



# Annual Report of Salmon Streams and Spawning Populations

## STREAM IDENTIFICATION

Area: <b>14</b>	District: <b>03</b>	Sub: <b>14N</b>	Comox	INSPECTION DATES	
1st Local Name:					
2nd Local Name:					
Flows Into: <b>COMOX HARBOUR</b>					
Latitude: <b>49 40 48</b>		Longitude: <b>124 58 32</b>		CONTINUOUS COUNTS	Start date <b>01/08/1999</b>
Field Crew: <b>Hatchery Staff</b>					End date <b>15/12/1999</b>

## DETAILS AFFECTING ESCAPEMENT ESTIMATION (5) ESCAPEMENT ESTIMATION COMMENTS ☒

Sp	R U N	(1) N Methods	%Spawn habitat surveyed	(2) Rel	(3) Enum Class	Esc Code	(4) Est. total adults	Brood stock removals	Jacks	Escapement Goal
SK	1	1,3,11	100	5	4	N.O.				
SK	2		0		0	N.O.				
CO	1	1,3,11	100	5	1	A.C.	3,500	4,686	1,943	
CO	2		0		0	N.O.				
PK	1	1,3,11	100	5	1	A.C.	90,000	10,000		
PK	2		0		0	N.O.				
CM	1	1,3,11	100	5	1	A.C.	82,000	11,277		
CM	2		0		0	N.O.				
CN	1	1,3,11	100	5	1	A.C.	50	308		
CN	2	1,3,11	100	5	1	A.C.	425	800		
ST	1	1,3,11	100	5	4	A.P.				
ST	2		0		0	N.O.				
AT	1	1,3,11	100	5	4	N.O.				
AT	2		0		0	N.O.				
CT	1		0		0	N.I.				
CT	2		0		0	N.I.				
TR	1		0		0	N.I.				
TR	2		0		0	N.I.				

## SPAWNING RUN TIMING

## (6) GENERAL COMMENTS ON RUN TIMING ☐

Sp	R U N	Arrival in Stream		Dates of Spawning					
				Start		Peak		End	
		Month	Day	Month	Day	Month	Day	Month	Day
SK	1								
SK	2								
CO	1	Aug	21-31	Sep	21-31	Nov	11-20		
CO	2								
PK	1	Aug	1-10	Sep	11-20	Sep	21-31	Oct	11-20
PK	2								
CM	1	Oct	1-10	Oct	21-31	Nov	1-10	Nov	11-20
CM	2								
CN	1			Sep	21-31	Oct	11-20	Oct	21-31
CN	2	Sep	1-10	Oct	1-10	Oct	21-31	Nov	1-10
ST	1								
ST	2								
AT	1								
AT	2								
CT	1								
CT	2								
TR	1								
TR	2								



## UNUSUAL CONDITIONS IN STREAM COURSE OR SPAWNING GROUNDS

- ☒ (7) Enhancement or intense biological activities  
☒ (8) Unusual mortalities  
☐ (9) Upslope instability  
☐ (10) Debris jams present which could become a debris torrent  
☒ (11) Severe bank erosion  
(12) Percent (%) of spawning habitat degradation:  
Unusual (13) Drought ☒ (14) or Flood ☐ impacts on spawning or egg incubation success of salmon this year  
☒ (15) GENERAL COMMENTS ON UNUSUAL CONDITIONS

## RECOMMENDATIONS

- ☐ (16) Fish access problems ☐ (17) Spawning site conditions  
☐ (18) Augmentation of flows ☐ (19) Other suggestions

## BIOLOGICAL DETAILS

Particulars of distribution of spawning salmon over the stream bed:

**Limited spawning area. Virtually all spawning occurs below the Hydro Station above the lower hatchery, below the fence (lower 1/3 of river), and side channels.**

Juvenile observations:	<b>SK</b>	<b>CO</b>	<b>PK</b>	<b>CM</b>	<b>CN</b>
Juveniles present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Juvenile studies performed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Evidence of digging up of redds or eggs by spawning fish:

Pink: Sockeye: Chum:

Predator observations: ☐ Predator (bears, eagles or seals) counts available for one or more survey dates

☒ (20) GENERAL COMMENTS ABOUT ADULT & JUVENILE SALMON DISTRIBUTION OR PREDATOR INTERACTIONS

Biosampling procedures:

Species	Scales	Otoliths	Ovaries	Length	DNA	Other	Comment
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Contact: Data Location:

☐ (21) GENERAL COMMENTS ON SAMPLING ACTIVITIES OR STUDIES NOT COVERED ABOVE

☐ (22) SUPPLEMENTARY DOCUMENTATION NOT INCLUDED WITH THIS REPORT



## COMMENTS ON CONDITIONS AFFECTING THIS STREAM AND ESCAPEMENT ESTIMATES

(4) Describe basis for estimating total adults CO Run 1: River escapement below fence 800 + above fence 1,500 + Comox Lake 1,200 = a total escapement of 3,500 plus 1,943 jack, and brood removals include 4,686 adults & 322 jacks.

(4) Describe basis for estimating total adults PK Run 1: River escapement below fence 75,500 + above fence 14,500 + Comox Lake 0 = a total escapement of 90,000 and brood removals include 10,000 adults. This is an exceptional year for pink returns. In past years pink returns have been inconsistent and we suspect that the Commercial Fisheries has an impact on returning spawners, this year there was no Commercial Fishery and the pink escapement reached a record high.

(4) Describe basis for estimating total adults CM Run 1: River escapement below fence 82,000 + above fence 0 + Comox Lake 0 = a total escapement of 82,000 plus 1,266 fish removed for I.F.F. and brood removals include 3,331 female adults & 7,946 male adults.

(4) Describe basis for estimating total adults CN Run 1: River escapement below fence 350 + above fence 75 + Comox Lake 0 = a total escapement of 425 and brood removals include 800 adults & 600 jacks.

(4) Describe basis for estimating total adults CN Run 2: River escapement below fence 0 + above fence 50 + Comox Lake 0 = a total escapement of 50 and brood removals include 308 adults & 272 jacks.

(5) General Comments on Escapement Estimation: Pretty good year compared to previous years. Favourable conditions and good spawner numbers due to abnormally large snow pack. Higher number of Chinook jacks seen, more than in previous years.

(7) Enhancements: Major Hatchery facility on Puntledge River. River presently has three (3) side channels and there are more scheduled to be built.

(8) Unusual mortalities: Lost 50% of broodstock due to requirements to inoculate against BKD.

(11) Bank erosion: Siltation from Brown River (major tributary) due to active logging and highway development.

(13) Drought: The lake had extremely low water levels in the fall. A couple of days of diminished flows in the river would impact the spawning salmon.

(15) General Comments on Unusual Conditions: There was some large woody debris (LWD) but this was generally beneficial.

(20) On Predator Interactions: Seals (fewer due to previous years seal cull program); poachers (always summer chinook and steelhead); recreational usage (salmon being harassed by swimmers in pools); and normal bear, eagle, vulture & mink.

**Brian Munro - Puntledge Hatchery**

Person Preparing Report

Signature

## EXPLANATION OF MULTI-LEVEL VARIABLES RELATED TO ESCAPEMENT

- (1) Method codes: (1) bank walk; (2) stream walk; (3) snorkel; (4) boat; (5) plane; (6) helicopter; (7) redd counts; (8) dead pitch; (9) strip counts; (10) other; (11) Fence.
- (2) Reliability codes: Low -> 1 - 2 - 3 - 4 - 5 <- High
- (3) Enumeration class: (0) Not available; (1) Absolute abundance; (2) Relative: constant multi-year methods; (3) Relative: varying multi-years methods; (4) Presence/absence; (5) No survey this year.
- (4) Escapement codes: (N.O.) stream inspected but None Observed; (U.K.) number UnKnown; (N.I.) stream Not Inspected; (N.S.) species does Not Spawn in this system; (A.P.) Adults Present; (A.C.) Adult Count.