-100)
PROPOSED SPAWNING CHANNEL SITES BELOW CANYON. ENHANCEMENT WOULD UTILIZE REARING CAPACITY OF TREMBLEUR LAKE. (REF. 29I-100, REF. 29I-103)
HIGH STREAM TEMPERATURES HAVE BEEN IDENTIFIED AS THE CAUSE OF PRE-SPAWNING MORTALITY WHICH HAVE BEEN OVER 50% IN SOME YEARS. (REF. 29I-100)
EXTREMELY LARGE POPULATION OF KOKANEE MAY LIMIT SOCKEYE PRODUCTION. (REF. 29I-100)
RELATIVELY HIGH DEGREE OF TERRAIN INSTABILITY IN LOWER 5 KM. (REF. 29I-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared:     /   /	Prepared By:
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K. SIS COMPLETED BY

Completed by:     D. FARRELL	Date: 1987/01/09
Last updated by:  KATHY PONTUS	Date: 1990/10/16
Last checked by:  L. JAREMOVIC	Date: 1990/10/16

ESCAPEMENT : KAZCHEK CREEK

WATERSHED-CODE : 09-8100-300

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	7903	0	0	0	75	0
1954	83	0	0	0	25	0
1955	18	0	0	0	0	0
1956	223	0	0	0	0	0
1957	19584	0	0	0	75	0
1958	369	0	0	0	25	0
1959	7	0	0	0	25	0
1960	5	0	0	0	N/0	0
1961	15676	0	0	0	25	0
1962	77	0	0	0	0	0
1963	364	0	0	0	0	0
1964	N/0	0	0	0	0	0
1965	3292	0	0	0	0	0
1966	144	0	0	0	0	0
1967	92	0	0	0	0	0
1968	33	0	0	0	25	0
1969	178	0	0	0	25	0
1970	74	0	0	0	0	0
1971	140	0	0	0	0	0
1972	65	0	0	0	25	0
1973	2909	0	0	0	25	0
1974	239	0	0	0	25	0
1975	347	0	0	0	75	0
1976	33	0	0	0	25	0
1977	720	0	0	0	25	0
1978	122	0	0	0	25	0
1979	341	0	0	0	25	0
1980	N/0	0	0	0	0	0
1981	7203	0	0	0	2	0
1982	410	0	0	0	0	0
1983	11	0	0	0	0	0
1984	0	0	0	0	0	0
1985	2390	0	0	0	5	0
1986	603	UNK	UNK	UNK	UNK	0
1987	137	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/0 = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

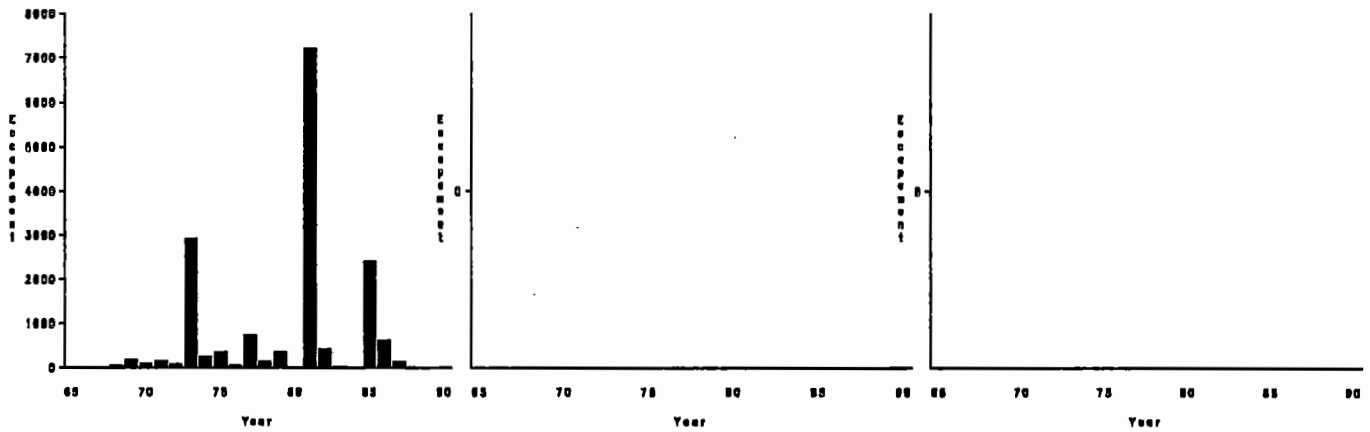
# KAZCHEK CREEK (09-8100-300)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

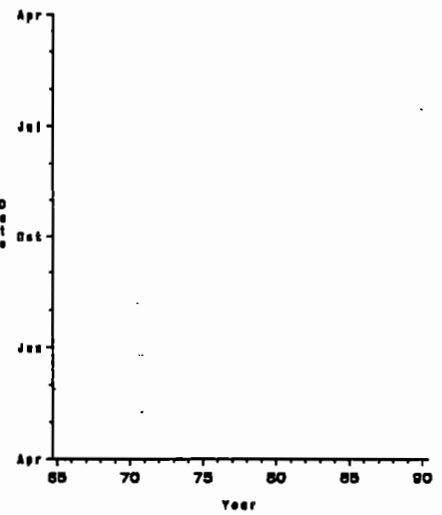
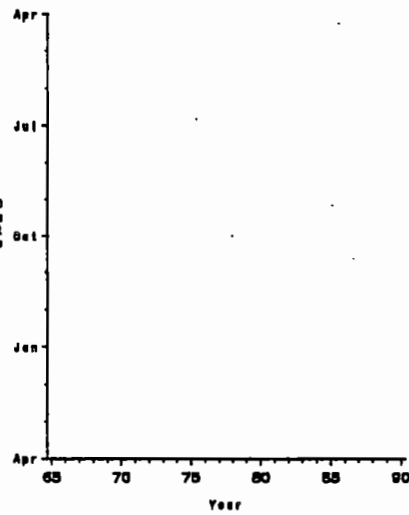
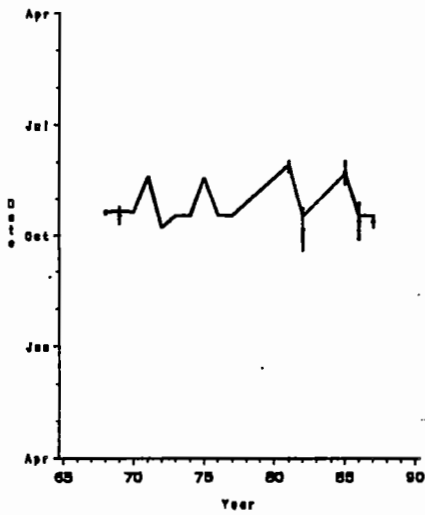
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	22	11SEP	12SEP	14SEP
1968	178	08SEP	11SEP	28SEP
1970	74	-	12SEP	-
1971	168	-	14AUG	-
1972	88	-	29SEP	-
1973	2,100	-	18SEP	-
1974	238	-	18SEP	-
1976	247	-	18AUG	-
1978	33	-	19SEP	-
1977	726	-	18SEP	-
1978	122	-	-	-
1979	261	-	-	-
1980	0	-	-	-
1981	7,202	01AUG	04AUG	16AUG
1982	410	08SEP	10SEP	18OCT
1983	11	-	24JUN	-
1984	0	-	-	-
1988	2,204	01AUG	11AUG	28AUG
1989	683	08SEP	18SEP	30OCT
1987	127	18SEP	18SEP	28SEP

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1987	0	-	-	-

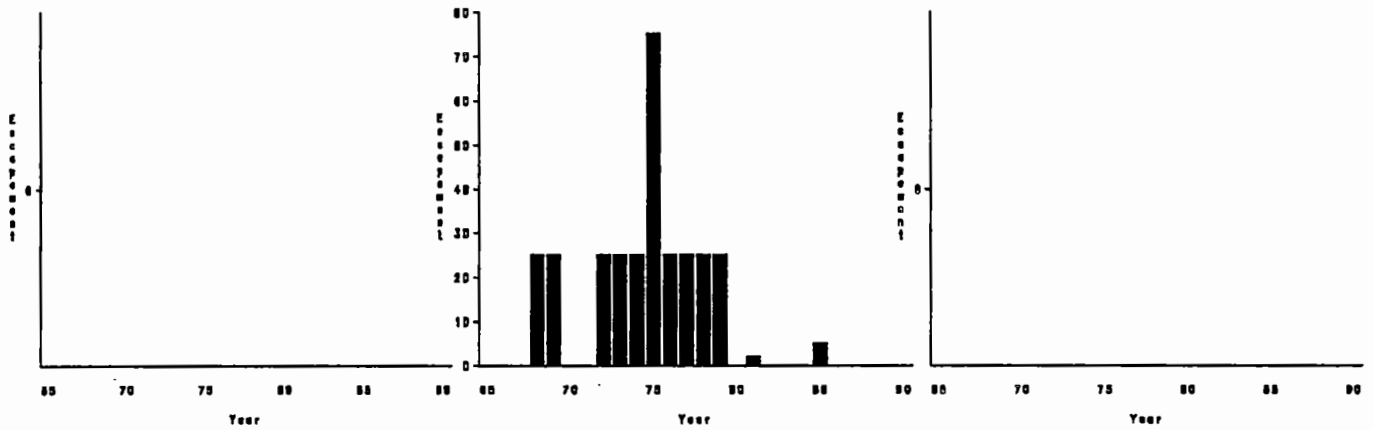
# KAZCHEK CREEK (09-8100-300)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

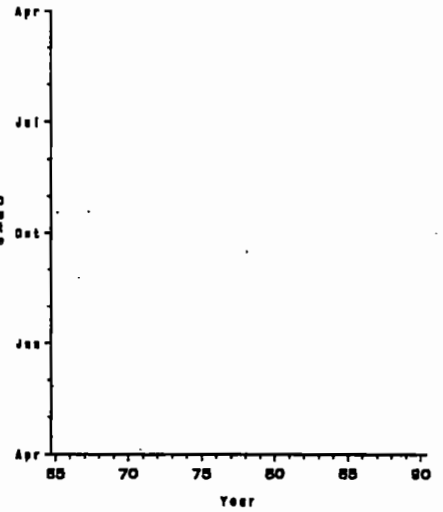
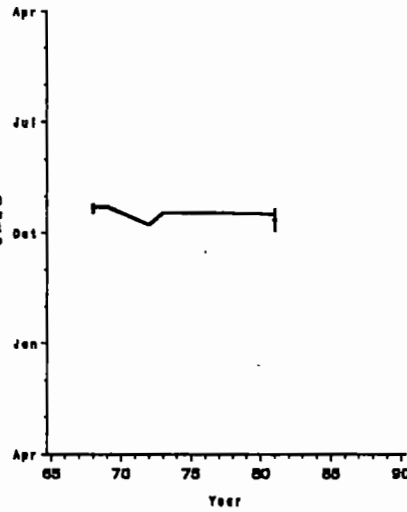
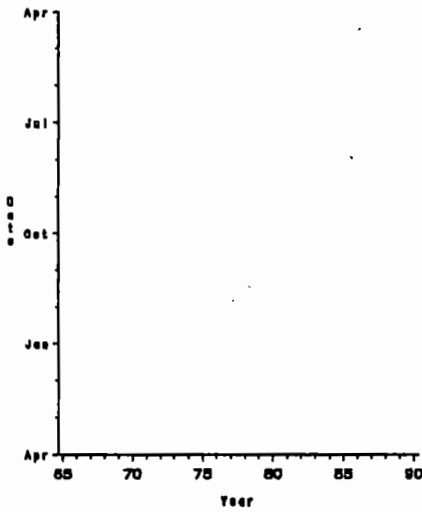
Steelhead (ST)



Chum

Chinook

Steelhead



Chum

Chinook

Steelhead

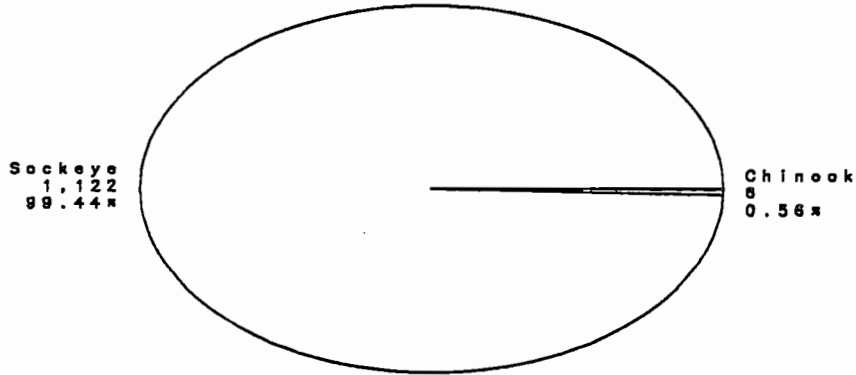
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	25	6ASEP	18SEP	18SEP
1969	25	-	18SEP	-
1970	0	-	-	-
1971	0	-	-	-
1972	25	-	20SEP	-
1973	25	-	18SEP	-
1974	25	-	18SEP	-
1976	75	-	18SEP	-
1978	25	-	18SEP	-
1979	25	-	18SEP	-
1980	0	-	-	-
1981	2	18SEP	18SEP	20SEP
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	5	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1986	-	-	-	-
1987	-	-	-	-
1988	-	-	-	-
1989	-	-	-	-
1990	-	-	-	-
1991	-	-	-	-
1992	-	-	-	-
1993	-	-	-	-
1994	-	-	-	-
1995	-	-	-	-
1996	-	-	-	-
1997	-	-	-	-

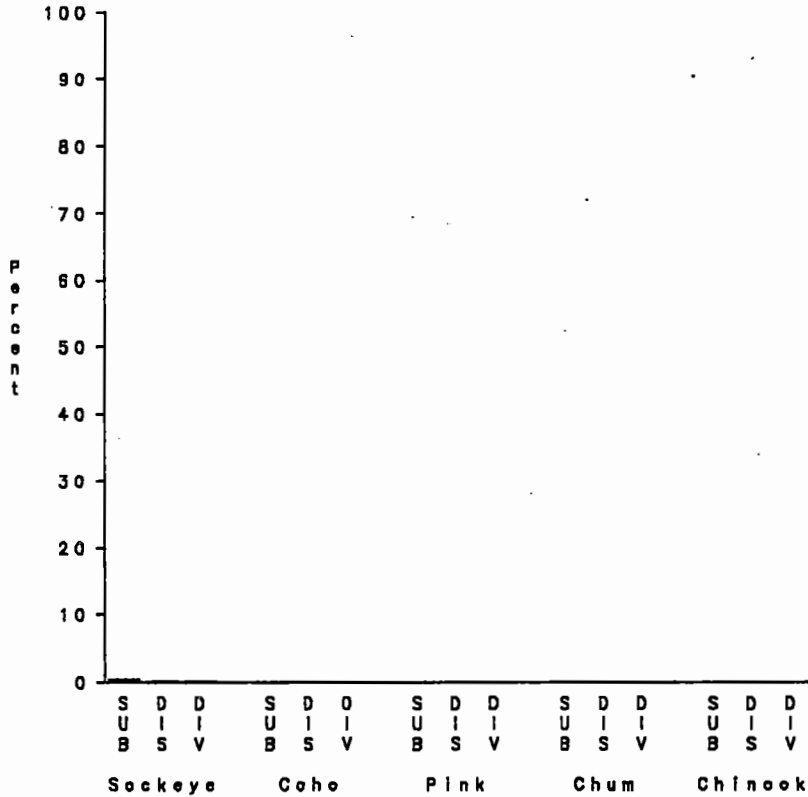
# KAZCHEK CREEK (09-8100-300)

10-yr Mean Escapement  
(1978-1987)



## KAZCHEK CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>VAN DECAR CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>ROSETTE CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-375</b>	Subdistrict: <b>29I PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93K/14</b>
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>503937</b>
		Lat./Long. Mouth: <b>54 DG. 58' 0'' 125 DG. 20' 0''</b>
		Mainstem Length: <b>10.4 km</b> Ref. No.: <b>29I-24</b>
		Watershed Area: <b>31.0 km<sup>2</sup></b> Ref. No.: <b>29I-101</b>
Location: <b>FLows NE INTO MIDDLE RIVER, SOUTHWEST OF NATAZUTLO LAKE, RANGE 5, COAST DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>GRADIENT COMMENTS. 1-2% FOR 1.6 KM INCREASING TO 3% IN THE THIRD KM. (REF. 29I-24)</b>
<b>0.0- 1.6</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>X LOG JAMS</b>		<b>0.8</b>		<b>LOG JAMS LOCATED AT .8 KM AND 2.6 KM PARTIAL BARRIERS AT LOW WATER REMOVED 1973 TO 1986 (REF. 29I-24, REF. 29I-88)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE REPORT 1974. (REF. 29I-24)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWNING LOWER 1.6 KM AND UP TO 5 KM. (REF. 29I-24, REF. 29I-100)</b>
<b>OV DOLLY VARDEN</b>	<b>PRESENCE NOTED. (REF. 29I-24)</b>
<b>KD KOKANEE</b>	<b>PRESENCE NOTED (REF. 29I-24)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>8267</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>15983</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SK SOCKEYE SALMON</b>	<b>Migration Spawning Incubation Rearing</b>							<b>X</b>	<b>X</b>				

F. LIFE HISTORY TIMING CONTINUED

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 29I-88, REF. 29I-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 -10.4KM (REF. 29I-24)	1974/1974
LJ LOG JAM REMOVAL	SK SOCKEYE SALMON	0.0	LOG JAM REMOVAL, SALMON COMMISSION. (REF. 29I-88)	1973/1986

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	ONE LARGE CJT BLOCK IN LOWER END OF WATERSHED ON NORTH SIDE; CUTTING PLANS FOR 1989/1990. (REF. 29I-88, REF. 29I-100)
LD LINEAR DEVELOPMENT	ACCESSED BY FORESTRY ROAD ALONG N. SIDE OF CREEK WITH ONE BRIDGE CROSSING AT MOUTH. NEW BRANCH LINES PROPOSED. (REF. 29I-88, REF. 29I-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; 3 MINERAL CLAIMS. (REF. 29I-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

A LARGE COLD LOW GRADIENT STREAM. GOOD SOCKEYE PRODUCER; SILTING AND SUBSTRATE COMMENTS (REF. 29I-24)
UNSTABLE VALLEY WALLS AND HILLSLOPES IN CLOSE PROXIMITY TO THE CREEK CHANNEL; A LONG (3.5 KM) FAN AT THE MOUTH APPEARS UNSTABLE AS WELL. (REF. 29I-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
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K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/06
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : VAN DECAR CREEK

WATERSHED-CODE : 09-8100-375

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	6355	0	0	0	0	0
1954	3836	0	0	0	0	0
1955	916	0	0	0	0	0
1956	3863	0	0	0	0	0
1957	7087	0	0	0	0	0
1958	4802	0	0	0	0	0
1959	911	0	0	0	0	0
1960	4558	0	0	0	0	0
1961	5146	0	0	0	0	0
1962	4887	0	0	0	0	0
1963	1600	0	0	0	0	0
1964	952	0	0	0	0	0
1965	1165	0	0	0	0	0
1966	1645	0	0	0	0	0
1967	6566	0	0	0	0	0
1968	518	0	0	0	0	0
1969	1566	0	0	0	0	0
1970	7664	0	0	0	0	0
1971	16454	0	0	0	0	0
1972	834	0	0	0	0	0
1973	4156	0	0	0	0	0
1974	5675	0	0	0	0	0
1975	8543	0	0	0	0	0
1976	2090	0	0	0	0	0
1977	2261	0	0	0	0	0
1978	7452	0	0	0	0	0
1979	15893	0	0	0	0	0
1980	2054	0	0	0	0	0
1981	8018	0	0	0	0	0
1982	1300	0	0	0	0	0
1983	3304	0	0	0	0	0
1984	8147	0	0	0	0	0
1985	15704	0	0	0	0	0
1986	4763	UNK	UNK	UNK	UNK	0
1987	16036	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

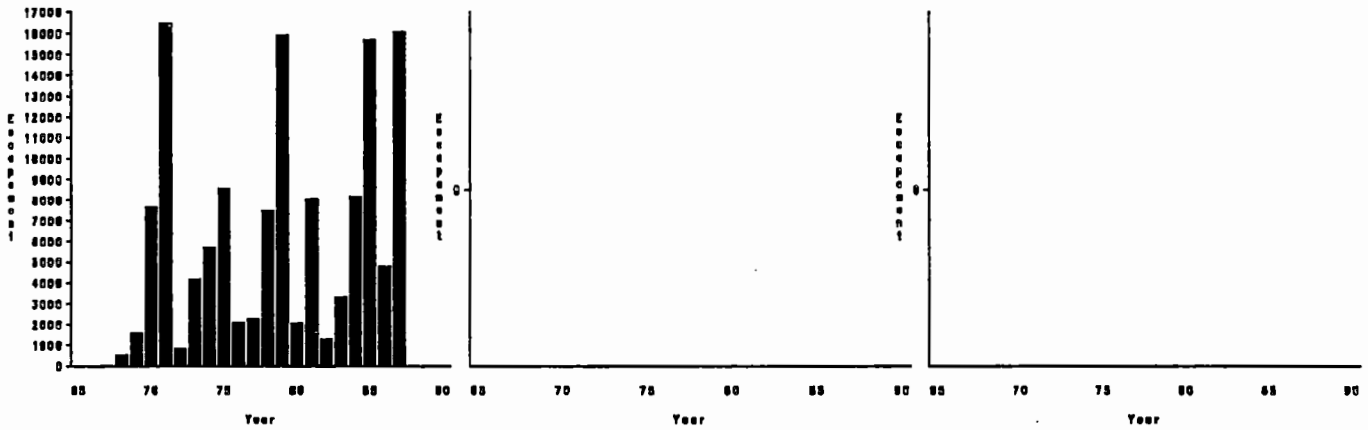
# VAN DECAR CREEK (09-8100-375)

## Escapement & Run Timing

**Sockeye (SK)**

**Coho (CO)**

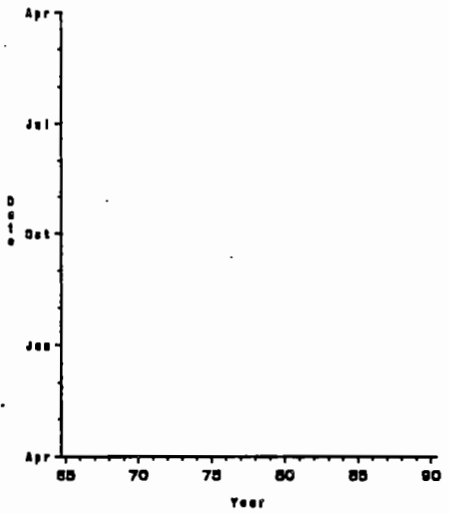
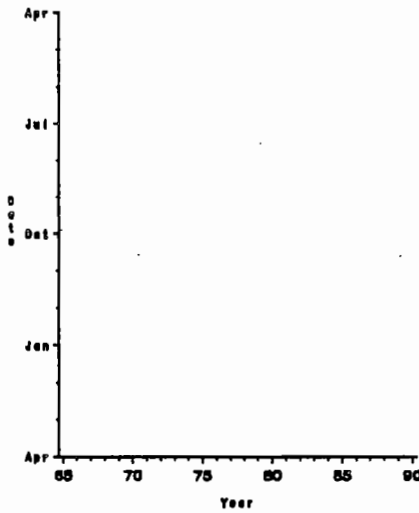
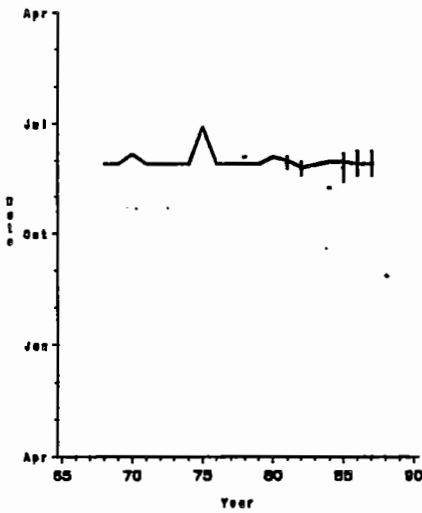
**Pink (PK)**



**Sockeye**

**Coho**

**Pink**



Year	Escapement	Start	Peak	End
1966	818	-	05AUG	-
1968	1,400	-	09AUG	-
1976	7,604	-	20JUL	-
1971	10,406	-	09AUG	-
1972	624	-	09AUG	-
1973	4,100	-	09AUG	-
1974	8,678	-	08AUG	-
1978	8,843	-	08JUL	-
1979	3,600	-	09AUG	-
1977	2,301	-	09AUG	-
1970	7,452	30JUL	30AUG	-
1978	12,003	-	09AUG	-
1980	3,884	-	30JUL	-
1981	8,010	30JUL	09AUG	09AUG
1982	1,300	09AUG	09AUG	12AUG
1983	3,304	-	-	-
1984	8,147	-	03AUG	20AUG
1988	18,704	27JUL	03AUG	20AUG
1989	4,702	28JUL	09AUG	12AUG
1987	10,620	20JUL	09AUG	12AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

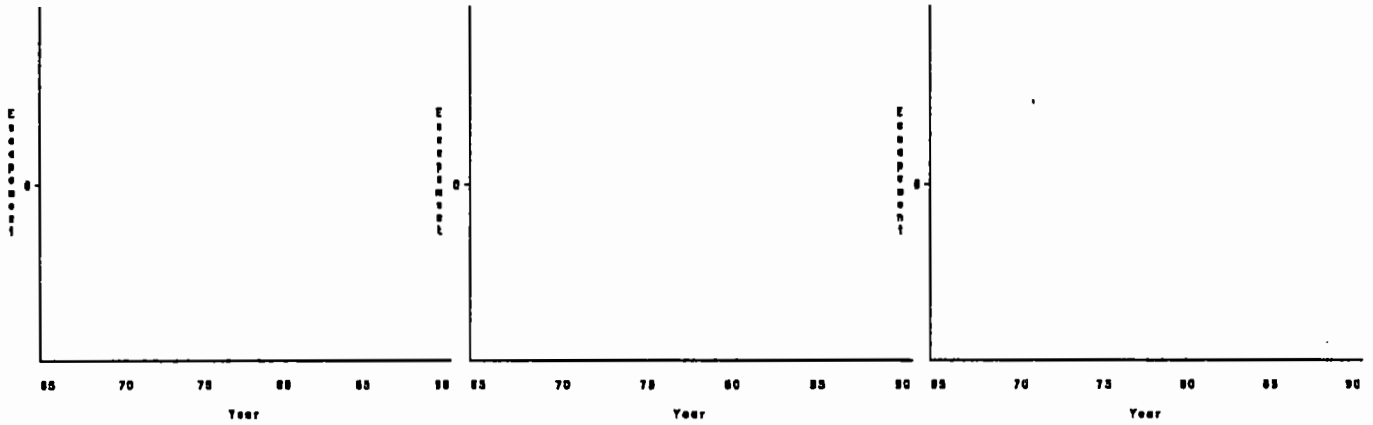
# VAN DECAR CREEK (09-8100-375)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

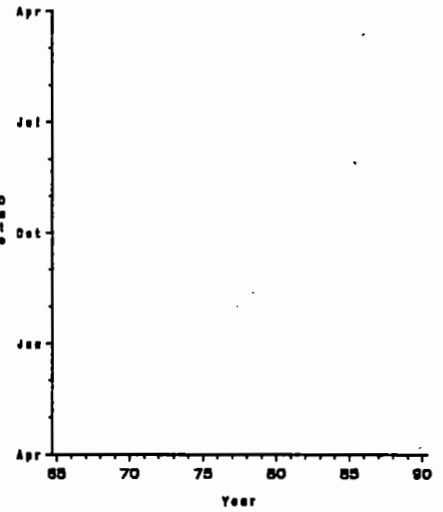
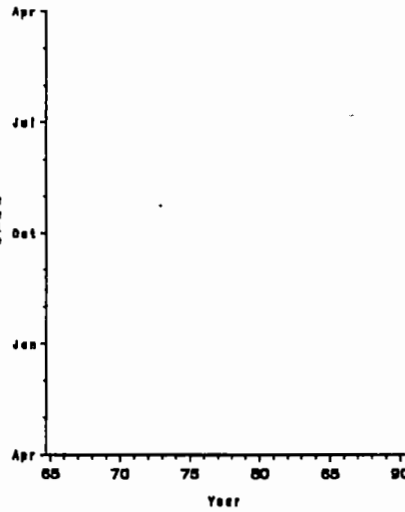
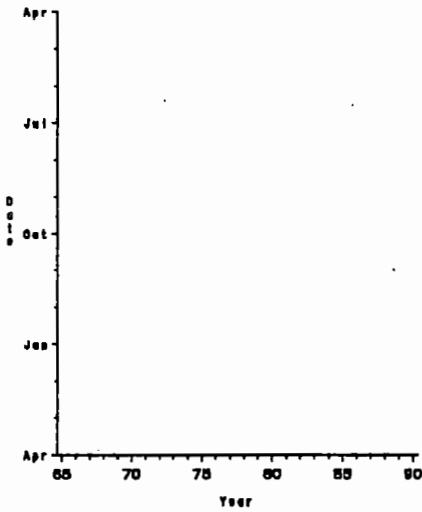
Steelhead (ST)



Chum

Chinook

Steelhead



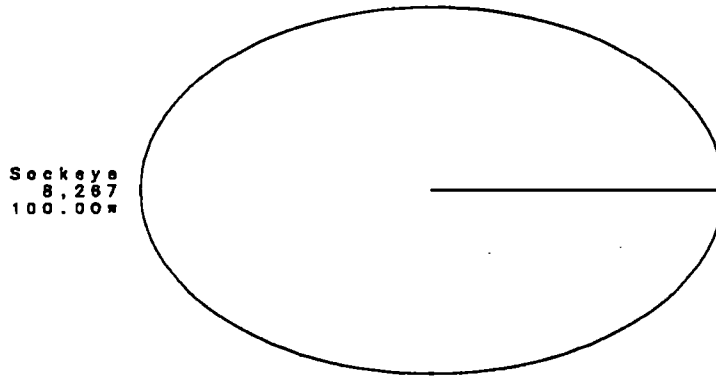
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

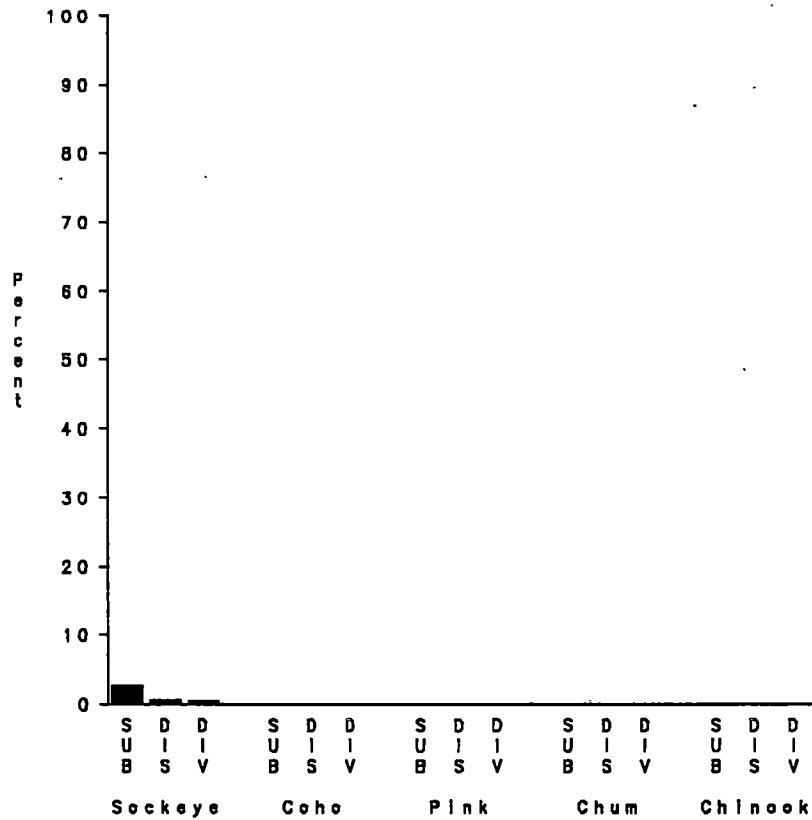
# VAN DECAR CREEK (09-8100-375)

10-yr Mean Escapement  
(1978-1987)



## VAN DECAR CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>O'NE-ELL CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>KYNOCK CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-410</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 ONTNECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93N/3</b>
<b>TSITSULT CREEK</b>	<b>100</b>	B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>470977</b>
		Lat./Long. Mouth: <b>55 DG. 0' 0" 125 DG. 23' 0"</b>
		Mainstem Length: <b>14.2 km</b> Ref. No.: <b>291-24</b>
Watershed Area: Ref. No.:		
Location: <b>FLOWS HE INTO MIDDLE RIVER, RANGE 5, COASTAL DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>1 % FOR 1.6 KM INCREASING TO 3-4% BY 2.3 KM. THE GRADIENT INCREASES GRADUALLY TO 7-8% BY 3.2 KM. (REF. 291-24)</b>
<b>0.0- 1.6    1.6- 2.4</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>F FALLS</b>		<b>3.6</b>	<b>SK SOCKEYE SALMON</b>	<b>(REF. 291-88)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE REPORT 1974. (REF. 291-24)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>MOST SPAWN IN FIRST 2.4 KM AND TO FIRST CASCADE. (REF. 291-3, REF. 291-24, REF. 291-100)</b>
<b>DV DOLLY VARDEN</b>	<b>TO CANYON. (REF. 291-88)</b>
<b>KO KOKANEE</b>	<b>PRESENCE NOTED. (REF. 291-88)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>16367</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>41424</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SK SOCKEYE SALMON</b>	Migration Spawning Incubation Rearing							<b>X</b>	<b>X</b>				

**F. LIFE HISTORY TIMING CONTINUED**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FD FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-88, REF. 291-100)
LD LINEAR DEVELOPMENT	LOGGING ROAD ACCESS TO VAN DECAR C. AND CROSSES IN LOWER REACH. (REF. 291-88, REF. 291-100)
MI MINING	A JADE MINE AT UPPER SECTION, AS OF 1986 NOT ACTIVE FOR 10 YEARS. WITHIN "NO STAKING RESERVE". (REF. 291-3, REF. 291-88, REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

LARGE COLD, SLIGHTLY MUDDY, LOW GRADIENT STREAM WITH MANY SIDE CHANNELS, (AT LOW FLOWS ONLY), GRAVEL BARS, LOG JAMS AND DEBRIS. ANNUAL STREAM CLEARANCE HELPS STABILIZE CREEK. (REF. 291-3, REF. 291-24)
MAJOR PRODUCER OF THE EARLY TIMING STUART RUN; MAXIMUM PRODUCTION REACHED AT 53,000 SPAWNERS IN 1988. (REF. 291-100)
CHANNEL STABILITY ASSESSMENT SHOWS A HIGH DEGREE OF LATERAL INSTABILITY IN THE LOWER FAN AS WELL AS HILLSLOPE INSTABILITY IN THE UPPER WATERSHED. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
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**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : O'NE-ELL CREEK

WATERSHED-CODE : 09-8100-410

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	16734	0	0	0	0	0
1954	13860	0	0	0	0	0
1955	1037	0	0	0	0	0
1956	9535	0	0	0	0	0
1957	13473	0	0	0	0	0
1958	9477	0	0	0	0	0
1959	1123	0	0	0	0	0
1960	4154	0	0	0	0	0
1961	13171	0	0	0	0	0
1962	8672	0	0	0	0	0
1963	2147	0	0	0	0	0
1964	1147	0	0	0	0	0
1965	2885	0	0	0	0	0
1966	3591	0	0	0	0	0
1967	6694	0	0	0	0	0
1968	833	0	0	0	0	0
1969	12380	0	0	0	0	0
1970	4676	0	0	0	0	0
1971	22932	0	0	0	0	0
1972	2534	0	0	0	0	0
1973	22485	0	0	0	0	0
1974	10652	0	0	0	0	0
1975	25124	0	0	0	0	0
1976	6727	0	0	0	0	0
1977	5893	0	0	0	0	0
1978	10649	0	0	0	0	0
1979	34228	0	0	0	0	0
1980	10661	0	0	0	0	0
1981	13452	0	0	0	0	0
1982	1170	0	0	0	0	0
1983	7822	0	0	0	0	0
1984	16933	0	0	0	0	0
1985	20347	0	0	0	0	0
1986	7000	UNK	UNK	UNK	UNK	0
1987	41424	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

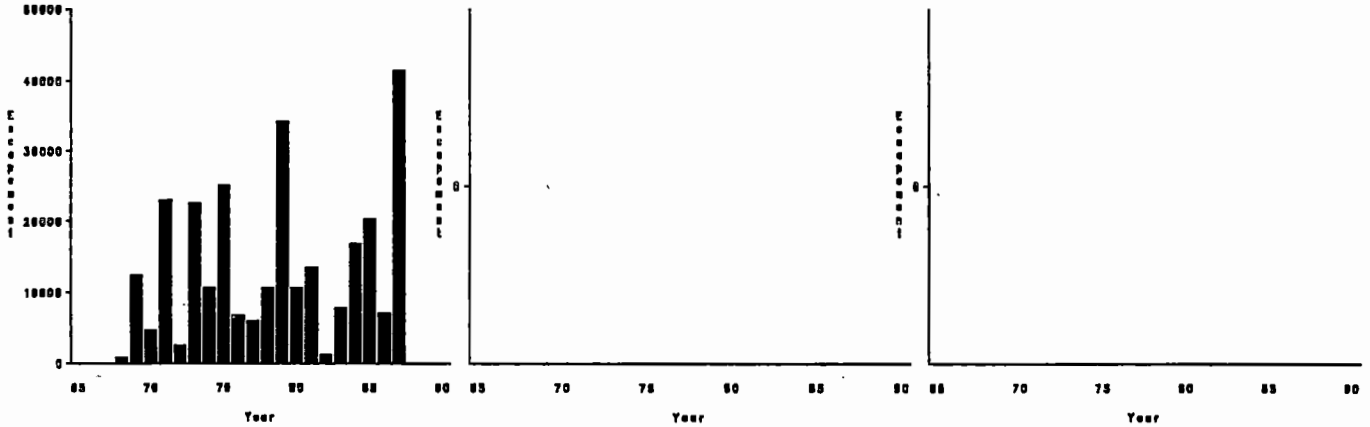
# O'NE-ELL CREEK (09-8100-410)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

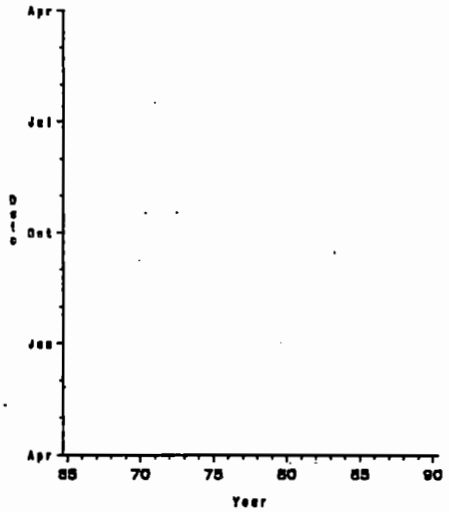
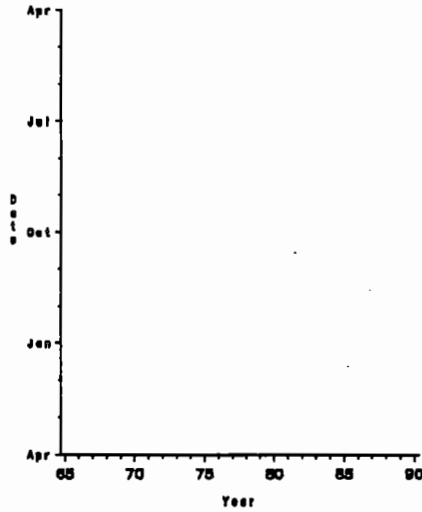
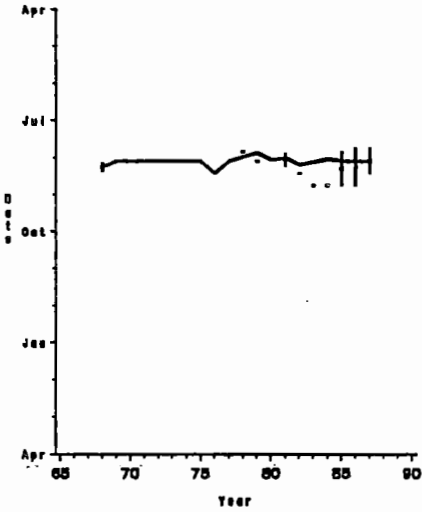
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	07AUG	10AUG	13AUG
1967	12,300	-	08AUG	-
1968	4,676	-	08AUG	-
1969	22,932	-	08AUG	-
1970	2,826	-	08AUG	-
1971	22,400	-	08AUG	-
1972	16,003	-	08AUG	-
1973	26,126	-	08AUG	-
1974	6,727	-	15AUG	-
1975	3,203	-	08AUG	-
1976	16,066	20JUL	20AUG	-
1977	36,220	-	29JUL	09AUG
1978	16,001	-	08AUG	-
1979	12,402	20JUL	02AUG	09AUG
1980	1,170	16AUG	09AUG	13AUG
1981	7,022	-	-	25AUG
1982	16,529	-	02AUG	23AUG
1983	26,247	20JUL	08AUG	23AUG
1984	7,000	20JUL	08AUG	23AUG
1985	41,426	20JUL	08AUG	16AUG

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

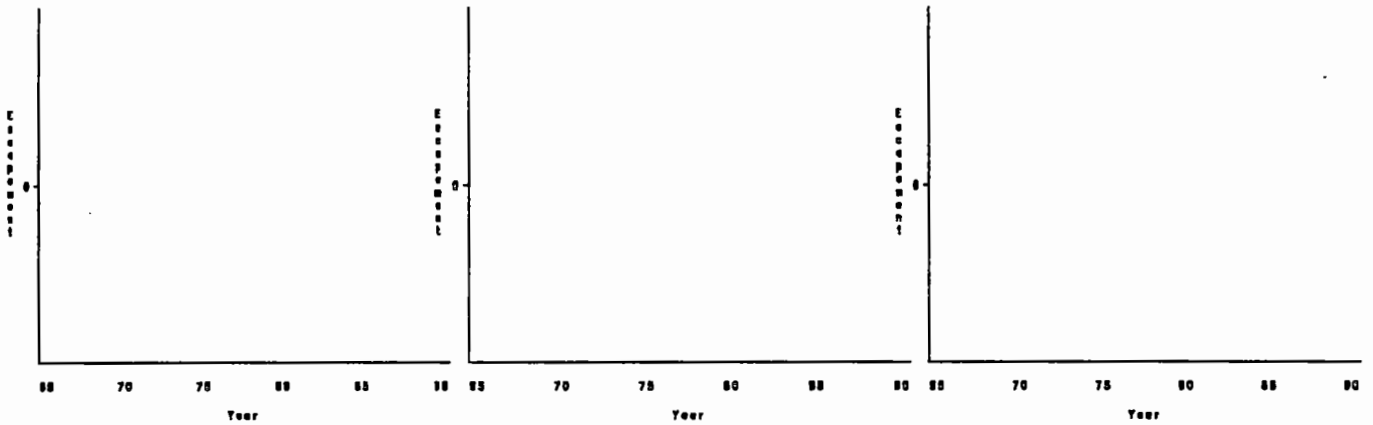
# O'NE-ELL CREEK (09-8100-410)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

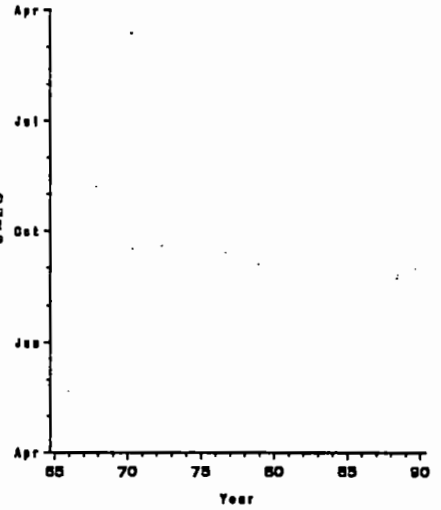
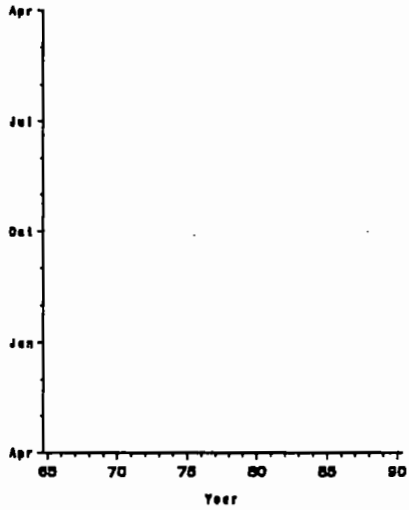
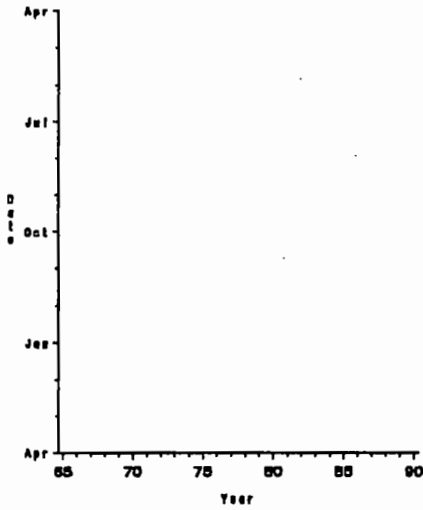
Steelhead (ST)



Chum

Chinook

Steelhead

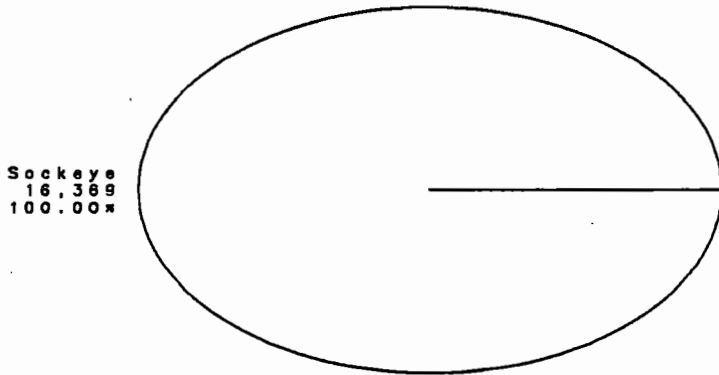


Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

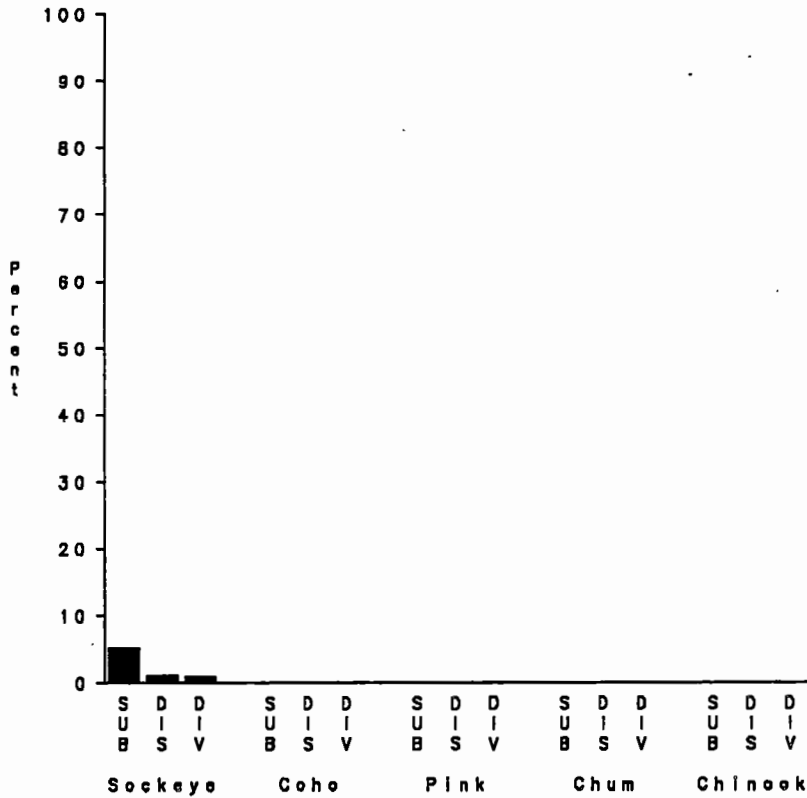
Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

**O'NE-ELL CREEK (09-8100-410)**  
 10-yr Mean Escapement  
 (1978-1987)



**O NE-ELL CREEK : Escapement (1978-1987)**  
 Species Escapement as a Proportion of DFO Management Units  
 (ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>FORFAR CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-450</b>	Subdistrict: <b>29I PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>26</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93N/3</b>
		B.C.G.S. (1:20k) Map: <b>424022</b>
		U.T.M. Mouth: <b>55 DG. 2' 0" 125 DG. 28' 0"</b>
		Lat./Long. Mouth: <b>55 DG. 2' 0" 125 DG. 28' 0"</b>
		Mainstem Length: <b>15.2 km</b> Ref. No.: <b>29I-24</b>
		Watershed Area: <b>42.0 km<sup>2</sup></b> Ref. No.: <b>29I-101</b>
Location: <b>FLows NE INTO MIDDLE RIVER, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>1 % FOR 0.4 KM INCREASING TO 1-2% FROM 0.4 TO 2.4 KM. FROM 2.4 KM TO 4.8 KM THE GRADIENT INCREASES GRADUALLY TO 5 - 6 %. (REF. 29I-24)</b>
0.0- 2.0                      2.0- 4.8	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>C CASCADE</b>	<b>2.5</b>	<b>3.2</b>	<b>SK SOCKEYE SALMON</b>	<b>8 FOOT HIGH AND 20 FEET LONG CHUTE. (REF. 29I-24)</b>
<b>F FALLS</b>		<b>4.8</b>	<b>SK SOCKEYE SALMON</b>	<b>A LARGER WATERFALL. (REF. 29I-24)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE REPORTED 1974. (REF. 29I-24)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWN THROUGHOUT TO CASCADES. (REF. 29I-3, REF. 29I-88)</b>
<b>DV DOLLY VARDEN</b>	<b>PRESENCE NOTED AT THE MOUTH OF TRIBUTARY 3.75 KM UPSTREAM. (REF. 29I-24, REF. 29I-88)</b>
<b>KO KOKANEE</b>	<b>TO FALLS, FEW NUMBERS. (REF. 29I-88)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>9883</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>23395</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SK SOCKEYE SALMON</b>	Migration Spawning Incubation Rearing							<b>X</b>	<b>X</b>				

F. LIFE HISTORY TIMING CONTINUED

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-88, REF. 291-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
SI STREAM IMPROVEM'T	SK SOCKEYE SALMON	0.0	ANNUALLY, SALMON COMMISSION. (REF. 291-88)	/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	NO LOGGING TO DATE; CUTTING PLANS FOR 1991. (REF. 291-88, REF. 291-101)
LD LINEAR DEVELOPMENT	LOGGING ROAD ACCESS AND BRIDGE. (REF. 291-88)
WQ WATER QUALITY	SILTING CAUSED BY ROAD CONSTRUCTION AND LOGGING ACTIVITIES IN THE PAST. (REF. 291-88)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM. (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

A LARGE COLD, CLEAR LOW GRADIENT STREAM WITH EXTENSIVE SIDE CHANNELS. FIRST 3.2 KM A GOOD SOCKEYE SPawning STREAM. FIRST 0.4 KM EXCELLENT REARING POTENTIAL, NO SPawning POTENTIAL. (REF. 291-24)
SUSCEPTIBLE TO SILTATION/ EROSION. RESEEDING (GRASS) ON ROAD ALLOWANCE. (REF. 291-88).
IT IS NOT KNOWN WHETHER SOCKEYE FRY FROM FORFAR C. REAR IN TREMBLEUR LAKE OR TAKLA LAKE. (REF. 291-100)
UNSTABLE FAN IN LOWER 3.5 KM; POTENTIAL FOR EROSION IS ALSO HIGH IN UPPER WATERSHED DUE TO INSTABILITY OF VALLEY WALLS AND HILLSLOPES. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : FORFAR CREEK

WATERSHED-CODE : 09-8100-450

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	18185	0	0	0	0	0
1954	5702	0	0	0	0	0
1955	68	0	0	0	0	0
1956	5497	0	0	0	0	0
1957	17975	0	0	0	0	0
1958	8715	0	0	0	0	0
1959	281	0	0	0	0	0
1960	1755	0	0	0	0	0
1961	13073	0	0	0	0	0
1962	4719	0	0	0	0	0
1963	652	0	0	0	0	0
1964	27	0	0	0	0	0
1965	2221	0	0	0	0	0
1966	1739	0	0	0	0	0
1967	4815	0	0	0	0	0
1968	149	0	0	0	0	0
1969	9922	0	0	0	0	0
1970	6476	0	0	0	0	0
1971	25178	0	0	0	0	0
1972	835	0	0	0	0	0
1973	18924	0	0	0	0	0
1974	5495	0	0	0	0	0
1975	6818	0	0	0	0	0
1976	1249	0	0	0	0	0
1977	3628	0	0	0	0	0
1978	9579	0	0	0	0	0
1979	15805	0	0	0	0	0
1980	2328	0	0	0	0	0
1981	12228	0	0	0	0	0
1982	676	0	0	0	0	0
1983	3591	0	0	0	0	0
1984	6848	0	0	0	0	0
1985	19433	0	0	0	0	0
1986	4946	UNK	UNK	UNK	UNK	0
1987	23395	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

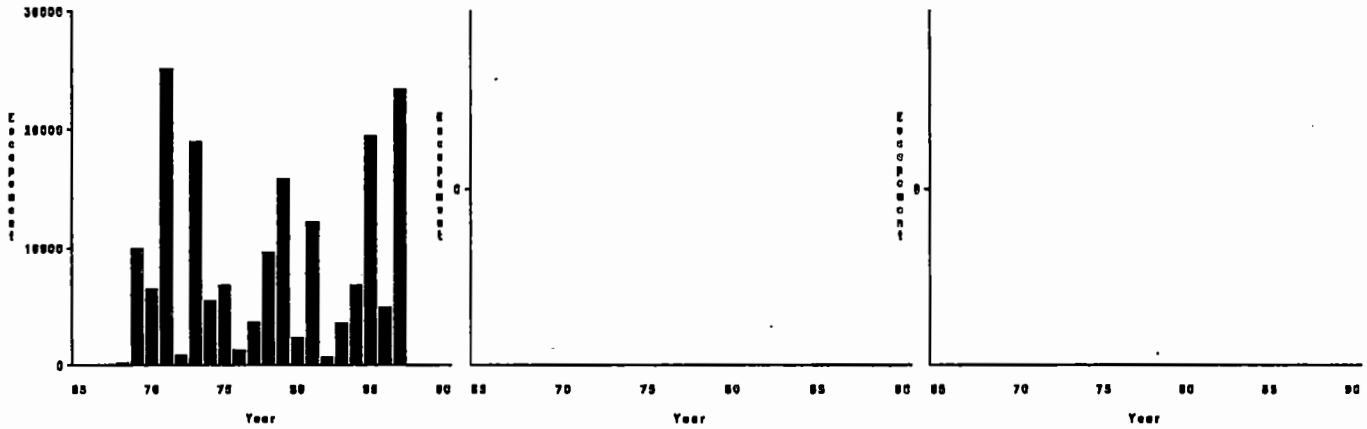
# UNNAMED C (09-8100-450)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

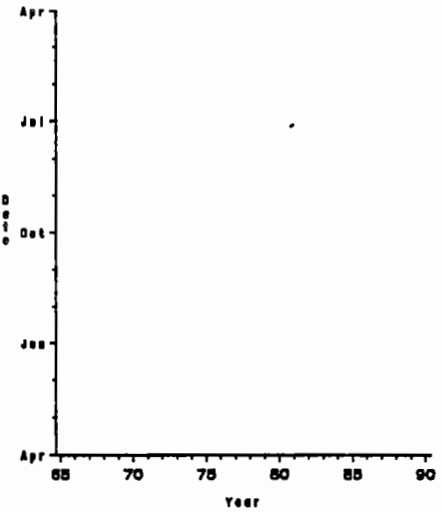
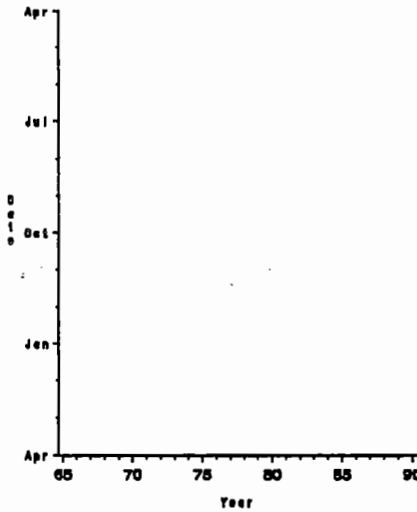
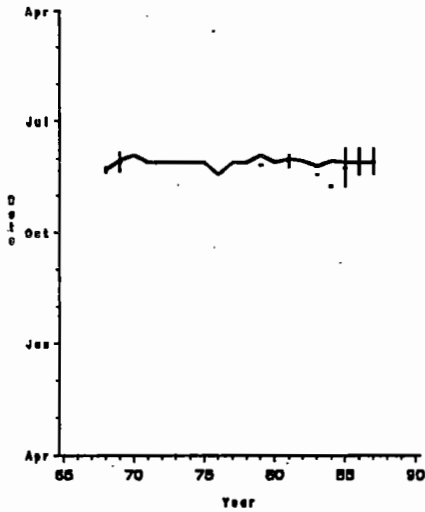
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	146	06AUG	11AUG	13AUG
1968	6,423	26JUL	02AUG	12AUG
1970	6,478	-	30JUL	-
1971	28,178	-	05AUG	-
1972	828	-	03AUG	-
1973	16,924	-	06AUG	-
1974	8,482	-	06AUG	-
1976	6,878	-	06AUG	-
1978	1,368	-	15AUG	-
1977	2,628	-	06AUG	-
1978	9,378	-	06AUG	-
1979	18,888	-	30JUL	07AUG
1980	2,328	-	06AUG	-
1981	12,328	30JUL	06AUG	06AUG
1982	878	-	04AUG	-
1983	3,891	15AUG	06AUG	15AUG
1984	6,848	-	06AUG	20AUG
1986	16,423	30JUL	06AUG	20AUG
1988	4,648	20JUL	06AUG	15AUG
1987	28,598	20JUL	06AUG	15AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1988	0	-	-	-
1988	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1988	0	-	-	-
1988	0	-	-	-
1987	0	-	-	-

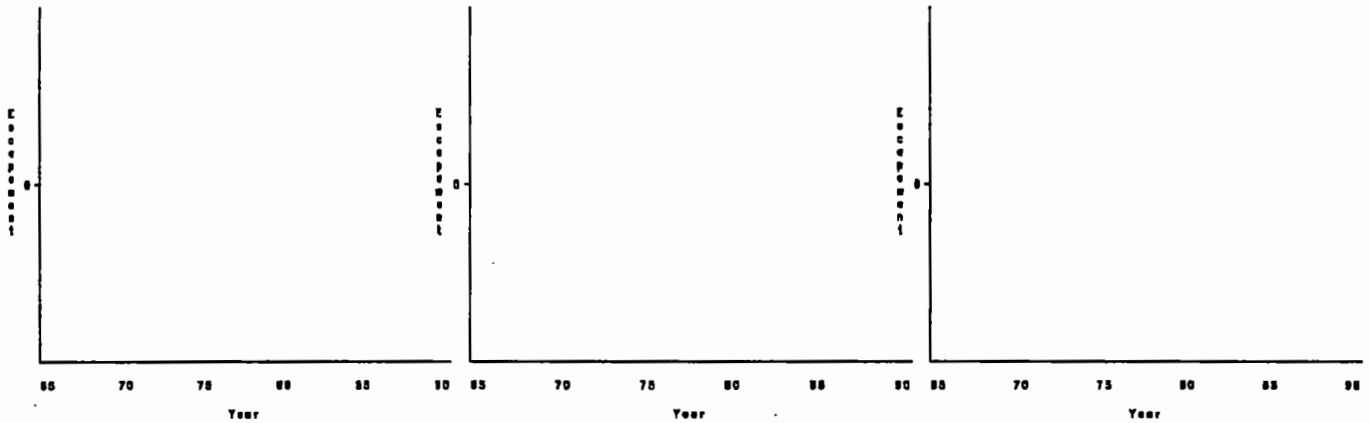
# UNNAMED C (09-8100-450)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

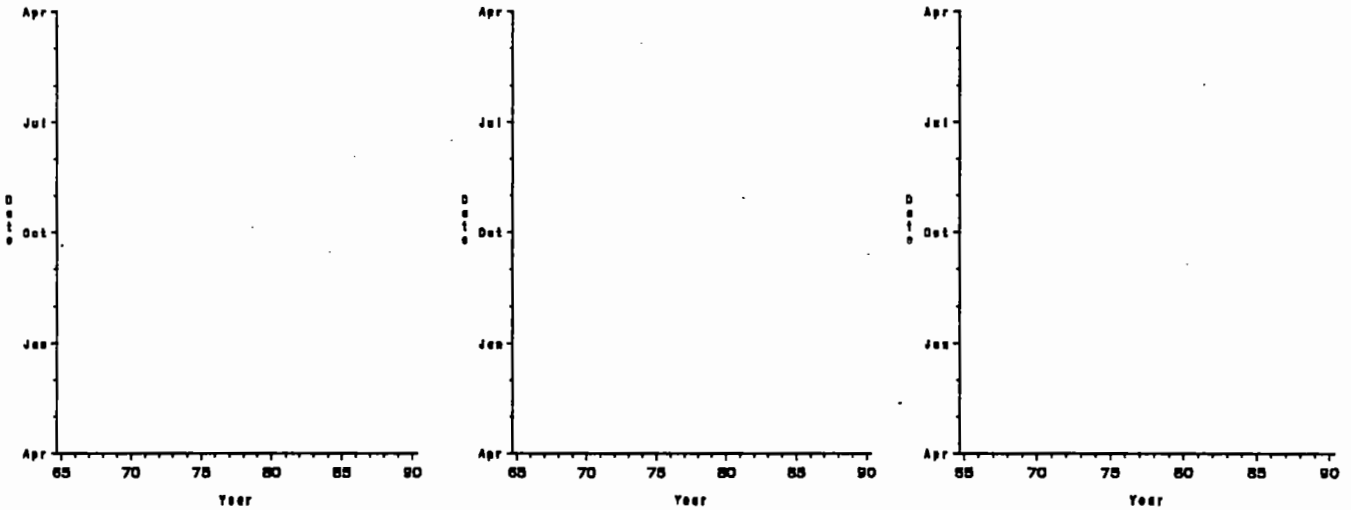
Steelhead (ST)



Chum

Chinook

Steelhead



Chum

Chinook

Steelhead

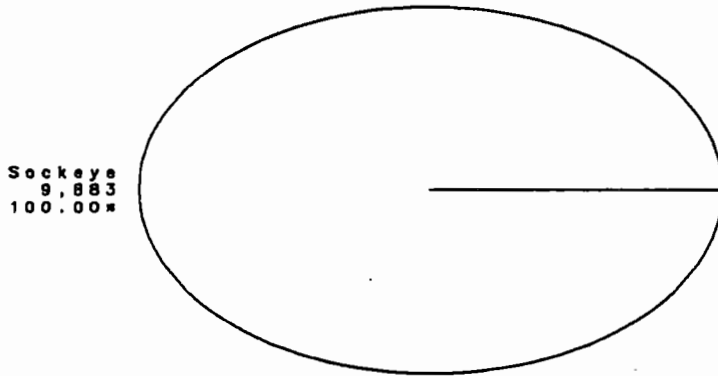
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

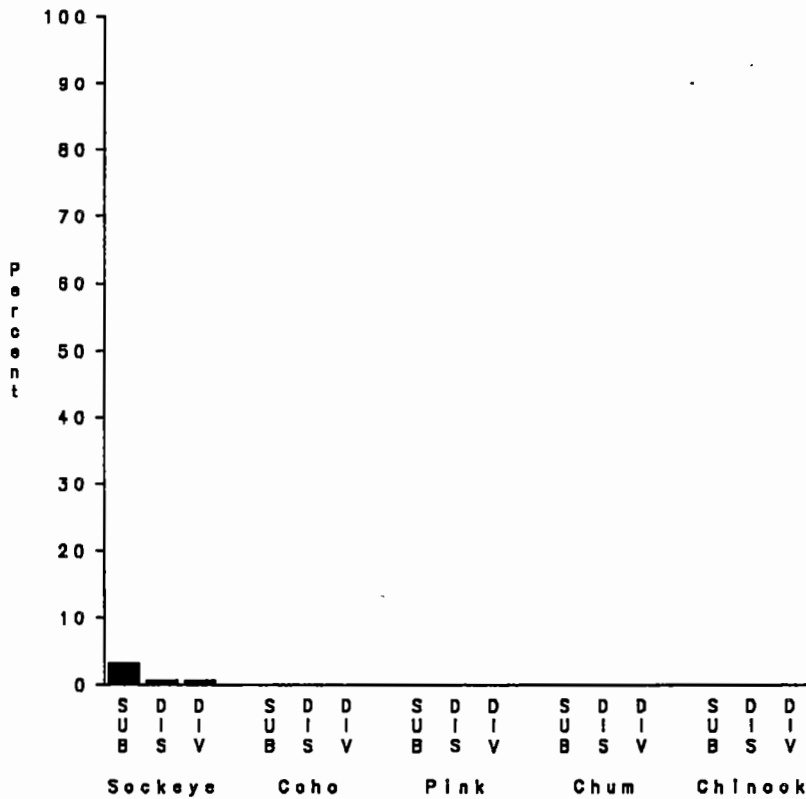
# UNNAMED C (09-8100-450)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>GLUSKIE CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-465</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93N/4</b>
		B.C.G.S. (1:20k) Map: <b>395038</b>
		U.T.M. Mouth: <b>53 06. 3' 0" 125 06. 31' 0"</b>
		Lat./Long. Mouth: <b>53 06. 3' 0" 125 06. 31' 0"</b>
		Mainstem Length: <b>18.4 km</b> Ref. No.: <b>291-24</b>
		Watershed Area: <b>55.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLows NE INTO TAKLA LAKE, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	1-2% FOR 0.8 KM INCREASING TO 11% AT 1.5 KM. THERE IS A STEEPER SECTION 1.6 KM UP; A SERIES OF RAPIDS AND CHUTES. (REF. 291-24)
0.0- 0.8	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
C CASCADE		1.6		A SERIES OF CHUTES AND RAPIDS WHICH ARE A PARTIAL OBSTRUCTION. (REF. 291-24)
C CASCADE		3.0		(REF. 291-3)

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: <b>DISCHARGE REPORTED 1974. (REF. 291-24)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	MAJOR SPawning AREA IS TO LOWER CASCADE CHUTES, BUT HAVE BEEN OBSERVED UPSTREAM OF CASCADES IN RECENT YEARS (1988). (REF. 291-3, REF. 291-88, REF. 291-100)
DV DOLLY VARDEN	TO CHUTES. (REF. 291-88)
R8 RAINBOW TROUT	TO CHUTES (REF. 291-88)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	7812	1978 - 1987	28A-18	17381	28A-18		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				
Comments: SOCKEYE TIMING INFORMATION. (REF. 29I-3)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	LOGGED IN 1971; CUTTING PLANS FOR 1989/1990. (REF. 29I-101)
LD LINEAR DEVELOPMENT	LOGGING ROAD ACCESS AND BRIDGE. (REF. 29I-88)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

LARGE, COLD CLEAR FLOWING STREAM HAVING LOW GRADIENT FOR 0.8 KM. SEVERAL SIDE CHANNELS, STREAM UNCONFINED UP TO 21.3 M WIDE IN FIRST 1 KM. GOOD FOR SOCKEYE, POOR POTENTIAL FOR TROUT SPAWNING. TEMPERATURE AND MORPHOLOGY COMMENTS (REF. 29I-24)
PROPOSED LOGGING ACTIVITY IN WATERSHED. (REF. 29I-88)
GLUSKIE C. ESCAPEMENT HAS REACHED MAXIMUM ESCAPEMENT IN RECENT YEARS (1988). (REF. 29I-100)
IDENTIFIED AS A POTENTIAL SPAWNING CHANNEL SITE (1988). (REF. 29I-100)
HIGH DEGREE OF CHANNEL INSTABILITY ON LOWER FAN AND IN LOWER ELEVATIONS OF THE MIDDLE REACHES. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
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**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : GLUSKIE CREEK

WATERSHED-CODE : 09-8100-465

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	16074	0	0	0	0	0
1954	5292	0	0	0	0	0
1955	99	0	0	0	0	0
1956	4619	0	0	0	0	0
1957	21899	0	0	0	0	0
1958	2111	0	0	0	0	0
1959	97	0	0	0	0	0
1960	2138	0	0	0	0	0
1961	6377	0	0	0	0	0
1962	1841	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	218	0	0	0	0	0
1965	2200	0	0	0	0	0
1966	1876	0	0	0	0	0
1967	1368	0	0	0	0	0
1968	18	0	0	0	0	0
1969	4660	0	0	0	0	0
1970	5702	0	0	0	0	0
1971	14305	0	0	0	0	0
1972	591	0	0	0	0	0
1973	19450	0	0	0	0	0
1974	5548	0	0	0	0	0
1975	10370	0	0	0	0	0
1976	966	0	0	0	0	0
1977	4646	0	0	0	0	0
1978	4295	0	0	0	0	0
1979	10040	0	0	0	0	0
1980	1049	0	0	0	0	0
1981	10741	0	0	0	0	0
1982	452	0	0	0	0	0
1983	3781	0	0	0	0	0
1984	6943	0	0	0	0	0
1985	17381	0	0	0	0	0
1986	3468	UNK	UNK	UNK	UNK	0
1987	19973	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED,NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

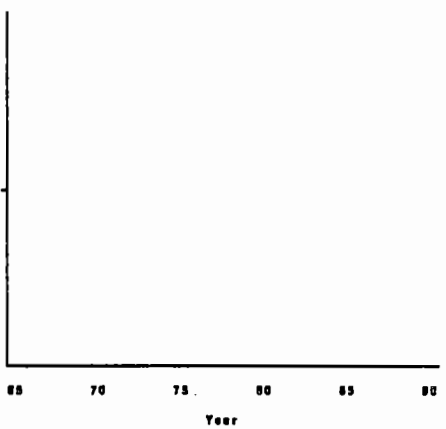
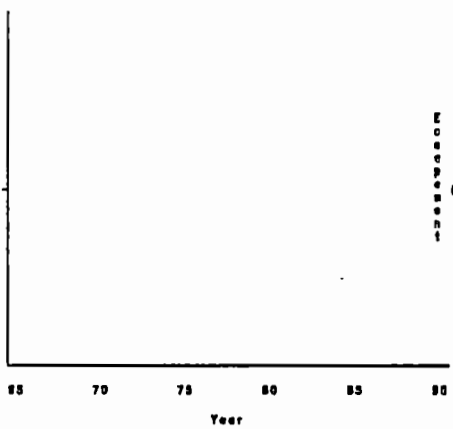
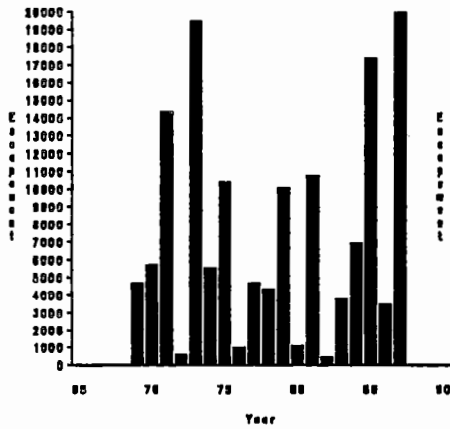
# UNNAMED C (09-8100-465)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

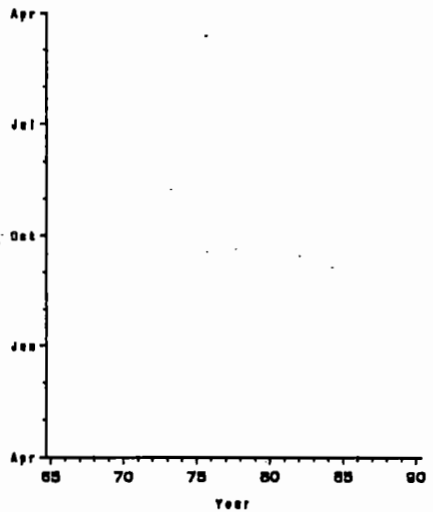
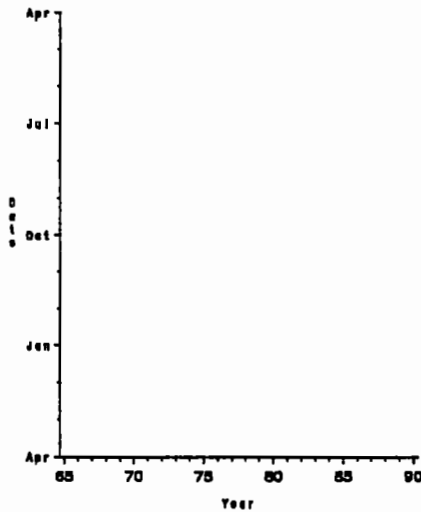
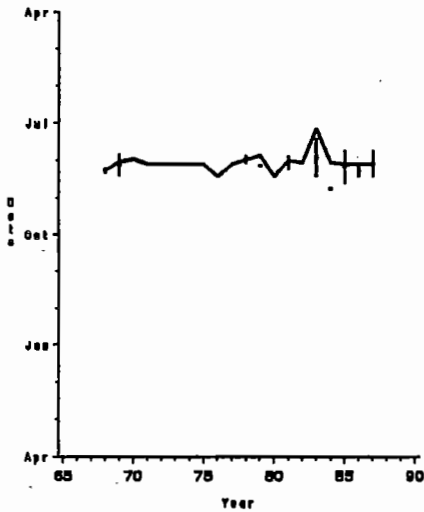
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	09AUG	10AUG	12AUG
1968	4,400	28JUL	03AUG	14AUG
1970	3,700	-	01AUG	-
1971	14,300	-	03AUG	-
1972	201	-	03AUG	-
1973	19,400	-	03AUG	-
1974	2,540	-	03AUG	-
1975	10,370	-	03AUG	-
1976	900	-	15AUG	-
1977	4,040	-	03AUG	-
1978	4,200	28JUL	-	04AUG
1979	10,040	-	29JUL	03AUG
1980	1,040	-	18AUG	-
1981	10,741	30JUL	02AUG	09AUG
1982	400	-	04AUG	-
1983	3,701	18JUL	07JUL	12AUG
1984	6,040	-	03AUG	20AUG
1985	17,301	28JUL	03AUG	20AUG
1986	2,400	03AUG	03AUG	15AUG
1987	10,070	28JUL	03AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

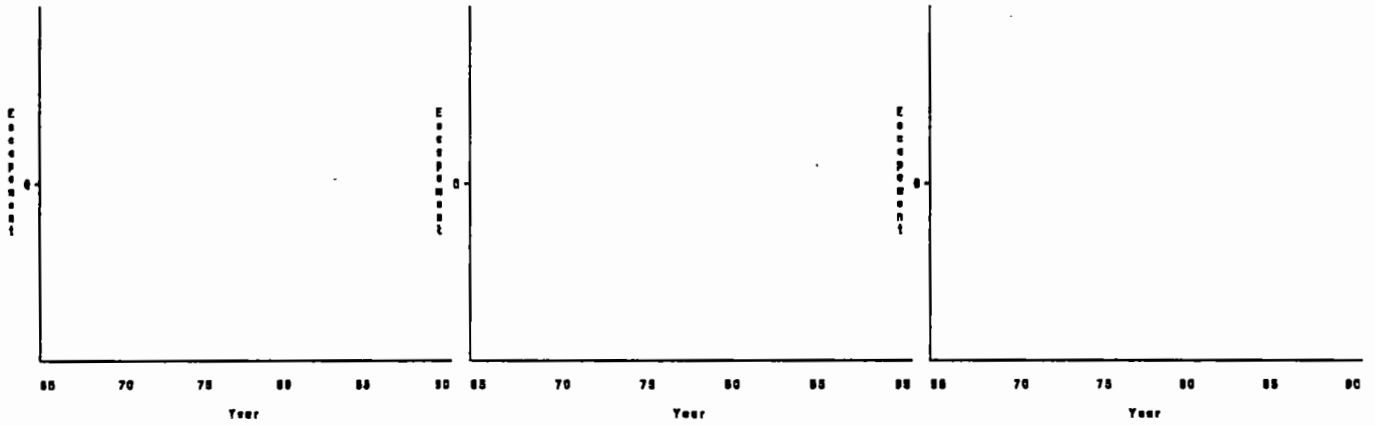
# UNNAMED C (09-8100-465)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

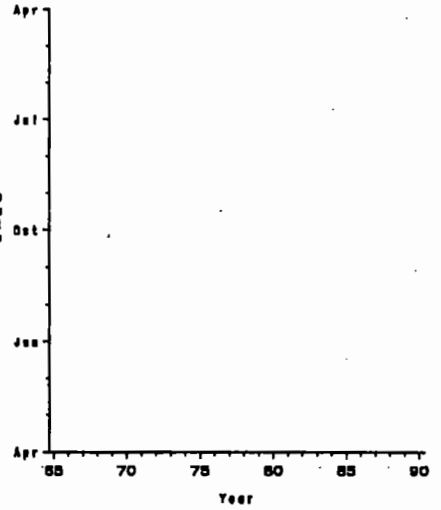
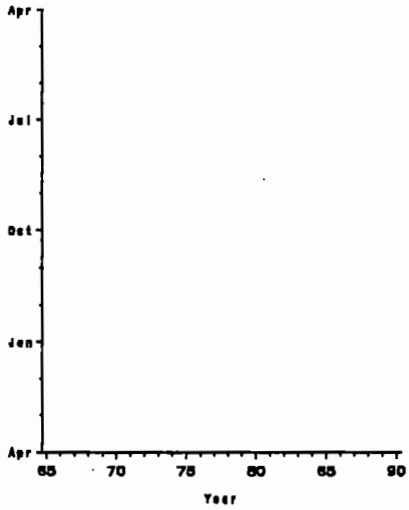
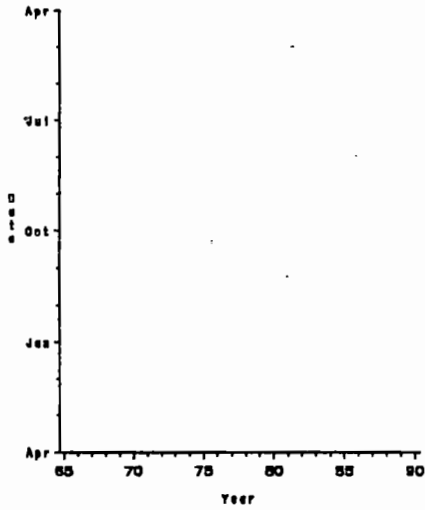
Steelhead (ST)



Chum

Chinook

Steelhead



Chum

Chinook

Steelhead

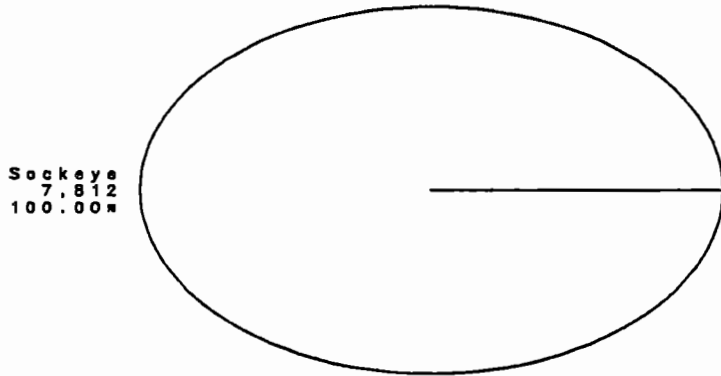
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

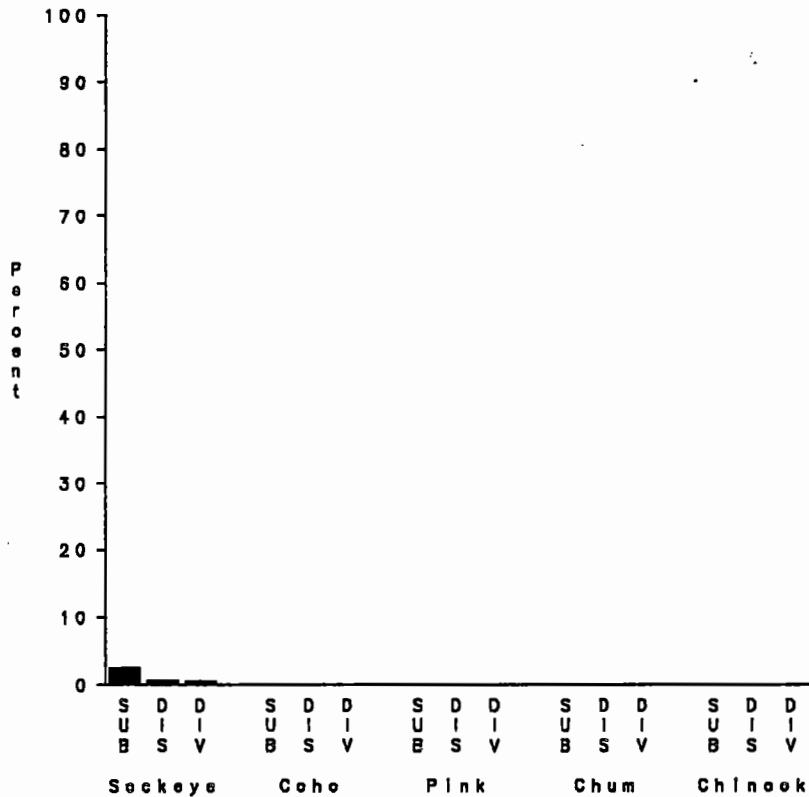
# UNNAMED C (09-8100-465)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>CASIMER CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-480</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>18</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93N/4</b>
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>370065</b>
		Lat./Long. Mouth: <b>55 DG. 5' 0" 125 DG. 33' 0"</b>
		Mainstem Length: <b>4.8 km</b> Ref. No.: <b>291-23</b>
		Watershed Area: <b>23.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLows SW INTO TAKLA LAKE, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>1-2% FOR FIRST 0.8 KM AFTER WHICH THE GRADIENT GRADUALLY INCREASES. (REF. 291-24)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>X LOG JAMS</b>				<b>JUST BELOW RAILWAY TRACK- MAYBE BARRIER TO LARGE FISH DURING LOW FLOWS. (REF. 291-24)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE REPORTED JULY, 1974. (REF. 291-24)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWN THROUGHOUT (REF. 291-3)</b>
<b>RB RAINBOW TROUT</b>	<b>WERE ANGLED IN THE FIRST 0.8 KM. (REF. 291-24)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
Comments: <b>RECORDS DISCONTINUED 1971. (REF. 291-3)</b>							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>RB RAINBOW TROUT</b>	Migration Spawning Incubation Rearing							<b>X</b>					

F. LIFE HISTORY TIMING CONTINUED

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: RAINBOW TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-24, REF. 291-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY. (REF. 291-24)	1974/1974

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
LD LINEAR DEVELOPMENT	BCR LINE WILL LIKELY BE UPGRADED. (REF. 291-101)
LD LINEAR DEVELOPMENT	FORESTRY ROAD ACCESS AND BRIDGE CROSSING. (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

LIMITED SPAWNING AREA, LOW FLOWS, CYCLE YEAR SPAWNING. (REF. 291-3)
LOW GRADIENT CLEAR FLOWING STREAM, ABOVE RAILWAY CROSSING HABITAT BECOMES LESS SUITABLE FOR SPAWNING AND REARING. FIRST 0.8 KM SOME POTENTIAL FOR RAINBOW AND SOCKEYE SPAWNING. (REF. 291-24)
HIGH DEGREE OF TERRAIN INSTABILITY IN WATERSHED. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
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K. SIS COMPLETED BY

Completed by: O. FARRELL	Date: 1987/01/12
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: LIDIA JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : CASIMER CREEK

WATERSHED-CODE : 09-8100-480

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	200	0	0	0	0	0
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	750	0	0	0	0	0
1958	N/O	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	N/O	0	0	0	0	0
1961	N/O	0	0	0	0	0
1962	N/O	N/O	0	0	N/O	0
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	UNK	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	UNK	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

**A. DESCRIPTION**

Stream Name: <b>BIVOQUAC CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: .	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-485</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93M/4</b> B.C.G.S. (1:20k) Map: U.T.M. Mouth: <b>362061</b> Lat./Long. Mouth: <b>55 DG. 4' 0'' 124 DG. 34' 0''</b> Mainstem Length: <b>18.0 km</b> Ref. No.: <b>291-101</b> Watershed Area: <b>51.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLOWS NE TO SOUTH END OF TAKLA LAKE, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>1.5% FOR 2 KM INCREASING TO 4% BY 2.4 KM. (REF. 291-24)</b>
<b>0.0- 2.4</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>F FALLS</b>	<b>30.0</b>	<b>3.2</b>	<b>SK SOCKEYE SALMON</b>	<b>A 100 FOOT VERTICAL FALLS AT 3.2 KM. POSSIBLE PARTIAL BARRIER AT 2.4 KM IS A LOG JAM. (REF. 291-24)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: <b>DISCHARGE MEASURED 1974. (REF. 291-24)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>THROUGHOUT TO 1 KM BELOW THE FALLS. (REF. 291-3, REF. 291-88)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>580</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>1906</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SK SOCKEYE SALMON</b>	Migration Spawning Incubation Rearing							<b>X</b>	<b>X X</b>				
Comments: <b>SOCKEYE TIMING INFORMATION. (REF. 291-3)</b>													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 -16KM (REF. 29I-24)	1974/1974

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	PAST LOGGING, NO ACTIVE LOGGING SINCE 1981. CUTTING PLANS FOR 1989/1990. (REF. 29I-24, REF. 29I-88, REF. 29I-100)
LD LINEAR DEVELOPMENT	LOGGING ROAD BRIDGE. NEEDS REPLACEMENT, OLD BRIDGE IS COMING DOWN. (REF. 29I-88, REF. 29I-100)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

SUITABLE SPawning POTENTIAL FOR SOCKEYE AND DOLLY VARDEN. TOO COLD FOR RAINBOW; TEMPERATURE AND MORPHOLOGY DISCUSSED (REF. 29I-24)
WINTER FREEZING COULD BE A PROBLEM. (REF. 29I-100)
VALLEY WALLS AND HILLSLOPES ARE STABLE THROUGHOUT DRAINAGE BUT STREAM BANKS UNSTABLE IN LOWER REACHES. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared:     /     /	Prepared By:
----------------------------	--------------

**K. SIS COMPLETED BY**

Completed by:     D. FARRELL	Date: 1987/01/08
Last updated by:  CATHY GEE	Date: 1990/10/04
Last checked by:  L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : BIVOUCAC CREEK

WATERSHED-CODE : 09-8100-485

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	8994	0	0	0	0	0
1954	387	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	N/O	0	0	0	0	0
1957	9464	0	0	0	0	0
1958	4	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	14	0	0	0	0	0
1961	1035	0	0	0	0	0
1962	6	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	401	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	952	0	0	0	0	0
1970	N/O	0	0	0	0	0
1971	2479	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	1884	0	0	0	0	0
1974	40	0	0	0	0	0
1975	2210	0	0	0	0	0
1976	321	0	0	0	0	0
1977	952	0	0	0	0	0
1978	157	0	0	0	0	0
1979	1906	0	0	0	0	0
1980	82	0	0	0	0	0
1981	285	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	927	0	0	0	0	0
1984	580	0	0	0	0	0
1985	937	0	0	0	0	0
1986	70	UNK	UNK	UNK	UNK	0
1987	855	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

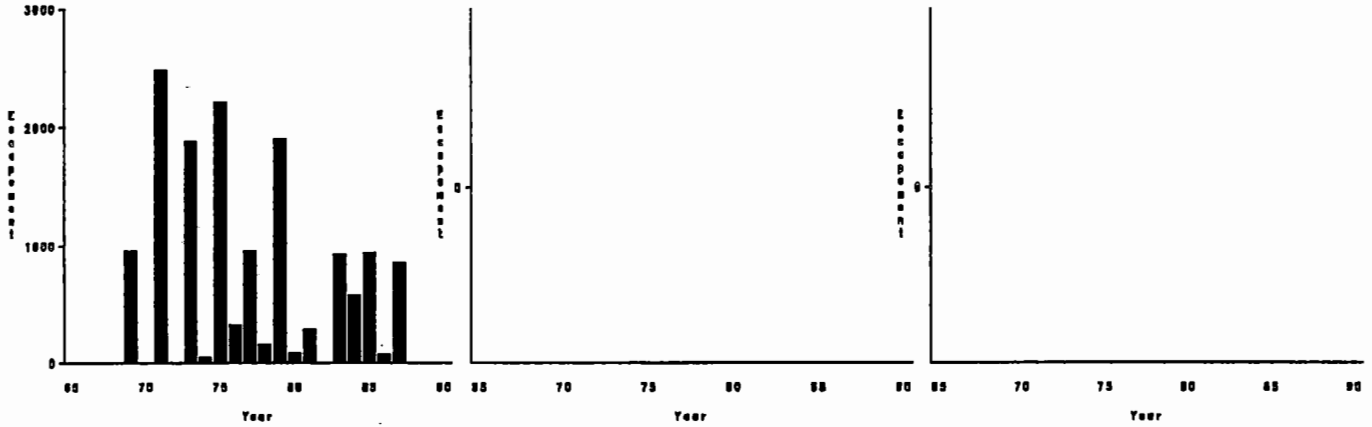
# BIVOUCAC CREEK (09-8100-485)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

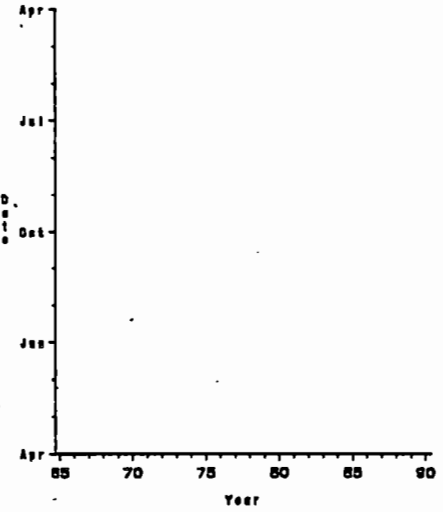
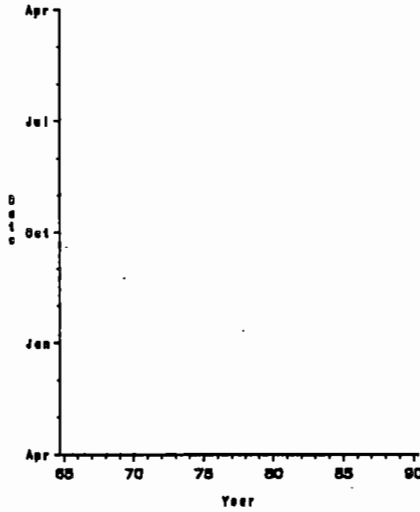
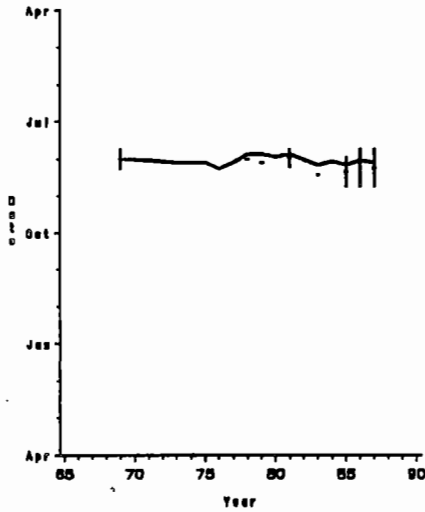
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	853	28JUL	02AUG	10AUG
1970	0	-	-	-
1971	2,479	-	02AUG	-
1972	0	-	-	-
1973	1,004	-	00AUG	-
1974	48	-	03AUG	-
1975	2,216	-	00AUG	-
1976	321	-	10AUG	-
1977	0	-	00AUG	-
1978	197	-	29JUL	02AUG
1979	1,900	-	29JUL	02AUG
1980	82	-	31JUL	-
1981	200	28JUL	29JUL	00AUG
1982	0	-	-	-
1983	927	12AUG	07AUG	13AUG
1984	300	-	04AUG	-
1985	937	31JUL	07AUG	08AUG
1986	70	28JUL	02AUG	25AUG
1987	680	28JUL	00AUG	23AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

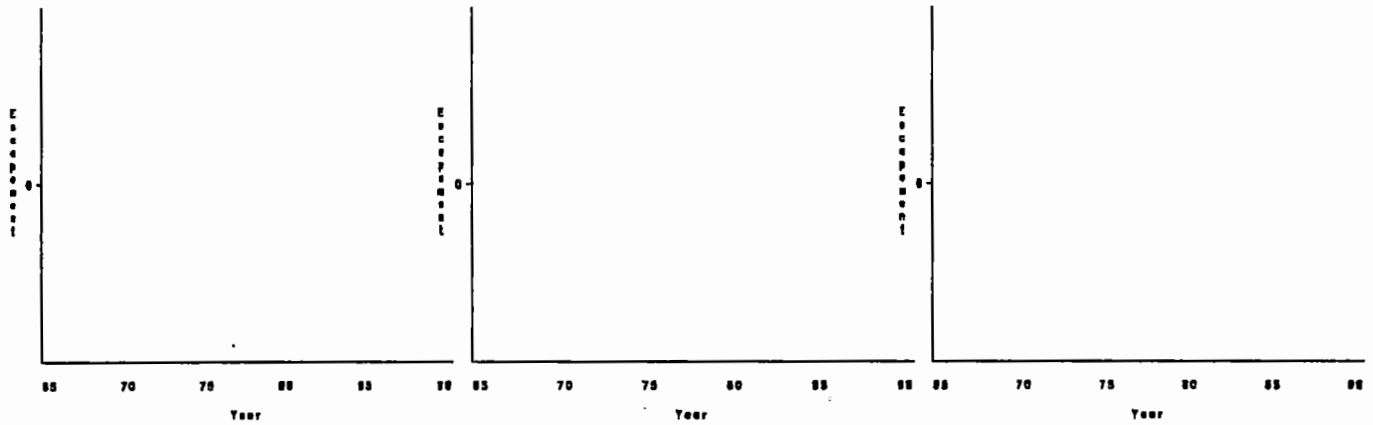
# BIVOUAC CREEK (09-8100-485)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

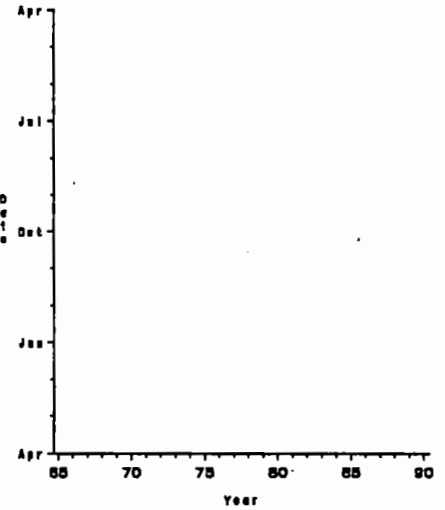
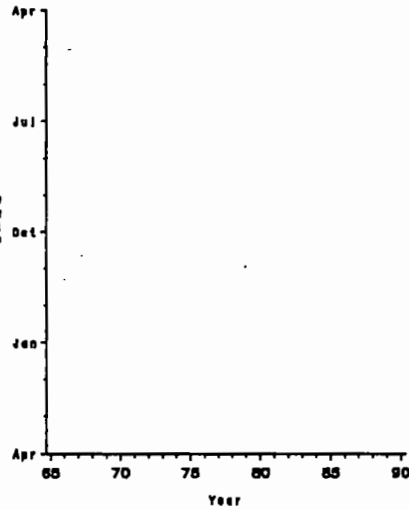
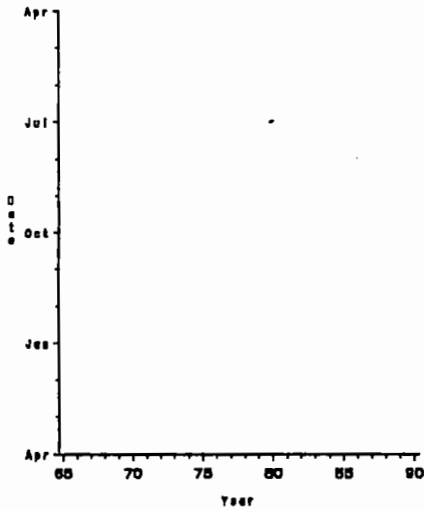
Steelhead (ST)



Chum

Chinook

Steelhead



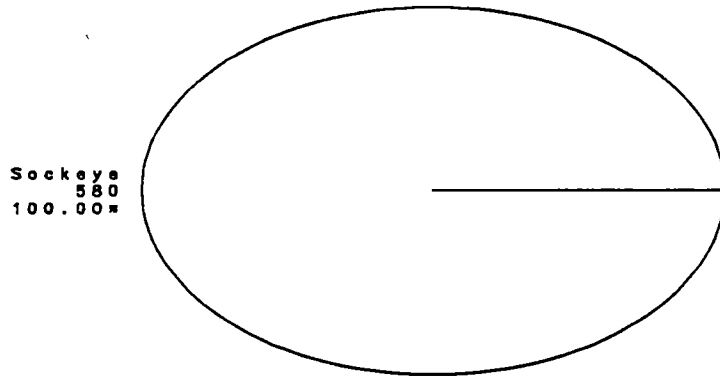
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

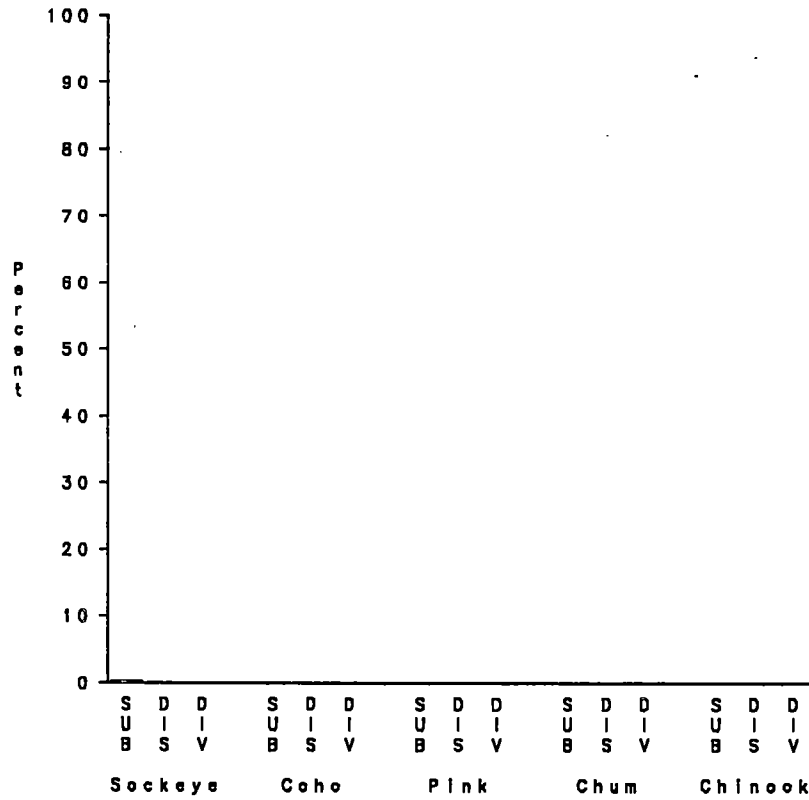
# BIVOUAC CREEK (09-8100-485)

10-yr Mean Escapement  
(1978-1987)



## BIVOUAC CREEK : Escapement (1978-1987).

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: LEO CREEK	D.F.O. Division: FRASER RIVER
Local Name:	District: 1 KAMLOOPS
Watershed Code: 09-8100-490	Subdistrict: 291 PRINCE GEORGE
	Statistical Subarea: -
	M.O.E. Region: 7 ONINECA-PEACE
	Management Unit: 27

Tributaries	Code	Topographic (1:50k) Map: 93N/4 B.C.G.S. (1:20k) Map: U.T.M. Mouth: 353074 Lat./Long. Mouth: 55 DG. 5' 0'' 125 DG. 35' 0'' Mainstem Length: 17.6 km Ref. No.: 291-24 Watershed Area: 96.0 km2 Ref. No.: 291-101
		Location: FLOWS SW INTO EAST END OF TAKLA LAKE, CASSIAR DISTRICT.

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5% .5 - 2% 2 - 5% 5 - 10% >10%	1-2% FOR 2.8 KM. ABOVE 2.8 KM, IN CANYON AREA, THE GRADIENT INCREASES TO 3-4%. (ESTIMATED FROM THE AIR). (REF. 291-24)
0.0- 2.8	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
BD BEAVER DAM			SK SOCKEYE SALMON	THROUGHOUT IN 1986. NO ACCESS TO SOCKEYE AS OF 1986. (REF. 291-88, REF. 291-100)

**C. FLOW**

Flow Control: N	Water Survey of Canada (WSC) Flow Gauge: M		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: DISCHARGE INFORMATION 1974 (REF. 291-24)			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN THROUGHOUT, MAINLY IN LOWER END. PREDOMINATLY IN THE VICINITY OF BC RAILWAY TRESTLE BRIDGE, PRIOR TO BEAVER DAM BLOCKAGE. (REF. 291-3)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	25	1978 - 1987	28A-18	78	28A-18		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X		

F. LIFE HISTORY TIMING CONTINUED

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 29I-3, REF. 29I-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	SK SOCKEYE SALMON		STREAM INVENTORY. (REF. 29I-96)	1986/1986
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	17.6	HABITAT INVENTORY (REF. 29I-24)	1974/1974

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	SAMMILL 1 KM FROM TAKLA LAKE, LOG YARDS, (100 MAN) LOG CAMP, UPPER END LOGGED HEAVILY. (REF. 29I-88)
LD LINEAR DEVELOPMENT	LOGGING ROAD BRIDGE; RAILROAD BRIDGE. BCR LINE UPGRADING PLANNED. (REF. 29I-88, REF. 29I-100)
FO FORESTRY	LOGGED FROM 1973 TO 1978. ACTIVE LOGGING 1989/1990. (REF. 29I-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM (CR). (REF. 29I-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

MEDIUM SIZED, CLEAR FLOWING, LOW GRADIENT STREAM WITH HIGH STEEP UNSTABLE BANKS. MANY BEAVER DAMS AND SWAMPS (REF. 29I-24)
LOWER 4 KM FORMS A LOW GRADIENT AND RELATIVELY STABLE FAN; NUMEROUS FAILURES ARE EVIDENT ON VALLEY WALLS AND HILLSLOPES THROUGHOUT HEADWATERS. (REF. 29I-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared:        /        /	Prepared By:
----------------------------------	--------------

K. SIS COMPLETED BY

Completed by:        D. FARRELL	Date:    1987/01/08
Last updated by:    CATHY GEE	Date:    1990/10/04
Last checked by:    L. JAREMOVIC	Date:    1990/10/04

ESCAPEMENT : LEO CREEK

WATERSHED-CODE : 09-8100-490

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	6361	0	0	0	0	0
1954	4	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	N/O	0	0	0	0	0
1957	10620	0	0	0	0	0
1958	301	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	N/O	0	0	0	0	0
1961	1649	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	121	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	571	0	0	0	0	0
1970	41	0	0	0	0	0
1971	887	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	1390	0	0	0	0	0
1974	32	0	0	0	0	0
1975	587	0	0	0	0	0
1976	178	0	0	0	0	0
1977	646	0	0	0	0	0
1978	34	0	0	0	0	0
1979	29	0	0	0	0	0
1980	51	0	0	0	0	0
1981	78	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	27	0	0	0	0	0
1984	0	0	0	0	0	0
1985	29	0	0	0	0	0
1986	0	UNK	UNK	UNK	0	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

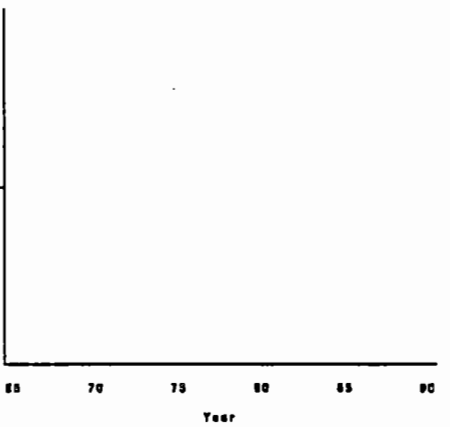
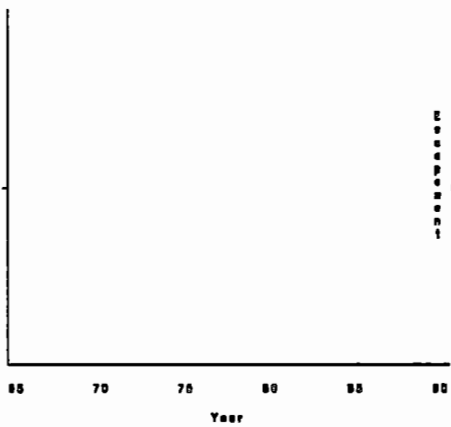
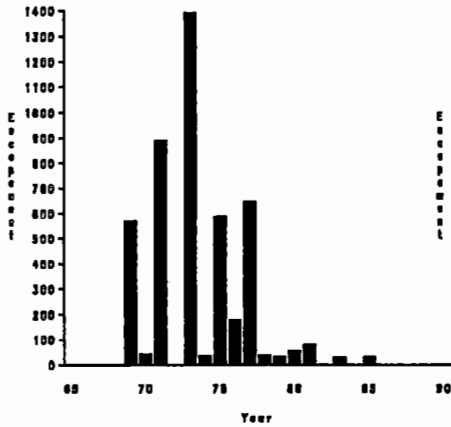
# LEO CREEK (09-8100-490)

## Escapement & Run Timing

**Sockeye (SK)**

**Coho (CO)**

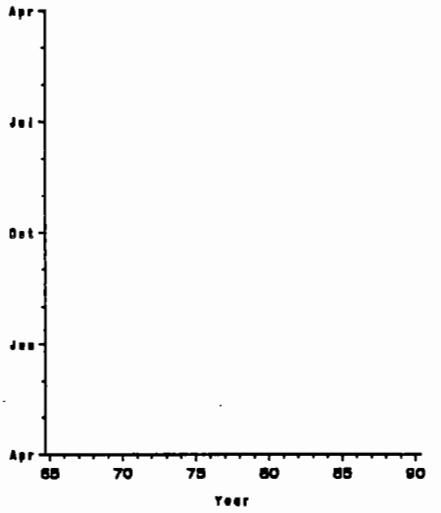
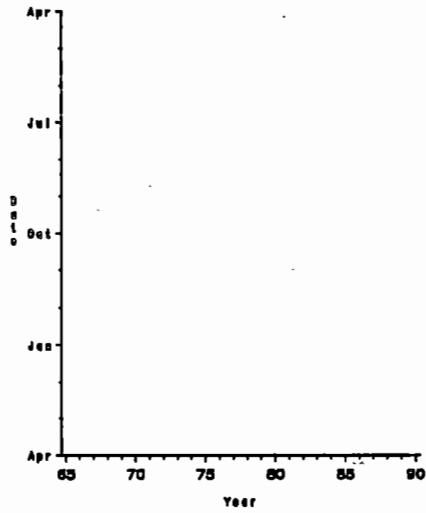
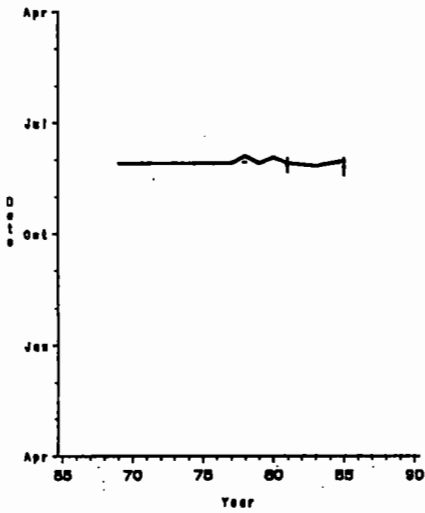
**Pink (PK)**



**Sockeye**

**Coho**

**Pink**



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	271	-	08AUG	-
1970	41	-	08AUG	-
1971	207	-	08AUG	-
1972	0	-	-	-
1973	1,200	-	08AUG	-
1974	32	-	08AUG	-
1976	207	-	08AUG	-
1978	170	-	08AUG	-
1977	640	-	08AUG	-
1978	34	-	30AUG	04AUG
1979	20	-	08AUG	-
1980	61	-	31JUL	-
1981	70	01AUG	08AUG	12AUG
1982	0	-	-	-
1983	27	-	07AUG	-
1984	0	-	-	-
1985	25	01AUG	03AUG	10AUG
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

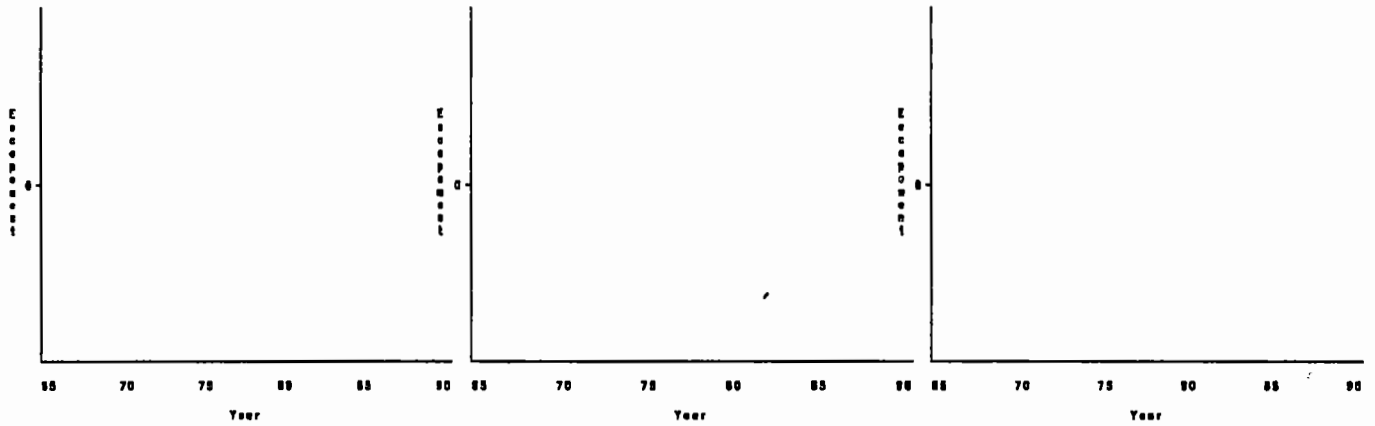
# LEO CREEK (09-8100-490)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

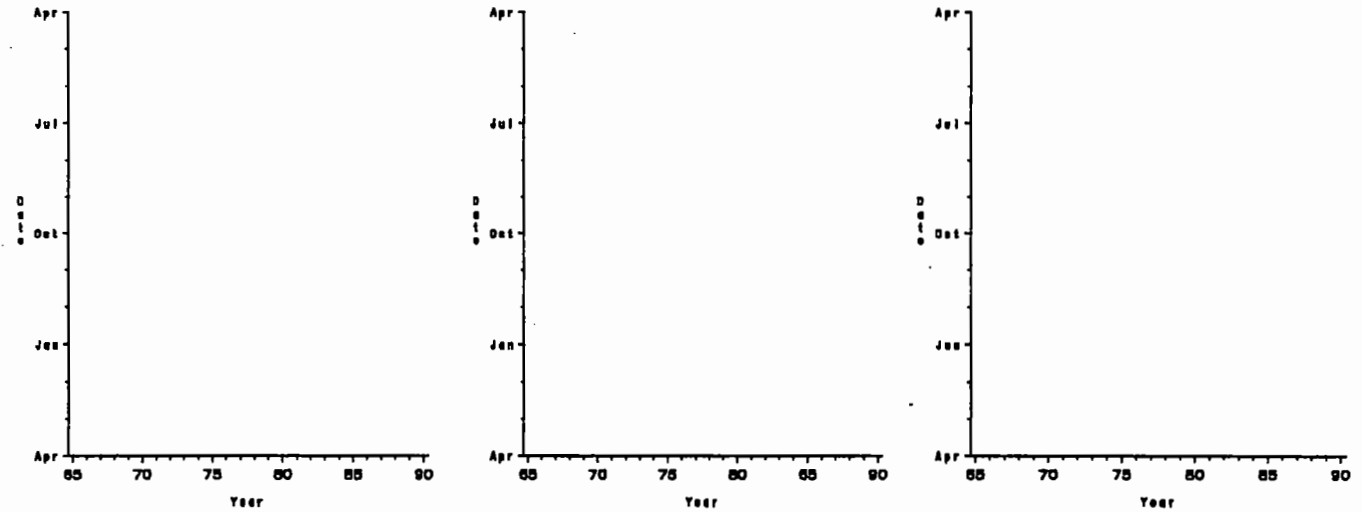
Steelhead (ST)



Chum

Chinook

Steelhead



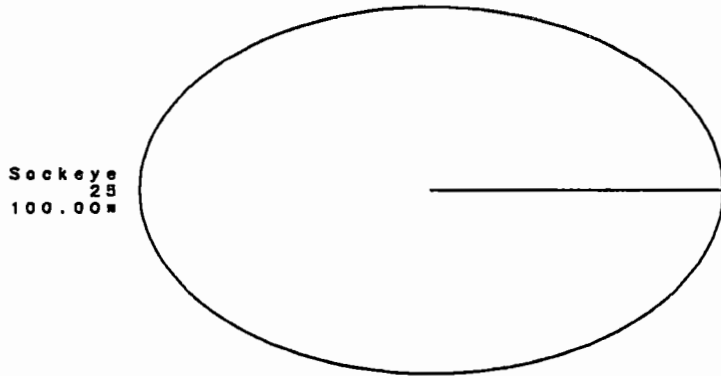
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

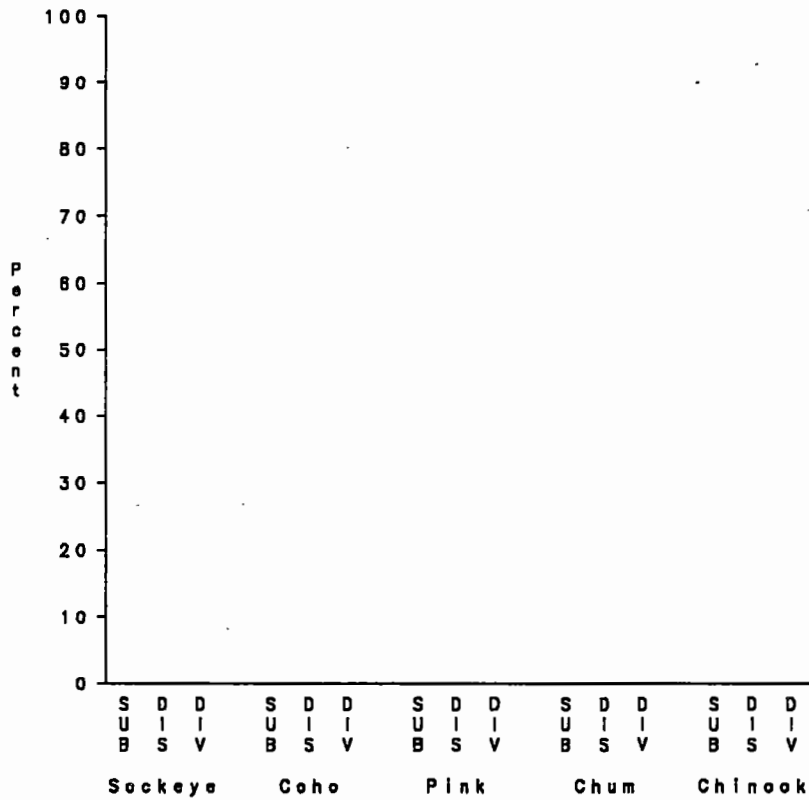
# LEO CREEK (09-8100-490)

10-yr Mean Escapement  
(1978-1987)



## LEO CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				
Comments: TIMING INFORMATION FOR SOCKEYE AND DOLLY VARDEN. EARLY STUART STOCK; DOMINANT CYCLE 1989/1989. (REF. 291-3, REF. 291-24, REF. 291-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	SK SOCKEYE SALMON		STREAM INVENTORY. (REF. 291-96)	1986/1986
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 - 19.2 KM (REF. 291-24)	1974/1974
SI STREAM IMPROVEM'T		0.0	LOG JAM AND BEAVER DAM REMOVAL PERIODICALLY. (REF. 291-88)	/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
LD LINEAR DEVELOPMENT	LOGGING ROAD JUST ABOVE BCR BRIDGE; BCR LINE UPGRADING PLANNED. (REF. 291-88, REF. 291-101)
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

LARGE, COLD CLEAR LOW GRADIENT STREAM. A GOOD KOKANEE AND SOCKEYE SPAWNING STREAM. GOOD POTENTIAL FOR DOLLY VARDEN SPAWNING AND REARING; TEMPERATURE AND MORPHOLOGY COMMENTS (REF. 291-24)
LIMITING FACTOR: LOW FLOWS AT MOUTH CAN BE A PROBLEM, (WATER GOES UNDERGROUND). (REF. 291-100)
EXTENSIVE FAN DEVELOPMENT (5 KM) APPEARS UNSTABLE; HILLSLOPES AND VALLEY WALLS ARE UNSTABLE THROUGHOUT. (REF. 291-101)
FEASIBILITY OF SPAWNING CHANNEL BEING ASSESSED (1989). (REF. 291-100)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

## ESCAPEMENT : SANDPOINT CREEK

WATERSHED-CODE : 09-8100-525

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	2092	0	0	0	0	0
1954	508	0	0	0	0	0
1955	4	0	0	0	0	0
1956	N/O	0	0	0	0	0
1957	20914	0	0	0	0	0
1958	1125	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	97	0	0	0	0	0
1961	3526	0	0	0	0	0
1962	243	0	0	0	0	0
1963	N/O	UNK	UNK	UNK	UNK	UNK
1964	4	0	0	0	0	0
1965	706	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	693	0	0	0	0	0
1970	358	0	0	0	0	0
1971	1706	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	3178	0	0	0	0	0
1974	599	0	0	0	0	0
1975	1955	0	0	0	0	0
1976	392	0	0	0	0	0
1977	1519	0	0	0	0	0
1978	493	0	0	0	0	0
1979	992	0	0	0	0	0
1980	266	0	0	0	0	0
1981	1224	0	0	0	0	0
1982	4	0	0	0	0	0
1983	585	0	0	0	0	0
1984	1142	0	0	0	0	0
1985	1577	0	0	0	0	0
1986	200	UNK	UNK	UNK	UNK	0
1987	3547	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

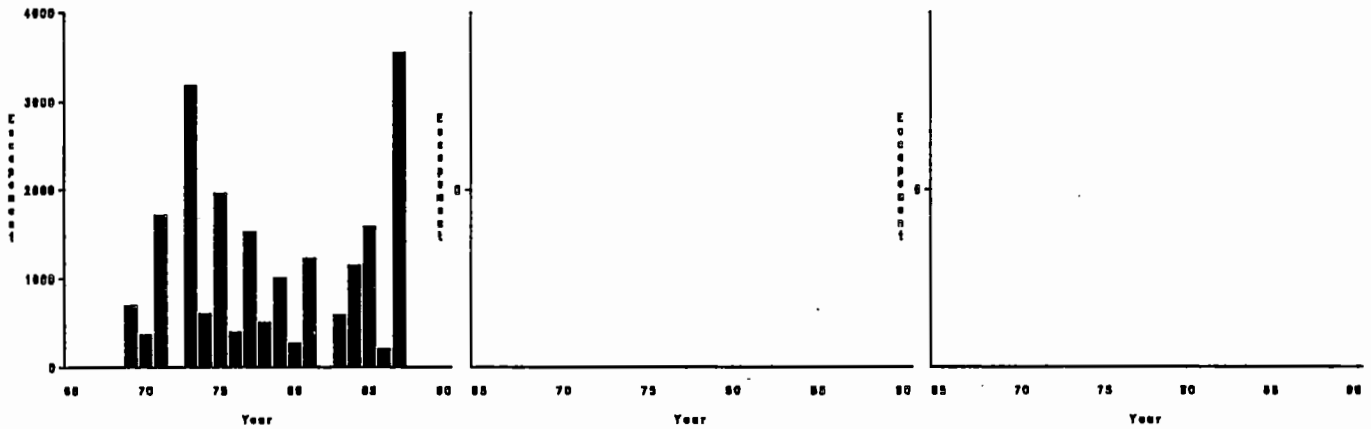
# UNNAMED C (09-8100-525)

## Escapement & Run Timing

Sockeye (SK)

Coho (CO)

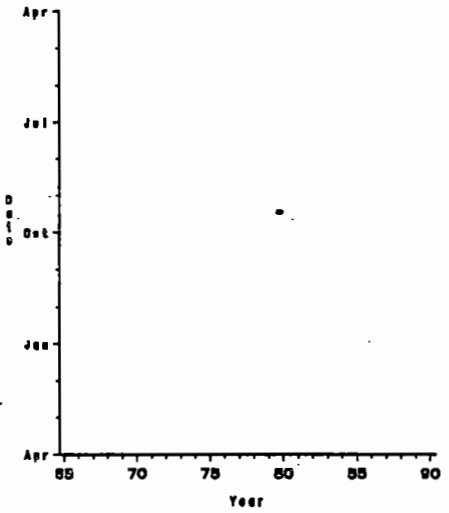
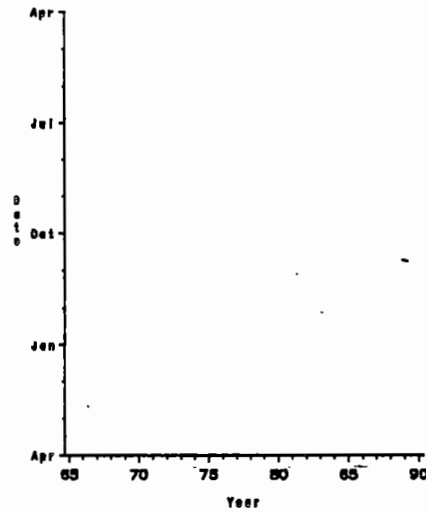
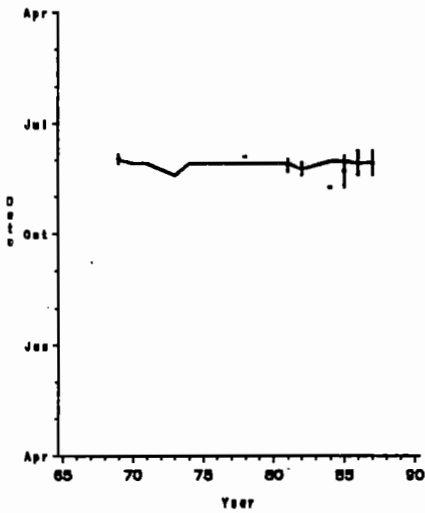
Pink (PK)



Sockeye

Coho

Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	600	20AUL	02AUG	02AUG
1970	300	-	09AUG	-
1971	1,700	-	09AUG	-
1972	0	-	-	-
1973	3,170	-	10AUG	-
1974	600	-	09AUG	-
1975	1,600	-	09AUG	-
1976	300	-	09AUG	-
1977	1,310	-	09AUG	-
1978	400	30AUL	01MAY	-
1979	600	-	09AUG	-
1980	200	-	09AUG	-
1981	1,320	01AUG	09AUG	12AUG
1982	6	04AUG	10AUG	10AUG
1983	300	-	-	-
1984	1,100	-	02AUG	20AUG
1985	1,077	20AUL	02AUG	20AUG
1986	300	20AUL	09AUG	10AUG
1987	3,047	20AUL	09AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

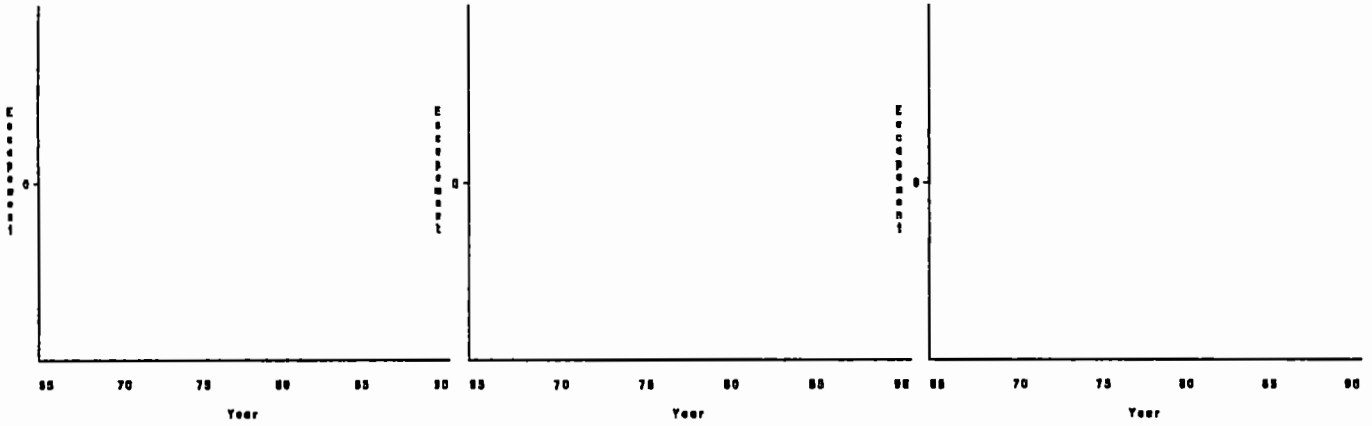
# UNNAMED C (09-8100-525)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

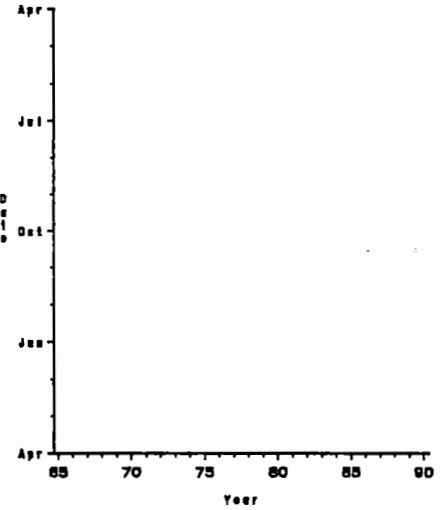
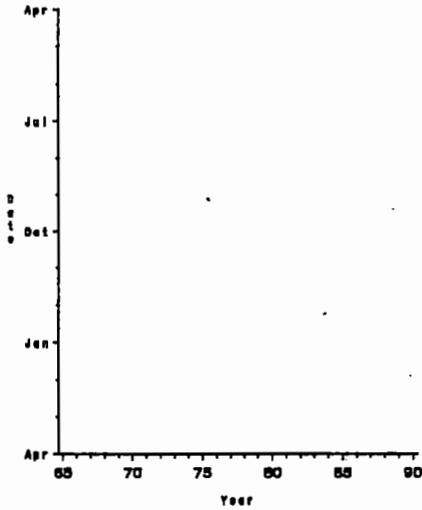
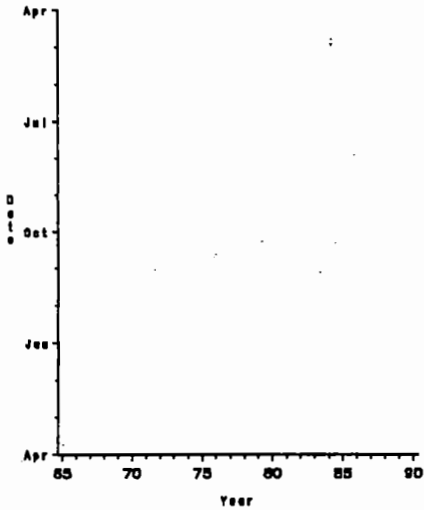
Steelhead (ST)



Chum

Chinook

Steelhead



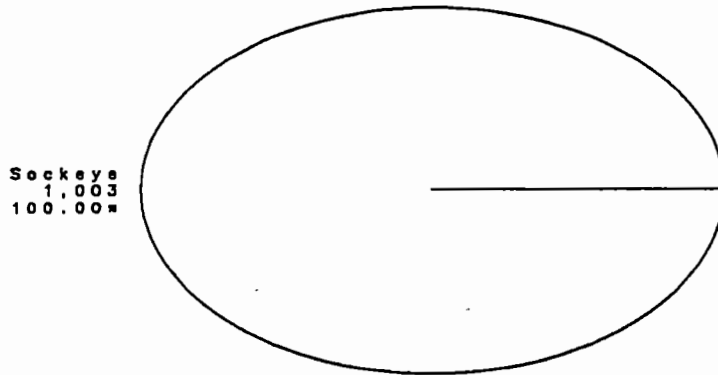
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	3	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

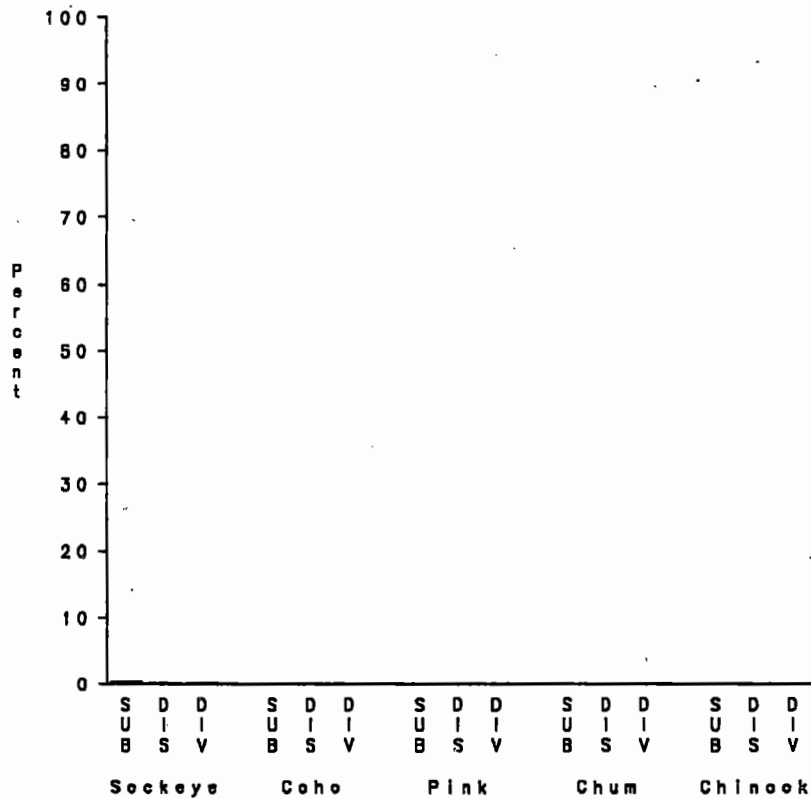
# UNNAMED C (09-8100-525)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





E. ESCAPEMENT SUMMARY CONTINUED

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
NO CHINOOK OBSERVED SINCE 1973 TO PRESENT 1986. 8 FISH - 1986 SMALL NUMBERS UTILIZE SYSTEM DUE TO WATER TEMPERATURE FLUCTATIONS. (REF. 291-88)							

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing									X			
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
Comments: SOCKEYE, EARLY AND LATE RUNS, AND RAINBOW TIMING INFORMATION. (REF. 291-24, REF. 291-88)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	9.6	HABITAT INVENTORY. (REF. 291-24)	1974/1974

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	EXTENSIVE LOGGING CUT BLOCKS IN VARIOUS LOCATIONS IN WATERSHED; CUTTING PLANS FOR 1989/1990. (REF. 291-3, REF. 291-88, REF. 291-100)
MI MINING	DESIGNATED PLACER MINING AREA IN THE UPPER SAKENICHE WATERSHED. (REF. 291-101)
LD LINEAR DEVELOPMENT	ACCESSED BY SEVERAL FORESTRY ROADS; BRIDGE CROSSING BELOW NATOWITE LAKE. (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

DOMINANT AND SUB-DOMINANT YEAR SPAWNING STREAM. THE MOST IMPORTANT FOR RAINBOW SPAWNING AND REARING. POTENTIAL FOR SOCKEYE AND KOKANEE SPAWNING IS LIMITED BY WARM WATER TEMPERATURES DURING AUGUST. (REF. 291-3, REF. 291-24)
PROBLEMS WITH HIGH TEMPERATURES DURING SOCKEYE SPAWNING AND PRE-SPAWNING MORTALITIES. (REF. 291-100)
POTENTIAL TO DESTABILIZE LOWER FAN (1 KM); NATOWITE LAKE WOULD SERVE AS A BUFFER FOR THE LOWER SYSTEM. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : SAKENICHE RIVER

WATERSHED-CODE : 09-8100-545

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	3486	0	0	0	75	0
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	131	0	0	0	0	0
1957	6932	0	0	0	0	0
1958	643	0	0	0	75	0
1959	N/O	0	0	0	0	0
1960	N/O	0	0	0	0	0
1961	7457	0	0	0	0	0
1962	1035	0	0	0	N/O	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	15	0	0	0	0	0
1966	2	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	691	0	0	0	0	0
1970	N/O	0	0	0	0	0
1971	N/O	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	4407	0	0	0	0	0
1974	51	0	0	0	0	0
1975	43	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	504	0	0	0	0	0
1978	123	0	0	0	0	0
1979	N/O	UNK	UNK	UNK	UNK	UNK
1980	N/O	0	0	0	0	0
1981	820	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	3125	0	0	0	0	0
1986	60	UNK	UNK	UNK	UNK	0
1987	604	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

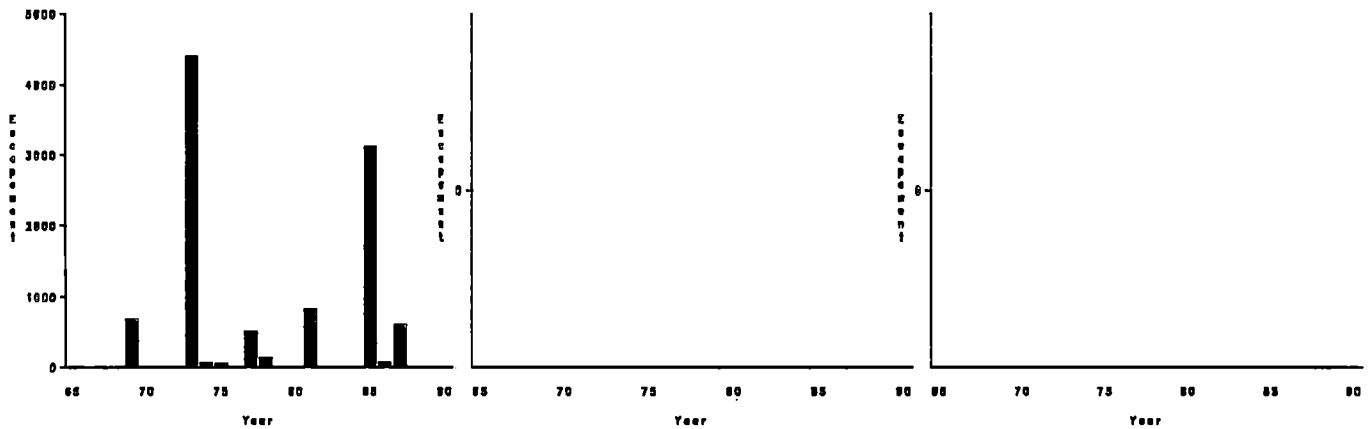
# SAKENICHE RIVER (09-8100-545)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

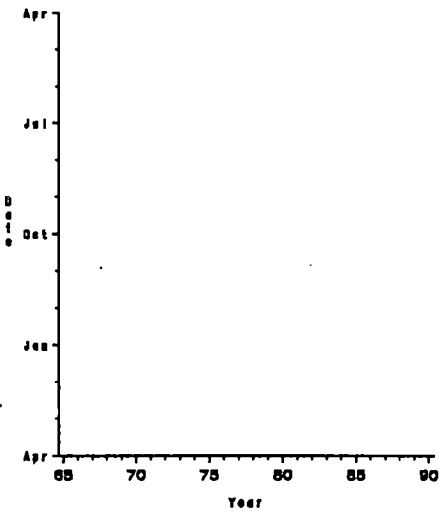
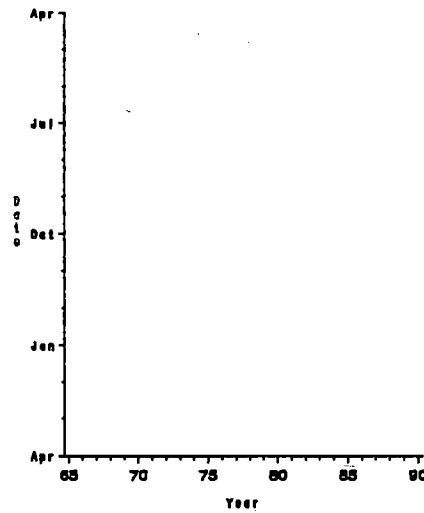
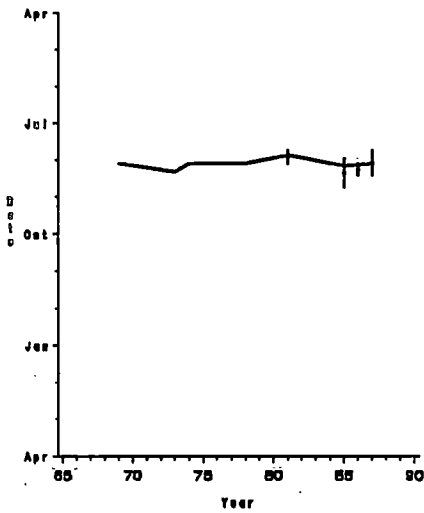
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	691	-	08AUG	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	4,407	-	12AUG	-
1974	51	-	08AUG	-
1975	42	-	08AUG	-
1976	0	-	-	-
1977	304	-	05AUG	-
1978	123	-	05AUG	-
1979	0	-	-	-
1980	0	-	-	-
1981	226	20JUL	20JUL	08AUG
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	3,120	01AUG	07AUG	22AUG
1986	60	02AUG	06AUG	18AUG
1987	604	20JUL	08AUG	19AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

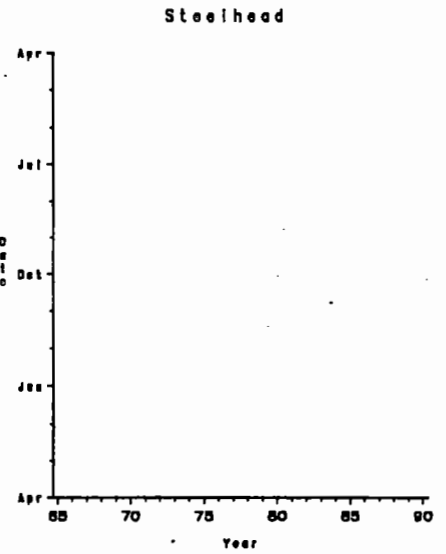
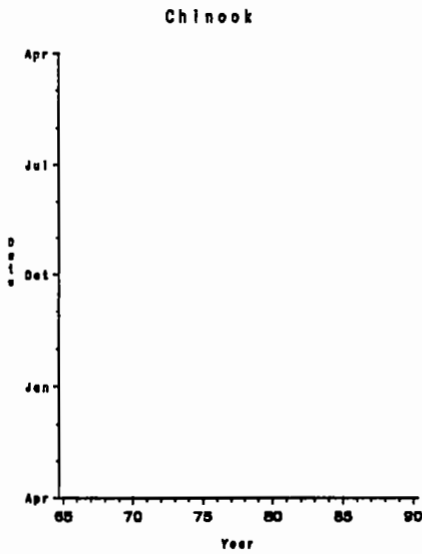
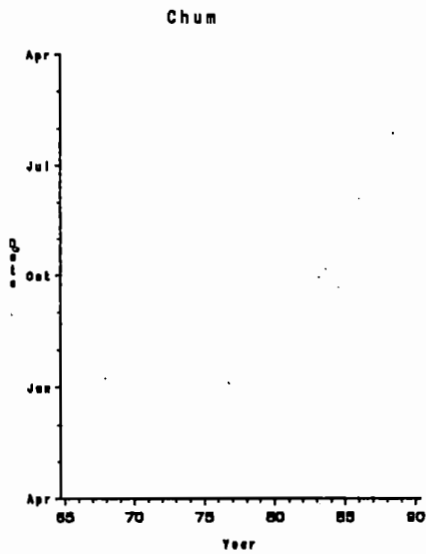
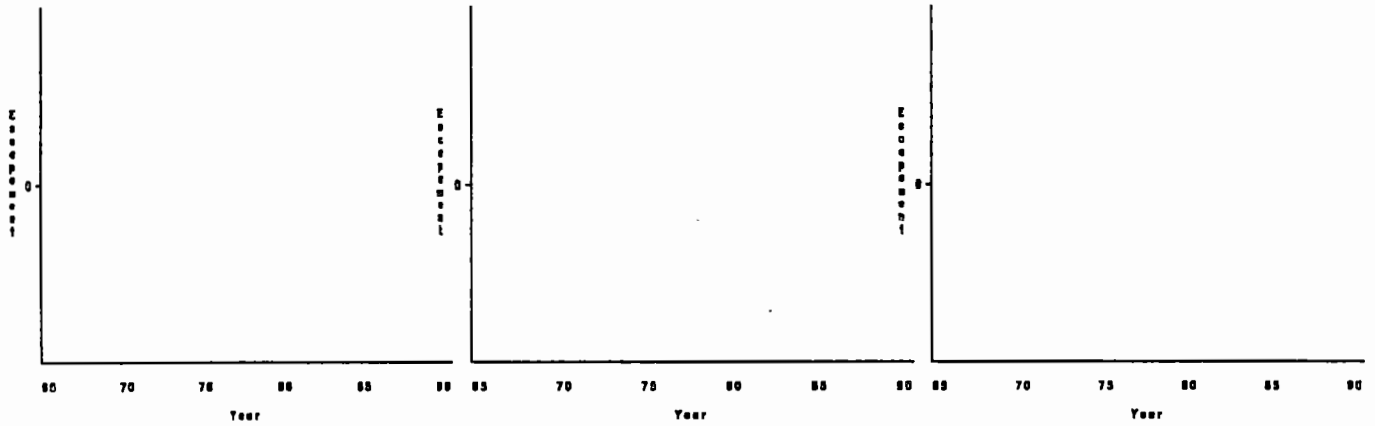
# SAKENICHE RIVER (09-8100-545)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

Steelhead (ST)



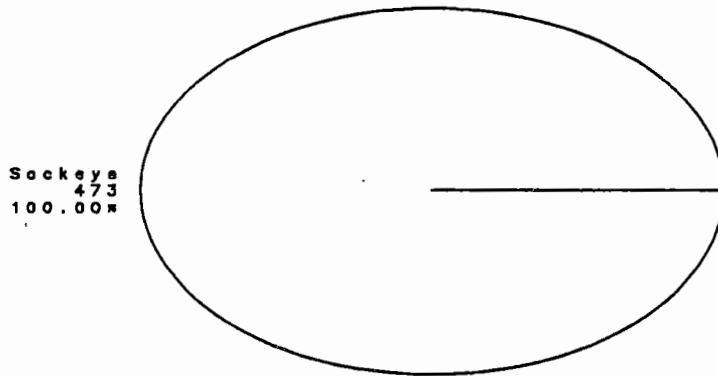
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

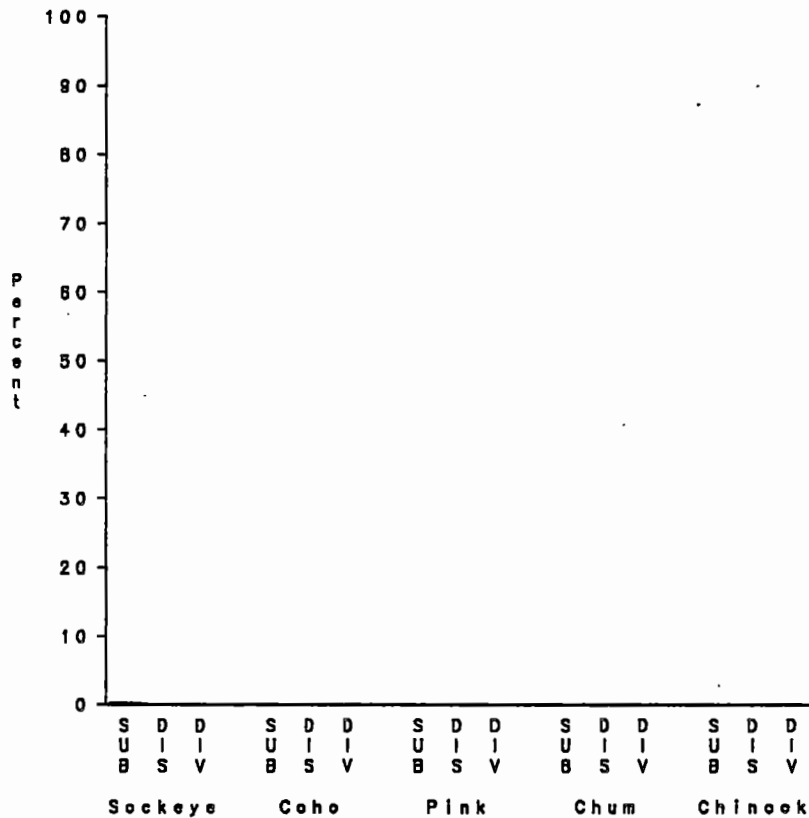
# SAKENICHE RIVER (09-8100-545)

10-yr Mean Escapement  
(1978-1987)



## SAKENICHE RIVER : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



A. DESCRIPTION

Stream Name: <b>MACDOUGALL RIVER</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name: <b>MACDOUGALL CREEK</b>	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-560</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: 93M/1
		B.C.G.S. (1:20k) Map: 908247
		U.T.M. Mouth: 55 DG. 13' 20'' 126 DG. 0' 0''
		Lat./Long. Mouth: 19.5 km Ref. No.: 291-31
		Mainstem Length: 79.0 km2 Ref. No.: 291-101
		Watershed Area:
Location: FLOWS NE INTO NORTHWEST ARM, TAKLA LAKE, CASSIAR DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	GRADIENT INFORMATION FOR REACH 1,2 AND 3 (REF. 291-31)
0.0- 1.2	
1.2- 3.2	
3.2- 5.2	

B. OBSTRUCTIONS TO MIGRATION

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
BD BEAVER DAM		3.2		NUMEROUS BEAVER DAMS CREATE PARTIAL BARRIERS TO SOCKEYE. ACCESS TO CREEK ACCROSS LAKE FLAT MAY IMPEDE MOVEMENT ESPECIALLY DURING LOW FLOWS. (REF. 291-31, REF. 291-100)

C. FLOW

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>
W.S.C. Station No. 1:	No. 2:                                          No. 3:                                          No. 4:
Comments: <b>MACDOUGALL LAKE (REF. 291-85)</b>	
<b>DISCHARGE MEASURED BY RAB 1975. (REF. 291-31)</b>	

D. DISTRIBUTION SUMMARY

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN NEAR THE MOUTH (REF. 291-3, REF. 291-88)
DV DOLLY VARDEN	PRESENCE NOTED (REF. 291-31, REF. 291-88)
MW ROCKY MTN WHITEFISH	PRESENCE NOTED (REF. 291-31, REF. 291-88)
RB RAINBOW TROUT	PRESENCE NOTED (REF. 291-31)

E. ESCAPEMENT SUMMARY

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	6	1978 - 1987	28A-18	30	28A-18		

**E. ESCAPEMENT SUMMARY CONTINUED**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
Comments: SK SEEN IN DOMINANT YEARS ONLY (REF. 28A-18)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 29I-3, REF. 29I-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
LD LINEAR DEVELOPMENT	FORESTRY ACCESS ROAD AND BRIDGE CROSSING IN LOWER REACH; NEW ACCESS ROAD (ANKWILL/DUST C. EXTENSION) IS PLANNED IN MID-REACHES. (REF. 29I-101)
MI MINING	WITIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM (CU). (REF. 29I-101)
FO FORESTRY	CUT BLOCK SOUTH OF RIVER IN UNNAMED TRIBUTARY; CUTTING PLANS 1989/1990. (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

CYCLE YEAR SPAWNING FOR SOCKEYE (REF. 29I-3)
HIGH QUALITY STREAM IN TERMS OF SPAWNING, REARING AND RESIDENT HABITAT FOR SOCKEYE, RAINBOW, ROCKY MOUNTAIN WHITEFISH, DOLLY VARDEN. ENHANCEMENT BY REMOVING BEAVER DAMS. (REF. 29I-31)
LOWER 5 KM IS A LOW GRADIENT CHANNEL THAT APPEARS TO BE Laterally STABLE; HILLSLOPES AND VALLEY WALLS ARE UNSTABLE. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/06
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : MACDOUGALL RIVER

WATERSHED-CODE : 09-8100-560

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	1192	0	0	0	0	0
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	3218	0	0	0	0	0
1958	N/O	UNK	UNK	UNK	UNK	UNK
1959	N/O	UNK	UNK	UNK	UNK	UNK
1960	N/O	UNK	UNK	UNK	UNK	UNK
1961	304	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	UNK	UNK	UNK	UNK	UNK
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	N/O	UNK	UNK	UNK	UNK	UNK
1970	N/O	UNK	UNK	UNK	UNK	UNK
1971	N/O	UNK	UNK	UNK	UNK	UNK
1972	N/O	UNK	UNK	UNK	UNK	UNK
1973	106	0	0	0	0	0
1974	4	0	0	0	0	0
1975	N/O	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	400	0	0	0	0	0
1978	15	0	0	0	0	0
1979	N/O	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	11	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	N/O	UNK	UNK	UNK	UNK	UNK
1984	0	0	0	0	0	0
1985	30	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

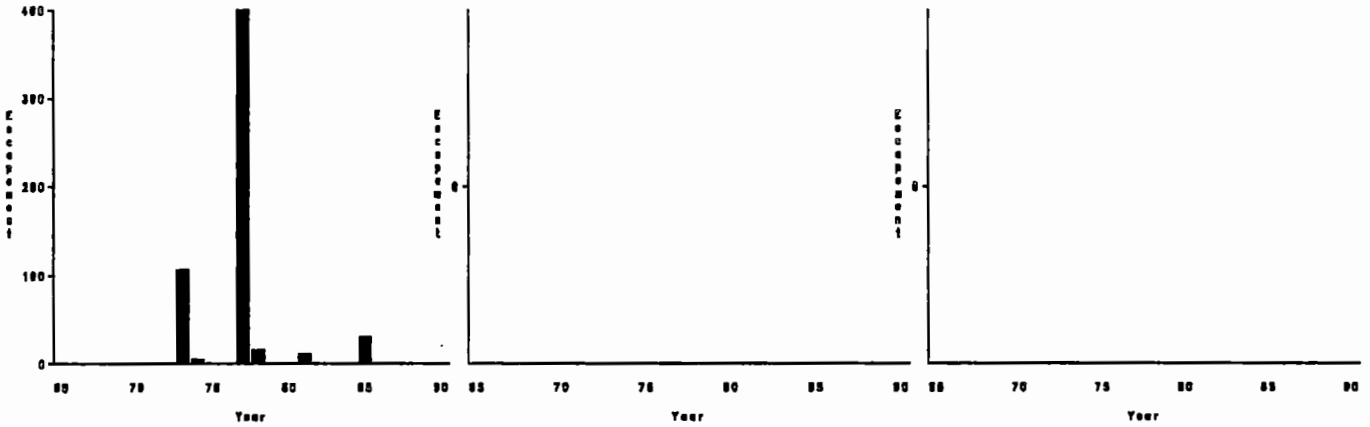
# MACDOUGALL RIVER (09-8100-560)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

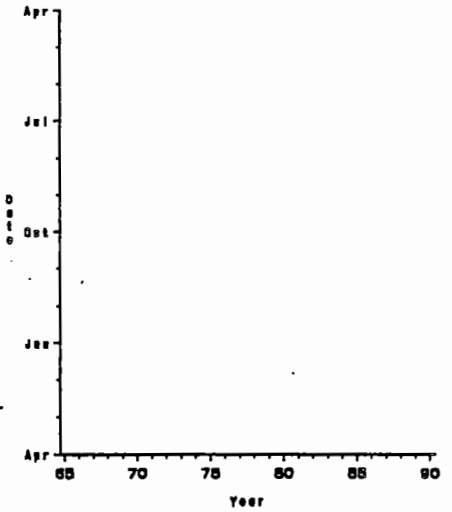
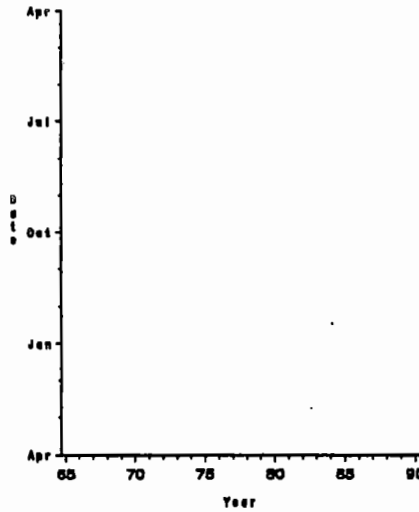
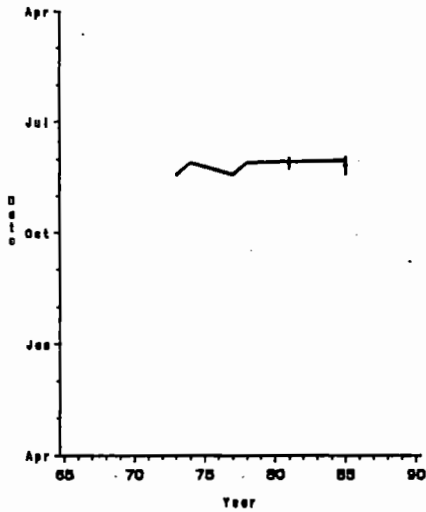
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	100	-	10AUG	-
1974	0	-	08AUG	-
1975	0	-	-	-
1976	0	-	-	-
1977	400	-	10AUG	-
1978	15	-	08AUG	-
1979	0	-	-	-
1980	0	-	-	-
1981	11	01AUG	04AUG	10AUG
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	30	31JUL	02AUG	10AUG
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

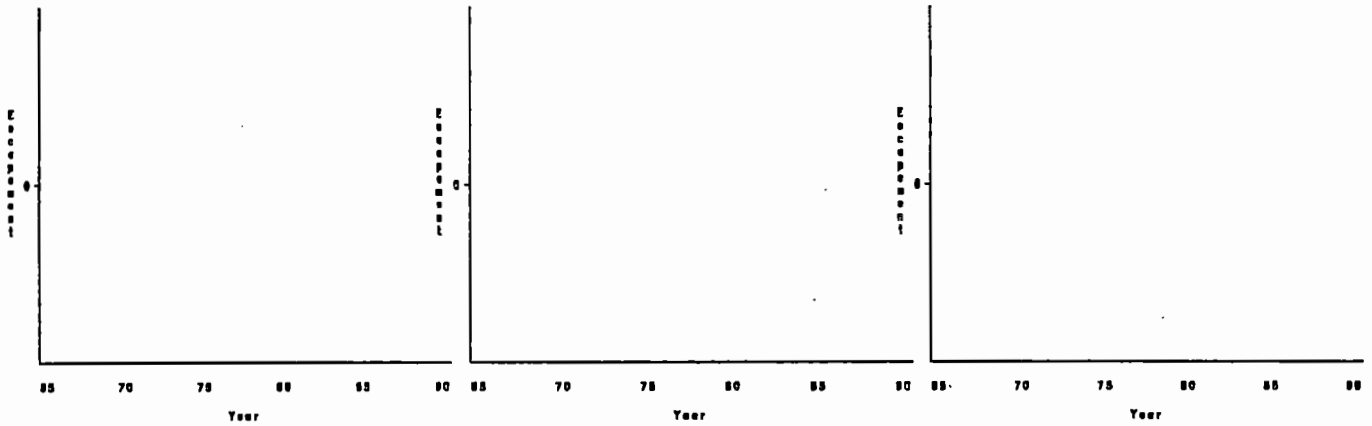
# MACDOUGALL RIVER (09-8100-560)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

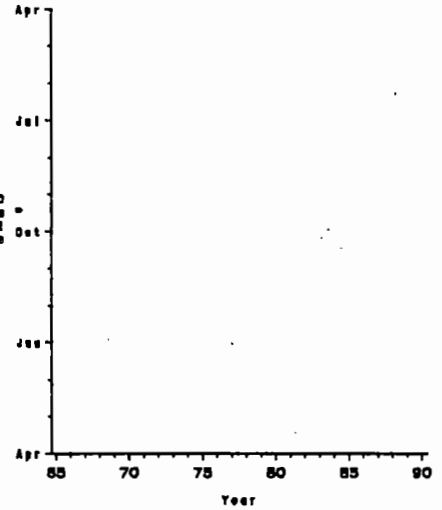
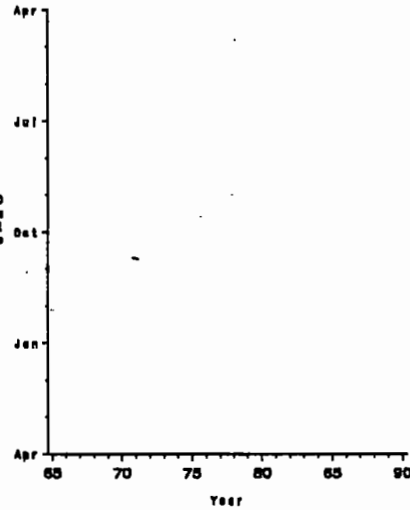
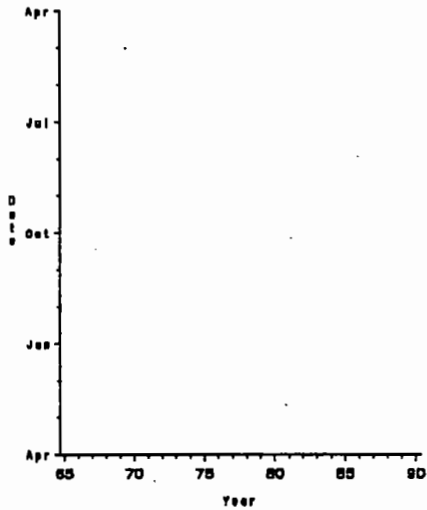
Steelhead (ST)



Chum

Chinook

Steelhead



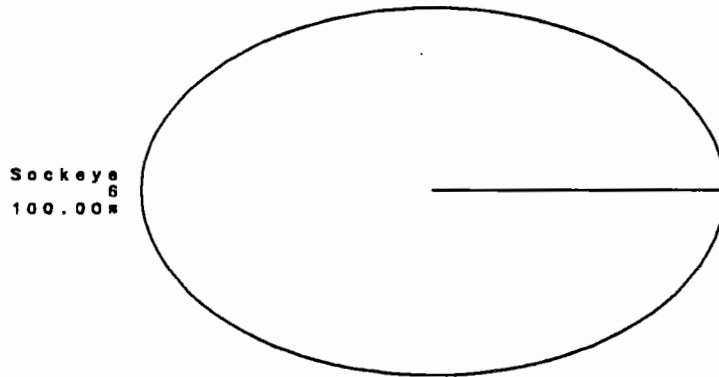
Chum				
Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

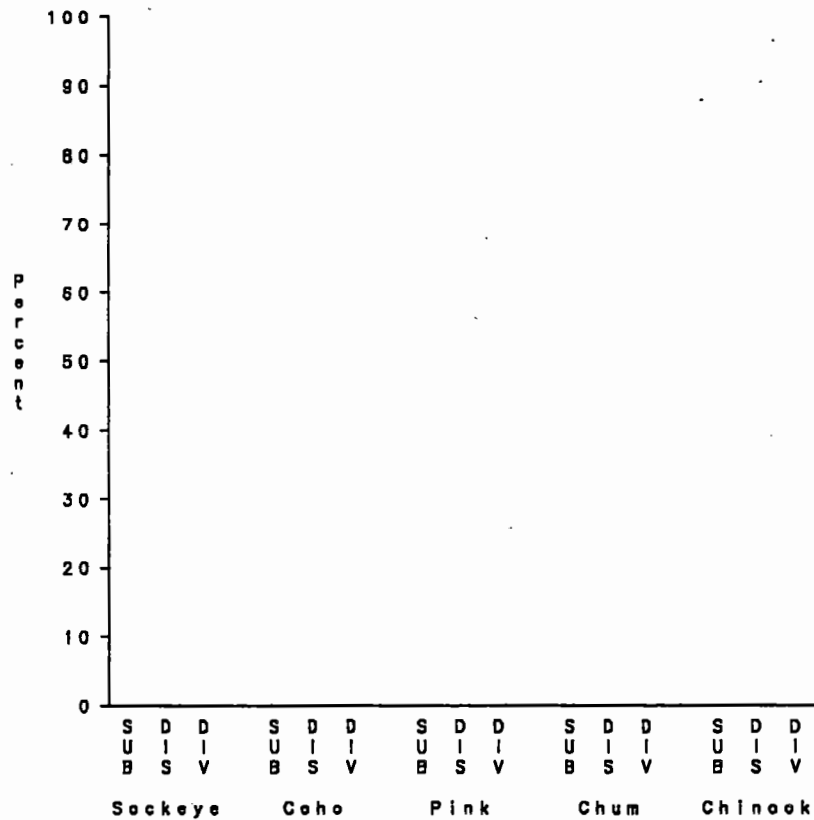
# MACDOUGALL RIVER (09-8100-560)

10-yr Mean Escapement  
(1978-1987)



## MACDOUGALL RIVER : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





**E. ESCAPEMENT SUMMARY CONTINUED**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
Comments: NO SOCKEYE OBSERVED SINCE 1974. (REF. 291-100)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
NO INFORMATION AVAILABLE													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
NO INFORMATION AVAILABLE	

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

GOOD SPAWNING, REARING AND RESIDENT HABITAT. UNDERUTILIZED. ENHANCEMENT BY BLASTING BARRIER AT 3.2KM AND REMOVAL OF LOG JAM AT 5.3KM (REF. 291-31)
----------------------------------------------------------------------------------------------------------------------------------------------------

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/06
Last checked by: LIDIA JAREMOVIC	Date: 1990/02/20

ESCAPEMENT : SINTA CREEK

WATERSHED-CODE : 09-8100-574

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	466	0	0	0	0	0
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	1912	0	0	0	0	0
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	N/O	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	133	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	833	0	0	0	0	0
1974	N/O	0	0	0	0	0
1975	N/O	0	0	0	0	0
1976	UNK	0	0	0	0	0
1977	N/O	0	0	0	0	0
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	N/O	0	0	0	0	0
1981	N/O	0	0	0	0	0
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	N/O	N/O	N/O	N/O	N/O	0
1984	0	0	0	0	0	0
1985	0	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

**A. DESCRIPTION**

Stream Name: <b>DUST CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-577</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 ONINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: 93M/8
<b>BEAVERDALE CREEK</b>	<b>350</b>	B.C.G.S. (1:20k) Map: <b>888332</b>
		U.T.M. Mouth: <b>55 DG. 18' 45'' 126 DG. 2' 5''</b>
		Mainstem Length: <b>36.0 km</b> Ref. No.: <b>291-31</b>
		Watershed Area: <b>144.0 km<sup>2</sup></b> Ref. No.: <b>291-31</b>
Location: <b>FLows SE INTO NORTHWEST ARM, TAKLA LAKE, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)					Comments
0 - .5%	.5 - 2%	2 - 5%	5 - 10%	>10%	<b>GRADIENT INFORMATION (REF. 291-31)</b>
	<b>0.0- 3.2</b>		<b>20.4- 36.2</b>		
	<b>6.4- 9.0</b>			<b>16.4- 20.4</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>BD BEAVER DAM</b>	<b>1.3</b>	<b>6.5</b>		<b>SEVERAL BEAVER DAMS PASSABLE TO 5 KM. BEAVER DAMS BLOWN OUT BY SPRING RUN OFF IN 1986. (REF. 291-31, REF. 291-88)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>
W.S.C. Station No. 1:	No. 2: No. 3: No. 4:
Comments: <b>DISCHARGE MEASURED BY RAB 1975 (REF. 291-31)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>MOST SPawning ABOVE 3.2 KM UPSTREAM TO HEADWATERS. (REF. 291-3, REF. 291-88, REF. 291-100)</b>
<b>DV DOLLY VARDEN</b>	<b>PRESENCE NOTED (REF. 291-31)</b>
<b>KO KOKANEE</b>	<b>LARGE KOKANEE POPULATION. (REF. 291-88, REF. 291-100)</b>
<b>WF WHITEFISH (GENERAL)</b>	<b>PRESENCE NOTED (REF. 291-31)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>1430</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>54590</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				
Comments: DOLLY VARDEN TIMING INFORMATION (REF. 29I-31)													
SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 29I-3, REF. 29I-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	NOT LOGGED IN THE PAST; CUTTING PLANS FOR 1989/1990. (REF. 29I-101)
MI MINING	WITHIN A PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM (CU). (REF. 29I-101)
LD LINEAR DEVELOPMENT	MAIN HAUL ROAD PLANNED ACROSS THE MID-REACH OF THE WATERSHED. (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

POTENTIAL FOR SEVERAL THOUSAND SPAWNING SOCKEYE ANNUALLY (REF. 29I-3)
GOOD SPAWNING, REARING AND RESIDENT HABITAT (REF. 29I-31)
LONG, SLOW MOVING CREEK, POTENTIAL HIGH TEMPERATURE PROBLEMS IN SUMMER AND FREEZING IN WINTER. (REF. 29I-100)
MODERATE POTENTIAL FOR STREAM BANK EROSION AND SEDIMENTATION DUE TO LATERALLY UNSTABLE MEANDERING CHANNEL IN THE LOWER SYSTEM AND HIGH INCIDENCE OF SLOPE FAILURES ON THE VALLEY WALLS. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/06
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : DUST CREEK

WATERSHED-CODE : 09-8100-577

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	16891	0	0	0	0	0
1954	1168	0	0	0	0	0
1955	4	0	0	0	0	0
1956	432	0	0	0	0	0
1957	14827	0	0	0	0	0
1958	3879	0	0	0	0	0
1959	2	0	0	0	0	0
1960	385	0	0	0	0	0
1961	10928	0	0	0	0	0
1962	1035	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	1584	0	0	0	0	0
1966	178	0	0	0	0	0
1967	247	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	3595	0	0	0	0	0
1970	963	0	0	0	0	0
1971	1688	0	0	0	0	0
1972	50	0	0	0	0	0
1973	17850	0	0	0	0	0
1974	934	0	0	0	0	0
1975	1068	0	0	0	0	0
1976	62	0	0	0	0	0
1977	16200	0	0	0	0	0
1978	657	0	0	0	0	0
1979	593	0	0	0	0	0
1980	23	0	0	0	0	0
1981	5044	0	0	0	0	0
1982	165	0	0	0	0	0
1983	133	0	0	0	0	0
1984	258	0	0	0	0	0
1985	5459	0	0	0	0	0
1986	429	UNK	UNK	UNK	UNK	0
1987	1535	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

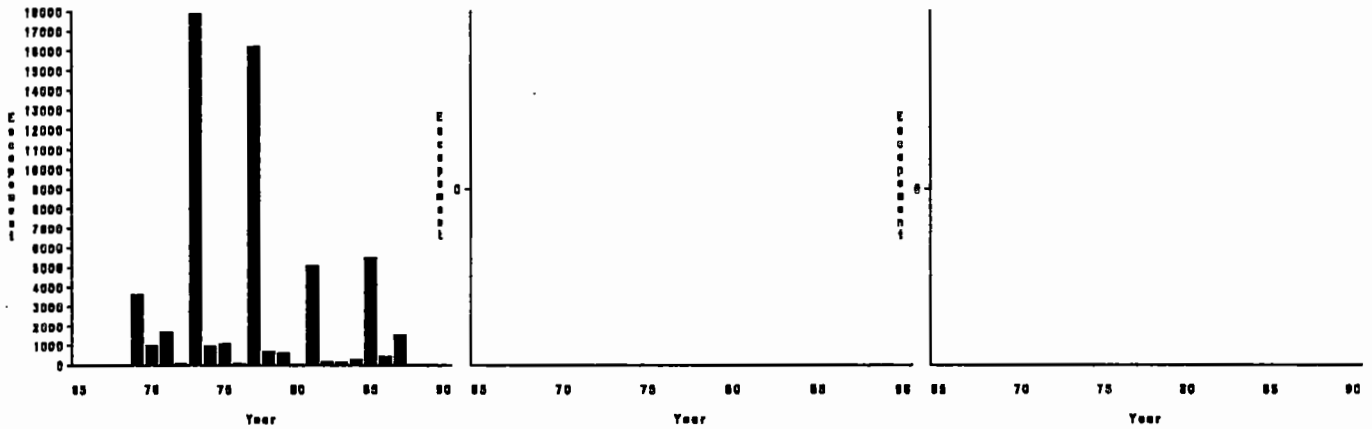
# DUST CREEK (09-8100-577)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

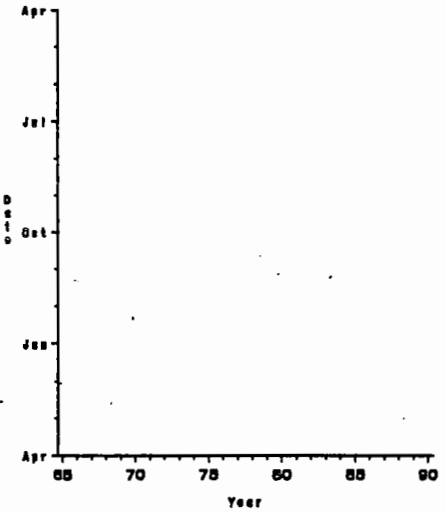
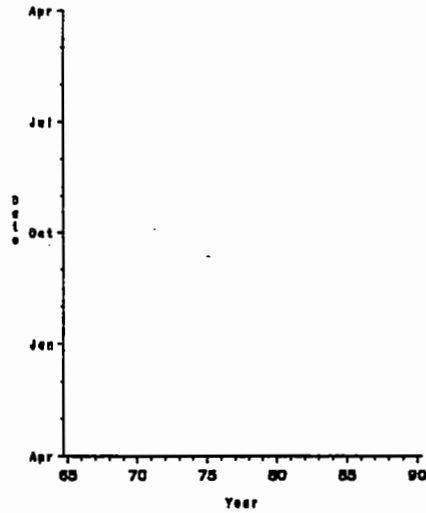
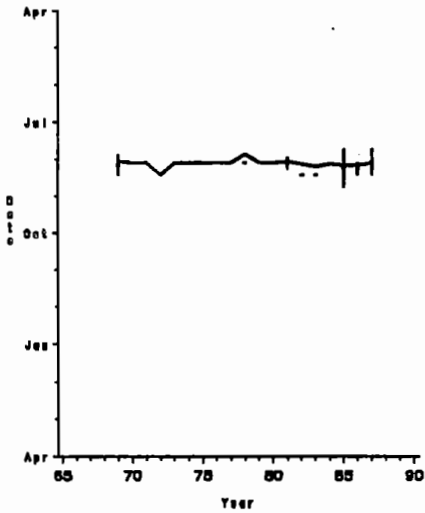
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	3,800	20JUL	06AUG	18AUG
1967	1,800	-	06AUG	-
1968	1,000	-	06AUG	-
1969	30	-	18AUG	-
1970	17,200	-	06AUG	-
1971	17,000	-	06AUG	-
1972	1,000	-	06AUG	-
1973	62	-	05AUG	-
1974	16,200	-	06AUG	-
1975	1,000	-	20JUL	06AUG
1976	1,000	-	06AUG	-
1977	32	-	06AUG	-
1978	6,000	01AUG	06AUG	18AUG
1979	100	-	06AUG	18AUG
1980	130	18AUG	06AUG	18AUG
1981	300	-	06AUG	-
1982	6,400	28JUL	07AUG	20AUG
1983	420	06AUG	07AUG	18AUG
1984	1,300	28JUL	08AUG	18AUG

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

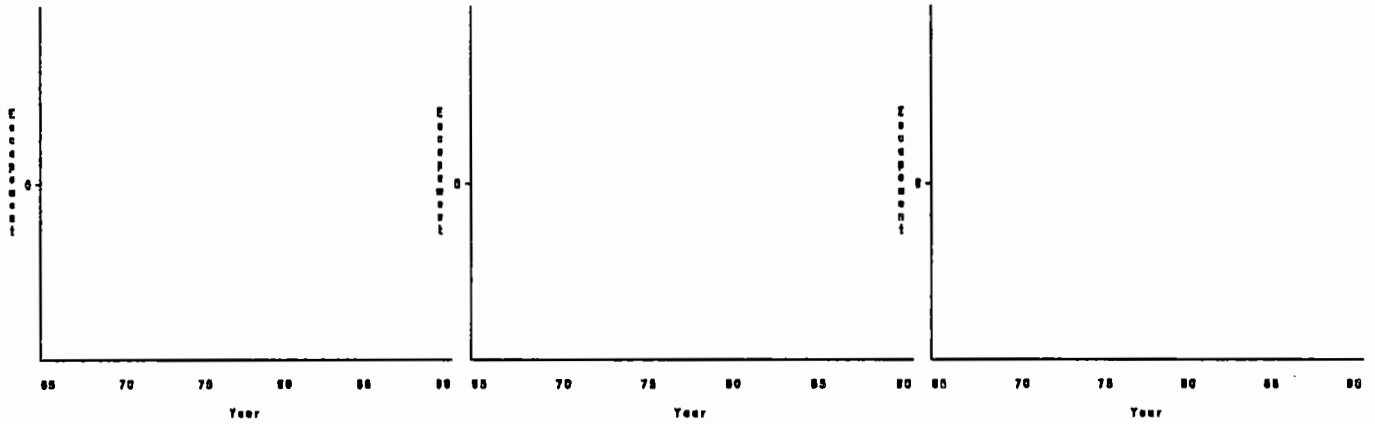
# DUST CREEK (09-8100-577)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

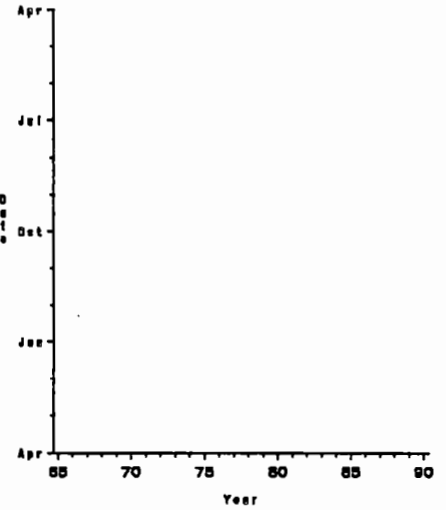
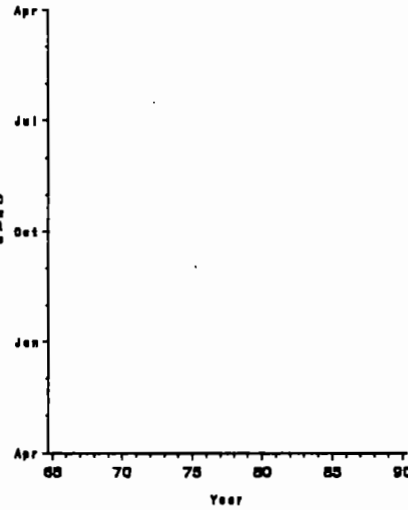
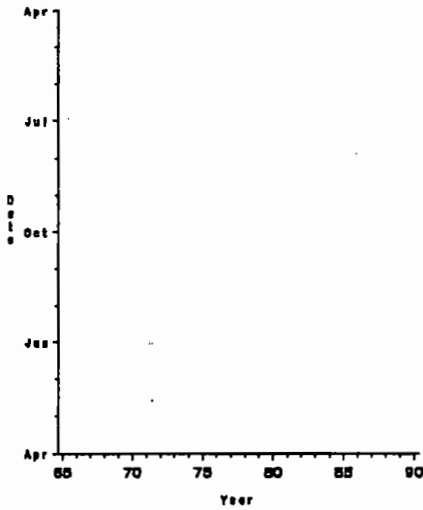
Steelhead (ST)



Chum

Chinook

Steelhead



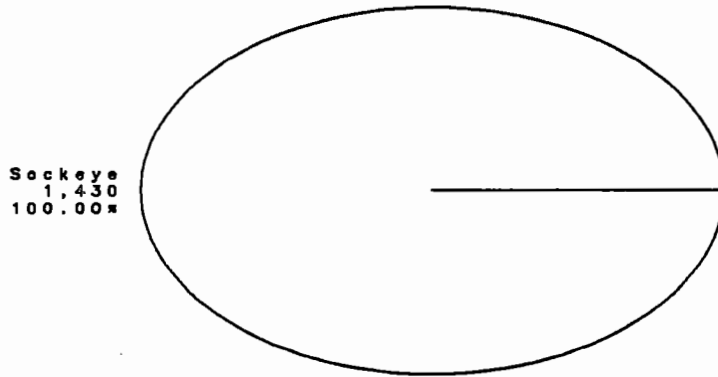
Chum				
Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

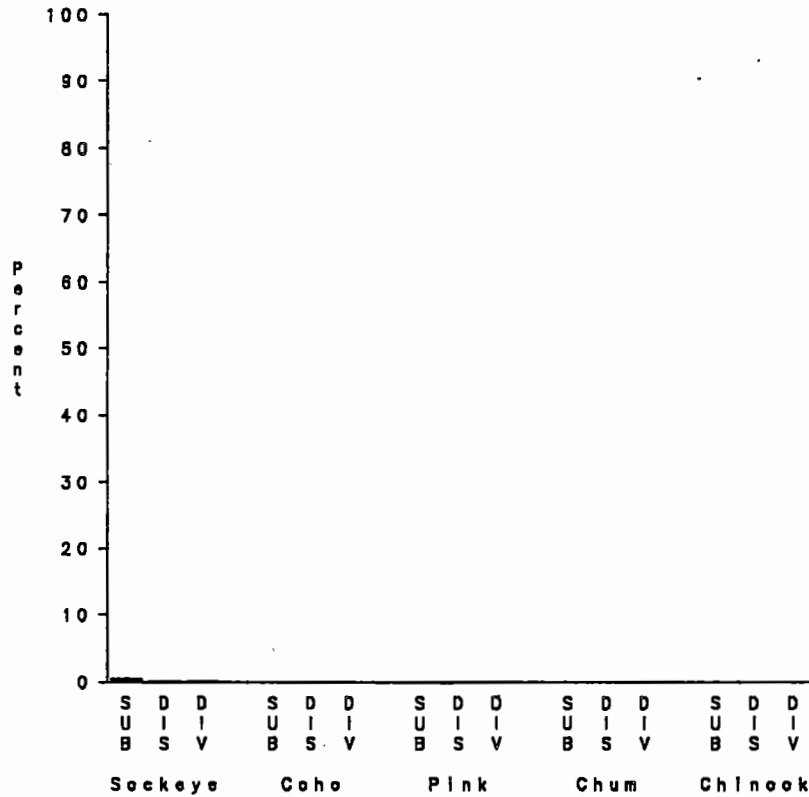
# DUST CREEK (09-8100-577)

10-yr Mean Escapement  
(1978-1987)



## DUST CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X X				
Comments: SOCKEYE TIMING INFORMATION. (REF. 291-3)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
LJ LOG JAM REMOVAL	SK SOCKEYE SALMON	0.0	LOG JAM REMOVAL (REF. 291-88)	1978/
LJ LOG JAM REMOVAL	SK SOCKEYE SALMON	0.0	LOG JAM REMOVAL AT 1 KM. (REF. 291-88)	1986/1986
SI STREAM IMPROVEM'T		0.0	STREAM CHANNELIZATION BLASTED, DFO. (REF. 291-3, REF. 291-88)	1978/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
NO INFORMATION AVAILABLE	

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

FAST, HIGH GRADIENT, COOL, GLACIAL STREAM WITH A GENERALLY COARSE SUBSTRATE. PROVIDES EXCELLENT REARING HABITAT FOR RESIDENT RAINBOW AND DOLLY VARDEN AND HAS SUPERB SPawning POTENTIAL FOR SOCKEYE AND DOLLY VARDEN. (REF. 291-31)
VERY SMALL CREEK, CAN HAVE PROBLEMS WITH LOW WATER. (REF. 291-100)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
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K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
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ESCAPEMENT : CROW CREEK

WATERSHED-CODE : 09-8100-585

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	886	0	0	0	0	0
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	3557	0	0	0	0	0
1958	N/O	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	193	0	0	0	0	0
1961	925	0	0	0	0	0
1962	279	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	2	0	0	0	0	0
1965	342	0	0	0	0	0
1966	126	0	0	0	0	0
1967	14	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	389	0	0	0	0	0
1970	396	0	0	0	0	0
1971	374	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	3686	0	0	0	0	0
1974	981	0	0	0	0	0
1975	130	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	650	0	0	0	0	0
1978	467	0	0	0	0	0
1979	232	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	804	0	0	0	0	0
1982	40	0	0	0	0	0
1983	181	0	0	0	0	0
1984	219	0	0	0	0	0
1985	1839	0	0	0	0	0
1986	703	UNK	UNK	UNK	UNK	0
1987	884	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

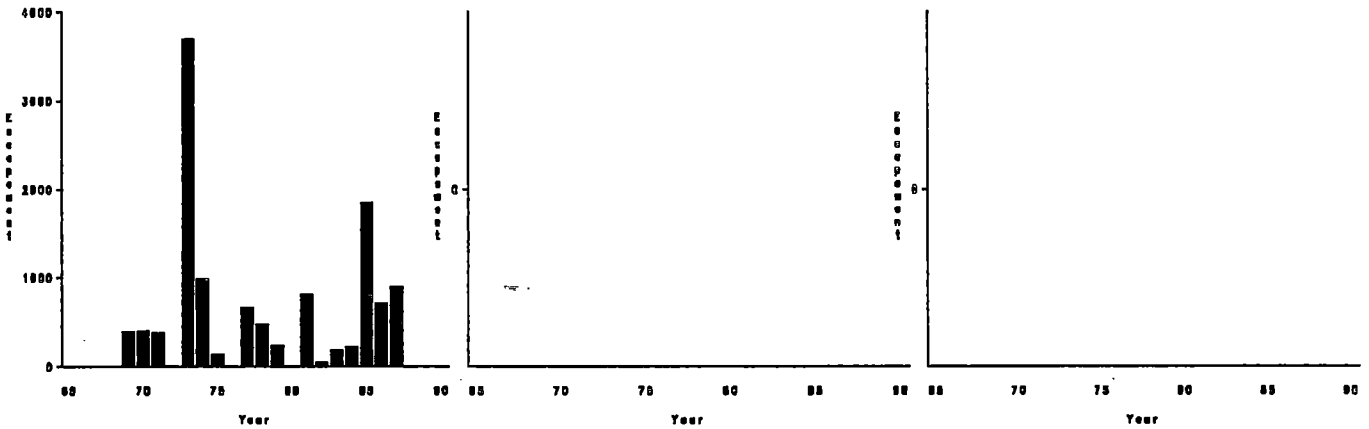
# UNNAMED C (09-8100-585)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

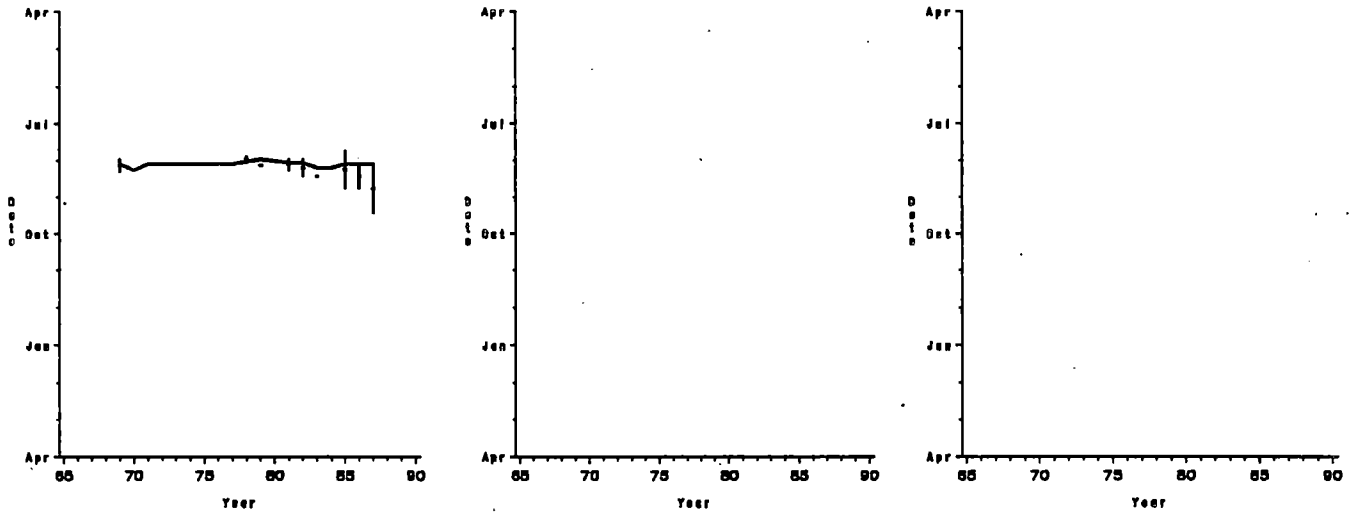
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	300	01AUG	03AUG	11AUG
1970	300	-	10AUG	-
1971	374	-	09AUG	-
1972	0	-	-	-
1973	3,400	-	08AUG	-
1974	801	-	08AUG	-
1975	120	-	08AUG	-
1976	0	-	-	-
1977	0	-	09AUG	-
1978	407	20AUG	-	04AUG
1979	232	-	01AUG	09AUG
1980	0	-	-	-
1981	304	01AUG	04AUG	10AUG
1982	40	01AUG	04AUG	10AUG
1983	101	19AUG	09AUG	18AUG
1984	210	-	08AUG	-
1985	1,020	20AUG	08AUG	20AUG
1986	703	09AUG	08AUG	20AUG
1987	304	09AUG	09AUG	10SEP

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

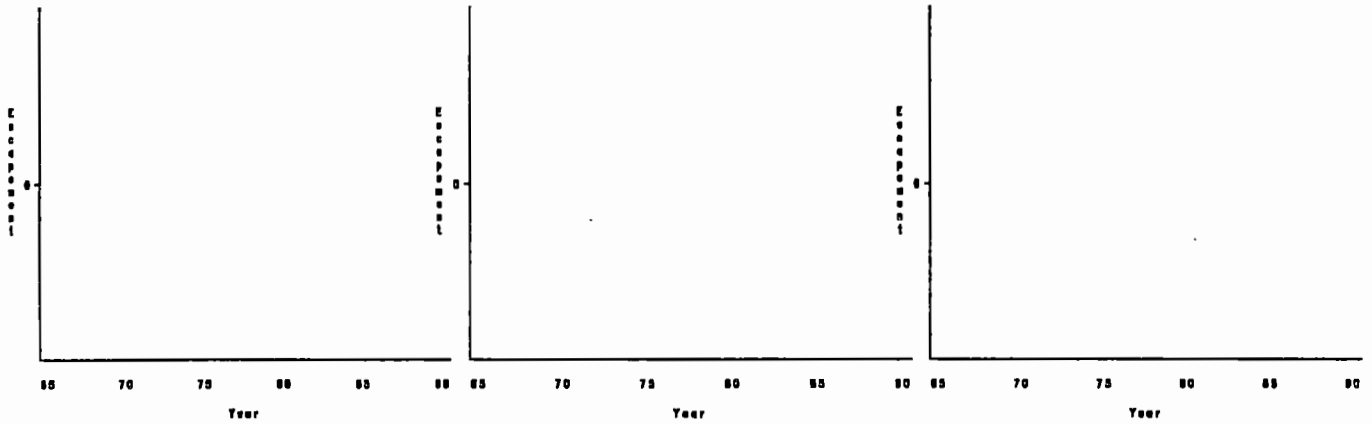
# UNNAMED C (09-8100-585)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

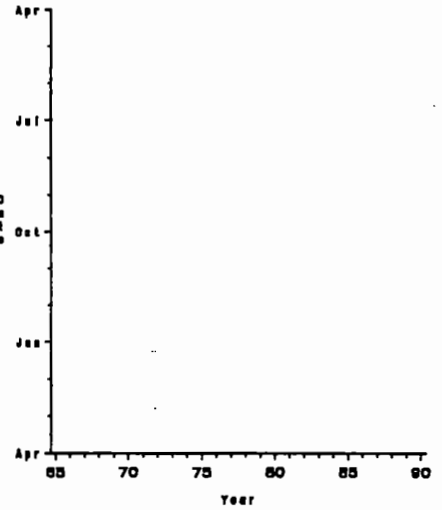
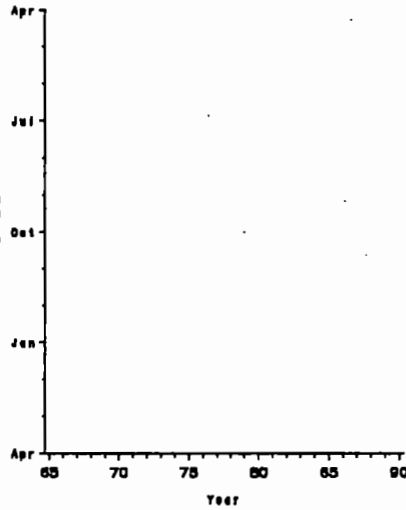
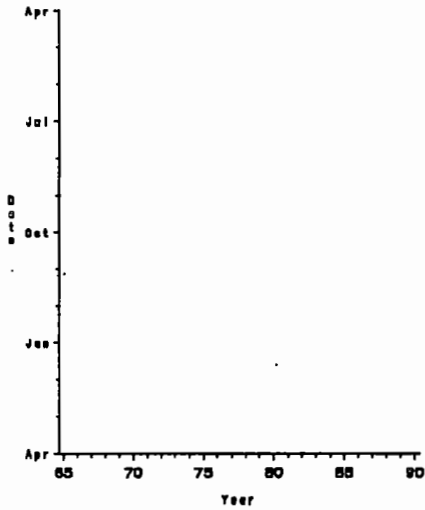
Steelhead (ST)



Chum

Chinook

Steelhead



Chum

Chinook

Steelhead

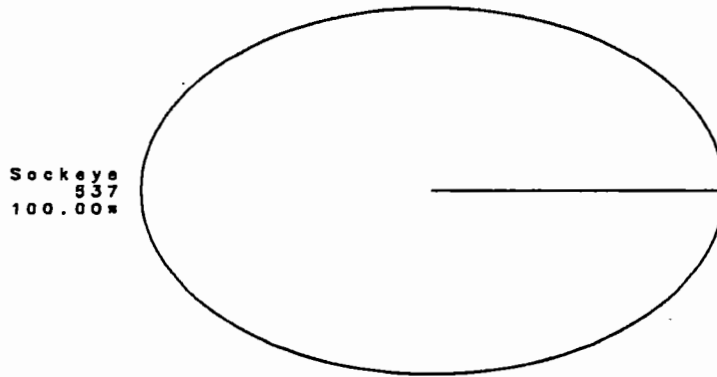
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

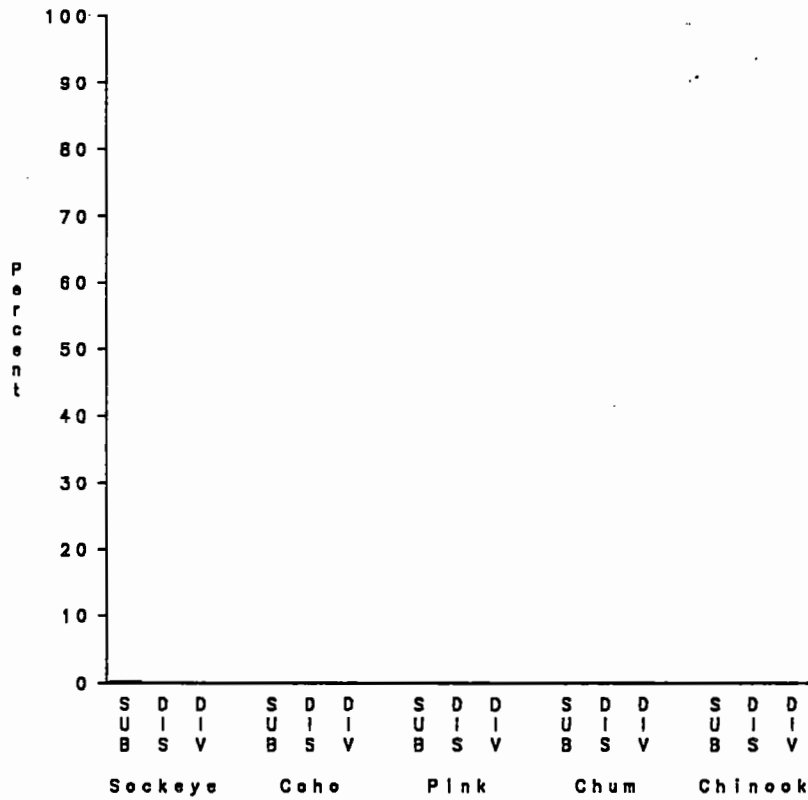
# UNNAMED C (09-8100-585)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

CYCLE YEAR SPawning STREAM. (REF. 291-3)
FAST, COLD STREAM, UNSTABLE BANKS AND HILLSIDES. IF LOGGING DEVELOPMENT, GREEN STRIP SHOULD BE LEFT ON EITHER SIDE OF STREAM BED. (REF. 291-31)
SYSTEM IS A MARGINAL PRODUCER. SMALL STREAM, LIMITED SPawning GRAVELS. (REF. 291-88)
A SHORT 200 M FAN IS VERY UNSTABLE LaterALLY; UNSTABLE VALLEY WALLS AND HILLSLOPES THROUGHOUT DRAINAGE. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared:     /     /	Prepared By:
----------------------------	--------------

**K. SIS COMPLETED BY**

Completed by: <b>D. FARRELL</b>	Date: <b>1987/01/09</b>
Last updated by: <b>CATHY GEE</b>	Date: <b>1990/10/04</b>
Last checked by: <b>L. JAREMOVIC</b>	Date: <b>1990/10/04</b>

ESCAPEMENT : HOOKER CREEK

WATERSHED-CODE : 09-8100-588

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	0	0	0	0	0
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	0	0	0	750	0
1974	UNK	0	0	0	0	0
1975	UNK	0	0	0	0	0
1976	UNK	0	0	0	0	0
1977	252	0	0	0	0	0
1978	N/O	UNK	UNK	UNK	UNK	UNK
1979	N/O	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	287	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	0	0	0	0	0	0
1985	399	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	401	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

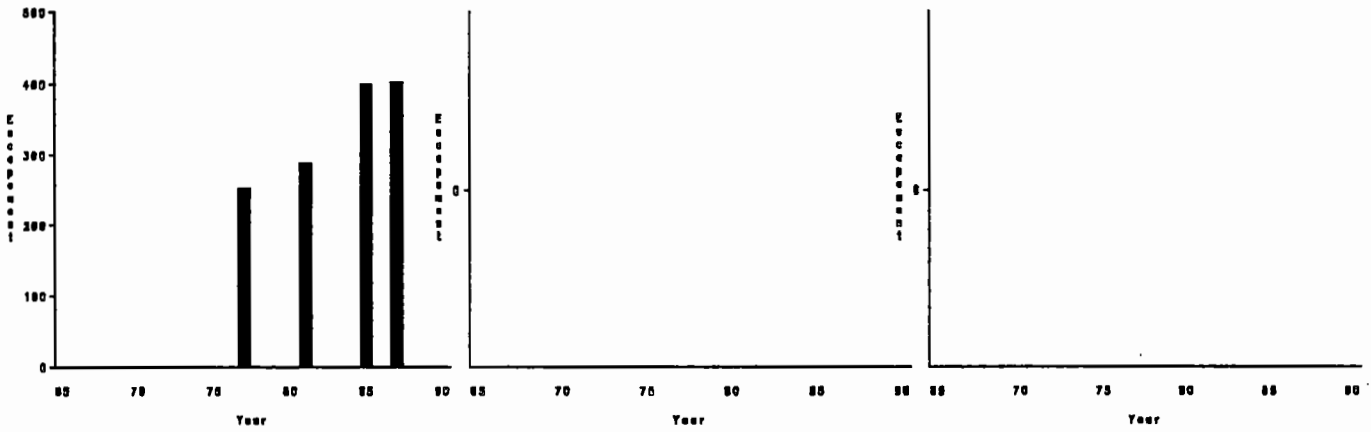
# UNNAMED C (09-8100-588)

## Escapement & Run Timing

Sockeye (SK)

Coho (CO)

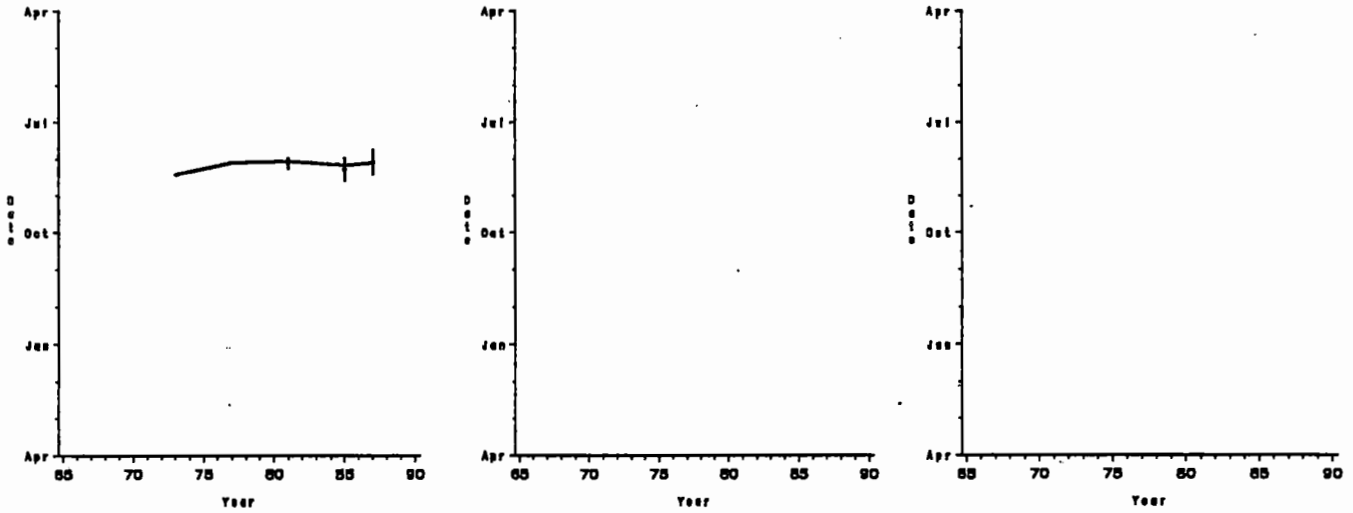
Pink (PK)



Sockeye

Coho

Pink



Sockeye

Coho

Pink

Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	18AUG	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	250	-	08AUG	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	287	01AUG	06AUG	10AUG
1982	0	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	200	01AUG	07AUG	20AUG
1986	0	-	-	-
1987	401	28AUG	09AUG	18AUG

Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	0	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	-	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	0	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	-	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

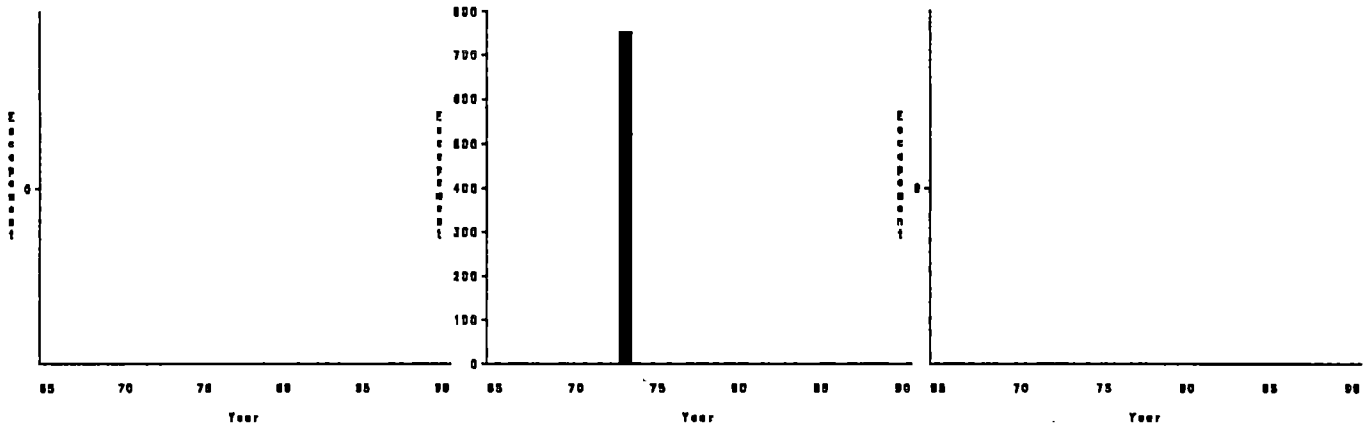
# UNNAMED C (09-8100-588)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

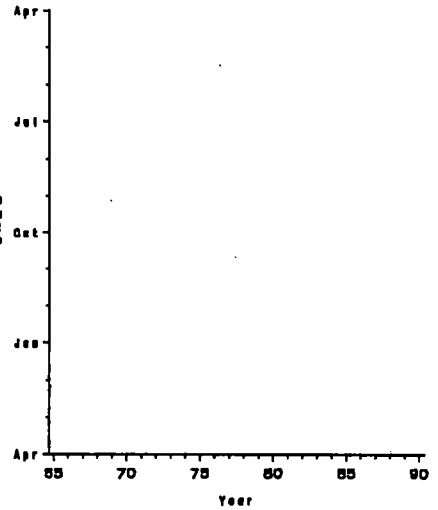
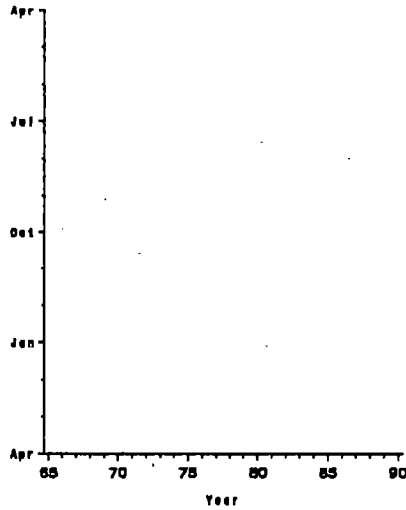
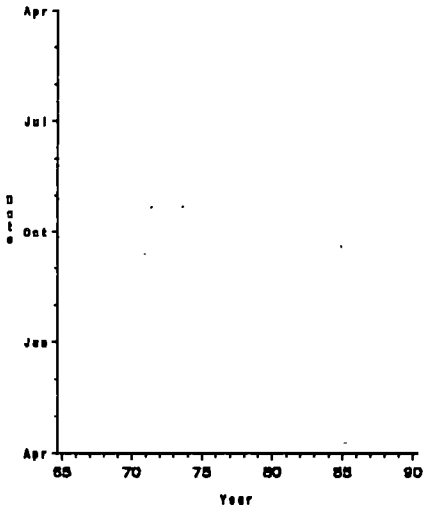
Steelhead (ST)



Chum

Chinook

Steelhead



Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	0	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	0	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	750	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-



**A. DESCRIPTION**

Stream Name: <b>POINT CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-590</b>	Subdistrict: <b>29I PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: 93N/4
		B.C.G.S. (1:20k) Map: 111243
		U.T.M. Mouth: 55 DG. 14' 59" 125 DG. 58' 0"
		Lat./Long. Mouth: 55 DG. 14' 59" 125 DG. 58' 0"
		Mainstem Length: 4.8 km Ref. No.: 29I-31
		Watershed Area: 31.0 km2 Ref. No.: 29I-101
Location: FLOWS W INTO NORTHWEST ARM TAKLA LAKE, CASSIAR DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5% .5 - 2% 2 - 5% 5 - 10% >10%	GRADIENT INFORMATION (REF. 29I-31)
0.1- 0.4 0.0- 0.1 0.4- 0.6	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
X LOG JAMS	2.0			SEVERAL 0.6 - 2 METER LOG JAM FALLS IN CANYON SECTIONS CREATE PARTIAL BARRIERS. (REF. 29I-31)
F FALLS	25.0	1.2	SK SOCKEYE SALMON	90 DEGREE FALLS OVER BEDROCK (REF. 29I-31)

**C. FLOW**

Flow Control: N	Water Survey of Canada (WSC) Flow Gauge: N
W.S.C. Station No. 1:	No. 2: No. 3: No. 4:
Comments: DISCHARGE MEASURED BY RAB 1975. (REF. 29I-3)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN TO FALLS. (REF. 29I-3, REF. 29I-88)
DV DOLLY VARDEN	PRESENCE NOTED (REF. 29I-31)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	1171	1978 - 1987	28A-18	3219	28A-18		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-88, REF. 291-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
UD URBAN DEVELOPMENT	ONE SUMMER HOME (REF. 291-88)
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)
LD LINEAR DEVELOPMENT	ACCESSED BY FORESTRY ROAD, ONE BRIDGE CROSSING IN LOWER REACH. (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

A DEBRIS CHOKED, MODERATE SIZED, FAST, COOL STREAM WITH GENERALLY COARSE SUBSTRATE. MODERATE DOLLY VARDEN AND SOCKEYE SPawning AND REARING POTENTIAL IN THE FALL, POOR IN THE SUMMER. (REF. 291-31)
A STEEP 200 M FAN AT THE STREAM MOUTH APPEARS HIGHLY UNSTABLE; HILLSLOPES AND VALLEY WALLS ARE UNSTABLE THROUGHOUT. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : POINT CREEK

WATERSHED-CODE : 09-8100-590

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	266	0	0	0	0	0
1954	23	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	56	0	0	0	0	0
1957	774	0	0	0	0	0
1958	225	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	N/O	0	0	0	0	0
1961	661	0	0	0	0	0
1962	45	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	270	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	794	0	0	0	0	0
1970	565	0	0	0	0	0
1971	1465	0	0	0	0	0
1972	9	0	0	0	0	0
1973	2787	0	0	0	0	0
1974	2059	0	0	0	0	0
1975	2292	0	0	0	0	0
1976	68	0	0	0	0	0
1977	918	0	0	0	0	0
1978	1604	UNK	UNK	UNK	UNK	UNK
1979	2715	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	1626	0	0	0	0	0
1982	68	UNK	UNK	UNK	UNK	UNK
1983	813	0	0	0	0	0
1984	536	0	0	0	0	0
1985	3219	0	0	0	0	0
1986	158	UNK	UNK	UNK	UNK	0
1987	975	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

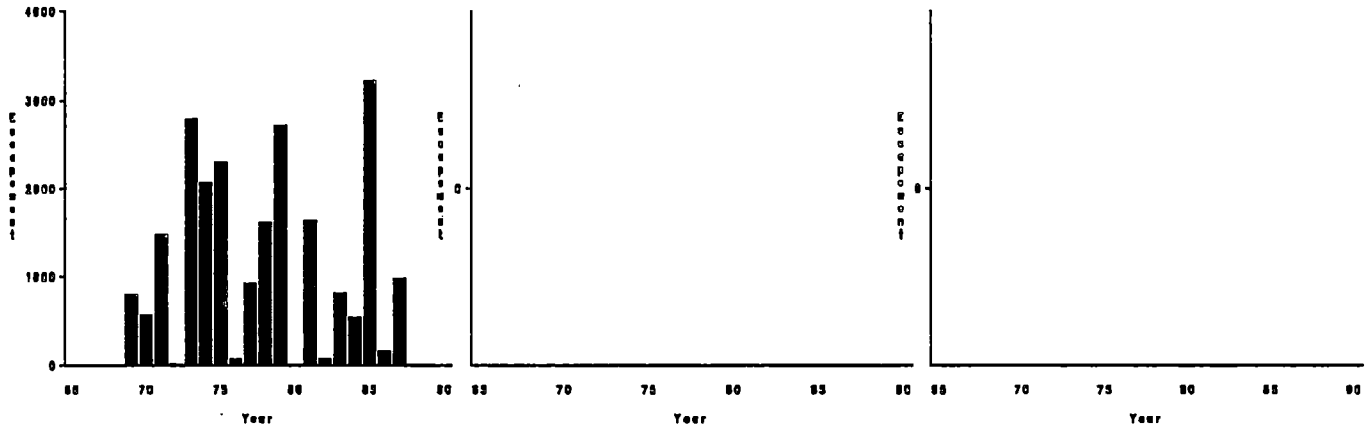
# UNNAMED C (09-8100-590)

## Escapement & Run Timing

Sockeye (SK)

Coho (CO)

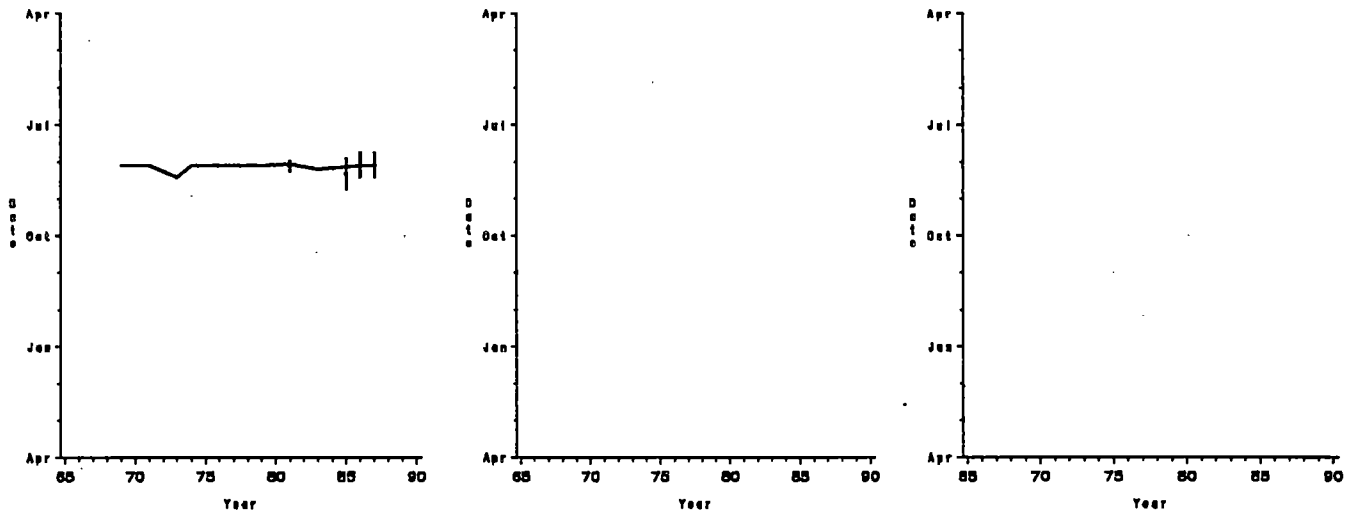
Pink (PK)



Sockeye

Coho

Pink



Sockeye				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	784	-	09AUG	-
1970	502	-	-	-
1971	1,409	-	09AUG	-
1972	0	-	-	-
1973	2,707	-	19AUG	-
1974	2,400	-	09AUG	-
1975	2,292	-	09AUG	-
1976	0	-	-	-
1977	910	-	09AUG	-
1978	1,004	-	-	-
1979	2,710	-	09AUG	-
1980	0	-	-	-
1981	1,020	01AUG	09AUG	16AUG
1982	0	-	-	-
1983	013	-	09AUG	-
1984	320	-	-	-
1985	2,210	30AUG	09AUG	28AUG
1986	100	20AUG	09AUG	19AUG
1987	070	20AUG	09AUG	19AUG

Coho				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	-	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Pink				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	-	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

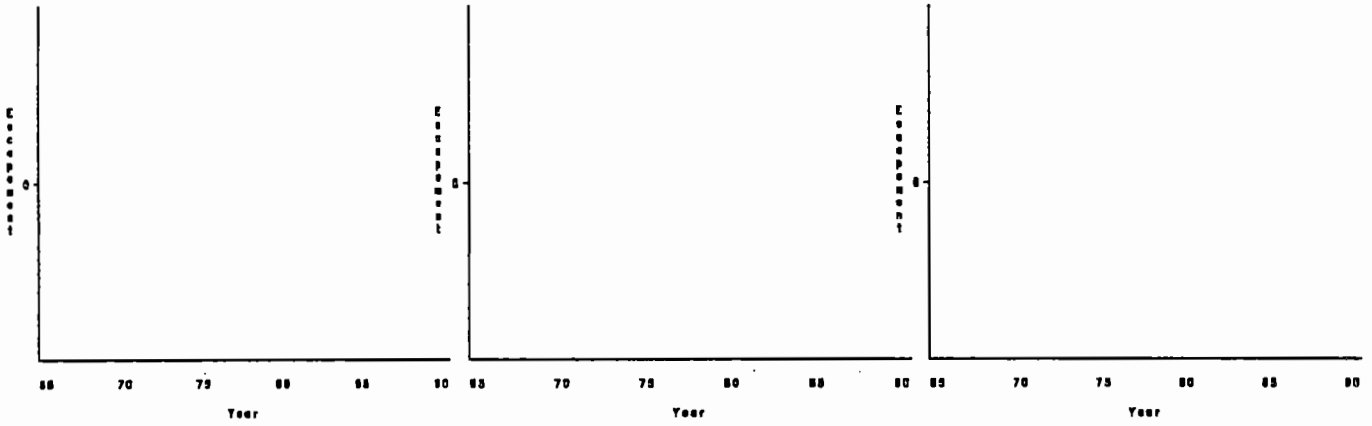
# UNNAMED C (09-8100-590)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

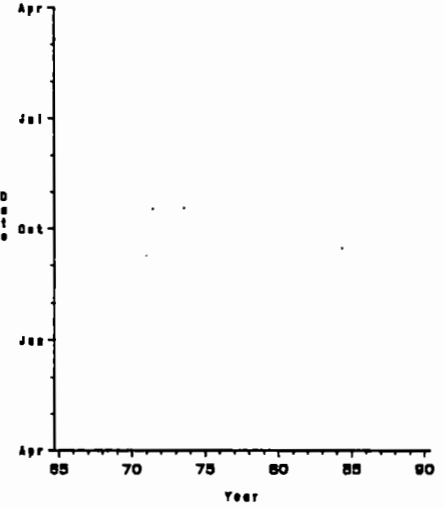
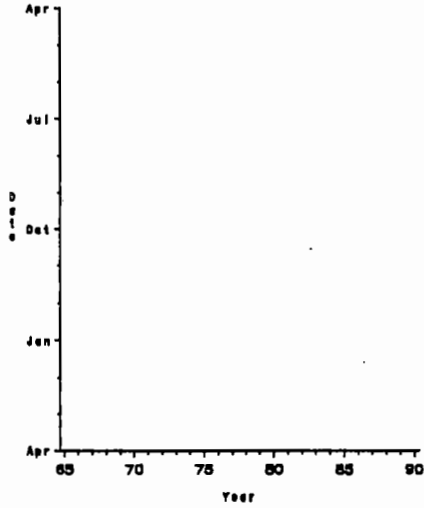
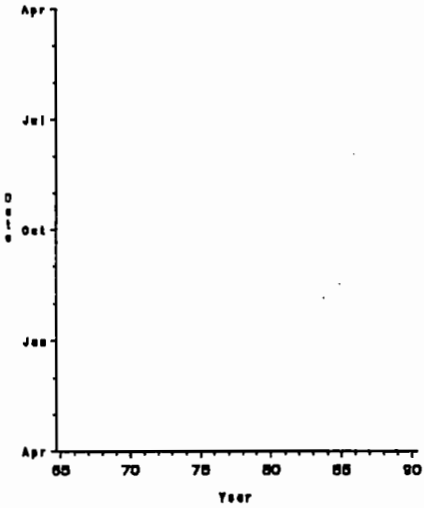
Steelhead (ST)



Chum

Chinook

Steelhead



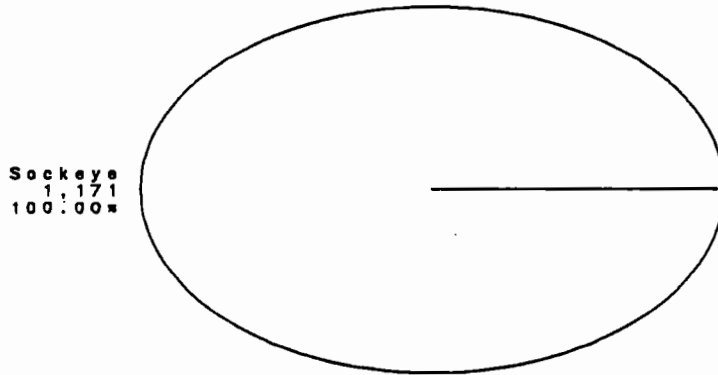
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	5	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

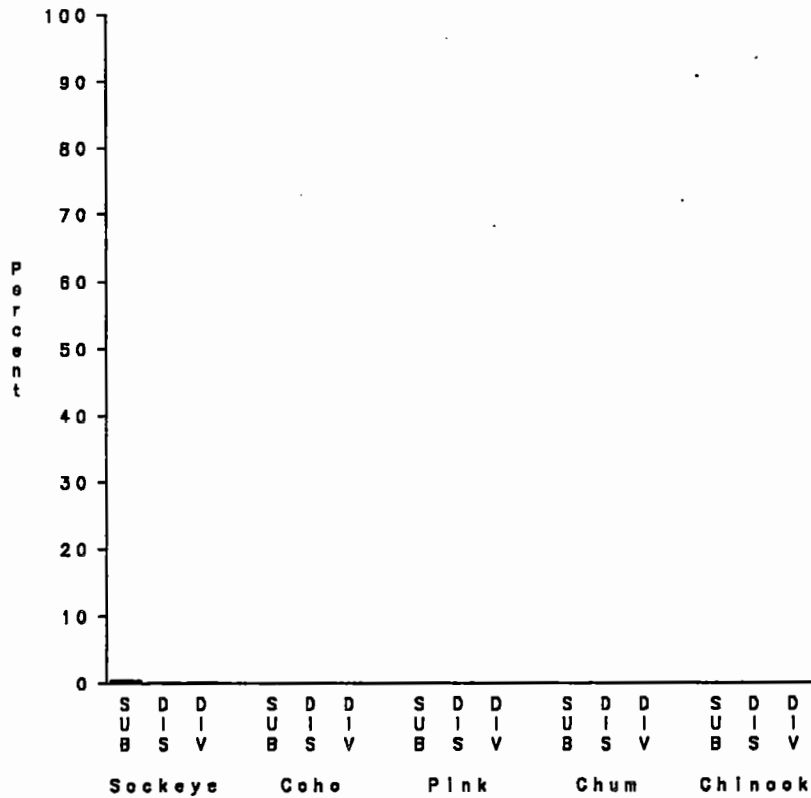
# UNNAMED C (09-8100-590)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





**E. ESCAPEMENT SUMMARY CONTINUED**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	2525	1978 - 1987	28A-18	11296	28A-18		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				

Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	SK SOCKEYE SALMON		STREAM INVENTORY. (REF. 291-96)	1986/1986
SI STREAM IMPROVEM'T		0.0	ACCESS CLEARANCE (REF. 291-88)	/
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY. (REF. 291-24)	1974/1974

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
LD LINEAR DEVELOPMENT	FORESTRY ROAD ACCES AND BRIDGE CROSSING; BCR LINE UPGRADING PROPOSED. (REF. 291-3, REF. 291-68, REF. 291-101)
UD URBAN DEVELOPMENT	LODGE NEAR MOUTH. (REF. 291-88)
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; SIX MINERAL CLAIMS (CR). (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

EXCELLENT SPAWNING STREAM, A LARGE MEDIUM GRADIENT STREAM WITH UNSTABLE BANKS. IMPORTANT SOCKEYE AND KOKANEE SPAWNING STREAM. SOME POTENTIAL FOR DOLLY VARDEN. (REF. 291-3, REF. 291-24)
FEASIBILITY OF SPAWNING CHANNEL BEING ASSESSED (1989). (REF. 291-100)
FAN AT THE STREAM MOUTH IS VERY UNSTABLE; VALLEY WALLS AND HILLSLOPES ARE UNSTABLE THROUGHOUT. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JARENOVIC	Date: 1990/10/04

ESCAPEMENT : NARROWS CREEK

WATERSHED-CODE : 09-8100-625

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	20604	0	0	0	0	0
1954	2756	0	0	0	0	0
1955	27	0	0	0	0	0
1956	697	0	0	0	0	0
1957	16184	0	0	0	0	0
1958	2344	0	0	0	0	0
1959	167	0	0	0	0	0
1960	598	0	0	0	0	0
1961	8636	0	0	0	0	0
1962	666	0	0	0	0	0
1963	180	0	0	0	0	0
1964	22	0	0	0	0	0
1965	1377	0	0	0	0	0
1966	322	0	0	0	0	0
1967	454	0	0	0	0	0
1968	41	0	0	0	0	0
1969	5746	0	0	0	0	0
1970	144	0	0	0	0	0
1971	3467	0	0	0	0	0
1972	104	0	0	0	0	0
1973	5726	0	0	0	0	0
1974	486	0	0	0	0	0
1975	1704	0	0	0	0	0
1976	244	0	0	0	0	0
1977	2844	0	0	0	0	0
1978	709	0	0	0	0	0
1979	1575	0	0	0	0	0
1980	257	0	0	0	0	0
1981	3583	0	0	0	0	0
1982	78	0	0	0	0	0
1983	895	0	0	0	0	0
1984	1568	0	0	0	0	0
1985	4209	0	0	0	0	0
1986	1083	UNK	UNK	UNK	UNK	0
1987	11296	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

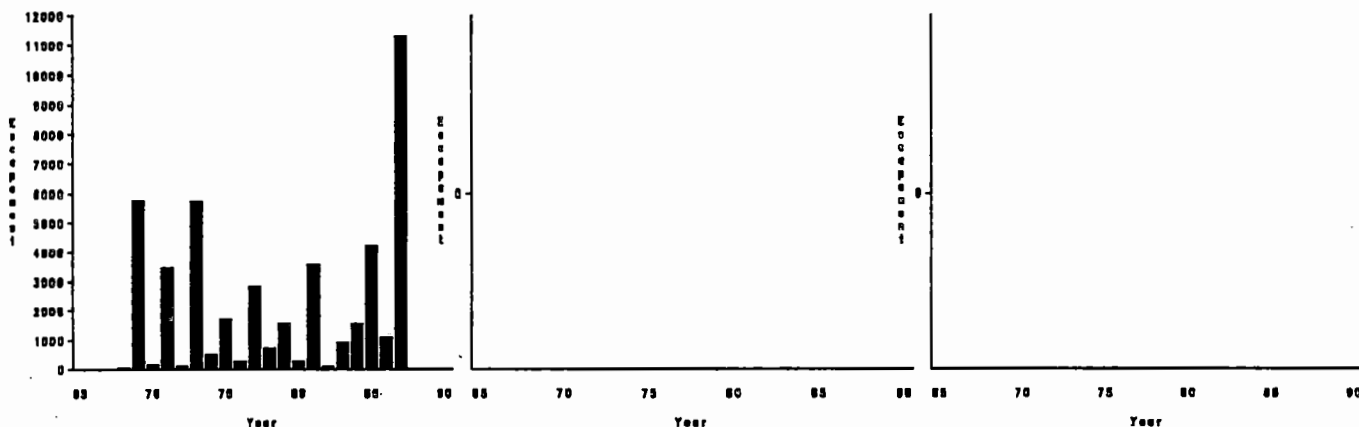
# UNNAMED C (09-8100-625)

## Escapement & Run Timing

Socketeye (SK)

Coho (CO)

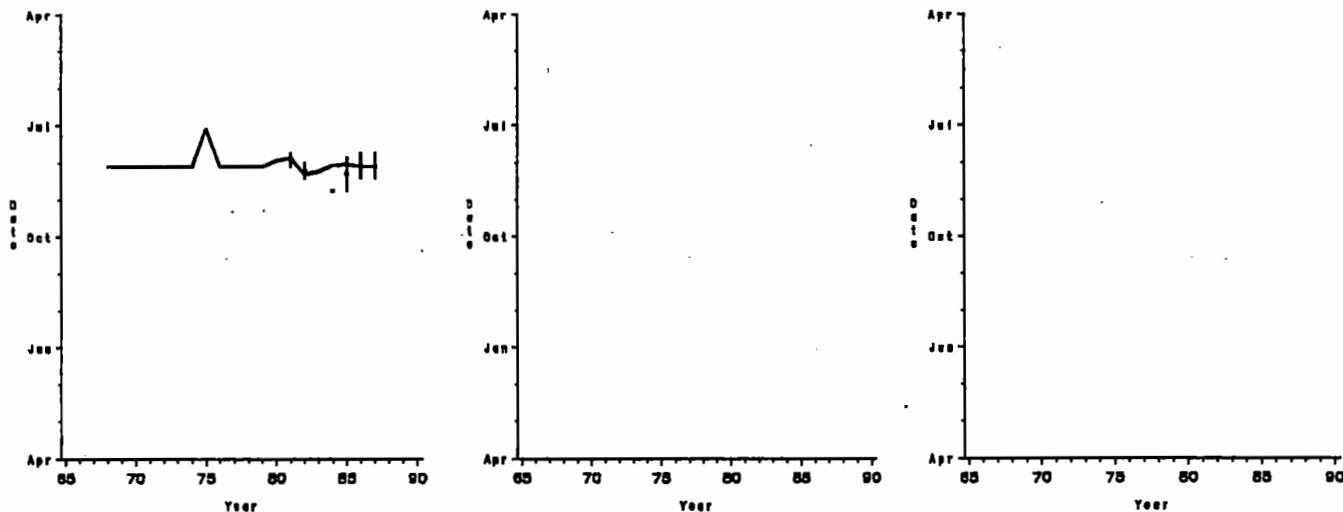
Pink (PK)



Sockeye

Coho

Pink



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	5,740	-	08AUG	-
1968	164	-	08AUG	-
1969	3,607	-	08AUG	-
1970	104	-	08AUG	-
1971	9,720	-	08AUG	-
1972	400	-	08AUG	-
1973	1,704	-	08JUL	-
1974	244	-	08AUG	-
1975	2,044	-	08AUG	-
1976	760	-	08AUG	-
1977	1,070	-	08AUG	-
1978	287	-	21JUL	-
1979	2,002	20JUL	25JUL	08AUG
1980	70	02AUG	12AUG	18AUG
1981	890	-	08AUG	-
1982	1,000	-	08AUG	28AUG
1983	4,200	28JUL	02AUG	28AUG
1984	1,000	28JUL	08AUG	18AUG
1985	11,300	28JUL	08AUG	18AUG
1986	0	-	-	-
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-

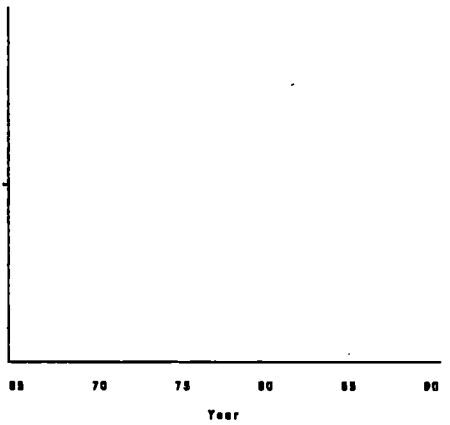
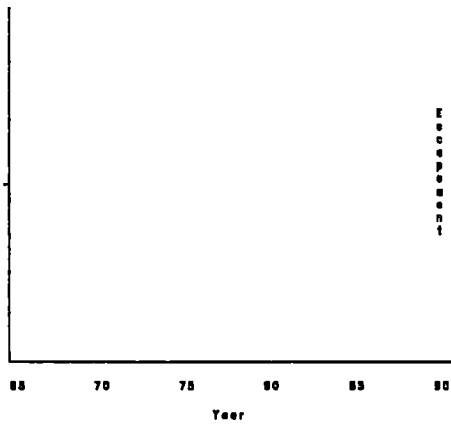
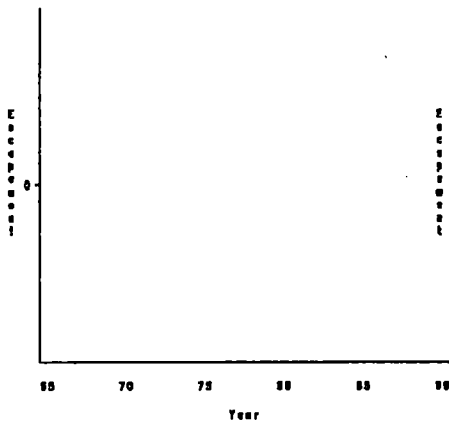
# UNNAMED C (09-8100-625)

## Escapement & Run Timing

### Chum (CM)

### Chinook (CH)

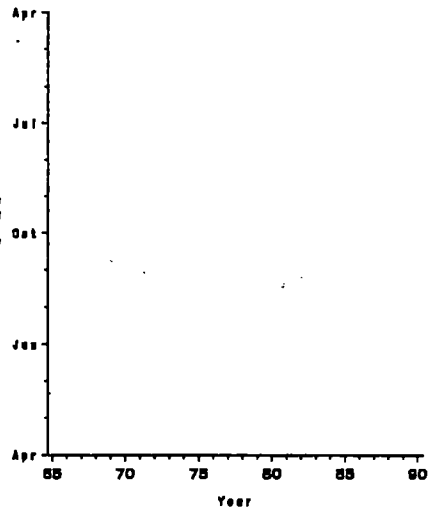
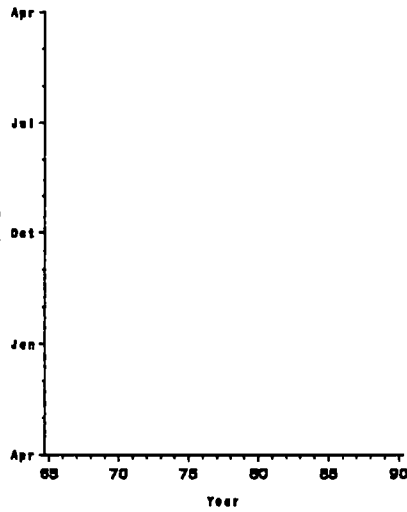
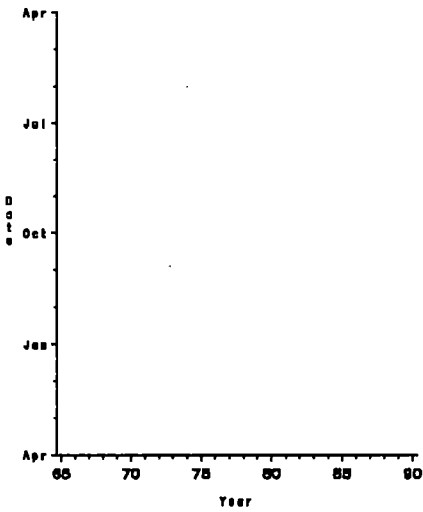
### Steelhead (ST)



### Chum

### Chinook

### Steelhead



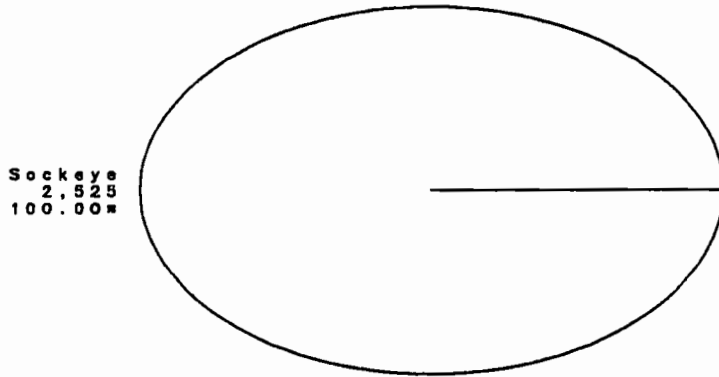
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

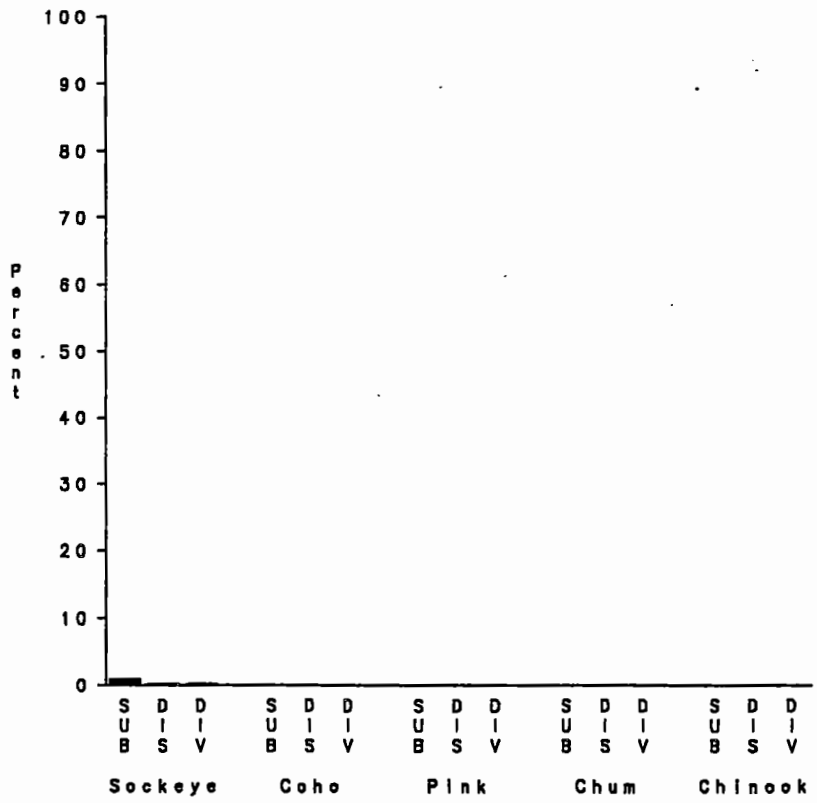
# UNNAMED C (09-8100-625)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
DV DOLLY VARDEM	Migration Spawning Incubation Rearing						X						

Comments: RAINBOW AND DOLLY VARDEM TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-23, REF. 291-100)

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEM RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 - 1KM (REF. 291-23)	1975/1975
SI STREAM IMPROVEM'T		0.0	STREAM WAS MOVED OVER A FEW FEET, DEEPEMED AND WIDENED, INCREASING AVAILABLE SPAWNING GRAVEL. (REF. 291-3)	1972/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
LD LINEAR DEVELOPMENT	BCR BRIDGE AT MOUTH. BCR LINE UPGRADING PLANNED. (REF. 291-88, REF. 291-100)
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM. (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

STEEP, CLEAR, FAST FLOWING STREAM WITH SOME SUITABLE HABITAT NEAR THE MOUTH AND APPROXIMATELY .75-1 KM OF ACCESSIBLE, UNOBSTRUCTED STREAM. PRODUCTIVITY RATED LOW: STEEP GRADIENT, LOW TEMPERATURE, LACK OF REARING HABITAT AND LARGE SEASONAL FLOW FLUCTUATIONS. (REF. 291-23)
MARGINAL SPAWNING; POOR QUALITY. (REF. 291-100)
UPPER STREAM CHANNEL IS RELATIVELY STABLE; SHORT (100 M) PROBABLY UNSTABLE FAN AT MOUTH. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : TWENTY-FIVE MILE CREEK

WATERSHED-CODE : 09-8100-655

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	2167	N/O	N/O	N/O	N/O	UNK
1954	207	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	N/O	0	0	0	0	0
1957	724	0	0	0	0	0
1958	281	UNK	0	0	0	0
1959	2	0	0	0	0	0
1960	92	UNK	0	0	0	0
1961	1663	UNK	0	0	0	0
1962	25	0	0	0	0	0
1963	18	UNK	0	0	0	0
1964	N/O	UNK	UNK	UNK	UNK	UNK
1965	229	0	0	0	0	0
1966	0	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	N/O	0	0	0	0	0
1970	N/O	UNK	UNK	UNK	UNK	UNK
1971	391	0	0	0	0	0
1972	N/O	UNK	0	0	0	0
1973	744	0	0	0	0	0
1974	N/O	UNK	0	0	0	0
1975	48	UNK	0	0	0	0
1976	N/O	0	0	0	0	0
1977	164	0	0	0	0	0
1978	N/O	0	0	0	0	0
1979	N/O	0	0	0	0	0
1980	N/O	N/O	0	0	0	0
1981	923	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	N/O	UNK	UNK	UNK	UNK	UNK
1984	0	0	0	0	0	0
1985	583	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	1461	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

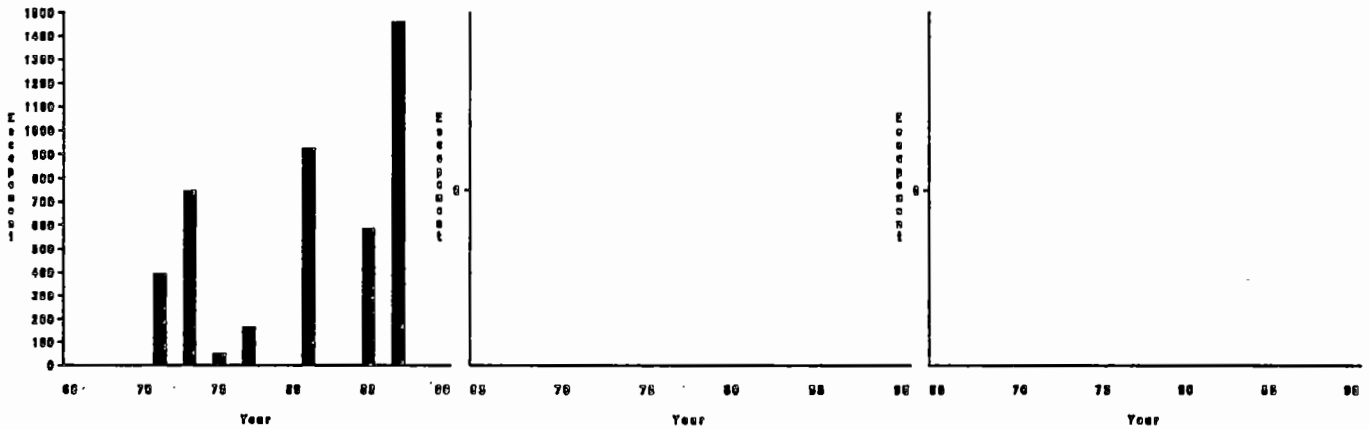
# UNNAMED C (09-8100-655)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

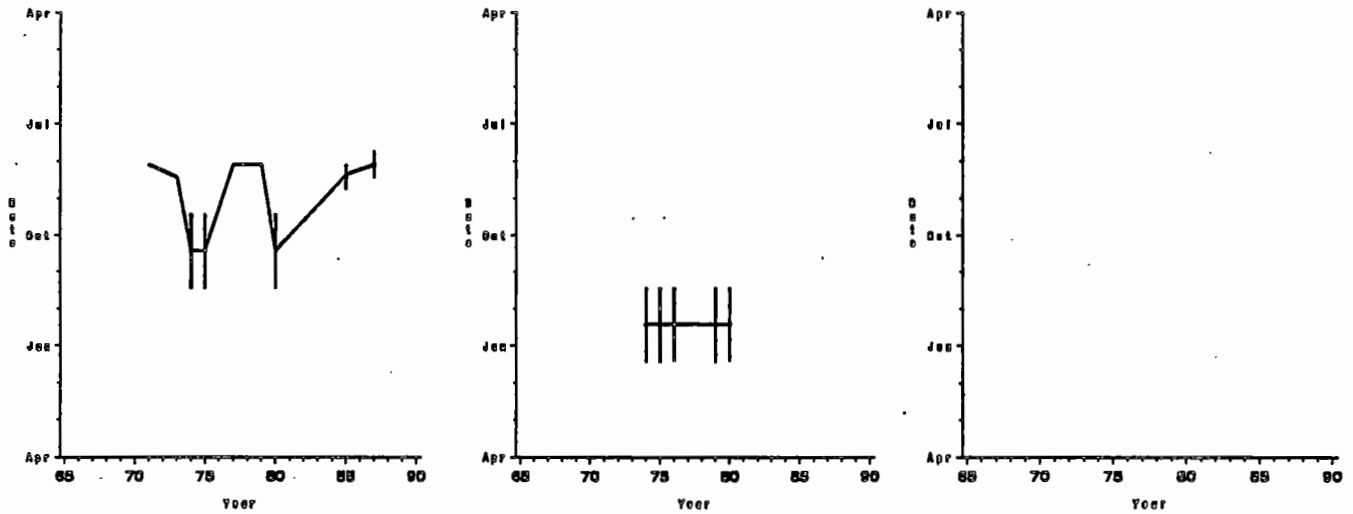
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	381	-	09AUG	-
1972	0	-	-	-
1973	740	-	10AUG	-
1974	0	18SEP	18OCT	18NOV
1975	46	18SEP	18OCT	18NOV
1976	0	-	-	-
1977	104	-	02AUG	-
1978	0	-	-	-
1979	0	-	06AUG	-
1980	0	18SEP	18OCT	18NOV
1981	028	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	1,401	22JUL	02AUG	12AUG

Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	-	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	-	18NOV	18DEC	18JAN
1975	-	18NOV	18DEC	18JAN
1976	0	18NOV	18DEC	18JAN
1977	0	-	-	-
1978	0	-	-	-
1979	0	18NOV	18DEC	18JAN
1980	0	18NOV	18DEC	18JAN
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	-	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

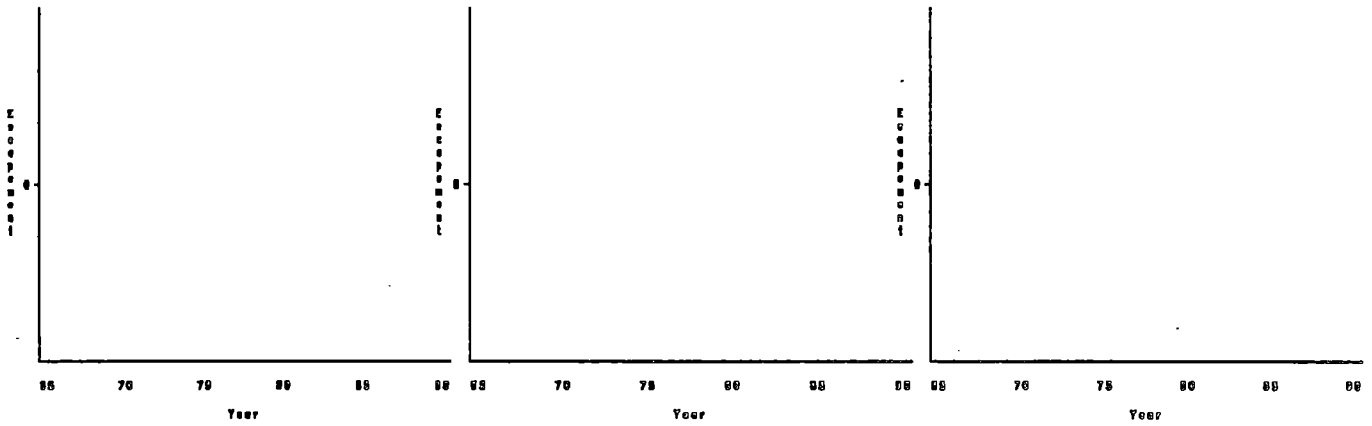
# UNNAMED C (09-8100-655)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

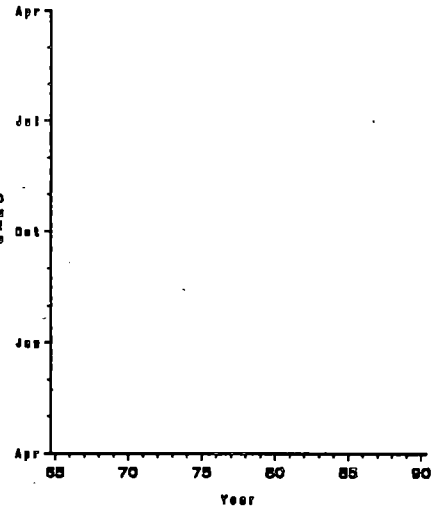
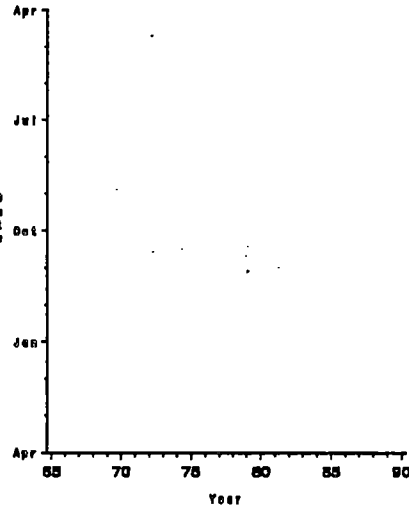
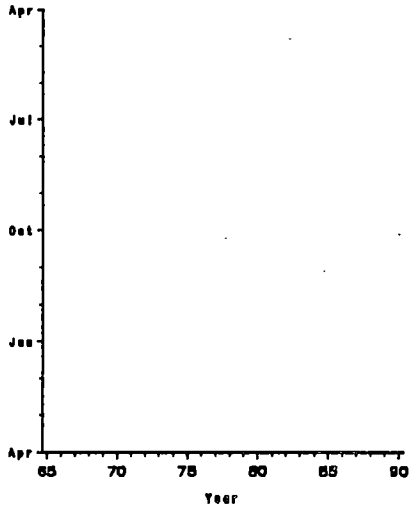
Steelhead (ST)



Chum

Chinook

Steelhead



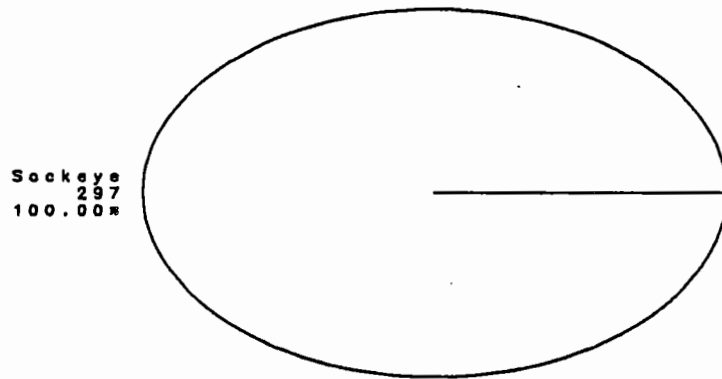
Chum				
Year	Escapement	Start	Post	End
1968	0	-	-	-
1969	0	-	-	-
1970	-	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Post	End
1968	0	-	-	-
1969	0	-	-	-
1970	-	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Post	End
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

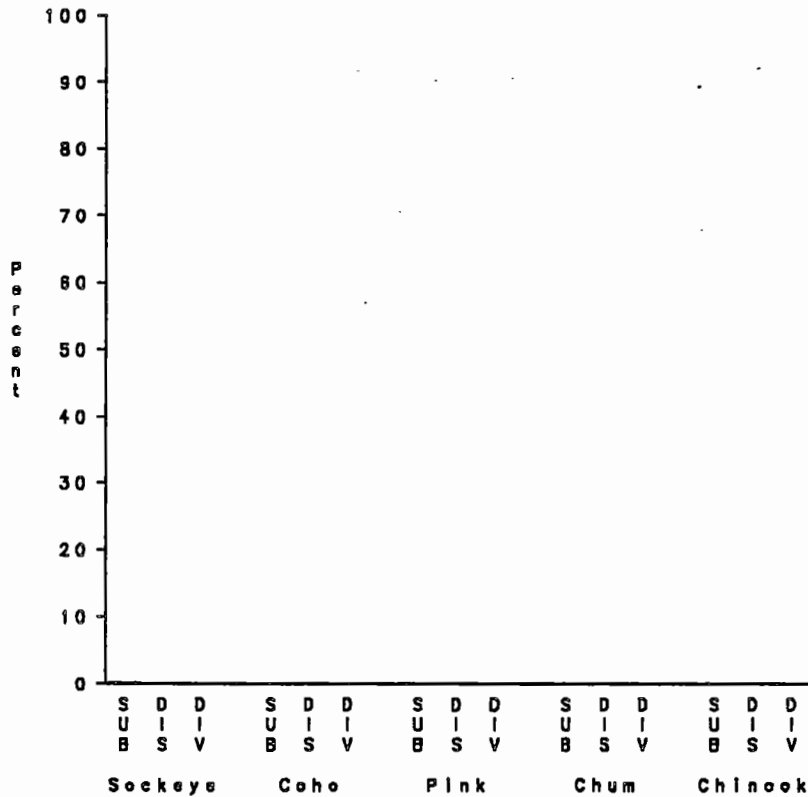
# UNNAMED C (09-8100-655)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>SHALE CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-660</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: 93N/5
		B.C.G.S. (1:20k) Map: 269288
		U.T.M. Mouth: 55 DG. 18' 0" 125 DG. 40' 0"
		Lat./Long. Mouth: 55 DG. 18' 0" 125 DG. 40' 0"
		Mainstem Length: 15.0 km Ref. No.: 291-23
		Watershed Area: 54.0 km <sup>2</sup> Ref. No.: 291-101
Location: FLOWS SW INTO TAKLA LAKE, CASSIAR DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	LOWER 0.3 KM IS 2-4%, GRADIENT AVERAGES BETWEEN 6-8% ABOVE LOWER 0.3 KM. (REF. 291-23)
0.0- 0.3	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
F FALLS		0.6	SK SOCKEYE SALMON	NUMEROUS SMALL WATERFALLS APPROXIMATELY 0.6- 0.8 KM FROM MOUTH MAY BE BARRIER TO MIGRATORY FISH. (REF. 291-23, REF. 291-88)

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: DISCHARGE MEASURED BY RAB 1975. (REF. 291-23)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN THROUGHOUT TO FALLS. (REF. 291-88)
DV DOLLY VARDEN	PRESENCE NOTED (REF. 291-23)
KD KOKANEE	HEAVY SPAWNING AREA. (REF. 291-88)
RB RAINBOW TROUT	PRESENCE NOTED (REF. 291-23)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	757	1978 - 1987	28A-18	2700	28A-18		



## ESCAPEMENT : SHALE CREEK

WATERSHED-CODE : 09-8100-660

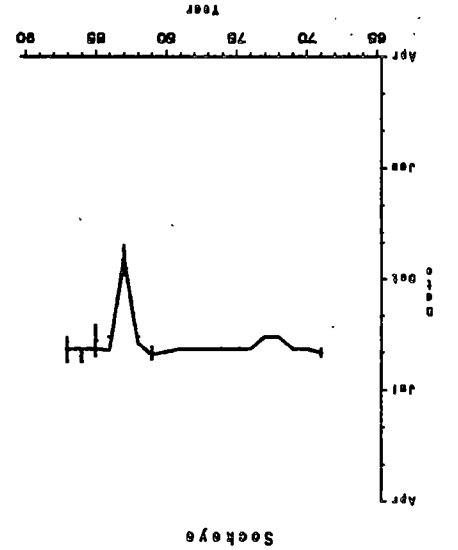
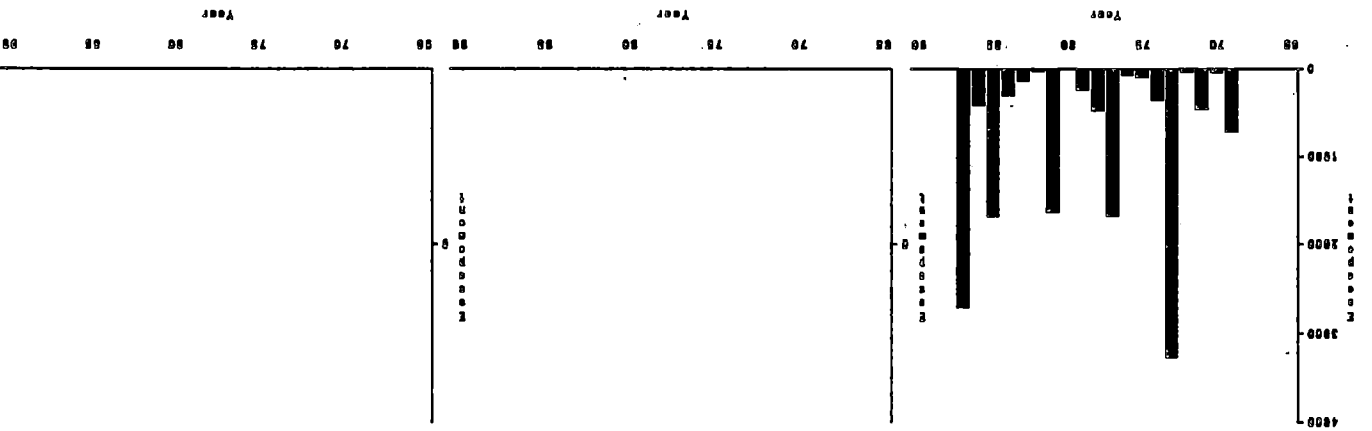
YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	3809	0	0	0	0	0
1954	279	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	185	0	0	0	0	0
1957	1606	0	0	0	0	0
1958	844	0	0	0	0	0
1959	4	0	0	0	0	0
1960	139	0	0	0	0	0
1961	2392	0	0	0	0	0
1962	306	0	0	0	0	0
1963	9	0	0	0	0	0
1964	27	0	0	0	0	0
1965	79	0	0	0	0	0
1966	50	0	0	0	0	0
1967	126	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	706	0	0	0	0	0
1970	34	0	0	0	0	0
1971	452	0	0	0	0	0
1972	26	0	0	0	0	0
1973	3260	0	0	0	0	0
1974	345	0	0	0	0	0
1975	81	0	0	0	0	0
1976	68	0	0	0	0	0
1977	1672	0	0	0	0	0
1978	470	0	0	0	0	0
1979	232	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	1630	0	0	0	0	0
1982	19	0	0	0	0	0
1983	127	0	0	0	0	0
1984	296	0	0	0	0	0
1985	1678	0	0	0	0	0
1986	416	UNK	UNK	UNK	UNK	0
1987	2700	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

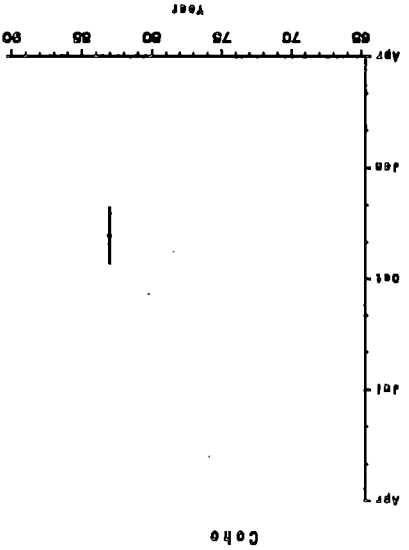
UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR  
SPECIES PRESENT BUT NO ESTIMATE MADE

UNNAMED C (09-8100-660)  
Escapement & Run Timing

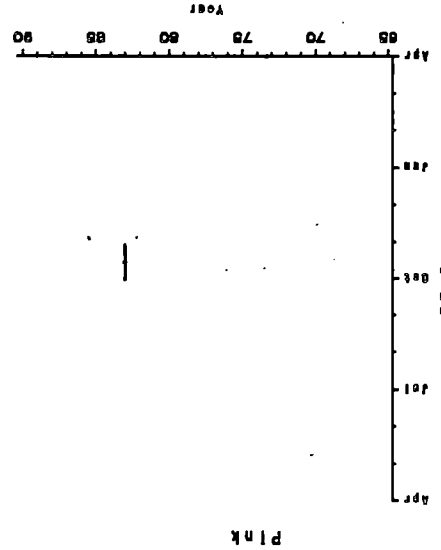
Socketeye (SK) Coho (CO) Pink (PK)



Year	Escapement	Start	Pool	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	4000	-	-	-
1979	1500	-	-	-
1980	1000	-	-	-
1981	1000	-	-	-
1982	1000	-	-	-
1983	1000	-	-	-
1984	1000	-	-	-
1985	1000	-	-	-
1986	1000	-	-	-
1987	1000	-	-	-
1988	1000	-	-	-



Year	Escapement	Start	Pool	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	4000	-	-	-
1979	1500	-	-	-
1980	1000	-	-	-
1981	1000	-	-	-
1982	1000	-	-	-
1983	1000	-	-	-
1984	1000	-	-	-
1985	1000	-	-	-
1986	1000	-	-	-
1987	1000	-	-	-
1988	1000	-	-	-



Year	Escapement	Start	Pool	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	4000	-	-	-
1979	1500	-	-	-
1980	1000	-	-	-
1981	1000	-	-	-
1982	1000	-	-	-
1983	1000	-	-	-
1984	1000	-	-	-
1985	1000	-	-	-
1986	1000	-	-	-
1987	1000	-	-	-
1988	1000	-	-	-

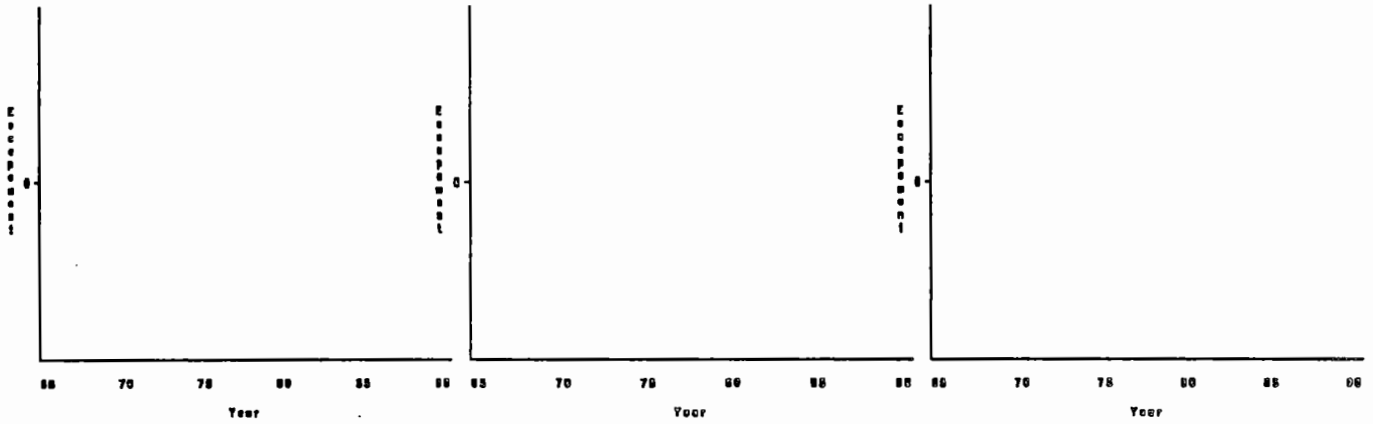
# UNNAMED C (09-8100-660)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

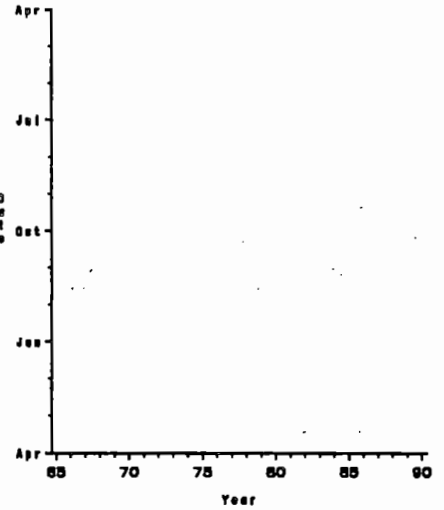
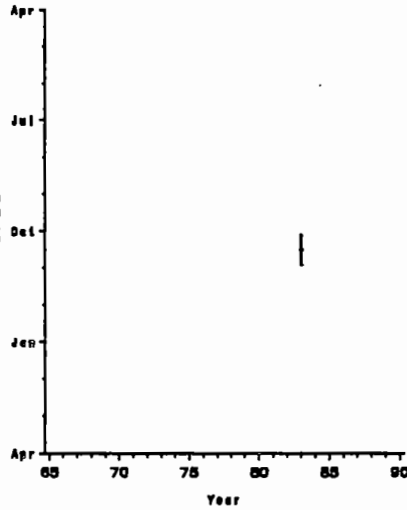
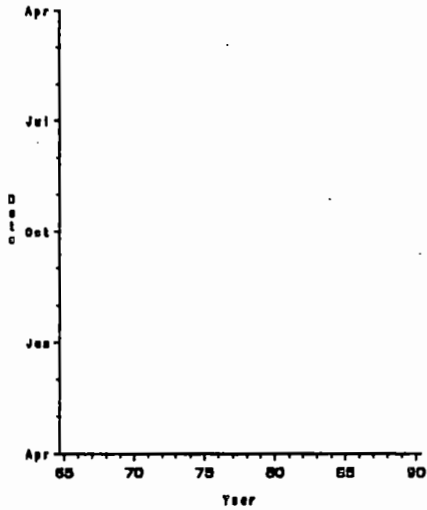
Steelhead (ST)



Chum

Chinook

Steelhead



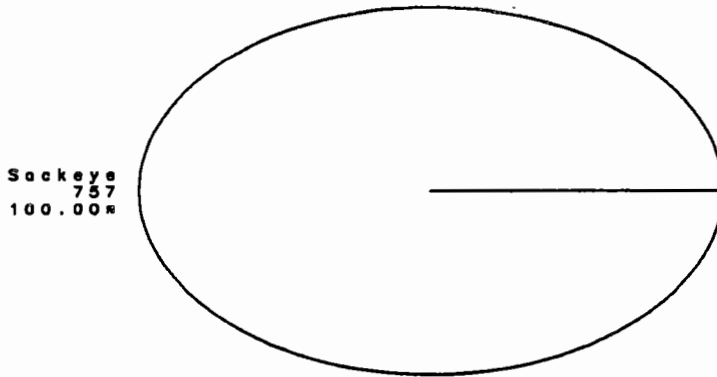
Chum				
Year	Escapement	Start	Peak	End
1960	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1960	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	08OCT	15OCT	20OCT
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1960	-	-	-	-
1966	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

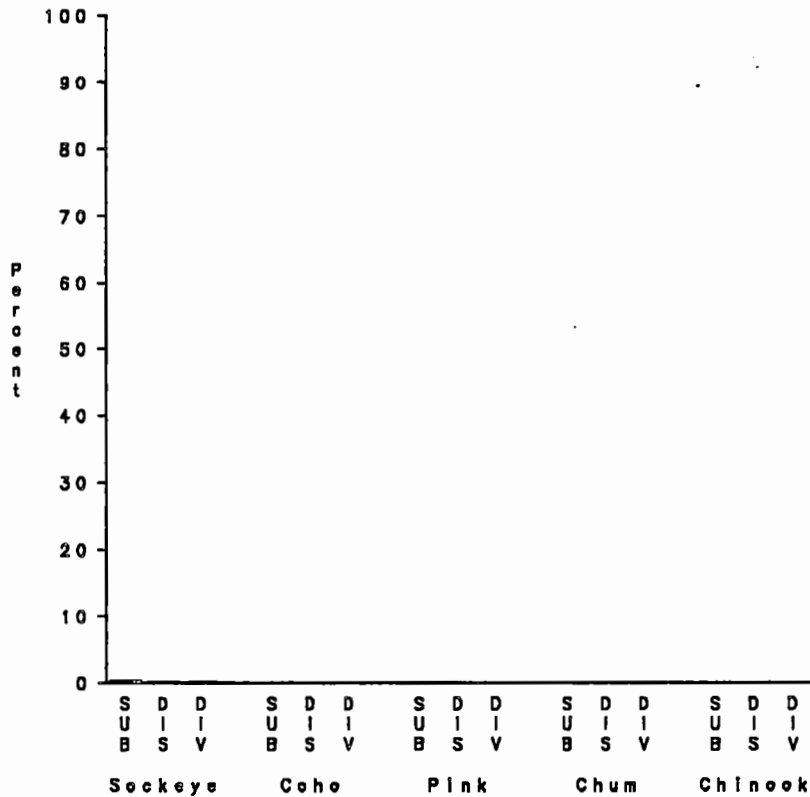
# UNNAMED C (09-8100-660)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(1e Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>BLANCHET CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-665</b>	Subdistrict: <b>29I PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93N/5</b>
		B.C.G.S. (1:20k) Map: <b>253288</b>
		U.T.M. Mouth: <b>55 DG. 18' 0'' 125 DG. 45' 0''</b>
		Lat./Long. Mouth: <b>55 DG. 18' 0'' 125 DG. 45' 0''</b>
		Mainstem Length: <b>11.0 km Ref. No.: 29I-23</b>
		Watershed Area: <b>65.0 km2 Ref. No.: 29I-23</b>
Location: <b>FLows E INTO TAKLA LAKE, ABOVE TAKLA NARROWS, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>4-8%. LOWER REACH IS 1-2% GRADIENT OVER 0.5 KM; GRADIENT INCREASES TO 5% 2 KM ABOVE MOUTH. (REF. 29I-23, REF. 29I-101)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>F FALLS</b>	<b>10.0</b>	<b>0.8</b>	<b>SK SOCKEYE SALMON</b>	<b>(REF. 29I-88)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: <b>DISCHARGE REPORTED 1975. (REF. 29I-23)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>THROUGHOUT TO THE FALLS. (REF. 29I-3, REF. 29I-88)</b>
<b>OV DOLLY VARDEN</b>	<b>TO THE FALLS (REF. 29I-88)</b>
<b>KO KOKANEE</b>	<b>TO THE FALLS. (REF. 29I-88)</b>
<b>RB RAINBOW TROUT</b>	<b>TO THE FALLS. (REF. 29I-88)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>134</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>884</b>	<b>28A-18</b>		
Comments: <b>NO RECORDS PRIOR TO 1957. (REF. 29G-32, REF. 29I-3)</b>							
<b>NO RECORDS PRIOR TO 1957. (REF. 29G-32, REF. 29I-3)</b>							

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY (REF. 291-23)	1974/1974

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

STEEP (8%) GRADIENT, POOR PRODUCTIVITY - LACK OF REARING AND SPawning HABITAT. (REF. 291-23)
VERY LIMITED SPawning GROUNDS. (REF. 291-3)
VALLEY WALLS AND HILLSLOPES VERY UNSTABLE. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : BLANCHET CREEK

WATERSHED-CODE : 09-8100-665

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	47	UNK	UNK	UNK	UNK	UNK
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	N/O	UNK	UNK	UNK	UNK	UNK
1958	106	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	N/O	0	0	0	0	0
1961	N/O	0	0	0	0	0
1962	N/O	N/O	N/O	N/O	N/O	N/O
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	N/O	0	0	0	0	0
1970	N/O	0	0	0	0	0
1971	N/O	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	604	0	0	0	0	0
1974	29	0	0	0	0	0
1975	7	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	167	0	0	0	0	0
1978	2	0	0	0	0	0
1979	N/O	UNK	UNK	UNK	UNK	UNK
1980	N/O	0	0	0	0	0
1981	257	0	0	0	0	0
1982	N/O	UNK	UNK	UNK	UNK	UNK
1983	11	0	0	0	0	0
1984	0	0	0	0	0	0
1985	169	0	0	0	0	0
1986	21	UNK	UNK	UNK	UNK	0
1987	884	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

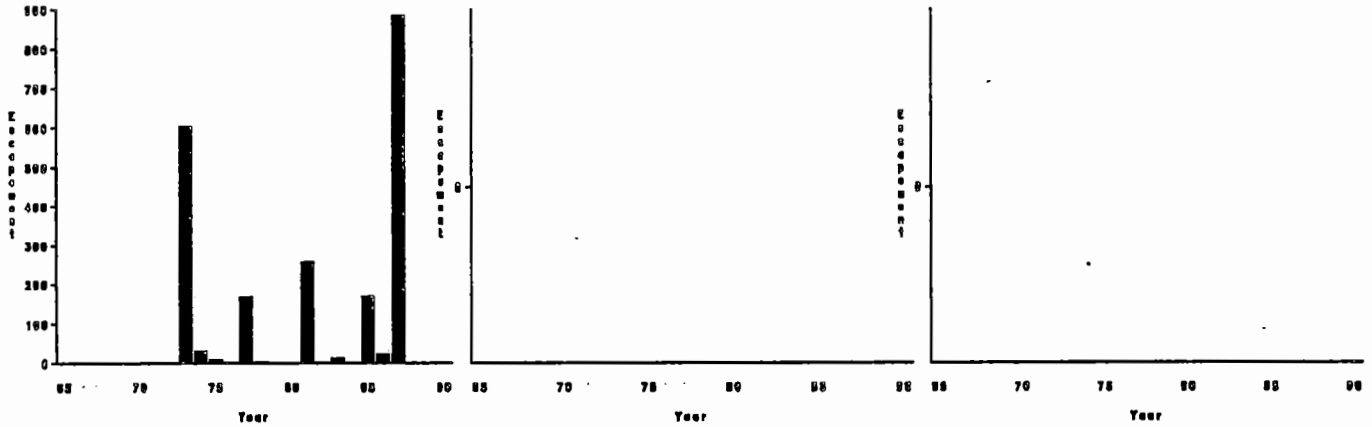
# UNNAMED C (09-8100-665)

## Escapement & Run Timing

### Socketeye (SK)

### Coho (CO)

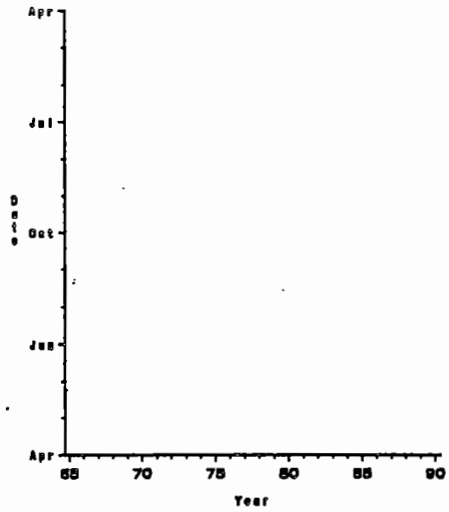
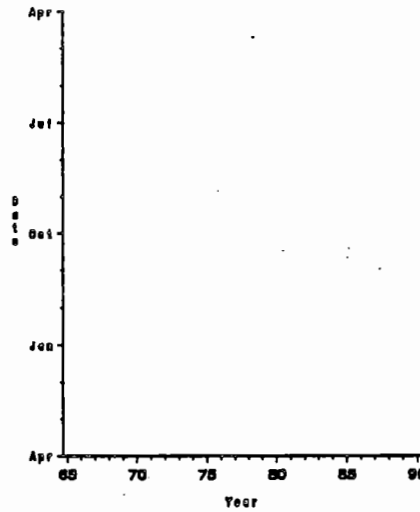
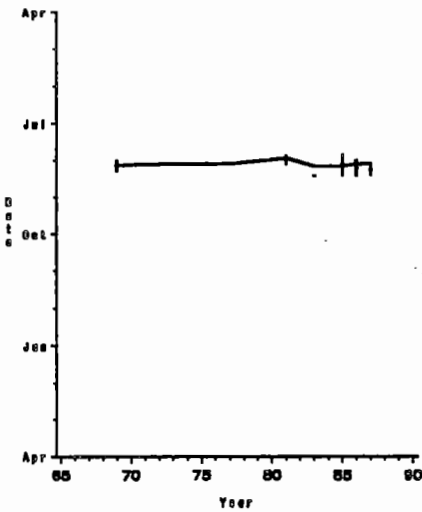
### Pink (PK)



### Socketeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	02AUG	06AUG	11AUG
1971	0	-	-	-
1972	0	-	-	-
1973	600	-	09AUG	-
1974	20	-	09AUG	-
1975	7	-	09AUG	-
1976	0	-	-	-
1977	107	-	09AUG	-
1978	3	-	09AUG	-
1979	0	-	-	-
1980	0	-	-	-
1981	287	20JUL	21AUG	09AUG
1982	0	-	-	-
1983	11	15AUG	07AUG	15AUG
1984	0	-	-	-
1985	100	20AUG	07AUG	16AUG
1986	21	02AUG	06AUG	12AUG
1987	600	09AUG	09AUG	15AUG

Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	-	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	-	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	-	-	-	-
1987	0	-	-	-

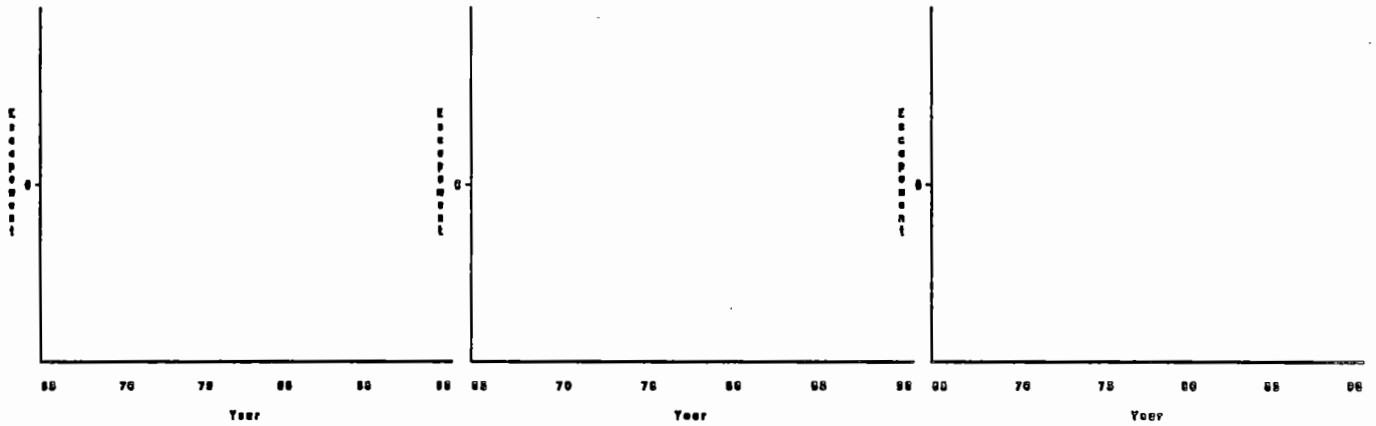
# UNNAMED C (09-8100-665)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

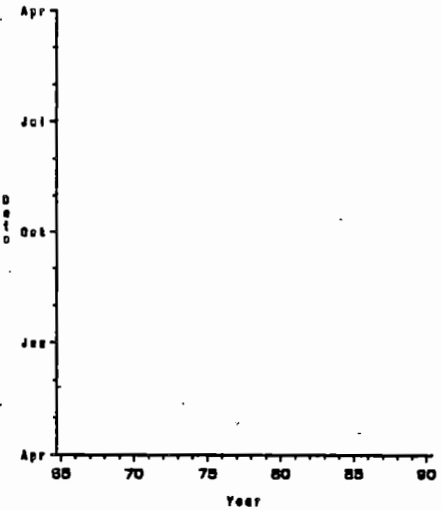
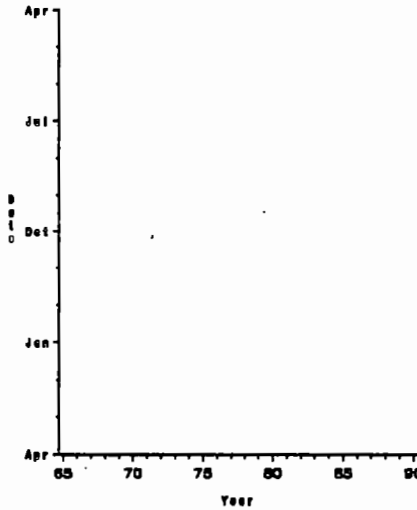
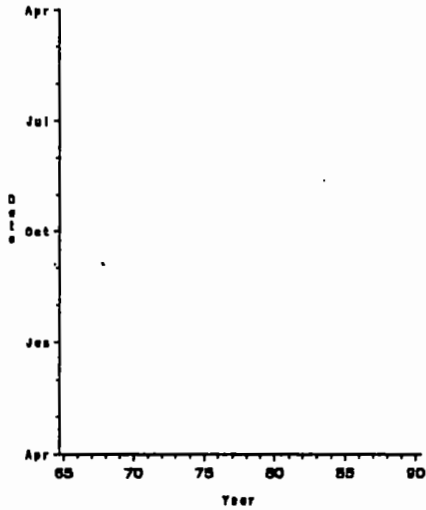
Steelhead (ST)



Chum

Chinook

Steelhead



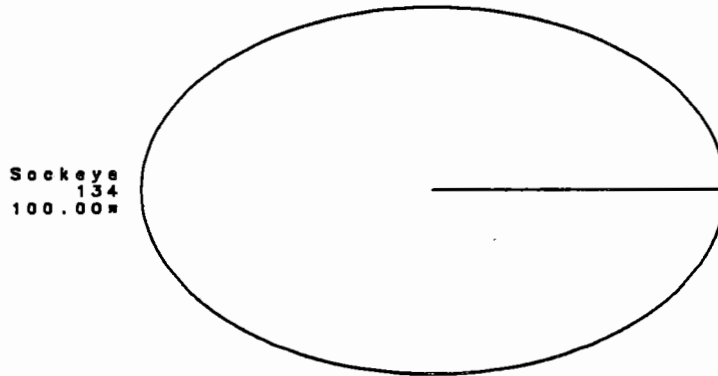
Chum				
Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1965	-	-	-	-
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

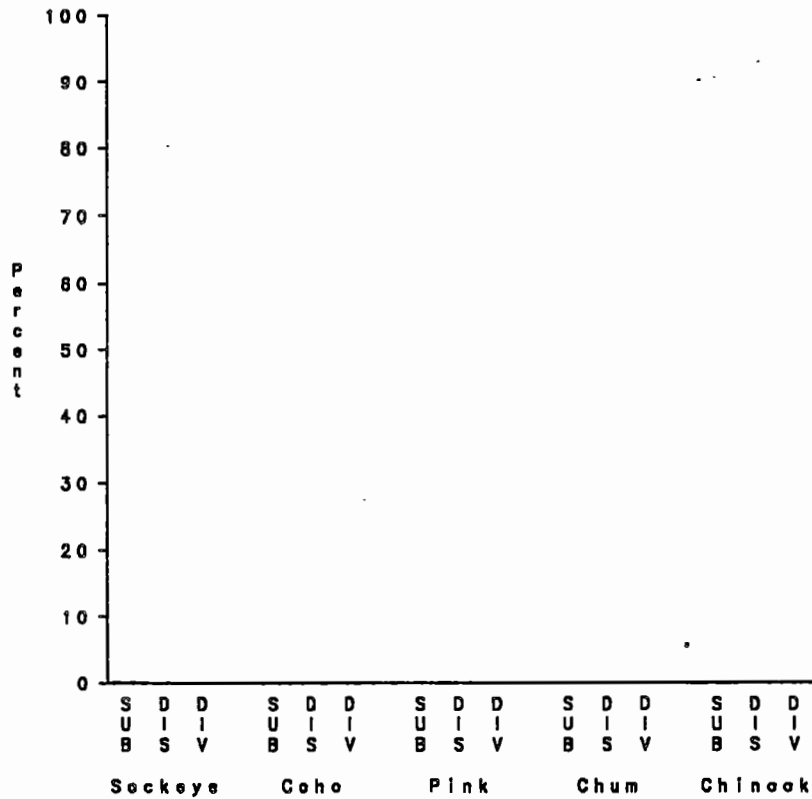
# UNNAMED C (09-8100-665)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: FIFTEEN MILE CREEK	D.F.O. Division: FRASER RIVER
Local Name:	District: 1 KAMLOOPS
Watershed Code: 09-8100-694	Subdistrict: 291 PRINCE GEORGE
	Statistical Subarea: -
	M.O.E. Region: 7 OMINECA-PEACE
	Management Unit: 27

Tributaries	Code	Topographic (1:50k) Map: 93N/5
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: 246350
		Lat./Long. Mouth: 55 DG. 20' 0" 125 DG. 43' 0"
		Mainstem Length: 15.0 km Ref. No.: 291-23
		Watershed Area: 62.0 km2 Ref. No.: 291-101
Location: FLOWS SW INTO TAKLA LAKE, CASSIAR DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5% .5 - 2% 2 - 5% 5 - 10% >10%	3-6% OVER LOWER 0.5 KM WITH 50% AT 150 M UPSTREAM FROM MOUTH. (REF. 291-23)

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
F FALLS	20.0	0.5	SK SOCKEYE SALMON	CASCADING FALLS 30 M LONG BY 20 M HIGH. (REF. 291-23, REF. 291-88)

**C. FLOW**

Flow Control: M	Water Survey of Canada (WSC) Flow Gauge: M
W.S.C. Station No. 1:	No. 2: No. 3: No. 4:
Comments: DISCHARGE INFORMATION 1975. (REF. 291-23)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN TO FALLS (REF. 291-3, REF. 291-88)
KD KOKANEE	TO FALLS (REF. 291-88)
RB RAINBOW TROUT	TO FALLS (REF. 291-88)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	161	1978 - 1987	28A-18	352	28A-18		
Comments: SK EVERY YEAR SINCE 1981. (REF. 291-100)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-23, REF. 291-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.2	HABITAT INVENTORY (REF. 291-23)	1975/1975

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE"; ONE MINERAL CLAIM. (REF. 291-101)
LD LINEAR DEVELOPMENT	FORESTRY ROAD ACCESS AND ONE BRIDGE CROSSING IN LOWER REACH. (REF. 291-101)
LD LINEAR DEVELOPMENT	PLANNED UPGRADING OF THE BCR LINE ACROSS CREEK. (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

A STEEP FAST FLOWING STREAM WITH BOULDERY ANGULAR SUBSTRATE AND A SMALL ALLUVIAL FAN REGION. PRODUCTIVITY POOR AS POOR REARING AND SPawning HABITAT. MUST PROTECT STEEP BANKS DURING DEVELOPMENT. (REF. 291-23)
UPPER SYSTEM HAS HIGH EROSION POTENTIAL. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : FIFTEEN MILE CREEK

WATERSHED-CODE : 09-8100-694

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	794	0	0	0	0	0
1954	41	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	5	0	0	0	0	0
1957	511	0	0	0	0	0
1958	135	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	40	0	0	0	0	0
1961	922	0	0	0	0	0
1962	25	0	0	0	0	0
1963	N/O	UNK	UNK	UNK	UNK	UNK
1964	N/O	UNK	UNK	UNK	UNK	UNK
1965	74	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	209	0	0	0	0	0
1970	N/O	0	0	0	0	0
1971	20	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	1090	0	0	0	0	0
1974	7	0	0	0	0	0
1975	N/O	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	452	0	0	0	0	0
1978	131	0	0	0	0	0
1979	N/O	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	815	0	0	0	0	0
1982	15	0	0	0	0	0
1983	23	0	0	0	0	0
1984	11	0	0	0	0	0
1985	352	0	0	0	0	0
1986	32	UNK	UNK	UNK	UNK	0
1987	234	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

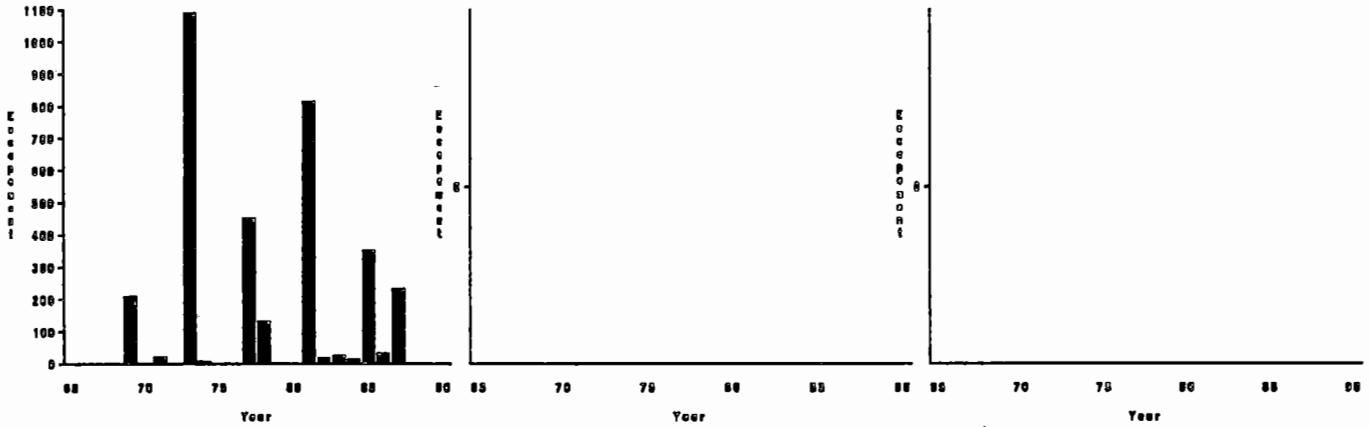
# UNNAMED C (09-8100-694)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

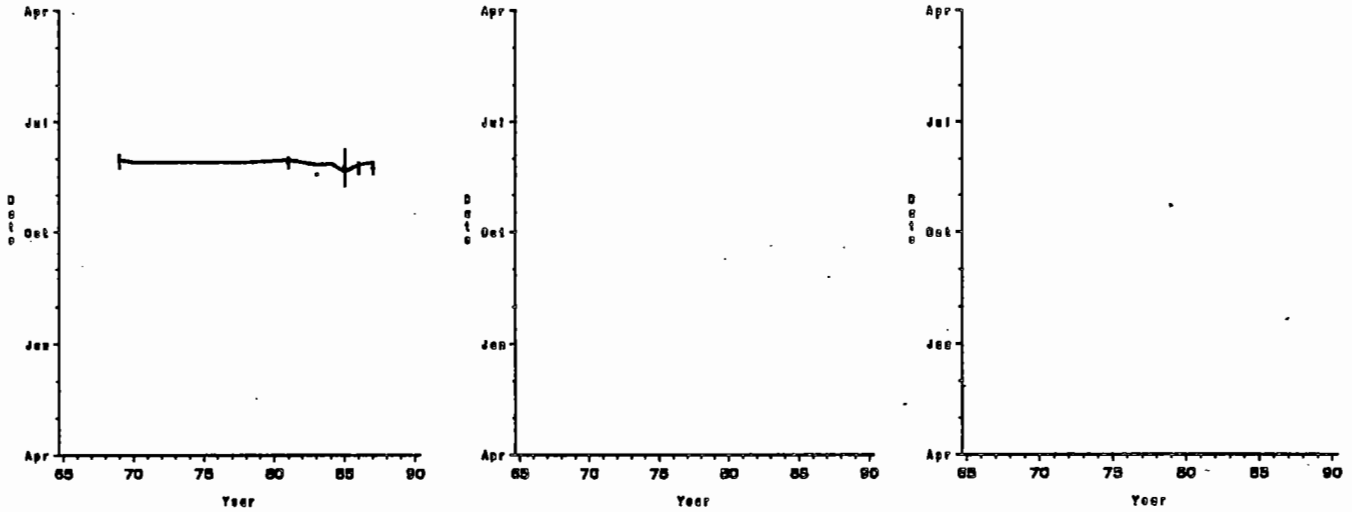
### Pink (PK)



### Sockeye

### Coho

### Pink



### Sockeye

### Coho

### Pink

Year	Escapement	Start	Post	End
1968	0	-	-	-
1969	200	20JUL	02AUG	10AUG
1970	20	-	02AUG	-
1971	0	-	02AUG	-
1972	1100	-	-	-
1973	0	-	-	-
1974	450	-	02AUG	-
1975	120	-	02AUG	-
1976	0	-	-	-
1977	800	-	02AUG	-
1978	20	-	02AUG	-
1979	20	-	-	-
1980	0	-	-	-
1981	350	01AUG	02AUG	10AUG
1982	20	-	02AUG	-
1983	20	-	02AUG	-
1984	20	-	02AUG	-
1985	0	-	-	-
1986	0	-	-	-
1987	230	20JUL	19AUG	20AUG
1988	0	-	-	-
1989	0	-	-	-

Year	Escapement	Start	Post	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Post	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

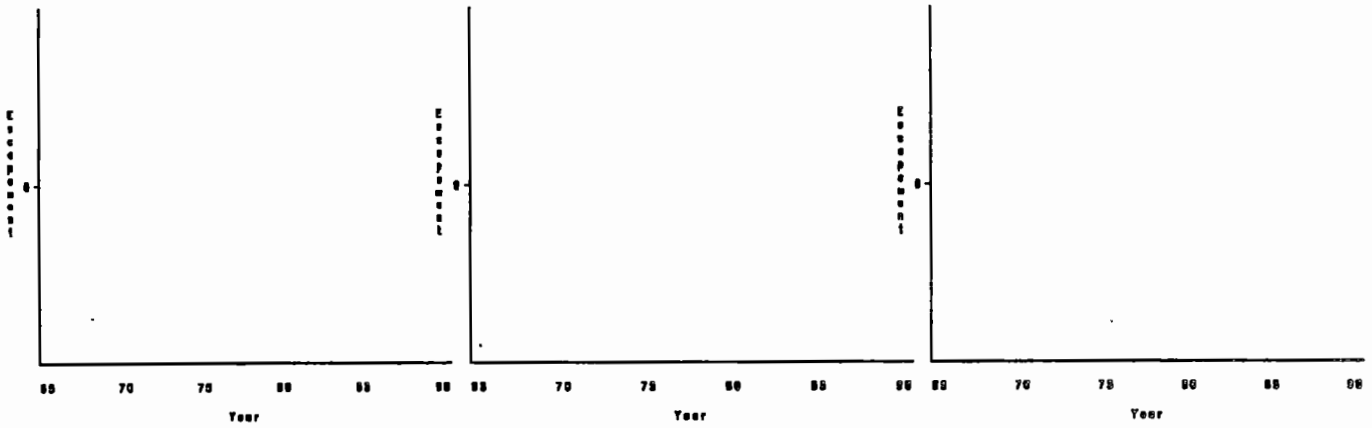
# UNNAMED C (09-8100-694)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

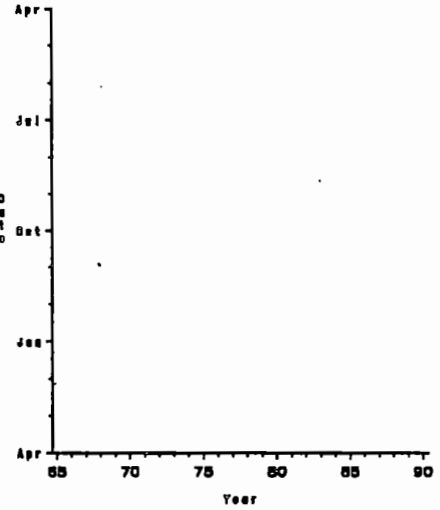
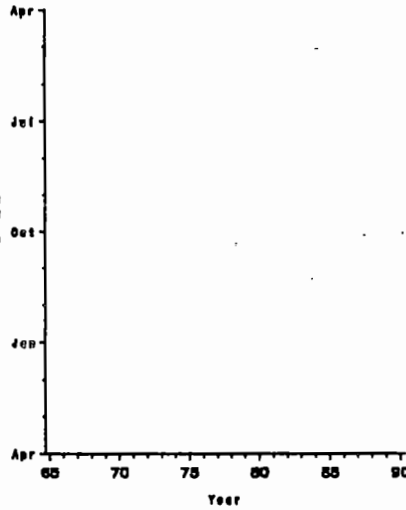
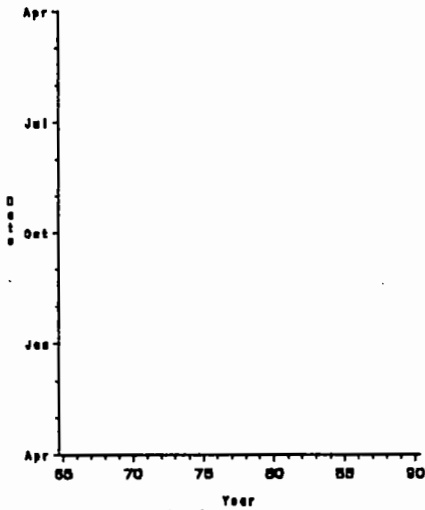
Steelhead (ST)



Chum

Chinook

Steelhead



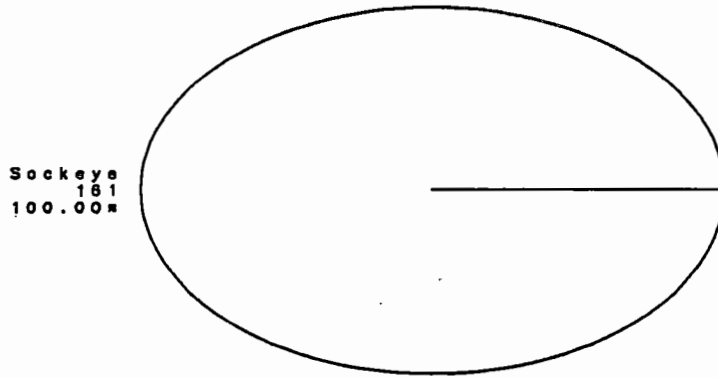
Chum				
Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

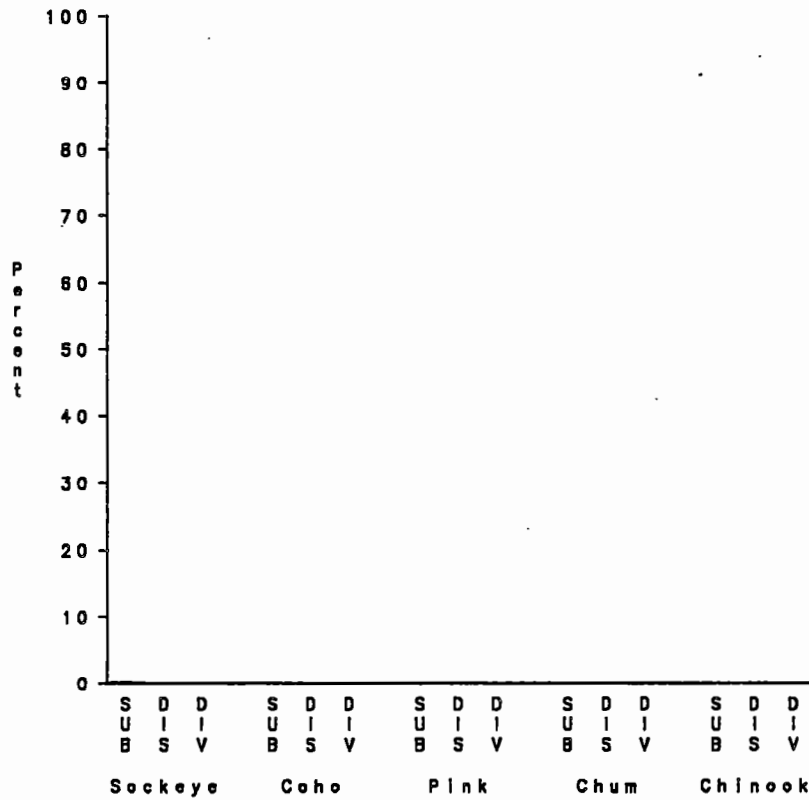
# UNNAMED C (09-8100-694)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
RB RAINBOW TROUT	Migration Spawning Incubation Rearing						X						

Comments: RAINBOW TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-23, REF. 291-100)

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
LD LINEAR DEVELOPMENT	ACCESSED BY FORESTRY ROAD, ONE BRIDGE CROSSING IN LOWER REACH. (REF. 291-88)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)
FO FORESTRY	NO PAST LOGGING OR FUTURE PLANS (1989). (REF. 291-100)
LD LINEAR DEVELOPMENT	BCR LINE BRIDGE UPSTREAM 300 M. UPGRADING OF BCR LINE PROPOSED. (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

CLEAR, MODERATE GRADIENT (2-3%) STREAM WITH GOOD POTENTIAL TO REAR AND SPAWN FISH. (REF. 291-23)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / / Prepared By:

K. SIS COMPLETED BY

Completed by:	D. FARRELL	Date:	1987/01/08
Last updated by:	CATHY GEE	Date:	1990/10/04
Last checked by:	L. JAREMOVIC	Date:	1990/10/04

ESCAPEMENT : MACLAING CREEK

WATERSHED-CODE : 09-8100-750

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	2632	0	0	0	0	0
1954	5	0	0	0	0	0
1955	4	0	0	0	0	0
1956	31	0	0	0	0	0
1957	3821	0	0	0	0	0
1958	142	0	0	0	0	0
1959	N/0	0	0	0	0	0
1960	N/0	0	0	0	0	0
1961	731	0	0	0	0	0
1962	11	0	0	0	0	0
1963	N/0	0	0	0	0	0
1964	N/0	0	0	0	0	0
1965	40	0	0	0	0	0
1966	N/0	0	0	0	0	0
1967	N/0	UNK	UNK	UNK	UNK	UNK
1968	N/0	0	0	0	0	0
1969	902	0	0	0	0	0
1970	108	0	0	0	0	0
1971	N/0	UNK	UNK	UNK	UNK	UNK
1972	5	0	0	0	0	0
1973	2408	0	0	0	0	0
1974	268	0	0	0	0	0
1975	74	0	0	0	0	0
1976	27	0	0	0	0	0
1977	907	0	0	0	0	0
1978	N/0	UNK	UNK	UNK	UNK	UNK
1979	N/0	UNK	UNK	UNK	UNK	UNK
1980	N/0	UNK	UNK	UNK	UNK	UNK
1981	369	0	0	0	0	0
1982	N/0	UNK	UNK	UNK	UNK	UNK
1983	15	0	0	0	0	0
1984	21	0	0	0	0	0
1985	638	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/0 = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

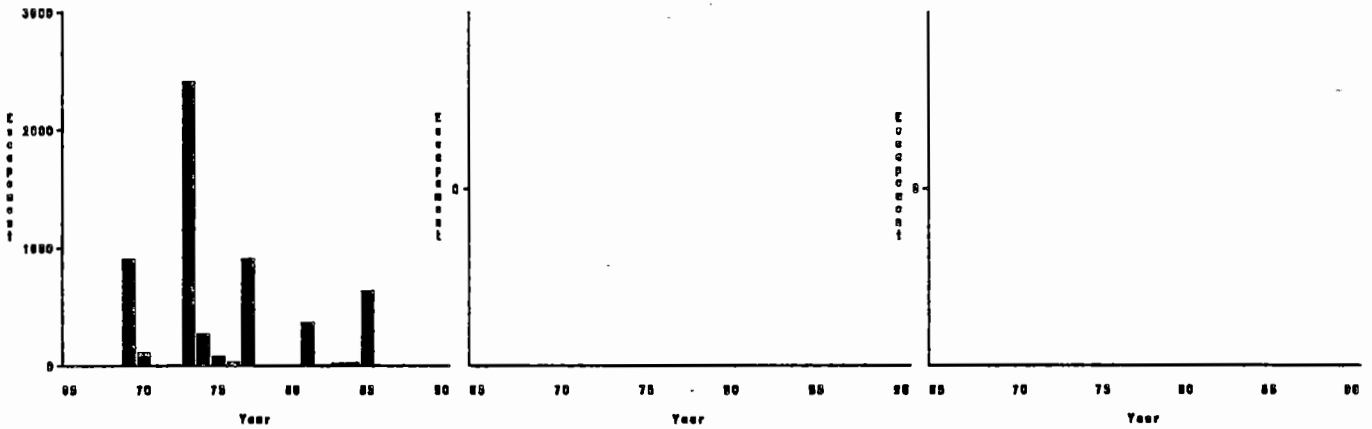
# MACLAING CREEK (09-8100-750)

## Escapement & Run Timing

sockeye (SK)

Coho (CO)

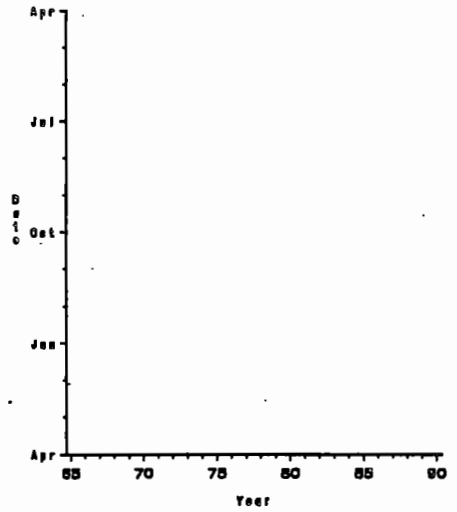
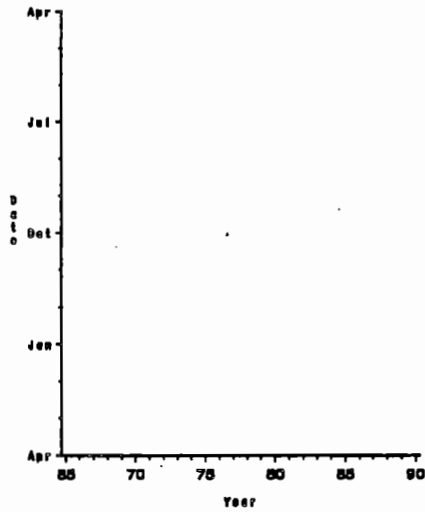
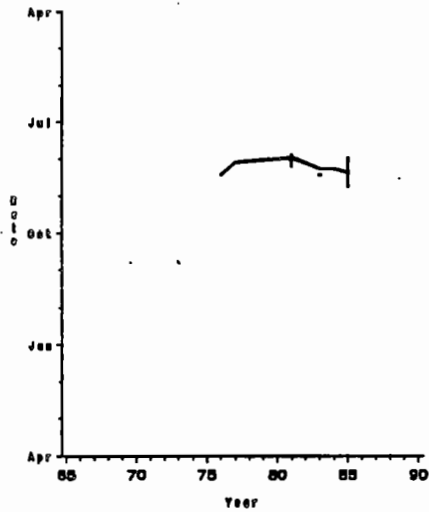
Pink (PK)



Sockeye

Coho

Pink



Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	602	-	-	-
1971	100	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	2,400	-	-	-
1975	200	-	-	-
1976	74	-	-	-
1977	27	-	15AUG	-
1978	907	-	05AUG	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	200	28JUL	01AUG	02AUG
1983	0	-	-	-
1984	18	15AUG	16AUG	16AUG
1985	21	-	10AUG	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

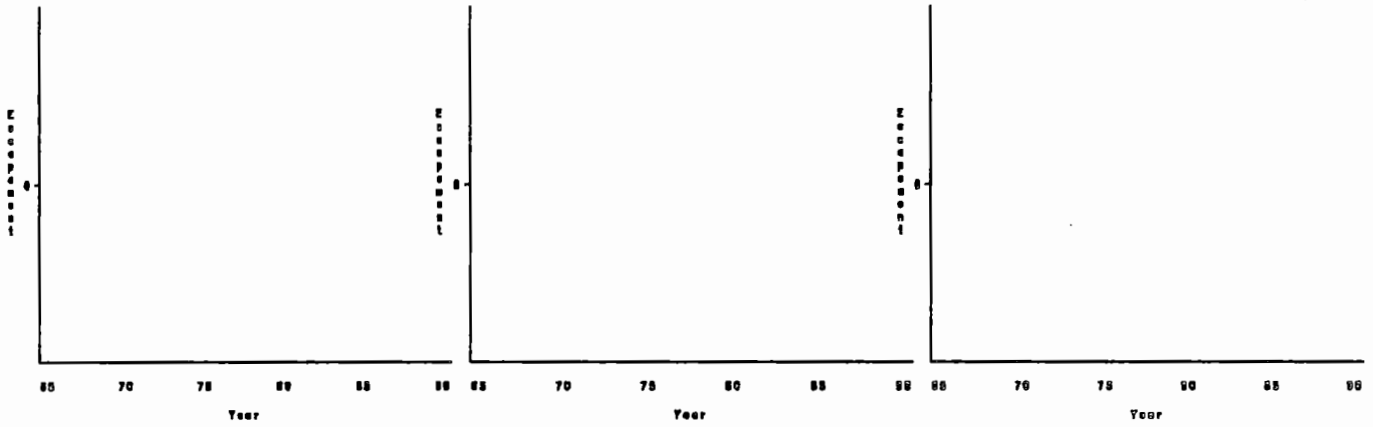
# MACLAING CREEK (09-8100-750)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

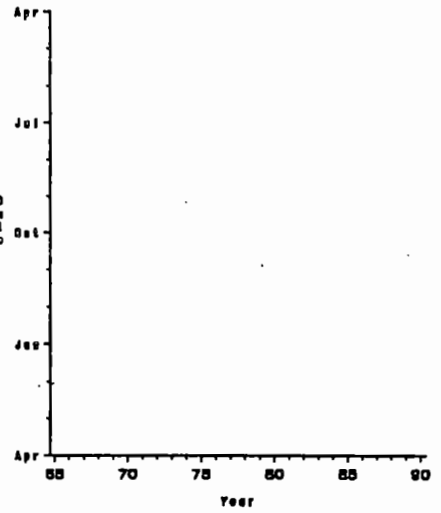
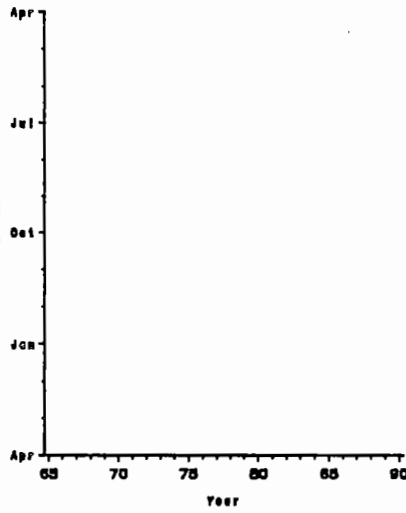
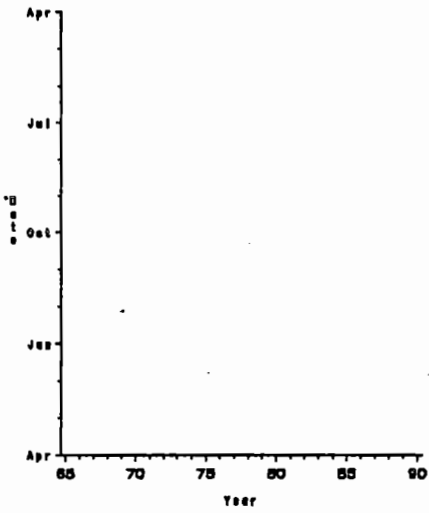
Steelhead (ST)



Chum

Chinook

Steelhead



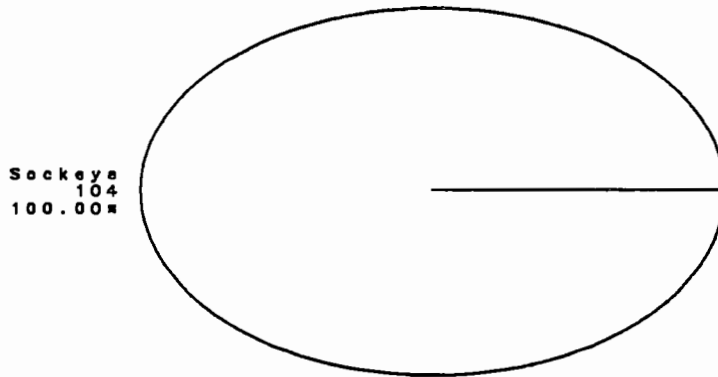
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

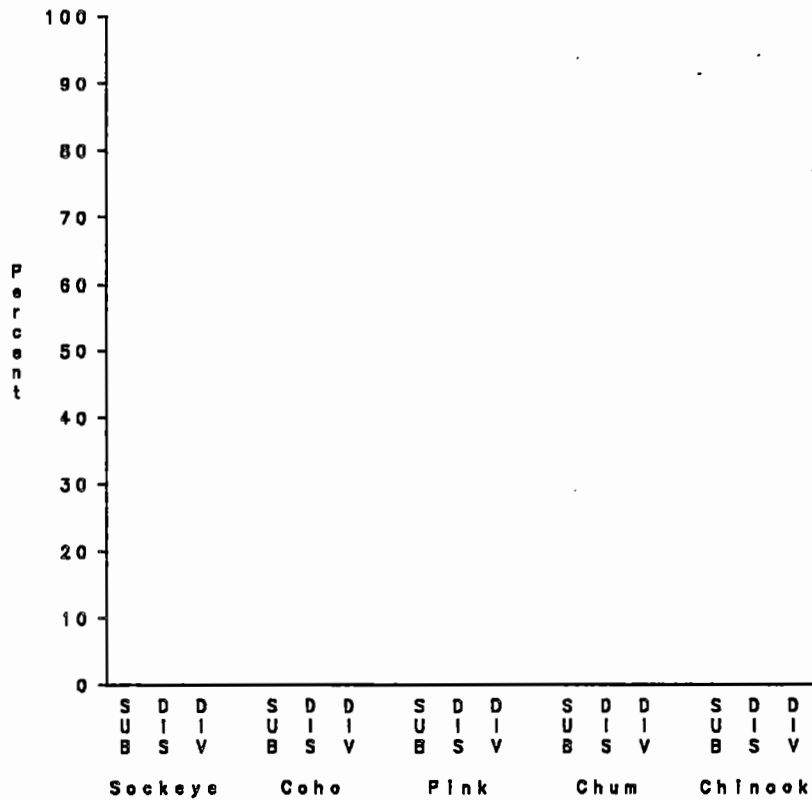
# MACLAING CREEK (09-8100-750)

10-yr Mean Escapement  
(1978-1987)



## MACLAING CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: HUDSON BAY CREEK	D.F.O. Division: FRASER RIVER
Local Name:	District: 1 KAMLOOPS
Watershed Code: 09-8100-775	Subdistrict: 291 PRINCE GEORGE
	Statistical Subarea: -
	M.O.E. Region: 7 ONTNECA-PEACE
	Management Unit: 27

Tributaries	Code	Topographic (1:50k) Map: 93N/5
		B.C.G.S. (1:20k) Map: 117524
		U.T.M. Mouth: 55 DG. 30' 0'' 126 DG. 0' 0''
		Mainstem Length: 16.0 km Ref. No.: 291-23
		Watershed Area: 119.0 km <sup>2</sup> Ref. No.: 291-101
Location: FLOWS S INTO TAKLA LAKE, CASSIAR DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	2.5 - 3 % AVERAGE GRADIENT OVER LOWER 5.0 KM. (REF. 291-23)
0.0- 5.0	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
F FALLS				ACCESS TO FALLS MY BE LIMITED BY LOW FLOWS. (REF. 291-100)
C CASCADE		8.4	SK SOCKEYE SALMON	CHUTE AT 18-25 % GRADIENT. (REF. 291-23, REF. 291-88)

**C. FLOW**

Flow Control: M	Water Survey of Canada (WSC) Flow Gauge: M		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: DISCHARGE MEASURED 1875. (REF. 291-23)			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	TO FALLS, (ONLY LOWER KM USUALLY INSPECTED). (REF. 291-88, REF. 291-100)
DV DOLLY VARDEN	TO FALLS (REF. 291-27, REF. 291-88)
KD KOKAMEE	TO FALLS (REF. 291-88)
NW ROCKY MTN WHITEFISH	TO FALLS (REF. 291-27, REF. 291-88)
RB RAINBOW TROUT	TO FALLS (REF. 291-27, REF. 291-88)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	23	1978 - 1987	28A-18	158	28A-18		
Comments: DOMINANT CYCLES. UTILIZATION OF STREAM DEPENDENT ON SIZE OF RUN. (REF. 291-88)							

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	LOGGING ON BOTH SIDES OF THE CREEK EXTENDING FROM MID-REACHES TO HEADWATERS FROM 1973-1982; CUTTING PLANS FOR 1991/1992. (REF. 291-88, REF. 291-100)
LD LINEAR DEVELOPMENT	BCR, ROADS, BRIDGES. BRIDGE IN VILLAGE, AND ONE UPSTREAM. RR BRIDGE 1 KM UPSTREAM. UPGRADING OF BCR LINE PROPOSED. (REF. 291-88, REF. 291-101)
RE RESERVES	TAKLA INDIAN RESERVE, 300 PEOPLE. (REF. 291-3, REF. 291-88)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

A MODERATE GRADIENT STREAM WITH 8.4 KM ACCESSIBLE HABITAT. OVERALL PRODUCTIVITY IS RATED AS GOOD ON BASIS OF ABUNDANT SPAWNING AND REARING HABITAT. MAJOR PROTECTION PROBLEM IS NETTING OF TROUT AND SALMON BY RESIDENTS; RECOMMENDATIONS CONCERNING LOGGING. (REF. 291-23)

MAINSTEM CREEK IS RELATIVELY STABLE BUT THERE IS A MODERATELY HIGH POTENTIAL FOR SEDIMENT INPUT TO THE UPPER TRIBUTARY SYSTEMS. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / / Prepared By:

K. SIS COMPLETED BY

Completed by:	D. FARRELL	Date:	1987/01/09
Last updated by:	CATHY GEE	Date:	1990/10/04
Last checked by:	L. JARENOVIC	Date:	1990/10/04

ESCAPEMENT : HUDSON BAY CREEK

WATERSHED-CODE : 09-8100-775

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	38	0	0	0	0	0
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	662	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	N/O	0	0	0	0	0
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	2	0	0	0	0	0
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	4	UNK	UNK	UNK	UNK	UNK
1975	2	UNK	UNK	UNK	UNK	UNK
1976	2	UNK	UNK	UNK	UNK	UNK
1977	432	UNK	UNK	UNK	UNK	UNK
1978	N/O	N/O	N/O	N/O	N/O	UNK
1979	N/O	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	158	0	0	0	0	0
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	15	0	0	0	0	0
1984	15	0	0	0	0	0
1985	44	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE



**F. LIFE HISTORY TIMING CONTINUED**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	HABITAT INVENTORY 0 -20 KM (REF. 291-23)	1975/1975

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	NO PAST LOGGING; CUTTING PLANS FOR 1991/1992. (REF. 291-101)
LD LINEAR DEVELOPMENT	FORESTRY ROAD ACCESS AND BRIDGE CROSSING; NEW ROAD-CROSSING FRYPAN C. 6 KM ABOVE MOUTH IS PLANNED. (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

SPAWNING POTENTIAL EXCELLENT, REARING POTENTIAL GOOD. A LARGE STREAM WITH EXTREME SEASONAL FLUCTUATION IN CHANNEL WIDTH AS EVIDENT FROM THE BROAD FLOOD PLAIN / ACTIVE BED IN MANY SECTIONS; SOIL COMMENTS. (REF. 291-23, REF. 291-88)
LOW INCUBATION FLOWS AND ICE PROBLEMS HAVE BEEN IDENTIFIED AS A SIGNIFICANT CONSTRAINT. (REF. 291-100)
WATERSHED IS GENERALLY UNSTABLE. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : FRYPAN CREEK

WATERSHED-CODE : 09-8100-815

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	4566	0	0	0	0	0
1954	266	0	0	0	0	0
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	59	0	0	0	0	0
1957	3890	0	0	0	0	0
1958	74	0	0	0	0	0
1959	2	0	0	0	0	0
1960	22	0	0	0	0	0
1961	10928	0	0	0	0	0
1962	243	0	0	0	0	0
1963	4	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	275	0	0	0	0	0
1966	58	0	0	0	0	0
1967	27	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	3145	0	0	0	0	0
1970	130	0	0	0	0	0
1971	153	0	0	0	0	0
1972	5	0	0	0	0	0
1973	5799	0	0	0	0	0
1974	362	0	0	0	0	0
1975	99	0	0	0	0	0
1976	38	0	0	0	0	0
1977	4383	0	0	0	0	0
1978	448	0	0	0	0	0
1979	232	0	0	0	0	0
1980	6	0	0	0	0	0
1981	1864	0	0	0	0	0
1982	40	0	0	0	0	0
1983	48	0	0	0	0	0
1984	133	0	0	0	0	0
1985	3044	0	0	0	0	0
1986	285	UNK	UNK	UNK	UNK	0
1987	901	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

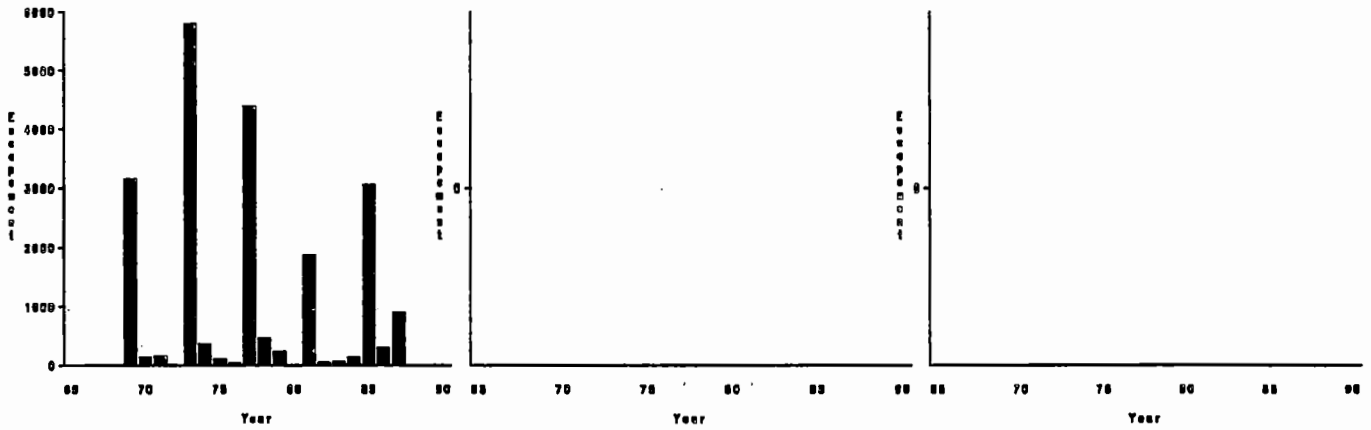
# FRYPAN CREEK (09-8100-815)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

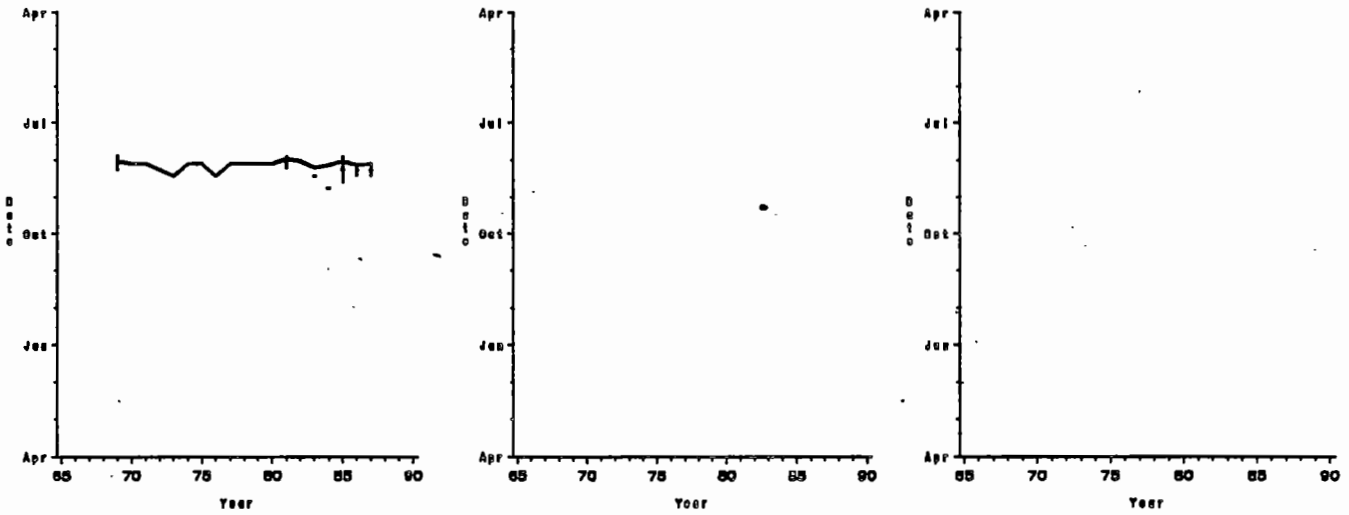
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	2,146	20JUL	02AUG	10AUG
1970	120	-	09AUG	-
1971	102	-	09AUG	-
1972	3	-	-	-
1973	3,799	-	10AUG	-
1974	202	-	08AUG	-
1975	98	-	08AUG	-
1976	38	-	15AUG	-
1977	4,302	-	08AUG	-
1978	446	-	09AUG	-
1979	232	-	09AUG	-
1980	0	-	09AUG	-
1981	1,004	30JUL	01AUG	08AUG
1982	40	-	02AUG	-
1983	40	19AUG	08AUG	10AUG
1984	132	-	08AUG	20AUG
1985	2,040	30JUL	02AUG	20AUG
1986	200	09AUG	09AUG	19AUG
1987	901	09AUG	09AUG	19AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

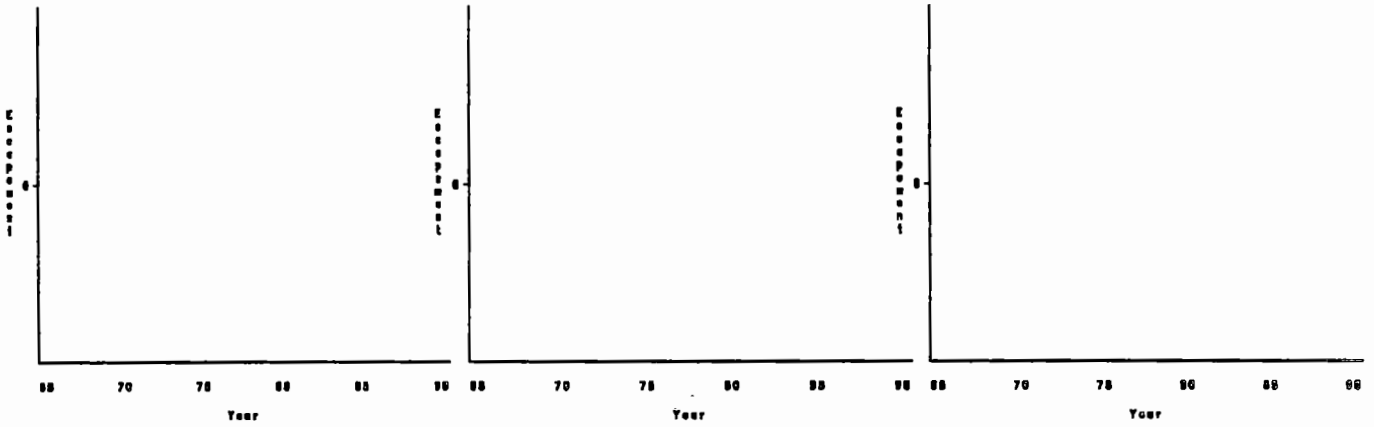
# FRYPAN CREEK (09-8100-815)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

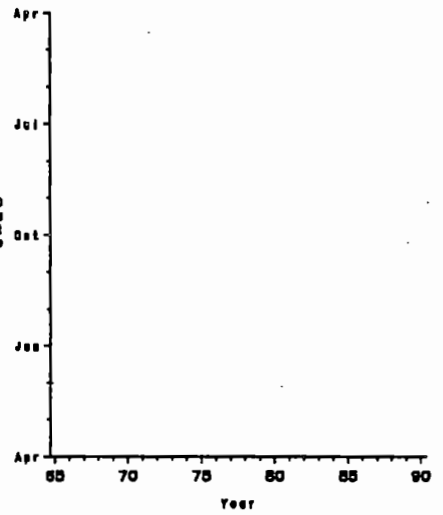
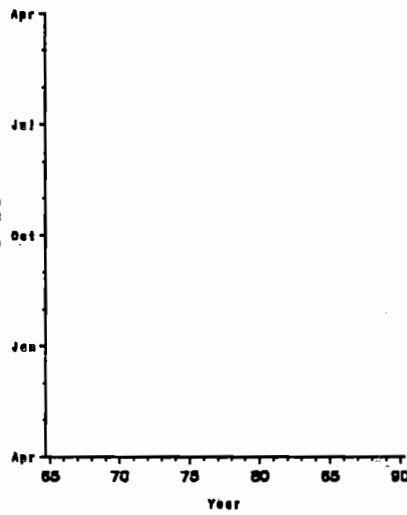
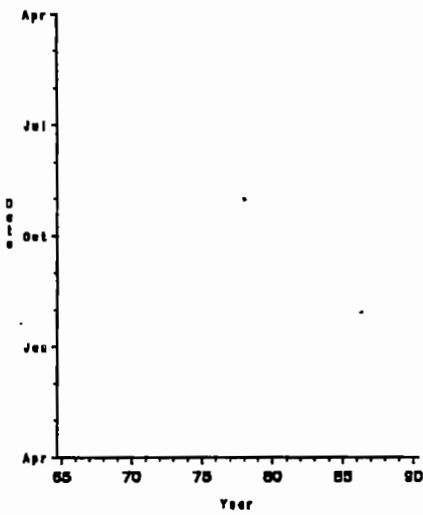
Steelhead (ST)



Chum

Chinook

Steelhead



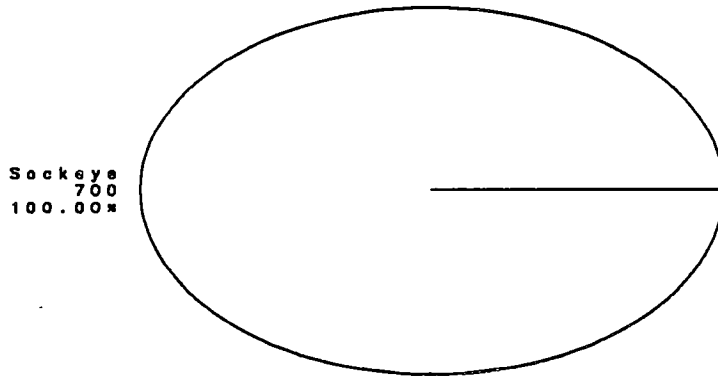
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1976	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

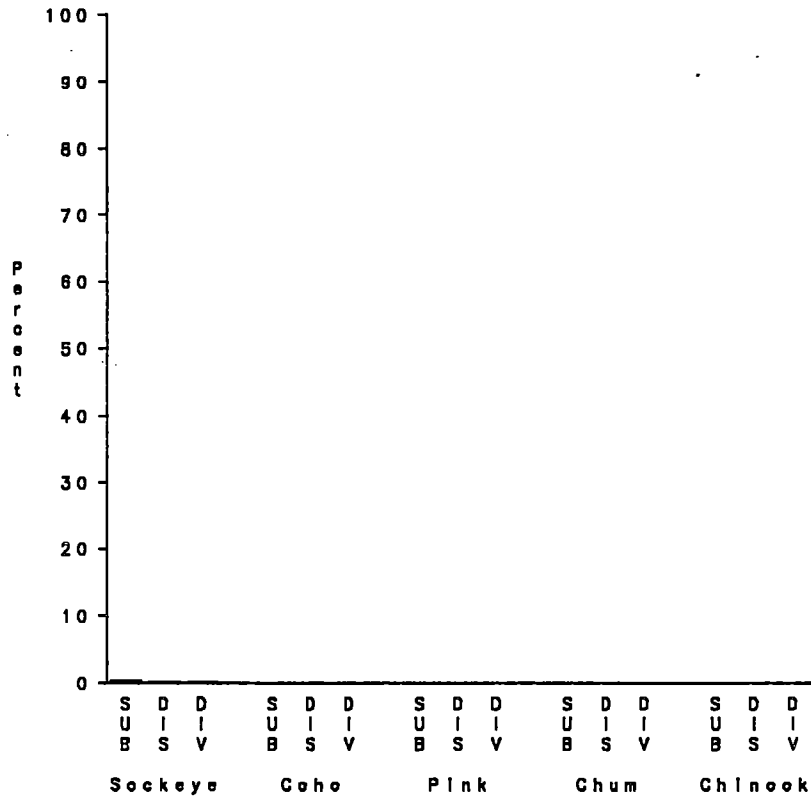
# FRYPAN CREEK (09-8100-815)

10-yr Mean Escapement  
(1978-1987)



## FRYPAN CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





**F. LIFE HISTORY TIMING CONTINUED**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SOCKEYE TIMING INFORMATION (REF. 29I-3)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
OR BARRIER REMOVAL	SK SOCKEYE SALMON	0.0	LOG JAM AND BEAVER DAM REMOVAL (REF. 29I-88)	1976/
LJ LOG JAM REMOVAL	SK SOCKEYE SALMON	0.0	LOG JAM REMOVAL (REF. 29I-3)	1974/

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	NO PAST OR FUTURE LOGGING PLANS (1989). (REF. 29I-100)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

GOOD SPAWNING GRAVEL. (REF. 29I-100)
COLD, LOW TO MODERATE GRADIENT, HIGH VOLUME DISCHARGE STREAM. OVERALL PRODUCTIVITY IS MODERATE TO HIGH, SUPPORTS A LARGE SOCKEYE RUN IN THE FALL. STEEP RIDGES SHOULD BE PROTECTED TO KEEP STABILITY. STREAM MORPHOLOGY DISCUSSED (REF. 29I-23)
ENHANCEMENT POTENTIAL FOR INCUBATION FACILITIES TO AUGMENT PRODUCTION. (REF. 29I-100)
LATERAL CHANNEL STABILITY IS LIMITED TO THE VALLEY FLAT THROUGHOUT THE LOWER STREAM; VALLEY WALLS ARE UNSTABLE. (REF. 29I-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared:     /     /	Prepared By:
----------------------------	--------------

**K. SIS COMPLETED BY**

Completed by:     D. FARRELL	Date: 1987/01/06
Last updated by:  CATHY GEE	Date: 1990/10/04
Last checked by:  L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : FORSYTHE CREEK

WATERSHED-CODE : 09-8100-840

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	4500	0	0	0	0	0
1954	27	0	0	0	0	0
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	6385	0	0	0	0	0
1958	N/O	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	N/O	0	0	0	0	0
1961	5848	0	0	0	0	0
1962	9	0	0	0	0	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	553	0	0	0	0	0
1966	67	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	2248	0	0	0	0	0
1970	187	0	0	0	0	0
1971	85	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	10907	0	0	0	0	0
1974	270	0	0	0	0	0
1975	16	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	3677	0	0	0	0	0
1978	381	0	0	0	0	0
1979	42	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	2386	0	0	0	0	0
1982	2	0	0	0	0	UNK
1983	13	0	0	0	0	0
1984	0	0	0	0	0	0
1985	3262	0	0	0	0	0
1986	97	UNK	UNK	UNK	UNK	0
1987	585	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

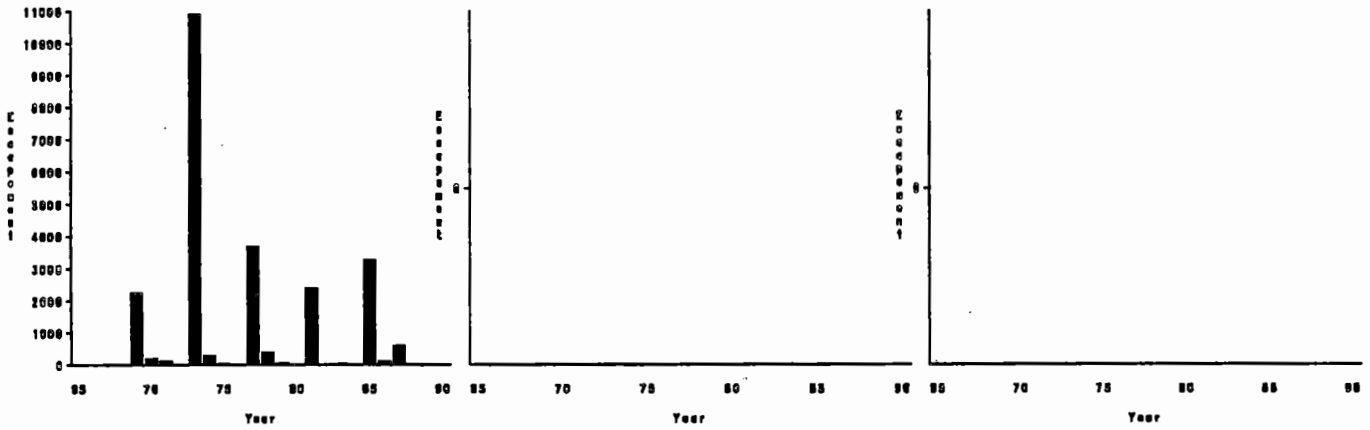
# UNNAMED C (09-8100-840)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

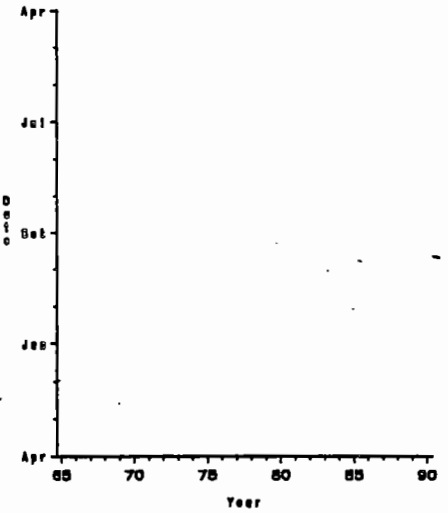
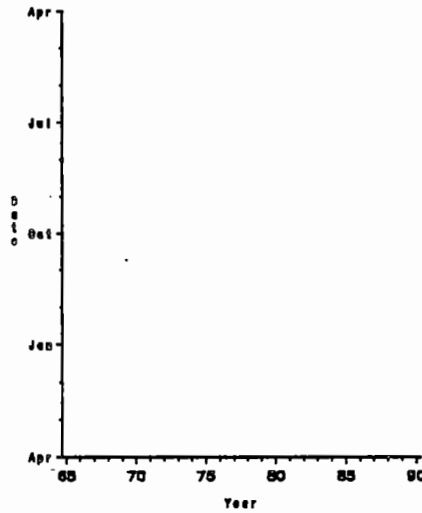
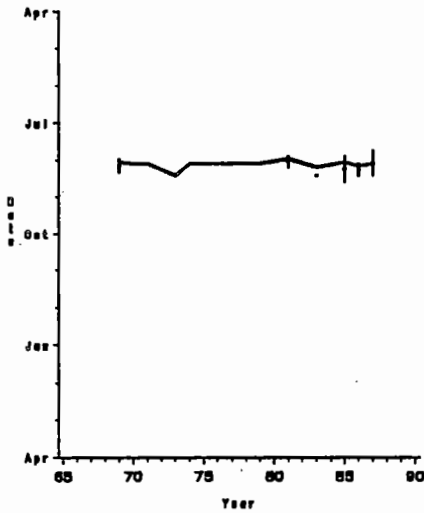
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	2,348	01AUG	04AUG	12AUG
1970	187	-	02AUG	-
1971	88	-	02AUG	-
1973	0	-	-	-
1973	10,507	-	10AUG	-
1974	276	-	02AUG	-
1976	16	-	02AUG	-
1978	0	-	-	-
1977	3,077	-	02AUG	-
1978	301	-	02AUG	-
1979	42	-	02AUG	-
1980	0	-	-	-
1981	2,100	20JUL	01AUG	09AUG
1982	2	-	-	-
1983	13	10AUG	09AUG	12AUG
1984	0	-	-	-
1986	2,292	20JUL	04AUG	20AUG
1988	97	02AUG	07AUG	10AUG
1987	308	20JUL	02AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1973	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1988	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1973	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1978	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1986	0	-	-	-
1988	0	-	-	-
1987	0	-	-	-

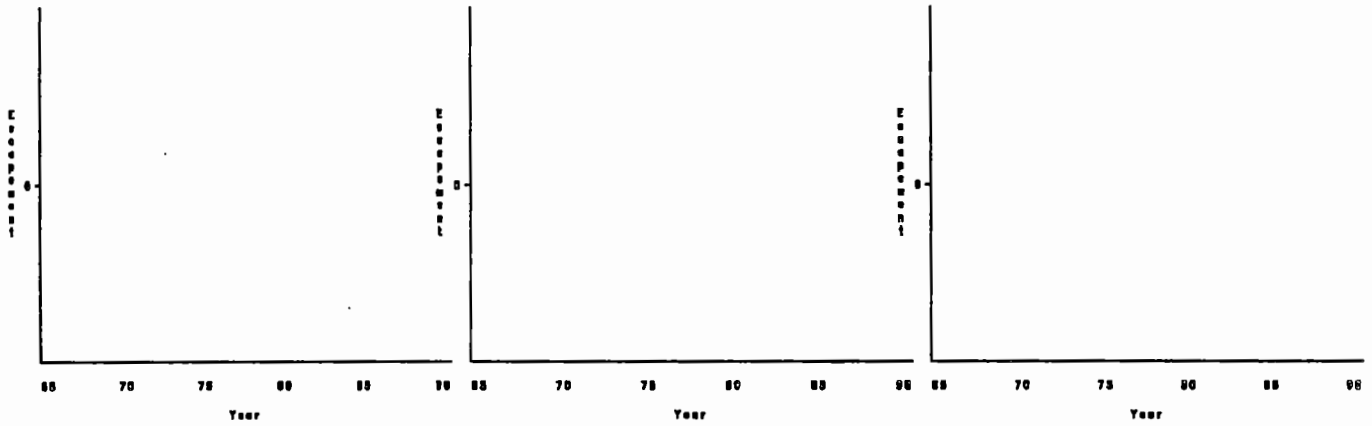
# UNNAMED C (09-8100-840)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

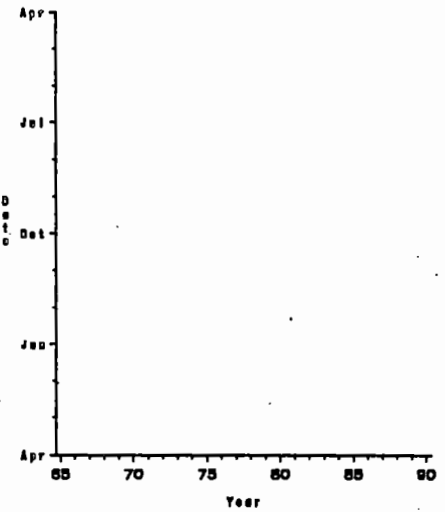
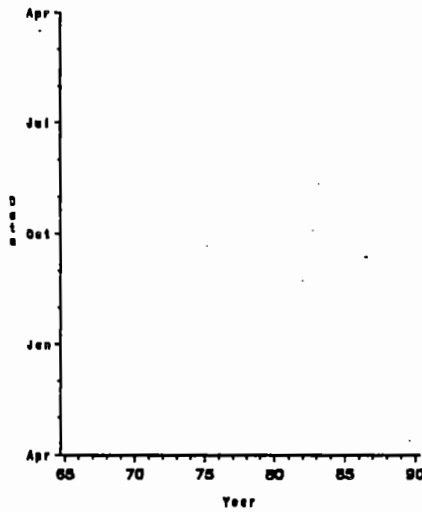
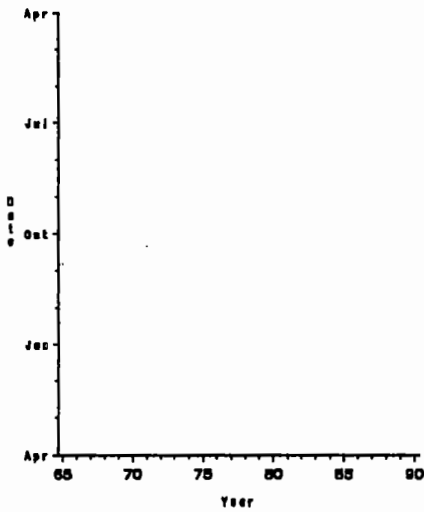
Steelhead (ST)



Chum

Chinook

Steelhead



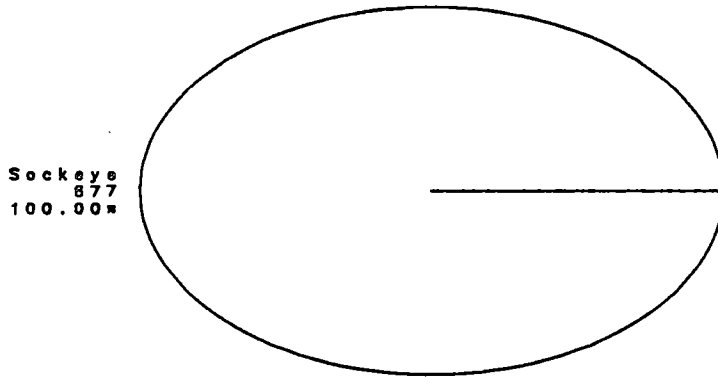
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

# UNNAMED C (09-8100-840)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>FRENCH CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KANLOOPS</b>
Watershed Code: <b>09-8100-945</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93M/9</b>
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>783715</b>
		Lat./Long. Mouth: <b>55 DG. 40' 0" 126 DG. 9' 0"</b>
		Mainstem Length: <b>19.2 km</b> Ref. No.: <b>291-23</b>
		Watershed Area: <b>66.0 km2</b> Ref. No.: <b>291-101</b>
Location: <b>FLows W INTO NORTH END OF TAKLA LAKE, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>GRADIENT IS 1-2%. AERIAL RECONNAISSANCE AND AIR PHOTO WORK ABOVE 5KM INDICATES THAT A LOW GRADIENT CHARACTER IS MAINTAINED TO AT LEAST 12 KM. (REF. 291-23)</b>
<b>0.0- 12.0</b>	

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>X LOG JAMS</b>				<b>SOME PARTIAL BARRIERS IN THE FORM OF LOG JAM/DEBRIS ACCUMULATIONS WERE PRESENT THROUGHOUT. (REF. 291-23, REF. 291-88)</b>

**C. FLOW**

Flow Control: <b>M</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: <b>DISCHARGE REPORT 1975. (REF. 291-23)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWN THROUGHOUT IN CYCLE YEAR. INTERMITTENT USE. (REF. 291-3, REF. 291-100)</b>
<b>CC SCULPINS (GENERAL)</b>	<b>SHOCKED FROM THE LOWER 0.5 KM. (REF. 291-23)</b>
<b>RB RAINBOW TROUT</b>	<b>ANGLED AND SHOCKED FROM THE LOWER .5KM. (REF. 291-23)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>105</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>661</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
Comments: SOCKEYE, RAINBOW AND SCULPIN TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-23, REF. 291-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	OV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	FISH INVENTORY. (REF. 291-23)	1975/1975

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	SECTION LOGGED FROM 1977 TO 1980; NO CUTTING PLANS 1989/1990. (REF. 291-88, REF. 291-101)
LD LINEAR DEVELOPMENT	SOUTHSIDE BCR BRIDGE COMPLETED 1972. ROAD ACCESS. (REF. 291-3, REF. 291-88)
LD LINEAR DEVELOPMENT	PROPOSED NEW FOREST ACCESS ROAD IN THE LOWER WATERSHED; UPGRAIDING OF BCR LINE. (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

REFERRED TO AS TRIBUTARY #6. A WARM MODERATELY INCISED, UNCONFINED STREAM WITH VERY GOOD SPawning AND REARING HABITAT TO 12.8 KM. HILLSIDE INSTABILITY; STREAM MORPHOLOGY DISCUSSED. (REF. 291-23)
SOCKEYE IN CYCLE YEARS ONLY. STREAM COULD BE SUBJECT TO "FRAZIL ICE" (REF. 291-3)
UNSTABLE VALLEY WALLS AND HILLSLOPES. (REF. 291-101)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
--------------------	--------------

**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/07
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JARENOVIC	Date: 1990/10/04

ESCAPEMENT : FRENCH CREEK

WATERSHED-CODE : 09-8100-945

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	N/O	UNK	UNK	UNK	UNK	UNK
1954	N/O	UNK	UNK	UNK	UNK	UNK
1955	N/O	UNK	UNK	UNK	UNK	UNK
1956	N/O	UNK	UNK	UNK	UNK	UNK
1957	N/O	UNK	UNK	UNK	UNK	UNK
1958	N/O	UNK	UNK	UNK	UNK	UNK
1959	N/O	UNK	UNK	UNK	UNK	UNK
1960	N/O	UNK	UNK	UNK	UNK	UNK
1961	778	0	0	0	0	0
1962	N/O	0	0	0	0	0
1963	N/O	UNK	UNK	UNK	UNK	UNK
1964	N/O	UNK	UNK	UNK	UNK	UNK
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	367	0	0	0	0	0
1970	103	0	0	0	0	0
1971	N/O	0	0	0	0	0
1972	N/O	0	0	0	0	0
1973	2420	0	0	0	0	0
1974	124	0	0	0	0	0
1975	18	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	695	0	0	0	0	0
1978	N/O	0	0	0	0	0
1979	N/O	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	219	0	0	0	0	0
1982	N/O	0	0	0	0	0
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	661	0	0	0	0	0
1986	11	UNK	UNK	UNK	UNK	0
1987	51	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

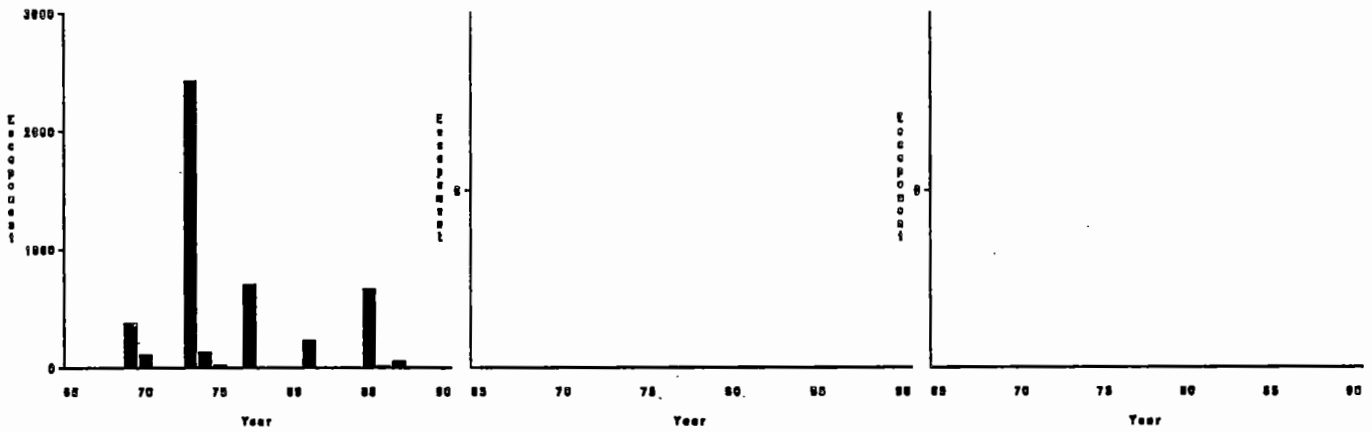
# UNNAMED C (09-8100-945)

## Escapement & Run Timing

### sockeye (SK)

### Coho (CO)

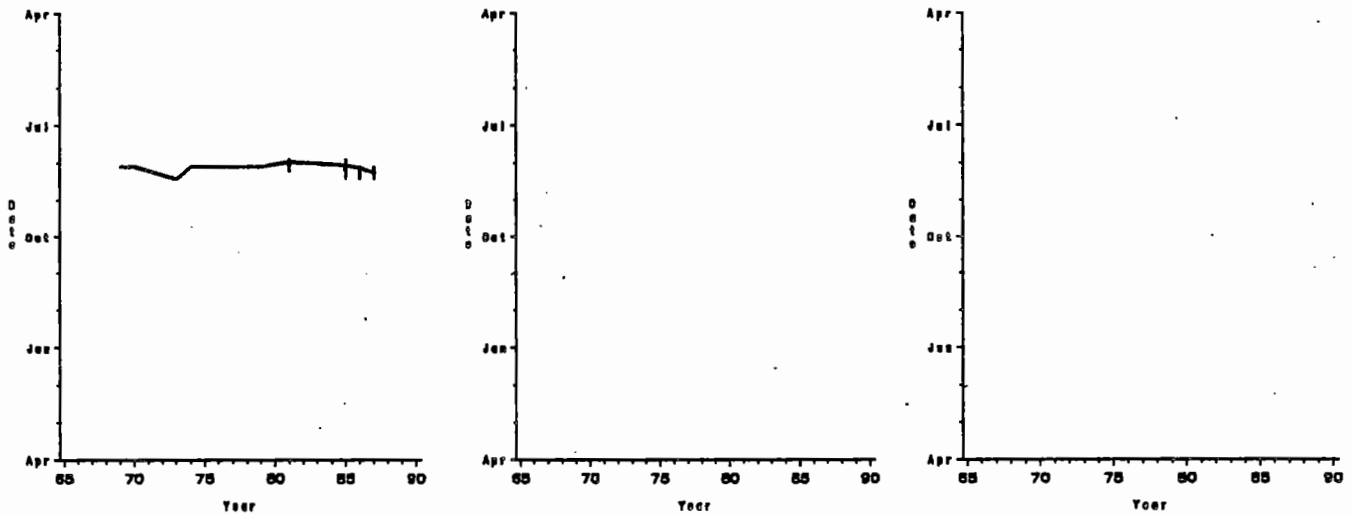
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	307	-	08AUG	-
1970	102	-	08AUG	-
1971	0	-	-	-
1972	0	-	-	-
1973	2,420	-	10AUG	-
1974	124	-	08AUG	-
1976	18	-	08AUG	-
1979	0	-	-	-
1977	0	-	08AUG	-
1978	0	-	08AUG	-
1979	0	-	08AUG	-
1980	0	-	-	-
1981	310	30JUL	01AUG	08AUG
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-
1988	661	30JUL	04AUG	10AUG
1989	11	08AUG	08AUG	10AUG
1987	21	08AUG	10AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1976	0	-	-	-
1979	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

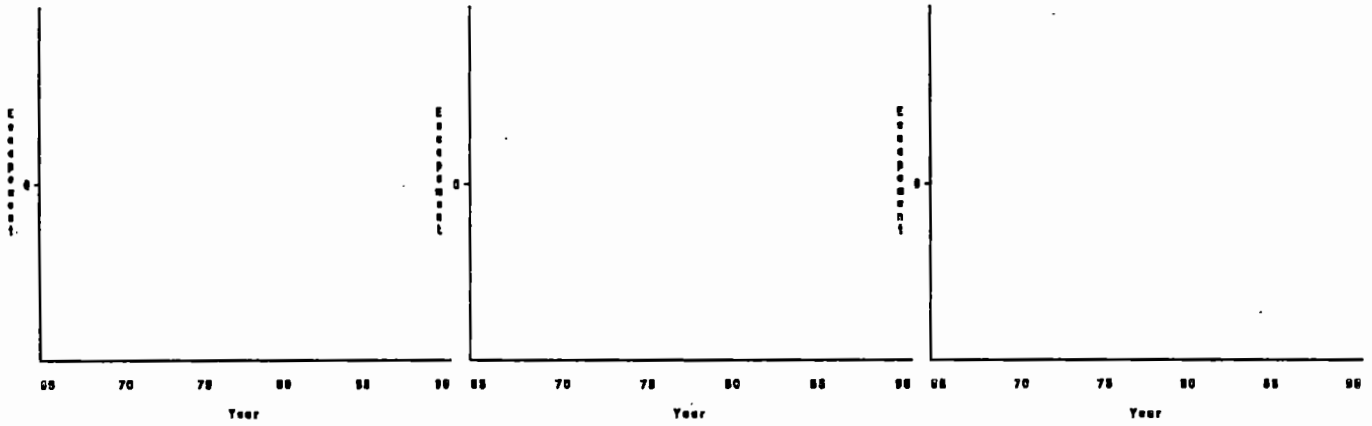
# UNNAMED C (09-8100-945)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

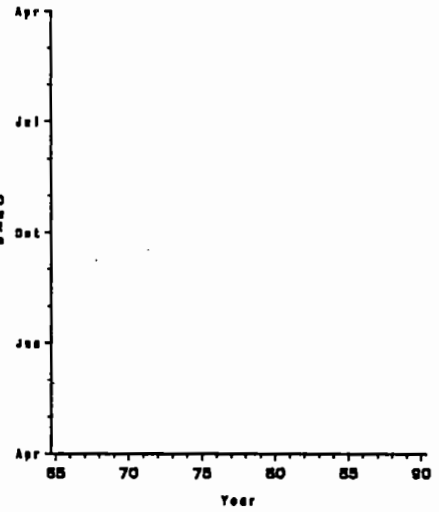
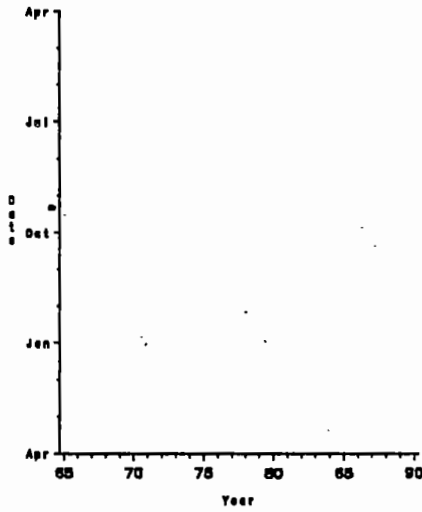
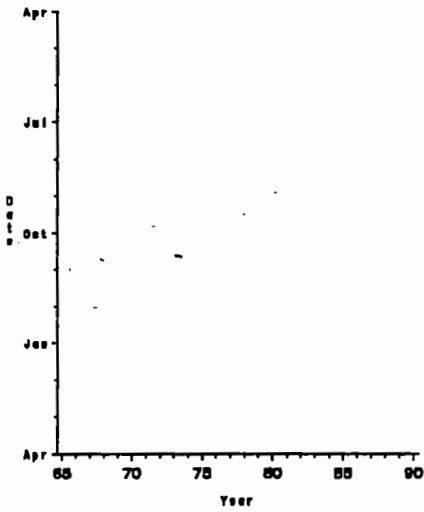
Steelhead (ST)



Chum

Chinook

Steelhead



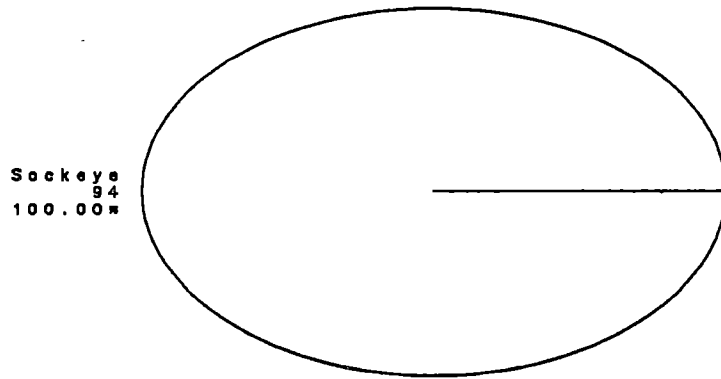
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

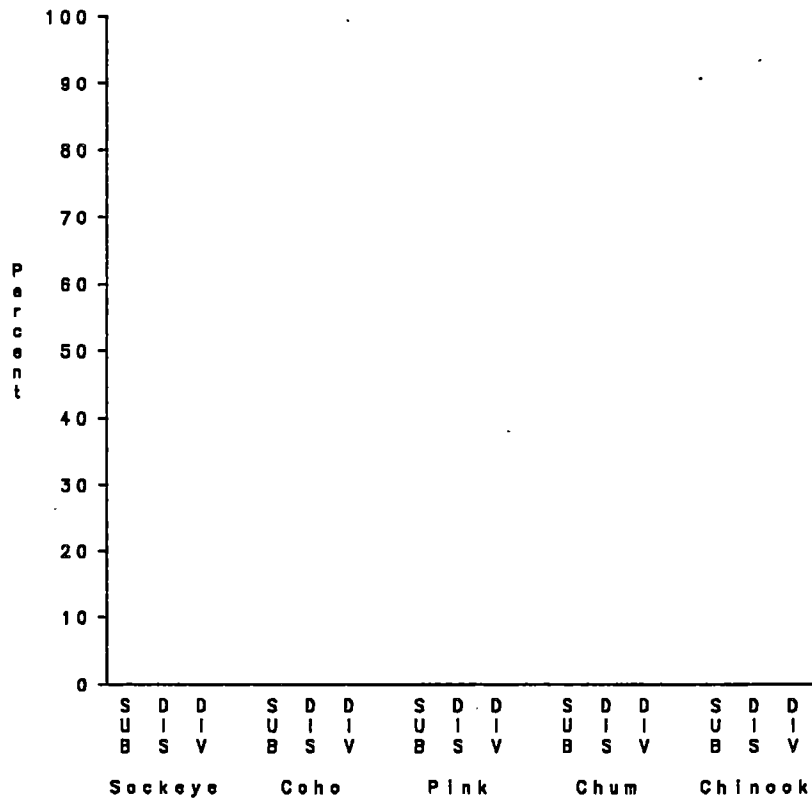
# UNNAMED C (09-8100-945)

10-yr Mean Escapement  
(1978-1987)



## UNNAMED C : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)





F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
Comments: EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-100)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING	DV DOLLY VARDEN RB RAINBOW TROUT SK SOCKEYE SALMON	0.0	INVENTORY SAMPLING (REF. 291-23)	1975/1975

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	LOWER 3 KM MOSTLY ON SOUTHSIDE; LOGGED PRIOR TO 1982. (REF. 291-79, REF. 291-91, REF. 291-100)
LD LINEAR DEVELOPMENT	BRIDGE AT MOUTH, LOGGING ROAD. PROPOSED BRANCH LINE TO LOWER SOUTHSIDE OF WATERSHED. (REF. 291-88, REF. 291-101)
FO FORESTRY	CUTTING PLANS FOR 1991/1992. (REF. 291-101)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

GOOD SPAWNING AND REARING HABITAT. BANKS UNSTABLE; DEVELOPMENT RISKS EROSION/SILTING (REF. 291-23)
SPAWNING CHANNEL PROPOSED BY IPSFC. SPAWNING CHANNEL RESERVE. PROBABLY NOT FEASIBLE DUE TO INSUFFICIENT WINTER FLOW. (REF. 291-75, REF. 291-88, REF. 291-100)
LOW INCUBATION FLOWS HAVE BEEN IDENTIFIED AS A SIGNIFICANT CONSTRAINT. (REF. 291-100)
LATERAL INSTABILITY, UNSTABLE BANKS AND UNSTABLE VALLEY WALLS AND HILLSLOPES THROUGHOUT DRAINAGE. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
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K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/08
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : ANKWILL CREEK

WATERSHED-CODE : 09-8100-950

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	5913	0	0	0	0	0
1954	56	0	0	0	0	0
1955	N/O	0	0	0	0	0
1956	117	0	0	0	0	0
1957	8285	0	0	0	0	0
1958	617	0	0	0	0	0
1959	N/O	0	0	0	0	0
1960	54	0	0	0	0	0
1961	18468	0	0	0	0	0
1962	290	0	0	0	0	0
1963	4	0	0	0	0	0
1964	2	0	0	0	0	0
1965	2806	0	0	0	0	0
1966	86	0	0	0	0	0
1967	20	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	15795	0	0	0	0	0
1970	220	0	0	0	0	0
1971	220	0	0	0	0	0
1972	5	0	0	0	0	0
1973	21790	0	0	0	0	0
1974	544	0	0	0	0	0
1975	101	0	0	0	0	0
1976	32	0	0	0	0	0
1977	6287	0	0	0	0	0
1978	1363	0	0	0	0	0
1979	192	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	8497	0	0	0	0	0
1982	46	0	0	0	0	0
1983	44	0	0	0	0	0
1984	99	0	0	0	0	0
1985	12012	0	0	0	0	0
1986	1302	UNK	UNK	UNK	UNK	0
1987	1427	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

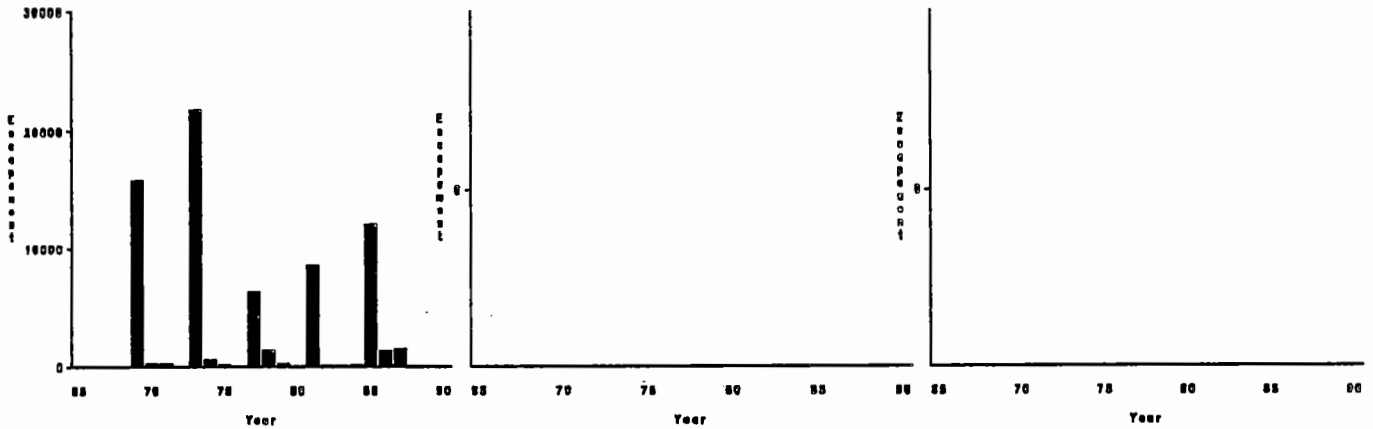
# ANKWILL CREEK (09-8100-950)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

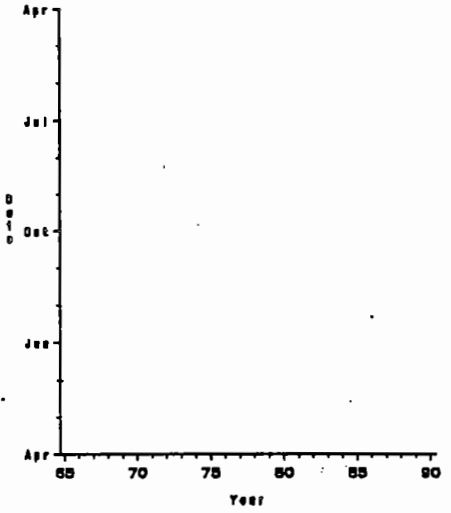
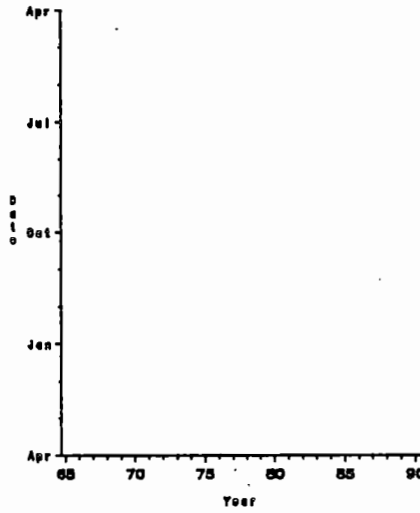
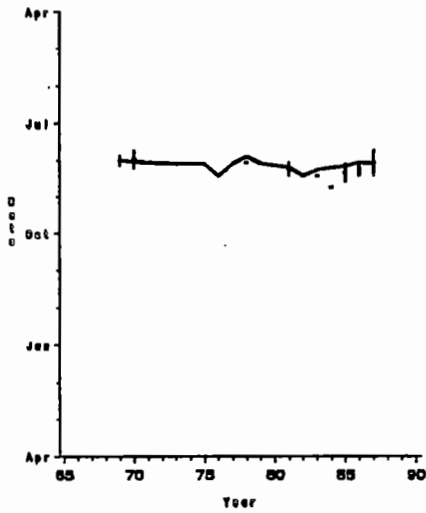
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	16,700	20JUL	02AUG	06AUG
1970	320	23JUL	03AUG	06AUG
1971	320	-	04AUG	-
1972	0	-	-	-
1973	21,700	-	06AUG	-
1974	544	-	06AUG	-
1975	101	-	06AUG	-
1976	33	-	15AUG	-
1977	6,207	-	02AUG	-
1978	1,303	-	20JUL	04AUG
1979	103	-	02AUG	-
1980	0	-	-	-
1981	4,497	04AUG	08AUG	10AUG
1982	40	10AUG	10AUG	13AUG
1983	44	10AUG	10AUG	13AUG
1984	90	-	08AUG	22AUG
1985	12,612	02AUG	07AUG	20AUG
1986	1,302	02AUG	04AUG	10AUG
1987	1,427	20JUL	06AUG	10AUG

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

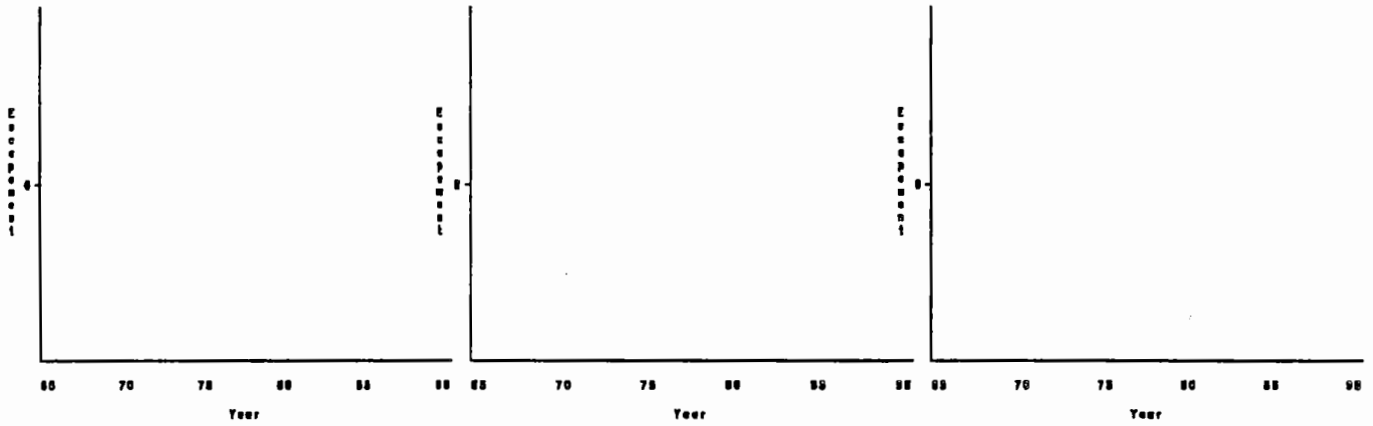
# ANKWILL CREEK (09-8100-950)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

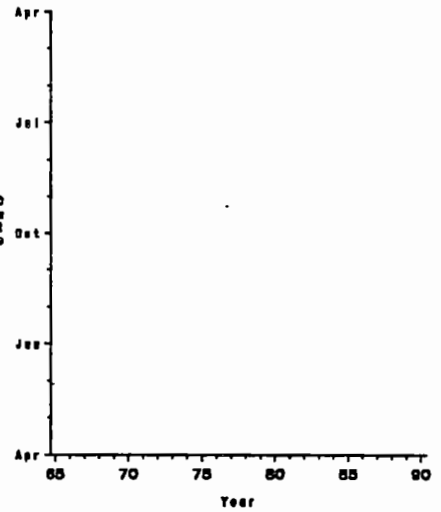
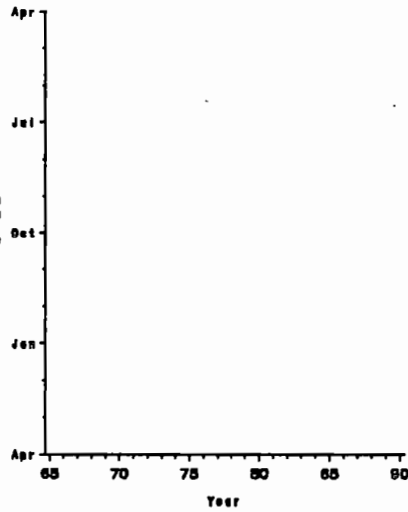
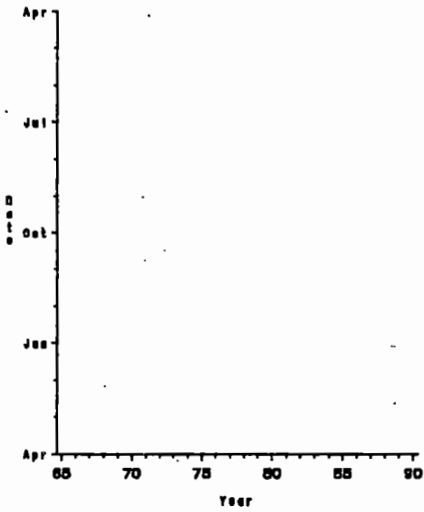
Steelhead (ST)



Chum

Chinook

Steelhead



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

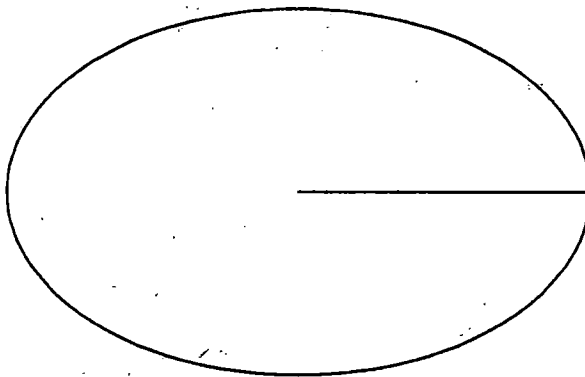
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

# ANKWILL CREEK (09-8100-950)

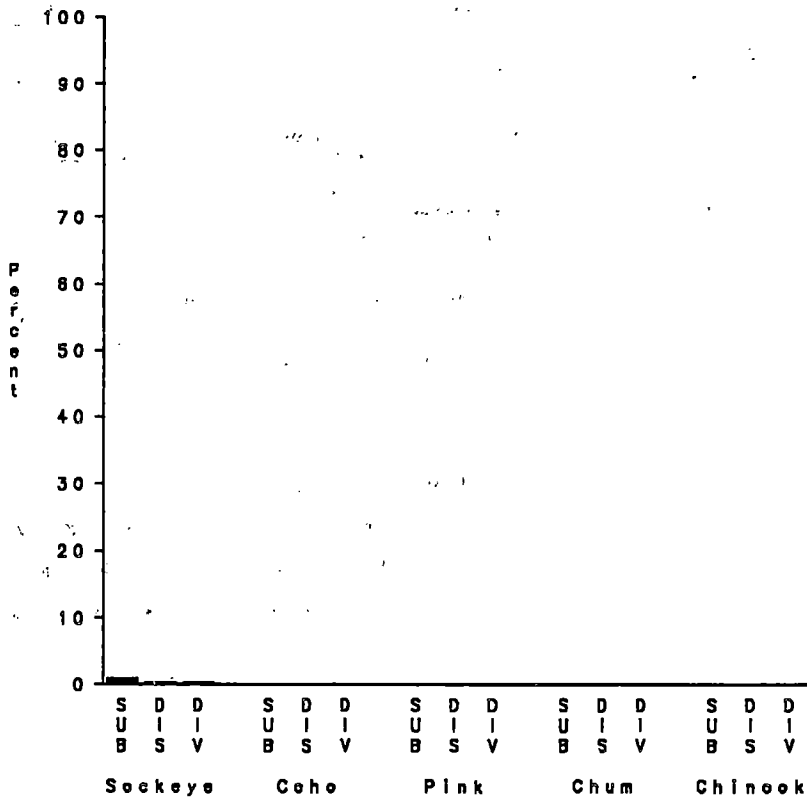
10-yr Mean Escapement  
(1978-1987)

Sockeye  
2,498  
100.00%



## ANKWILL CREEK : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>BATES CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-990</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 Omineca-Peace</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93M/9</b>
		B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>736767</b>
		Lat./Long. Mouth: <b>55 DG. 44' 0'' 126 DG. 13' 0''</b>
		Mainstem Length: <b>25.0 km</b> Ref. No.: <b>291-23</b>
		Watershed Area: <b>125.0 km<sup>2</sup></b> Ref. No.: <b>291-23</b>
Location: <b>FLows S INTO NORTH END OF TAKLA LAKE, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>GRADIENT AVERAGES 1.5 - 2.5% OVER LOWER 8 KM. MAP / AIR PHOTOS INDICATE THAT THIS LOW GRADIENT CHARACTER IS MAINTAINED WELL ABOVE 8.0 KM. (REF. 291-23)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>NO INFORMATION AVAILABLE</b>				

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC):	Flow Gauge: <b>N</b>
W.S.C. Station No. 1:	No. 2:	No. 3:                      No. 4:
Comments: <b>DISCHARGE MEASURED BY RAB 1975. (REF. 291-23)</b>		

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>THROUGHOUT, CONCENTRATED IN LOWER END, LOWER 2 KM. (REF. 291-3, REF. 291-88)</b>
<b>DV DOLLY VARDEN</b>	<b>PRESENCE NOTED. (REF. 291-88)</b>
<b>RB RAINBOW TROUT</b>	<b>ABUNDANT IN UPPER DRAINAGE. (REF. 291-23)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
Comments: <b>254 SOCKEYE IN 1977 ONLY. (REF. 291-1, REF. 291-3)</b>							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: <b>1975 FRY STUDIES. (REF. 291-23)</b>													
<b>RAINBOW TIMING INFORMATION. (REF. 291-3)</b>													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING		0.0	HABITAT SAMPLING 0 -8 KM (REF. 29I-23)	1975/1975

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FO FORESTRY	PAST LOGGING IN LOWER PORTION. 1986 NO LOGGING IN THE PAST 5 YEARS. (REF. 29I-23, REF. 29I-88)
LD LINEAR DEVELOPMENT	R.R. BCR CROSSES STREAM BELOW 2 KM. OUT OF SERVICE 1981. UPGRADING PLANNED (1990). (REF. 29I-88, REF. 29I-101)
RE RESERVES	BULKLEY HOUSE IR 10. (REF. 29I-85)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 29I-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

ABUNDANT REARING, SPAWNING AND HOLDING HABITAT. RUNS ON CYCLE YEARS ONLY. ABOVE NORMAL WATER TEMPERATURES A LIMITING FACTOR. (REF. 29I-3, REF. 29I-23, REF. 29I-88)
SOCKEYE USE THIS STREAM INTERMITTENTLY; STRAYS FROM ANKWILL, OR OTHER CREEKS IN AREA. (REF. 29I-100)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared:     /     /	Prepared By:
----------------------------	--------------

**K. SIS COMPLETED BY**

Completed by:     D. FARRELL	Date: 1987/01/08
Last updated by: KATHY PONTUS	Date: 1990/10/19
Last checked by: L. JAREMOVIC	Date: 1990/10/19

ESCAPEMENT : BATES CREEK

WATERSHED-CODE : 09-8100-990

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	0	0	0	0	0
1962	N/O	0	0	0	N/O	0
1963	N/O	0	0	0	0	0
1964	N/O	0	0	0	0	0
1965	N/O	0	0	0	0	0
1966	N/O	0	0	0	0	0
1967	N/O	0	0	0	0	0
1968	N/O	0	0	0	0	0
1969	UNK	0	0	0	0	0
1970	N/O	0	0	0	0	0
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	0	0	0	0	0
1974	N/O	0	0	0	0	0
1975	N/O	0	0	0	0	0
1976	N/O	0	0	0	0	0
1977	254	0	0	0	0	0
1978	N/O	0	0	0	0	0
1979	N/O	0	0	0	0	0
1980	N/O	0	0	0	0	0
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	N/O	0	0	0	0	0
1983	0	0	0	0	0	0
1984	0	0	0	0	0	0
1985	N/O	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	N/O	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE



**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	16279	1978 - 1987	28A-18	9395990	28A-18		
Comments: ESCAPEMENTS INCLUDE TRIBUTARY STREAMS UP TO 1981. (REF. 291-1)							
NUMBERS CAN VARY CONSIDERABLY AS A RESULT OF FLOW VARIABILITY, (WINTER FLOWS). (REF. 291-100)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing							X	X X				
Comments: SOCKEYE TIMING INFORMATION. EARLY STUART STOCK; DOMINANT CYCLE 1985/1989. (REF. 291-3, REF. 291-100)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
MR MARK RECOVERY	SK SOCKEYE SALMON	0.0	INTENSIVE DEAD PITCH. (REF. 291-95)	1981/

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
FD FORESTRY	LOWER END OF WATERSHED LOGGED IN 1981/1982; CUTTING PLANS FOR 1992/1993. (REF. 291-3, REF. 291-101)
LD LINEAR DEVELOPMENT	ROADS FOLLOW AND CROSS STREAM. NEW ACCESS ROADS BRANCH LINES PLANNED. (REF. 291-95, REF. 291-101)
RE RESERVES	INDIAN RESERVE 11A, KOTSINE IR 2. (REF. 291-85)
MI MINING	WITHIN PLACER "NO STAKING RESERVE". (REF. 291-101)
MI MINING	TWO GENERAL MINERAL CLAIMS (CU, MO). (REF. 291-101)
LD LINEAR DEVELOPMENT	PLANNED UPGRADING OF BCR LINE ON EAST SIDE OF DRIFTWOOD BETWEEN BATES C. AND BEAR LAKE. (REF. 291-101)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

BIOPHYSICAL REPORT BY REACH. (REF. 291-29)
LARGE STREAM WITH GOOD SPAWNING GRAVEL BEDS ESTIMATED TO ACCOMODATE UP TO A MILLION SPAWNERS. (REF. 291-3)
HIGH DEGREE OF INSTABILITY OF HILLSLOPES IN UPPER SYSTEM; ACTIVITY NEAR THE ACTIVE CHANNEL OF THE MAINSTEM DRIFTWOOD COULD RESULT SIGNIFICANT EROSION AND SEDIMENT PRODUCTION. (REF. 291-101)
FEASIBILITY OF SPAWNING CHANNEL LOW DUE TO INSUFFICIENT WINTER FLOWS AND POOR ESCAPEMENTS IN NON-CYCLE YEARS. (REF. 291-101)

J. FISHERY OFFICER NARRATIVE

Date Prepared:     /     /	Prepared By:
----------------------------	--------------

K. SIS COMPLETED BY

Completed by:     D. FARRELL	Date: 1987/01/12
------------------------------	------------------

ESCAPEMENT : DRIFTWOOD RIVER

WATERSHED-CODE : 09-8100-995

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	8656	0	0	0	0	0
1954	387	0	0	0	0	0
1955	N/0	0	0	0	0	0
1956	50	0	0	0	0	0
1957	45567	0	0	0	0	0
1958	1897	0	0	0	25	0
1959	5	75	0	0	0	0
1960	34	0	0	0	3	0
1961	79087	0	0	0	25	0
1962	374	0	0	0	25	0
1963	14	0	0	0	0	0
1964	2	0	0	0	25	0
1965	4221	0	0	0	25	0
1966	140	0	0	0	25	0
1967	52	0	0	0	0	0
1968	N/0	0	0	0	75	0
1969	37028	0	0	0	0	0
1970	1983	0	0	0	0	0
1971	335	0	0	0	0	0
1972	50	0	0	0	0	0
1973	131172	0	0	0	0	0
1974	1894	0	0	0	0	0
1975	20	0	0	0	0	0
1976	N/0	0	0	0	0	0
1977	54568	0	0	0	0	0
1978	4903	0	0	0	0	0
1979	247	0	0	0	0	0
1980	N/0	0	0	0	0	0
1981	47298	0	0	0	0	0
1982	29	0	0	0	0	0
1983	N/0	0	0	0	0	0
1984	UNK	0	0	0	0	0
1985	93959	0	0	0	0	0
1986	74	0	0	0	0	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/0 = STREAM INSPECTED,NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

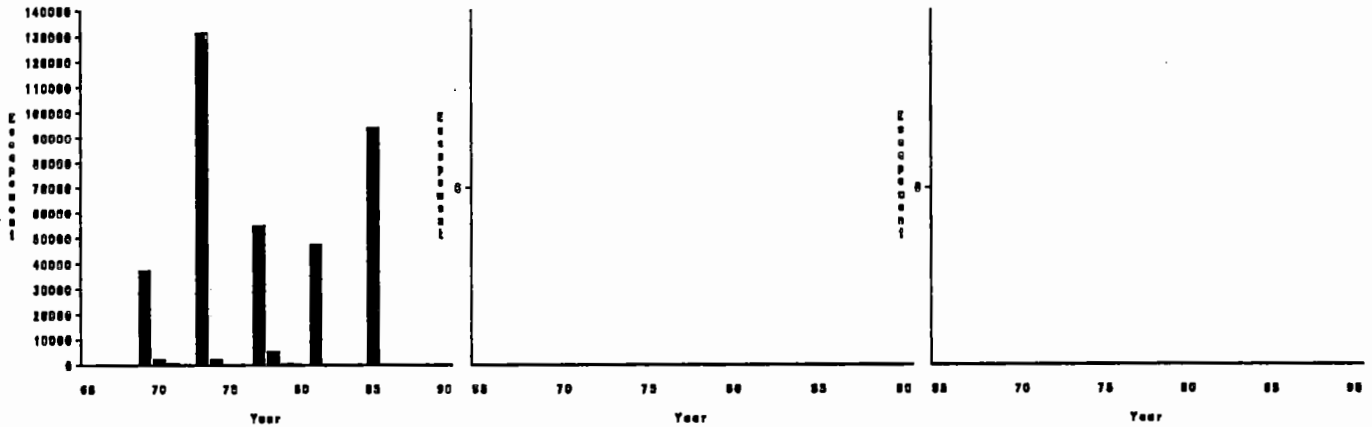
# DRIFTWOOD RIVER (09-8100-995)

## Escapement & Run Timing

### Sockeye (SK)

### Coho (CO)

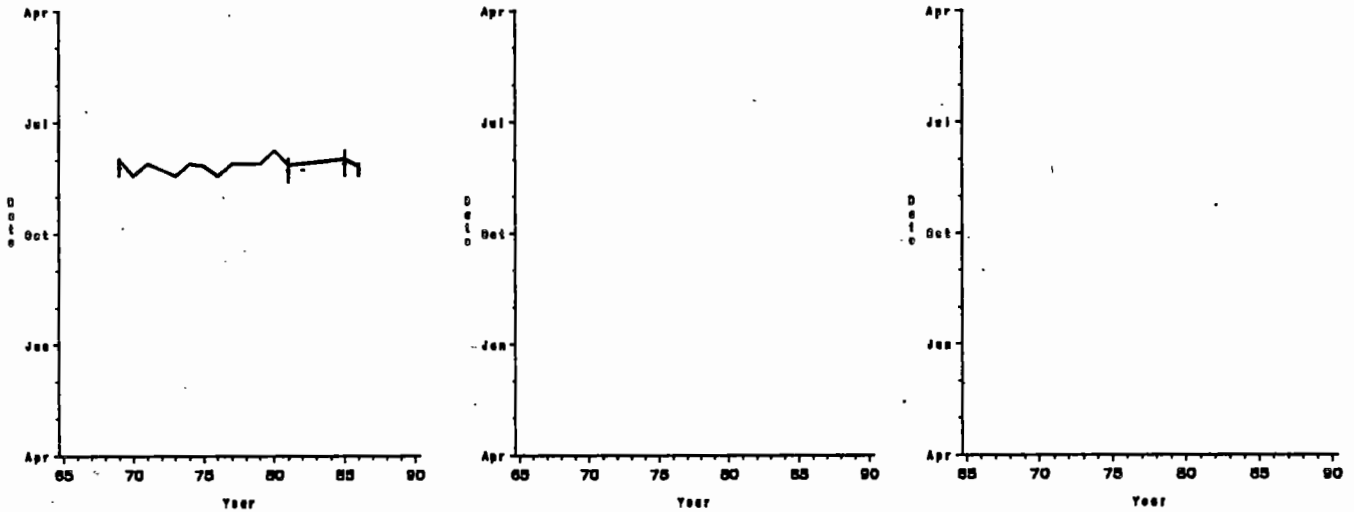
### Pink (PK)



### Sockeye

### Coho

### Pink



Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	37,000	01AUG	02AUG	12AUG
1970	1,000	-	10AUG	-
1971	320	-	09AUG	-
1972	50	-	10AUG	-
1973	101,172	-	10AUG	-
1974	1,000	-	08AUG	-
1975	30	-	07AUG	-
1976	0	-	10AUG	-
1977	50,000	-	09AUG	-
1978	1,000	-	09AUG	-
1979	247	-	08AUG	-
1980	0	-	20JUL	-
1981	47,300	01AUG	09AUG	20AUG
1982	20	10AUG	12AUG	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Year	Escapement	Start	Peak	End
1965	0	-	-	-
1966	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

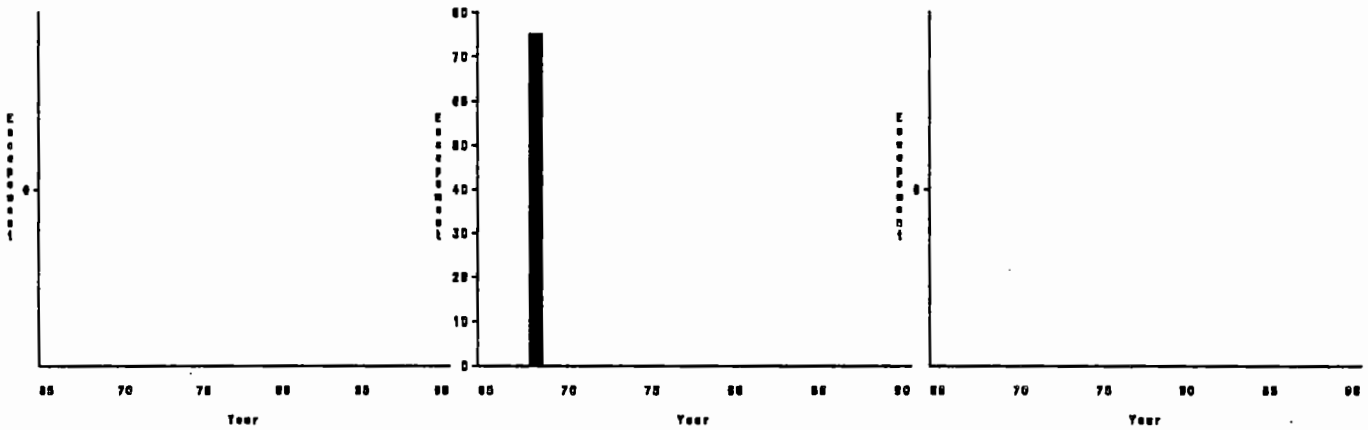
# DRIFTWOOD RIVER (09-8100-995)

## Escapement & Run Timing

Chum (CM)

Chinook (CH)

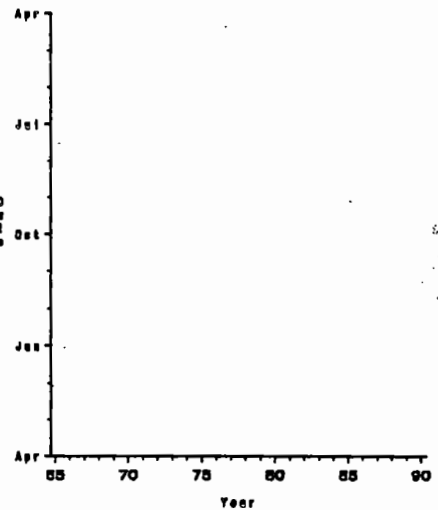
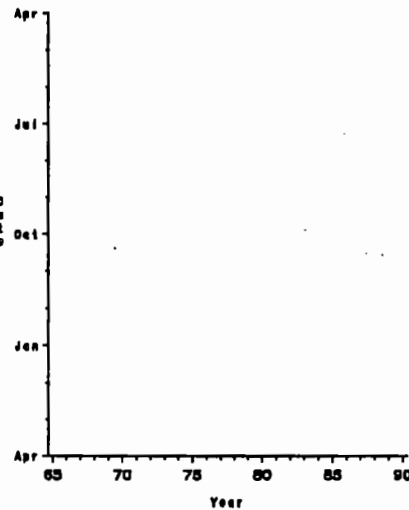
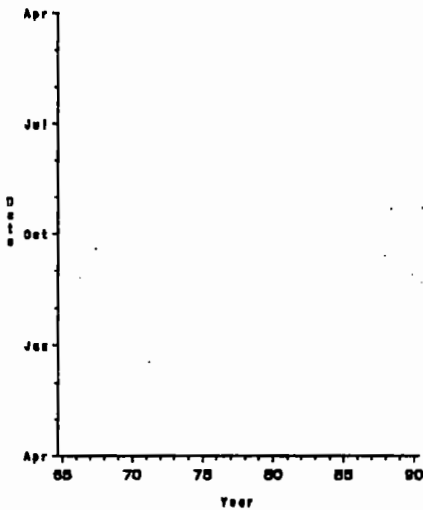
Steelhead (ST)



Chum

Chinook

Steelhead



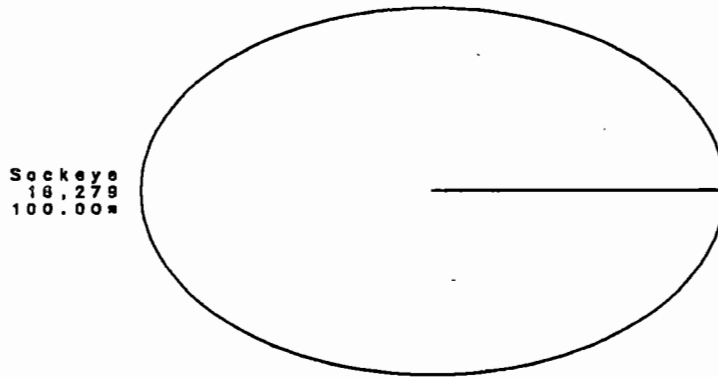
Chum				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	75	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	0	-	-	-
1987	0	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1968	-	-	-	-
1969	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

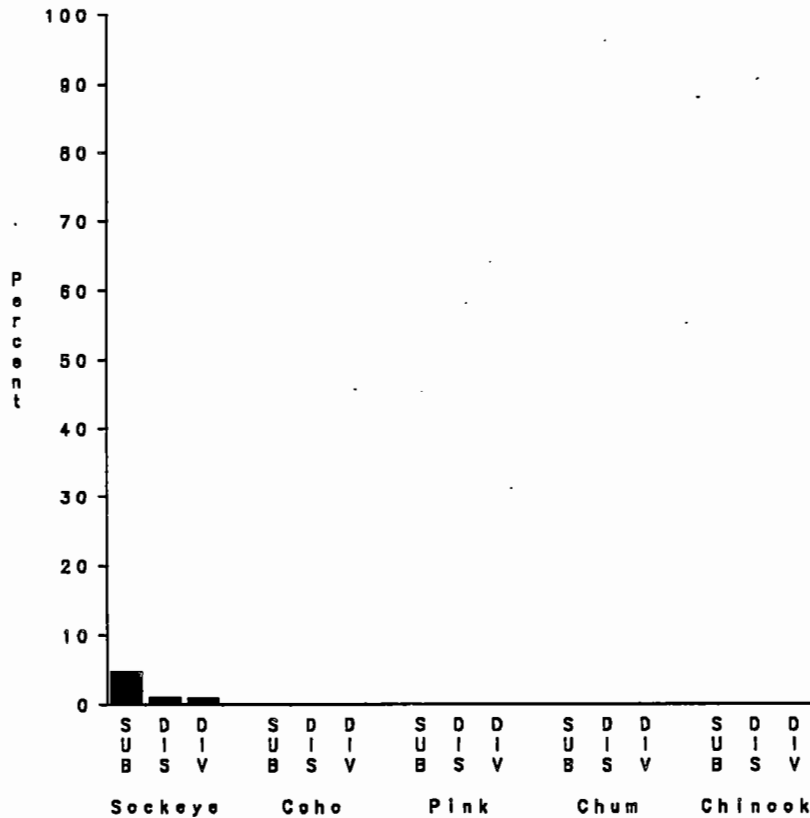
# DRIFTWOOD RIVER (09-8100-995)

10-yr Mean Escapement  
(1978-1987)



## DRIFTWOOD RIVER : Escapement (1978-1987)

Species Escapement as a Proportion of DFO Management Units  
(ie Subdistrict, District & Division)



**A. DESCRIPTION**

Stream Name: <b>BLACKWATER CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-995-100</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 ONINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: 93M/9
		B.C.G.S. (1:20k) Map: 696782
		U.T.M. Mouth: 55 DG. 43' 0'' 126 DG. 18' 0''
		Mainstem Length: Ref. No.:
		Watershed Area: Ref. No.:
Location: FLOWS NE INTO DRIFTWOOD RIVER, APPROXIMATELY 5 KM UPSTREAM FROM INLET TO TAKLA LAKE, PRINCE GEORGE DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	1-2 % UPSTREAM TO 0.4 KM. (REF. 291-29)

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
NO INFORMATION AVAILABLE				

**C. FLOW**

Flow Control:	Water Survey of Canada (WSC) Flow Gauge: M		
W.S.C. Station No. 1:	No. 2:	No. 3:	No. 4:
Comments: DISCHARGE INFORMATION JULY, 1975. (REF. 291-29)			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN TO 4.8 KM. (REF. 291-95)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON		1978 - 1987		279	28A-18		
Comments: 279 SK IN 1985 ONLY. (REF. 28A-18)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING		0.0	0-0.4 KM; HABITAT SAMPLING (REF. 29I-29)	1975/1975
FS FISH SAMPLING	SK SOCKEYE SALMON	0.0	ESCAPEMENT COUNTS (REF. 29I-95)	1981/

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
LD LINEAR DEVELOPMENT	ROAD CROSSES STREAM. (REF. 29I-95)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

LITTLE USE FOR REARING BUT HIGH QUALITY SUBSTRATE, FLOW AND TEMPERATURE CONDUCIVE TO SALMONID SPawning. TEMPERATURE RANGE INFORMATION. (REF. 29I-29)
STREAM INCORRECTLY BLUE LINED ON NTS 1:50,000 MAPS. (REF. 29I-95)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared:     /     /	Prepared By:
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**K. SI\$ COMPLETED BY**

Completed by:     D. FARRELL	Date: 1987/10/12
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : BLACKWATER CREEK

WATERSHED-CODE : 09-8100-995-100

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	UNK	UNK	UNK	UNK	UNK	UNK
1985	279	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

**A. DESCRIPTION**

Stream Name: <b>LION CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-995-150</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93M/16</b>
		B.C.G.S. (1:20k) Map: <b>662834</b>
		U.T.M. Mouth: <b>55 DG. 46' 00'' 126 DG. 21' 00''</b>
		Lat./Long. Mouth: <b>55 DG. 46' 00'' 126 DG. 21' 00''</b>
		Mainstem Length: <b>24.0 km</b> Ref. No.: <b>291-29</b>
		Watershed Area: <b>120.0 km<sup>2</sup></b> Ref. No.: <b>291-29</b>
Location: <b>FLWS S. INTO DRIFTWOOD RIVER, SE. OF KOTSINE RIVER, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>OVERALL GRADIENT IS 2.0 %. (REF. 291-29)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>F FALLS</b>	<b>10.0</b>	<b>9.7</b>	<b>SK SOCKEYE SALMON</b>	<b>(REF. 291-29)</b>

**C. FLOW**

Flow Control:	Water Survey of Canada (WSC) Flow Gauge:
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
<b>NO INFORMATION AVAILABLE</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWNING FROM MOUTH TO APPROX. 4.0 KM. MAJOR SPAWNING BELOW RAILWAY BRIDGE. (REF. 291-100)</b>
<b>RB RAINBOW TROUT</b>	<b>PRESENT BELOW FALLS; LARGE RESIDENT RAINBOW POPULATION ABOVE THE FALLS. (REF. 291-29)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>120</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>376</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SK SOCKEYE SALMON</b>	Migration Spawning Incubation Rearing							<b>X X</b>					

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
NO INFORMATION AVAILABLE				

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
LD LINEAR DEVELOPMENT	B.C. RAILWAY BRIDGE. (REF. 29I-100)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

SPAWNING GRAVELS FOR SOCKEYE LIMITED TO BELOW RAILROAD BRIDGE; ABOVE BRIDGE, SUBSTRATE IS COARSE WITH ONLY SMALL POCKETS OF GRAVEL. (REF. 29I-100)
HABITAT INVENTORY INFORMATION AVAILABLE; CONSIDERED A VERY PRODUCTIVE STREAM FOR RESIDENT SALMONIDS. (REF. 29I-29)
ALL TRIBUTARIES ARE SMALL AND GENERALLY HAVE STEEP GRADIENTS AT THEIR MOUTHS LIMITING FISH ACCESS. (REF. 29I-29)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
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**K. SIS COMPLETED BY**

Completed by: RENE SAUVÉ	Date: 1990/03/16
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : LION CREEK

WATERSHED-CODE : 09-8100-995-150

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	222	UNK	UNK	UNK	UNK	0
1982	N/O	UNK	UNK	UNK	UNK	0
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	UNK	UNK	UNK	UNK	UNK	UNK
1985	376	UNK	UNK	UNK	UNK	0
1986	0	0	0	0	0	0
1987	N/O	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

**A. DESCRIPTION**

Stream Name: PORTER CREEK	D.F.O. Division: FRASER RIVER
Local Name:	District: 1 KAMLOOPS
Watershed Code: 09-8100-995-250	Subdistrict: 29I PRINCE GEORGE
	Statistical Subarea: -
	M.O.E. Region: 7 OMINECA-PEACE
	Management Unit: 27

Tributaries	Code	Topographic (1:50k) Map: 93M/16
		B.C.G.S. (1:20k) Map: 643845
		U.T.M. Mouth: 55 DG. 48' 9" 126 DG. 24' 6"
		Lat./Long. Mouth: Ref. No.:
		Mainstem Length: Ref. No.:
		Watershed Area: Ref. No.:
Location: FLOWS NE INTO DRIFTWOOD RIVER, 3 KM UPSTREAM FROM LION CREEK, PRINCE GEORGE DISTRICT.		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	LESS THAN 1% TO 0.4 KM FROM MOUTH. (REF. 29I-29)

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
NO INFORMATION AVAILABLE				

**C. FLOW**

Flow Control: N	Water Survey of Canada (WSC) Flow Gauge: N
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: DISCHARGE RANGE FOR THE MINOR TRIBUTARIES TO DRIFTWOOD RIVER 1975. (REF. 29I-29)	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
SK SOCKEYE SALMON	SPAWN FOR APPROXIMATELY 2 KM. (REF. 29I-95)

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON		1978 - 1987		279	28A-18		
Comments: 279 SK IN 1985 ONLY. (REF. 28A-18)							

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING		0.0	0 - 0.4KM; HABITAT SAMPLING (REF. 29I-29)	1975/1975

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
NO INFORMATION AVAILABLE	

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

MOUTHS DISPERSED OVER BROAD AREAS, NEGLIGIBLE VALUE FOR SPawning, SUPERB REARING. TEMPERATURE RANGE INFORMATION. (REF. 29I-29)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / / Prepared By:

**K. SIS COMPLETED BY**

Completed by:	D. FARRELL	Date:	1987/01/12
Last updated by:	CATHY GEE	Date:	1990/10/04
Last checked by:	L. JAREMOVIC	Date:	1990/10/04

ESCAPEMENT : PORTER CREEK

WATERSHED-CODE : 09-8100-995-250

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	N/O	0	0	0	0	0
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	UNK	UNK	UNK	UNK	UNK	UNK
1985	279	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

**A. DESCRIPTION**

Stream Name: <b>KOTSINE RIVER</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KANLOOPS</b>
Watershed Code: <b>09-8100-995-300</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93M/16</b>
<b>ELMORE CREEK</b>	<b>300</b>	B.C.G.S. (1:20k) Map: <b>598875</b>
		U.T.M. Mouth: <b>598875</b>
		Lat./Long. Mouth: <b>55 DG. 48' 0" 126 DG. 25' 0"</b>
		Mainstem Length: <b>29.0 km</b> Ref. No.: <b>291-29</b>
		Watershed Area: <b>174.0 km2</b> Ref. No.: <b>291-29</b>
Location: <b>FLOWS NE INTO DRIFTWOOD RIVER, EAST OF DRIFTWOOD AIRFIELD, PRINCE GEORGE DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>FROM MOUTH TO 9.6 KM, AND ABOVE 9.6 KM, GRADIENT IS 1 - 3%. (REF. 291-29)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>R ROCK</b>	<b>75.0</b>	<b>9.6</b>	<b>SK SOCKEYE SALMON</b>	<b>70 - 80 M VERTICAL FALL OVER BEDROCK. (REF. 291-29, REF. 291-95)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>M</b>		
W.S.C. Station No. <b>1:</b>	<b>No. 2:</b>	<b>No. 3:</b>	<b>No. 4:</b>
Comments: <b>DISCHARGE REPORT 1975. (REF. 291-29)</b>			
<b>KOTSINE LAKE. (REF. 291-85)</b>			

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>SPAWN TO FALLS IN SEVERAL CONCENTRATED AREAS. (REF. 291-95)</b>
<b>DV DOLLY VARDEN</b>	<b>CAPTURED BELOW THE FALLS, NO FISH CAUGHT ABOVE THE FALLS. (REF. 291-29)</b>
<b>RB RAINBOW TROUT</b>	<b>CAPTURED BELOW THE FALLS, NO FISH CAUGHT ABOVE THE FALLS. (REF. 291-29)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>439</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>1178</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SK SOCKEYE SALMON	Migration Spawning Incubation Rearing								X				
DV DOLLY VARDEN	Migration Spawning Incubation Rearing							X					
RB RAINBOW TROUT	Migration Spawning Incubation Rearing							X					
Comments: RAINBOW AND DOLLY VARDEN TIMING INFORMATION. SK DOMINANT CYCLE, 1985/89. (REF. 29I-29)													
SK DOMINANT CYCLE 1985/89. (REF. 29H-46)													

**G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED**

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING		0.0	0-29 KM.; HABITAT SAMPLING (REF. 29I-29)	1975/1975
FS FISH SAMPLING	SK SOCKEYE SALMON	0.0	ESCAPEMENT COUNTS ON STREAM (REF. 29I-95)	1981/

**H. LAND USE/WATER USE/WATER QUALITY**

Activity	Description/Location
RE RESERVES	KOTSINE INDIAN RESERVE #2. (REF. 29I-85)

**I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS**

GLACIER FED, DIFFICULT TO ASSESS. (REF. 29I-95)
THE MAIN KOTSINE RIVER HAS FAIRLY HIGH POTENTIAL IN TERMS OF FISHERIES PRODUCTION. THE TRIBUTARIES ARE OF POOR QUALITY. BANKS AND HILLSIDES ARE UNSTABLE. (REF. 29I-29)

**J. FISHERY OFFICER NARRATIVE**

Date Prepared: / /	Prepared By:
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**K. SIS COMPLETED BY**

Completed by: D. FARRELL	Date: 1987/01/12
Last updated by: KATHY PONTUS	Date: 1990/10/19
Last checked by: L. JARENOVIC	Date: 1990/10/19

ESCAPEMENT : KOTSINE RIVER

WATERSHED-CODE : 09-8100-995-300

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	577	0	0	0	0	0
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	UNK	UNK	UNK	UNK	UNK	UNK
1985	1178	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED,NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE



F. LIFE HISTORY TIMING CONTINUED

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: SK DOMINANT CYCLE 1985/89. (REF. 28A-18)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FS FISH SAMPLING		0.0	0 - 0.4 KM HABITAT SAMPLING (REF. 29I-29)	1975/1975
FS FISH SAMPLING	SK SOCKEYE SALMON	0.0	NONE OBSERVED (REF. 29I-95)	1981/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
NO INFORMATION AVAILABLE	

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

TEMPERATURE RANGE INFORMATION. NEGLIGIBLE VALUE FOR RESIDENT AND ANADROMOUS SPAWNING POPULATION, SUPERB REARING CONDITIONS. (REF. 29I-29)
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J. FISHERY OFFICER NARRATIVE

Date Prepared: / /	Prepared By:
--------------------	--------------

K. SIS COMPLETED BY

Completed by: D. FARRELL	Date: 1987/01/12
Last updated by: CATHY GEE	Date: 1990/10/04
Last checked by: L. JAREMOVIC	Date: 1990/10/04

ESCAPEMENT : CONSOLIDATE CREEK

WATERSHED-CODE : 09-8100-995-350

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	UNK	UNK	UNK	UNK	UNK	UNK
1985	143	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	N/O	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

**A. DESCRIPTION**

Stream Name: <b>KASTBERG CREEK</b>	D.F.O. Division: <b>FRASER RIVER</b>
Local Name:	District: <b>1 KAMLOOPS</b>
Watershed Code: <b>09-8100-995-500</b>	Subdistrict: <b>291 PRINCE GEORGE</b>
	Statistical Subarea: <b>-</b>
	M.O.E. Region: <b>7 OMINECA-PEACE</b>
	Management Unit: <b>27</b>

Tributaries	Code	Topographic (1:50k) Map: <b>93M/15</b>
<b>UNNAMED CREEK</b>	<b>200</b>	B.C.G.S. (1:20k) Map:
		U.T.M. Mouth: <b>512002</b>
		Lat./Long. Mouth: <b>55 06. 50' 50'' 126 06. 35' 0''</b>
		Mainstem Length: <b>24.0 km</b> Ref. No.: <b>291-29</b>
		Watershed Area: <b>48.0 km2</b> Ref. No.: <b>291-29</b>
Location: <b>FLOWS W INTO DRIFTWOOD RIVER, JUST UPSTREAM FROM IR# 1, CASSIAR DISTRICT.</b>		

Gradient Class/Location (km upstream from mouth)	Comments
0 - .5%    .5 - 2%    2 - 5%    5 - 10%    >10%	<b>BELOW 7 KM THE GRADIENT IS 1-3%, ABOVE 7 KM THE GRADIENT IS 1-2%. (REF. 291-29)</b>

**B. OBSTRUCTIONS TO MIGRATION**

Barrier (Type)	Height (meters)	Location (km U/S)	Impassable to (species)	Comments
<b>R ROCK</b>	<b>5.5</b>	<b>7.0</b>	<b>SK SOCKEYE SALMON</b>	<b>THREE SETS OF 5 TO 6 METERS HIGH WATERFALLS OVER BEDROCK CREATE TOTAL BARRIERS TO ALL ANADROMOUS FISH. (REF. 291-95)</b>

**C. FLOW**

Flow Control: <b>N</b>	Water Survey of Canada (WSC) Flow Gauge: <b>N</b>
W.S.C. Station No. 1:	No. 2:                      No. 3:                      No. 4:
Comments: <b>DISCHARGE REPORTED 1975 (REF. 291-29)</b>	

**D. DISTRIBUTION SUMMARY**

Species	Watershed Distribution
<b>SK SOCKEYE SALMON</b>	<b>LOWER 1.6 KM MAJOR SPAWN (REF. 291-95)</b>
<b>DV DOLLY VARDEN</b>	<b>UP TO 7 KM - FALLS (REF. 291-29)</b>
<b>RB RAINBOW TROUT</b>	<b>UP TO 7 KM - FALLS. (REF. 291-29)</b>

**E. ESCAPEMENT SUMMARY**

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
<b>SK SOCKEYE SALMON</b>	<b>253</b>	<b>1978 - 1987</b>	<b>28A-18</b>	<b>758</b>	<b>28A-18</b>		

**F. LIFE HISTORY TIMING**

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SK SOCKEYE SALMON</b>	Migration Spawning Incubation Rearing								<b>X</b>				



ESCAPEMENT : KASTBERG CREEK

WATERSHED-CODE : 09-8100-995-500

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	UNK	UNK	UNK	UNK	UNK	UNK
1955	UNK	UNK	UNK	UNK	UNK	UNK
1956	UNK	UNK	UNK	UNK	UNK	UNK
1957	UNK	UNK	UNK	UNK	UNK	UNK
1958	UNK	UNK	UNK	UNK	UNK	UNK
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	UNK	UNK	UNK	UNK	UNK	UNK
1961	UNK	UNK	UNK	UNK	UNK	UNK
1962	UNK	UNK	UNK	UNK	UNK	UNK
1963	UNK	UNK	UNK	UNK	UNK	UNK
1964	UNK	UNK	UNK	UNK	UNK	UNK
1965	UNK	UNK	UNK	UNK	UNK	UNK
1966	UNK	UNK	UNK	UNK	UNK	UNK
1967	UNK	UNK	UNK	UNK	UNK	UNK
1968	UNK	UNK	UNK	UNK	UNK	UNK
1969	UNK	UNK	UNK	UNK	UNK	UNK
1970	UNK	UNK	UNK	UNK	UNK	UNK
1971	UNK	UNK	UNK	UNK	UNK	UNK
1972	UNK	UNK	UNK	UNK	UNK	UNK
1973	UNK	UNK	UNK	UNK	UNK	UNK
1974	UNK	UNK	UNK	UNK	UNK	UNK
1975	UNK	UNK	UNK	UNK	UNK	UNK
1976	UNK	UNK	UNK	UNK	UNK	UNK
1977	UNK	UNK	UNK	UNK	UNK	UNK
1978	UNK	UNK	UNK	UNK	UNK	UNK
1979	UNK	UNK	UNK	UNK	UNK	UNK
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	650	0	0	0	0	0
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	UNK	UNK	UNK	UNK	UNK	UNK
1985	758	0	0	0	0	0
1986	0	UNK	UNK	UNK	UNK	0
1987	0	0	0	0	0	0
1988						
1989						
1990						
1991						
1992						
1993						
1994						
1995						

N/O = STREAM INSPECTED, NO FISH OBSERVED

UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

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1990/10/24

Page: 1

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REFERENCE NO: 28A- 18

AUTHOR: DFO.  
DESCRIPTION: SALMON ESCAPEMENT DATA SYSTEM (SEDS); PACIFIC BIOLOGICAL STATION; NANAIMO.  
LOCATION: J DFO - PACIFIC BIOLOGICAL STATION - NANAIMO  
KEYWORDS: CH CHINOOK                    CN CHUM                    CO COHO  
          PK PINK                        S SPAWNING                   SK SOCKEYE

REFERENCE NO: 29E- 58

AUTHOR: NATIONAL TOPOGRAPHIC SYSTEMS MAPS  
DESCRIPTION: 1972-1974. 1:50,000 NTS MAPS. SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LD LINEAR DEVELOPMENT            RE RESERVES

REFERENCE NO: 29F- 85

AUTHOR: KOSAKOSKI, G.  
DESCRIPTION: 1990. HABITAT BIOLOGIST, FRASER RIVER, NORTHERN B.C. AND YUKON DIVISION, DFO. KAMLOOPS. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS:

REFERENCE NO: 29G- 32

AUTHOR: NATIONAL TOPOGRAPHIC SYSTEMS MAPS  
DESCRIPTION: 1972-1974 SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES 1:50,000  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: AR AGRICULTURE                    LD LINEAR DEVELOPMENT                    PR PARKS  
          RE RESERVES                        UD URBAN DEVELOPMENT

REFERENCE NO: 29H- 4

AUTHOR: OLMSTED, W.R., M. WHELEN AND G.A. VIGERS  
DESCRIPTION: 1980. 1979 INVESTIGATIONS OF FALL SPAWNING CHINOOK SALMON NECHAKO AND QUESNEL HORSEFLY RIVERS, B.C. PREPARED FOR DFO BY EVS CONSULTANTS LTD. 86P.  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: CH CHINOOK                    FS FISH SAMPLING                    PS POPULATION SAMPLING  
          S SPAWNING                        WQ WATER QUALITY

REFERENCE NO: 29H- 46

AUTHOR: MACDONALD, B.  
DESCRIPTION: 1989. HABITAT BIOLOGIST, FRASER RIVER, NORTHERN B. C. AND YUKON DIVISION, DFO. PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS:

REFERENCE NO: 29I- 1

AUTHOR: FARWELL, M.K., M.D. SCHUBERT, ET AL.  
DESCRIPTION: SALMON ESCAPEMENTS TO STREAMS ENTERING STATISTICAL AREAS 28 AND 29, 1951 TO 1985. CAN. DATA REP. FISH. AQUAT. SCI. 601: 166 P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK                    CN CHUM                    CO COHO  
          PK PINK                        S SPAWNING                    SK SOCKEYE

REFERENCE NO: 29I- 2

AUTHOR: BERRY, F.C. AND A.L. KAHL  
DESCRIPTION: 1982. CATALOGUE OF SELECTED FRASER AND THOMPSON RIVER TRIBUTARIES IMPORTANT TO CHINOOK AND COHO SALMON AND A PRELIMINARY ASSESSMENT OF THEIR ENHANCEMENT POTENTIAL. MS REP. OF FRASER RIVER, NORTHERN B.C. AND YUKON DIVISION. 227P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK                    CO COHO                    FS FISH SAMPLING  
          HS HABITAT SAMPLING                    LU LAND USE                    M MIGRATION  
          PS POPULATION SAMPLING                    R REARING                    S SPAWNING  
          WQ WATER QUALITY                    WU WATER USE

REFERENCE NO: 29I- 3

AUTHOR: MARSHALL, D.E. AND E.I. MANZON.  
DESCRIPTION: 1980. CATALOGUE OF SALMON STREAMS AND SPAWNING ESCAPEMENTS OF PRINCE GEORGE SUBDISTRICT. FISH. MAR. SERV. DATA REPORT 79: 252P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK                    CO COHO                    FS FISH SAMPLING  
          HS HABITAT SAMPLING                    LU LAND USE                    M MIGRATION  
          PS POPULATION SAMPLING                    R REARING                    S SPAWNING  
          WQ WATER QUALITY                    WU WATER USE

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REFERENCE NO: 291- 4

AUTHOR: ROSBERG, G.E., AND D. AITKEN.  
DESCRIPTION: 1981. ADULT CHINOOK SALMON STUDIES IN FOUR TRIBUTARIES TO THE UPPER FRASER RIVER, 1981. PREPARED FOR DEPT. OF FISH. AND OCEANS BY BEAK CONSULTANTS LTD. 140P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 5

AUTHOR: MURRAY, P.R., G.O. STEWART AND S.R. HAMILTON  
DESCRIPTION: 1981. STUDIES ON ADULT CHINOOK SALMON (ONCORHYNCHUS Tshawytscha) IN THE BOWRON AND WILLOW RIVERS, AND SLIM CREEK, B.C., DURING 1980. PREPARED BY ENVIROCON LTD. FOR DEPT. OF FISH. AND OCEANS. 66P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 6

AUTHOR: ROSBERG, G.E., D. AITKEN AND E. OGUSS  
DESCRIPTION: 1981. JUVENILE CHINOOK SALMON STUDIES IN FOUR TRIBUTARIES TO THE UPPER FRASER RIVER, 1981. PREPARED FOR DEPT. OF FISH. AND OCEANS BY BEAK CONSULTANTS LTD. 158P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING R REARING

REFERENCE NO: 291- 8

AUTHOR: HELM, R., ET AL.  
DESCRIPTION: 1980. A REVIEW OF THE NECHAKO RIVER WATERSHED. DEPT. OF FISH. AND OCEANS. INTERNAL REPORT. 128P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING LU LAND USE  
M MIGRATION PY PHYSICAL HABITAT R REARING  
S SPAWNING SK SOCKEYE WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 9

AUTHOR: RUSSELL, L.R., K.R. CONLIN, D.K. JOHANSEN, ET AL.  
DESCRIPTION: 1983. CHINOOK SALMON STUDIES IN THE NECHAKO RIVER 1980, 1981, 1982. CAN. MS. REP. FISH. AND AQUAT. SCI. 1728: 185P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING I INCUBATION  
M MIGRATION PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING

REFERENCE NO: 291- 10

AUTHOR: ABLESON, D.H.G.  
DESCRIPTION: 1985. FISHERIES MANAGEMENT PLAN UPPER NECHAKO RIVER WATERSHED INCLUDING MURRAY AND CHESLATA LAKES. MOE, FISHERIES BRANCH, PRINCE GEORGE, B.C. 34P. + II.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT LU LAND USE WJ WATER USE

REFERENCE NO: 291- 12

AUTHOR: LISTER, D.B., I. WALLACE AND D.G. HICKEY  
DESCRIPTION: 1981. SALMONID ENHANCEMENT BASELINE INVESTIGATIONS AT STUART RIVER, B.C. PART I. PREPARED FOR DEPT. OF FISH. AND OCEANS BY D.B. LISTER & ASSOCIATES LTD. 65P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR FS FISH SAMPLING  
HS HABITAT SAMPLING M MIGRATION PS POPULATION SAMPLING  
PY PHYSICAL HABITAT R REARING RB RAINBOW TROUT  
SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 291- 14

AUTHOR: HICKEY, D.G., AND D.B. LISTER  
DESCRIPTION: 1981. SALMONID ENHANCEMENT BASELINE INVESTIGATIONS AT STUART RIVER, B.C. IN 1980. PART II. PREPARED FOR DEPT. OF FISH. AND OCEANS BY D.B. LISTER & ASSOCIATES LTD. 70P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR FS FISH SAMPLING  
HS HABITAT SAMPLING M MIGRATION PS POPULATION SAMPLING  
PY PHYSICAL HABITAT RB RAINBOW TROUT S SPAWNING  
SK SOCKEYE WQ WATER QUALITY

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REFERENCE NO: 29I- 15

AUTHOR: PRINCE, J.  
DESCRIPTION: 1984. BIORECONNAISSANCE OF SONCHEA CREEK. PREPARED FOR SEP, DEPT. OF FISH. AND OCEANS BY NECOSLIE INDIAN BAND. 16P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: DV DOLLY VARDEN CHAR FS FISH SAMPLING HS HABITAT SAMPLING  
PY PHYSICAL HABITAT RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 29I- 17

AUTHOR: FISHERIES AND MARINE SERVICE AND IPSFC  
DESCRIPTION: 1979. SUMMARY OF SALMON STUDIES CONDUCTED ON NECHAKO, MORICE AND MANIKA RIVER SYSTEMS RELATIVE TO THE PROPOSED KEMANO II POWER DEVELOPMENT. VOL. I, 78P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING HS HABITAT SAMPLING  
M MIGRATION PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 29I- 18

AUTHOR: IPSFC.  
DESCRIPTION: 1979. SOCKEYE SALMON STUDIES ON THE NECHAKO RIVER RELATIVE TO THE POTENTIAL KEMANO II POWER DEVELOPMENT. VOL. 2, 99P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: HS HABITAT SAMPLING M MIGRATION PS POPULATION SAMPLING  
PY PHYSICAL HABITAT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 29I- 19

AUTHOR: FISHERIES AND MARINE SERVICE  
DESCRIPTION: 1979. CHINOOK SALMON STUDIES ON THE NECHAKO RIVER RELATIVE TO THE PROPOSED KEMANO II POWER DEVELOPMENT. VOL. 3, 50P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING M MIGRATION  
PS POPULATION SAMPLING PY PHYSICAL HABITAT S SPAWNING  
WQ WATER QUALITY

REFERENCE NO: 29I- 20

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF THE MAINSTEM SALMON RIVER. B.C. FISH AND WILDLIFE BRANCH. 73P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR FS FISH SAMPLING  
HS HABITAT SAMPLING KO KOKANEE PY PHYSICAL HABITAT  
RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 29I- 23

AUTHOR: CAW, C.B., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF THE STREAMS TRIBUTARY TO THE NORTH (MAIN) ARM OF TAKLA LAKE. B.C. FISH AND WILDLIFE BRANCH. 86P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR HS HABITAT SAMPLING PY PHYSICAL HABITAT  
R REARING RB RAINBOW TROUT S SPAWNING  
SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 29I- 24

AUTHOR: SEBASTIAN, D., ET AL.  
DESCRIPTION: 1974. AN INVENTORY OF STREAMS TRIBUTARY TO SOUTHERN TAKLA LAKE AND MIDDLE RIVER. B.C. FISH AND WILDLIFE BRANCH. 55P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR EN ENHANCEMENT FS FISH SAMPLING  
HS HABITAT SAMPLING KO KOKANEE LU LAND USE  
PY PHYSICAL HABITAT RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY

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REFERENCE NO: 291- 25

AUTHOR: BALL, K., ET AL.  
DESCRIPTION: 1974. STREAM INVENTORY REPORT ON TWO MIDDLE RIVER DRAINAGES: KAZCHEK & NATAZUTLO. B.C. FISH AND WILDLIFE BRANCH, DEPT. OF RECREATION AND CONSERVATION. 38P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT FS FISH SAMPLING  
HS HABITAT SAMPLING LU LAND USE OB OBSTRUCTIONS  
PY PHYSICAL HABITAT RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 26

AUTHOR: BALL, K., ET AL.  
DESCRIPTION: 1974. A STREAM INVENTORY OF PINCHI CREEK. B.C. FISH AND WILDLIFE BRANCH. 8P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE OB OBSTRUCTIONS PY PHYSICAL HABITAT  
WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 27

AUTHOR: GUNVILLE, G.F. ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF STREAMS TRIBUTARY TO TREMBLEUR LAKE. B.C. FISH AND WILDLIFE BRANCH. 31P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR EN ENHANCEMENT  
FS FISH SAMPLING HS HABITAT SAMPLING PY PHYSICAL HABITAT  
RB RAINBOW TROUT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291- 28

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1977. AN INVENTORY OF TEZZERON LAKE TRIBUTARIES AND OUTLET. B.C. FISH AND WILDLIFE BRANCH. 86P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT FS FISH SAMPLING  
HS HABITAT SAMPLING LU LAND USE OB OBSTRUCTIONS  
PY PHYSICAL HABITAT SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 291- 29

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF THE DRIFTWOOD RIVER AND ITS TRIBUTARIES. B.C. FISH AND WILDLIFE BRANCH. 48P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE PY PHYSICAL HABITAT RB RAINBOW TROUT  
SK SOCKEYE WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 31

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF STREAMS TRIBUTARY TO THE NORTH-WEST ARM OF TAKLA LAKE. B.C. FISH AND WILDLIFE BRANCH. 111P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: DV DOLLY VARDEN CHAR FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE OB OBSTRUCTIONS PY PHYSICAL HABITAT  
RB RAINBOW TROUT SK SOCKEYE WQ WATER QUALITY  
WJ WATER USE

REFERENCE NO: 291- 33

AUTHOR: IPSFC  
DESCRIPTION: 1983. POTENTIAL EFFECTS OF THE KEMANO COMPLETION PROJECT ON FRASER RIVER SOCKEYE AND PINK SALMON. 5P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT M MIGRATION PK PINK  
PY PHYSICAL HABITAT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291- 34

AUTHOR: DFO.  
DESCRIPTION: 1984. TOWARD A FISH HABITAT DECISION ON THE KEMANO COMPLETION PROJECT. A DISCUSSION PAPER. VANCOUVER, B.C. 78P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FL FLOW I INCUBATION  
M MIGRATION PY PHYSICAL HABITAT R REARING  
S SPAWNING WQ WATER QUALITY

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REFERENCE NO: 291- 35

AUTHOR: SLANEY, P.A., M.L. ROSENAU, AND ET AL.  
DESCRIPTION: 1984. HABITAT CAPABILITY OF NECHAKO RIVER FOR RAINBOW TROUT AND CHAR AND THE EFFECTS OF VARIOUS FLOW REGIMES. FISHERIES TECHNICAL CIRCULAR NO. 63. MOE. 34P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR EN ENHANCEMENT PY PHYSICAL HABITAT  
RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 291- 39

AUTHOR: PARKINSON, P.A. SLANEY, AND T.G. HALSEY  
DESCRIPTION: SOME EFFECTS OF FOREST HARVESTING ON A CENTRAL INTERIOR LAKE IN BRITISH COLUMBIA. B.C. FISH AND WILDLIFE BRANCH. FISHERIES MANAGEMENT PUBLICATION NO. 17.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR FO FORESTRY FS FISH SAMPLING  
HS HABITAT SAMPLING KO KOKANEE LU LAND USE  
PY PHYSICAL HABITAT

REFERENCE NO: 291- 41

AUTHOR: ROSBERG, G.E.  
DESCRIPTION: 1975. FRANCOIS LAKE WATERSHED STREAM INVENTORY. B. C. FISH AND WILDLIFE BRANCH, PRINCE GEORGE. UNPUBLISHED REPORT. 173P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: EN ENHANCEMENT FL FLOW FS FISH SAMPLING  
HS HABITAT SAMPLING RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291- 42

AUTHOR: PINSENT, M.E.  
DESCRIPTION: AN INITIAL INVENTORY OF THE STREAMS IN THE FRANCOIS-FRASER LAKES SYSTEM. B. C. FISH AND WILDLIFE BRANCH, NORTHERN REGION. UNPUBLISHED REPORT. 48P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FL FLOW FS FISH SAMPLING  
HS HABITAT SAMPLING PY PHYSICAL HABITAT RB RAINBOW TROUT  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 43

AUTHOR: SMITH, K. AND G. KINGSON  
DESCRIPTION: 1977. STREAM INVENTORY OF SOME STREAMS WITHIN THE WESTLAKE P.S.Y.U. B.C. FISH AND WILDLIFE BRANCH, PRINCE GEORGE. 65P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: CH CHINOOK EN ENHANCEMENT FL FLOW  
FS FISH SAMPLING HS HABITAT SAMPLING PY PHYSICAL HABITAT  
R REARING RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 291- 44

AUTHOR: HARDING, T. AND ERICKSON  
DESCRIPTION: FINGER - TATUK INVENTORY. ROUGH EMERGENCY DRAFT. FISH AND WILDLIFE BRANCH. UNPUB. REP. 35 P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: EN ENHANCEMENT FL FLOW HS HABITAT SAMPLING  
KO KOKANEE LU LAND USE MW ROCKY MOUNTAIN WHITEFISH  
PY PHYSICAL HABITAT R REARING RB RAINBOW TROUT  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 47

AUTHOR: ANONYMOUS  
DESCRIPTION: SLIM CREEK. MEMO FROM ROBIN HARRISON'S FILES.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK LU LAND USE PY PHYSICAL HABITAT  
R REARING S SPAWNING

REFERENCE NO: 291- 49

AUTHOR: IPSFC  
DESCRIPTION: 1953. A REVIEW OF THE SOCKEYE SALMON PROBLEMS CREATED BY THE ALCAN PROJECT IN THE NECHAKO RIVER WATERSHED. 28P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: N MIGRATION PY PHYSICAL HABITAT SK SOCKEYE  
WQ WATER QUALITY WU WATER USE

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REFERENCE NO: 291- 52

AUTHOR: ENVIRONMENT CANADA  
DESCRIPTION: 1974. AN ASSESSMENT OF THE EFFECTS OF THE SYSTEM E FLOOD CONTROL PROPOSAL ON THE SALMON RESOURCE OF THE FRASER RIVER SYSTEM. PREP.FOR ECOLOGY SUBCOMM. OF THE FRASER RIVER UPSTREAM STORAGE STEERING COMMITTEE BY FISH. & MARINE SERVICE, VANCOUVER.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CM CHUM CO COHO  
LU LAND USE PK PINK SK SOCKEYE  
WJ WATER USE

REFERENCE NO: 291- 53

AUTHOR: ANONYMOUS  
DESCRIPTION: 1969. THE STELLAKO RIVER LOG DRIVE. 125P + FIGURES.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: HS HABITAT SAMPLING LU LAND USE PS POPULATION SAMPLING  
RB RAINBOW TROUT SK SOCKEYE WQ WATER QUALITY  
WJ WATER USE

REFERENCE NO: 291- 54

AUTHOR: IPSFC  
DESCRIPTION: 1966. EFFECTS OF LOG DRIVING ON THE SALMON AND TROUT POPULATION IN THE STELLAKO RIVER. PROGRESS REPORT NO. 14. PREPARED BY DEPT.OF FISH, IPSFC AND THE FISH AND WILDLIFE BRANCH, B.C. DEPT. OF REC. AND CONS. 88P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CM CONTAMINANTS HS HABITAT SAMPLING KO KOKANEE  
LU LAND USE PY PHYSICAL HABITAT RB RAINBOW TROUT  
S SPAWNING SK SOCKEYE WQ WATER QUALITY  
WJ WATER USE

REFERENCE NO: 291- 56

AUTHOR: IPSFC  
DESCRIPTION: 1952. REPORT ON THE FISHERIES PROBLEMS CREATED BY THE DEVELOPMENT OF POWER IN THE NECHAKO-KEMANO-MANIKA RIVER SYSTEMS. SUPPLEMENT NO. 1. TEMPERATURE CHANGES IN THE NECHAKO RIVER AND THEIR EFFECTS ON THE SALMON POPULATIONS. 42P. + XXXIV.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING I INCUBATION  
M MIGRATION PY PHYSICAL HABITAT R REARING  
S SPAWNING SK SOCKEYE WQ WATER QUALITY  
WJ WATER USE

REFERENCE NO: 291- 62

AUTHOR: MOE  
DESCRIPTION: 1984. LETTER TO FLOYD MCKEE, FISHERY OFFICER, DFO. RE: WATER LICENCES AND FLOWS ENDAKO RIVER. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 63

AUTHOR: TUTTY, B.D.  
DESCRIPTION: 1977. MEMO TO R.A. ROBERTSON, HYDRO PROJECTS WATER USE DIVISION. RE: MCGREGOR RIVER DIVERSION. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DA DAMS FL FLOW PY PHYSICAL HABITAT

REFERENCE NO: 291- 64

AUTHOR: HOURSTON, W.R.  
DESCRIPTION: 1966. MEMO TO L.C. GOODMAN, DISTRICT PROTECTION OFFICER RE: LOG DRIVE, MADINA RIVER. DFO. 1P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE WJ WATER USE

REFERENCE NO: 291- 65

AUTHOR: ANDREW, F.J.  
DESCRIPTION: 1976. LETTER TO L. GOODMAN, DFO. RE: MADINA RIVER GRAVEL CLEANING. IPSFC. 1P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: PY PHYSICAL HABITAT

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REFERENCE NO: 291- 66

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AUTHOR: IPSFC  
DESCRIPTION: 1975. MEMO TO L.C. GOODMAN, DFO. RE: MADINA RIVER GRAVEL CLEANING. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE

REFERENCE NO: 291- 67

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AUTHOR: ROOS, J.F.  
DESCRIPTION: 1982. MEMO TO G. LOGAN, DFO, SALMONID ENHANCEMENT PROGRAM. RE: MADINA RIVER - LOG JAM REMOVAL. IPSFC. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EM ENHANCEMENT FO FORESTRY WJ WATER USE

REFERENCE NO: 291- 68

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AUTHOR: FINGER, U.  
DESCRIPTION: 1985. MEMO TO D. BERG. RE: NARROWS CREEK. MOE, PRINCE GEORGE. 1P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS:

REFERENCE NO: 291- 69

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AUTHOR: SWIFT, D.  
DESCRIPTION: 1983. MEMO TO G. LOGAN, SEP. RE: NITHI RIVER STREAM CLEARANCE. MOE. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EM ENHANCEMENT

REFERENCE NO: 291- 70

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AUTHOR: DFO  
DESCRIPTION: 1970. RE: NITHI RIVER. MEMO 1P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS:

REFERENCE NO: 291- 71

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AUTHOR: DFO  
DESCRIPTION: RE: TORPY RIVER, A REVIEW OF FISHERIES RELATED INFORMATION. MEMO FROM ROBIN HARRISON'S FILES. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK LU LAND USE PY PHYSICAL HABITAT  
S SPAWNING

REFERENCE NO: 291- 72

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AUTHOR: MADINA RIVER OBSERVATIONS  
DESCRIPTION: 1975. MEMO 3P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE PY PHYSICAL HABITAT

REFERENCE NO: 291- 73

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AUTHOR: PYPYER J.  
DESCRIPTION: 1976. GRAVEL CLEANING IN MADINA RIVER IN 1976. MEMO 15P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE WJ WATER USE

REFERENCE NO: 291- 75

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AUTHOR: DFO  
DESCRIPTION: THE STUART SYSTEM. MEMO FROM ROBIN HARRISON'S FILES. 27P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 291- 76

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AUTHOR: OLMSTED, W.R., P.W. DELANEY, T.L. SLANEY AND ET AL  
DESCRIPTION: 1980. CHINOOK SALMON FRY AND SMOLT ENUMERATION/MARKING PROJECT MECHAKO AND QUESNEL HORSEFLY RIVERS, B.C. PREPARED FOR DFO BY EVS CONSULTANTS LTD. AND F.F. SLANEY COMPANY LTD. 126P.  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: CH CHINOOK FS FISH SAMPLING PS POPULATION SAMPLING  
R REARING

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REFERENCE NO: 291- 77

AUTHOR: OLMSTED, W.R., M. WHELEN AND G.A. VIGERS  
DESCRIPTION: 1980. 1979 INVESTIGATIONS OF FALL SPAWNING CHINOOK SALMON NECHAKO AND QUESNEL HORSEFLY RIVERS, B.C. PREPARED FOR DFO BY EVS CONSULTANTS LTD. 86P.  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: CH CHINOOK FS FISH SAMPLING PS POPULATION SAMPLING  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 78

AUTHOR: MOE  
DESCRIPTION: 1984. STELLAKO RIVER CREEL SURVEY, B. C. FISH AND WILDLIFE, PRINCE GEORGE. UNPUBLISHED REPORT.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: RB RAINBOW TROUT WU WATER USE

REFERENCE NO: 291- 79

AUTHOR: MOE  
DESCRIPTION: 1985. STELLAKO RIVER CREEL SURVEY, B. C. FISH AND WILDLIFE, PRINCE GEORGE. UNPUBLISHED REPORT.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: RB RAINBOW TROUT WU WATER USE

REFERENCE NO: 291- 81

AUTHOR: REID, CROWTHER & PARTNERS LTD.  
DESCRIPTION: 1978. ENVIRONMENTAL STUDIES FOR THE MCGREGOR DIVERSION PROJECT (VOLUME 1). PREPARED FOR B.C. HYDRO AND POWER AUTHORITY.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FL FLOW PS POPULATION SAMPLING  
PY PHYSICAL HABITAT RB RAINBOW TROUT WQ WATER QUALITY  
WU WATER USE

REFERENCE NO: 291- 82

AUTHOR: ENVIROCOM LIMITED  
DESCRIPTION: 1984. ENVIRONMENTAL STUDIES ASSOCIATED WITH THE PROPOSED KEMANO COMPLETION HYDROELECTRIC DEVELOPMENT. PREPARED FOR ALUMINUM COMPANY OF CANADA.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING PY PHYSICAL HABITAT  
R REARING S SPAWNING

REFERENCE NO: 291- 83

AUTHOR: MOE  
DESCRIPTION: R.A.B. HABITAT INVENTORY MAPS; DETAILED ANNOTATED MAPS- REGIONAL MOE OFFICE COPIES AND MASTER IN VICTORIA.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: AO ALL SALMON OB OBSTRUCTIONS PS POPULATION SAMPLING  
PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 291- 85

AUTHOR: NATIONAL TOPOGRAPHIC SYSTEM MAPS  
DESCRIPTION: 1972-1974 SURVEYS AND MAPPING BRANCH DEPT. OF ENERGY, MINES AND RESOURCES. 1:50,000  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DA DAMS FO FORESTRY LD LINEAR DEVELOPMENT  
PR PARKS RE RESERVES

REFERENCE NO: 291- 86

AUTHOR: RESOURCE ANALYSIS BRANCH RAB  
DESCRIPTION: 1975 SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES. 1:50,000.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: AR AGRICULTURE LD LINEAR DEVELOPMENT PK PINK  
RE RESERVES UD URBAN DEVELOPMENT

REFERENCE NO: 291- 87

AUTHOR: HUBER, BARRY A.  
DESCRIPTION: 1986. FISHERIES OFFICER, DFO, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: AR AGRICULTURE CH CHINOOK DV DOLLY VARDEN CHAR  
EM ENHANCEMENT FL FLOW HS HABITAT SAMPLING  
M MIGRATION OB OBSTRUCTIONS PS POPULATION SAMPLING  
R REARING RB RAINBOW TROUT S SPAWNING  
SK SOCKEYE WQ WATER QUALITY WM WATER WITHDRAWAL

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REFERENCE NO: 291- 88

AUTHOR: DIONNE, ARMAND C.  
DESCRIPTION: 1986. FISHERIES PATROLMAN FOR FORT ST. JAMES, PRINCE GEORGE SUBDISTRICT, DFO. STREAM FILES AND PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: AF ALL SPECIES CH CHINOOK DV DOLLY VARDEN CHAR  
EN ENHANCEMENT FL FLOW FO FORESTRY  
FS FISH SAMPLING HS HABITAT SAMPLING KO KOKANEE  
LU LAND USE M MIGRATION MI MINING  
OB OBSTRUCTIONS PS POPULATION SAMPLING RB RAINBOW TROUT  
S SPAWNING SK SOCKEYE TE TEMPERATURE  
UD URBAN DEVELOPMENT WQ WATER QUALITY

REFERENCE NO: 291- 89

AUTHOR: ELSON, RICHARD R.  
DESCRIPTION: 1986. FISHERY OFFICER, DFO, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR RB RAINBOW TROUT  
SK SOCKEYE

REFERENCE NO: 291- 90

AUTHOR: LAROCQUE, LEO A.  
DESCRIPTION: 1986 PATROLMAN FOR FORT FRASER, PRINCE GEORGE SUBDISTRICT, DFO. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: CH CHINOOK DA DAMS EN ENHANCEMENT  
FL FLOW FO FORESTRY FS FISH SAMPLING  
HS HABITAT SAMPLING LD LINEAR DEVELOPMENT LU LAND USE  
M MIGRATION OB OBSTRUCTIONS RE RESERVES  
S SPAWNING SK SOCKEYE

REFERENCE NO: 291- 91

AUTHOR: STEVENSON, DAVID G.  
DESCRIPTION: 1986. HABITAT MANAGEMENT TECHNICIAN, MOE, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR EN ENHANCEMENT  
FO FORESTRY LD LINEAR DEVELOPMENT MI MINING  
OB OBSTRUCTIONS PY PHYSICAL HABITAT R REARING  
RB RAINBOW TROUT S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 92

AUTHOR: ABLESON, DENNIS H.G.  
DESCRIPTION: 1986. REGIONAL FISHERIES BIOLOGIST, MOE, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: DV DOLLY VARDEN CHAR FO FORESTRY LD LINEAR DEVELOPMENT  
LU LAND USE PY PHYSICAL HABITAT R REARING  
RB RAINBOW TROUT SE SUBSTRATE WQ WATER QUALITY

REFERENCE NO: 291- 93

AUTHOR: KING, DAVID  
DESCRIPTION: 1986. REGIONAL HABITAT BIOLOGIST, MOE, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: AF ALL SPECIES DV DOLLY VARDEN CHAR FL FLOW  
FO FORESTRY HS HABITAT SAMPLING KO KOKANEE  
LD LINEAR DEVELOPMENT MI MINING OB OBSTRUCTIONS  
PS POPULATION SAMPLING RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 291- 94

AUTHOR: LAUZIER, RAY  
DESCRIPTION: 1986. RIVER HABITAT BIOLOGIST, SALMON HABITAT SECTION, SCIENCE BRANCH, DFO. WEST VANCOUVER. PERSONAL COMMUNICATION.  
LOCATION: K DFO - WEST VANCOUVER LABORATORY  
KEYWORDS: AO ALL SALMON DV DOLLY VARDEN CHAR EN ENHANCEMENT  
LU LAND USE M MIGRATION OB OBSTRUCTIONS  
RB RAINBOW TROUT S SPAWNING TE TEMPERATURE  
WJ WATER USE

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REFERENCE NO: 291- 95

AUTHOR: BROCKWELL, ORVILLE  
DESCRIPTION: 1986 DFO, OPERATIONS UNIT, FRASER RIVER DIVISION, PERSONAL COMMUNICATION.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FL FLOW FS FISH SAMPLING  
HS HABITAT SAMPLING OB OBSTRUCTIONS S SPAWNING  
SK SOCKEYE

REFERENCE NO: 291- 96

AUTHOR: CADDEN, D.  
DESCRIPTION: 1987. ADULT CHINOOK SALMON STUDIES IN TWO UPPER FRASER RIVER TRIBUTARIES AND ADULT SOCKEYE SALMON STUDIES IN THE TAKLA LAKE AND MIDDLE RIVER SYSTEMS, 1986. CARRIER SEKANI TRIBAL COUNCIL, PRINCE GEORGE.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
S SPAWNING SK SOCKEYE

REFERENCE NO: 291- 97

AUTHOR: DFO. WATER USE UNIT.  
DESCRIPTION: 1986. A REVIEW OF FISHERIES INFORMATION RELATED TO PROPOSED HYDROELECTRIC DEVELOPMENTS ON THE MCGREGOR RIVER. HABITAT MANAGEMENT DIVISION, DEPT. OF FISH. AND OCEANS. VANCOUVER.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CH CHUM DA DAMS  
I INCUBATION OB OBSTRUCTIONS R REARING  
S SPAWNING TE TEMPERATURE WJ WATER USE

REFERENCE NO: 291- 98

AUTHOR: PEDOLOGY CONSULTANTS  
DESCRIPTION: 1989. NORTHWOOD PULP AND TIMBER SOIL SURVEY.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: HS HABITAT SAMPLING PY PHYSICAL HABITAT SE SUBSTRATE

REFERENCE NO: 291- 99

AUTHOR: BUSTARD, D.  
DESCRIPTION: 1988. FRANCOIS LAKE TRIBUTARY ASSESSMENT FOR RAINBOW TROUT. PREPARED FOR B. C. FISH AND WILDLIFE BRANCH.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: FS FISH SAMPLING M MIGRATION RB RAINBOW TROUT  
S SPAWNING

REFERENCE NO: 291-100

AUTHOR: KENT, R.  
DESCRIPTION: 1989. ASSISTANT CHIEF OF OPERATIONS, MANAGEMENT OPERATIONS, FRASER RIVER; NORTHERN B. C. AND YUKON DIVISION, NEW WESTMINSTER. STREAM FILES AND PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS:

REFERENCE NO: 291-101

AUTHOR: HARDER, P.A. AND ASSOCIATES LTD.  
DESCRIPTION: 1989. AN OVERVIEW OF FISH RESOURCES IN THE STUART/TAKLA WATERSHED AND ASSESSMENT OF POTENTIAL RESOURCE USE CONFLICTS. PREPARED FOR THE DEPT. OF FISHERIES AND OCEANS HABITAT MANAGEMENT UNIT, NEW WESTMINSTER.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT HS HABITAT SAMPLING  
LD LINEAR DEVELOPMENT SK SOCKEYE TE TEMPERATURE

REFERENCE NO: 291-102

AUTHOR: DFO. SEP ENHANCEMENT OPERATIONS.  
DESCRIPTION: 1989. HATCHERY RELEASES. COMMUNITY ECONOMIC DEVELOPMENT PROGRAM, (CEDP) AND PUBLIC INVOLVEMENT PROGRAM (PIP). SPD INFORMATION MANAGEMENT SYSTEM. BIO PROGRAM UNIT. (COMPUTER DATABASE).  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: EN ENHANCEMENT

REFERENCE NO: 291-103

AUTHOR: ELSON, M.S., J.D. PUGH, AND M. GRAVES  
DESCRIPTION: 1986. A REVIEW OF INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION BIORECONNAISSANCE DATA, WITH REFERENCE TO PROPOSED FRASER RIVER SYSTEM SOCKEYE AND PINK SALMON ENHANCEMENT PROJECTS. PREP FOR SEP, NEW PROJECTS UNIT, BY NORTHERN NATURAL RESOURCE SERV  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT I INCUBATION M MIGRATION  
PK PINK PY PHYSICAL HABITAT SK SOCKEYE  
TE TEMPERATURE WQ WATER QUALITY

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REFERENCE NO: 29I-104

AUTHOR: BEREZAY, G., C.W. MACKINNON AND A.Y. FEDORENKO  
DESCRIPTION: 1988. PENNY CHINOOK PILOT HATCHERY OPERATIONAL HISTORY, 1980-1983. DFO, RESOURCE ENHANCEMENT BRANCH.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT

REFERENCE NO: 29I-105

AUTHOR: MURRAY, P.R., S.R. HAMILTON AND G.O. STEWART  
DESCRIPTION: 1981. STUDIES ON JUVENILE CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) IN BOWRON AND WILLOW RIVERS, B.C. DURING 1980. PREPARED BY ENVIROCON LIMITED FOR THE DEPT. OF FISHERIES AND OCEANS.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
PY PHYSICAL HABITAT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 29I-106

AUTHOR: RICE, C.W., K.H. WILSON, AND L.W. KALNIN  
DESCRIPTION: 1986. SPAWNING ESCAPEMENT OF CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) TO SELECTED FRASER RIVER KEY STREAMS IN 1984 AND 1985. CAN. MS. FISH. AQUAT. SCI. (DRAFT REPORT).  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 29I-107

AUTHOR: GOSSELIN, C.R., M.D. SHUBERT AND L.W. KALNIN  
DESCRIPTION: 1987. SPAWNING ESCAPEMENT OF CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) TO HARRISON AND BOWRON RIVERS IN 1986. CAN. MS. FISH. AQUAT. SCI. (DRAFT REPORT).  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
PS POPULATION SAMPLING S SPAWNING

REFERENCE NO: 29I-108

AUTHOR: BLACHUT, S.P. AND FAULKNER, G.D.  
DESCRIPTION: 1988. NECHAKO RIVER PHYSICAL DATA SUMMARY. DEPARTMENT OF FISHERIES AND OCEANS, (IN PRESS), VANCOUVER.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: FL FLOW PY PHYSICAL HABITAT TE TEMPERATURE  
WQ WATER QUALITY

REFERENCE NO: 29I-109

AUTHOR: BLACHUT, S.P.  
DESCRIPTION: 1988. THE WINTER HYDROLOGIC REGIME OF THE NECHAKO RIVER, B.C. CAN. MS. REP. FISH. AQUAT. SCI. 1964: 145 P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: FL FLOW PY PHYSICAL HABITAT TE TEMPERATURE  
WQ WATER QUALITY WW WATER WITHDRAWAL

REFERENCE NO: 29I-110

AUTHOR: JAREMOVIC, L. AND D. ROWLAND  
DESCRIPTION: 1988. REVIEW OF CHINOOK SALMON ESCAPEMENTS IN THE NECHAKO RIVER, B.C. CAN. MS. REP. FISH. AQUAT. SCI. 1963: 135 P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK DA DAMS FL FLOW  
FS FISH SAMPLING PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 29I-111

AUTHOR: DFO.  
DESCRIPTION: 1987. NECHAKO RIVER PROJECT. STUDY OF JUVENILE CHINOOK SALMON IN THE NECHAKO RIVER, B.C. IN 1985 AND 1986. CAN. MS. REP. FISH. AQUAT. SCI. 1954: 152 P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK DA DAMS FS FISH SAMPLING  
PY PHYSICAL HABITAT SE SUBSTRATE TE TEMPERATURE  
WW WATER WITHDRAWAL

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REFERENCE NO: 29I-112

AUTHOR: DFO.  
DESCRIPTION: 1988. NECHAKO FISHERIES CONSERVATION PROGRAM. ANNUAL REPORT (SEPT. 14, 1987 - MARCH 31, 1988). GOVERNMENT OF CANADA, ALCAN AND THE PROVINCE OF BRITISH COLUMBIA.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING I INCUBATION  
PS POPULATION SAMPLING TE TEMPERATURE

REFERENCE NO: 29I-113

AUTHOR: DEPT. FISH. OF CAN., FISH. RES. BRD. CAN. AND IPSFC  
DESCRIPTION: 1951. REPORT ON THE FISHERIES PROBLEMS CREATED BY THE DEVELOPMENT OF POWER IN THE NECHAKO-KEMANO-NANIKA RIVER SYSTEMS.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: DA DAMS OB OBSTRUCTIONS TE TEMPERATURE  
WQ WATER QUALITY WU WATER USE WM WATER WITHDRAWAL

REFERENCE NO: 29I-114

AUTHOR: DEPT. FISHERIES OF CANADA AND THE IPSFC  
DESCRIPTION: 1952. TEMPERATURE CHANGES IN THE NECHAKO R. AND THEIR EFFECTS ON THE SALMON POPULATIONS. SUPPLEMENT NO. 1. REPORT ON THE FISHERIES PROBLEMS CREATED BY THE DEVELOPMENT OF POWER IN THE NECHAKO-KEMANO-NANIKA RIVER SYSTEMS.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK DA DAMS TE TEMPERATURE  
WM WATER WITHDRAWAL

REFERENCE NO: 29I-115

AUTHOR: ROSBERG, G.E., K.J. SCOTT AND R. RITHALER.  
DESCRIPTION: 1986. REVIEW OF THE INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION'S SOCKEYE AND PINK SALMON ENHANCEMENT FACILITIES ON THE FRASER RIVER. PREPARED FOR SALMONID ENHANCEMENT PROGRAM, BIO PROGRAM UNIT, VANCOUVER, 184P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: EN ENHANCEMENT M MIGRATION PK PINK  
PS POPULATION SAMPLING S SPAWNING SK SOCKEYE  
TE TEMPERATURE WQ WATER QUALITY

REFERENCE NO: 29I-116

AUTHOR: SLANEY, T.L.  
DESCRIPTION: 1988. GRAVEL PERMEABILITY AND SOCKEYE INCUBATION SUCCESS IN THE CHILKO, MIDDLE AND TACHIE RIVERS. PREPARED BY AQUATIC RESOURCES LIMITED FOR THE DEPARTMENT OF FISHERIES AND OCEANS, VANCOUVER.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: I INCUBATION NU NUTRIENTS SE SUBSTRATE  
SK SOCKEYE TE TEMPERATURE

REFERENCE NO: 29K- 62

AUTHOR: DFO. SEP.  
DESCRIPTION: 1989. ENHANCEMENT PLANNING INFORMATION CONTROL (EPIC) DATA BASE. RELEASES FROM FRASER RIVER OPERATIONS FACILITIES. BIO PROGRAM UNIT, ENHANCEMENT OPERATIONS. (BROOD SUMMARIES ALSO USED).  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: EN ENHANCEMENT

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1990/10/23

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REFERENCE NO: 291- 10

AUTHOR: ABLESON, D.H.G.  
DESCRIPTION: 1985. FISHERIES MANAGEMENT PLAN UPPER NECHAKO RIVER WATERSHED INCLUDING MURRAY AND CHESLATA LAKES. MOE, FISHERIES BRANCH, PRINCE GEORGE, B.C. 34P. + II.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT LU LAND USE WJ WATER USE

REFERENCE NO: 291- 92

AUTHOR: ABLESON, DENNIS H.G.  
DESCRIPTION: 1986. REGIONAL FISHERIES BIOLOGIST, MOE, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: DV DOLLY VARDEN CHAR FO FORESTRY LD LINEAR DEVELOPMENT  
LU LAND USE PY PHYSICAL HABITAT R REARING  
RB RAINBOW TROUT SE SUBSTRATE WQ WATER QUALITY

REFERENCE NO: 291- 65

AUTHOR: ANDREW, F.J.  
DESCRIPTION: 1976. LETTER TO L. GOODMAN, DFO. RE: MADINA RIVER GRAVEL CLEANING. IPSFC. 1P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: PY PHYSICAL HABITAT

REFERENCE NO: 291- 47

AUTHOR: ANONYMOUS  
DESCRIPTION: SLIM CREEK. MEMO FROM ROBIN HARRISON'S FILES.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK LU LAND USE PY PHYSICAL HABITAT  
R REARING S SPAWNING

REFERENCE NO: 291- 53

AUTHOR: ANONYMOUS  
DESCRIPTION: 1969. THE STELLAKO RIVER LOG DRIVE. 125P + FIGURES.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: HS HABITAT SAMPLING LU LAND USE PS POPULATION SAMPLING  
RB RAINBOW TROUT SK SOCKEYE WQ WATER QUALITY  
WJ WATER USE

REFERENCE NO: 291- 25

AUTHOR: BALL, K., ET AL.  
DESCRIPTION: 1974. STREAM INVENTORY REPORT ON TWO MIDDLE RIVER DRAINAGES: KAZCHEK & NATAZUTLO. B.C. FISH AND WILDLIFE BRANCH, DEPT. OF RECREATION AND CONSERVATION. 38P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT FS FISH SAMPLING  
HS HABITAT SAMPLING LU LAND USE OB OBSTRUCTIONS  
PY PHYSICAL HABITAT RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 26

AUTHOR: BALL, K., ET AL.  
DESCRIPTION: 1974. A STREAM INVENTORY OF PINCHI CREEK. B.C. FISH AND WILDLIFE BRANCH. 8P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE OB OBSTRUCTIONS PY PHYSICAL HABITAT  
WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291-104

AUTHOR: BEREZAY, G., C.N. MACKINNON AND A.Y. FEDORENKO  
DESCRIPTION: 1988. PENNY CHINOOK PILOT HATCHERY OPERATIONAL HISTORY, 1980-1983. DFO, RESOURCE ENHANCEMENT BRANCH.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT

REFERENCE NO: 291- 2

AUTHOR: BERRY, F.C. AND A.L. KAHL  
DESCRIPTION: 1982. CATALOGUE OF SELECTED FRASER AND THOMPSON RIVER TRIBUTARIES IMPORTANT TO CHINOOK AND COHO SALMON AND A PRELIMINARY ASSESSMENT OF THEIR ENHANCEMENT POTENTIAL. MS REP. OF FRASER RIVER, NORTHERN B.C. AND YUKON DIVISION. 227P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CO COHO FS FISH SAMPLING  
HS HABITAT SAMPLING LU LAND USE M MIGRATION  
PS POPULATION SAMPLING R REARING S SPAWNING  
WQ WATER QUALITY WJ WATER USE

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REFERENCE NO: 291-109

AUTHOR: BLACHUT, S.P.  
DESCRIPTION: 1988. THE WINTER HYDROLOGIC REGIME OF THE NECHAKO RIVER, B.C. CAN. MS. REP. FISH. AQUAT. SCI. 1964: 145 P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: FL FLOW PY PHYSICAL HABITAT TE TEMPERATURE  
WQ WATER QUALITY WW WATER WITHDRAWAL

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REFERENCE NO: 291-108

AUTHOR: BLACHUT, S.P. AND FAULKNER, G.D.  
DESCRIPTION: 1988. NECHAKO RIVER PHYSICAL DATA SUMMARY. DEPARTMENT OF FISHERIES AND OCEANS, (IN PRESS), VANCOUVER.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: FL FLOW PY PHYSICAL HABITAT TE TEMPERATURE  
WQ WATER QUALITY

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REFERENCE NO: 291- 95

AUTHOR: BROCKWELL, ORVILLE  
DESCRIPTION: 1986 DFO, OPERATIONS UNIT, FRASER RIVER DIVISION, PERSONAL COMMUNICATION.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EM ENHANCEMENT FL FLOW FS FISH SAMPLING  
HS HABITAT SAMPLING OB OBSTRUCTIONS S SPAWNING  
SK SOCKEYE

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REFERENCE NO: 291- 99

AUTHOR: BUSTARD, D.  
DESCRIPTION: 1988. FRANCOIS LAKE TRIBUTARY ASSESSMENT FOR RAINBOW TROUT. PREPARED FOR B. C. FISH AND WILDLIFE BRANCH.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: FS FISH SAMPLING M MIGRATION RB RAINBOW TROUT  
S SPAWNING

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REFERENCE NO: 291- 96

AUTHOR: CADDEN, D.  
DESCRIPTION: 1987. ADULT CHINOOK SALMON STUDIES IN TWO UPPER FRASER RIVER TRIBUTARIES AND ADULT SOCKEYE SALMON STUDIES IN THE TAKLA LAKE AND MIDDLE RIVER SYSTEMS, 1986. CARRIER SEKANI TRIBAL COUNCIL, PRINCE GEORGE.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
S SPAWNING SK SOCKEYE

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REFERENCE NO: 291- 23

AUTHOR: CAM, C.B., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF THE STREAMS TRIBUTARY TO THE NORTH (MAIN) ARM OF TAKLA LAKE. B.C. FISH AND WILDLIFE BRANCH.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR HS HABITAT SAMPLING PY PHYSICAL HABITAT  
R REARING RB RAINBOW TROUT S SPAWNING  
SK SOCKEYE WQ WATER QUALITY

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REFERENCE NO: 291-114

AUTHOR: DEPT. FISHERIES OF CANADA AND THE IPSFC  
DESCRIPTION: 1952. TEMPERATURE CHANGES IN THE NECHAKO R. AND THEIR EFFECTS ON THE SALMON POPULATIONS. SUPPLEMENT NO. 1. REPORT ON THE FISHERIES PROBLEMS CREATED BY THE DEVELOPMENT OF POWER IN THE NECHAKO-KEMANO-NANIKA RIVER SYSTEMS.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK DA DAMS TE TEMPERATURE  
WW WATER WITHDRAWAL

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REFERENCE NO: 291-113

AUTHOR: DEPT. FISH. OF CAN., FISH. RES. BRD. CAN. AND IPSFC  
DESCRIPTION: 1951. REPORT ON THE FISHERIES PROBLEMS CREATED BY THE DEVELOPMENT OF POWER IN THE NECHAKO-KEMANO-NANIKA RIVER SYSTEMS.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: DA DAMS OB OBSTRUCTIONS TE TEMPERATURE  
WQ WATER QUALITY WW WATER WITHDRAWAL

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REFERENCE NO: 29I- 70

AUTHOR: DFO  
DESCRIPTION: 1970. RE: NITHI RIVER. MEMO IP.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS:

REFERENCE NO: 29I- 71

AUTHOR: DFO  
DESCRIPTION: RE: TORPY RIVER, A REVIEW OF FISHERIES RELATED INFORMATION. MEMO FROM ROBIN HARRISON'S FILES. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK LU LAND USE PY PHYSICAL HABITAT  
S SPAWNING

REFERENCE NO: 29I- 75

AUTHOR: DFO  
DESCRIPTION: THE STUART SYSTEM. MEMO FROM ROBIN HARRISON'S FILES. 27P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 28A- 18

AUTHOR: DFO.  
DESCRIPTION: SALMON ESCAPEMENT DATA SYSTEM (SEDS); PACIFIC BIOLOGICAL STATION; NANAIMO.  
LOCATION: J DFO - PACIFIC BIOLOGICAL STATION - NANAIMO  
KEYWORDS: CH CHINOOK CM CHUM CO COHO  
PK PINK S SPAWNING SK SOCKEYE

REFERENCE NO: 29I- 34

AUTHOR: DFO.  
DESCRIPTION: 1984. TOWARD A FISH HABITAT DECISION ON THE KEMANO COMPLETION PROJECT. A DISCUSSION PAPER. VANCOUVER, B.C. 78P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FL FLOW I INCUBATION  
M MIGRATION PY PHYSICAL HABITAT R REARING  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 29I-111

AUTHOR: DFO.  
DESCRIPTION: 1987. NECHAKO RIVER PROJECT. STUDY OF JUVENILE CHINOOK SALMON IN THE NECHAKO RIVER, B.C. IN 1985 AND 1986. CAN. MS. REP. FISH. AQUAT. SCI. 1954: 152 P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK DA DAMS FS FISH SAMPLING  
PY PHYSICAL HABITAT SE SUBSTRATE TE TEMPERATURE  
WV WATER WITHDRAWAL

REFERENCE NO: 29I-112

AUTHOR: DFO.  
DESCRIPTION: 1988. NECHAKO FISHERIES CONSERVATION PROGRAM. ANNUAL REPORT (SEPT. 14, 1987 - MARCH 31, 1988). GOVERNMENT OF CANADA, ALCAN AND THE PROVINCE OF BRITISH COLUMBIA.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING I INCUBATION  
PS POPULATION SAMPLING TE TEMPERATURE

REFERENCE NO: 29I-102

AUTHOR: DFO. SEP ENHANCEMENT OPERATIONS.  
DESCRIPTION: 1989. HATCHERY RELEASES. COMMUNITY ECONOMIC DEVELOPMENT PROGRAM, (CEDP) AND PUBLIC INVOLVEMENT PROGRAM (PIP). SPD INFORMATION MANAGEMENT SYSTEM. BIO PROGRAM UNIT. (COMPUTER DATABASE).  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: EN ENHANCEMENT

REFERENCE NO: 29K- 62

AUTHOR: DFO. SEP.  
DESCRIPTION: 1989. ENHANCEMENT PLANNING INFORMATION CONTROL (EPIC) DATA BASE. RELEASES FROM FRASER RIVER OPERATIONS FACILITIES. BIO PROGRAM UNIT; ENHANCEMENT OPERATIONS. (BROOD SUMMARIES ALSO USED).  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: EN ENHANCEMENT

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REFERENCE NO: 291- 97

AUTHOR: DFO, WATER USE UNIT.  
DESCRIPTION: 1986. A REVIEW OF FISHERIES INFORMATION RELATED TO PROPOSED HYDROELECTRIC DEVELOPMENTS ON THE MCGREGOR RIVER.  
HABITAT MANAGEMENT DIVISION, DEPT. OF FISH. AND OCEANS, VANCOUVER.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CH CHUM DA DAMS  
I INCUBATION OB OBSTRUCTIONS R REARING  
S SPAWNING TE TEMPERATURE WJ WATER USE

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REFERENCE NO: 291- 88

AUTHOR: DIONNE, ARMAND C.  
DESCRIPTION: 1986. FISHERIES PATROLMAN FOR FORT ST. JAMES, PRINCE GEORGE SUBDISTRICT, DFO, STREAM FILES AND PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: AF ALL SPECIES CH CHINOOK DV DOLLY VARDEN CHAR  
EM ENHANCEMENT FL FLOW FO FORESTRY  
FS FISH SAMPLING HS HABITAT SAMPLING KO KOKAMEE  
LU LAND USE M MIGRATION MI MINING  
OB OBSTRUCTIONS PS POPULATION SAMPLING RB RAINBOW TROUT  
S SPAWNING SK SOCKEYE TE TEMPERATURE  
UD URBAN DEVELOPMENT WQ WATER QUALITY

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REFERENCE NO: 291-103

AUTHOR: ELSON, W.S., J.D. PUGH, AND M. GRAVES  
DESCRIPTION: 1986. A REVIEW OF INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION BIORECONNAISSANCE DATA, WITH REFERENCE TO PROPOSED FRASER RIVER SYSTEM SOCKEYE AND PINK SALMON ENHANCEMENT PROJECTS. PREP FOR SEP, NEW PROJECTS UNIT, BY NORTHERN NATURAL RESOURCE SERV  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EM ENHANCEMENT I INCUBATION M MIGRATION  
PK PINK PY PHYSICAL HABITAT SK SOCKEYE  
TE TEMPERATURE WQ WATER QUALITY

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REFERENCE NO: 291- 89

AUTHOR: ELSON, RICHARD R.  
DESCRIPTION: 1986. FISHERY OFFICER, DFO, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR RB RAINBOW TROUT  
SK SOCKEYE

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REFERENCE NO: 291- 82

AUTHOR: ENVIROCON LIMITED  
DESCRIPTION: 1984. ENVIRONMENTAL STUDIES ASSOCIATED WITH THE PROPOSED KEMANO COMPLETION HYDROELECTRIC DEVELOPMENT. PREPARED FOR ALUMINUM COMPANY OF CANADA.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING PY PHYSICAL HABITAT  
R REARING S SPAWNING

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REFERENCE NO: 291- 52

AUTHOR: ENVIRONMENT CANADA  
DESCRIPTION: 1974. AN ASSESSMENT OF THE EFFECTS OF THE SYSTEM E FLOOD CONTROL PROPOSAL ON THE SALMON RESOURCE OF THE FRASER RIVER SYSTEM. PREP. FOR ECOLOGY SUBCOMM. OF THE FRASER RIVER UPSTREAM STORAGE STEERING COMMITTEE BY FISH. & MARINE SERVICE, VANCOUVER.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CH CHUM CO COHO  
LU LAND USE PK PINK SK SOCKEYE  
WJ WATER USE

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REFERENCE NO: 291- 1

AUTHOR: FARWELL, M.K., N.D. SCHUBERT, ET AL.  
DESCRIPTION: SALMON ESCAPEMENTS TO STREAMS ENTERING STATISTICAL AREAS 28 AND 29, 1951 TO 1985. CAN. DATA REP. FISH. AQUAT. SCI. 601: 166 P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CH CHUM CO COHO  
PK PINK S SPAWNING SK SOCKEYE

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REFERENCE NO: 29I- 68

AUTHOR: FINGER, U.  
DESCRIPTION: 1985. MEMO TO D. BERG. RE: NARROWS CREEK. MOE, PRINCE GEORGE. 1P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS:

REFERENCE NO: 29I- 19

AUTHOR: FISHERIES AND MARINE SERVICE  
DESCRIPTION: 1979. CHINOOK SALMON STUDIES ON THE MECHAKO RIVER RELATIVE TO THE PROPOSED KEMANO II POWER DEVELOPMENT. VOL. 3, 50P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING M MIGRATION  
PS POPULATION SAMPLING PY PHYSICAL HABITAT S SPAWNING  
WQ WATER QUALITY

REFERENCE NO: 29I- 17

AUTHOR: FISHERIES AND MARINE SERVICE AND IPSFC  
DESCRIPTION: 1979. SUMMARY OF SALMON STUDIES CONDUCTED ON MECHAKO, MORICE AND NANIKA RIVER SYSTEMS RELATIVE TO THE PROPOSED KEMANO II POWER DEVELOPMENT. VOL. I, 78P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING HS HABITAT SAMPLING  
M MIGRATION PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 29I-107

AUTHOR: GOSSELIN, C.R., N.D. SHUBERT AND L.W. KALNIN  
DESCRIPTION: 1987. SPAWNING ESCAPEMENT OF CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) TO HARRISON AND BOWRON RIVERS IN 1986. CAN. MS. FISH. AQUAT. SCI. (DRAFT REPORT).  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
PS POPULATION SAMPLING S SPAWNING

REFERENCE NO: 29I- 27

AUTHOR: GUNVILLE, G.F. ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF STREAMS TRIBUTARY TO TREMBLEUR LAKE. B.C. FISH AND WILDLIFE BRANCH. 31P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK QV DOLLY VARDEN CHAR EN ENHANCEMENT  
FS FISH SAMPLING HS HABITAT SAMPLING PY PHYSICAL HABITAT  
RB RAINBOW TROUT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 29I- 20

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF THE MAINSTEM SALMON RIVER. B.C. FISH AND WILDLIFE BRANCH. 73P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR FS FISH SAMPLING  
HS HABITAT SAMPLING KO KOKANEE PY PHYSICAL HABITAT  
RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 29I- 28

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1977. AN INVENTORY OF TEZZERON LAKE TRIBUTARIES AND OUTLET. B.C. FISH AND WILDLIFE BRANCH. 86P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT FS FISH SAMPLING  
HS HABITAT SAMPLING LU LAND USE OB OBSTRUCTIONS  
PY PHYSICAL HABITAT SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 29I- 29

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF THE DRIFTWOOD RIVER AND ITS TRIBUTARIES. B.C. FISH AND WILDLIFE BRANCH. 48P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE PY PHYSICAL HABITAT RB RAINBOW TROUT  
SK SOCKEYE WQ WATER QUALITY WU WATER USE

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REFERENCE NO: 291- 31

AUTHOR: GUNVILLE, G.F., ET AL.  
DESCRIPTION: 1976. AN INVENTORY OF STREAMS TRIBUTARY TO THE NORTH-WEST ARM OF TAKLA LAKE. B.C. FISH AND WILDLIFE BRANCH. 111P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: DV DOLLY VARDEN CHAR FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE OB OBSTRUCTIONS PY PHYSICAL HABITAT  
RB RAINBOW TROUT SK SOCKEYE WQ WATER QUALITY  
WU WATER USE

REFERENCE NO: 291-101

AUTHOR: HARDER, P.A. AND ASSOCIATES LTD.  
DESCRIPTION: 1989. AN OVERVIEW OF FISH RESOURCES IN THE STUART/TAKLA WATERSHED AND ASSESSMENT OF POTENTIAL RESOURCE USE CONFLICTS. PREPARED FOR THE DEPT. OF FISHERIES AND OCEANS HABITAT MANAGEMENT UNIT, NEW WESTMINSTER.  
LOCATION: O DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK EN ENHANCEMENT HS HABITAT SAMPLING  
LD LINEAR DEVELOPMENT SK SOCKEYE TE TEMPERATURE

REFERENCE NO: 291- 44

AUTHOR: HARDING, T. AND ERICKSON  
DESCRIPTION: 1989. FINGER - TATUK INVENTORY. ROUGH EMERGENCY DRAFT. FISH AND WILDLIFE BRANCH. UNPUB. REP. 35 P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: EN ENHANCEMENT FL FLOW HS HABITAT SAMPLING  
KD KOKANEE LU LAND USE MW ROCKY MOUNTAIN WHITEFISH  
PY PHYSICAL HABITAT R REARING RB RAINBOW TROUT  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 8

AUTHOR: HELM, R., ET AL.  
DESCRIPTION: 1980. A REVIEW OF THE NECHAKO RIVER WATERSHED. DEPT. OF FISH. AND OCEANS. INTERNAL REPORT. 128P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING LU LAND USE  
M MIGRATION PY PHYSICAL HABITAT R REARING  
S SPAWNING SK SOCKEYE WQ WATER QUALITY  
WU WATER USE

REFERENCE NO: 291- 14

AUTHOR: HICKEY, D.G., AND D.B. LISTER  
DESCRIPTION: 1981. SALMONID ENHANCEMENT BASELINE INVESTIGATIONS AT STUART RIVER, B.C. IN 1980. PART II. PREPARED FOR DEPT. OF FISH. AND OCEANS BY D.B. LISTER & ASSOCIATES LTD. 70P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR FS FISH SAMPLING  
HS HABITAT SAMPLING M MIGRATION PS POPULATION SAMPLING  
PY PHYSICAL HABITAT RB RAINBOW TROUT S SPAWNING  
SK SOCKEYE WQ WATER QUALITY

REFERENCE NO: 291- 64

AUTHOR: HOURSTON, W.R.  
DESCRIPTION: 1966. MEMO TO L.C. GOODMAN, DISTRICT PROTECTION OFFICER RE: LOG DRIVE, MADINA RIVER. DFO. 1P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE WU WATER USE

REFERENCE NO: 291- 87

AUTHOR: HUBER, BARRY A.  
DESCRIPTION: 1986. FISHERIES OFFICER, DFO, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: AR AGRICULTURE CH CHINOOK DV DOLLY VARDEN CHAR  
EN ENHANCEMENT FL FLOW HS HABITAT SAMPLING  
M MIGRATION OB OBSTRUCTIONS PS POPULATION SAMPLING  
R REARING RB RAINBOW TROUT S SPAWNING  
SK SOCKEYE WQ WATER QUALITY WW WATER WITHDRAWAL

REFERENCE NO: 291- 33

AUTHOR: IPSFC  
DESCRIPTION: 1983. POTENTIAL EFFECTS OF THE KEMANO COMPLETION PROJECT ON FRASER RIVER SOCKEYE AND PINK SALMON. SP.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT M MIGRATION PK PINK  
PY PHYSICAL HABITAT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

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REFERENCE NO: 291- 49

AUTHOR: IPSFC  
DESCRIPTION: 1953. A REVIEW OF THE SOCKEYE SALMON PROBLEMS CREATED BY THE ALCAN PROJECT IN THE NECHAKO RIVER WATERSHED. 28P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: M MIGRATION PY PHYSICAL HABITAT SK SOCKEYE  
WQ WATER QUALITY WU WATER USE

REFERENCE NO: 291- 54

AUTHOR: IPSFC  
DESCRIPTION: 1966. EFFECTS OF LOG DRIVING ON THE SALMON AND TROUT POPULATION IN THE STELLAKO RIVER. PROGRESS REPORT NO. 14. PREPARED BY DEPT.OF FISH, IPSFC AND THE FISH AND WILDLIFE BRANCH, B.C. DEPT. OF REC. AND CONS. 88P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CN CONTAMINANTS HS HABITAT SAMPLING KO KOKANEE  
LU LAND USE PY PHYSICAL HABITAT RB RAINBOW TROUT  
S SPAWNING SK SOCKEYE WQ WATER QUALITY  
WU WATER USE

REFERENCE NO: 291- 56

AUTHOR: IPSFC  
DESCRIPTION: 1952. REPORT ON THE FISHERIES PROBLEMS CREATED BY THE DEVELOPMENT OF POWER IN THE NECHAKO-KEMANO-NANIKA RIVER SYSTEMS. SUPPLEMENT NO. 1. TEMPERATURE CHANGES IN THE NECHAKO RIVER AND THEIR EFFECTS ON THE SALMON POPULATIONS. 42P. + XXXIV.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK HS HABITAT SAMPLING I INCUBATION  
M MIGRATION PY PHYSICAL HABITAT R REARING  
S SPAWNING SK SOCKEYE WQ WATER QUALITY  
WU WATER USE

REFERENCE NO: 291- 66

AUTHOR: IPSFC  
DESCRIPTION: 1975. MEMO TO L.C. GOODMAN, DFO. RE: MADINA RIVER GRAVEL CLEANING. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE

REFERENCE NO: 291- 18

AUTHOR: IPSFC.  
DESCRIPTION: 1979. SOCKEYE SALMON STUDIES ON THE NECHAKO RIVER RELATIVE TO THE POTENTIAL KEMANO II POWER DEVELOPMENT. VOL. 2, 99P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: HS HABITAT SAMPLING M MIGRATION PS POPULATION SAMPLING  
PY PHYSICAL HABITAT S SPAWNING SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291-110

AUTHOR: JAREMOVIC, L. AND D. ROWLAND  
DESCRIPTION: 1988. REVIEW OF CHINOOK SALMON ESCAPEMENTS IN THE NECHAKO RIVER, B.C. CAN. MS. REP. FISH. AQUAT. SCI. 1963: 135 P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: CH CHINOOK DA DAMS FL FLOW  
FS FISH SAMPLING PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 291-100

AUTHOR: KENT, R.  
DESCRIPTION: 1989. ASSISTANT CHIEF OF OPERATIONS, MANAGEMENT OPERATIONS, FRASER RIVER, NORTHERN B. C. AND YUKON DIVISION, NEW WESTMINSTER. STREAM FILES AND PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS:

REFERENCE NO: 291- 93

AUTHOR: KING, DAVID  
DESCRIPTION: 1986. REGIONAL HABITAT BIOLOGIST, MOE, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: AF ALL SPECIES DV DOLLY VARDEN CHAR FL FLOW  
FO FORESTRY HS HABITAT SAMPLING KO KOKANEE  
LD LINEAR DEVELOPMENT MI MINING OB OBSTRUCTIONS  
PS POPULATION SAMPLING RB RAINBOW TROUT WQ WATER QUALITY

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REFERENCE NO: 29F- 85

AUTHOR: KOSAKOSKI, G.  
DESCRIPTION: 1990. HABITAT BIOLOGIST, FRASER RIVER, NORTHERN B.C. AND YUKON DIVISION, DFO. KAMLOOPS. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS:

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REFERENCE NO: 29I- 90

AUTHOR: LAROCQUE, LEO A.  
DESCRIPTION: 1986 PATROLMAN FOR FORT FRASER, PRINCE GEORGE SUBDISTRICT, DFO. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: CH CHINOOK DA DAMS EN ENHANCEMENT  
FL FLOW FO FORESTRY FS FISH SAMPLING  
HS HABITAT SAMPLING LD LINEAR DEVELOPMENT LU LAND USE  
M MIGRATION OB OBSTRUCTIONS RE RESERVES  
S SPAWNING SK SOCKEYE

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REFERENCE NO: 29I- 94

AUTHOR: LAUZIER, RAY  
DESCRIPTION: 1986. RIVER HABITAT BIOLOGIST, SALMON HABITAT SECTION, SCIENCE BRANCH, DFO. WEST VANCOUVER. PERSONAL COMMUNICATION.  
LOCATION: K DFO - WEST VANCOUVER LABORATORY  
KEYWORDS: AD ALL SALMON DV DOLLY VARDEN CHAR EN ENHANCEMENT  
LU LAND USE M MIGRATION OB OBSTRUCTIONS  
RB RAINBOW TROUT S SPAWNING TE TEMPERATURE  
WU WATER USE

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REFERENCE NO: 29I- 12

AUTHOR: LISTER, D.B., I. WALLACE AND D.G. HICKEY  
DESCRIPTION: 1981. SALMONID ENHANCEMENT BASELINE INVESTIGATIONS AT STUART RIVER, B.C. PART I. PREPARED FOR DEPT. OF FISH. AND OCEANS BY D.B.LISTER & ASSOCIATES LTD. 65P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR FS FISH SAMPLING  
HS HABITAT SAMPLING M MIGRATION PS POPULATION SAMPLING  
PY PHYSICAL HABITAT R REARING RB RAINBOW TROUT  
SK SOCKEYE WQ WATER QUALITY

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REFERENCE NO: 29H- 46

AUTHOR: MACDONALD, B.  
DESCRIPTION: 1989. HABITAT BIOLOGIST, FRASER RIVER, NORTHERN B. C. AND YUKON DIVISION, DFO. PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS:

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REFERENCE NO: 29I- 3

AUTHOR: MARSHALL, D.E. AND E.I. MANZON.  
DESCRIPTION: 1980. CATALOGUE OF SALMON STREAMS AND SPAWNING ESCAPEMENTS OF PRINCE GEORGE SUBDISTRICT. FISH. MAR. SERV. DATA REPORT 79: 252P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK CO COHO FS FISH SAMPLING  
HS HABITAT SAMPLING LU LAND USE M MIGRATION  
PS POPULATION SAMPLING R REARING S SPAWNING  
WQ WATER QUALITY WU WATER USE

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REFERENCE NO: 29I- 62

AUTHOR: MOE  
DESCRIPTION: 1984. LETTER TO FLOYD MCKEE, FISHERY OFFICER, DFO. RE: WATER LICENCES AND FLOWS ENDAKO RIVER. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: WQ WATER QUALITY WU WATER USE

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REFERENCE NO: 29I- 78

AUTHOR: MOE  
DESCRIPTION: 1984. STELLAKO RIVER CREEL SURVEY. B. C. FISH AND WILDLIFE, PRINCE GEORGE. UNPUBLISHED REPORT.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: RB RAINBOW TROUT WU WATER USE

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REFERENCE NO: 29I- 79

AUTHOR: MOE  
DESCRIPTION: 1985. STELLAKO RIVER CREEL SURVEY. B. C. FISH AND WILDLIFE. PRINCE GEORGE. UNPUBLISHED REPORT.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: RB RAINBOW TROUT WJ WATER USE

REFERENCE NO: 29I- 83

AUTHOR: MOE  
DESCRIPTION: R.A.B. HABITAT INVENTORY MAPS; DETAILED ANNOTATED MAPS- REGIONAL MOE OFFICE COPIES AND MASTER IN VICTORIA.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: AO ALL SALMON OB OBSTRUCTIONS PS POPULATION SAMPLING  
PY PHYSICAL HABITAT S SPANNING

REFERENCE NO: 29I- 5

AUTHOR: MURRAY, P.R., G.O. STEWART AND S.R. HAMILTON  
DESCRIPTION: 1981. STUDIES ON ADULT CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) IN THE BOWRON AND WILLOW RIVERS, AND SLIM CREEK, B.C., DURING 1980. PREPARED BY ENVIROCON LTD. FOR DEPT. OF FISH. AND OCEANS. 66P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPANNING WJ WATER QUALITY

REFERENCE NO: 29I-105

AUTHOR: MURRAY, P.R., S.R. HAMILTON AND G.O. STEWART  
DESCRIPTION: 1981. STUDIES ON JUVENILE CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) IN BOWRON AND WILLOW RIVERS, B.C. DURING 1980. PREPARED BY ENVIROCON LIMITED FOR THE DEPT. OF FISHERIES AND OCEANS.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
PY PHYSICAL HABITAT S SPANNING SK SOCKEYE  
WJ WATER QUALITY

REFERENCE NO: 29I- 72

AUTHOR: MADINA RIVER OBSERVATIONS  
DESCRIPTION: 1975. MEMO 3P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE PY PHYSICAL HABITAT

REFERENCE NO: 29G- 32

AUTHOR: NATIONAL TOPOGRAPHIC SYSTEM MAPS  
DESCRIPTION: 1972-1974 SURVEYS AND MAPPING BRANCH. DEPARTMENT OF ENERGY, MINES AND RESOURCES 1:50,000  
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)  
KEYWORDS: AR AGRICULTURE LD LINEAR DEVELOPMENT PR PARKS  
RE RESERVES UD URBAN DEVELOPMENT

REFERENCE NO: 29I- 85

AUTHOR: NATIONAL TOPOGRAPHIC SYSTEM MAPS  
DESCRIPTION: 1972-1974 SURVEYS AND MAPPING BRANCH DEPT. OF ENERGY, MINES AND RESOURCES. 1:50,000  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DA DAMS FO FORESTRY LD LINEAR DEVELOPMENT  
PR PARKS RE RESERVES

REFERENCE NO: 29E- 58

AUTHOR: NATIONAL TOPOGRAPHIC SYSTEMS MAPS  
DESCRIPTION: 1972-1974. 1:50,000 NTS MAPS. SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LD LINEAR DEVELOPMENT RE RESERVES

REFERENCE NO: 29H- 4

AUTHOR: OLMSTED, W.R., M. WHELEN AND G.A. VIGERS  
DESCRIPTION: 1980. 1979 INVESTIGATIONS OF FALL SPANNING CHINOOK SALMON NECHAKO AND QUESNEL HORSEFLY RIVERS, B.C. PREPARED FOR DFO BY EVS CONSULTANTS LTD. 86P.  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: CH CHINOOK FS FISH SAMPLING PS POPULATION SAMPLING  
S SPANNING WJ WATER QUALITY

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REFERENCE NO: 291- 77  
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AUTHOR: OLMSTED, W.R., M. WHELEN AND G.A. VIGERS  
DESCRIPTION: 1980. 1979 INVESTIGATIONS OF FALL SPawning CHINOOK SALMON NECHAKO AND QUESNEL HORSEFLY RIVERS, B.C. PREPARED FOR DFO BY EVS CONSULTANTS LTD. 86P.  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: CH CHINOOK FS FISH SAMPLING PS POPULATION SAMPLING  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 76  
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AUTHOR: OLMSTED, W.R., P.W. DELANEY, T.L. SLANEY AND ET AL  
DESCRIPTION: 1980. CHINOOK SALMON FRY AND SMOLT ENUMERATION/MARKING PROJECT NECHAKO AND QUESNEL HORSEFLY RIVERS, B.C. PREPARED FOR DFO BY EVS CONSULTANTS LTD. AND F.F. SLANEY COMPANY LTD. 126P.  
LOCATION: C DFO - SALMONID ENHANCEMENT PROGRAM - VANCOUVER  
KEYWORDS: CH CHINOOK FS FISH SAMPLING PS POPULATION SAMPLING  
R REARING

REFERENCE NO: 291- 39  
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AUTHOR: PARKINSON, P.A. SLANEY, AND T.G. HALSEY  
DESCRIPTION: SOME EFFECTS OF FOREST HARVESTING ON A CENTRAL INTERIOR LAKE IN BRITISH COLUMBIA. B.C. FISH AND WILDLIFE BRANCH. FISHERIES MANAGEMENT PUBLICATION NO. 17.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR FO FORESTRY FS FISH SAMPLING  
HS HABITAT SAMPLING KO KOKANEE LU LAND USE  
PY PHYSICAL HABITAT

REFERENCE NO: 291- 98  
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AUTHOR: PEDOLOGY CONSULTANTS  
DESCRIPTION: 1989. NORTHWOOD PULP AND TIMBER SOIL SURVEY.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: HS HABITAT SAMPLING PY PHYSICAL HABITAT SE SUBSTRATE

REFERENCE NO: 291- 42  
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AUTHOR: PINSENT, M.E.  
DESCRIPTION: AN INITIAL INVENTORY OF THE STREAMS IN THE FRANCOIS-FRASER LAKES SYSTEM. B. C. FISH AND WILDLIFE BRANCH, NORTHERN REGION. UNPUBLISHED REPORT. 48P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FL FLOW FS FISH SAMPLING  
HS HABITAT SAMPLING PY PHYSICAL HABITAT RB RAINBOW TROUT  
S SPAWNING WQ WATER QUALITY

REFERENCE NO: 291- 15  
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AUTHOR: PRIMCE, J.  
DESCRIPTION: 1984. BIORECONNAISSANCE OF SOMCHEA CREEK. PREPARED FOR SEP, DEPT. OF FISH. AND OCEANS BY MECOSLIE INDIAN BAND. 16P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: DV DOLLY VARDEN CHAR FS FISH SAMPLING HS HABITAT SAMPLING  
PY PHYSICAL HABITAT RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291- 73  
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AUTHOR: PYPHER J.  
DESCRIPTION: 1976. GRAVEL CLEANING IN MADINA RIVER IN 1976. MEMO 15P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: LU LAND USE WJ WATER USE

REFERENCE NO: 291- 81  
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AUTHOR: REID, CROWTHER & PARTNERS LTD.  
DESCRIPTION: 1978. ENVIRONMENTAL STUDIES FOR THE MCGREGOR DIVERSION PROJECT (VOLUME 1). PREPARED FOR B.C. HYDRO AND POWER AUTHORITY.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FL FLOW PS POPULATION SAMPLING  
PY PHYSICAL HABITAT RB RAINBOW TROUT WQ WATER QUALITY  
WJ WATER USE

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REFERENCE NO: 291- 86

AUTHOR: RESOURCE ANALYSIS BRANCH RAB  
DESCRIPTION: 1975 SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES. 1:50,000.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: AR AGRICULTURE LD LINEAR DEVELOPMENT PK PINK  
RE RESERVES UD URBAN DEVELOPMENT

REFERENCE NO: 291-106

AUTHOR: RICE, C.W., K.H. WILSON, AND L.W. KALNIN  
DESCRIPTION: 1986. SPawning ESCAPEMENT OF CHINOOK SALMON (ONCORHYNCHUS TSHAWYTSCHA) TO SELECTED FRASER RIVER KEY STREAMS IN 1984 AND 1985. CAN. MS. FISH. AQUAT. SCI. (DRAFT REPORT).  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING M MIGRATION  
PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 291- 67

AUTHOR: ROOS, J.F.  
DESCRIPTION: 1982. MEMO TO G. LOGAN, DFO, SALMONID ENHANCEMENT PROGRAM. RE: MADINA RIVER - LOG JAM REMOVAL. IPSFC. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT FO FORESTRY WJ WATER USE

REFERENCE NO: 291- 41

AUTHOR: ROSBERG, G.E.  
DESCRIPTION: 1975. FRANCOIS LAKE WATERSHED STREAM INVENTORY. B. C. FISH AND WILDLIFE BRANCH, PRINCE GEORGE. UNPUBLISHED REPORT. 173P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: EN ENHANCEMENT FL FLOW FS FISH SAMPLING  
HS HABITAT SAMPLING RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291- 4

AUTHOR: ROSBERG, G.E., AND D. AITKEN.  
DESCRIPTION: 1981. ADULT CHINOOK SALMON STUDIES IN FOUR TRIBUTARIES TO THE UPPER FRASER RIVER, 1981. PREPARED FOR DEPT. OF FISH. AND OCEANS BY BEAK CONSULTANTS LTD. 140P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING HS HABITAT SAMPLING  
LU LAND USE PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING WQ WATER QUALITY WJ WATER USE

REFERENCE NO: 291- 6

AUTHOR: ROSBERG, G.E., D. AITKEN AND E. OGUSS  
DESCRIPTION: 1981. JUVENILE CHINOOK SALMON STUDIES IN FOUR TRIBUTARIES TO THE UPPER FRASER RIVER, 1981. PREPARED FOR DEPT. OF FISH. AND OCEANS BY BEAK CONSULTANTS LTD. 158P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING R REARING

REFERENCE NO: 291-115

AUTHOR: ROSBERG, G.E., K.J. SCOTT AND R. RITHALER.  
DESCRIPTION: 1986. REVIEW OF THE INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION'S SOCKEYE AND PINK SALMON ENHANCEMENT FACILITIES ON THE FRASER RIVER. PREPARED FOR SALMONID ENHANCEMENT PROGRAM, BIO PROGRAM UNIT, VANCOUVER, 184P.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: EN ENHANCEMENT M MIGRATION PK PINK  
PS POPULATION SAMPLING S SPAWNING SK SOCKEYE  
TE TEMPERATURE WQ WATER QUALITY

REFERENCE NO: 291- 9

AUTHOR: RUSSELL, L.R., K.R. CONLIN, D.K. JOHANSEN, ET AL.  
DESCRIPTION: 1983. CHINOOK SALMON STUDIES IN THE NECHAKO RIVER 1980, 1981, 1982. CAN. MS. REP. FISH. AND AQUAT. SCI. 1728: 185P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: CH CHINOOK FS FISH SAMPLING I INCUBATION  
M MIGRATION PS POPULATION SAMPLING PY PHYSICAL HABITAT  
S SPAWNING

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REFERENCE NO: 291- 24

AUTHOR: SEBASTIAN, D., ET AL.  
DESCRIPTION: 1974. AN INVENTORY OF STREAMS TRIBUTARY TO SOUTHERN TAKLA LAKE AND MIDDLE RIVER. B.C. FISH AND WILDLIFE BRANCH.  
SSP.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR EN ENHANCEMENT FS FISH SAMPLING  
HS HABITAT SAMPLING KO KOKANEE LU LAND USE  
PY PHYSICAL HABITAT RB RAINBOW TROUT SK SOCKEYE  
WQ WATER QUALITY

REFERENCE NO: 291- 35

AUTHOR: SLANEY, P.A., M.L. ROSENAU, AND ET AL.  
DESCRIPTION: 1984. HABITAT CAPABILITY OF MECHAKO RIVER FOR RAINBOW TROUT AND CHAR AND THE EFFECTS OF VARIOUS FLOW REGIMES.  
FISHERIES TECHNICAL CIRCULAR NO. 63. MOE. 34P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DV DOLLY VARDEN CHAR EN ENHANCEMENT PY PHYSICAL HABITAT  
RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 291-116

AUTHOR: SLANEY, T.L.  
DESCRIPTION: 1988. GRAVEL PERMEABILITY AND SOCKEYE INCUBATION SUCCESS IN THE CHILKO, MIDDLE AND TACHIE RIVERS. PREPARED BY  
AQUATIC RESOURCES LIMITED FOR THE DEPARTMENT OF FISHERIES AND OCEANS, VANCOUVER.  
LOCATION: B DFO - HABITAT MANAGEMENT DIVISION - VANCOUVER  
KEYWORDS: I INCUBATION NU NUTRIENTS SE SUBSTRATE  
SK SOCKEYE TE TEMPERATURE

REFERENCE NO: 291- 43

AUTHOR: SMITH, K. AND G. KINGSON  
DESCRIPTION: 1977. STREAM INVENTORY OF SOME STREAMS WITHIN THE WESTLAKE P.S.Y.U. B.C. FISH AND WILDLIFE BRANCH, PRINCE GEORGE.  
65P.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: CH CHINOOK EN ENHANCEMENT FL FLOW  
FS FISH SAMPLING HS HABITAT SAMPLING PY PHYSICAL HABITAT  
R REARING RB RAINBOW TROUT WQ WATER QUALITY

REFERENCE NO: 291- 91

AUTHOR: STEVENSON, DAVID G.  
DESCRIPTION: 1986. HABITAT MANAGEMENT TECHNICIAN, MOE, PRINCE GEORGE. PERSONAL COMMUNICATION.  
LOCATION: W MOE - REGION 5 - PRINCE GEORGE  
KEYWORDS: CH CHINOOK DV DOLLY VARDEN CHAR EN ENHANCEMENT  
FO FORESTRY LD LINEAR DEVELOPMENT MI MINING  
OB OBSTRUCTIONS PY PHYSICAL HABITAT R REARING  
RB RAINBOW TROUT S SPawning WQ WATER QUALITY

REFERENCE NO: 291- 69

AUTHOR: SWIFT, D.  
DESCRIPTION: 1983. MEMO TO G. LOGAN, SEP. RE: NITHI RIVER STREAM CLEARANCE. MOE. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: EN ENHANCEMENT

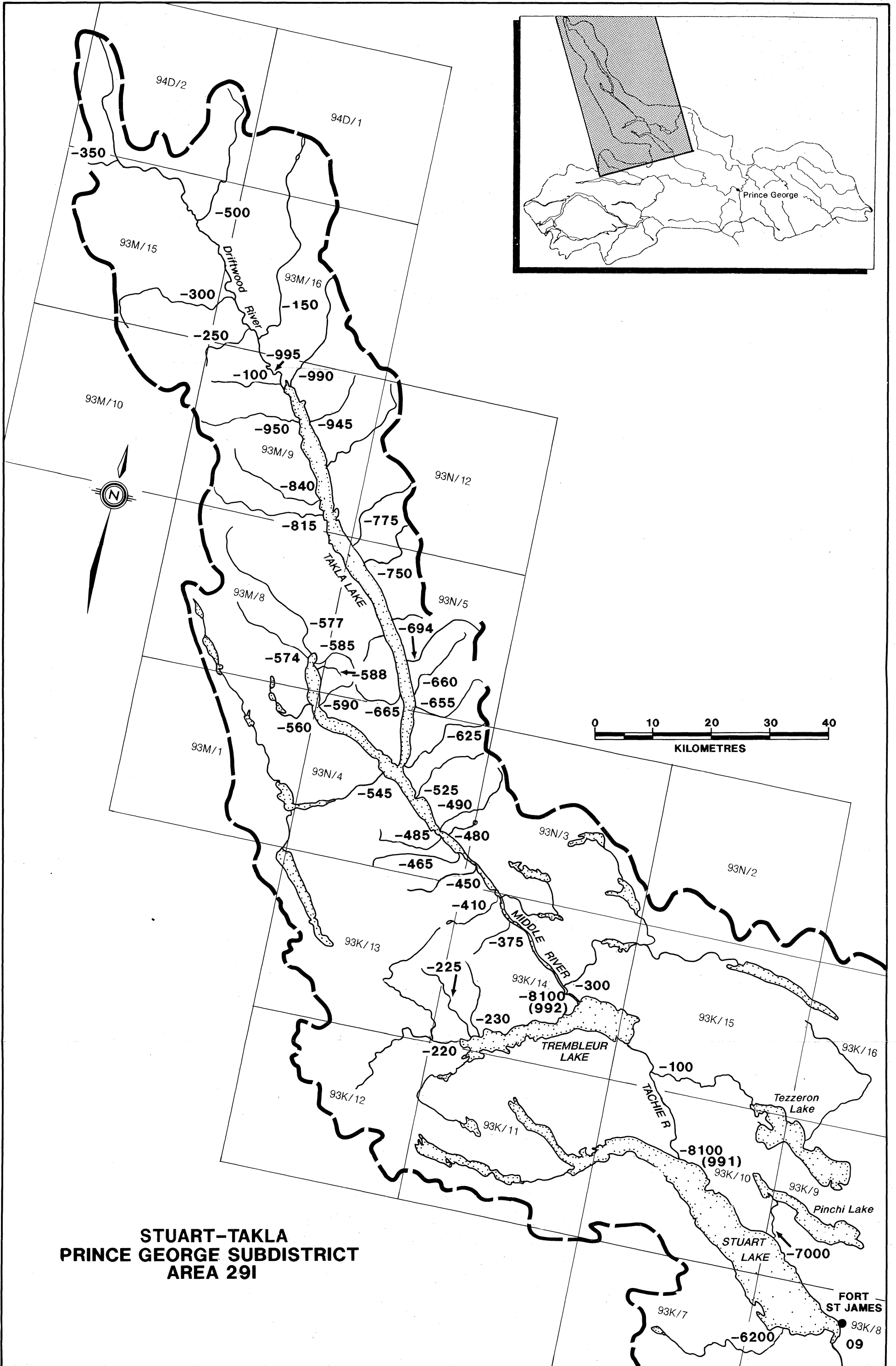
REFERENCE NO: 291- 63

AUTHOR: TUTTY, B.D.  
DESCRIPTION: 1977. MEMO TO R.A. ROBERTSON, HYDRO PROJECTS WATER USE DIVISION. RE: MCGREGOR RIVER DIVERSION. 2P.  
LOCATION: D DFO - FRASER R., NORTHERN B.C. & YUKON DIVISION - NEW WEST  
KEYWORDS: DA DAMS FL FLOW PY PHYSICAL HABITAT

5.0 MAPS

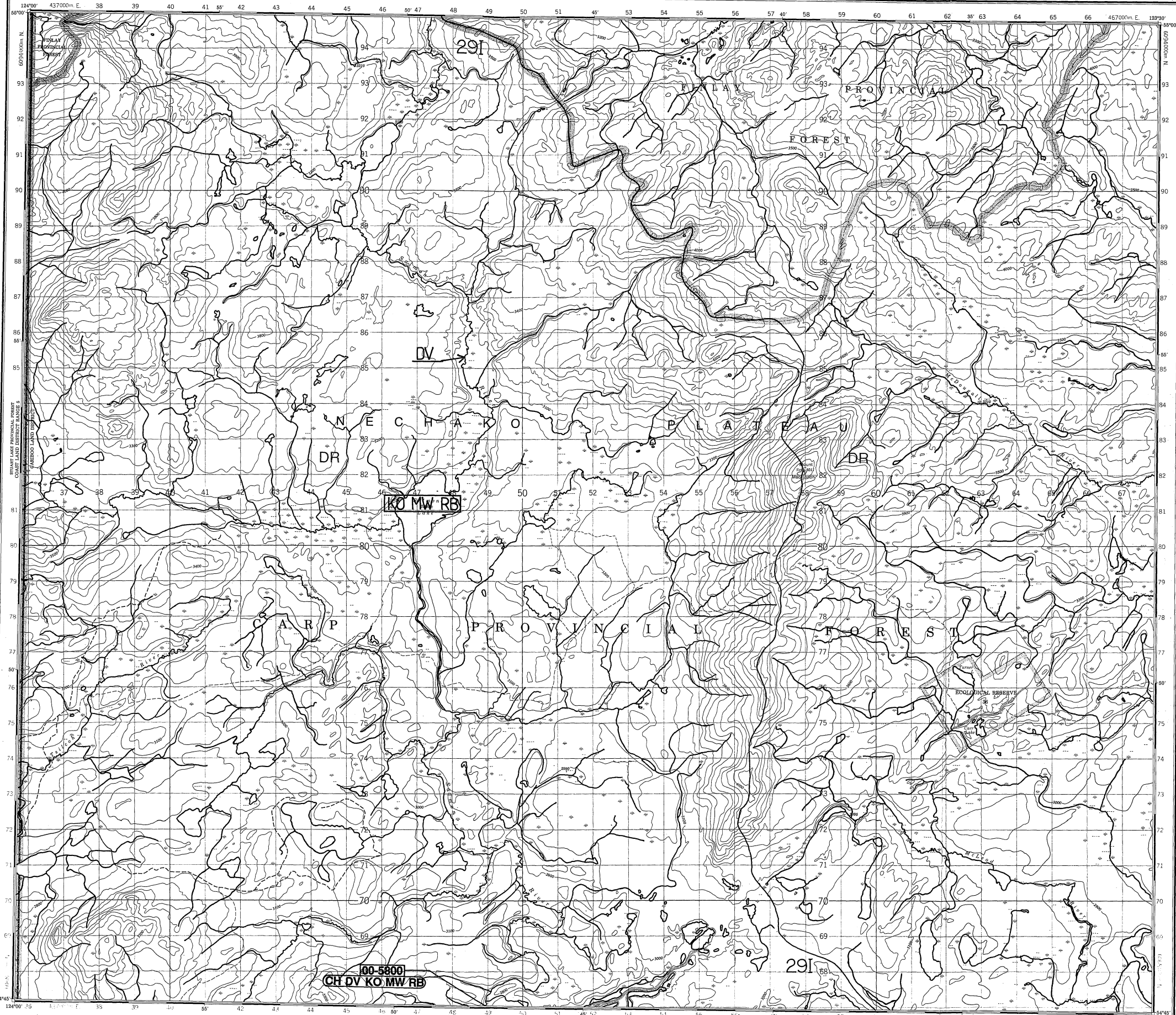
This section contains the following Stream Summary Maps:

93J/13	SALMON LAKE
93K/02	FRASER LAKE
93K/09	PINCHI LAKE
93K/10	STUART LAKE
93K/14	TREMBLEUR LAKE
93K/15	INZANA LAKE
93M/01	OLD FORT MOUNTAIN
93M/08	NAKINILERAK LAKE
93M/09	BULKLEY HOUSE
93M/15	KOTSINE RIVER
93M/16	LION CREEK
93N/03	TAKATOOT LAKE
93N/04	SAKENICHE RIVER
93N/05	TAKLA LANDING
93N/12	HUMPHREY LAKE



**STUART-TAKLA  
PRINCE GEORGE SUBDISTRICT  
AREA 291**

**FORT  
ST JAMES  
09**



Military users, refer to this map as MAP 93 J/13 CANIE  
 Références de cette carte pour usage militaire: ÉDITION 2 MCE ÉDITION

**GLOSSARY GLOSSAIRE**

Arrière	Terrain d'aval
Arête	Crête
Chemin	Voie de terre
Contour	Contour
Ditch	Fossé
Drainage	Drainage
Dune	Dune
Fertilizer Plant	Usine de fabrication d'engrais
Gate	Porte
Gravel	Terrain de galets
Gravel Pit	Puits de gravier
Kiosk	Éclairage
Levee	Digues
Miner Waste	Déchets de mine
Oil Well	Puits de pétrole
Park	Parc
Road	Route
Service Station	Station-service
Shed	Hangar
Shoreline	Ligne côtière
Stream	Cours d'eau
Tank	Réservoir
Water	Eau
Water Road	Chemin d'eau

**ABBREVIATIONS ABBRÉVIATIONS**

Abundant	Abondant
C	Contour
CO	Coho
CT	Cutthroat
CV	Culvert
DB	Dolly Varden
DR	Dolly Varden
FW	Fishway
HY	Hatchery
LT	Lake trout
LW	Lake whitefish
MW	Mountain whitefish
RB	Rainbow
ST	Steelhead
TR	Trout (general)

**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY**

**91-2900 CO CM ST Watershed Code and Species Summary**

**SPECIES INFORMATION**

SK CO PK CM CH species present  
 CO ST lower limit of distribution  
 CO ST upper limit of distribution  
 PK \* specific site of spawning

SK \* major spawning zone  
 CO \*  
 CM \* upper limit of spawning

**OBSTRUCTIONS (measurements included where known)**

log jam (persistent)  
 D = dam  
 F = falls (3m high)  
 CV = culvert  
 BD = beaver dam  
 2C100 cascade, chute or canyon (height = 2m, length = 100m)

**ENHANCEMENT / MANAGEMENT ACTIVITIES**

HY = hatchery  
 FW = fishway  
 SC = side channel  
 CH = spawning channel

W5C08FB003 Water Survey of Canada Gauging Station  
 300 CO tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Dolly Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.

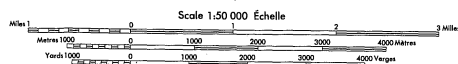
**MARCH 1988**

TABLEAU D'INFORMATION DES RIVIÈRES NATIONALES DE RÉFÉRENCE CARTOGRAPHIQUES

93 J/13	93 J/13	93 J/13
93 J/13	93 J/13	93 J/13
93 J/13	93 J/13	93 J/13

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**SALMON LAKE BRITISH COLUMBIA**

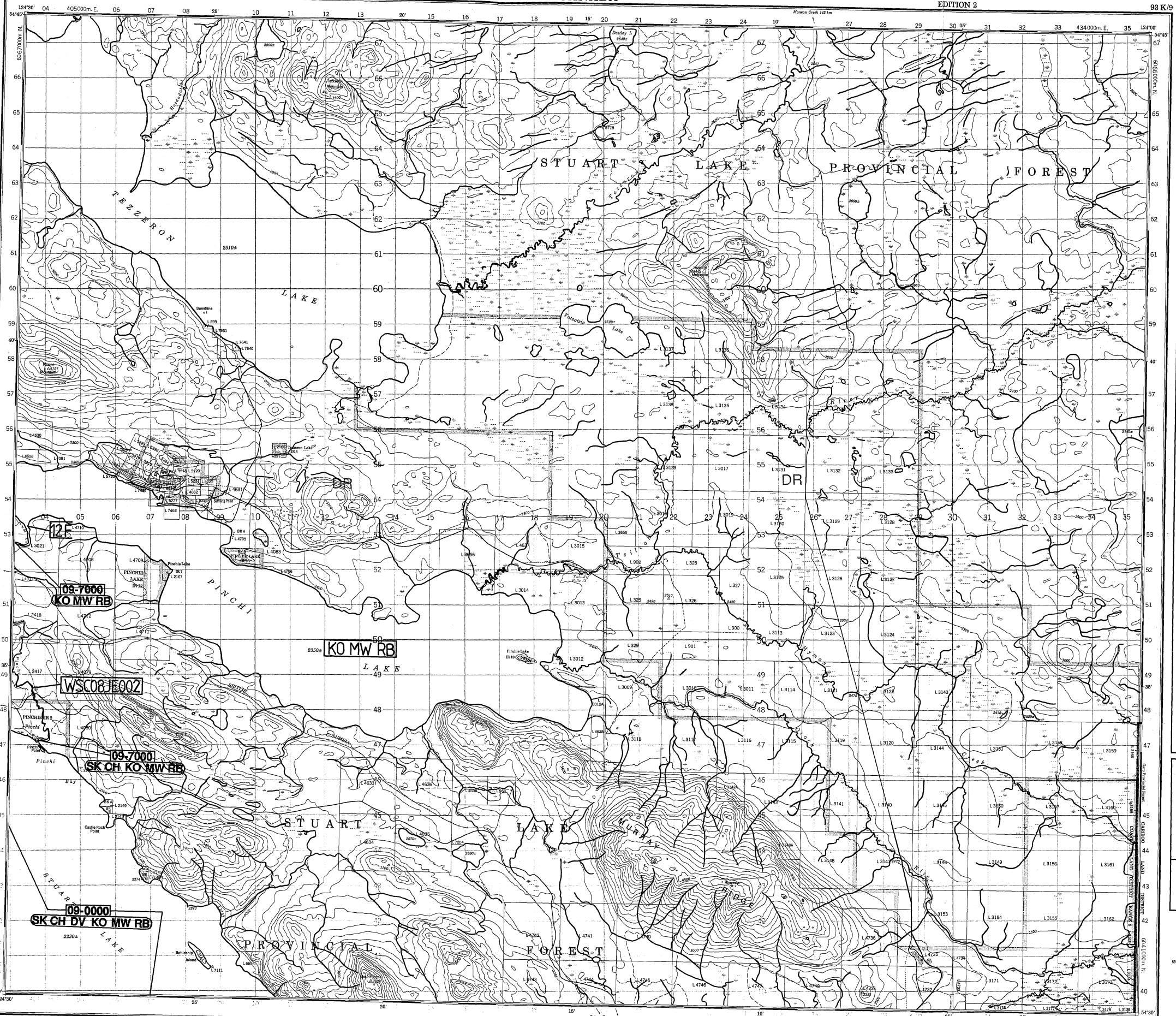


**CONVERSION SCALE FOR ELEVATIONS**

Feet	0	100	200	300	400	500	600	700	800	900	1000
Meters	0	30	60	90	120	150	180	210	240	270	300

Échelle de conversion des élévations  
 Élévation en pieds au-dessus du niveau moyen de la mer  
 Élévation en mètres au-dessus du niveau moyen de la mer





Military users:  
refer to this map as:  
Référence de cette carte:  
pour usage militaire:

SERIES A 721 SÉRIE  
MAP 93 K/9 CARTE  
ENTON 2 MCE Edition

COMMISSION SCIENTIFIQUE INTERNATIONALE  
DE LA GRANDE MERLUCIE  
INTERNATIONAL SCIENTIFIC COMMISSION  
FOR THE GREAT ATLANTIC  
COD

**DFO/MOEP FISH HABITAT INVENTORY  
AND INFORMATION PROGRAM  
STREAM INFORMATION SUMMARY**

**91-2900 Watershed Code and  
CO CM ST Species Summary**

**SPECIES INFORMATION**

SK CO PK CM CH  
species present

CO ST  
lower limit of distribution

CO ST  
upper limit of distribution

PK \*  
specific site of spawning

SK \*  
major spawning zone

CO  
CO \*  
upper limit of spawning

**OBSTRUCTIONS**  
(measurements included where known)

X  
log jam (persistent)

3F  
D = dam  
F = falls (3m high)  
CV = culvert  
BD = beaver dam

2C100  
cascade, chute or canyon  
(height = 2m, length = 100m)

**ENHANCEMENT / MANAGEMENT  
ACTIVITIES**

HY  
HY = hatchery  
FW = fishway  
SC = side channel  
CH = Trout in channel

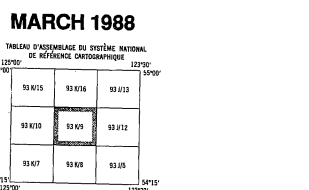
WSC08F003  
Water Survey of Canada  
Gauging Station

300  
CO  
tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Dolly Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

This Stream Information Summary map  
compliments a companion Stream Summary  
Catalogue, organized by DFO Subdistrict.  
Maps and files are organized by watershed  
code.



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DEPARTMENT OF ENERGY, MINES AND RESOURCES,  
1875, Steeles Avenue East, Unit 1875, Scarborough, Ontario  
M1V 5P4. Sold by the Government of Canada.

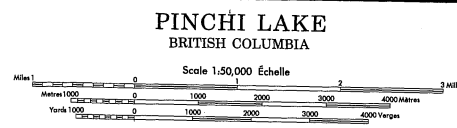
Copies may be obtained from the Canada Map Office,  
Department of Energy, Mines and Resources, Ottawa,  
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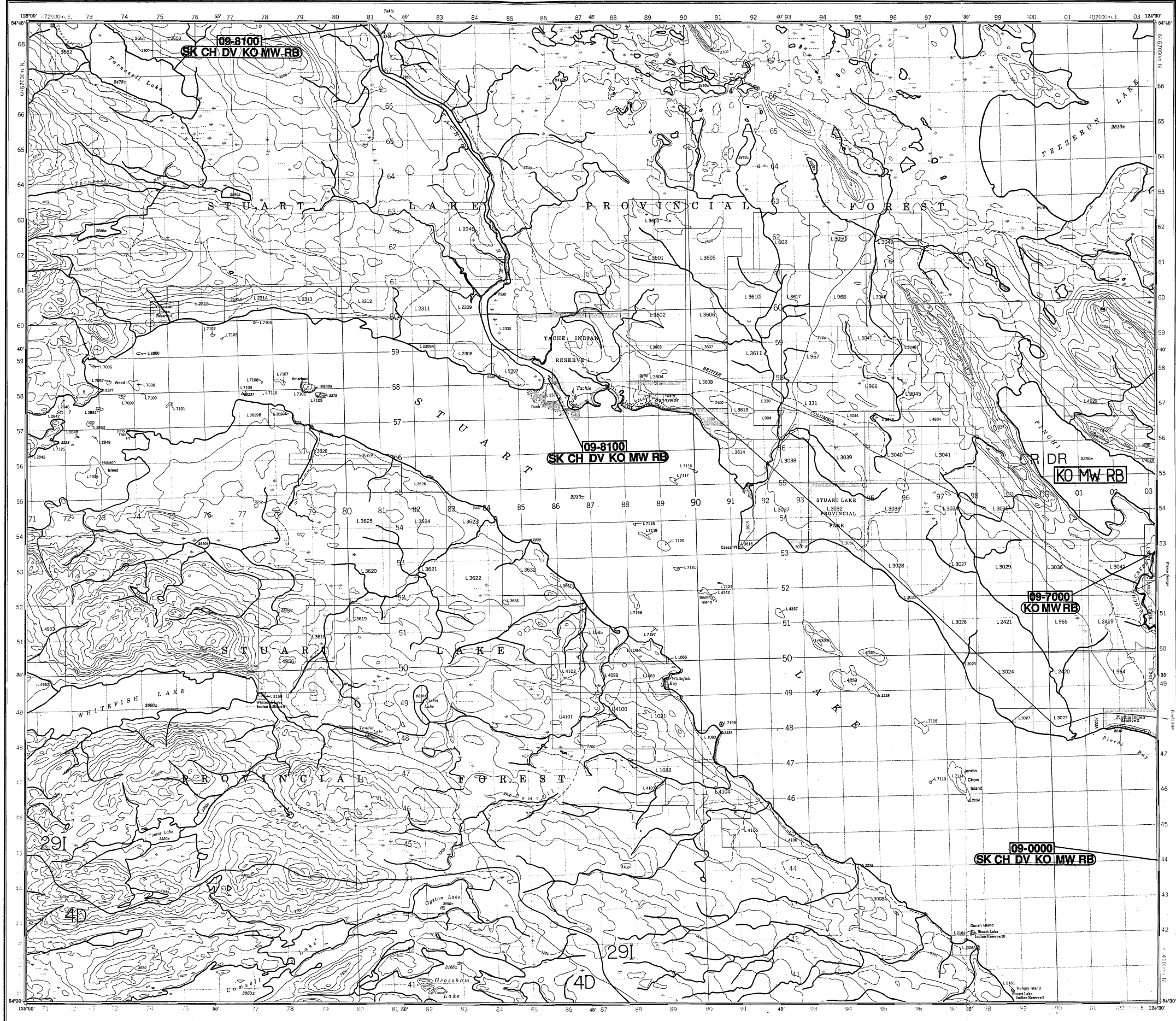
Roads:  
lignes ou stabilisées, surface, all-weather, gravel, asphalt, double, single, etc.  
lignes ou stabilisées, surface, all-weather, gravel, asphalt, double, single, etc.  
cart track, etc.

Rails:  
gravel, asphalt, double, single, etc.  
gravel, asphalt, double, single, etc.  
gravel, asphalt, double, single, etc.

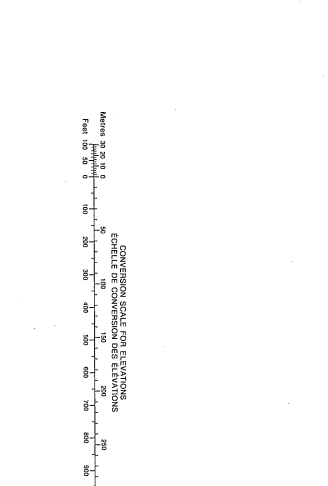
For COMPLETE REFERENCE SEE REVERSE SIDE. POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR LE VERSO.



Échelle de contours en mètres: 100 mètres  
North American Datum 1927  
Projeté: Transverse Mercator Projection



Military users, refer to this map as: MAP 98 K/10 CARTE  
 Références de cette carte: ÉDITION 2 MCE ÉDITION



**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY**

**91-2900 (CO CM ST) Watershed Code and Species Summary**

**SPECIES INFORMATION**

SK CO PK CM CH species present  
 CO ST lower limit of distribution  
 CO ST upper limit of distribution  
 PK \* specific site of spawning

SK \* major spawning zone  
 CO \* upper limit of spawning

**OBSTRUCTIONS**  
 (measurements included where known)

X log jam (persistent)  
 D = dam  
 F = falls (3m high)  
 CV = culvert  
 BD = beaver dam  
 2C100 cascade, chute or canyon (height = 2m, length = 100m)

**ENHANCEMENT/MANAGEMENT ACTIVITIES**

HY = hatchery  
 FW = fishway  
 SC = side channel  
 CH = spawning channel

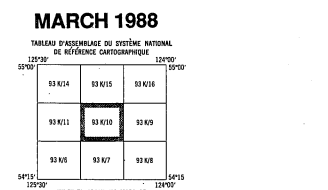
WSC08FB003 Water Survey of Canada Gauging Station

300 CO tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Dolly Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.



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Roads: loose or stabilized surface, all weather - de gravier aggloméré, toute saison; loose surface, dry weather and unclassified streets - de gravier, toutes saisons et rues hors classe; cart track - sentier, cercle ou partage; trail, cut line or partage - sentier, cercle ou partage

Routes: de gravier aggloméré, toute saison - de gravier, toutes saisons et routes hors classe; de gravier, toutes saisons et routes hors classe - de gravier, toutes saisons et routes hors classe; sentier, cercle ou partage - sentier, cercle ou partage

FOR COMPLETE REFERENCE SEE INDEXED SIDE POUR UNE LISTE COMPLÈTE DES SIGNES, VOIR AU VERSO



COURT INTERVAL 100 FEET  
 Échelle de 1:50,000

ÉQUIVALENCE DES COURSES 100 PIEDS  
 Équivalences en pieds et mètres du même rapport de la mer

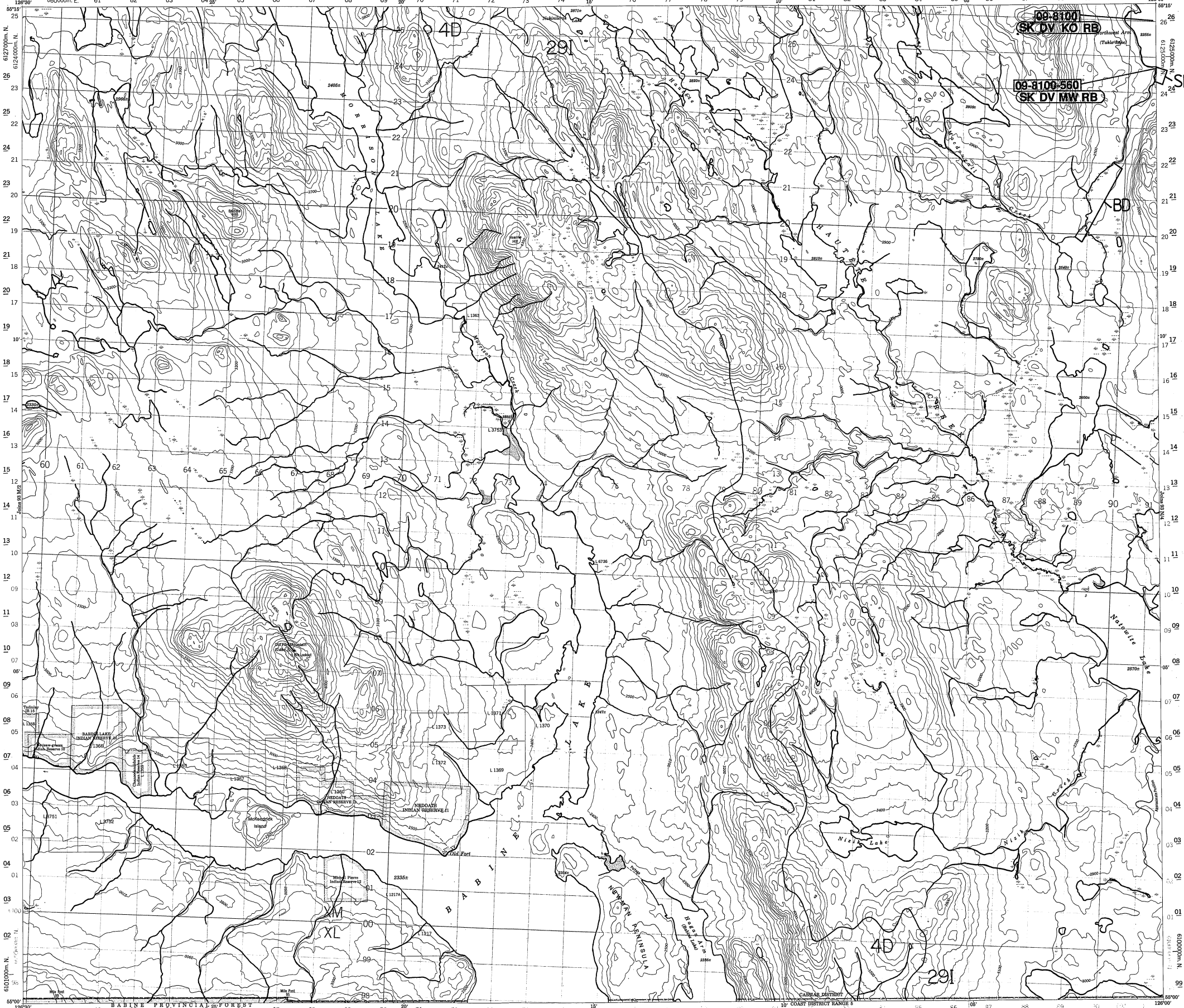
North American Datum 1927  
 Transverse Mercator Projection

Échelle par la DIRECTION DES LÈVES ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES TECHNOLOGIES. Mise à jour à l'échelle de photocopie, données prises en 1974. Modification des contours en 1976. Révisé par le Service des cartes de la D.M.R. Les cartes sont en vente au Bureau des Cartes de Canada, ministère de l'Énergie, des Mines et des Ressources, Ottawa, ou chez le vendeur de cartes. © Canada 1977. Tous droits réservés.

**STUART LAKE**  
 98 K/10  
 ÉDITION 2







Refer to this map as: 93 M/1 EDITION 11 M/S SERIES A 721

**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY**

**91-2900 Watershed Code and Species Summary**  
**CO CM ST**

**SPECIES INFORMATION**

**SK CO PK CM CH** species present  
**CO ST** lower limit of distribution  
**CO ST** upper limit of distribution  
**PK \*** specific site of spawning

**SK \*** major spawning zone  
**CO \***  
**CM \*** upper limit of spawning

**OBSTRUCTIONS**  
 (measurements included where known)

**3F** log jam (persistent)  
 D = dam  
 F = falls (3m high)  
 CV = culvert  
 BD = beaver dam  
**2C100** cascade, chute or canyon (height = 2m, length = 100m)

**ENHANCEMENT/MANAGEMENT ACTIVITIES**

**HY** hatchery  
 FW = fishway  
 SC = side channel  
 CH = spawning channel

**WSC08FB003** Water Survey of Canada Gauging Station

**300 CO** tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Dolly Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.

BROWN NUMBERED TICKS INDICATE THE 1000 METRE U.T.M. GRID ZONE 10

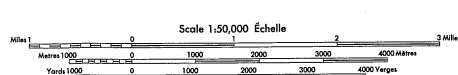
**MARCH 1988**

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Carte mappe obtenue de la Map Distribution Office, Department of Energy, Mines and Resources, Ottawa.

Roads:  
 loose or stabilized surface, all weather - gravel/aggloméré, toute saison - routes or non routes  
 loose surface, dry weather and unseasonal roads - de gravier, temps sec et hors temps d'inondation  
 cart-track - de terre  
 trail or portage - sentier ou portage

**OLD FORT MOUNTAIN BRITISH COLUMBIA**

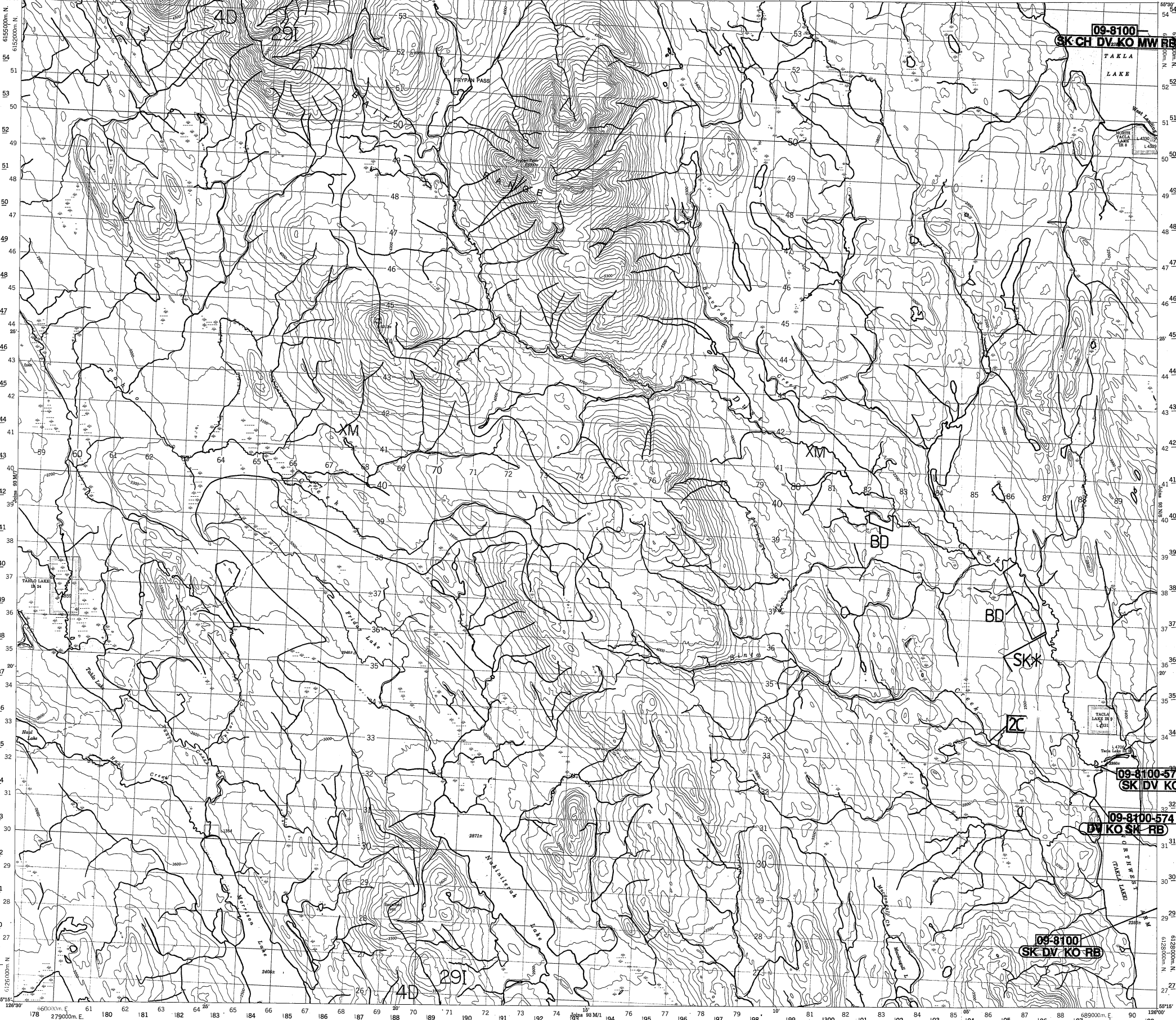


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Certain names on this map are not set official. Corrections or additions are invited by the Survey and Mapping Branch.

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Élevations en pieds au-dessus du niveau de la mer  
 Heights in feet above Mean Sea Level  
 Élévations en mètres au-dessus du niveau de la mer  
 Heights in metres above Mean Sea Level



Refer to this map as: 98 M/8 EDITION 1 MCE SERIES A 721

DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY

**91-2900 Watershed Code and Species Summary**  
**CO CM ST**

**SPECIES INFORMATION**

- SK CO PK CM CH** species present
- CO ST** lower limit of distribution
- CO ST** upper limit of distribution
- PK\*** specific site of spawning
- SK\*** major spawning zone
- CO\*** upper limit of spawning
- CM\*** upper limit of spawning

**OBSTRUCTIONS (measurements included where known)**

- X** log jam (persistent)
- D** = dam
- F** = falls (3m high)
- CV** = culvert
- BD** = beaver dam
- 2C100** cascade, chute or canyon (height = 2m, length = 100m)

**ENHANCEMENT / MANAGEMENT ACTIVITIES**

- HY** = hatchery
- FW** = fishway
- SC** = side channel
- CH** = spawning channel

**WSC08FB003** Water Survey of Canada Gauging Station

**300 CO** tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Dolly Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.

BROWN NUMBERED TICKS INDICATE THE 1000 METRE U.T.M. GRID ZONE 10

MARCH 1988

NAKINLERAK LAKE

CASSIAR DISTRICT BRITISH COLUMBIA

Scale 1:50,000 Echelle

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This Provisional Map is equivalent to a standard map in accuracy of content. Some names on this map are not official. Corrections or additions are limited to the Surveys and Mapping Branch.

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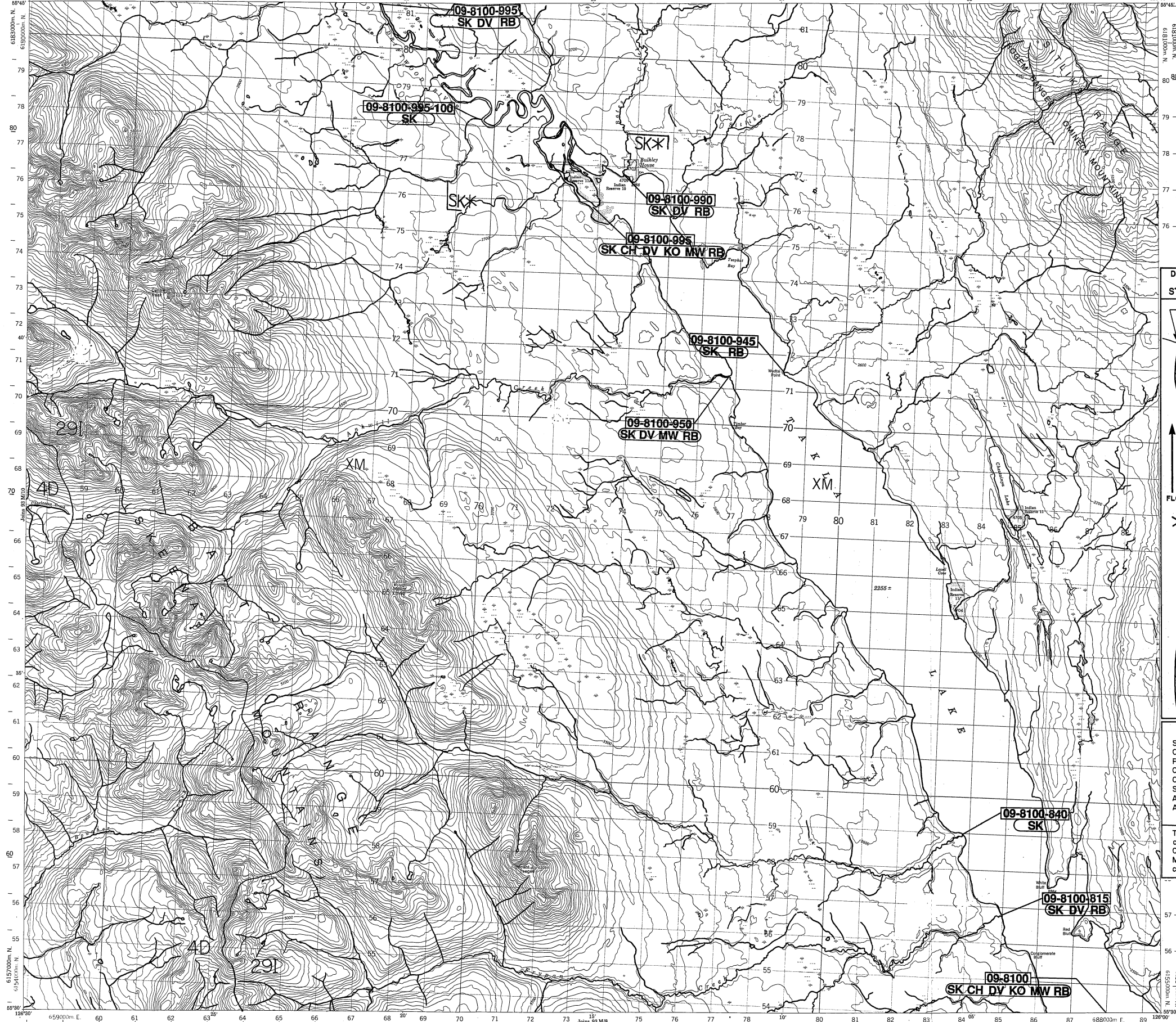
Échelle: 1:50,000

Scale: 1:50,000

Scale: 1:50,000

Scale: 1:50,000

Scale: 1:50,000



Refer to this map as: 93 M/9 EDITION 1 MCE SERIES 471

**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY**

**91-2900 Watershed Code and Species Summary**  
**CO CM ST**

**SPECIES INFORMATION**

**SK CO PK CM CH**  
 species present

**CO ST**  
 lower limit of distribution

**CO ST**  
 upper limit of distribution

**PK \***  
 specific site of spawning

**SK \***  
 major spawning zone

**CO \***  
 upper limit of spawning

**CM \***  
 upper limit of spawning

**OBSTRUCTIONS**  
 (measurements included where known)

log jam (persistent)

**D** = dam

**F** = falls (3m high)

**CV** = culvert

**BD** = beaver dam

cascade, chute or canyon (height = 2m, length = 100m)

**2C100**

**ENHANCEMENT/MANAGEMENT ACTIVITIES**

**HY** = hatchery

**FW** = fishway

**SC** = side channel

**CH** = spawning channel

**WSC08FB003** Water Survey of Canada Gauging Station

**300 CO** tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
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PK - Pink	DV - Dolly Varden
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CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

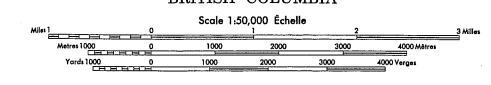
This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.

BROWN NUMBERED TICKS INDICATE THE 1000 METRE U.T.M. GRID ZONE 10

MARCH 1988

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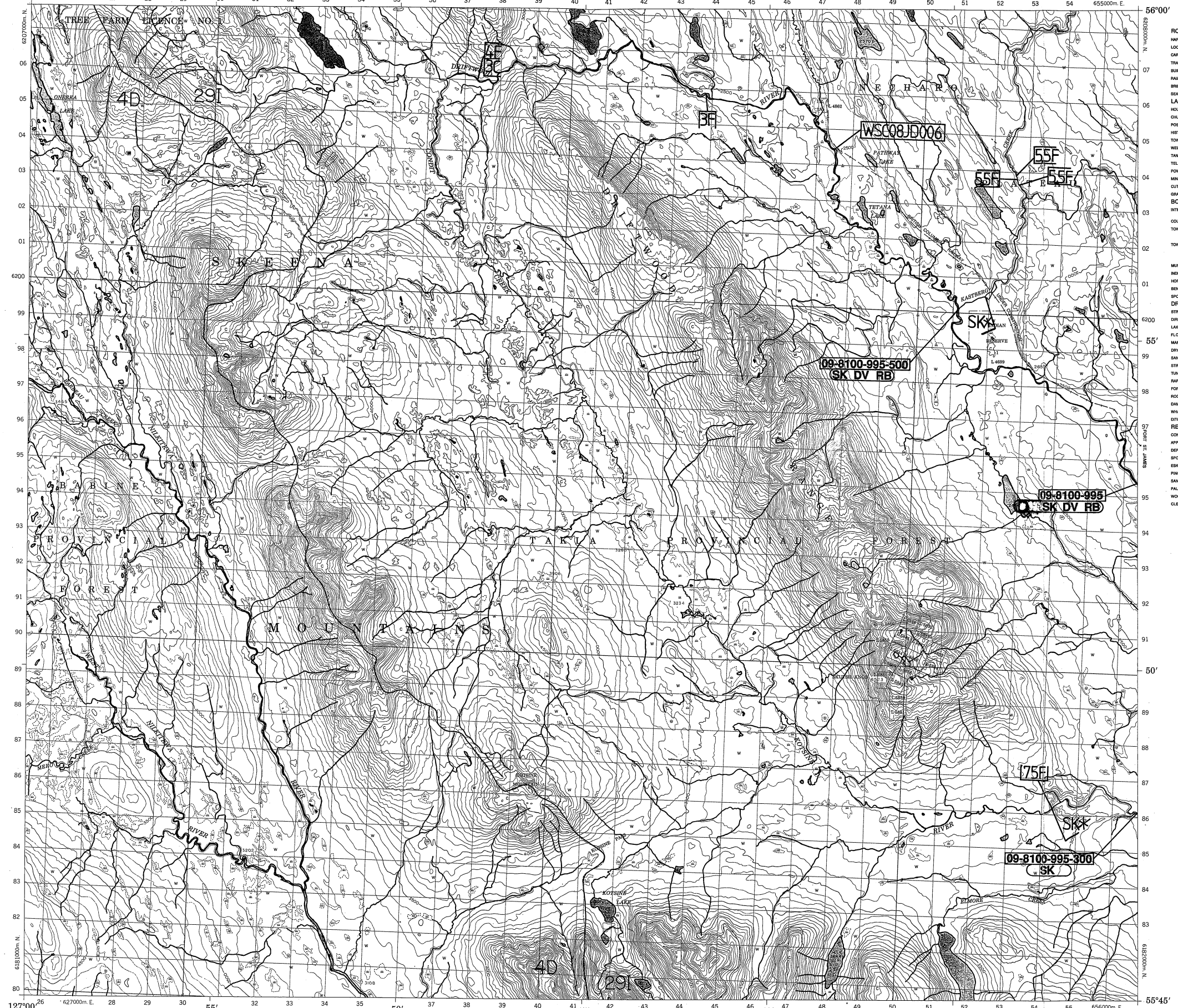
Roads: caill track, trail or portage  
 Routes: caill track, trail or portage



This Provincial Map is equivalent to a standard map in accordance with the Survey and Mapping Branch.

Cette carte provinciale est équivalente à une carte régulière en vertu de la loi sur la cartographie.

Cette carte est en vente au Bureau des Cartes et de la Cartographie, Ministère des Terres, Forêts et Ressources provinciales de la Colombie-Britannique, et dans les boutiques provinciales de vente au détail de la Direction des cartes et de la cartographie, Ministère de l'Énergie, des Mines et des Ressources, Ottawa.



**LEGEND - LÉGENDE**

<b>ROADS AND RELATED FEATURES</b>	<b>ROUTES ET OUVRAGES CONNEXES</b>
ROAD SURFACE, ALL WEATHER	SURFACE PAVÉE, TOUTES SAISONS
GRAVEL	GRAVIER
DIRT TRACK, WINTER ROAD	CHEMIN DE TERRE, D'HYVER
TRAIL, CUT LINE, PORTAGE	SENTIER, PÉRIÉE, PORTAGE
BUILT-UP AREA	AGGLOMÉRATION
RAILWAY, SIGNAL, STATION, STOP	CHEMIN DE FER, VOIE D'ÉVÈNEMENT, GARE, ARRÊT
BRIDGE	PONT
SEAPLANE BASE, ANCHORAGE	HYDROAÉRODROME, MOULAGE
<b>LANDMARK FEATURES</b>	<b>POINTS DE REPÈRE</b>
HOUSE, BARN	MAISON, GRANGE
CHURCH, SCHOOL	ÉGLISE, ÉCOLE
POST OFFICE	BUREAU DE POSTE
HISTORICAL SITE	LIÉU HISTORIQUE
TOWER, FIRE, RADIO	TOURS FEU, RADIO
WELL, OIL, GAS	PUIES PÉROLE, GAZ
TANK, OIL, GASOLINE, WATER	RÉSÉROIR: PÉROLE, ESSENCE, EAU
TELEPHONE LINE	LIÈNE TÉLÉPHONIQUE
POWER TRANSMISSION LINE	LIÈNE DE TRANSPORT D'ÉNERGIE
MINE	MINE

**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM**  
**STREAM INFORMATION SUMMARY**

**91-2900 Watershed Code and Species Summary**

**SPECIES INFORMATION**

SK CO PK CM CH species present  
 CO ST lower limit of distribution  
 CO ST upper limit of distribution  
 PK \* specific site of spawning  
 SK \* major spawning zone  
 CO CM \* upper limit of spawning

**OBSTRUCTIONS**  
(measurements included where known)

log jam (persistent)  
 D = dam  
 F = falls (3m high)  
 CV = culvert  
 BD = beaver dam  
 2C100 cascade, chute or canyon (height = 2m, length = 100m)

**ENHANCEMENT / MANAGEMENT ACTIVITIES**

HY = hatchery  
 FW = fishway  
 SC = side channel  
 CH = spawning channel

W508FB003 Water Survey of Canada Gauging Station  
 300 CO tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Daily Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

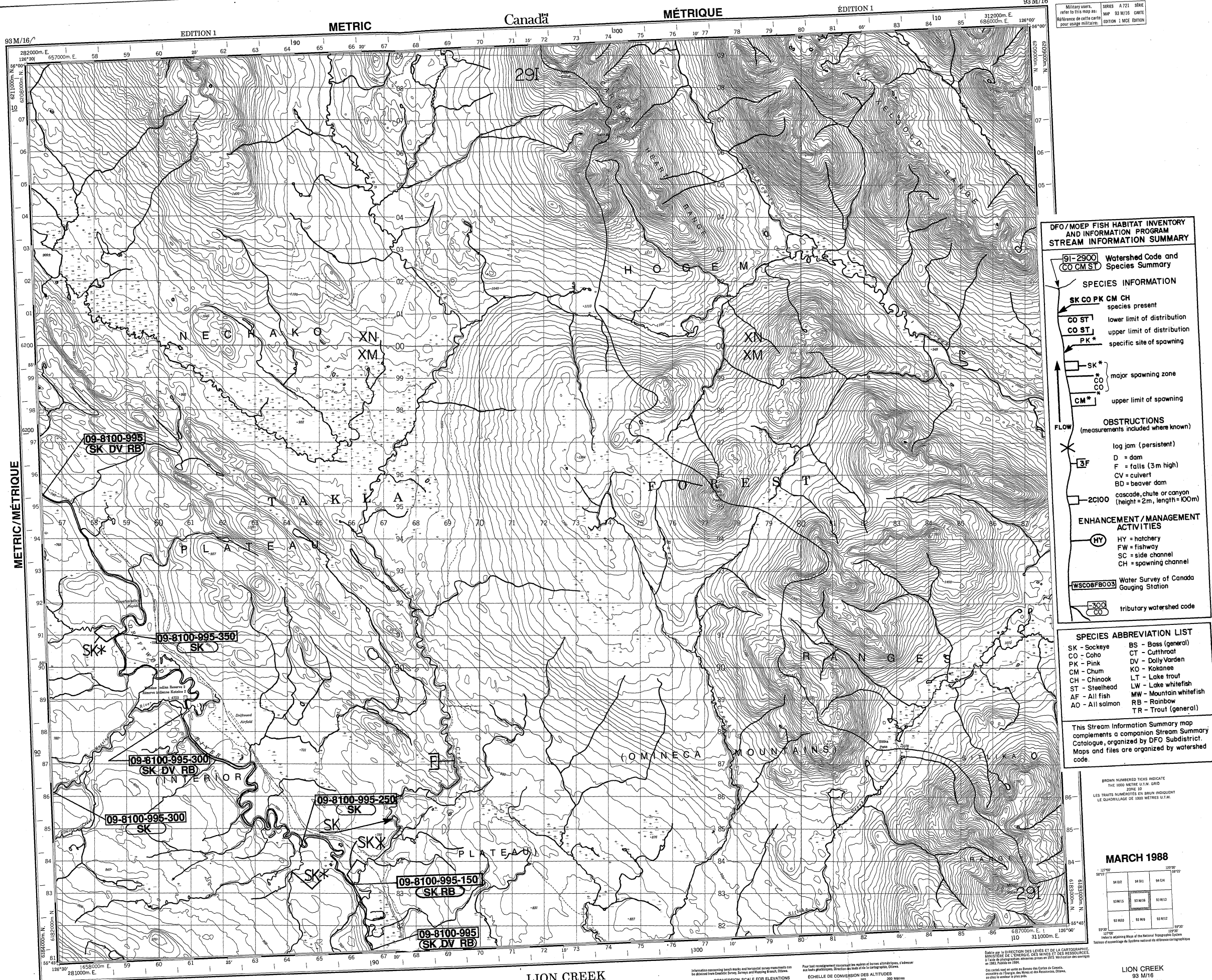
**MARCH 1988**

ONE THOUSAND METRE UNIVERSAL TRANSVERSE MERCATOR GRID  
 ZONE 9  
 QUADRILLAGE DE MILLE MÈTRES UNIVERSAL TRANSVERSE DE MERCATOR

94 D/3	94 D/2	94 D/1
93 M/14	93 M/15	93 M/16
93 M/11	93 M/10	93 M/9

La ligne magnétique est à 20°W (405 m) EST de l'ÉQUATEUR.  
 L'ANNUAL CHANGE DECREASING 3.4°  
 GRID NORTH is 1°32' (33 m) EAST of TRUE NORTH  
 au centre de la zone

La ligne magnétique est à 19°W (405 m) EST de l'ÉQUATEUR.  
 L'ANNUAL CHANGE DECREASING 3.4°  
 GRID NORTH is 1°32' (33 m) EAST of TRUE NORTH  
 au centre de la zone



**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY**

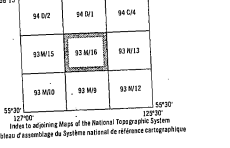
- 91-2500 Watershed Code and Species Summary**  
**CO CM ST**
- SPECIES INFORMATION**
- SK CO PK CM CH** species present
  - CO ST** lower limit of distribution
  - CO ST** upper limit of distribution
  - PK \*** specific site of spawning
  - SK \*** major spawning zone
  - CO \*** major spawning zone
  - CM \*** upper limit of spawning
- OBSTRUCTIONS**  
(measurements included where known)
- log jam (persistent)
  - D = dam
  - F = falls (3m high)
  - CV = culvert
  - BD = beaver dam
  - 2C100 cascade, chute or canyon (height = 2m, length = 100m)
- ENHANCEMENT / MANAGEMENT ACTIVITIES**
- HY = hatchery
  - FW = fishway
  - SC = side channel
  - CH = spawning channel
- WSC08FB003** Water Survey of Canada Gauging Station
- 300 CO** tributary watershed code

- SPECIES ABBREVIATION LIST**
- |                 |                         |
|-----------------|-------------------------|
| SK - Sockeye    | BS - Bass (general)     |
| CO - Coho       | CT - Cutthroat          |
| PK - Pink       | DV - Dolly Varden       |
| CM - Chum       | KO - Kokanee            |
| CH - Chinook    | LT - Lake trout         |
| ST - Steelhead  | LW - Lake whitefish     |
| AF - All fish   | MW - Mountain whitefish |
| AO - All salmon | RB - Rainbow            |
|                 | TR - Trout (general)    |

This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.

BROWN NUMBERED TICKS INDICATE THE 5000 METRE U.T.M. GRID ZONE ID  
 LES TRANTS NUMÉROTÉS EN BRUN INDIQUENT LE QUADRILLAGE DE 1000 MÈTRES U.T.M.

**MARCH 1988**



**LION CREEK**  
 CASIAR LAND DISTRICT  
 BRITISH COLUMBIA COLOMBIE-BRITANNIQUE  
 Scale 1:50 000 Échelle

Information concerning bench marks and horizontal and vertical measurements can be obtained from the Survey of Canada, Ottawa.  
 Pour tout renseignement concernant les repères et bornes altimétriques, s'adresser au Service de Levés et de Mesures du Canada, Ottawa.

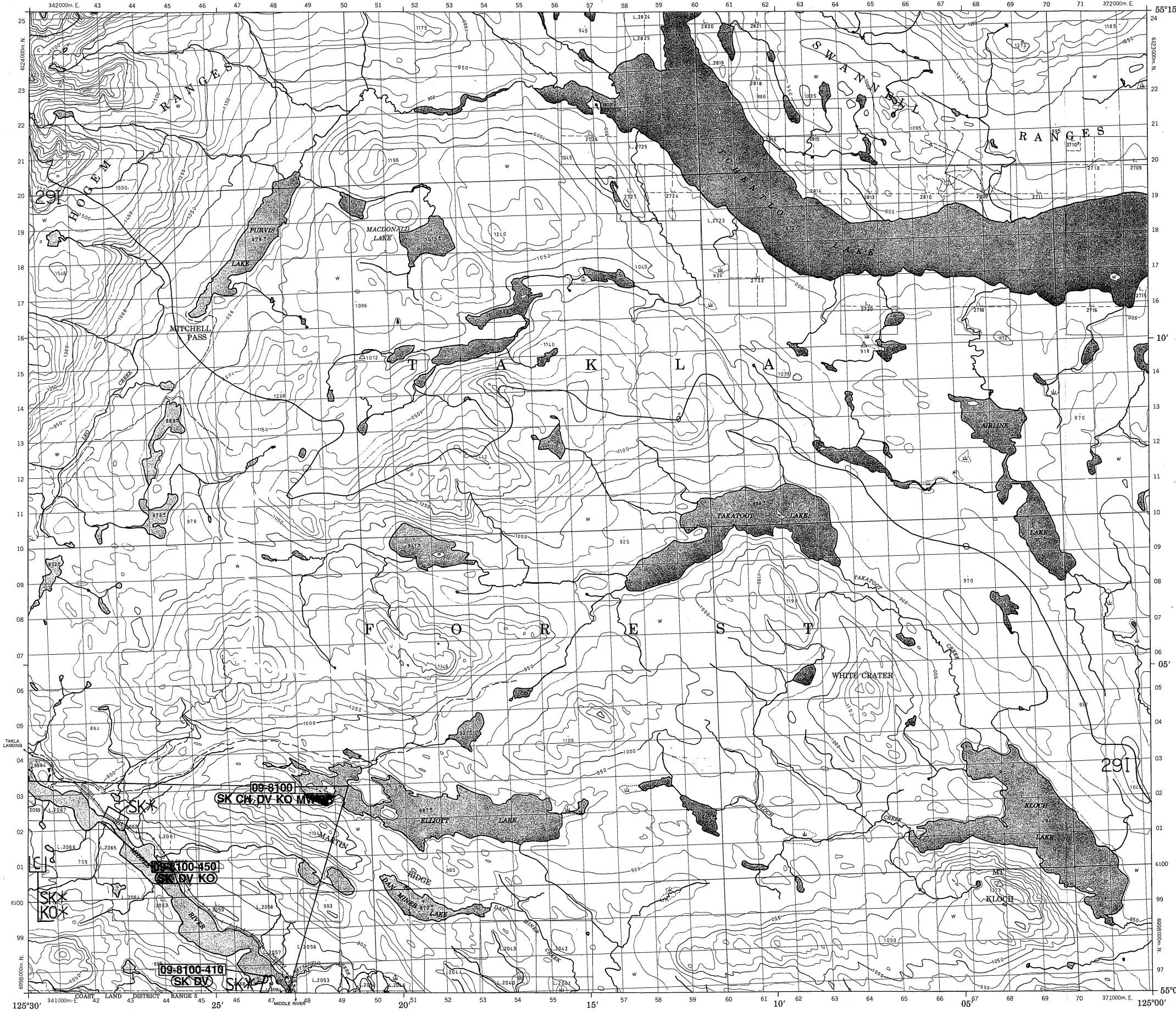
**CONVERSION SCALE FOR ELEVATIONS**  
 Mètres 20 30 40 50 60 70 80 90 100  
 Feet 100 150 200 250 300 350 400 450 500

**ÉCHELLE DE CONVERSION DES ALTITUDES**  
 Mètres 20 30 40 50 60 70 80 90 100  
 Pieds 100 150 200 250 300 350 400 450 500

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 Énergie, Mines et Ressources Canada

Produced by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES.  
 Publié par le BRANCH DES LEVÉS ET DES MESURES, DÉPARTEMENT DE L'ÉNERGIE, DES MINES ET DES RESSOURCES.

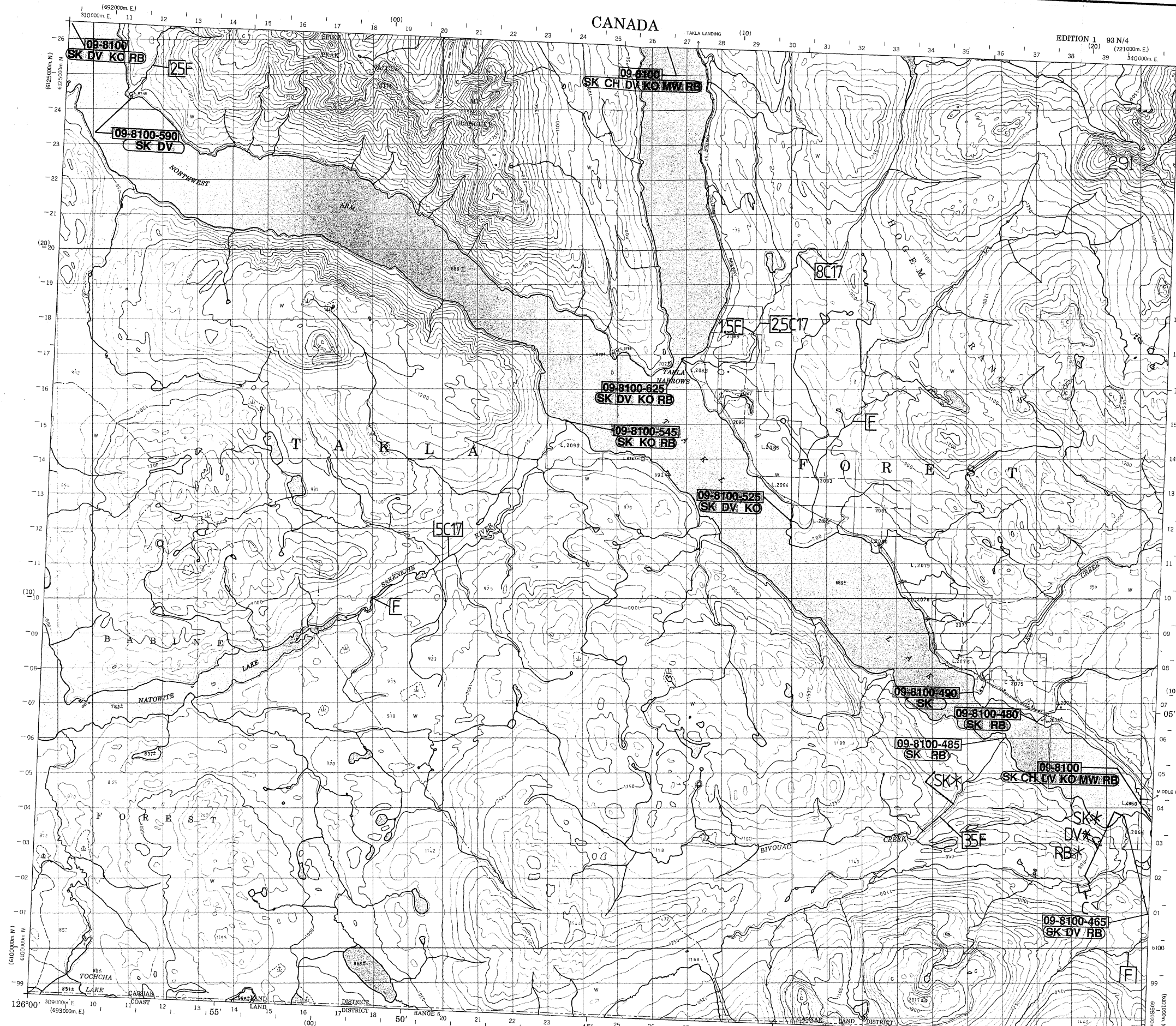
FOR COMPLETE REFERENCE SEE REVERSE SIDE  
 POUR UNE LECTURE COMPLÈTE VOIR LE VERSO



LEGEND - LÉGENDE. Table with two columns: 'ROADS AND RELATED FEATURES' and 'ROUTES ET OUVRAGES CONNEXES'. It lists various symbols for roads, bridges, landmarks, and other features.

DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM STREAM INFORMATION SUMMARY. This section contains a legend for stream codes (e.g., 91-2900 CO CM ST), species information (SK, CO, ST, PK, CM), obstructions (log jam, dam, culvert, beaver dam, cascade), and enhancement/management activities (hatchery, fishway, side channel, spawning channel). It also includes a species abbreviation list and a grid reference table for March 1988.

Produced by Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, 1976. ELEVATIONS IN METRES ABOVE MEAN SEA LEVEL. CONTOUR INTERVAL..... 50 METRES. TAKATOOT LAKE. CASSIAR LAND DISTRICT. BRITISH COLUMBIA. Scale 1:50,000 Échelle. ÉLEVATIONS EN MÈTRES AU-DESSUS DU NIVEAU MOYEN DE LA MER. ÉQUIDISTANCE DES COURBES..... 50 MÈTRES. MARCH 1988. ONE THOUSAND METRE UNIVERSAL TRANSVERSE MERCATOR GRID. ZONE 10. QUADRILLAGE DE MILLE MÈTRES UNIVERSEL TRANSVERSE DE MERCATOR. Conversion scale for elevations: 30 20 10 0 100 200 300 400 500 600 700 800 900 1000 Mètres. 100 200 300 400 500 600 700 800 900 1000 Pieds. 93 N/3 ÉDITION 1



**LEGEND - LÉGENDE**

ROADS AND RELATED FEATURES	ROUTES ET OUVRAGES CONNEXES
HIGH SURFACE, ALL WEATHER	SURFACE PAVÉE, TOUJOURS SÈCHES
LOW SURFACE	GRAVIER
CART TRACK, WINTER ROAD	CHEMIN DE TERRE, CHÈVRE
OR ROAD IN CONSTRUCTION	ROUTE EN CONSTRUCTION
TRAIL, CUT LINE, PORTAGE	SENTIER, PERÇE, PORTAGE
BUILT-UP AREA	AGLOMÉRATION
RAILWAY, SIDING, STATION, STOP	AGLOMÉRATION DE FER, VOIE D'ÉVITEMENT, GARE, ARRÊT
BRIDGE	PONT
SEAPLANE BASE, ANCHORAGE	HYDROAÉROPORT, MOULAGE
LANDMARK FEATURES	POINTS DE REPÈRE
HOUSE, BARN	MAISON, GRANGE
CHURCH, SCHOOL	ÉGLISE, ÉCOLE
POST OFFICE	BUREAU DE POSTES
HISTORICAL SITE	LIEU HISTORIQUE
TOWER: FIRE, RADIO	TOUR: FEU, RADIO
WELL, OIL, GAS	Puits: PÉTROLE, GAZ
TANK: OIL, GASOLINE, WATER	RÉSERVOIR: PÉTROLE, ESSENCE, EAU
TELEPHONE LINE	LIGNE TÉLÉPHONIQUE
POWER TRANSMISSION LINE	LIGNE DE TRANSPORT D'ÉNERGIE

**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM**  
**STREAM INFORMATION SUMMARY**

**Watershed Code and Species Summary**  
 91-2900  
 CO CM ST

**SPECIES INFORMATION**

SK CO PK CM CH  
 species present

CO ST  
 lower limit of distribution

CO ST  
 upper limit of distribution

PK \*  
 specific site of spawning

SK \*  
 major spawning zone

CO \*  
 upper limit of spawning

CM \*  
 upper limit of spawning

**OBSTRUCTIONS**  
 (measurements included where known)

3F  
 log jam (persistent)

D = dam  
 F = falls (3m high)  
 CV = culvert  
 BD = beaver dam

2C100  
 cascade, chute or canyon  
 (height = 2m, length = 100m)

**ENHANCEMENT / MANAGEMENT ACTIVITIES**

HY  
 HY = hatchery  
 FW = fishway  
 SC = side channel  
 CH = spawning channel

WSC08FB03  
 Water Survey of Canada  
 Gauging Station

300  
 CO  
 tributary watershed code

**SPECIES ABBREVIATION LIST**

SK - Sockeye	BS - Bass (general)
CO - Coho	CT - Cutthroat
PK - Pink	DV - Dolly Varden
CM - Chum	KO - Kokanee
CH - Chinook	LT - Lake trout
ST - Steelhead	LW - Lake whitefish
AF - All fish	MW - Mountain whitefish
AO - All salmon	RB - Rainbow
	TR - Trout (general)

This Stream Information Summary map complements a companion Stream Summary Catalogue, organized by DFO Subdistrict. Maps and files are organized by watershed code.

**MARCH 1988**

93 M/8	93 N/5	93 N/6
93 M/1	93 N/4	93 N/3
93 L/16	93 K/13	93 K/14

ONE THOUSAND METRE  
 UNIVERSAL TRANSVERSE MERCATOR GRID  
 ZONE 10  
 QUADRILLAGE DE MILLE MÈTRES  
 UNIVERSAL TRANSVERSE DE MERIDION

THE 1975 MAGNETIC BEARING is 29° 31' (328 metes)  
 EAST OF GRID NORTH  
 ANNUAL CHANGE DECREASES 2.4  
 GRID NORTH is 2° 10' (40 metes) WEST OF TRUE NORTH  
 for centre of map

LA RÉPÈRE MAGNÉTIQUE en 1975 est de 29° 31' (325 metes)  
 EST DU NORD DU QUADRILLAGE  
 LA VARIATION ANNUELLE DE LA DÉCLINAISON EST DE 2.4  
 NORD DU QUADRILLAGE est de 2° 10' (40 mètres) à l'ouest du  
 NORD DU QUADRILLAGE au centre de la carte

NOTE: GRID TICS WITH NUMBERS IN BRACKET OR WITHOUT NUMBERS INDICATE 100 METRE BY 100 METRE GRID TICS. LES TRAMÉS NUMÉRIQUES ENTRE PARENTHÈSES OU SANS NUMÉRIQUES INDICENT LE QUADRILLAGE DE 100 MÈTRES ET 100 MÈTRES.

CONVERSION SCALE FOR ELEVATIONS  
 ÉCHELLE DE CONVERSION DES ÉLEVATIONS

Metres 30 60 90 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690 720 750 780 810 840 870 900 930 960 990 1000  
 Feet 100 200 300 400 500 600 700 800 900 1000

Produced by SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, OTTAWA, 1974.

FIELD SURVEYS, 1982 PROVIDED BY THE SURVEYS AND MAPPING BRANCH, LAND SERVICE, BRITISH COLUMBIA.

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**SAKENICHE RIVER**  
 CASSIAR LAND DISTRICT  
 BRITISH COLUMBIA

Scale 1:50,000 Échelle

ÉLEVATIONS IN METRES ABOVE MEAN SEA LEVEL  
 CONTOUR INTERVAL ..... 50 METRES

NORTH AMERICAN DATUM 1987  
 TRANSVERSE MERCATOR PROJECTION

ÉLEVATIONS EN MÈTRES AU-DESSUS DU NIVEAU MOYEN DE LA MER  
 ÉQUIDISTANCE DES COURBES ..... 50 MÈTRES

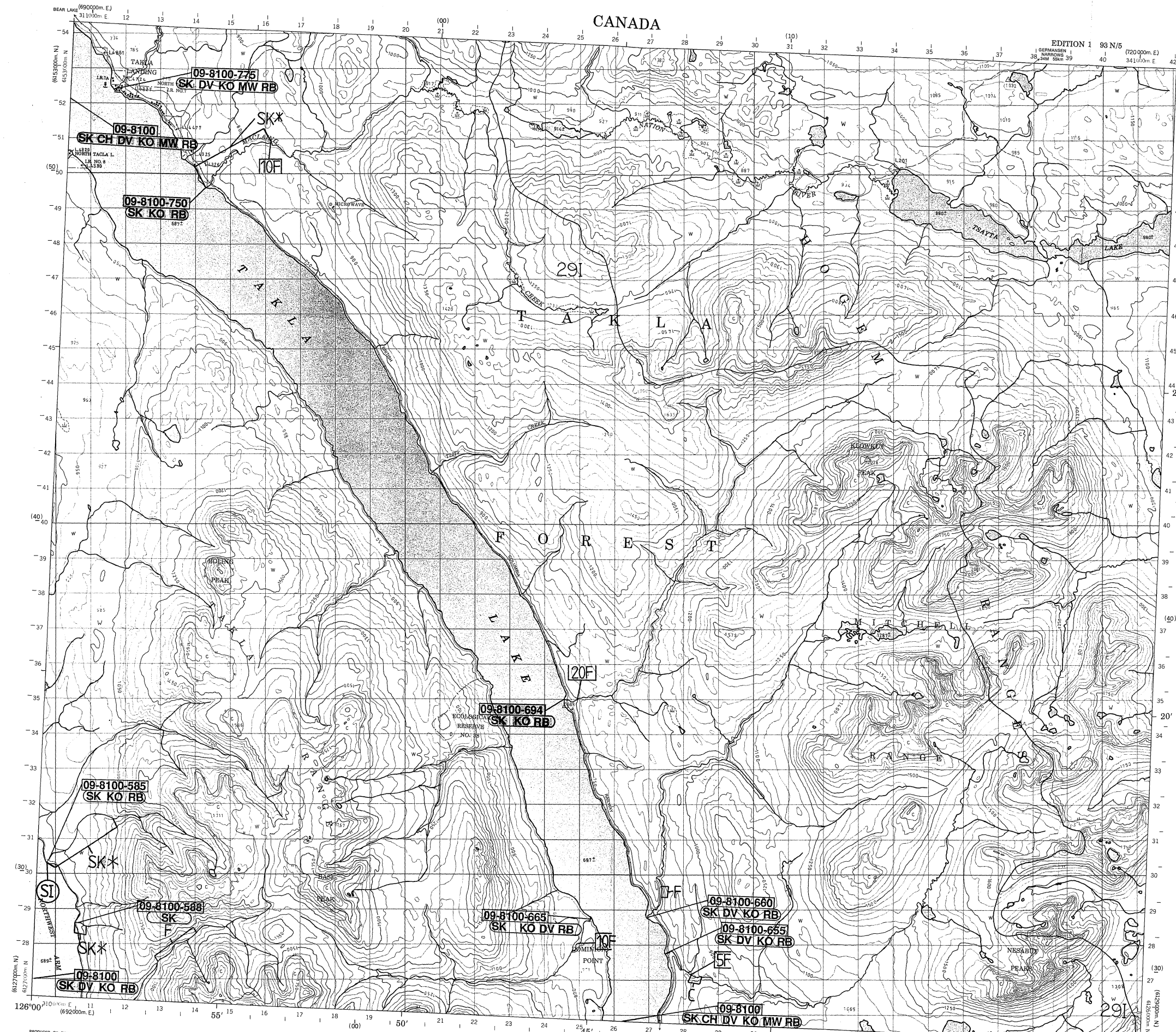
SYSTÈME DE RÉFÉRENCE GÉODÉSIQUE NORD-AMÉRICAIN 1987  
 PROJECTION TRANSVERSE DE MÉRIDIEN

ÉTABLI PAR LA DIRECTION DES LÈVES ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, OTTAWA, EN 1975.

LES LÈVES DU TERRAIN, 1982 EXÉCUTÉS PAR LA DIRECTION DES LÈVES ET DE LA CARTOGRAPHIE, SERVICE DES LÈVES ET DE LA CARTOGRAPHIE, COLONIE BRITANNIQUE.

CES CARTES SONT EN VENTE AU BUREAU DES CARTES DU CANADA, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, OTTAWA, OU CHEZ LE VENDEUR LOCAL.

© CANADA 1975 TOUS DROITS RÉSERVÉS



EDITION 1 93 N/5

LEGEND - LÉGENDE

ROADS AND RELATED FEATURES	ROUTES ET OUVRAGES CONNEXES
HARD SURFACE, ALL WEATHER	SURFACE PAVÉE, TOUTES SAISONS
LOOSE SURFACE	GRAVIER
GRAVEL TRACK, WINTER ROAD OR ROAD UNDER CONSTRUCTION	CHENVA DE TERRE D'HIVER OU ROUTE EN CONSTRUCTION
TRAIL, CUT LINE, PORTAGE	SENTIER, FENCEL, PORTAGE
BUILT-UP AREA	AMONCEMENT
RAILWAY, SIGNAL, STATION, STOP	CHENVA DE FER, VOIE D'ÉVÈNEMENT, GARE, ARRÊT
SEAPLANE BASE, ANCHORAGE	HYDROAÉROPORT, MOULAGE
LANDMARK FEATURES	POINTS DE REPÈRE
HOUSE, BARN	MAISON, GRANGE
CHURCH, SCHOOL	BUREAU DE POSTE
POST OFFICE	BUREAU DE POSTE
HISTORICAL SITE	LIEU HISTORIQUE
TOWER, FIRE RADIO	TOURS: FEU, RADIO
WELL, OIL, GAS	PITS: PÉTROLE, GAZ
TANK, OIL, GASOLINE, WATER	RÉSÉRVUAIR: PÉTROLE, ESSENCE, EAU
TELEPHONE LINE	LIGNE TÉLÉPHONIQUE
POWER TRANSMISSION LINE	LIGNE DE TRANSMISSION D'ÉNERGIE

**DFO/MOEP FISH HABITAT INVENTORY AND INFORMATION PROGRAM**  
**STREAM INFORMATION SUMMARY**

91-2900  
 CO CM ST Watershed Code and Species Summary

**SPECIES INFORMATION**

SK CO PK CM CH species present  
 CO ST lower limit of distribution  
 CO ST upper limit of distribution  
 PK \* specific site of spawning  
 SK \* major spawning zone  
 CO \* upper limit of spawning  
 CM \* upper limit of spawning

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 (measurements included where known)

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WSC08FB003 Water Survey of Canada Gauging Station  
 300 CO tributary watershed code

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**MARCH 1988**

93 M/9	93 N/12	93 N/11
93 M/8	93 N/5	93 N/6
93 M/1	93 N/4	93 N/3

ONE THOUSAND METRE UNIVERSAL TRANSVERSE MERCATOR GRID  
 ZONE 10  
 QUADRILLAGE DE MILLE MÈTRES  
 UNIVERSAL TRANSVERSE DE MERCATOR

NOTE: THIS STREAM INFORMATION SUMMARY COMPLEMENTS A COMPANION STREAM SUMMARY CATALOGUE, ORGANIZED BY DFO SUBDISTRICT. MAPS AND FILES ARE ORGANIZED BY WATERSHED CODE.

CONVERSION SCALE FOR ELEVATIONS  
 ÉCHELLE DE CONVERSION DES ÉLEVATIONS

Feet 100 200 300 400 500 600 700 800 900 1000  
 Mètres 30 60 90 120 150 180 210 240 270 300

