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A REVIEW OF BRITISH COLUMBIA CHINOOK SALMON STOCKS
AND THEIR COASTAL FISHERIES: 1970 to 1984

by

P.J. Starr
K.R. Pitre

Department of Fisheries and Oceans
Fisheries Research Branch
1090 West Pender Street
Vancouver, British Columbia
CANADA V6E 2P1

Department of Fisheries and Oceans
Field Services Branch
1090 West Pender Street
Vancouver, British Columbia
CANADA V6E 2P1

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INTRODUCTION

British Columbia has a large and diverse population of chinook salmon (Oncorhynchus tshawytscha). In general, the stocks inhabiting streams which flow into the Pacific north of Vancouver Island (e.g., Taku River, Nass River, Skeena River, Atnarko River) consist of spring or summer stocks which usually overwinter one year in fresh water before migrating to sea ("stream-type" fish, Major et al, 1978). A component of the chinook run to the Fraser River also falls into this category (Fraser et al, 1982). Stocks returning to the west coast of Vancouver Island and some Fraser River and Georgia Strait stocks are late summer or early fall "bright" runs which generally migrate to the ocean during the year following spawning ("ocean-type" fish, Major et al, 1978). The balance of the Georgia Strait stocks and one major stock in the Fraser River (Harrison River) are fall runs which return to the river in dark condition. At least one of these stocks (Harrison River) appears to bypass the fresh-water phase in its early life history by migrating to estuarine areas as emergent fry (Fraser et al, 1982). Other fall stocks in Georgia Strait use this life-history type, as well as the more usual "ocean-type" life history.

The hatchery program in British Columbia started in the early 1970's. The first major stocks to be enhanced were at Robertson Creek on the Somass River (west coast of Vancouver Island) and on the Big Qualicum River (east coast of Vancouver Island). Since then, many major stocks on Vancouver Island have been enhanced. The early 1980's has seen an expansion of the B.C. enhancement program to the upper reaches of the Skeena, the Kitimat, and the Atnarko. The evaluation of these

latter hatcheries is still to be done, but the earlier facilities, particularly Robertson Creek and some of the fall run Georgia Strait hatcheries, are found (through tag recovery) in all coastal fisheries. The calculated survival and contribution rates to these fisheries are good and compare well to other chinook hatcheries in North America.

Any evaluation of contribution by stock (or hatchery) to the chinook fisheries of British Columbia is complicated by these facts:

- 1) Chinook become vulnerable to sport and net gear within a year after migrating to the ocean.
- 2) They remain vulnerable to all gear throughout the ocean life history because they are coastal feeders.
- 3) Chinook in general tend to migrate northwards. This means that ocean fisheries exploit stocks originating from the south, often from rivers of another country.

Therefore, all fisheries taking chinook on the B.C. coast are of mixed origin and age. The traditional methods of estimating stock contributions in salmon fisheries are useless because quantitative estimates of the proportions of fish moving by age and by stock from one fishery to the next are not presently available. Only the most general statements regarding the stock composition of B.C. fisheries can be made. Discussions with other experts in the context of the Canada/U.S. salmon negotiations have given rise to the following generalizations:

- 1) The fishery off the west coast of Vancouver Island is largely made up of fall run fish returning to the Columbia River, the west coast of Washington, and Puget Sound. There is also contribution from fall run Fraser River and Vancouver Island fish.

- 2) The ocean fishery north of Vancouver Island is comprised of "bright" stocks returning to the Columbia, the Fraser, and the west coast of Vancouver Island. Fall stocks returning to Georgia Strait, Puget Sound, and the west coast of Washington State, as well as summer stocks from the north coast of B.C. are also taken in this fishery.
- 3) The inside fishery in Georgia Strait is largely comprised of fall run stocks originating from the east coast of Vancouver Island and from the Fraser River. Puget Sound stocks contribute to this fishery, especially in the southern portions.

CATCHES

Canadian troll catches peaked in the early to mid 1970's (Table 1) and have since declined in all areas. The distribution of catch has remained relatively stable, with a decline in the relative importance of the Georgia Strait troll fishery.

Net catches remained stable to the end of the 1970's, and then declined. The distribution of the net catch has changed, however, with closures in traditional terminal chinook fisheries (e.g. Fraser and Skeena Rivers) and an increase in the catch of immature and mature chinook in all seine fisheries, especially in Johnstone Strait and the central region of B.C. This happened at the same time that the number of seiners doubled (to over 500 boats) during the 1970's. A gillnet fishery has developed in Barkley Sound (west coast Vancouver Island) in response to increasing returns of surplus hatchery fish during the late 1970's.

A systematic creel census of the sport fishery in Georgia Strait was begun in July, 1980. Prior to that date, all sport catch figures in B.C. came from field officer estimates and were of variable quality. It appears, however, that sport catches in Georgia Strait probably peaked in the late 1970's and have declined since. Sport catches from other regions of B.C. are not available.

EXPLOITATION AND RECENT MANAGEMENT ACTIONS

Returns of coded-wire tag groups representing hatchery production for two major B.C. hatcheries give some indication of the extent of exploitation on B.C. chinook stocks (Table 2). The overall exploitation rate has averaged 84% for the Georgia Strait hatchery over six brood years and 81% for the west coast of Vancouver Island hatchery over seven brood years. While these exploitation rates vary between 74% and 89%, they are uniformly high and exceed harvest rates recorded for sockeye (Starr et al, 1984) and other B.C. salmon species. An unpublished stock/recruitment analysis of B.C. chinook stocks by one of the authors (Starr) suggests that optimum production for naturally reproducing chinook stocks may lie in the range of 60 to 70% (overall exploitation rate). This target estimate for exploitation rate was used to propose management actions during the Canada/U.S. salmon negotiations (Report of the U.S./Canada Chinook Technical Committee, 1983).

There has been concern expressed for the health of some B.C. chinook stocks since the mid 1970's. The earliest management actions taken to protect chinook stocks were to reduce and finally eliminate all net fisheries which targetted on chinook exclusively. This only had a stop-gap effect because:

- 1) chinook are often taken passively during net fisheries taking the more abundant salmon species;
- 2) there was a general trend for the hook-and-line fisheries (both sport and troll) to increase harvest rates.

Between 1981 and 1984, steps have been taken to curtail some of the more obvious net fisheries where chinook by-catch is a problem (Rennel Sound in the Queen Charlottes, Milbanke Sound in the central region, and Johnstone Strait). As a response to the disastrous catches in the 1983 troll fishery, a substantial curtailment in fishing time for the Georgia Strait troll fishery was implemented, as well as catch ceilings on the ocean troll fisheries in northern B.C. and on the west coast of Vancouver Island.

ESCAPEMENT AND STATUS OF WILD B.C. CHINOOK STOCKS

The assessment of the escapement of chinook stocks in British Columbia is difficult due to the number of spawning streams, their remote nature, and the variability in effort expended to enumerate spawning stocks. This variability extends between geographic areas and between years. Numbers presented in this paper are based on estimates made by field staff, with the exception of a few systems provided with weirs. Enumeration of escapement has become more intensive and accurate in recent years due to improved accessibility to streams, an increased awareness by field staff as to the importance of this species, and the addition of new streams into the data set. These factors have probably introduced a systematic bias into the data set and make comparisons over long time periods potentially misleading.

In spite of these factors, the general trend in the escapement of B.C. chinook stocks is downward (Table 3), indicating that the high exploitation rates documented in the previous section are having a predictable effect. The terminal run to the Fraser River also shows a similar trend (Table 4), as well as returns to two systems having weir counts. These data, coupled with the evidence of very high total exploitation rates, indicate that B.C. chinook stocks are presently over-exploited.

Because of the inadequacy of the escapement data set, it is difficult to set realistic targets for stock rebuilding. A provisional target of 330,000 spawners in current escapement units has been set by Canada Department of Fisheries and Oceans staff (Table 3). This is slightly more than double the current escapement levels. However,

because the present data set contains so much variability and uncertainty, the achievement of the above goal will be based on a system of index streams for which more rigorous and reproducible enumeration methods will be used. A doubling of the present escapement in these systems, along with demonstrated reduction in the overall exploitation rate, will be the measure of rebuilding B.C. chinook stocks.

REGIONAL STOCK STATUS OF B.C. CHINOOK SALMON

The following is a description of the stock status of B.C. chinook stocks by major region. The overall stock status in terms of current escapement is given in Table 5 and the catch distribution for four stocks (from coded wire tag recoveries) is given in Table 6.

i) Transboundary Rivers

Chinook stocks in the Stikine, Taku, and Alsek Rivers are presently below desirable escapement levels. Alaska has undertaken to rehabilitate these chinook stocks in a three-cycle (15 year) program. Further action is required on the Taku River because of the damage caused by a slide on the Inklin River in the winter of 1978-79. Presently, transboundary stocks are about 50% of the estimated goal of 72,000.

Catch Distribution: The Alaskan troll and net fisheries account for almost all the exploitation on these stocks. There is some limited by-catch of chinook by gillnets in Canadian terminal fisheries directed at other species in the Taku and Stikine Rivers.

ii) North Coast

North Coast chinook stocks are composed almost entirely of summer run fish returning to the Skeena and Nass Rivers. There is a small run returning to the Yakoun River on Graham Island (Queen Charlotte Islands). Total escapement counts to these systems appear to be declining, in spite of the uncertainty in their accuracy. Weir counts to the Babine River (Skeena tributary) show a long term decline (Table 4). Some improvements to escapement have occurred in 1983 and 1984 as a result of curtailments in local net and troll fisheries.

Catch Distribution: The major fisheries taking these stocks are the troll fisheries in northern B.C. and in southeastern Alaska. There are also important by-catches of chinook in these same regions by the net fisheries which target on sockeye, pink and chum salmon. There are terminal catches of chinook in both major rivers by Indian subsistence fisheries and by river sportsmen.

iii) Central Coast

Central coast stocks are primarily composed of summer run chinook. Due to the long inlets in this area, some local populations are vulnerable to net and recreational fisheries as they return to their spawning streams. The major producers are the Kitimat, Bella Coola, and Rivers Inlet systems. The combined Central Coast stock is presently at an escapement level of 21,000 fish, well below the stated goal of 46,000 spawners.

Catch Distribution: These stocks are caught in the north and central B.C. net fisheries as two-year old juveniles. At ages greater than three years, the troll fisheries in central and northern B.C. and southeastern Alaska become important exploiters of this stock (Table 6). Sports fisheries, particularly in Kitimat Arm and Rivers Inlet, exploit stocks from this region.

iv) West Coast of Vancouver Island

The major stocks in this area have been below needed escapement for many years. The Somass River (flowing into Barkley Sound) has always been the major producer and provides the stock for the successful hatchery at Robertson Creek. The returns to this river have shown some improvement in recent years, probably due to the substantial enhancement activity taking place in this system.

Catch Distribution: The major source of exploitation for these stocks are the ocean troll fisheries off the entire coast of B.C. and southeast Alaska (Table 2 and Table 6). Net and sport fisheries, particularly in Barkley Sound, also exploit these stocks.

v) Georgia Strait

Georgia Strait chinook stocks are still managed for their naturally reproducing component, even though most rivers have been enhanced. Because of these enhancement projects, it is difficult to accurately assess the true abundance of these naturally reproducing stocks. At present, it is believed that the escapement of these stocks is approximately one-third of the stated goal of 72,000 (Table 5). Exploitation rates for these stocks are particularly high, even for hatchery stocks (Table 2). Most of the hatcheries in Georgia Strait had difficulties in obtaining sufficient brood stock in 1983. Two hatcheries in particular (Capilano and Puntledge) had returns far below egg capacity requirements. The return to the Big Qualicum hatchery weir has declined for the last four years (Table 4).

Catch Distribution: Tag returns indicate that Georgia Strait fall run stocks are harvested primarily in the Georgia Strait sport fishery and in the Johnstone Strait and central net fisheries at age 2. At age 3, the Georgia Strait troll and sport fisheries predominate. By ages 4 and 5, this stock is taken throughout the coast, including the Alaska and northern B.C. troll fisheries.

vi) Fraser River

The Fraser River has been divided into three major stocks based on return run timing to the river (Fraser et al, 1982). The timing blocks and the corresponding tributaries are as follows:

- 1) late spring/early summer timing
(upper and central Fraser, Nechako River, some Thompson River);
- 2) late summer/early fall timing
(most Thompson River and its tributaries);
- 3) fall timing
(Harrison River).

Total return to the river has declined from approximately 230,000 in 1970 to about 100,000 in 1983 (Table 4). This trend is true for all three major stocks; the summer/fall run to the Thompson River has shown the greatest decline in total run. Part of the decline is due to severe restrictions on terminal fishing in the Fraser River. These restrictions are documented elsewhere (Fraser et al, 1982) but include:

- 1) elimination of the terminal gillnet fishery directed at chinook in 1980;
- 2) elimination of the terminal river sport fishery on chinook (except on jack males under 50 cm in length) in 1980;
- 3) curtailment of river fishing time on sockeye and pink salmon by gillnets;
- 4) maximum allowable mesh size on gillnets set at 14 cm, which has been shown experimentally to minimize chinook catch (Wilson and Pearce, 1984);
- 5) reduction of fishing time for Indian subsistence fisheries.

As a result of these restrictions, spawning escapements in the Fraser River have not declined as quickly as the total return to the river. However, ocean fisheries appear to have soaked up most of the production increases.

Catch Distribution: Fraser River stocks are taken throughout the outer coast, both in troll and net fisheries (Table 6). Some juvenile fish are taken as age 2's in Georgia Strait. It should be noted that the data for Fraser River stocks given in Table 6 is based on very few returns (less than 100); therefore, the proportions given may be biased.

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TABLE 1: BRITISH COLUMBIA CATCHES (1970-1983)
 SOURCE: BC CATCH STATISTICS.

CANADIAN TROLL CATCH/1970-1983

YEAR	NORTH (1-5)	CENTR/N (6-8)	CENTR/S 9-11,30	GEOR ST 12-20,29	SWVI (21-24)	NWVI (25-27)	TOTAL	ESTIMATED
							CANADIAN TROLL	TOTAL CANADIAN SPORT
1970	187902	79420	19186	157819	365240	42862	852429	123100
1971	209956	53067	18292	303854	617403	67830	1270402	134000
1972	230420	78837	47892	246410	559473	58523	1221555	175000
1973	188475	53949	35336	157209	594017	61753	1090739	223000
1974	214958	68337	32594	190108	575034	96728	1177759	271000
1975	230237	61105	39153	196246	497979	78517	1103237	386000
1976	190854	71318	55130	230382	599105	102081	1248870	506000
1977	131697	55469	55254	279183	530145	59839	1111587	382000
1978	144673	53224	35352	229154	459917	111103	1033423	486000
1979	148771	57059	38973	271186	401330	79699	997018	440000
1980	159050	47013	36887	279845	385113	94348	1002256	414000
1981	151731	34341	32627	252195	315765	81753	868412	287000
1982	175021	38671	24661	190376	438584	105348	972661	203000
1983	161592	35725	52833	115168	287437	93820	746575	222000

CANADIAN NET CATCH/1970-1983

YEAR	DIXON E	SKEENA	NORTH	RIVERS	JOHNST	GEORGIA	FRASER	WST CST	TOTAL	
	WC CHARL (1-2)	NASS (3-5)	CENTRAL (6-8)	SMITH (9-10)	ST (11-13)	ST (14-18)	R (29)	VANC I (21-27)		JU DE F (20)
1970	3385	28211	62080	9404	47937	6462	124753	3085	111347	396664
1971	3478	33485	36117	13284	34234	4570	132320	8420	55959	321867
1972	2684	34602	72879	16969	33101	3113	121146	5574	38207	328275
1973	800	36600	59179	22736	45101	3965	94518	12476	58310	333685
1974	6345	30920	67561	9063	39374	3691	67778	12903	48452	286087
1975	8129	29052	64438	14312	45635	6748	73833	31076	30218	303441
1976	4575	16850	40045	15560	54216	6591	79869	35520	39142	292365
1977	27412	35038	24775	26018	67121	5410	90893	34737	73999	385403
1978	12035	42627	46298	15027	82225	4536	54062	49414	27504	333728
1979	29799	30154	74740	6215	43383	1574	51511	60397	34877	332650
1980	18059	19840	48228	1313	42493	4934	39045	55684	7794	237390
1981	22949	35772	31021	1227	42195	7198	22447	72886	29245	264940
1982	13696	68212	46240	4919	39828	3266	23577	45016	16979	261733
1983	6127	20240	30647	2306	50730	7882	24192	41421	3432	186977

NOTE 1: ALL CATCH ESTIMATES FOR 1983 ARE PRELIMINARY

NOTE 2: ALL SPORT CATCH ESTIMATES ARE PRELIMINARY.

SPORT CATCH ESTIMATES INCLUDE FIXED CATCHES OF 30,000 FOR THE NORTHERN SPORT FISHERIES (INCLUDING JOHNSTONE STRAIT). NO ESTIMATE IS INCLUDED FOR THE WEST COAST OF VANCOUVER ISLAND.

Table 2. Exploitation rates for two major B.C. hatchery stocks over several brood years. Calculations made from returns to tag groups that represent hatchery production source: Canada Dept. of Fisheries and Washington Dept. of Fisheries.

Robertson Creek					Big Qualicum River			
Brood Year	Troll Exploit Rate	Sport Exploit Rate	Net Exploit Rate	Total Exploit Rate	Troll Exploit Rate	Sport Exploit Rate	Net Exploit Rate	Total Exploit Rate
1972	.58	.21	.08	.87	.26	.45	.15	.86
1973	.63	.15	.04	.82	.24	.52	.13	.89
1974	.58	.08	.08	.74	.28	.40	.16	.84
1975	.56	.09	.09	.74	.43	.21	.18	.82
1976	.58	.06	.18	.82	.28	.30	.19	.77
1977	.54	.05	.18	.77	.40	.31	.13	.84
1978	.66	.04	.18	.88	N/A	N/A	N/A	N/A
Average	.59	.10	.12	.81	.32	.37	.16	.84

TABLE 3: ESCAPEMENT SUMMARY FOR BRITISH COLUMBIA CHINOOK.
 ===== SOURCE: CANADA DEPT OF FISHERIES ESCAPEMENT FILES.

YEAR	NORTH	CENTRAL	TOTAL		GEORG	FRASER	TOTAL	TOTAL
	BC	BC	NORTH	WST CST	STRT	RIVER	SOUTH	TOTAL
			BC	VANC IS			BC	BC
1970	41000	29000	70000	29000	96000	63000	188000	258000
1971	41000	67000	108000	28000	61000	60000	149000	257000
1972	38000	39000	77000	28000	62000	48000	138000	215000
1973	52000	47000	99000	34000	72000	81000	187000	286000
1974	49000	44000	93000	27000	55000	76000	158000	251000
1975	37000	18000	55000	23000	51000	80000	154000	209000
1976	25000	40000	65000	24000	54000	44000	122000	187000
1977	38000	42000	80000	22000	51000	80000	153000	233000
1978	35000	35000	70000	20000	41000	73000	134000	204000
1979	26000	29000	55000	21000	49000	63000	133000	188000
1980	33000	19000	52000	16000	36000	56000	108000	160000
1981	33000	18000	51000	14000	34000	51000	99000	150000
1982	23500	24300	47800	21000	24400	65800	111200	159000
1983	25400	21000	46400	17800	24000	60000	101800	148200
AVE								
79-82	28875	22575	51450	18000	35850	58950	112800	164250
PROVISIONAL								
ESCAPEMNT								
GOALS=	58000	46000	104000	36000	72000	118000	226000	330000

N.B.: THESE DATA ARE CURRENTLY UNDER REVIEW. THE VALUES PRESENTED IN THIS
 ===== TABLE MAY CHANGE SLIGHTLY IN THE FUTURE.

TABLE 4: TOTAL RETURNS OF CHINOOK TO SELECTED BRITISH
 COLUMBIA RIVER SYSTEMS.
 SOURCE: CANADA DEPT OF FISHERIES ESCAPEMENT
 FILES AND CATCH STATISTICS

YEAR	TERMINAL RUN, UPPER FRASER (SUMMER)	TERMINAL RUN, LOWER FRASER, (FALL)	TOTAL TERMINAL RUN, FRASER RIVER	FENCE COUNT BARINE RIVER (SUMMER)	RACK RETURNS QUAILICUM HATCHERY (FALL)
AVE: 56-60	146900	67000	213900	8980	N/A
AVE: 61-65	151000	36400	187400	3800	N/A
AVE: 66-70	150500	41400	191900	3440	N/A
1971	151657	73340	224997	2500	N/A
1972	106196	98660	204856	600	725
1973	111498	87496	198994	800	643
1974	106896	62527	169423	2875	554
1975	124336	64372	188708	1200	1315
1976	100805	53227	154032	588	991
1977	134496	67220	201716	719	2462
1978	111345	44832	156177	504	2567
1979	121575	18648	140223	822	8309
1980	64649	48365	113014	918	7614
1981	66180	19167	85347	723	4630
1982	86294	38883	125177	600	3415
1983	83347	16710	100057	648	2810

Table 5. Status of British Columbia Wild Chinook Stocks

<u>Stock</u>	<u>Areas</u>	<u>Race</u>	<u>Escapement Goal</u>	<u>Estimated Present Status</u>	<u>Comments and Indicators</u>
Transboundary			72,500	36,000	Transboundary rivers of significance are the Taku, Stikine and Alsek. Escapements on the Alsek and Taku are well below optimum requirements.
North Coast	(1-5)	Spring, Summer	58,000	25,000	Commerical catches have been dropping 6% per year since 1975. Directed gillnet fisheries were eliminated in 1978. Babine Fence count has decreased from 3440 in 1975 to 500 in 1982. Most severely depressed Canadian stock. Some races must escape an intensive sockeye and pink fishery to the same rivers. Test Fishery index seond lowest on record in 1982.
Central Coast	(5-11)	Spring, Summer	46,000	21,000	Central Coast stock generally depressed with a variation in status of various races.
West Coast Vancouver Island	(21-27)	Fall "Brights"	36,000	18,000	Natural stock is depressed. The only major system is enhanced and difficult to evaluate.
Georgia Strait	(12-20) (&28)	Fall, Spring & Summer	72,000	33,000	Commerical and Sport catch has been decreasing in recent years. Escapements are difficult to assess since some degree of enhancement occurs on many Vancouver Island major producers. Enhancement will not effectively rebuild and maintain natural stock.
Fraser	(29)	Summer, Fall & Spring	118,000	60,000	Terminal catches in non-target fishery continue to decrease. Escapement estimates remain low. The stock remains low in 1982.

TABLE 6: CATCH DISTRIBUTION OF FOUR CANADIAN STOCKS. THESE DATA ARE COMPILED FROM CODED WIRE TAG RECOVERIES MADE IN THE YEARS 1977 TO 1982 (1974 TO 1977 BROOD YEARS).

STOCK	AGE AT CATCH	PROP OF TTL CATCH BY AGE WITHIN BROOD	TROLL FISHERIES				NET FISHERIES					SPORT FISHERIES			
			ALASKA	WEST COAST	GEORGIA STRAIT	CENTRAL	NORTH	WASH	WEST COAST	CENTRAL	NORTH	JOHNST STRT	TERMIN	OUTSIDE	GEORGIA STRAIT
WEST COAST	AGE 2	5.80	0.64	4.76	0.00	9.90	0.90	1.54	31.49	10.03	1.29	1.93	0.00	34.96	2.57
	AGE 3	40.18	18.70	13.63	0.26	22.91	18.88	0.00	3.97	2.69	6.75	0.70	0.04	11.02	0.45
VANC. ISLAND	AGE 4	47.18	41.82	9.07	0.00	11.61	14.61	0.17	8.36	1.37	3.32	0.65	0.00	8.89	0.13
	AGE 5	6.84	49.95	2.29	0.00	8.51	14.61	0.00	8.83	0.65	5.23	1.53	0.00	7.52	0.87
	WEIGHTED AVE/ALL	100.00	30.69	10.19	0.10	15.84	15.53	0.17	7.97	2.36	4.71	0.81	0.01	11.17	0.45
CENTRAL & NORTH COAST	AGE 2	7.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.81	28.81	5.08	0.00	23.73	13.56
	AGE 3	35.77	8.16	3.06	0.00	2.72	19.05	0.00	0.68	9.52	5.10	0.00	0.00	50.34	1.36
	AGE 4	40.88	52.68	0.00	0.00	12.20	6.85	0.00	0.00	13.39	8.93	1.19	0.00	3.57	1.19
	AGE 5	16.18	32.33	0.00	0.00	7.52	27.82	0.00	4.51	18.80	4.51	0.00	0.00	4.51	0.00
	WEIGHTED AVE/ALL	100.00	29.68	1.09	0.00	7.18	14.11	0.00	0.97	13.99	8.27	0.85	0.00	21.90	1.95
UPPER FRASER RIVLR	AGE 2	8.13	0.00	0.00	0.00	17.65	0.00	0.00	0.00	0.00	0.00	11.76	0.00	0.00	70.59
	AGE 3	16.75	0.00	0.00	11.43	5.71	8.57	8.57	0.00	0.00	0.00	14.29	17.14	0.00	34.29
	AGE 4	47.37	20.20	37.37	0.00	2.02	27.27	4.04	0.00	0.00	0.00	0.00	9.09	0.00	0.00
	AGE 5	27.75	39.66	25.86	0.00	0.00	6.90	3.45	0.00	0.00	0.00	0.00	24.14	0.00	0.00
	WEIGHTED AVE/ALL	100.00	20.57	24.88	1.91	3.35	16.27	4.31	0.00	0.00	0.00	3.35	13.88	0.00	11.48
GEORGIA STRAIT	AGE 2	38.77	0.00	0.14	7.23	0.51	0.25	0.23	0.09	10.34	0.45	19.55	0.01	0.51	60.68
	AGE 3	42.61	2.15	3.08	33.35	11.91	7.51	0.34	0.15	6.24	2.88	7.39	0.04	1.20	23.78
	AGE 4	15.26	15.79	3.97	14.30	17.32	11.11	0.43	0.14	2.42	1.13	12.66	0.12	2.85	17.76
	AGE 5	3.36	19.98	0.63	2.05	23.78	5.92	0.00	0.79	9.79	6.00	12.32	0.00	4.90	13.82
	WEIGHTED AVE/ALL	100.00	4.00	1.99	19.27	8.71	5.19	0.30	0.15	7.37	1.77	13.08	0.04	1.31	36.83