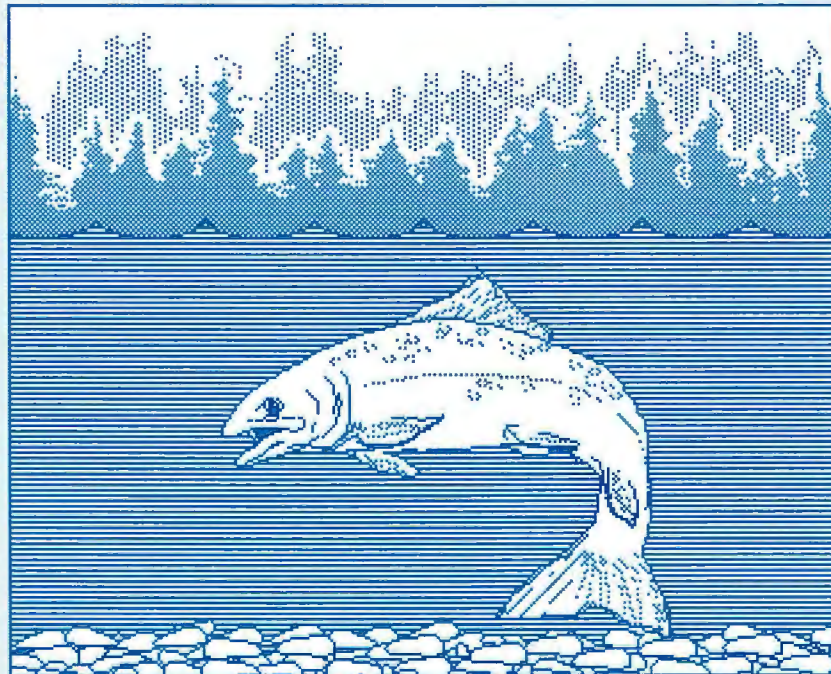


Fish Habitat Inventory & Information Program

STREAM SUMMARY CATALOGUE

SUBDISTRICT # 21 / 22
NITINAT



Fisheries
and Oceans



Ministry of Environment and Parks

Canada

Fish Habitat Inventory & Information Program

STREAM SUMMARY
CATALOGUE
SUBDISTRICT #21/22
NITINAT

South Coast Division
Fisheries Branch
Department of Fisheries & Oceans

July 1990

PREFACE

This catalogue contains a summary of information on fish and fish habitat for 9 streams in DFO Subdistrict 21/22, Nitinat. 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 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.

Note: at the time of publishing this catalogue the boundary for Subdistrict 21/22 Nitinat was altered to include the following streams previously in Subdistrict 23: Pachena R. (93-1800); Sugsaw C. (93-1900); Poett Nook C. (93-1975); Sarita R. (93-2000); and Frederick C. (93-2000-020). Please refer to the Subdistrict 23, Port Alberni, Stream Summary Catalogue for information on these streams.

ACKNOWLEDGEMENTS

The Stream Information Summaries and maps included in this catalogue were prepared by G. Kapahi and SHIP Environmental Consultants Ltd. under contract to B.D. Tutty, Department of Fisheries and Oceans (DFO), South Coast Division. Catalogue production was coordinated by B.J. Reid with the assistance of K. Akhurst and K. Pontus, Habitat Management Division. The assistance of DFO District 4 staff; Subdistrict 21/22 Fishery Officers D. Rekdal and T. Young; Subdistrict 23 Fishery Officer D. Girodat and B.C. Ministry of Environment (MOE) Region 1 staff in providing and verifying much of the information is greatly appreciated. Stream Information Summaries were produced by K. Pontus, Habitat Management Division, using the Stream Information Summary System (SISS). Escapement graphics were developed by G. Serbic and data were compiled by L. Lapi, M. Holmes and G. Hudson, Pacific Biological Station, Nanaimo, using the Salmon Escapement Data System (SEDS).

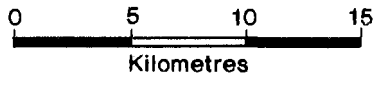
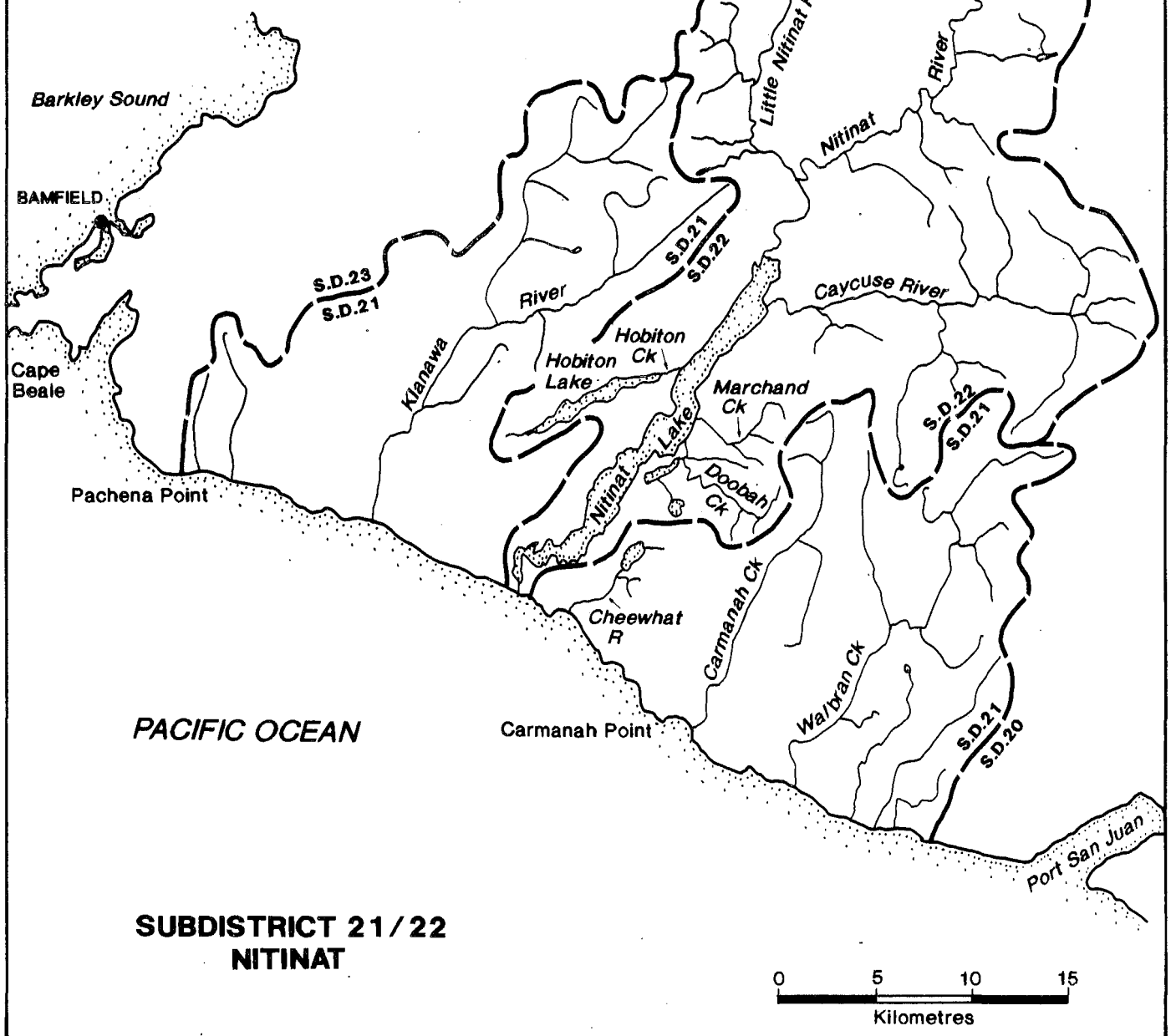
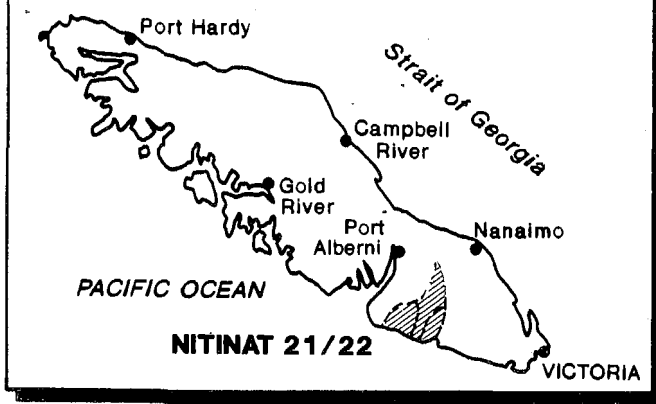
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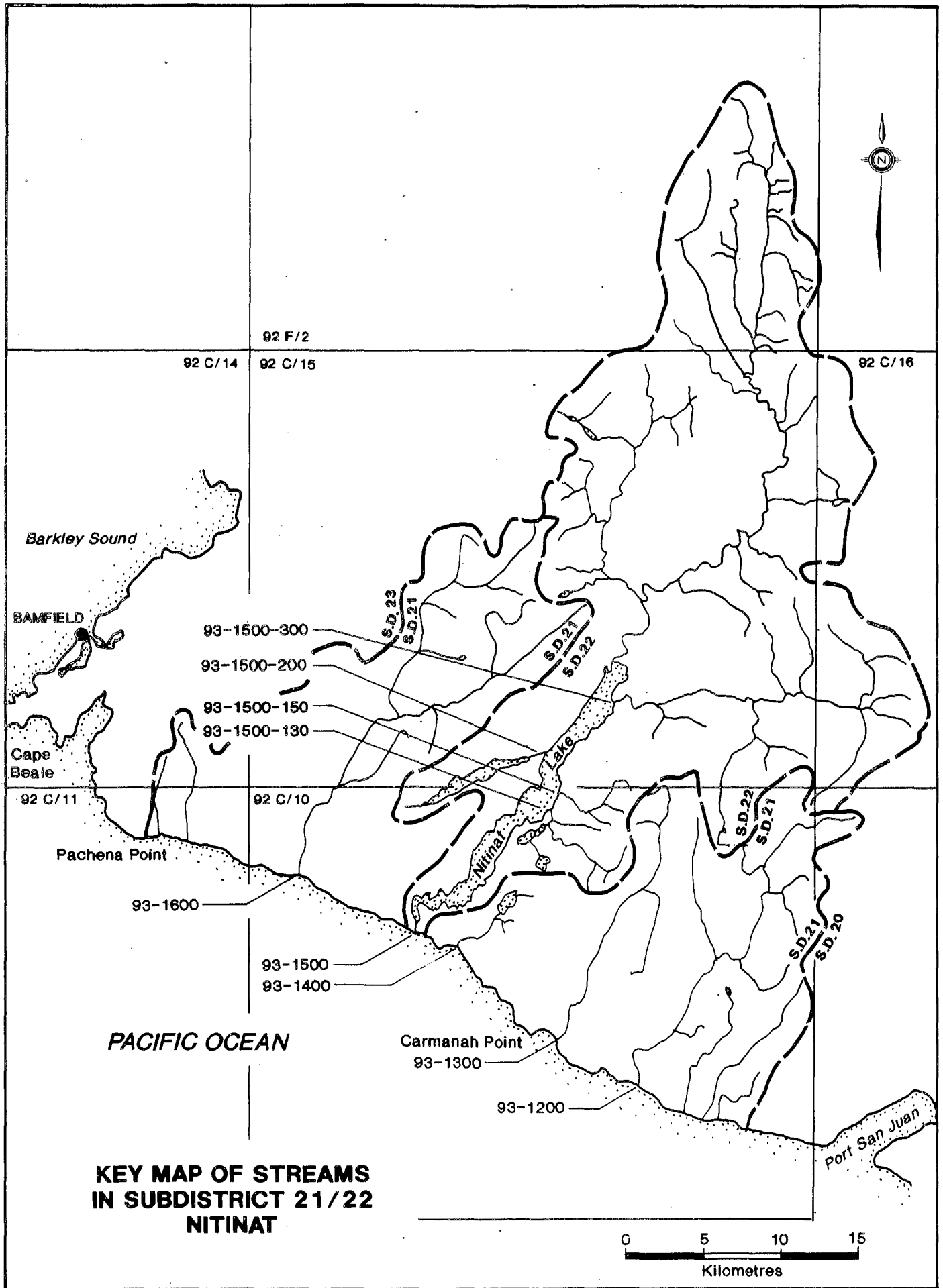
Fish Habitat Inventory and Information Program. 1990. Stream Summary Catalogue. Subdistrict 21/22, Nitinat. Department of Fisheries and Oceans, Vancouver, B.C.

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VANCOUVER ISLAND





**KEY MAP OF STREAMS
IN SUBDISTRICT 21/22
NITINAT**

0 5 10 15
Kilometres

LISTING OF STREAMS NUMERICALLY BY WATERSHED CODE
FOR SUBDISTRICT #21/22 - NITINAT

Watershed Code	Gazetted Name	Local Name
93-1200	WALBRAN C	
93-1300	CARMANAH C	
93-1400	CHEEWAT R	
93-1500	NITINAT R	
93-1500-130	DOOBAH C	
93-1500-150	MARCHAND C	
93-1500-200	HOBITON C	HOBARTON R; HOBITON LAKE R; HOBITON R
93-1500-300	CAYCUSE R	
93-1600	KLAWAWA R	

LISTING OF STREAMS ALPHABETICALLY BY GAZETTED NAME FOR
SUBDISTRICT #21/22 - NITINAT

Watershed Code	Gazetted Name	Local Name
93-1300	CARMANAH C	
93-1500-300	CAYCUSE R	
93-1400	CHEEWAT R	
93-1500-130	DOOBAN C	
93-1500-200	HOBITON C	HOBARTON R; HOBITON LAKE R; HOBITON R
93-1600	KLAWA R	
93-1500-150	MARCHAND C	
93-1500	NITINAT R	
93-1200	WALBRAN C	

<u>DISTRICT/ Subdistrict</u>	<u>Address</u>
<u>DISTRICT #1</u>	- 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, VOK 1V0
Quesnel (29H)	1205 North Highway 97, Quesnel, V2J 2Y3
Williams Lake (29G)	260D N. Broadway, Williams Lake, V2G 2X9

<u>DISTRICT #2</u>	- 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

<u>DISTRICT #3</u>	- 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 (18)	Box 241, Duncan, V9L 3X3
Powell River (15)	4488 Marine Ave., Powell River, V8A 2K2
Pender Harbour (16)	Box 10, Madeira Park, V0N 2H0

<u>DISTRICT #4</u>	- 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
Quatsino Sound (27)	Box 10, Port Hardy, V0N 2P0
Kyuquot (26)	Box 549, Tahsis, V0P 1X0
Tahsis (25)	Box 549, Tahsis, V0P 1X0
Tofino (24)	Box 48, Tofino, V0R 2Z0

<u>DISTRICT/ Subdistrict</u>	<u>Address</u>
<u>DISTRICT #5</u>	- Campbell River
	215 - 950 Alder St., Campbell River, V9W 2P8
Campbell River (13)	215 - 950 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

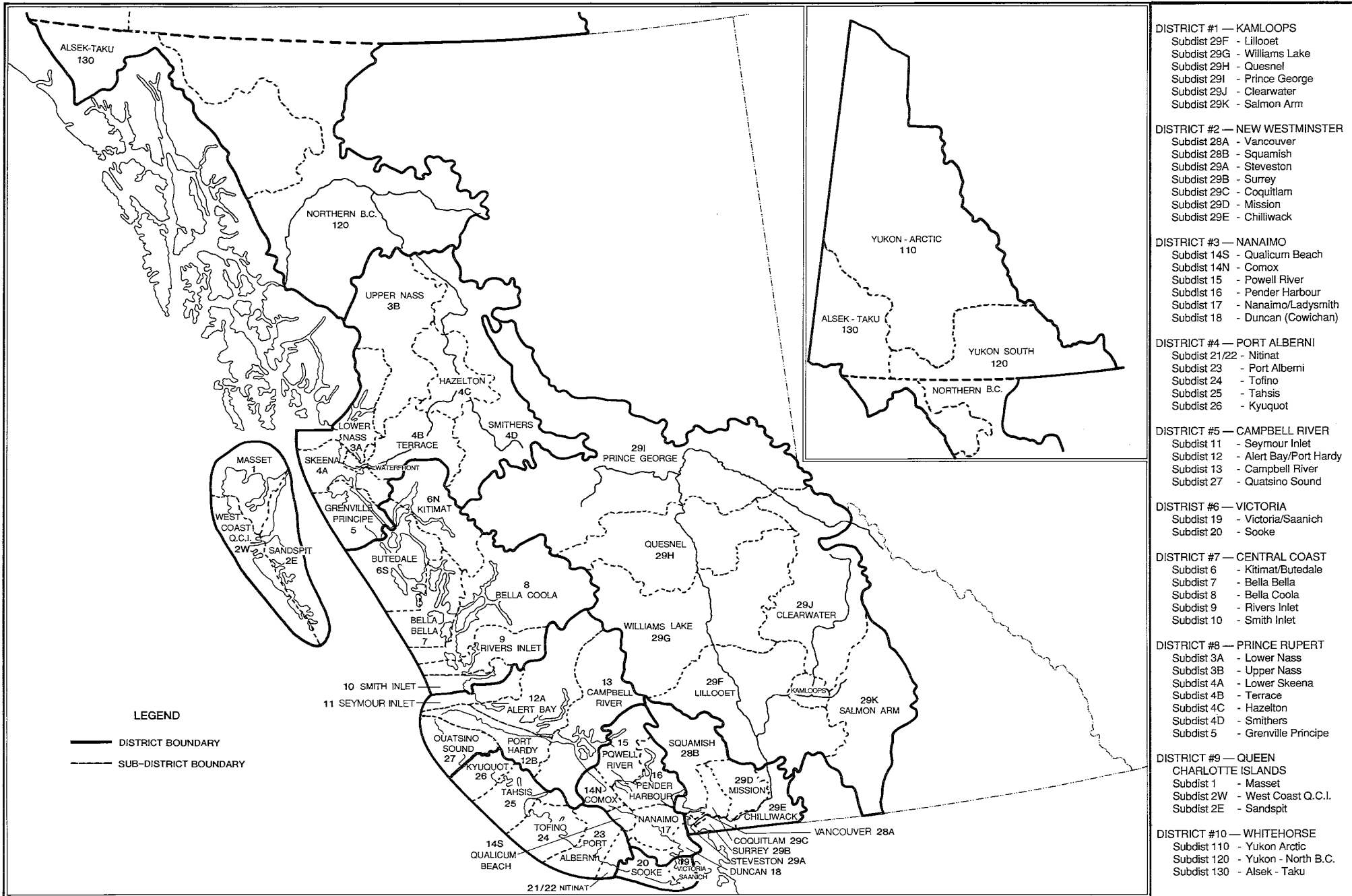
<u>DISTRICT #6</u>	- Victoria
	423 - 1230 Government St., Victoria, V8W 1Y3
Victoria/Saanich (19)	423 - 1230 Government St., Victoria, V8W 1Y3
Sooke (20)	Box 460, Sooke, V0S 1N0

<u>DISTRICT #7</u>	- Central Coast
	222 - 417 2nd Ave. West, Prince Rupert, V8J 1G8
Kitimat (6N)	315 - 450 Federal Building, Kitimat, V8C 1T6
Butedale (6S)	222 - 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

<u>DISTRICT #8</u>	- 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

<u>DISTRICT #9</u>	- 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

<u>DISTRICT #10</u>	- 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
Aisek-Taku (130)	Box 5341, Haines Junction, Y.T., Y0B 1L0



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

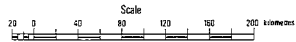


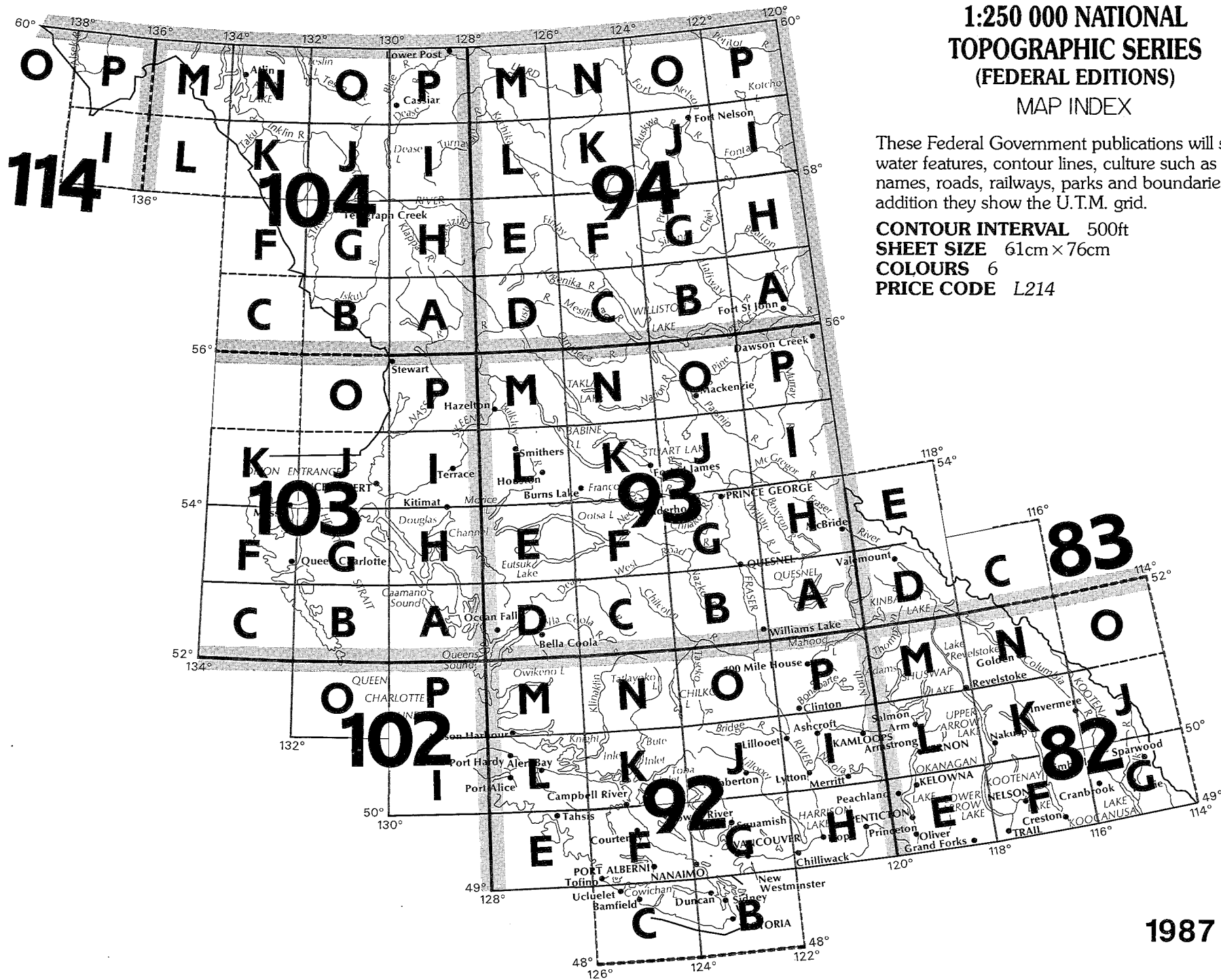
Province of British Columbia

**MINISTRY OF ENVIRONMENT
REGIONAL BOUNDARIES**

Revised October 1989

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

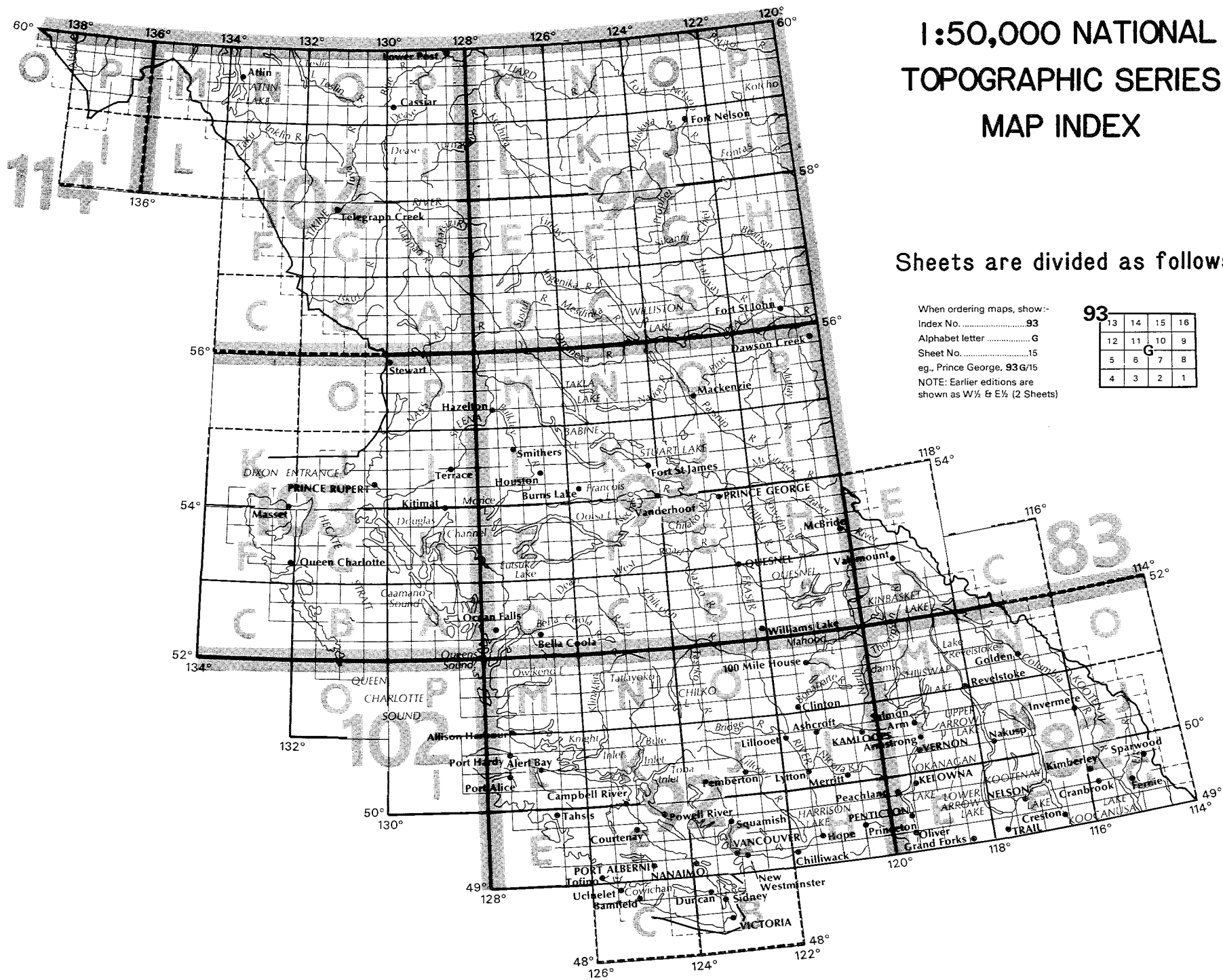




**1:250 000 NATIONAL
TOPOGRAPHIC SERIES
(FEDERAL EDITIONS)
MAP INDEX**

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 letterG
 Sheet No.15
 eg., Prince George, 93 G/15
 NOTE: Earlier editions are shown as W½ & E½ (2 Sheets)

93			
13	14	15	16
12	11	10	9
5	6	7	8
4	3	2	1

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

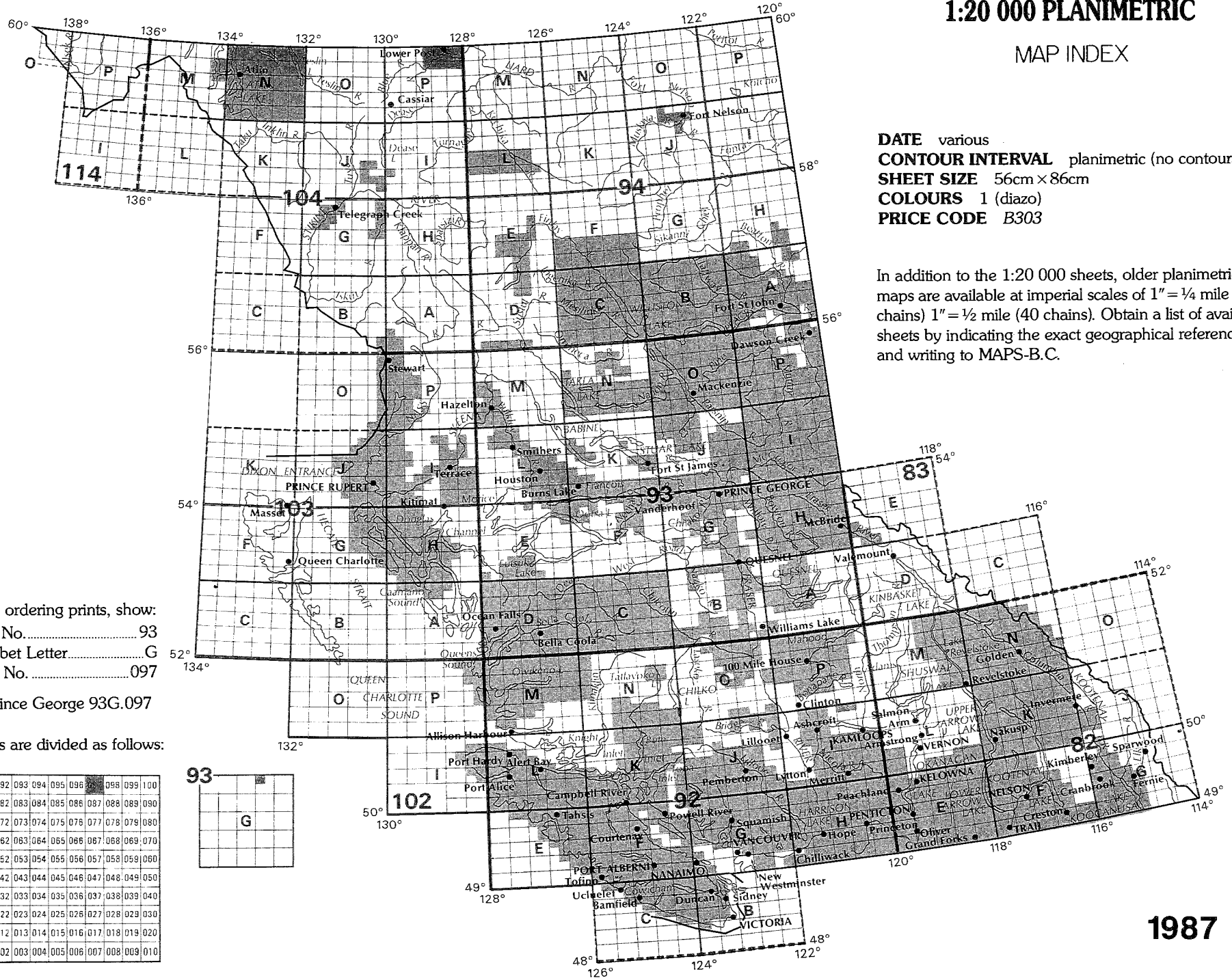
Alphabet Letter G

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 and Parks, 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.

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

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 revised to incorporate more accurate information (eg. mark/recapture studies) and thereby 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

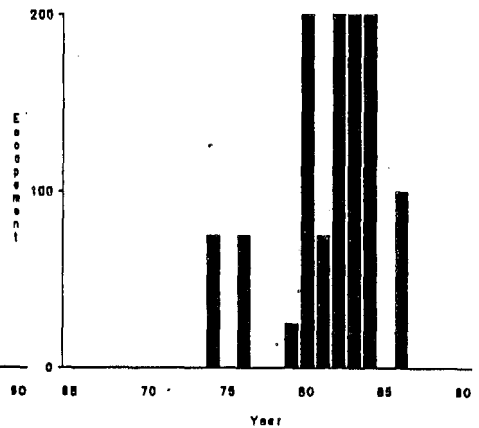
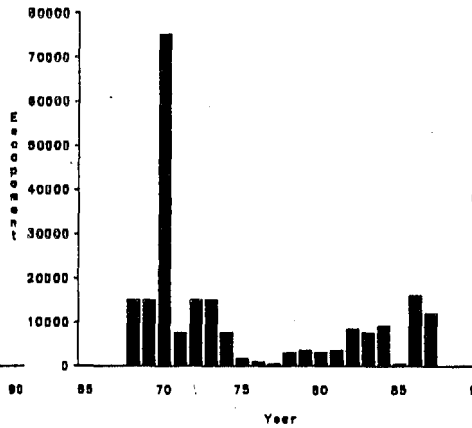
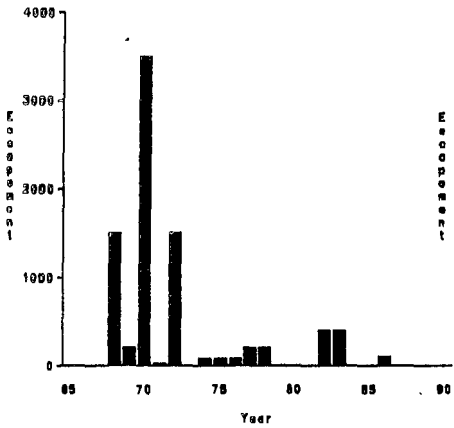
UNK = STREAM NOT INSPECTED OR NOT INSPECTED FOR SPECIES INDICATED OR SPECIES PRESENT BUT NO ESTIMATE MADE

EXAMPLE RIVER (93-1000)
Escapement & Run Timing

Sockeye (SK)

Coho (CO)

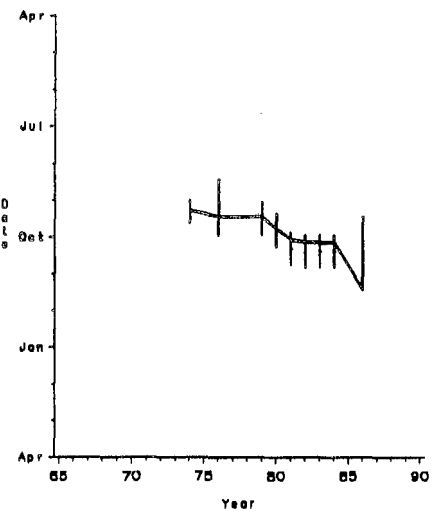
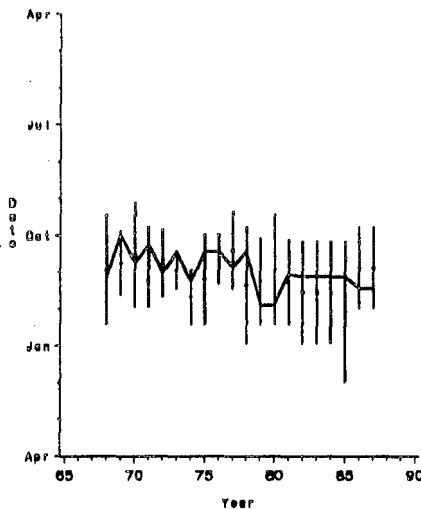
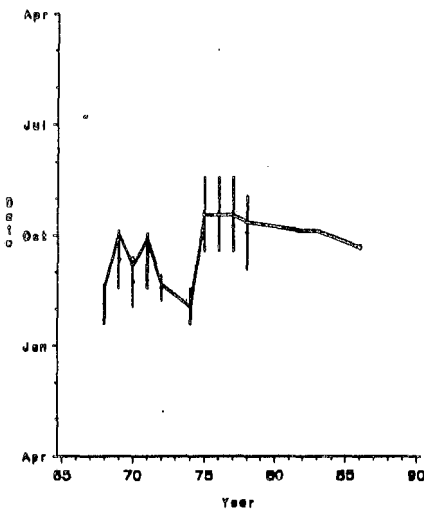
Pink (PK)



Sockeye

Coho

Pink



Sockeye				
Year	Escapement	Start	Peak	End
1966	1,600	12NOV	10NOV	16DEC
1968	200	28SEP	30SEP	18NOV
1970	3,300	16OCT	20OCT	30NOV
1971	25	26SEP	09OCT	18NOV
1972	1,500	04NOV	12NOV	28NOV
1973	0	-	-	-
1974	75	18NOV	01DEC	16DEC
1976	75	18AUG	16SEP	16OCT
1978	75	18AUG	18SEP	13OCT
1977	200	18AUG	18SEP	19OCT
1978	200	30AUG	21SEP	30OCT
1979	0	-	-	-
1980	0	-	-	-
1981	0	-	-	-
1982	400	28SEP	28SEP	29SEP
1983	400	28SEP	28SEP	28SEP
1984	0	-	-	-
1985	0	-	-	-
1986	100	16OCT	12OCT	13OCT
1987	0	-	-	-

Coho				
Year	Escapement	Start	Peak	End
1968	18,000	16SEP	07NOV	16DEC
1969	18,000	28SEP	30SEP	30NOV
1970	75,000	08SEP	29OCT	30NOV
1971	7,500	25SEP	16OCT	30NOV
1972	15,000	27SEP	02NOV	22NOV
1973	18,000	16OCT	16OCT	19NOV
1974	7,800	30OCT	16NOV	16DEC
1975	1,500	01OCT	16OCT	16DEC
1976	750	01OCT	15OCT	11NOV
1977	400	12SEP	26OCT	19NOV
1978	2,850	25SEP	15OCT	31DEC
1979	3,500	04OCT	29NOV	16DEC
1980	3,000	15SEP	29NOV	16DEC
1981	3,500	06OCT	03NOV	16DEC
1982	6,400	07OCT	09NOV	31DEC
1983	7,500	07OCT	09NOV	31DEC
1984	6,000	07OCT	09NOV	31DEC
1985	800	07OCT	09NOV	31JAN
1986	16,000	28SEP	16NOV	01DEC
1987	12,000	28SEP	16NOV	01DEC

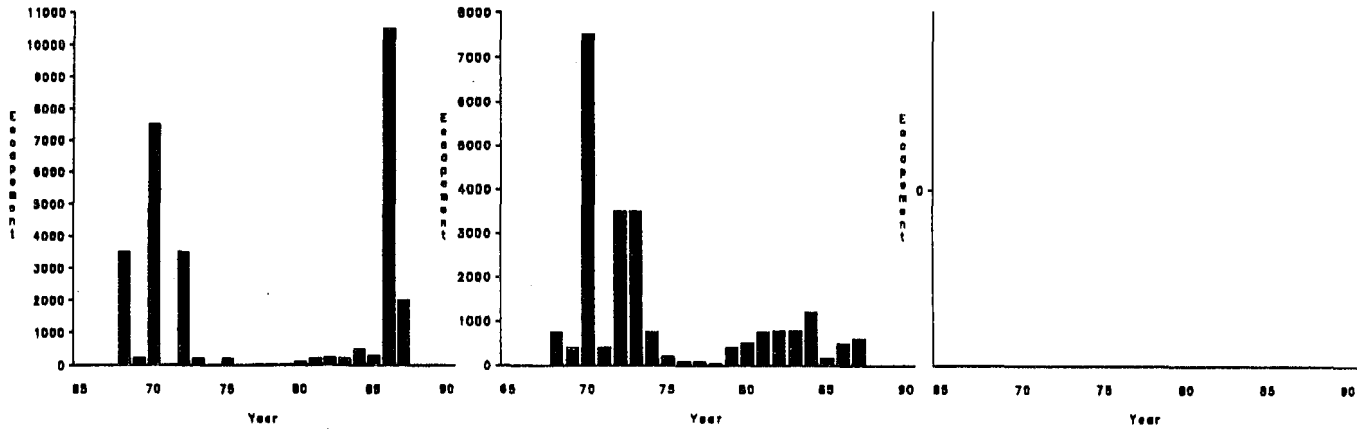
Pink				
Year	Escapement	Start	Peak	End
1968	0	-	-	-
1969	0	-	-	-
1970	0	-	-	-
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	75	01SEP	10SEP	20SEP
1975	0	-	-	-
1976	75	15AUG	13SEP	30SEP
1977	0	-	-	-
1978	0	-	-	-
1979	20	03SEP	15SEP	30SEP
1980	200	13SEP	25SEP	10OCT
1981	75	28SEP	04OCT	26OCT
1982	200	30SEP	06OCT	27OCT
1983	200	30SEP	06OCT	27OCT
1984	200	30SEP	06OCT	27OCT
1985	0	-	-	-
1986	100	12SEP	15NOV	19NOV
1987	0	-	-	-

EXAMPLE RIVER (93-1000)
Escapement & Run Timing

Chum (CM)

Chinook (CH)

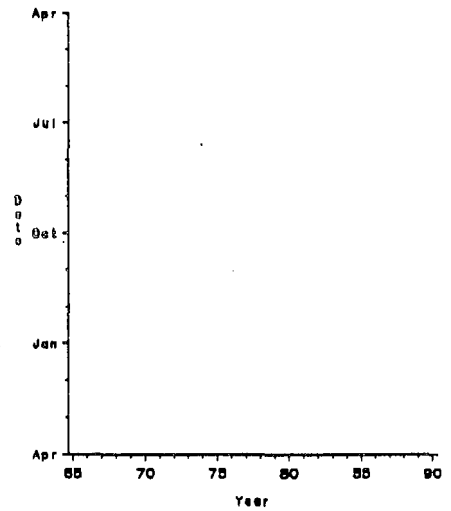
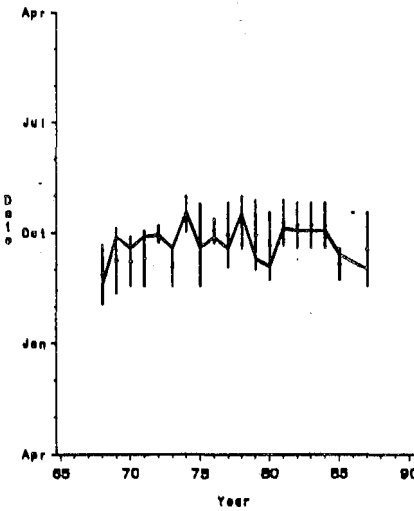
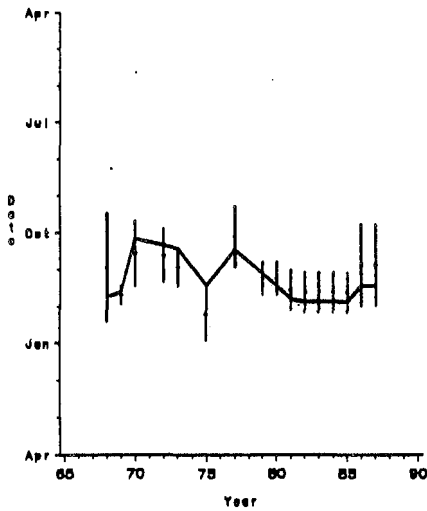
Steelhead (ST)



Chum

Chinook

Steelhead



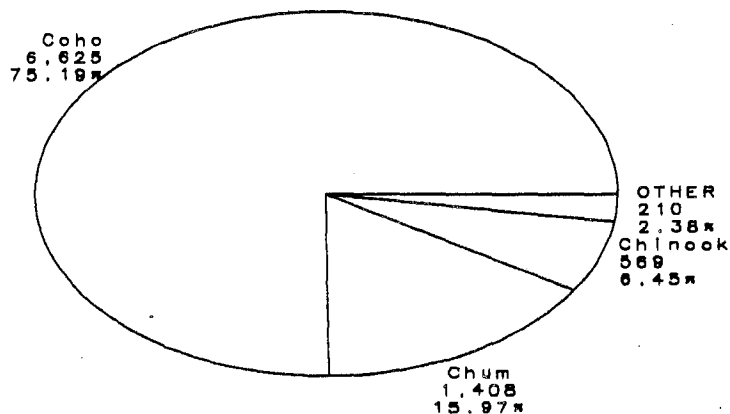
Year	Escapement	Start	Peak	End
1965	3,300	18SEP	24NOV	18DEC
1966	200	18NOV	20NOV	24NOV
1970	7,500	21SEP	07OCT	15NOV
1971	0	-	-	-
1972	3,500	29SEP	-	12NOV
1973	200	18OCT	18OCT	18NOV
1974	0	-	-	-
1975	200	17NOV	18NOV	31DEC
1976	0	-	-	-
1977	23	18SEP	18OCT	20OCT
1978	23	-	-	-
1979	28	26OCT	09NOV	22NOV
1980	100	26OCT	18NOV	22NOV
1981	200	02NOV	20NOV	04DEC
1982	225	04NOV	20NOV	07DEC
1983	200	04NOV	20NOV	07DEC
1984	500	04NOV	20NOV	07DEC
1985	300	04NOV	20NOV	07DEC
1986	10,500	21SEP	18NOV	01DEC
1987	2,000	28SEP	18NOV	01DEC

Year	Escapement	Start	Peak	End
1968	760	12OCT	18NOV	20NOV
1969	400	28SEP	08OCT	21NOV
1970	7,300	09OCT	15OCT	18NOV
1971	480	30SEP	08OCT	18NOV
1972	3,500	28SEP	04OCT	10OCT
1973	3,000	10OCT	18OCT	18NOV
1974	750	01SEP	18SEP	01OCT
1975	200	08SEP	16OCT	18NOV
1976	75	20SEP	05OCT	10OCT
1977	75	07SEP	18OCT	20OCT
1978	50	01SEP	18SEP	10OCT
1979	400	06SEP	29OCT	01NOV
1980	500	15SEP	20OCT	10NOV
1981	750	08SEP	28SEP	12OCT
1982	775	07SEP	20SEP	14OCT
1983	775	07SEP	30SEP	14OCT
1984	1,200	07SEP	30SEP	14OCT
1985	100	18OCT	29OCT	18NOV
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	-	-	-	-

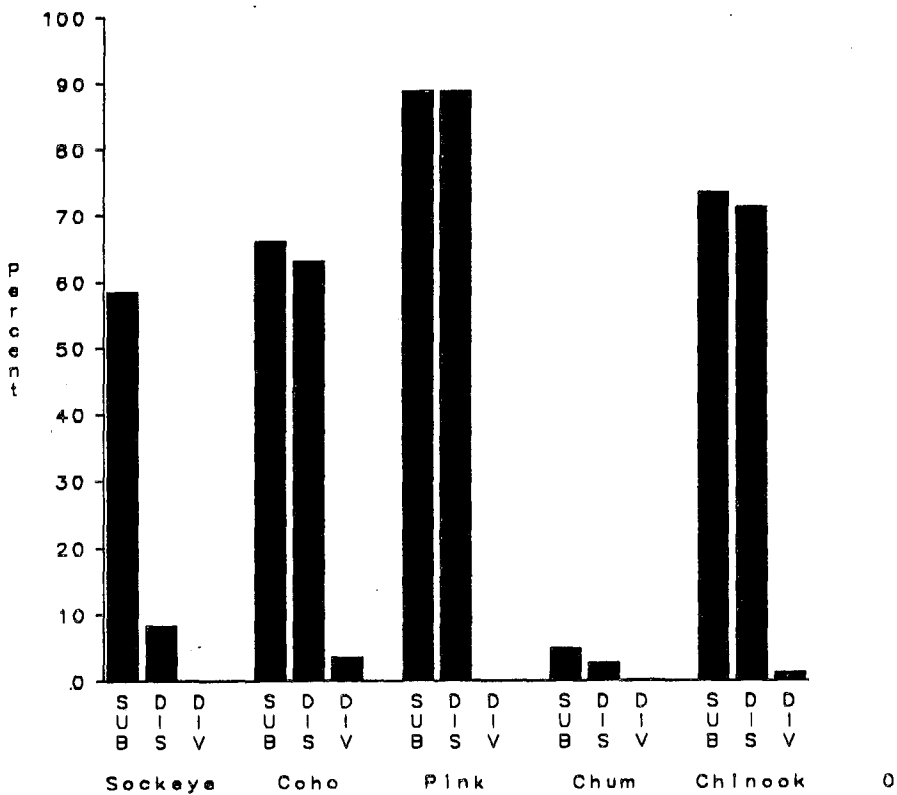
EXAMPLE RIVER (93-1000)

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.

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: A FEW COHO SPAWN AND REAR IN REACHES 1 AND 2 (REF. 21-2)													

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

FISHERIES VALUES COULD BE DETRIMENTALLY AFFECTED BY SEDIMENTATION AND DEBRIS, ESPECIALLY IN HIGH VALUE DOWNSTREAM ANADROMOUS FISH WATERS. (REF. 21-2)
SITE-SPECIFIC MANAGEMENT IS REQUIRED TO PROTECT DECIDUOUS AND UNDERSTORY STREAMSIDE VEGETATION DURING FOREST MANAGEMENT ACTIVITIES. (REF. 21-2)
HABITAT IN REACHES 1 AND 2 APPEARS SUITABLE FOR CHINOOK, HOWEVER, NONE WERE OBSERVED. (REF. 21-2)

J. FISHERY OFFICER NARRATIVE

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

K. SIS COMPLETED BY

Completed by: KATHY PONTUS	Date: 1990/06/03
Last checked by: BRIAN TUTTY	Date: 1990/07/30

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Comments: ACCESSIBLE PORTIONS OF REACH I1 PROVIDE GOOD STEELHEAD REARING HABITAT (REF. 21-2)													

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

FISHERIES VALUE IS LOW BUT ANADROMOUS FISH WATERS WILL REQUIRE SOME CONSIDERATION DURING FOREST MANAGEMENT ACTIVITIES. (REF. 21-2)
FACTORS LIMITING FISH PRODUCTION INCLUDE: IMPASSABLE FALLS AND LACK OF SPAWNING-REARING HABITAT IN ACCESIBLE ANADROMOUS FISH WATERS (REF. 21-2)

J. FISHERY OFFICER NARRATIVE

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

K. SIS COMPLETED BY.

Completed by: KATHY PONTUS	Date: 1990/07/03
Last checked by: BRIAN TUTTY	Date: 1990/07/30

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	X X	X X	X X	X X	X X	X X	X X	X X	
Comments: SK ARRIVE IN JAN. BUT DON'T SPAWN UNTIL THE FALL (REF. 23-8)													

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FT LAKE FERTILIZAT'N	SK SOCKEYE SALMON	0.0	SOME STUDIES BY LAKE ENRICHMENT BRANCH OF P.B.S. (REF. 23-8)	1985/1986

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
PR PARKS	WITHIN PHASE 3 OF PAC RIM NATIONAL PARK (REF. 23-8)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

NO INFORMATION AVAILABLE

J. FISHERY OFFICER NARRATIVE

Date Prepared: / / Prepared By:

K. SIS COMPLETED BY

Completed by:	GITA KAPAHI	Date:	1989/02/28
Last checked by:	BRIAN TUTTY	Date:	1990/07/30

ESCAPEMENT : CHEEWHAT RIVER

WATERSHED-CODE : 93-1400

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	1500	750	0	0	0	0
1954	1500	750	0	0	0	0
1955	1500	400	0	0	0	0
1956	1500	750	0	75	0	0
1957	1500	400	0	75	0	0
1958	1500	400	0	75	0	0
1959	1500	750	0	75	0	0
1960	1500	75	0	75	0	0
1961	1500	400	0	200	0	0
1962	1500	400	0	25	0	0
1963	1500	75	0	25	0	0
1964	1500	400	0	200	0	0
1965	1500	400	0	75	0	0
1966	1500	400	0	75	0	0
1967	1500	75	0	400	0	0
1968	200	75	0	200	0	0
1969	75	75	0	25	0	UNK
1970	400	200	0	25	0	0
1971	75	25	0	N/O	0	0
1972	750	75	0	75	0	25
1973	75	200	0	25	0	0
1974	500	75	0	N/O	0	0
1975	200	75	0	N/O	0	0
1976	250	90	0	75	0	0
1977	230	80	0	50	0	0
1978	200	70	0	0	0	0
1979	200	80	0	N/O	0	0
1980	UNK	UNK	UNK	UNK	UNK	UNK
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	UNK	UNK	0	UNK	0	0
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	4000	UNK	0	0	0	0
1985	UNK	UNK	UNK	UNK	UNK	0
1986	2000	250	UNK	UNK	UNK	0
1987	5000	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

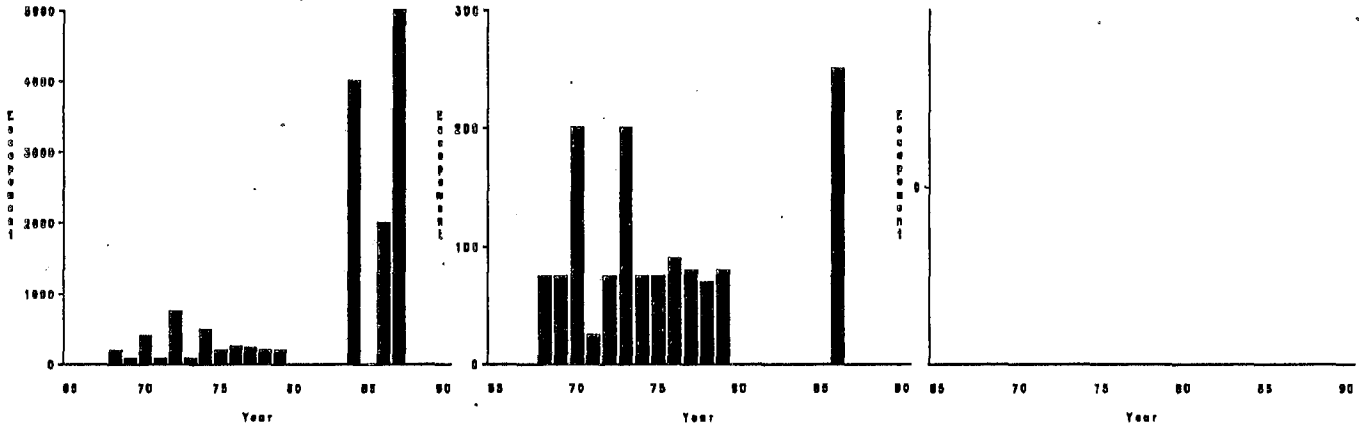
CHEEWHAT RIVER (93-1400)

Escapement & Run Timing

Sockeye (SK)

Coho (CO)

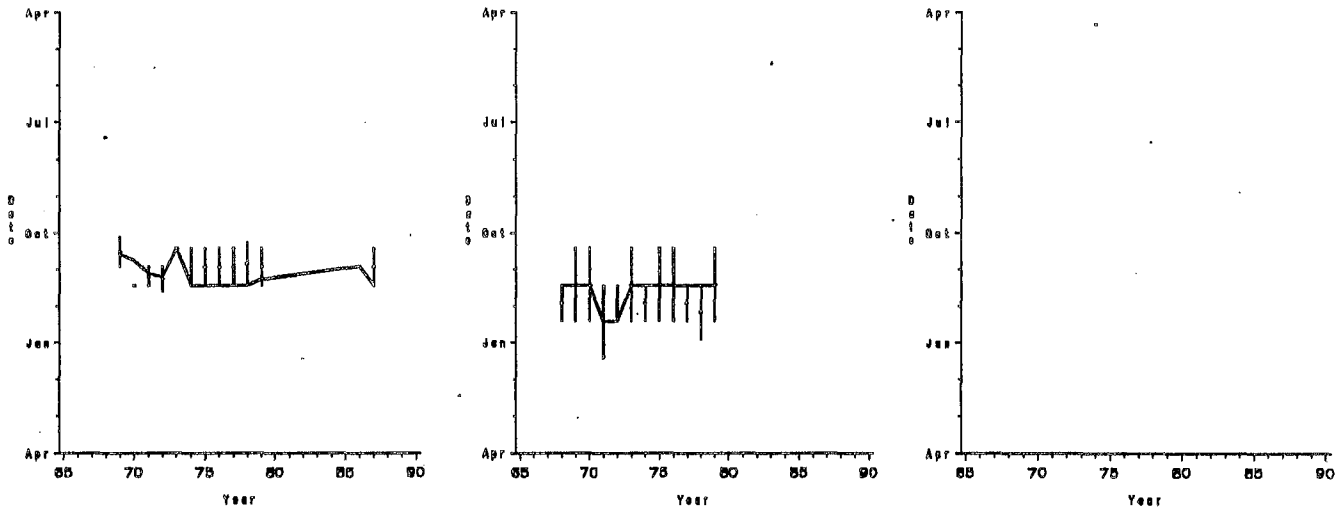
Pink (PK)



Sockeye

Coho

Pink



Sockeye				
Year	Escapement	Start	Peak	End
1966	200	18FEB	29JUL	16JUL
1968	75	08OCT	20OCT	20OCT
1970	400	10FEB	20OCT	15NOV
1971	75	30OCT	09NOV	15NOV
1972	700	30OCT	08NOV	24NOV
1973	75	18OCT	18OCT	18OCT
1974	800	18OCT	15NOV	15NOV
1975	300	18OCT	15NOV	15NOV
1976	250	18OCT	15NOV	15NOV
1977	230	18OCT	15NOV	15NOV
1978	200	18OCT	15NOV	15NOV
1979	200	18OCT	15NOV	15NOV
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	1,500	-	-	-
1985	-	-	-	-
1986	1,000	-	30OCT	-
1987	3,000	18OCT	15NOV	15NOV

Coho				
Year	Escapement	Start	Peak	End
1966	75	10NOV	15NOV	10DEC
1968	75	15OCT	15NOV	15DEC
1970	200	15OCT	15NOV	15DEC
1971	15	15NOV	10DEC	15JAN
1972	75	15NOV	10DEC	10DEC
1973	250	15OCT	15NOV	10DEC
1974	75	15NOV	15NOV	10DEC
1975	75	15OCT	15NOV	10DEC
1976	80	15OCT	15NOV	10DEC
1977	60	15NOV	15NOV	10DEC
1978	70	15NOV	15NOV	30DEC
1979	90	15OCT	15NOV	10DEC
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	250	-	-	-
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	0	-	-	-
1979	0	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	0	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	0	-	-	-

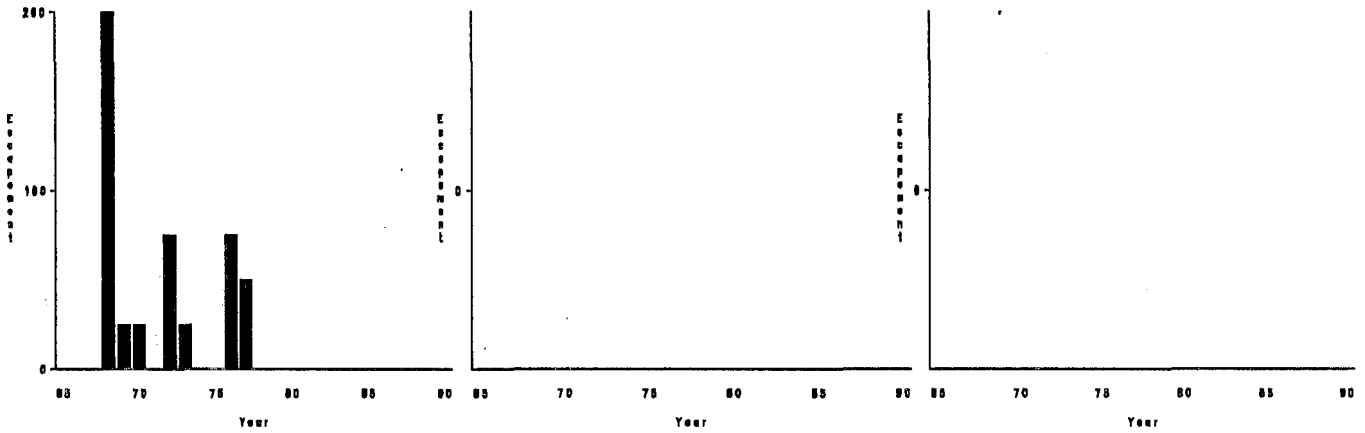
CHEEWAT RIVER (93-1400)

Escapement & Run Timing

Chum (CM)

Chinook (CH)

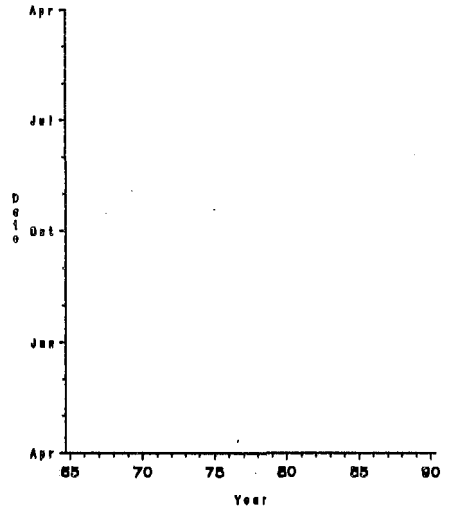
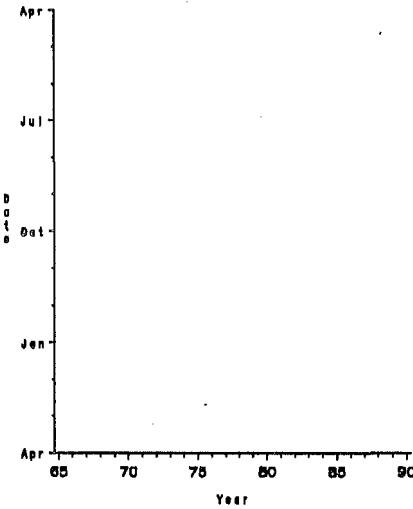
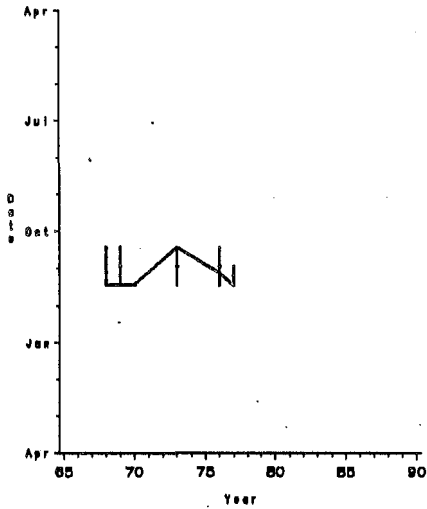
Steelhead (ST)



Chum

Chinook

Steelhead



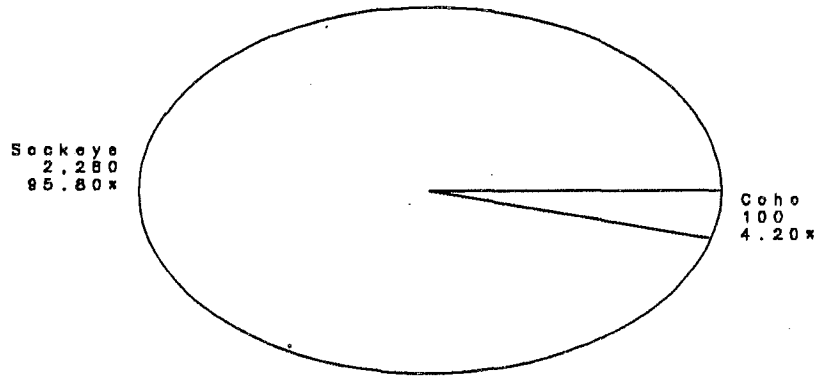
Year	Escapement	Start	Peak	End
1966	200	18OCT	18NOV	18NOV
1970	25	18OCT	18NOV	18NOV
1972	75	18NOV	18NOV	18NOV
1973	25	18OCT	18OCT	18NOV
1974	0	-	-	-
1975	0	-	-	-
1976	75	18OCT	05NOV	18NOV
1977	90	30OCT	15NOV	18NOV
1978	0	-	-	-
1979	0	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	-	-	-	-
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	-	-	-	-
1981	-	-	-	-
1982	0	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	-	-	-	-
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	-	-	-	-

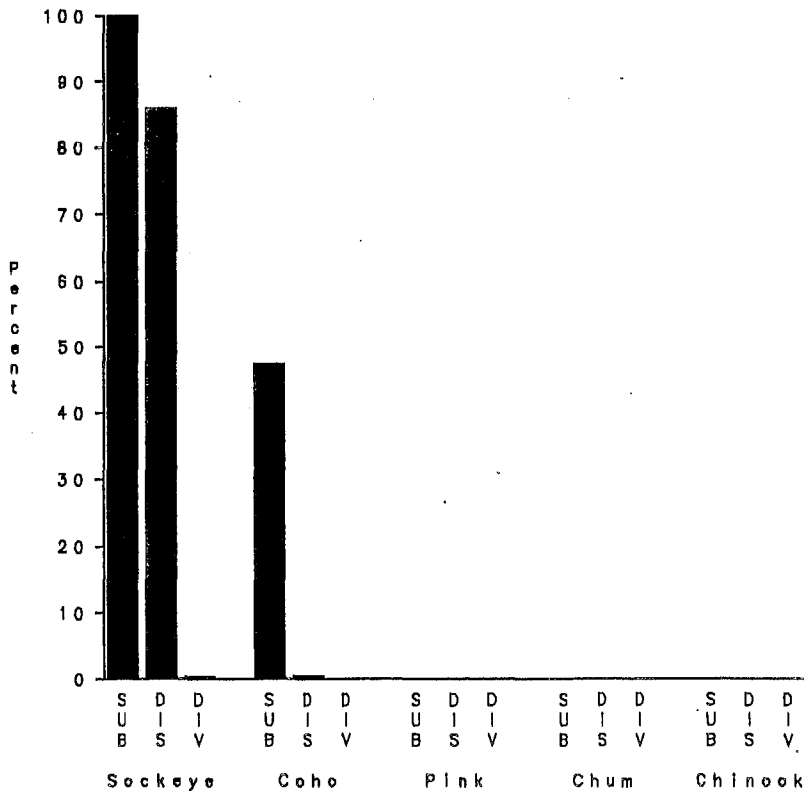
CHEEWHAT RIVER (93-1400)

10-yr Mean Escapement
(1978-1987)



CHEEWHAT RIVER : Escapement (1978-1987)

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



E. ESCAPEMENT SUMMARY

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
SK SOCKEYE SALMON	65	1978 - 1987	28A-18	250	28A-18		
CO COHO SALMON	1219	1978 - 1987	28A-18	3800	28A-18		
PK PINK SALMON	12	1979 - 1987	28A-18	50	28A-18		
CM CHUM SALMON	60246	1978 - 1987	28A-18	210000	28A-18		
CH CHINOOK SALMON	3670	1978 - 1987	28A-18	12000	28A-18		

Comments: ODD YEAR PINKS REPORTED; EVEN YEAR PINK (N=2) RECORDED IN 1984 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	
CO COHO SALMON	Migration Spawning Incubation Rearing	X									X	X X	X X
CM CHUM SALMON	Migration Spawning Incubation Rearing									X	X X	X X	X
CH CHINOOK SALMON	Migration Spawning Incubation Rearing									X	X X	X X	X

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
EM ENHANCEMENT ACTS	CH CHINOOK SALMON CM CHUM SALMON CO COHO SALMON	29.0	MAJOR S.E.P. FACILITY (ONGOING) (REF. 23-8)	1980/

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FD FORESTRY	INTENSIVE FOREST HARVESTING THROUGHOUT WATERSHED (REF. 23-8)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

SMORTEL SURVEYS 1977-79, 1984, 1987, VERNON CREEK TO PARKER C (REF. 23-13)
NITINAT LAKE (23KM LONG) IS TIDAL AND ANOXIC AT DEPTH (REF. 17-68)

J. FISHERY OFFICER NARRATIVE

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

Completed by: GITA KAPAH	Date: 1989/03/06
Last checked by: BRIAN TUTTY	Date: 1990/07/30

ESCAPEMENT : NITINAT RIVER

WATERSHED-CODE : 93-1500

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	0	1500	0	7500	750	400
1954	0	1500	0	75000	750	400
1955	0	3500	0	3500	750	400
1956	0	750	0	35000	400	750
1957	0	750	0	15000	3500	750
1958	0	1500	200	15000	1500	750
1959	0	750	N/O	15000	400	750
1960	0	750	25	35000	750	750
1961	0	1500	0	35000	1500	750
1962	0	1500	75	15000	1500	750
1963	0	750	N/O	5000	1500	750
1964	25	3500	25	35000	3500	750
1965	N/O	3500	N/O	75000	3500	0
1966	N/O	3500	N/O	7500	3500	0
1967	N/O	3500	0	15000	1500	0
1968	0	3500	0	110000	3500	0
1969	0	1500	0	11000	1500	0
1970	25	1500	0	4000	750	1125
1971	25	1500	0	50000	1200	400
1972	0	400	0	230000	800	400
1973	0	3500	0	160000	850	0
1974	0	800	0	95000	3000	0
1975	0	600	0	8000	800	0
1976	0	375	0	18000	650	400
1977	0	740	0	42000	1000	0
1978	50	1200	0	6000	1200	0
1979	80	600	0	4000	3500	0
1980	10	600	0	50000	3000	0
1981	15	UNK	0	111000	1000	UNK
1982	200	50	0	22500	2000	40
1983	38	280	12	7960	1300	54
1984	6	UNK	2	1000	2200	UNK
1985	250	UNK	50	210000	12000	0
1986	0	3800	UNK	140000	8000	0
1987	0	2000	0	50000	2500	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

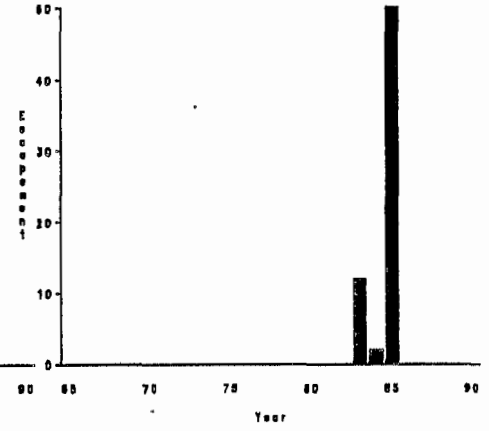
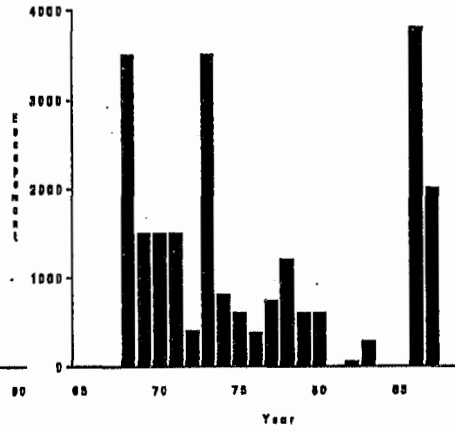
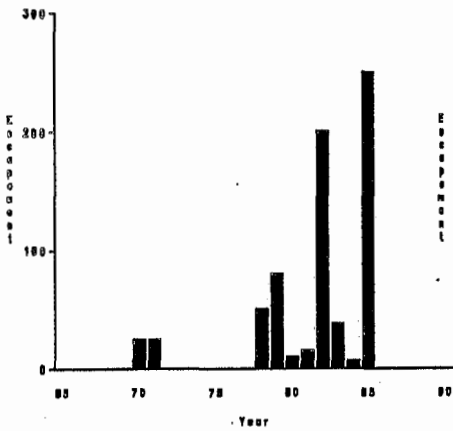
NITINAT RIVER (93-1500)

Escapement & Run Timing

Sockeye (SK)

Coho (CO)

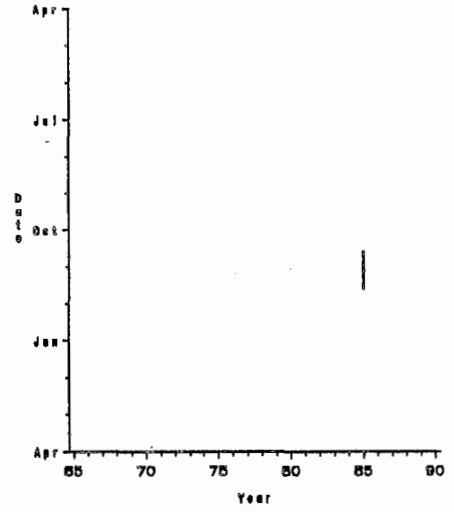
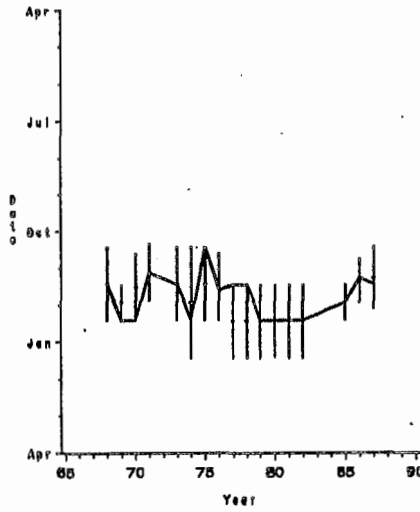
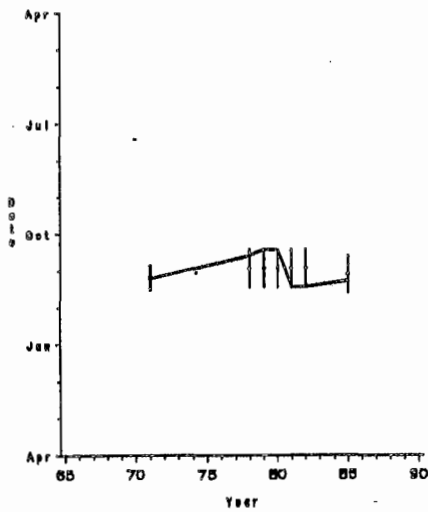
Pink (PK)



Sockeye

Coho

Pink



Sockeye				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1968	0	-	-	-
1969	25	18JUL	-	-
1970	25	28OCT	08NOV	18NOV
1971	0	-	-	-
1972	0	-	-	-
1973	0	-	-	-
1974	0	-	-	-
1975	0	-	-	-
1976	0	-	-	-
1977	0	-	-	-
1978	0	-	-	-
1979	04	18OCT	28OCT	18NOV
1980	04	18OCT	18OCT	18NOV
1981	16	18OCT	18OCT	18NOV
1982	16	18OCT	18NOV	18NOV
1983	306	18OCT	18NOV	18NOV
1984	32	-	-	-
1985	0	-	-	-
1986	288	28OCT	10NOV	28NOV
1987	0	-	-	-
1988	0	-	-	-
1989	0	-	-	-
1990	0	-	-	-

Coho				
Year	Escapement	Start	Peak	End
1966	3,500	18OCT	18NOV	18DEC
1967	1,800	18NOV	18DEC	18DEC
1968	1,500	28OCT	18DEC	18DEC
1969	1,300	12OCT	08NOV	28NOV
1970	400	-	-	-
1971	3,500	18OCT	18NOV	18DEC
1972	800	18OCT	18DEC	18JAN
1973	800	18OCT	18OCT	18DEC
1974	375	28OCT	28NOV	18DEC
1975	740	18NOV	18NOV	18JAN
1976	1,200	18NOV	18NOV	18JAN
1977	800	18NOV	18DEC	18JAN
1978	800	18NOV	18DEC	18JAN
1979	800	18NOV	18DEC	18JAN
1980	800	18NOV	18DEC	18JAN
1981	-	18NOV	18DEC	18JAN
1982	50	18NOV	18DEC	18JAN
1983	250	-	-	-
1984	-	-	-	-
1985	-	18NOV	30NOV	18DEC
1986	3,500	28OCT	08NOV	30NOV
1987	2,000	18OCT	18NOV	08DEC

Pink				
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	12	-	-	-
1984	2	-	-	-
1985	50	28OCT	10NOV	28NOV
1986	-	-	-	-
1987	0	-	-	-

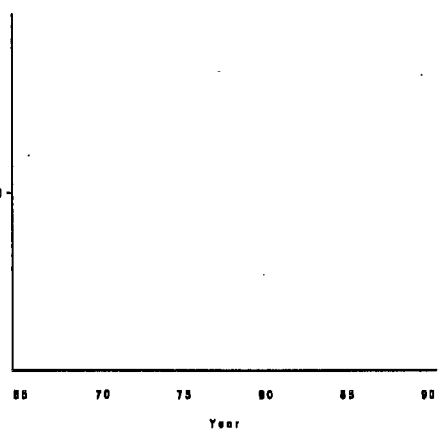
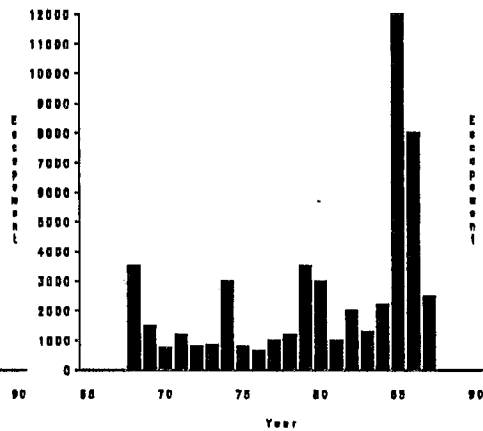
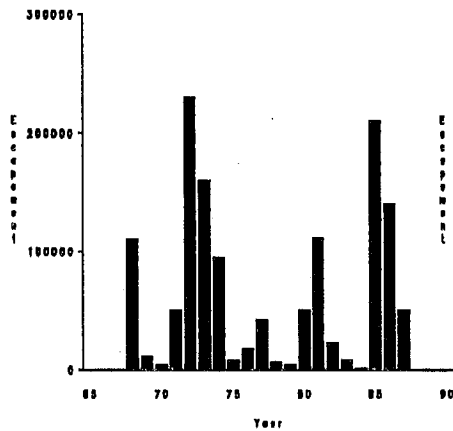
NITINAT RIVER (93-1500)

Escapement & Run Timing

Chum (CM)

Chinook (CH)

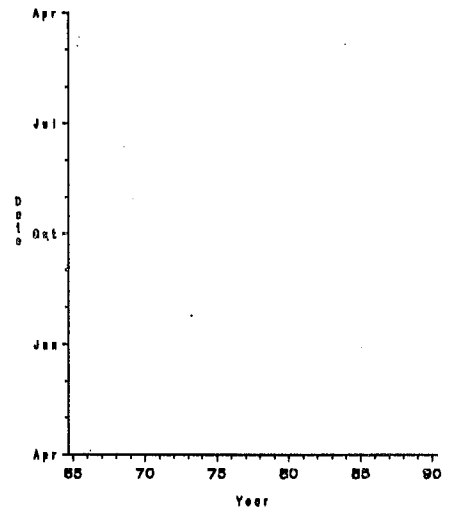
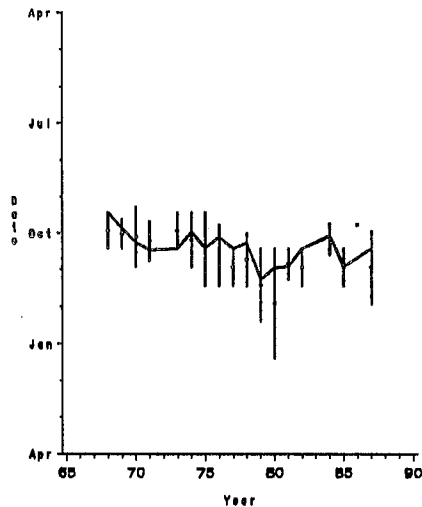
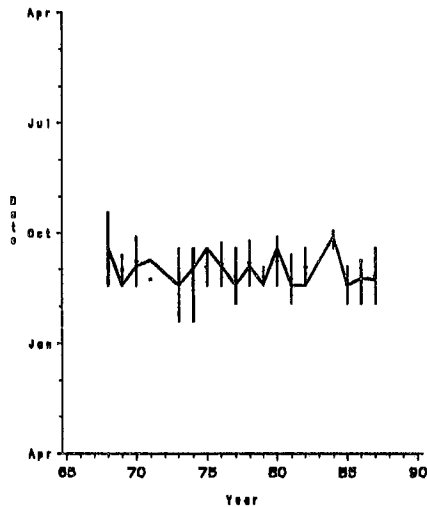
Steelhead (ST)



Chum

Chinook

Steelhead



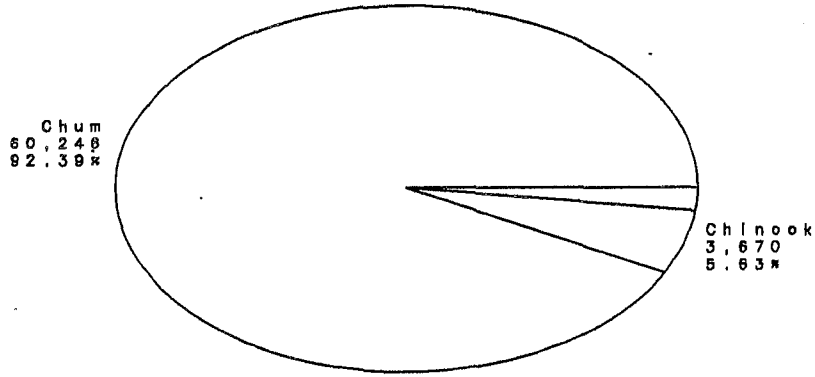
Year	Escapement	Start	Peak	End
1969	110,000	18SEP	15OCT	18NOV
1970	11,000	20OCT	18NOV	18NOV
1971	4,000	05OCT	30OCT	13NOV
1971	36,000	-	28OCT	16NOV
1972	230,000	-	-	-
1973	180,000	18OCT	18NOV	12DEC
1974	92,000	18OCT	01NOV	12DEC
1975	8,000	18OCT	18OCT	18NOV
1976	18,000	18OCT	30OCT	15NOV
1977	42,000	18OCT	18NOV	30NOV
1978	8,000	08OCT	30OCT	13NOV
1979	4,000	31OCT	18NOV	18NOV
1980	58,000	08OCT	15OCT	18NOV
1981	111,000	20OCT	18NOV	30NOV
1982	22,000	15OCT	15NOV	15NOV
1983	7,000	-	-	-
1984	1,000	30SEP	05OCT	13OCT
1985	210,000	30OCT	18NOV	30NOV
1986	146,000	20OCT	09NOV	30NOV
1987	56,000	12OCT	10NOV	30NOV

Year	Escapement	Start	Peak	End
1969	3,500	18SEP	18SEP	18OCT
1970	1,000	20SEP	28SEP	18OCT
1971	750	10SEP	18OCT	30OCT
1971	1,200	28SEP	18OCT	20OCT
1972	800	-	-	-
1973	800	16SEP	18OCT	18OCT
1974	2,000	16SEP	01OCT	31OCT
1975	800	18SEP	18OCT	18NOV
1976	850	25SEP	05OCT	15NOV
1977	1,000	19OCT	19OCT	19NOV
1978	1,200	02OCT	18OCT	18NOV
1979	3,500	19OCT	18NOV	10DEC
1980	3,000	18OCT	31OCT	14JAN
1981	1,000	18OCT	20OCT	18NOV
1982	2,000	15OCT	19OCT	18NOV
1983	1,300	-	-	-
1984	1,200	24SEP	04OCT	20OCT
1985	12,000	18OCT	30OCT	18NOV
1986	8,000	25SEP	-	-
1987	2,000	30SEP	13OCT	30NOV

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

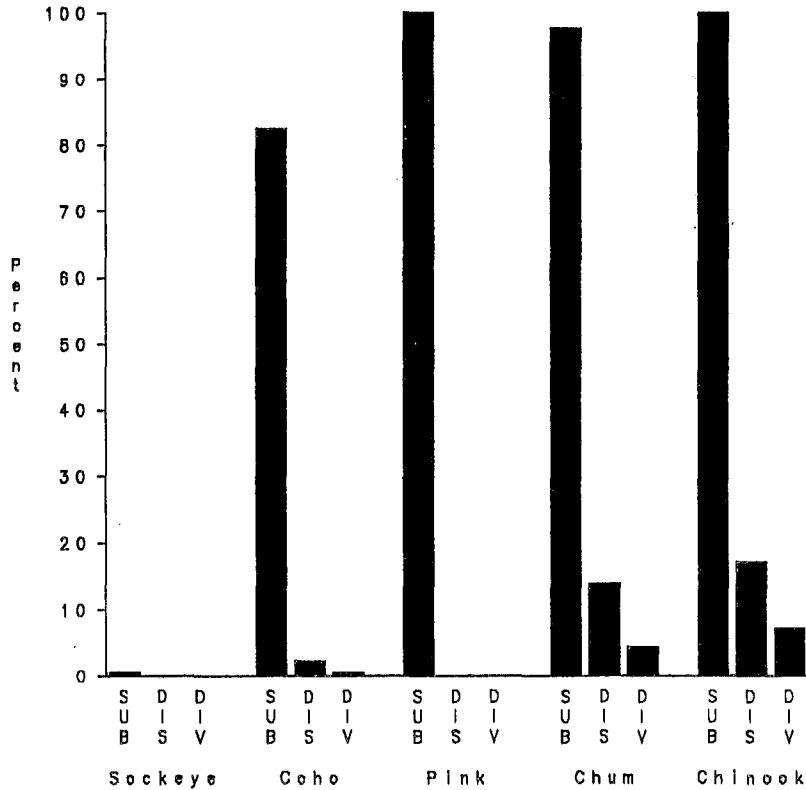
NITINAT RIVER (93-1500)

10-yr Mean Escapement
(1978-1987)



NITINAT RIVER : 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
CO COHO SALMON	Migration Spawning Incubation Rearing	X									X	X X	X X
CM CHUM SALMON	Migration Spawning Incubation Rearing										X	X X	X

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	HEAVY LOGGING HISTORICALLY (REF. 23-8)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

NO INFORMATION AVAILABLE

J. FISHERY OFFICER NARRATIVE

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

K. SIS COMPLETED BY

Completed by: GITA KAPAH	Date: 1989/03/02
Last checked by: BRIAN TUTTY	Date: 1990/07/30

ESCAPEMENT : DOOBAN CREEK

WATERSHED-CODE : 93-1500-130

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	0	25	0	400	0	0
1967	0	200	0	750	0	0
1968	0	400	0	3500	0	0
1969	200	0	3500	0	0	0
1970	0	200	0	400	0	0
1971	0	75	0	200	0	0
1972	0	75	0	12000	0	25
1973	0	200	0	1500	0	0
1974	0	150	0	800	0	0
1975	0	75	0	400	0	0
1976	0	850	0	850	0	0
1977	0	115	0	800	0	0
1978	0	150	0	300	0	0
1979	0	125	0	130	0	0
1980	0	120	0	500	0	0
1981	0	0	0	UNK	0	0
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	0	UNK	0	UNK	0	UNK
1985	UNK	UNK	UNK	UNK	UNK	0
1986	0	50	0	320	0	0
1987	0	50	0	100	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

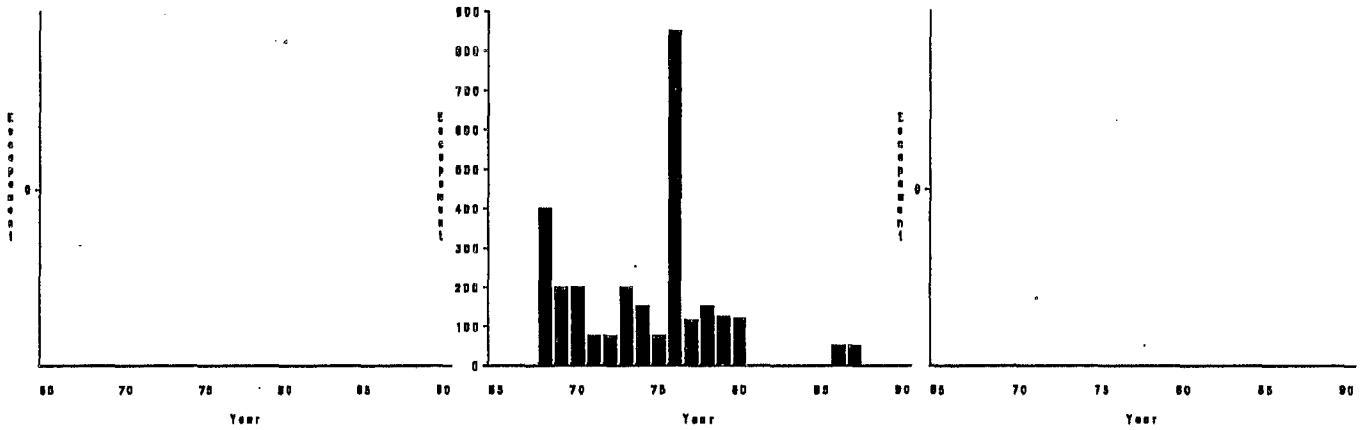
DOOBAH CREEK (93-1500-130)

Escapement & Run Timing

Socketeye (SK)

Coho (CO)

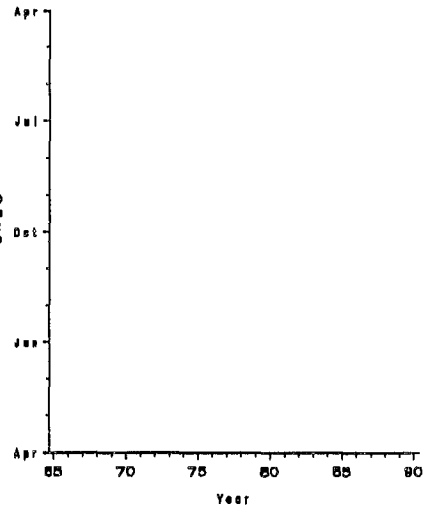
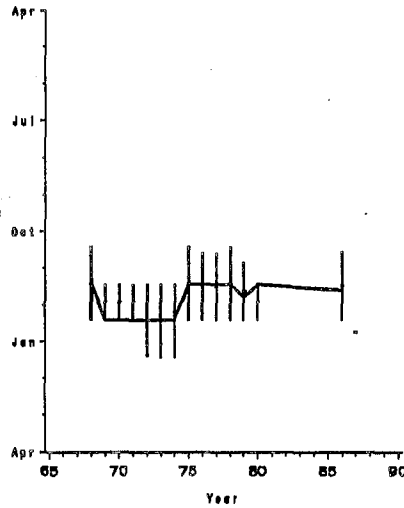
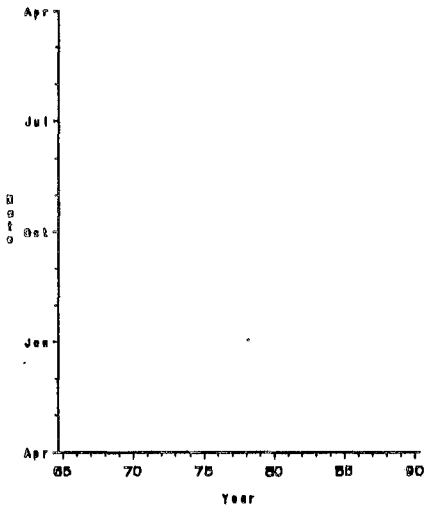
Pink (PK)



Sockeye

Coho

Pink



Year	Escapement	Start	Peak	End
1966	0	-	-	-
1968	400	-	-	-
1969	200	-	-	-
1970	200	-	-	-
1971	75	-	-	-
1972	75	-	-	-
1973	200	-	-	-
1974	150	-	-	-
1975	75	-	-	-
1976	850	-	-	-
1977	115	-	-	-
1978	150	-	-	-
1979	125	-	-	-
1980	120	-	-	-
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	50	-	-	-
1987	50	-	-	-

Year	Escapement	Start	Peak	End
1968	400	16OCT	15NOV	16DEC
1969	200	16NOV	16DEC	16DEC
1970	200	15NOV	16DEC	16DEC
1971	75	15NOV	16DEC	16DEC
1972	75	15NOV	16DEC	14JAN
1973	200	16NOV	16DEC	16JAN
1974	150	16NOV	16DEC	16JAN
1975	75	16OCT	16NOV	16DEC
1976	850	20OCT	15NOV	16DEC
1977	115	20OCT	15NOV	16DEC
1978	150	16OCT	16NOV	16DEC
1979	125	24OCT	21NOV	16DEC
1980	120	15NOV	15NOV	16DEC
1981	0	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	50	16OCT	28NOV	16DEC
1987	50	-	-	28DEC

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	-	-	-	-
1983	-	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	0	-	-	-
1987	0	-	-	-

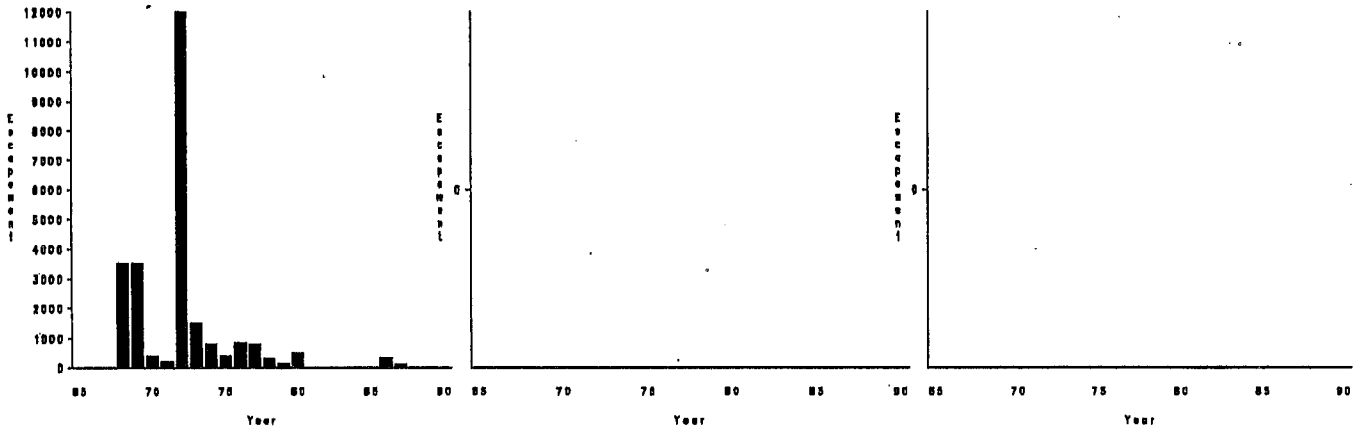
DOOBAH CREEK (93-1500-130)

Escapement & Run Timing

Chum (CM)

Chinook (CH)

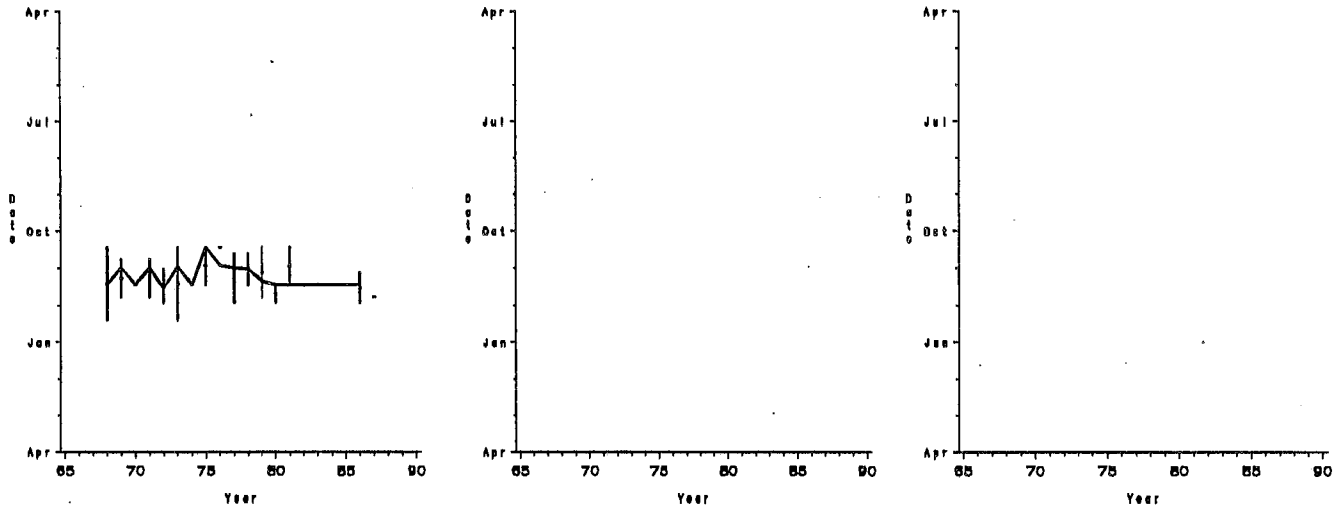
Steelhead (ST)



Chum

Chinook

Steelhead



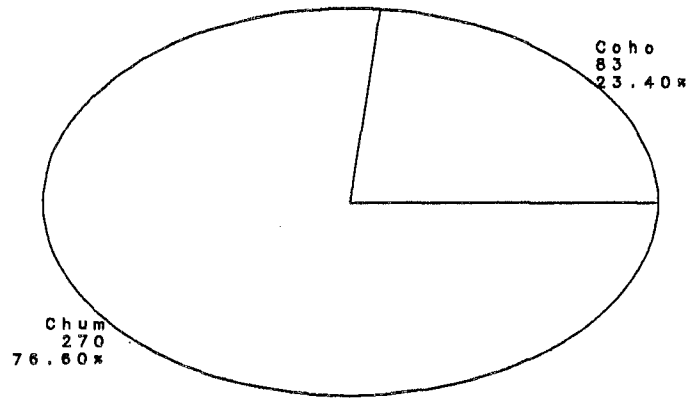
Year	Escapement	Start	Peak	End
1966	3,500	18OCT	18NOV	18DEC
1966	3,500	20OCT	01NOV	23NOV
1970	400	12NOV	15NOV	15NOV
1971	300	25OCT	01NOV	23NOV
1972	12,000	02NOV	18NOV	30NOV
1973	1,800	18OCT	31OCT	18DEC
1974	800	12NOV	15NOV	15NOV
1975	400	18OCT	18OCT	18NOV
1976	800	18OCT	30OCT	-
1977	800	26OCT	01NOV	30NOV
1978	300	26OCT	02NOV	13NOV
1979	130	18OCT	12NOV	24NOV
1980	200	12NOV	15NOV	30NOV
1981	-	18OCT	18NOV	18NOV
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	320	05NOV	18NOV	30NOV
1987	100	-	-	25NOV

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	-	-	-	-
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	-	-	-	-

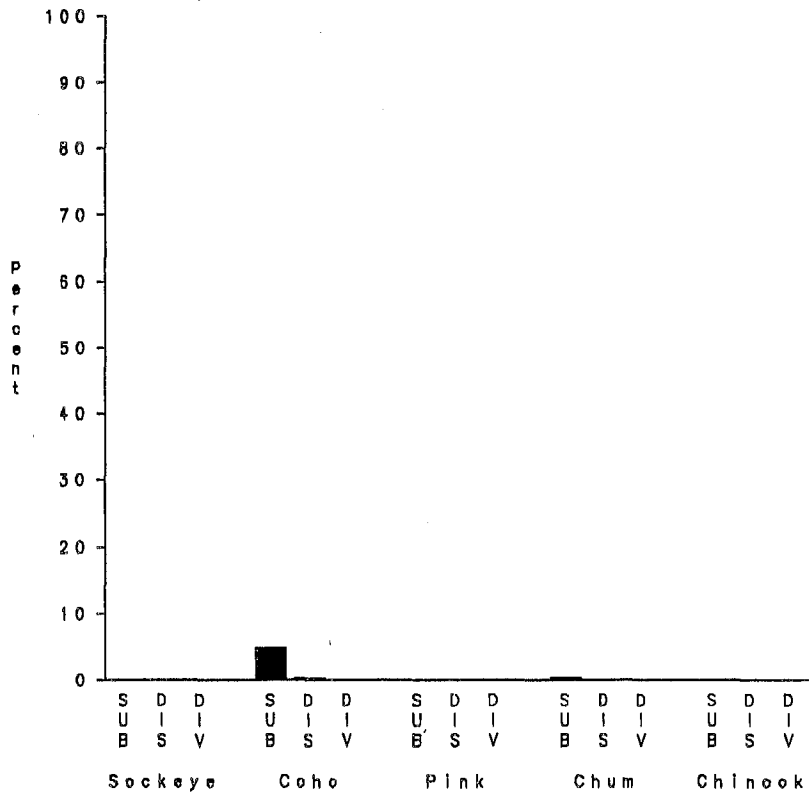
DOOBAH CREEK (93-1500-130)

10-yr Mean Escapement
(1978-1987)



DOOBAH CREEK : 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	ONGOING LOGGING IN THE UPPER WATERSHED (REF. 23-8)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

NO INFORMATION AVAILABLE

J. FISHERY OFFICER NARRATIVE

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

K. SIS COMPLETED BY

Completed by: GITA KAPAH	Date: 1989/03/06
Last checked by: BRIAN TUTTY	Date: 1990/07/30

ESCAPEMENT : MARCHAND CREEK

WATERSHED-CODE : 93-1500-150

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	0	UNK	0	UNK	0	0
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	0	UNK	0	UNK	0	UNK
1985	UNK	UNK	UNK	UNK	UNK	UNK
1986	UNK	UNK	UNK	UNK	UNK	UNK
1987	UNK	UNK	UNK	UNK	UNK	UNK
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

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

G. ENHANCEMENT/MANAGEMENT ACTIVITIES IN WATERSHED

Type of Activity	Species	Location (km U/S)	Comments	Period of Operation Start/Finish
FT LAKE FERTILIZAT'N	SK SOCKEYE SALMON	0.0	LAKE FERTILIZATION PROGRAM (REF. 23-8)	1976/1986

H. LAND USE/WATER USE/WATER QUALITY

Activity	Description/Location
FO FORESTRY	SOME RECENT LOGGING, SYSTEM IS NOW IN PHASE 3 OF PACIFIC RIM NATIONAL PARK (NITINAT TRIANGLE) (REF. 23-8)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

NO INFORMATION AVAILABLE

J. FISHERY OFFICER NARRATIVE

Date Prepared: / / Prepared By:

K. SIS COMPLETED BY

Completed by: GITA KAPAH
 Last checked by: BRIAN TUTTY
 Date: 1989/03/06
 Date: 1990/07/30

ESCAPEMENT : HOBITON CREEK

WATERSHED-CODE : 93-1500-200

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	7500	UNK	0	7500	0	0
1954	7500	N/O	0	7500	0	0
1955	1500	0	0	7500	0	0
1956	3500	0	0	7500	0	0
1957	3500	25	0	7500	0	0
1958	3500	25	0	3500	0	0
1959	3500	25	0	7500	0	0
1960	3500	25	0	7500	0	0
1961	7500	25	0	7500	0	0
1962	3500	25	0	3500	0	0
1963	3500	25	0	1500	0	0
1964	7500	25	0	7500	0	0
1965	7500	25	0	3500	0	0
1966	3500	25	0	400	0	0
1967	8000	75	0	3500	0	0
1968	2300	200	0	7500	0	0
1969	3500	25	0	3500	0	0
1970	2500	25	0	3500	0	0
1971	7500	25	0	3500	0	0
1972	3500	25	0	7500	0	0
1973	1500	25	0	6000	0	0
1974	2600	150	0	800	0	0
1975	8050	75	0	750	0	0
1976	6000	90	0	400	0	0
1977	3150	125	0	550	0	0
1978	2150	120	0	1800	0	0
1979	5730	110	0	200	0	0
1980	7000	120	0	1000	0	0
1981	13300	UNK	0	4000	0	0
1982	40000	UNK	0	UNK	0	0
1983	22149	UNK	0	UNK	0	0
1984	11500	UNK	0	UNK	0	0
1985	9000	UNK	UNK	UNK	UNK	0
1986	1800	50	0	2200	0	0
1987	8000	UNK	0	UNK	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

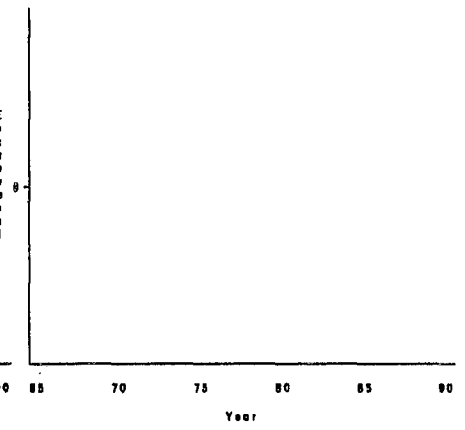
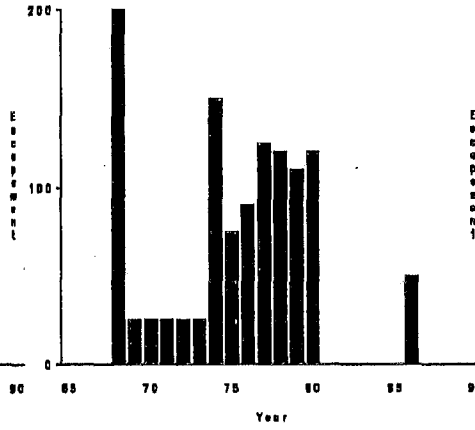
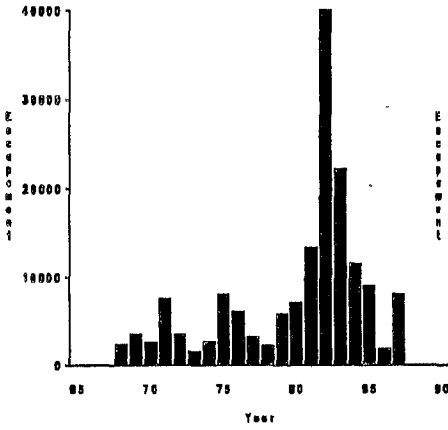
HOBITON CREEK (93-1500-200)

Escapement & Run Timing

Sockeye (SK)

Coho (CO)

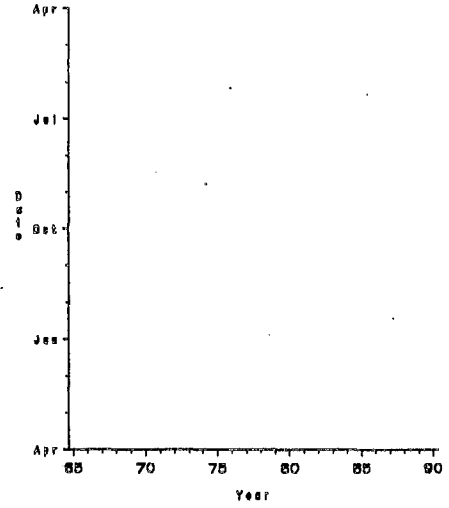
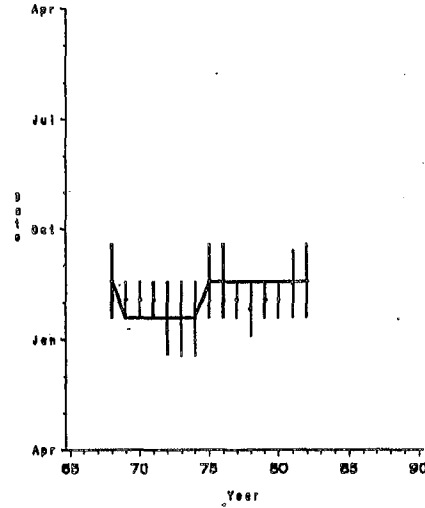
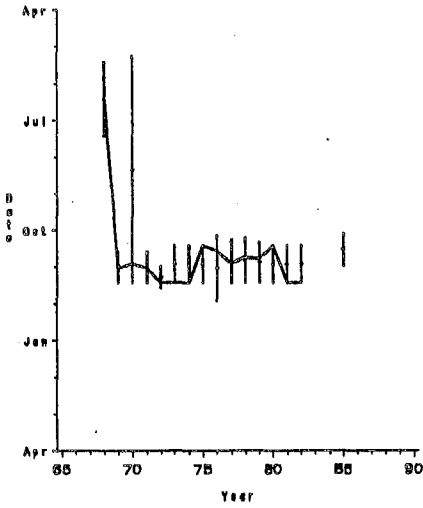
Pink (PK)



Sockeye

Coho

Pink



Year	Escapement	Start	Peak	End
1966	2,306	15MAY	18JUN	15JUL
1968	2,306	28OCT	03NOV	13NOV
1970	2,306	14MAY	30OCT	13NOV
1971	7,306	24OCT	03NOV	13NOV
1972	3,306	01NOV	18NOV	28NOV
1973	1,306	18OCT	15NOV	18NOV
1974	2,306	13OCT	15NOV	18NOV
1975	4,306	14OCT	18OCT	18NOV
1976	6,306	04OCT	20OCT	30NOV
1977	3,156	10OCT	30OCT	18NOV
1978	2,156	08OCT	25OCT	13NOV
1979	3,736	13OCT	26OCT	18NOV
1980	7,006	18OCT	18OCT	13NOV
1981	13,306	18OCT	15NOV	18NOV
1982	40,006	13OCT	15NOV	18NOV
1983	22,146	-	-	-
1984	11,306	-	-	-
1985	1,006	03OCT	-	01NOV
1986	1,306	-	-	-
1987	6,006	-	-	-

Year	Escapement	Start	Peak	End
1966	200	16OCT	18NOV	18DEC
1969	25	15NOV	15DEC	18DEC
1970	25	15NOV	15DEC	18DEC
1971	25	15NOV	15DEC	18DEC
1972	25	15NOV	15DEC	14JAN
1973	25	15NOV	15DEC	15JAN
1974	180	15NOV	15DEC	15JAN
1975	75	16OCT	15NOV	18DEC
1976	80	15OCT	15NOV	15DEC
1977	120	15NOV	15NOV	15DEC
1978	120	15NOV	15NOV	30DEC
1979	110	15NOV	15NOV	15DEC
1980	120	15NOV	15NOV	15DEC
1981	-	20OCT	15NOV	15DEC
1982	-	15OCT	15NOV	15DEC
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	50	-	-	-
1987	-	-	-	-

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	-	-	-	-
1986	0	-	-	-
1987	0	-	-	-

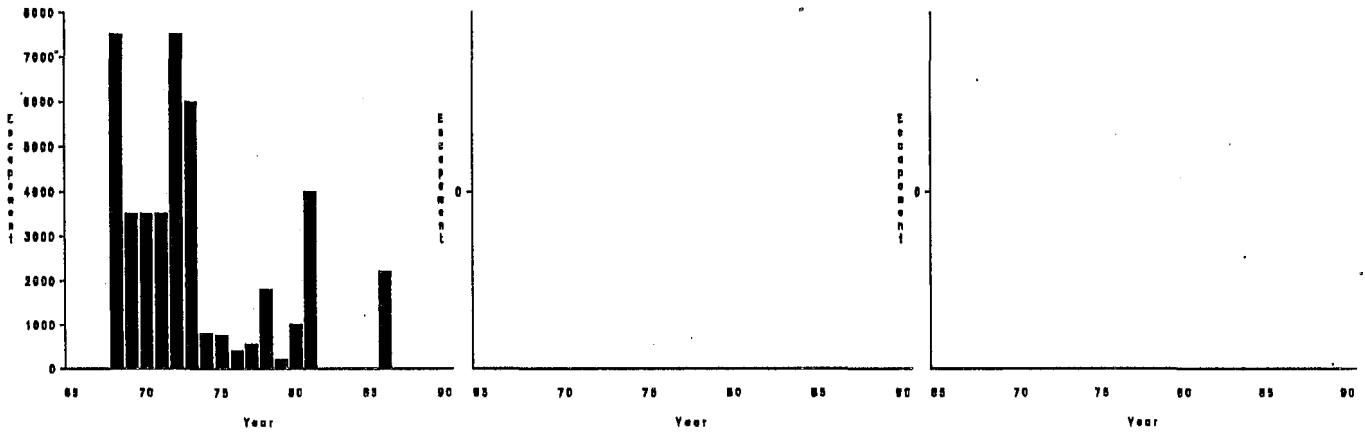
HOBITON CREEK (93-1500-200)

Escapement & Run Timing

Chum (CM)

Chinook (CH)

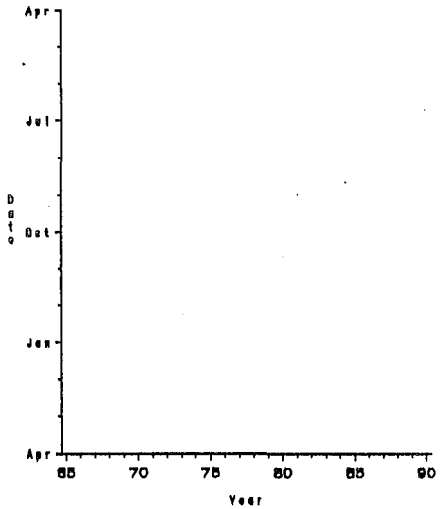
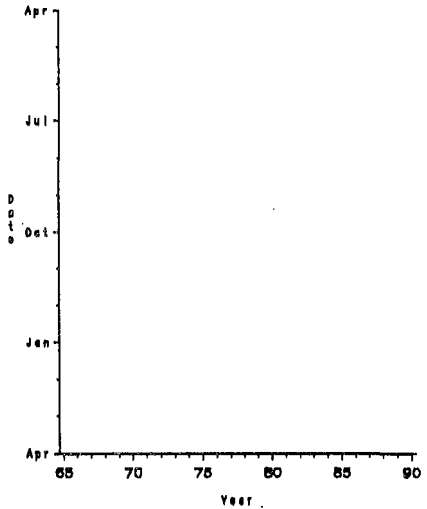
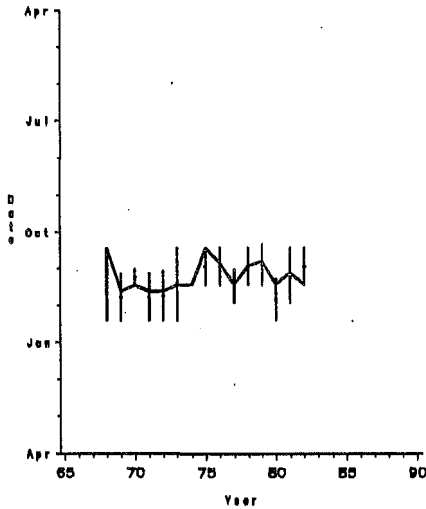
Steelhead (ST)



Chum

Chinook

Steelhead



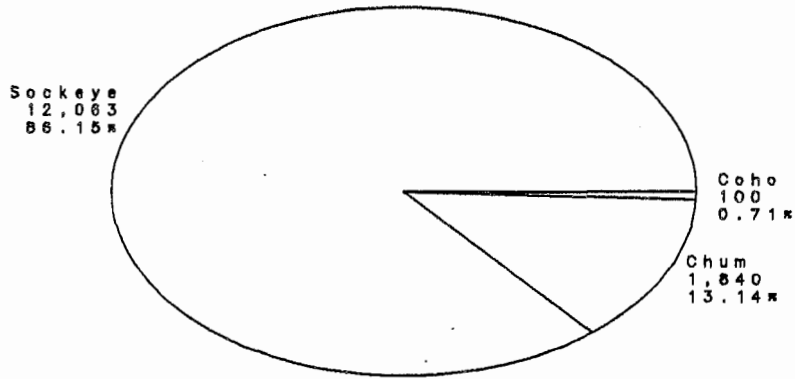
Year	Escapement	Start	Peak	End
1966	7,500	15OCT	15OCT	15DEC
1968	3,500	05NOV	20NOV	15DEC
1970	3,500	01NOV	15NOV	15NOV
1971	3,500	03NOV	20NOV	15DEC
1972	7,500	03NOV	20NOV	15DEC
1973	6,000	15OCT	15NOV	15DEC
1974	800	15NOV	15NOV	15NOV
1975	750	15OCT	15OCT	15NOV
1976	400	15OCT	20OCT	15NOV
1977	950	02NOV	15NOV	30NOV
1978	1,000	15OCT	30OCT	15NOV
1979	200	15OCT	20OCT	15NOV
1980	1,000	14NOV	15NOV	15DEC
1981	4,000	15OCT	05NOV	20NOV
1982	-	15OCT	15NOV	15NOV
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	2,200	-	-	-

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	-	-	-	-
1968	-	-	-	-
1970	-	-	-	-
1971	-	-	-	-
1972	-	-	-	-
1973	-	-	-	-
1974	-	-	-	-
1975	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

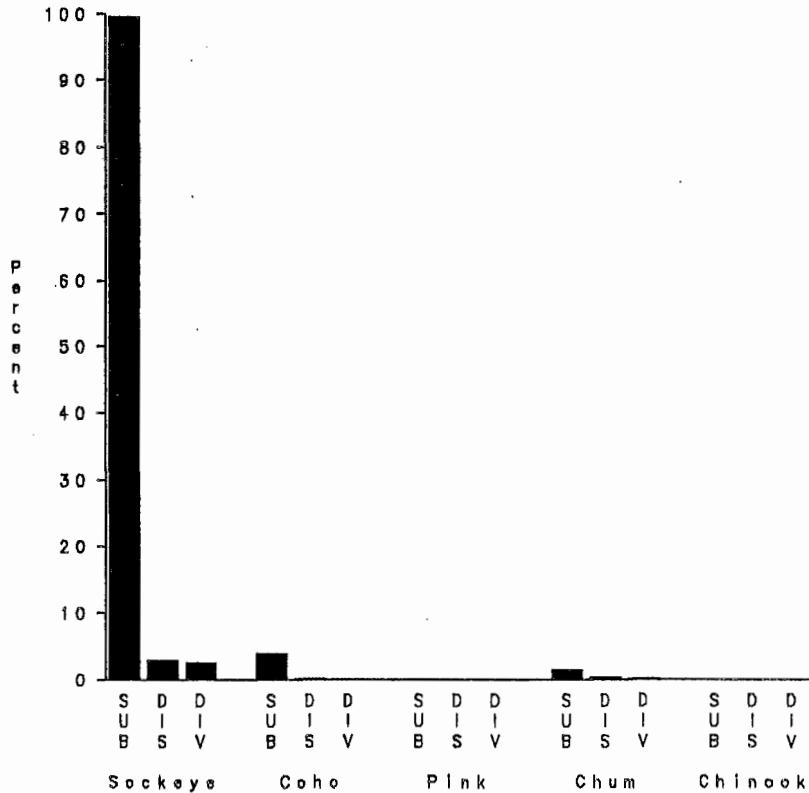
HOBITON CREEK (93-1500-200)

10-yr Mean Escapement
(1978-1987)



HOBITON LAKE : Escapement (1978-1987)

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



E. ESCAPEMENT SUMMARY

Species	Escapement			Maximum Recorded Escapement	Ref. No.	Management Target Escapement	Ref. No.
	Mean	Period of Record	Ref. No.				
CO COHO SALMON	185	1978 - 1987	28A-18	300	28A-18		
CM CHUM SALMON	780	1978 - 1987	28A-18	3000	28A-18		
CH CHINOOK SALMON	3	1978 - 1987	28A-18	20	28A-18		

Comments: FOR PERIOD OF RECORD CH OBSERVED IN 1986 ONLY (N=20 FISH) (REF. 28A-18)

F. LIFE HISTORY TIMING

Species	Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO COHO SALMON	Migration Spawning Incubation Rearing										X	X X	X X
CM CHUM SALMON	Migration Spawning Incubation Rearing										X	X X	X

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	HISTORICAL LOGGING HAS HAD SEVERE IMPACTS (REF. 23-8)
FO FORESTRY	LOGGING OF UPPER WATERSHED STARTED IN 1978 (REF. 23-1)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

SNORKEL SURVEYS DONE 1979,1982,1986,1987,1988 (REF. 23-13)
DETAILED BIOPHYSICAL INFORMATION, PRESENCE/ABSENCE AND DENSITIES OF FISH AVAILABLE (REF. 23-18)
EXTREMELY IMPORTANT SUMMER STEELHEAD PRODUCER FOR LOWER VANCOUVER ISLAND (REF. 23-13)

J. FISHERY OFFICER NARRATIVE

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

K. SIS COMPLETED BY

Completed by: GITA KAPAHU	Date: 1989/02/28
Last checked by: BRIAN TUTTY	Date: 1990/07/30

ESCAPEMENT : CAYCUSE RIVER

WATERSHED-CODE : 93-1500-300

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	0	750	0	1500	0	400
1954	0	400	0	3500	0	400
1955	0	400	0	1500	0	75
1956	0	200	0	3500	0	400
1957	0	400	0	750	0	400
1958	0	200	0	400	0	400
1959	0	75	0	400	0	400
1960	0	75	0	1500	0	400
1961	0	200	0	1500	0	0
1962	0	200	0	200	0	0
1963	0	200	0	200	0	200
1964	0	400	0	1500	0	200
1965	0	200	0	200	25	UNK
1966	0	400	0	75	N/O	0
1967	0	750	0	1500	0	0
1968	0	750	0	3500	0	0
1969	0	200	0	750	0	0
1970	0	400	0	750	0	400
1971	0	75	0	1500	0	0
1972	0	200	0	15000	0	400
1973	0	400	0	3500	0	400
1974	0	200	0	1500	0	0
1975	0	200	0	750	0	0
1976	0	250	0	350	0	0
1977	0	320	0	300	0	0
1978	0	300	0	300	0	0
1979	0	250	0	200	0	0
1980	0	0	0	3000	0	0
1981	UNK	UNK	UNK	UNK	UNK	UNK
1982	UNK	UNK	UNK	UNK	UNK	UNK
1983	UNK	UNK	UNK	UNK	UNK	UNK
1984	0	UNK	0	UNK	0	UNK
1985	UNK	UNK	UNK	UNK	UNK	0
1986	0	175	0	300	20	0
1987	0	200	0	100	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

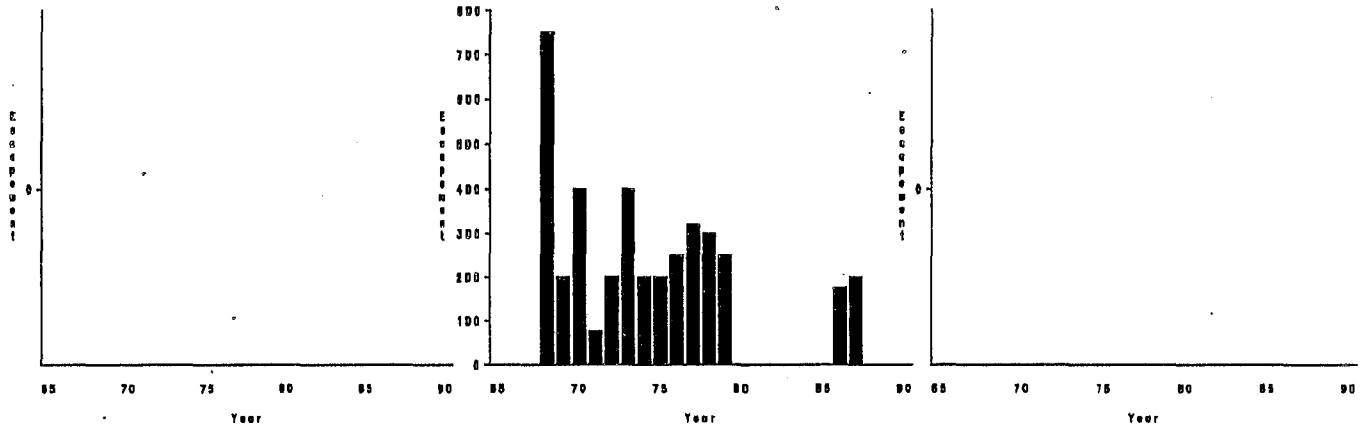
CAYCUSE RIVER (93-1500-300)

Escapement & Run Timing

Sockeye (SK)

Coho (CO)

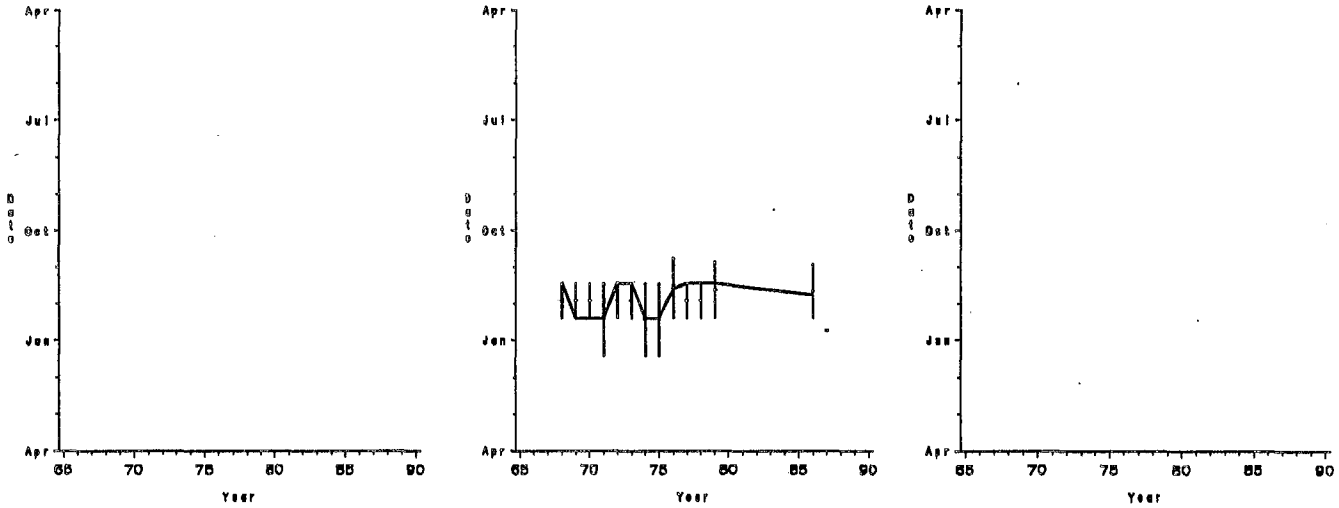
Pink (PK)



Sockeye

Coho

Pink



Sockeye				
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	-	-	-

Coho				
Year	Escapement	Start	Peak	End
1965	750	15NOV	15NOV	15DEC
1966	200	15NOV	15DEC	15DEC
1969	400	15NOV	15DEC	15DEC
1971	75	15NOV	15DEC	15JAN
1972	200	15NOV	15NOV	15DEC
1973	400	15NOV	15NOV	15DEC
1974	200	15NOV	15DEC	15JAN
1975	200	15NOV	15DEC	15JAN
1976	250	25OCT	20NOV	15DEC
1977	320	15NOV	15NOV	15DEC
1978	300	15NOV	15NOV	15DEC
1979	250	25OCT	15NOV	15DEC
1980	0	-	-	-
1981	0	-	-	-
1982	0	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	0	-	-	-
1986	175	30OCT	20NOV	15DEC
1987	200	-	-	25DEC

Pink				
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	-	-	-

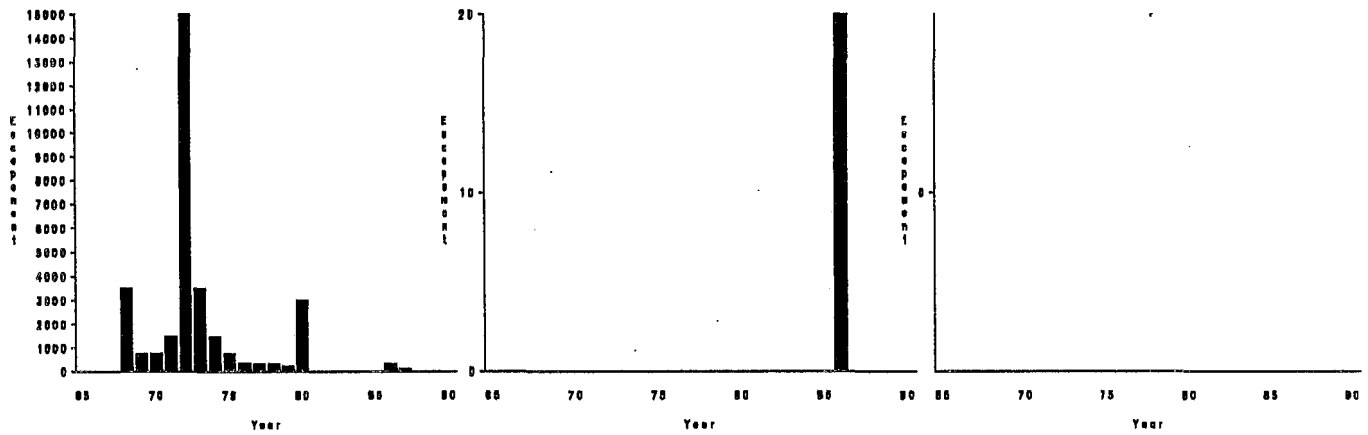
CAYCUSE RIVER (93-1500-300)

Escapement & Run Timing

Chum (CM)

Chinook (CH)

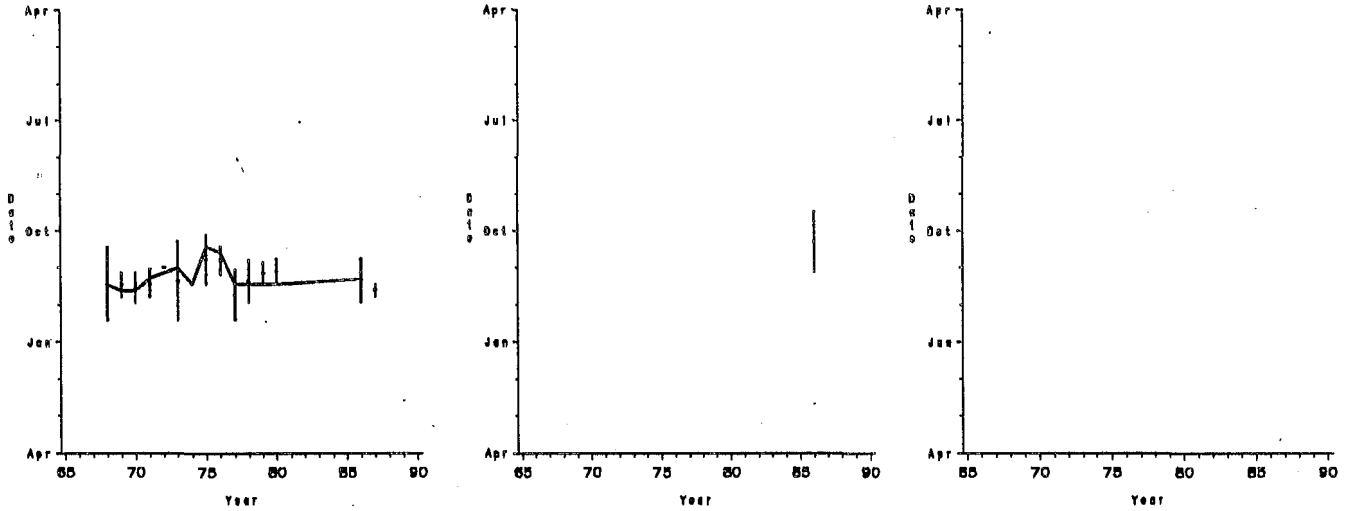
Steelhead (ST)



Chum

Chinook

Steelhead



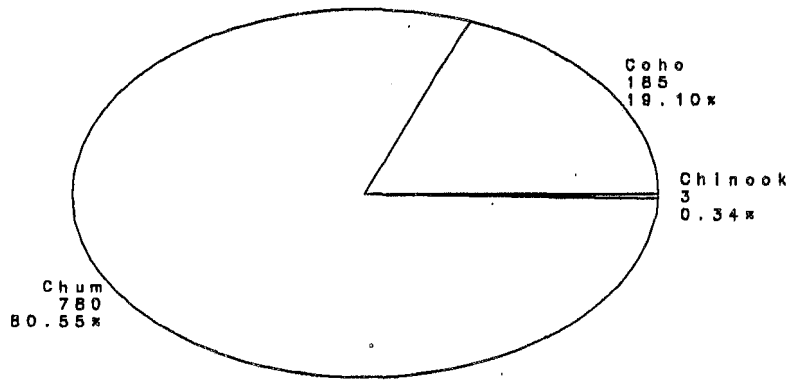
Year	Escapement	Start	Peak	End
1966	3,000	18OCT	18NOV	18DEC
1968	750	02NOV	20NOV	20NOV
1974	750	02NOV	20NOV	20NOV
1971	1,200	02NOV	10NOV	20NOV
1972	13,000	01NOV	-	-
1972	3,000	18OCT	01NOV	18DEC
1974	1,500	18NOV	18NOV	18NOV
1975	750	08OCT	18OCT	18NOV
1976	350	13OCT	20OCT	07NOV
1977	300	03NOV	19NOV	18DEC
1978	200	28OCT	18NOV	30NOV
1979	200	28OCT	18NOV	18NOV
1986	1,000	25OCT	13NOV	18NOV
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	300	25OCT	11NOV	30NOV
1987	100	18NOV	-	20NOV

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	20	10SEP	13OCT	08NOV
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	-	-	-	-

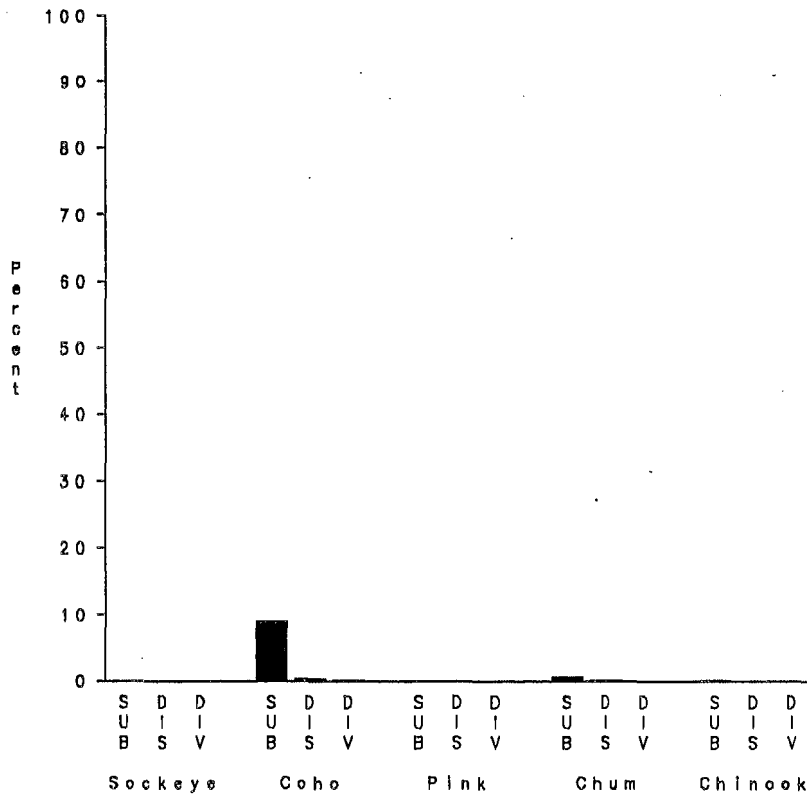
CAYCUSE RIVER (93-1500-300)

10-yr Mean Escapement
(1978-1987)



CAYCUSE RIVER : 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
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
FO FORESTRY	'INTENSIVE ONGOING LOGGING (REF. 23-8)
FO FORESTRY	APPROXIMATELY 3.5 KM HAS BEEN HARVESTED WITH OPENINGS IN 1932,42,60-68 AND NUMEROUS UNLOGGED SECTIONS (REF. 23-2)

I. FISH PRODUCTION POTENTIAL/CONSTRAINTS/GENERAL COMMENTS

DON'T KNOW A LOT ABOUT THIS SYSTEM SINCE IT ONLY JUST BECAME ACCESSIBLE (REF. 23-8)
THERE IS APPROXIMATELY 5 KM OF GOOD REARING AREA ABOVE THE OBSTRUCTION ON THE NORTH FORK. (REF. 23-1)

J. FISHERY OFFICER NARRATIVE

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

K. SIS COMPLETED BY

Completed by: GITA KAPAHI	Date: 1989/03/06
Last checked by: BRIAN TUTTY	Date: 1990/07/30

ESCAPEMENT : KLANAWA RIVER

WATERSHED-CODE : 93-1600

YEAR	SOCKEYE	COHO	PINK	CHUM	CHINOOK	STEELHEAD
1953	UNK	UNK	UNK	UNK	UNK	UNK
1954	0	400	N/O	3500	N/O	0
1955	0	N/O	N/O	N/O	N/O	N/O
1956	0	0	0	1500	0	0
1957	N/O	N/O	N/O	N/O	N/O	N/O
1958	0	N/O	N/O	N/O	N/O	N/O
1959	UNK	UNK	UNK	UNK	UNK	UNK
1960	0	N/O	N/O	200	N/O	0
1961	0	N/O	0	750	N/O	N/O
1962	0	0	0	400	N/O	N/O
1963	0	400	0	N/O	N/O	UNK
1964	0	750	0	400	N/O	200
1965	0	400	0	N/O	0	0
1966	0	750	0	400	0	0
1967	0	200	0	400	0	0
1968	0	750	0	400	0	0
1969	0	400	0	N/O	N/O	0
1970	0	200	0	N/O	0	UNK
1971	0	25	0	N/O	0	N/O
1972	0	25	0	N/O	0	0
1973	0	75	0	N/O	0	0
1974	0	200	0	N/O	0	0
1975	0	200	0	150	75	0
1976	0	125	0	45	0	0
1977	0	195	0	N/O	0	40
1978	0	250	0	N/O	30	0
1979	0	195	0	50	N/O	0
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	UNK	0	0
1984	0	UNK		0	UNK	0
1985	UNK	UNK	UNK	UNK	UNK	0
1986	0	UNK	0	UNK	UNK	0
1987	UNK	UNK	UNK	UNK	UNK	UNK
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

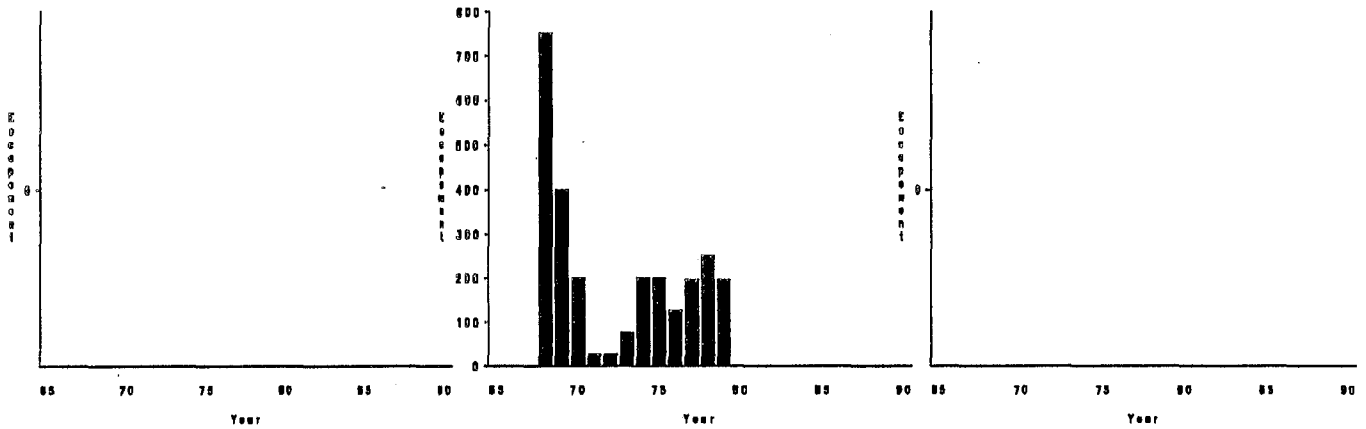
KLANAWA RIVER (93-1600)

Escapement & Run Timing

Socketeye (SK)

Coho (CO)

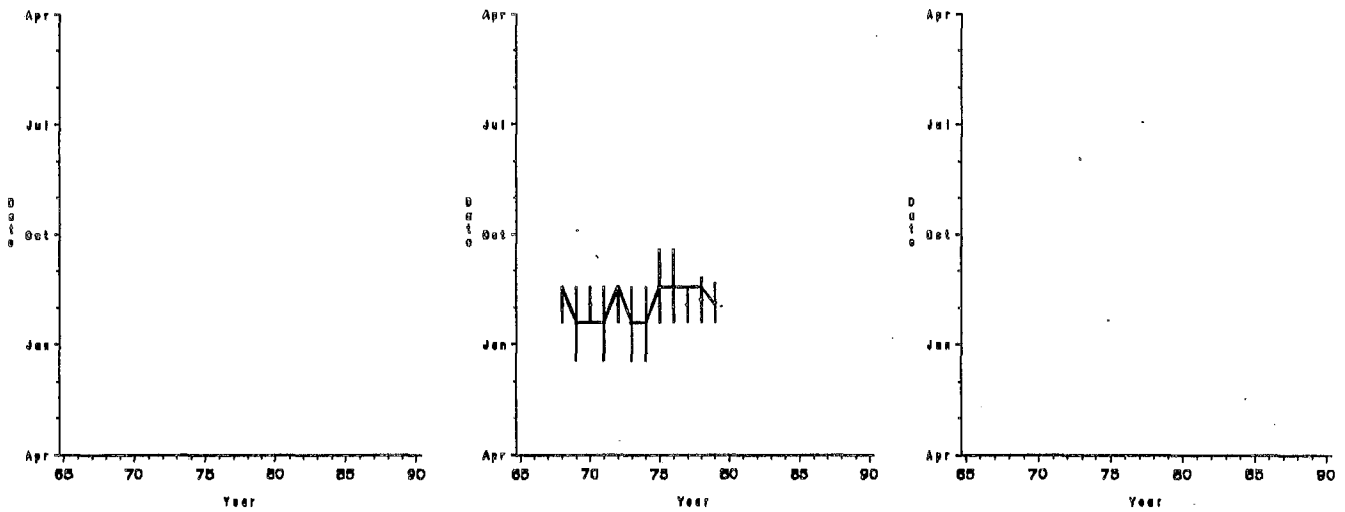
Pink (PK)



Sockeye

Coho

Pink



Sockeye				
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	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	0	-	-	-
1987	-	-	-	-

Coho				
Year	Escapement	Start	Peak	End
1968	750	15NOV	15NOV	15DEC
1969	400	15NOV	15DEC	15JAN
1970	200	15NOV	15DEC	15DEC
1971	20	15NOV	15DEC	15JAN
1972	25	15NOV	15NOV	15DEC
1973	75	15NOV	15DEC	15JAN
1974	200	15NOV	15DEC	15JAN
1975	200	15OCT	15NOV	15DEC
1976	125	15OCT	15NOV	15DEC
1977	195	15NOV	15NOV	15DEC
1978	250	07NOV	15NOV	15DEC
1979	180	12NOV	30NOV	15DEC
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

Pink				
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	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	0	-	-	-
1987	-	-	-	-

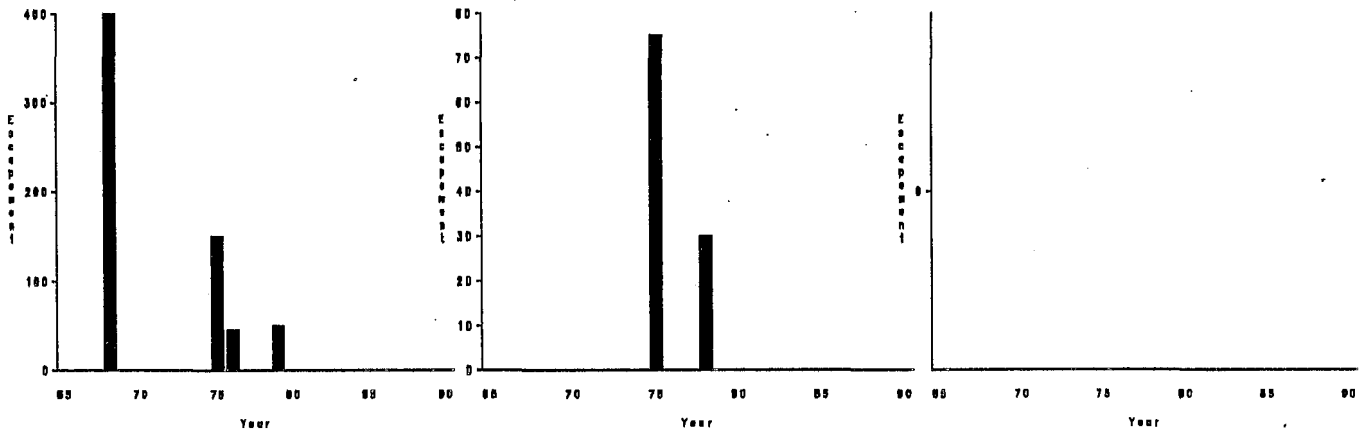
KLANAWA RIVER (93-1600)

Escapement & Run Timing

Chum (CM)

Chinook (CH)

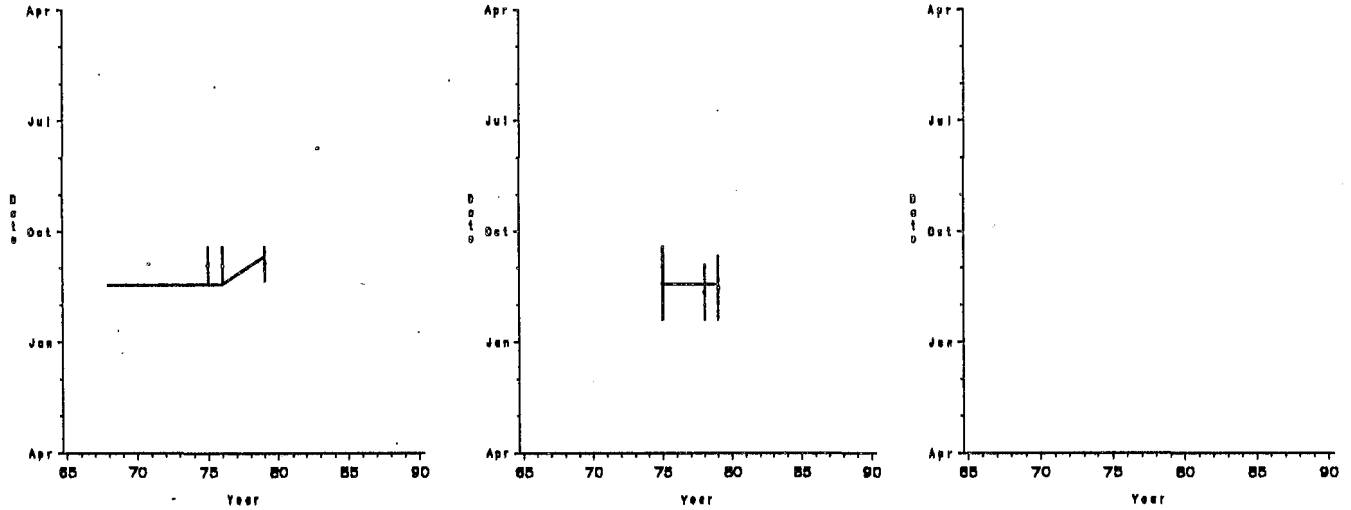
Steelhead (ST)



Chum

Chinook

Steelhead



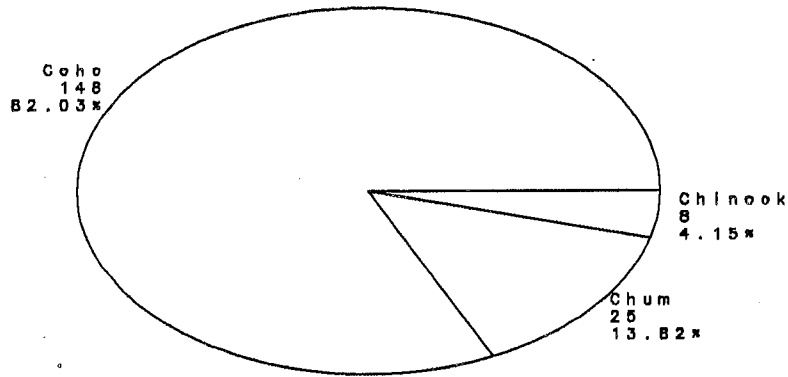
Chum				
Year	Escapement	Start	Peak	End
1966	400	18NOV	18NOV	18NOV
1967	0	-	-	-
1976	150	18OCT	18NOV	18NOV
1977	45	18OCT	18NOV	18NOV
1978	80	18OCT	23OCT	12NOV
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

Chinook				
Year	Escapement	Start	Peak	End
1966	0	-	-	-
1967	0	-	-	-
1976	75	18OCT	18NOV	18DEC
1977	30	20OCT	18NOV	18DEC
1978	0	23OCT	18NOV	18DEC
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	0	-	-	-
1984	0	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

Steelhead				
Year	Escapement	Start	Peak	End
1966	-	-	-	-
1967	-	-	-	-
1976	-	-	-	-
1977	-	-	-	-
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	-	-	-	-

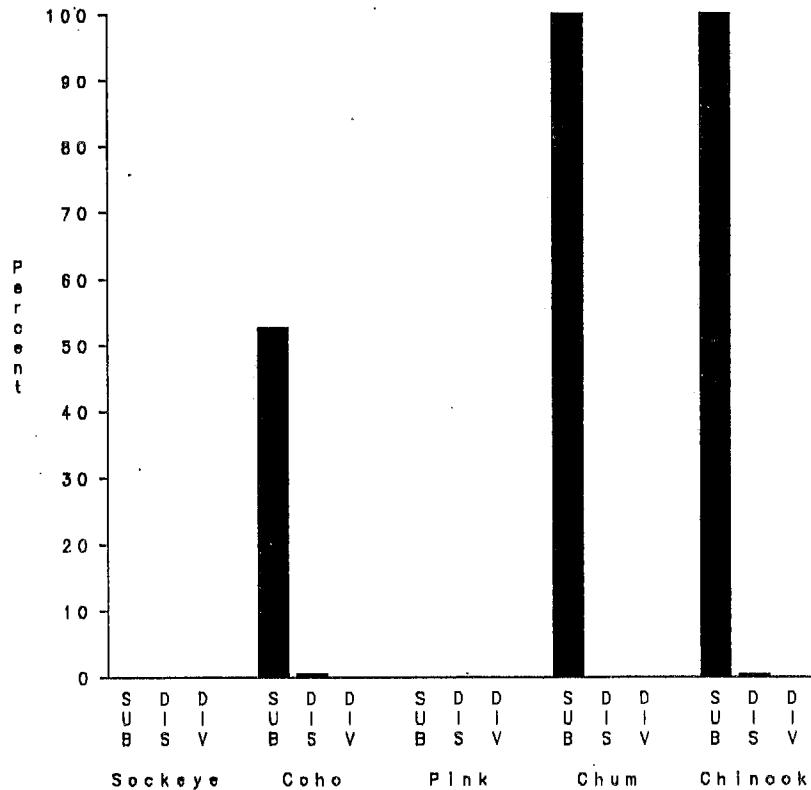
KLANAWA RIVER (93-1600)

10-yr Mean Escapement
(1978-1987)



KLANAWA RIVER : Escapement (1978-1987)

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



NUMERIC BIBLIOGRAPHY-SUBDISTRICT # 21

REFERENCE LIST
1990/07/30

Page: 1

REFERENCE NO: 21- 2

AUTHOR: POLLARD, W.R. AND B.E. MCINNIS.
DESCRIPTION: 1977. WALBRAN CREEK AREA. FISHERIES INVENTORY REPORT NO. 4. MCMILLAN BLOEDEL LTD. LAND USE PLANNING ADVISORY TEAM (LUPAT), NANAIMO, B.C.
LOCATION: I1 MACHILLAN BLOEDEL - VANCOUVER
KEYWORDS: CO COHO DV DOLLY VARDEN CHAR KO KOKANEE
RB RAINBOW TROUT ST STEELHEAD

REFERENCE NO: 23- 1

AUTHOR: BROWN, R.F.; M.M. MUSGRAVE ET AL
DESCRIPTION: CATALOGUE OF SALMON STREAMS AND SPAWNING ESCAPEMENTS OF STATISTICAL AREAS 22 AND 23 (NITINAT AND BARKLEY SOUND)
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)
KEYWORDS: AF ALL SPECIES AD ALL SALMON PY PHYSICAL HABITAT
S SPAWNING

REFERENCE NO: 23- 2

AUTHOR: BROWN, T.G.; I.V. WILLIAMS & A. LANGSTON
DESCRIPTION: WATERSHED DATA BASE: BARKLEY SOUND VANCOUVER ISLAND. AUG. 1987. CDM. DATA REPORT OF FISH & AQ. SCIENCES NO. 667
LOCATION: G DFO - SOUTH COAST DIVISION - NANAIMO
KEYWORDS: AD ALL SALMON FO FORESTRY PS POPULATION SAMPLING
S SPAWNING

REFERENCE NO: 23- 8

AUTHOR: GIRODAT, DENNIS
DESCRIPTION: FISHERY OFFICER, PORT ALBERNI (1975 - PRESENT). PERSONAL INFORMATION. INTERVIEWED JAN 18 - 19, 1989
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)
KEYWORDS: AF ALL SPECIES AO ALL SALMON FS FISH SAMPLING
PY PHYSICAL HABITAT S SPAWNING

REFERENCE NO: 23- 13

AUTHOR: LIRETTE, M.
DESCRIPTION: FISHERIES BIOLOGIST, MINISTRY OF ENVIRONMENT, NANAIMO. (1979-PRESENT) PERSONAL INTERVIEW, FEB.20,1989.
LOCATION: O MOE - REGION 1 - NANAIMO
KEYWORDS: AF ALL SPECIES CT CUTTHROAT TROUT FS FISH SAMPLING
HS HABITAT SAMPLING PY PHYSICAL HABITAT ST STEELHEAD

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

ALPHABETIC BIBLIOGRAPHY-SUBDISTRICT # 2 I

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NUMERIC BIBLIOGRAPHY-SUBDISTRICT # 22

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1990/07/30

Page: 1

REFERENCE NO: 17- 68

AUTHOR: TUTTY, B.D.
DESCRIPTION: HABITAT BIOLOGIST, HABITAT MANAGEMENT DIVISION, NANAIMO. PERSONAL COMMUNICATION, JUNE 1987.
LOCATION: S DFO - SUBDISTRICT (INCLUDED IN REF. NO)
KEYWORDS: AO ALL SALMON OB OBSTRUCTIONS PY PHYSICAL HABITAT
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KEYWORDS: AF ALL SPECIES CT CUTTHROAT TROUT FS FISH SAMPLING
HS HABITAT SAMPLING PY PHYSICAL HABITAT ST STEELHEAD

REFERENCE NO: 23- 14

AUTHOR: UNKNOWN
DESCRIPTION: 1:50,000 MTS INVENTORY MAPS BASED ON 1970'S FIELD SURVEYS.
LOCATION: O MOE - REGION 1 - NANAIMO
KEYWORDS: AF ALL SPECIES AO ALL SALMON PY PHYSICAL HABITAT
TR TROUT

REFERENCE NO: 23- 18

AUTHOR: CLOZZA, B.E. & A.N. WITT
DESCRIPTION: NITINAT STEELHEAD INVENTORY REPORT 1980.
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KEYWORDS: AF ALL SPECIES FS FISH SAMPLING HS HABITAT SAMPLING
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LOCATION: O MOE - REGION 1 - NANAIMO
KEYWORDS: AF ALL SPECIES AO ALL SALMON PY PHYSICAL HABITAT
TR TROUT

5.0 MAPS

This section contains the following Stream Information Summary maps:

92C/10	Carmanah Creek
92C/11	Pachena Point
92C/14	Barkley Sound
92C/15	Little Nitinat River
92C/16	Cowichan Lake
92F/02	Tsacha Lake



92 F/2

92 C/14

92 C/15

92 C/16

Barkley Sound

BAMFIELD

93-1500-300

93-1500-200

93-1500-150

93-1500-130

Cape Beale

92 C/11

92 C/10

Pachena Point

93-1800

93-1500

93-1400

PACIFIC OCEAN

Carmanah Point

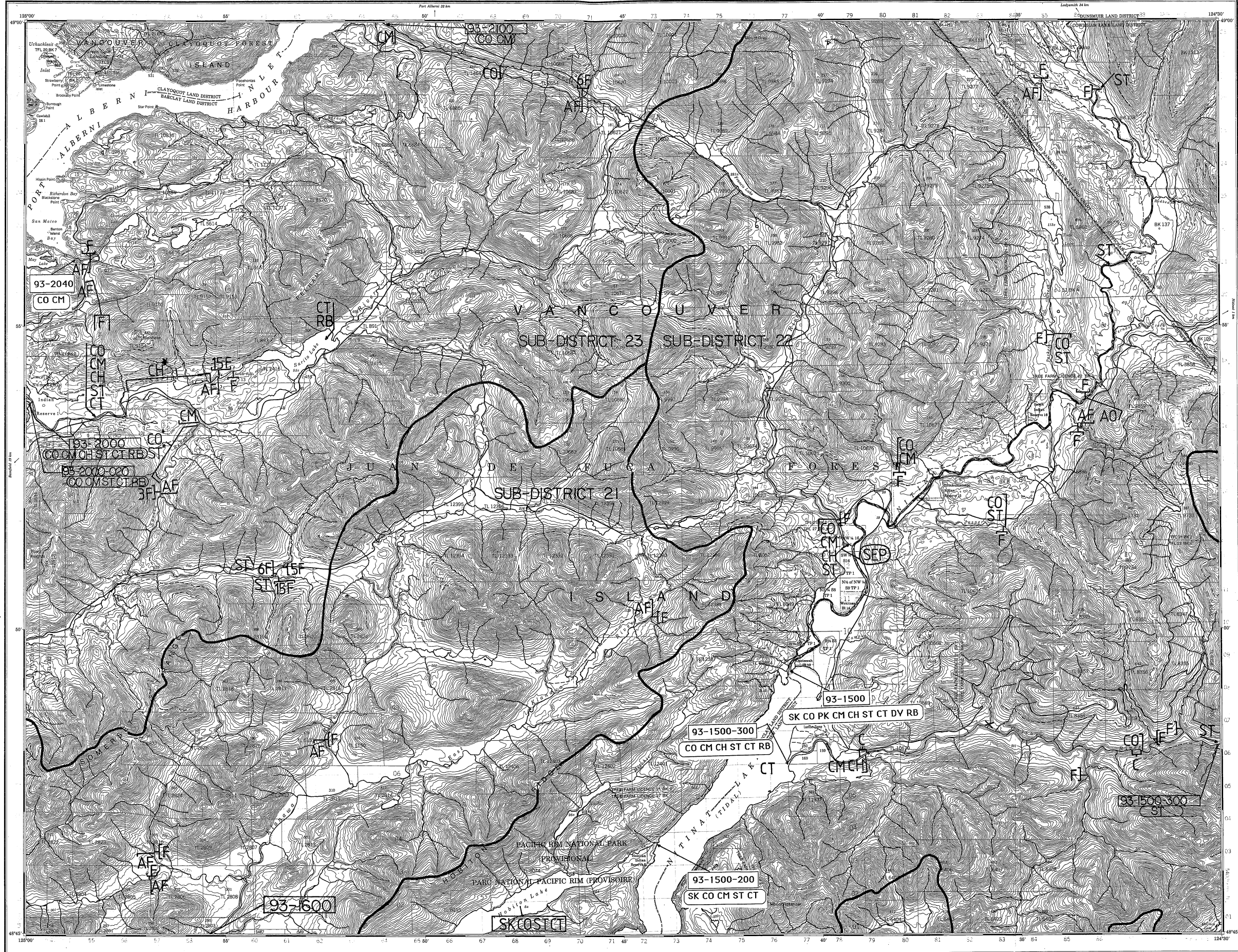
93-1300

93-1200

**KEY MAP OF STREAMS
IN SUBDISTRICT 21/22
NITINAT**

Port San Juan





Military users refer to this map as: **92 C/15**
 Références de cette carte pour usage militaire: **EDITION 4 MCE Edition**

GLOSSARY GLOSSAIRE
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
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
RF = rock falls
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 - 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.

REPERE POINT CHURCH - EGLISE (en anglais ou en français)
CAUTION Read number on grade: 1000
NOTICE Lire le chiffre de la ligne de graduation: 1000 mètres au-dessus du niveau de la mer
CAUTION Read number on grade: 1000
NOTICE Lire le chiffre de la ligne de graduation: 1000 mètres au-dessus du niveau de la mer
CAUTION Read number on grade: 1000
NOTICE Lire le chiffre de la ligne de graduation: 1000 mètres au-dessus du niveau de la mer

MAR. 90

TABLIÉRIU D'ADRESSE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

92 C/15	92 C/16	92 C/17
92 C/14	92 C/15	92 C/16
92 C/13	92 C/14	92 C/15

LITTLE NITINAT RIVER
BRITISH COLUMBIA

Scale 1:50 000 Échelle

CONVERSION SCALE FOR ELEVATIONS
 Mètres 30 20 10 0 100 200 300 400
 Feet 100 60 30 0 300 600 900 1200

SCHÈLE DE CONVERSION DES ALTITUDES
 Mètres 30 20 10 0 100 200 300 400
 Pieds 100 60 30 0 300 600 900 1200

PROFESSOR OF THE SURVEYING AND MAPPING BRANCH, DEPARTMENT OF CIVIL ENGINEERING AND SURVEYING, UNIVERSITY OF TORONTO
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