



SALMON & STEELHEAD
ENHANCEMENT SOCIETY

March 12, 2000

Attn : Roberta Cook
Fisheries and Oceans
Vancouver , BC

Upper Bulkley Coho Escapement Estimate (1999)

The total count of coho at the upper Bulkley counting fence in 1999 was 1,073 spawners. These numbers include fish captured in the trap and fish seined from the pool just downstream of the fence. Of the 1,066 coho salmon actually sampled for marks a total of 215 were wild unmarked fish (20.1%) while 795 were adipose-clipped hatchery returns (74.6%). The remainder were ventral clips (2.0%) and maxillary clips (3.3%).

Using the comparative abundance of coded-wire tags estimated in the Alaskan commercial fisheries, from the post-season data supplied by the Department of Fish and Game, may provide a "best" estimate of approximately 1,550 upper Bulkley spawners in 1999. This number is based on the assumption that the coho abundance at catch reflects a similar ratio of this abundance in the upriver escapement reaching the spawning grounds.

Bulkley coho were only 40.0 % as abundant in the Alaskan catch as the Toboggan CWT's. The Toboggan escapement was 2,896 CWT's in 1999, which indicates a Bulkley CWT escapement of 1,158 coho salmon. This in turn indicates a spawner escapement of 1,550 upper Bulkley River coho in total; 312 wild unmarked salmon, 30 ventral clips, 50 maxillary clips, and 1,158 adipose clips.

Another indication that the Bulkley fence most likely missed a portion of the coho escapement, probably the early segment, is the low male to female ratio in the Bulkley River sample (0.8:1) as compared to the Toboggan Creek sample for 1999 (1.4:1).

Cheers,

Mike O'Neill, Manager

c.c. Don Baily, DFO, Vancouver
Brenda Donas, DFO, Smithers
Barry Finnegan, DFO, Nanaimo

ESCAPEMENT SUMMARY ATTACHMENT (1999)

Bulkley Coho (478)

Estimate of spawners u/s of fence - 1,066 coho were sampled at the fence in 1999. By comparing survival to catch data from the Alaskan fishery, and assuming this comparison is also reflected in the escapement, it is estimated that 1,550 Bulkley coho would have escaped to spawn in 1999 (see attached).

Estimate of spawners d/s of fence - we did not carry out an estimate of spawners below fence, but the methodology used should account for coho spawners upstream and downstream of the fence site.

Estimate of angler catch of coho - assuming anglers landed the same proportion of the Bulkley stock as they did for the Toboggan stock (6%) there would have been 93 coho landed by anglers in 1999, at a 5% mortality rate for released fish this would result in 5 dead coho.

Estimate of native catch of coho - based on tagging mortalities associated with coho tagging study at Moricetown, funded by DFO (4,200 tagged x 0.04 Bulkley stock component x 0.05 mortality rate) indicates 9 mortalities of Bulkley coho.

ESCAPEMENT SUMMARY FORM

Prepared: 13-Mar-80

TOTAL RETURNS TO RIVER FOR : 1999 Bulkley River Coho Summer-run Page 1
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	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
FISH REMOVED FROM THE SYSTEM						
Number of fish taken for brood stock		89	45	134		
Number of fish given to natives (not including brood stock carcasses)				0		
Number of fish sold for surplus (not including brood stock carcasses)				0		
Number of mortalities and/or fish used for other purposes				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
TOTAL NATURAL SPAWNING POPULATION ABOVE FENCE						
Number sampled for marks and released		393	539	932		
Number counted but NOT sampled for marks				0		
Additional fish estimated to pass above fence (during periods when fence not operated etc.)		360	124	484		
+ Total Hatchery staff estimate of above fence spawners	0	753	663	1,416	0	0
Other Branch / Agency estimate of above fence spawners				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
TOTAL NATURAL SPAWNING POPULATION BELOW FENCE						
Number sampled for marks and released				0		
Number counted but NOT sampled for marks				0		
Additional fish estimated below fence				0		
+ Total Hatchery staff estimate of below fence spawners	0	0	0	0	0	0
Other Branch / Agency estimate of below fence spawners				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
ESTIMATED FRESH WATER SPORT FISHERY (IF APPLICABLE)						
+ Total Hatchery staff estimate of sport fishery		3	2	5		
Other Branch / Agency estimate of sport fishery				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
ESTIMATED NATIVE FISHERY (IF APPLICABLE)						
+ Total Hatchery staff estimate of native fishery		5	4	9		
Other Branch / Agency estimate of native fishery				0		

INDICATE METHODS USED TO ESTIMATE POPULATION.
(IF COMMENTS ARE REQUIRED, PLEASE USE REVERSE)

<input type="checkbox"/>	Fence, Fishway, flashboard or tower (Continuous Count- 24 hrs /day)	
<input type="checkbox"/>	Fence, fishway, flashboard or tower (Interpolated Count < 24hrs / day)	
<input type="checkbox"/>	Petersen estimate	
<input type="checkbox"/>	Index by Redd count, peak count, dead pitch, floats, helicopter,etc.	
<input type="checkbox"/>	Visual estimate from brood stock collection, walks or spotchecks,etc.	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Other method - Use reverse or space below to describe.

PLEASE STAPLE

COMPLETE FOR EACH STOCK

ESCAPEMENT SUMMARY FORM

COMPLETE FOR EACH STOCK AND STAPLE

Prepared: 13-Mar-00

SAMPLING INFORMATION FOR : 1999 Bulkley River Coho Summer-run Page 2

SAMPLE: 478

- Hatchery Swim-Ins
- Channel Dead Pitch
- Live +
- Dead -
 - Salt Water
 - Estuary
 - Fresh Water
 - + Lake
 - + River
 - + Above Fence
 - + Below Fence
 - + At Fence
 - + Total Count
 - + Partial Count

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
NUMBER OF FISH COUNTED (at trap or fence if appropriate)	7	482	584	1,073		
NUMBER OF FISH EXAMINED FOR MARKS		482	584	1,066		
NUMBER OF C.W.T. MARKS FOUND		351	444	795		
NUMBER OF other MARKS FOUND		22	34	56		
NUMBER OF HEADS REMOVED FOR TAG DECODING		11	51	62		
NUMBER OF HEADS DISSECTED FOR TAGS		11	51	62		
NUMBER OF LOST OR MISSING HEADS		0	0	0		

(recorded as NO-DATA by the Head Lab)

IF ANGLING OR NETTING, ARE LIVE FISH RETURNED TO THE RIVER SAMPLED FOR MARKS BEFORE RELEASE

YES NO

IF YES, ARE RELEASED FISH MARKED TO PREVENT DOUBLE COUNTING?

(If released fish are not marked, describe the method used to obtain a representative mark rate. Use reverse if necessary.)

YES NO

ARE RECAPTURES A SIGNIFICANT PORTION OF FISH EXAMINED FOR MARKS?

YES NO

NUMBER OF ADIPOSE CLIPS RECORDED AS:

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
No data	500000			0		
Cut short	600000			0		
Unreadable	700000			0		
No pin	800000	0	1	1		
Lost pin	900000			0		
Subtotal		0	1	1	0	0

ESCAPEMENT SUMMARY FORM

COMPLETE FOR EACH STOCK AND STAPLE

Prepared: 13-Mar-00

SAMPLING INFORMATION FOR:

1999 Bulkley River Coho

Summer-run

Page 3

SAMPLE:

478

Hatchery Swim-Ins
 Channel Dead Pitch
 Live ----+
 Dead -----

Salt Water
 Estuary
 Fresh Water

+---- Lake
 +---- River

+---- Above Fence
 +---- Below Fence
 +---- At Fence

+---- Total Count
 +---- Partial Count

Number of CWT's recorded as:

CWT	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
18-24-12		3	20	23		
18-24-13		5	17	22		
18-24-14		3	12	15		
18-11-41		0	1	1		
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Subtotal	0	11	50	61	0	0

CWT	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
No Pin		0	1	1		
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Subtotal	0	0	1	1	0	0
Total	0	11	51	62	0	0

ESCAPEMENT SUMMARY FORM

Prepared: 14-Mar-01

TOTAL RETURNS TO RIVER FOR : 2000 Bulkley River Chinook Spring-run Page 1
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	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
FISH REMOVED FROM THE SYSTEM						
Number of fish taken for brood stock		62	18	80		
Number of fish given to natives (not including brood stock carcasses)				0		
Number of fish sold for surplus (not including brood stock carcasses)				0		
Number of mortalities and/or fish used for other purposes				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
TOTAL NATURAL SPAWNING RIVER POPULATION						
Number sampled for marks and released		247	191	438		
Number counted but NOT sampled for marks	1,929			1,929		
Additional estimate NOT counted or sampled	113			113		
+ Total Hatchery staff estimate of natural spawners	2,042	1,465	1,015	2,480	0	0
Other Branch / Agency estimate of natural spawners				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
ESTIMATED FRESH WATER SPORT FISHERY (IF APPLICABLE)						
+ Total Hatchery staff estimate of sport fishery		166	112	278		
Other Branch / Agency estimate of sport fishery				0		

	Unknown Adults	Males	Females	Total Adults	Jacks	Immatures
ESTIMATED NATIVE FISHERY (IF APPLICABLE)						
+ Total Hatchery staff estimate of native fishery		722	490	1,212		
Other Branch / Agency estimate of native fishery				0		

- INDICATE METHODS USED TO ESTIMATE POPULATION.
(IF COMMENTS ARE REQUIRED, PLEASE USE REVERSE)
- Fence, Fishway, flashboard or tower (Continuous Count- 24 hrs /day)
 - Fence, fishway, flashboard or tower (Interpolated Count < 24hrs / day)
 - Petersen estimate
 - Index by Redd count, peak count, dead pitch, floats, helicopter, etc.
 - Visual estimate from brood stock collection, walks or spotchecks, etc.
 - Other method - Use reverse or space below to describe.

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