

POST SEASON REPORT FOR
2008 CANADIAN TREATY LIMIT FISHERIES

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by Fisheries and Oceans Canada
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1 INTRODUCTION

Fisheries in 2008 were conducted according to Annex IV of the Pacific Salmon Treaty. The arrangements contained in Annex IV include those initially agreed to between Canada and the United States in June, 1999 as well as additional agreements reached by the Commission and/or Panels since that time (e.g. Transboundary, chinook, coho and chum arrangements). The conservation-based approach commits the two Parties to abundance-based management for all stocks covered by the Treaty.

Catches reported below provide the best information available to date, and may change once all catch information for 2008 has been reviewed. The catches are based on in-season estimates (hailed statistics), on-grounds counts by Fisheries and Oceans Canada management staff and independent observers, logbooks, dockside tallies, landing slips (First Nation fisheries), fish slip data (commercial troll and net), and creel surveys, logbooks and observers (sport and commercial).

Annex fisheries are reported in the order of the Chapters of Annex IV. Comments begin with expectations and management objectives, followed by catch results by species, and where available and appropriate, escapements. The expectations, management objectives, catches and escapements are only for those stocks and fisheries covered by the Pacific Salmon Treaty (PST); domestic catch allocations have been excluded. Appendix 1 summarizes 1995-2008 catches in Canadian fisheries that have at some time been under limits imposed by the Pacific Salmon Treaty.

2 TRANSBOUNDARY RIVERS

2.1 STIKINE RIVER

Canada developed a fishing plan for the Stikine River based on the catch sharing and management arrangements outlined in Annex IV, Chapter 1, Paragraph 3 of the Pacific Salmon Treaty (PST), including the new arrangements for Stikine chinook and coho salmon agreed to on 17 February, 2005. Accordingly, the 2008 management plan was designed to meet agreed escapement targets and the following harvest objectives: to harvest 50% of the total allowable catch (TAC) of Stikine River sockeye salmon in existing fisheries; to allow additional harvesting opportunities for enhanced sockeye stocks in terminal areas that were surplus to spawning requirements; to harvest up to 5,000 coho salmon in a directed coho fishery; and, to harvest approximately 8,200 to 15,900 large chinook salmon in a targeted fishery, based on the pre-season forecast, recognising this number could change once in-season run projections were available. The Canadian percentage of the chinook Allowable Catch (AC) fluctuates based on the terminal run size providing higher catch shares when abundance is low and lower catch shares in years of higher abundance.

The 2008 season opened on May 4th, statistical week 19 (SW19), and ended October 24th (SW43). Commercial gear consisted of up to two, 135 metre gillnets per fisher.

The maximum mesh size was restricted to 204 mm through June 21st after which time the maximum mesh size was restricted to 150 mm. Only one of the two nets was permitted to be deployed as a drift net.

The lower Stikine commercial fishing grounds extended from the international border upstream to near the confluence of the Porcupine and Stikine rivers and also included the lower 10 km of the Iskut River. Since the Chinook and sockeye salmon runs were weaker than expected, the commercial fishing area was not expanded as it often has been in previous years when runs were strong, with the fishing area being extended upstream approximately 26 km to the mouth of the Flood River. (Fishing ground extensions result in a slightly higher exploitation rate.)

In the upper Stikine commercial fishery, which is located upstream from the Chutine River, fishing periods generally mirrored those in the lower Stikine commercial fishery lagged by one week. Fishers were permitted two nets and effort was low throughout the season. In 2008, the commercial fishing area was extended upstream to the mouth of the Tuya River. This action was taken in order to provide terminal fishing opportunities on Tuya River bound sockeye, specifically at sites located upstream of the Tahltan River. The Tuya run, which consists entirely of sockeye produced from the Canada-US Stikine enhancement program, has no spawning escapement requirement since these fish cannot return to Tuya Lake, where they originated as outplanted fry, due to velocity barriers.

The First Nation fishery located near the community of Telegraph Creek, B.C. was active from late May to August. There were no time or gear restrictions imposed on this fishery.

Most of the chinook sport fishing activity in the Stikine watershed occurs in the vicinity of the Tahltan River, at the mouth and in the lower portions of the river. Additional activity occurs less intensively in the Iskut River and other areas within the Stikine River drainage. Sport fishing activity commenced in late June and peaked in mid July. Fishing effort and catch was relatively low.

Sockeye salmon

The pre-season forecast for Stikine sockeye salmon, as provided by the Canada/U.S. Technical Committee for the Transboundary Rivers (TCTR), was for a terminal run size¹ of 228,600 fish including: 116,200 Tahltan Lake origin sockeye salmon (59,600 wild and 56,600 enhanced); 56,700 enhanced Tuya Lake sockeye; and 55,700 non-Tahltan wild sockeye salmon. This outlook constituted an above average run; for comparison, the previous 10-year average (1998-2007) terminal run size was approximately 214,300 fish.

¹ Terminal run excludes allowances for U.S. interceptions that occur outside the District 108 and 106 gillnet fisheries.

Preliminary combined catches from the Canadian commercial and First Nation (food, social, ceremonial (FSC)) gillnet fisheries in the Stikine River totaled 33,614 sockeye in 2008, which was below the 1998-2007 average of 48,900 fish. The lower Stikine commercial fishery harvested 28,636 sockeye, while the upper Stikine commercial and First Nation fisheries harvested a total of 505 and 4,473 sockeye, respectively. The preliminary estimate of the total contribution of sockeye salmon from the Canada/U.S. Stikine sockeye enhancement (i.e. the fry-planting program) to the combined Canadian First Nation and commercial catches was 19,882 fish, or 59% of the catch.

In addition to these catches, 1,111 sockeye salmon were taken in a test fishery located near the international border. A new test fishery designed to target on Tuya bound sockeye and located in the mainstem Stikine River above the mouth of the Tahltan River succeeded in harvesting 1,921 sockeye salmon. An additional 290 sockeye was harvested and sampled in the Tuya River.

A total of 10,516 sockeye salmon was counted through the Tahltan Lake weir in 2008; 63% below the 1998-2007 average of 28,200 fish. The 2008 count was well below both the escapement goal range of 18,000 to 30,000 fish and the point target of 24,000. An estimated 4,600 fish (44%) originated from the fry-planting program, which was close to the 49% contribution of hatchery smolts observed in 2005, the principal smolt year contributing to the 2008 return. A total of 100 sockeye salmon was sacrificed at the weir for stock composition analysis. In addition, 2,364 sockeye salmon were collected for broodstock, resulting in a spawning escapement of 8,052 sockeye salmon in Tahltan Lake. The number of fish counted at the weir was disappointing and well below in-season projections. Based on an in-season in-river run size estimate of Tahltan Lake sockeye of 37,900 fish minus the in-river catch of approximately 17,000 sockeye, the escapement to Tahltan Lake was expected to be ~21,000 fish. This estimate was generated in late July when most of the Tahltan fish had transited the fishery. The reason(s) for the discrepancy between the in-season and post season Tahltan run size is unknown. To check for potential migration barriers, the Tahltan River was flown to assess the river for fish passage blockages. Tashoots Creek, draining Tahltan Lake, was also assessed. No obvious obstructions were observed in either waterway; however, a site located in the Tahltan River, approximately 40 km upstream from its mouth, was felt to have potential to impede salmon migration. This site deserves further investigation.

The spawning escapements for the non-Tahltan and the Tuya stock groups are calculated using stock ID, test fishery and in-river catch data. Neither the test fishery nor the commercial fishery operated for the full duration of the sockeye run: the commercial fishery operated in June through to August 10th (SW33); and the test fishery operated July 11th to September 5th (SW36). To determine run timing and subsequently to estimate in-river run sizes and escapements, commercial fishery CPUE was augmented by calculated weekly CPUE values for the period post SW33. The calculated CPUE's were based on the linear relationship between the commercial CPUE and the test fishery CPUE in 1986-04. All of the weekly data sets were significantly correlated. Based on this run reconstruction approach, the preliminary

escapement estimates for 2008 are 14,500 non-Tahltan and 6,100 Tuya sockeye salmon. The non-Tahltan spawning escapement estimate is both well below the point target of 30,000 fish and the escapement goal range of 20,000 to 40,000 fish. Aerial survey counts of non-Tahltan sockeye also indicated a weak return. The index count of 403 fish, observed on September 12th, was 56% below the 1998-07 average of 920 fish.

Based on the in-river run reconstruction of the Tahltan Lake run expanded by run timing and stock ID data in the lower river and estimated harvests of Stikine sockeye in U.S. terminal gillnet fisheries, the preliminary post-season estimate of the terminal sockeye run size is approximately 110,800 fish. This estimate includes 46,700 Tahltan Lake sockeye, 35,800 Tuya Lake sockeye, and 28,200 sockeye of the non-Tahltan stock aggregate. A Stikine run size of this magnitude is 39% below the 1998-2008 average terminal run size of 184,200 sockeye salmon and is approximately one half the preseason expectations of 228,000 fish.

Unlike past years, Canada relied more heavily on other in-season abundance estimates than those derived from the Stikine sockeye management model (SMM), which was updated and refined by the TCTR prior to the season. The SMM was only used in SW27 by Canada since it was felt that it was grossly over-estimating the run size for most of the season. As a result, most of the in-season run projections used in management of the Canadian fisheries were based on harvest rate models and run reconstruction analyses as the season progressed. The run sizes ranged from 259,000 fish in SW27 (June 29th – July 5th) to 117,400 fish in SW33 (August 10-16th). The total Canadian catch was below, and often well below, in-season estimates of the allowable catch through SW29; by this time more than 75% of the run had passed through the fishery. After SW29, the projections of total run size and TAC progressively dropped. The final in-season projection indicated a terminal run size of approximately 117,400 sockeye and a TAC for Canada of approximately 18,600 sockeye. The actual catch of approximately 33,613 sockeye resulted from inseason TAC projections that were well above the post season estimate especially during the first three-quarters of the run combined with weak run projections towards the end of the run.

Coho salmon

Relatively low prices in concert with a coho salmon quota of only 5,000 fish resulted in a catch of 2,400 coho, approximately half of the quota, but well above the 1998-2007 average of 240 coho salmon.

The cumulative weekly CPUE index of 5.69 observed in the coho test fishery was 21% above the recent 10 year average cumulative CPUE of 4.51. Aerial surveys of four index spawning sites did not follow suit with a combined count of 1,100 fish, approximately 62% below the recent 10 year average (note: due to inclement weather only four of the six indices were surveyed.)

Chinook salmon

The pre-season forecast of Stikine chinook salmon, as provided by the Canada/U.S. Technical Committee for the Transboundary Rivers (TCTR), was for an above average terminal run size of 46,100 large chinook salmon. (jack chinook, i.e. fish with a mid-eye to fork length <660mm or a fork length of <735mm, are excluded in both the run size projections and management considerations). For comparison, the previous 10-year (1998-2007) average terminal run size was approximately 42,800 large chinook salmon.

The total combined gillnet catch of chinook salmon in the First Nation and commercial fisheries included 7,860 large chinook and 1,067 jacks compared to 1998-2007 averages of 6,246 large chinook and 1,170 jacks. The 2008 sport fishery yielded a total catch of 50 large chinook. Obviously the 2008 catch eclipses the recent 10 year average due to the targeted chinook commercial fishery which commenced in 2005. The preliminary post-season estimate of the terminal run is 35,800 large chinook, which translates into a Canadian TAC of 8,690 fish. The total Canadian catch of 7,910 large chinook salmon was, therefore, close to the treaty entitlement.

In-season management was influenced significantly by run size projections derived from the Stikine Chinook Management Model (SCMM) and a joint Canada-U.S. mark-recapture program. In-season terminal run size projections ranged from 43,000 fish in SW23 (June 1st – 7th) to 38,800 fish in SW29 (July 13-19th). The final in-season SCMM projection indicated a terminal run size of approximately 39,600 large chinook; this estimate was close to the final in-season mark-recapture estimate of 38,000 large chinook. According to these estimates, the TAC for Canada ranged from approximately 9,400 to 9,800 large chinook salmon. To honour Annex IV, Chapter 1, Paragraph 3(a)(3)(vii) which identifies the will of both Parties to spread the chinook harvest over the season, the duration of weekly fishery openings were based on weekly guideline harvests developed from the current in-season run projections (or from the pre-season forecast before in-season projections were available) apportioned by historical run timing data. Overall, catches were below or close to weekly guidelines in five of the seven openings during the chinook season. High water levels affected the ability to meet weekly quotas in some weeks. Management emphasis switched to sockeye salmon in SW26 (June 22nd – 28th) when a maximum mesh restriction of 150 mm (5.75”) was invoked by regulation.

In addition to the mark-recapture study and aerial surveys, genetic samples were collected on a weekly basis from chinook caught in the U.S. District 108 fishery and from weekly catches taken in the Canadian commercial fishery. These data will be used to assess run timing of Stikine stocks in District 108 and the lower Stikine commercial fishery.

The 2008 chinook salmon escapement enumerated at the Little Tahltan weir included 2,656 large fish and 139 jack chinook salmon. The escapement of large chinook salmon in the Little Tahltan River was 61% below the recent 10 year average of 6,817 fish and 19% below the point estimate of the number of spawners required to achieve

maximum sustained yield (N_{MSY}) for this stock of 3,300 large chinook salmon. The 2008 escapement, however, was close to the lower bounds of the Little Tahltan escapement goal range of 2,700-5,300 large chinook.

The mark–recapture study was conducted again in 2008 concurrent with the SCMM to assess in-river chinook salmon abundance. Mark-capture estimates were calculated after SW23 (June 1st – 7th). The preliminary post-season estimate of the in-river run size, based on tag recoveries in the commercial fishery, is approximately 26,100 large chinook. Accounting for the total Canadian catch of 8,000 large chinook salmon, the potential total system-wide spawning escapement is estimated to be approximately 18,100 large chinook salmon. This estimate is 51% below the recent 10 year average of 37,300 large chinook, but slightly above the system-wide N_{MSY} escapement goal of 17,400 large chinook salmon.

Stikine River chinook run timing to the lower Stikine commercial fishing area was approximately one week earlier than normal, whereas, fish arriving at the Little Tahltan weir were approximately two weeks late. The escapement to the Little Tahltan River represented approximately 14.7% of the estimated total Stikine River escapement compared to an average contribution of approximately 16.8% (1998-2007). Escapement counts in Verrett Creek (a tributary to the Iskut River) were weak as reported by the carcass pitch crew stationed at the creek from 07-15 August. A weak chinook salmon return to Shakes Creek (near Telegraph Creek) was also reported by residents living at the creek mouth.

Joint sockeye enhancement

Joint Canada/U.S. enhancement activities continued with approximately 3.15 million sockeye eggs collected at Tahltan Lake in the fall of 2008; this was below the target of 6.0 million. The failure to reach the egg take goal was due to the below average return of 10,500 fish to Tahltan Lake and the behaviour and/or distribution of the sockeye in the lake that resulted in fewer fish utilizing the principal spawning and brood collection sites. Another constraining factor was the time period for the egg-take agreed by the Enhancement Sub-committee of the TCTR who has recognized the need for a period when wild spawning should occur without disruption caused by the egg take. The end date for the egg take scheduled for September 27th was cut short by two days due to a death in one of the local communities and the desire of the crew members to attend the service.

Approximately 1.5 million fry were out-planted into Tahltan Lake in late May and early June of 2008. The fry originated from the 2007 egg-take and were mass-marked in the hatchery with thermally induced otolith marks. The balance of 1.5 million fry originating from the 2007 Tahltan Lake egg take were released into Tuya Lake in mid June, 2008.

Approximately 1.4 million sockeye salmon smolts were enumerated emigrating from Tahltan Lake in 2008, close to the 1998-2007 average count of approximately 1.44 million smolts. The contribution of hatchery origin fish was approximately 0.5 million smolts and represented 36% of the emigration.

Although the Stikine enhancement program has been successful in producing significant numbers of sockeye salmon, the inability to harvest these fish in the terminal area continues to be a concern. Returning adults from the Tuya Lake outplants unsuccessfully attempt to ascend the impassable barriers in the lower reaches of the Tuya River until they either perish or back out of the system. Some of these drop outs end up in nets fished in the Telegraph Creek area raising concerns over poor quality, injured and battered up fish. Others stray² into Stikine River tributaries raising concerns over potential impacts on wild salmon stocks.

Various attempts have been made to date to address these concerns many of which were made possible by support from the Northern Fund. Fishing with gillnets and dipnets has occurred at various sites in the Tuya River with mixed results. To improve fish capture in the lower Tuya River, a fishway/trapping apparatus was designed and constructed in Vancouver during the spring of 2006 and transported to Whitehorse. However, full operation of the apparatus was cancelled because of a major rock slide at the Tuya River fishing site that occurred sometime in June 2006. The rockslide rendered the fishing site, which the fish trap was designed for, unusable due to changes in river hydrology and unsafe working conditions. In 2007, additional rock slide activity occurred in the lower reaches of the Tuya River. A steering committee, consisting of Canadian and U.S. engineers and other technical advisors, visited the site in August 2007 to re-assess the conditions and to consider other options. The committee decided to proceed the following year with plans to strategically blast the rock obstruction at the location of the 2006 rock slide to provide fish passage to a potentially favourable harvest site located ~800 metres further upstream. In the late fall of 2008, a blasting crew succeeded in removing approximately 150 m³ of rock from the blockage. The success or failure of the blasting operation will be assessed in July 2009 upon the return of Tuya River sockeye. The committee plans to contract an engineering firm to design a fish harvest structure for the new site. The firm will provide both design detail and cost estimates for the structure as well as the routing and costs of an access trail to the site. The final design will be influenced by the conceptual design provided by the Tuya River steering committee.

In 2008, an experimental test fishery, designed to target Tuya River sockeye at fishing sites located in the lower Grand Canyon of the Stikine River upstream from the mouth of the Tahltan River, yielded a total catch of 1,921 sockeye. This represented an exploitation rate of approximately 23% on this stock. Some Chinook salmon were incidentally harvested in the course of this 11 day fishery which was conducted from July 21-31. In light of costs, inherent risks associated with fishing within the confines of the canyon, and the preliminary stock identification analyses of the catch that

² Straying of Tuya sockeye has been confirmed using radio telemetry and sampling for thermal marks. In a report completed in February 2006, funded by the Northern Fund, which investigated potential impacts and risks of the straying of enhanced Tuya sockeye salmon, the authors concluded that ...*given the results of the literature review and the data collected to date in the Stikine River, the probability of genetic risk of Tuya River blocked fish appears to be extremely low. However, it is prudent to suppose, that given a long enough period of time and a large enough number of fish, that some successful straying and interaction of Tuya River fall back fish could take place*".

indicated ~35% of the sockeye were not of Tuya River origin, continuation of the test fishery in future years is uncertain at this time.

2.2 TAKU RIVER

As with the Stikine River, the fishing plan developed by Canada for the Taku River was based on the arrangements in Annex IV, Chapter 1, Paragraph 3 of the PST, including the recent amendment to Paragraph 3(b) regarding chinook salmon. Accordingly, the plan addressed conservation requirements and contained the following harvest objectives: to harvest 1,400 large chinook salmon in an assessment fishery designed to replace the chinook test fishery until such time as the inseason run projection exceeded the trigger for a targeted chinook fishery; to harvest 18% of the TAC of wild Taku River sockeye salmon, plus up to 20% of the projected sockeye escapement in excess of 100,000 fish; to attain a 50% share of the catch of enhanced Taku River sockeye; and, to harvest 3,000 to 10,000 coho salmon in a directed coho fishery, depending on in-river run size projections. The 2008 season opened on Monday April 28th, SW18, at an assessment level, and ended on Thursday October 8th, SW41; however no fishing activity occurred after Saturday August 23rd, SW34, primarily due to market conditions. Fishing area and gear restrictions were as per recent years with the exception of the allowable length of drift gill nets which was liberalised from 30.5 metres (100 feet) to 36.6 metres (120 feet) to enhance efficiency.

Chinook salmon

The bilateral pre-season run outlook was for a terminal run of 39,400 large chinook, approximately 17% below the previous 10-year average of 47,300 fish. This fell short of the number required for a targeted chinook fishery, i.e. 42,400 fish (which is the sum of the N_{MSY} escapement goal of 36,000 large Chinook, the test fishery allocation of 1,400 large chinook, and the Canadian and U.S. base level catches of 1,500 and 3,500 large chinook, respectively). Normally, in the absence of a directed fishery in Canada, a test fishery would have been prosecuted to provide the data for in-season estimates of abundance. However, it was not practicable to issue a scientific licence for test fishing since the 2006 federal court decision, *Larocque v Canada*. Consequently, the commercial fishery was opened at an assessment level and intensively managed to the weekly guidelines developed for the test fishery. The fishery was managed in a similar fashion to the 2007 assessment fishery, which had concurrence from the U.S. Panel and Technical Committee co-chairs, with an objective of harvesting 1,400 large chinook.

The assessment fishery harvested 1,399 large and 139 small chinook salmon; at no point throughout the run did the run projections exceed the threshold that would justify initiating targeted commercial fisheries. In-season projections of the terminal run size of large chinook salmon, allowable catch (AC), and escapement were made starting in SW20. The estimates were based on the bilateral mark-recapture program, the estimated catch of Taku River chinook in U.S. fisheries, the catch in the Canadian in-river assessment fishery, and historical run timing information. The preliminary postseason estimate of terminal run size is approximately 31,730 large chinook, 19% below the pre-season forecast. A terminal run size of this magnitude is associated with

an overall AC of 0 fish plus base level catches (BLC) of 5,000 fish (1,500 Canada; 3,500 U.S) and test fishery catch of 1,400 fish. The Canadian and U.S base level catches of large chinook were 1,184 and 2,514 fish, respectively.

Most of the Canadian treaty catches of large chinook, that is, catch taken outside the assessment fishery, was taken in the directed sockeye commercial fishery; the First Nation fishery catch was only one fish, while the assumed recreational fishery catch was 270 fish. The treaty catch of 1,184 large chinook was well below the 1998-2007 average of 2,620 fish; however, this average includes targeted chinook fisheries in 2005 and 2006. The treaty harvest of small chinook was 330 fish, approximately equal to the average of 336 fish.

Preliminary estimates derived from the bilateral chinook mark-recapture program indicate a spawning escapement of approximately 27,200 large chinook salmon. This estimate is 24% below the target of 36,000 fish for 2008; it is also 9% below the lower end of the escapement goal range of 30,000 to 55,000 fish and 28% below the 1998-2007 average spawning escapement of 38,011 fish. During aerial surveys of six index areas conducted by ADF&G, a total of 5,314 large chinook was observed; this was 10% below the 1998-2007 average. Conditions were rated as normal in five of the six areas, and as excellent in the sixth.

Sockeye salmon

The Canadian pre-season run outlook for wild sockeye was 181,000 fish, approximately 26% below the previous 10-year average total run size of 245,000 sockeye. An additional 9,300 sockeye was expected from Tatsamenie Lake fry outplants associated with the Canada/U.S. joint Taku sockeye enhancement program; this was considered to be a conservative estimate as smolt size in 2005 was well above average. These outlooks were for total run, which assumes that additional U.S. harvest, amounting to 5% of the total run, occurs outside of District 111.

The Canadian catch of sockeye was 19,445 sockeye, 19,245 of which were taken in the commercial fishery and 201 in the First Nation fishery. An additional 10 wild sockeye were taken in the Chinook assessment fishery. The commercial catch was 25% below the 1998-2007 average of 26,600 sockeye. The contribution of sockeye salmon from the bilateral enhancement program is estimated at 1,906 fish, comprising 10% of the total Canadian catch.

Projections of the total sockeye run size, TAC, and total escapement were made frequently throughout the fishing season. The estimates were based on the bilateral mark-recapture program, the estimated catch of Taku River sockeye in U.S. fisheries, the catch in the Canadian in-river fishery, and historical run timing information. The preliminary post-season estimate of total run size is approximately 161,410 wild sockeye, within 11% of the preseason forecast. This run size is associated with a TAC of 86,410 wild sockeye, based on the approximate mid-point (75,000 fish) of the escapement goal range (71,000-80,000). The Canadian catch of 17,519 wild sockeye represented 20% of the TAC, while the US catch of 77,613 fish (including assumed

catch outside of District 111) represented 90%. The spawning escapement of wild sockeye is estimated at 66,268 fish. The preliminary estimate of the total run of enhanced Taku sockeye salmon is approximately 17,249 fish, of which Canada harvested 11% (1,926 fish), the U.S. harvested 65% (11,151 fish), and 24% (4,171 fish) spawned. The return of enhanced fish was 67% above the preseason forecast, which had been identified as conservative.

The estimated spawning escapement of sockeye salmon in the Canadian section of the Taku River, 70,439 fish, is just below the lower end of the escapement goal range of 71,000 to 80,000 fish and 37% below the 1998-2007 average escapement of 111,330 sockeye. Based on weir counts, escapements to the Little Trapper, Tatsamenie, Kuthai and King Salmon lake systems were 3,829, 8,976, 1,547 and 888 sockeye, respectively. The Little Trapper escapement estimate was a record low, 74% below the 1998-2007 average, while the Tatsamenie count was 1% above average. The Kuthai Lake count was 73% below the 1998-2006 average. The King Salmon Lake count was 68% below the average for the years with reliable weir counts, specifically 2003-2006.

Coho salmon

The commercial catch of 3,772 coho salmon was 21% below the 1998-2007 average catch of 4,799 coho salmon; the First Nation catch of 67 coho salmon was 81% below the average of 348 fish. The treaty catch of coho salmon, i.e. catch taken after SW33, was 1,184 fish. Based on bilateral mark-recapture data, the preliminary estimate of the run into the Canadian section of the drainage is 84,232 coho. According to the PST harvest arrangements for Taku coho salmon, at a run size of this magnitude, Canadian fishers were entitled to harvest up to 10,000 coho salmon after SW34. The in-river run size estimate minus the Canadian harvest results in a preliminary spawning escapement estimate of 80,393 coho salmon. This estimate is 21% below the previous 10-year average of 101,905 fish, but more than twice the upper end of the interim escapement goal range (27,500 to 35,000 fish).

Joint sockeye enhancement

Joint Canada/US enhancement activities continued in 2008. Approximately 89% of the eggs collected in 2007 from Tatsamenie Lake survived to the fry stage at Snettisham Hatchery in Alaska; three incubators containing approximately 580,000 fry were lost to IHNV. In late May through early June 2008, approximately 2.1 million sockeye fry were outplanted into Tatsamenie Lake. In addition, as part of an extended rearing trial, 400,000 fry which had been reared to 0.6 grams in the hatchery were released into net pens located in Tatsamenie Lake. Unfortunately, all of these fry had to be eventually destroyed due to IHNV.

It is estimated that approximately 540,000 sockeye smolts out-migrated from Tatsamenie Lake in the spring of 2008; this was within 2% of average, however smolt size was well below average. The contribution of enhanced smolt to this out-migration was estimated to be 23% based on preliminary thermal mark analysis.

As part of the feasibility study associated with removal of a migration barrier near the outlet of Trapper Lake, eggs were collected in 2007 from sockeye spawning a short distance downstream. A limited number were planted into Tunjony Creek, a tributary to Trapper Lake, while the majority were transported to Snettisham Hatchery. The green egg-to-fry survival in the hatchery was 60%; as with the Tatsamenie Lake stock, IHNV resulted in some losses. Approximately 350,000 fry were out-planted into Trapper Lake in early June 2008.

In September and October 2008, an estimated 5.0 million viable eggs were delivered from Tatsamenie Lake to the Snettisham Hatchery for incubation and thermal marking. In addition, approximately 150,000 eggs were taken from sockeye spawning downstream of the Trapper Lake barrier; these eggs were planted in Tunjony Creek.

Additional enhancement-related activities undertaken in 2008 included evaluation of the fry outplanting into Trapper Lake, as well as field investigations at King Salmon, Kuthai, Hatchau and South Fork lakes for evaluation of enhancement potential.

2.3 ALSEK RIVER

Although catch sharing of Alsek salmon stocks between Canada and the U.S. has not been specified, Annex IV of the PST does call for a co-operative development of abundance-based management regimes for Alsek chinook, sockeye and coho stocks. Instead of managing to system-wide goals, which for the most part have been as yet unverifiable, the TCTR has established index goals for the Klukshu River stocks. Historically, the principal escapement-monitoring tool for Chinook, sockeye and coho salmon stocks in the Alsek drainage has been the Klukshu River weir, operated by Fisheries and Oceans Canada in co-operation with the Champagne-Aishihik First Nation. The Klukshu River is a tributary to the Tatshenshini River, which is the major salmon producing river system of the Alsek drainage.

Based on joint stock-recruitment analyses conducted on Klukshu chinook and sockeye salmon, Canadian and U.S. managers had agreed to a minimum escapement goal of 1,100 Klukshu chinook salmon and an escapement goal range of 7,500 to 15,000 for Klukshu sockeye salmon for the 2008 season. An escapement goal for Klukshu coho salmon has not yet been developed.

The 2008 season was marked by the lowest return of chinook and sockeye salmon on record and the fourth consecutive year that the chinook escapement goal has not been achieved. The only harvest information for the 2008 Aboriginal food fishery was the fish taken at the Klukshu River weir which was 0 chinook, 0 sockeye, and 26 coho salmon. The recent 10 year average recorded catches were 100 chinook, 1,306 sockeye, and 15 coho salmon. As a result of the poor returns of chinook and sockeye salmon, discussions with DFO and the Champagne and Aishihik First Nations (CAFN) were held and it was decided to close the food fishery on July 23rd until further notice. On August 25th, after a request from CAFN was made to DFO, an exception to allow elders only to fish for sockeye salmon in Village Creek was agreed to. Once the coho

had started to return to the Klukshu River, the food fishery was opened on the 26th of September to only target coho salmon.

Preliminary catch estimates for the Alesk/Tatshenshini River recreational fishery were well below average for chinook salmon, with an estimated 7 fish retained. Sockeye salmon had no reported harvest, and no catches were recorded for coho salmon. These represented 6.5% of average for chinook, 0% of the average for sockeye, and 0% for coho salmon. On July 19th, the daily and possession limits for chinook salmon were reduced to zero for the remainder of the year due to the projected lowest return of chinook salmon since the weir program began in 1976. By July 22nd, it was decided to implement a full angling closure in the Yukon portion of the Tatshenshini River to protect the weak returns of chinook and early run sockeye salmon; this eliminated any potential catch and release of salmon. On the 23rd of July, a salmon angling closure was implemented in the British Columbia sections of the Tatshenshini River for the remainder of the season. Retention of sockeye salmon in the Tatshenshini River was not permitted for the 2008 season due to the record low returns.

The Klukshu weir count of 466 chinook salmon was 30% of the previous 10-year (1998-2007) average of 1,556 fish and is the lowest count on record. The estimated spawning escapement of 466 chinook salmon above the weir was well below the minimum escapement goal of 1,100 Klukshu chinook salmon. Aerial survey counts of chinook salmon, conducted by ADF&G for the Takhanne and Blanchard rivers and Goat Creek, were all well below average.

The weir count and spawning escapement of Klukshu River sockeye salmon were both 2,741 fish. The early-run weir count of 43 sockeye was 2% of the previous 10-year (1998-2007) average of 2,453 fish; whereas, the late-run count of 2,698 fish was 24% of the previous 10-year average of 11,149 sockeye salmon. The overall spawning escapement of 2,741 sockeye salmon in the Klukshu River was the lowest on record and well below the lower end of the escapement goal range (7,500 – 15,000 sockeye). The sockeye escapement was not enumerated in the neighbouring tributary of Village Creek due to a major malfunction of the electronic counter.

The Klukshu weir count of 4,275 coho salmon was 65% above the previous 10-year average of 2,584 fish. The weir is removed prior to the completion of the coho return due to budgetary constraints and icing conditions, and generally does not include fish that migrate after mid-October. In 2008, the weir was pulled on October 13th.

The record low returns of Klukshu chinook and sockeye salmon were both unprecedented and unexpected. Parent year spawning escapements should have been sufficient to produce average to above average runs. For example, the primary brood year escapements for chinook were 1,700 – 2,100, for early sockeye were 3,100-3,500, and for the combined early and late sockeye runs were 15,400 – 32,100 fish. Hence the 2008 escapements were far below replacement even though exploitation was kept to a minimum. Widespread weak returns of chinook and sockeye throughout northern southeast Alaska suggest runs were likely affected by very poor marine survival.

3 NORTHERN BRITISH COLUMBIA

3.1 Pink Salmon

Areas 3-1 to 3-4 Pink Net Catch

For the year 2008, Canada was to manage the sub-areas 3-1 to 3-4 net fishery to achieve an annual catch share of 2.49 percent of the annual allowable harvest (AAH) of Alaskan Districts 101, 102 and 103 pink salmon. With a total return of approximately 25.46 million pinks, the Alaskan Districts 101, 102 and 103 AAH was 14.71 million pinks. The resulting sub-areas 3-1 to 3-4 Canadian commercial net total allowable catch of this AAH was approximately 365,455 pinks of Alaskan Districts 101, 102 and 103 origin.

In the Canadian northern boundary area, pink salmon returns were anticipated to be well below average for both Area 3 and Area 4, based on brood year return strength. Returns in 2008, to both Areas 3 and 4, were poorer than anticipated, with escapements and catches being the worst on record. Similar returns were experienced for the southeast Alaska pink stocks adjacent to the northern boundary area. The 2008 Canadian pink salmon catch in Sub-areas 3-1 to 3-4 was 9,608 and a preliminary estimate of the Alaska stock component of this catch is 8,330, or 0.06% of the AAH, well below the allotted 2.49 % of the AAH of 365,455 pieces.

The total Canadian combined gillnet and seine pink catch of 9,608 in sub-areas 3-1 to 3-4 is the lowest combined net catch on record. This extremely poor harvest was the result of a number of factors, most notably poor survival from a poor brood, along with poor returns of Area 3 sockeye which minimized fishing opportunities in the outer portion of Area 3. The percentage of the 2008 Area 3 net catch taken in sub-areas (3-1 to 3-4) was 44.6%, which was well below the 1985-2000 average of 58%.

Aggregate pink salmon escapements in 2008 were the poorest on record in Areas 3 and 4.

Area 1 Pink Troll Catch

For the year 2008, Canada was to manage the Area 1 troll fishery to achieve an annual catch share of 2.57 percent of the annual allowable harvest (AAH) of Alaskan Districts 101, 102 and 103 pink salmon. With a total return of approximately 25.46 million pinks, the Alaskan Districts 101, 102 and 103 AAH was 14.71 million pinks. The resulting Area 1 Canadian commercial troll total allowable catch of this AAH was approximately 302,374 pinks of Alaskan Districts 101, 102 and 103 origin.

The Canadian commercial troll fishery in Area 1 was open in the northern portion of the Area from July 1st to September 30th, with the directed pink fishery along the A-B line strip being open from July 1st to July 24th. The fishery harvested a total of 31,360 pink salmon, with an estimate of 29,295, or 93.4%, being of Alaskan origin. This equates to 0.20% of the Alaskan District 101, 102 and 103 pink AAH, well below the

annex agreement for 2.57 percent of the Alaskan Districts 101, 102 and 103 pink salmon AAH.

3.2 Chinook AABM Fisheries

The pre-season abundance index for North Coast B.C. troll and Q.C.I. Sport fisheries in 2008 was 0.96, which allowed a total catch of 124,800 chinook salmon in these fisheries. Preliminary estimates indicate a total catch of 95,647 chinook salmon; 52,147 caught in commercial troll fisheries and 43,500 caught in sport fisheries.

The North Coast B.C. troll fishery was opened for chinook fishing from June 20 to August 8th and from August 28th to September 30th, 2008. The entire 2008 NBC Troll fishery was conducted under a system of individual transferable quotas. The size limit was 67 cm. Barbless hooks and revival boxes were mandatory in the troll fishery. No troll test fisheries were conducted in the North Coast of B.C. in 2008.

Sport fishing was open with a daily limit of 2 chinook and a possession limit of 4 chinook. An estimated 43,500 chinook were caught in the Queen Charlotte Islands sport fishery. A minimum size limit of 45 cm was in effect and barbless hooks were mandatory in the sport fishery.

3.3 Chinook ISBM Fisheries

Fisheries included in this category are commercial net fisheries throughout north and central BC, marine sport fisheries along the mainland coast and freshwater sport, and Native fisheries in both marine and freshwater areas. Under the PST, obligations in these fisheries are for a general harvest rate reduction (estimated in aggregate across fisheries) for ocean mixed-stock fisheries and for stock-specific objectives (i.e., achieving the escapement goal) in terminal areas.

North Coast commercial gillnet catches totalled 6,070 chinook from Areas 3 to 6 (from fish slip catch data). Chinook catch in Areas 3 and 4 were 458 and 5,598 chinook respectively. Only 7 chinook were reported caught with gillnets from Area 5 and 7 chinook were also reported caught in Area 6. These preliminary estimates of gillnet catches include chinook less than 5 pounds (graded as jacks and small red fleshed chinook) not normally included for PSC accounting. Small chinook typically makes up less than 5% of commercial gillnet catches. A total of 1,293 large chinook and 108 jacks were caught in the Tyee Test fishery on the Skeena River.

Johnstone Strait commercial fisheries including Area B seine and Area D gillnet was managed by South Coast and corresponding catches are reported in the South Coast section of this report.

Tidal sport catch from lodges operating in the Rivers Inlet, Hakai Pass and Bella Bella areas were estimated using log books. Approximately 2,909 chinook were caught in 2008, much less than recent years. Detailed surveys of non-lodge (independent) anglers were not conducted in 2008 but catches by independent anglers are generally less than the

lodge component. Creel surveys used to estimate catches of chinook in Rivers Inlet by independent anglers averaged 334 chinook between 2003 and 2005.

Tidal sport catches near the mainland coast of Northern BC were estimated at 12,000 in a creel survey conducted in Areas 3, 4 and 5 in 2008. The 2008 catch in the Area 6 mainland sport fishery is unknown. No freshwater creel surveys were conducted in the North Coast in 2008. The sport catch from the Skeena River fishery (downstream of Terrace, B.C.) included 6280 chinook in 2003. Although catches were not measured in 2008, effort appears to be higher than in 2003.

Catches by First Nations in the North Coast exceeded 14,963 chinook. Nisga'a and Gitanyow catches from the Nass River were 4,060 chinook. Haida catches on the Queen Charlotte Islands were estimated at 1,170 chinook. Only a portion of catches from Native fisheries in the Skeena have been reported but current estimates exceed 8,326 chinook. Chinook catch by First Nations on the Skeena appear to be more than 2007.

Catches by First Nations in the tidal portion of the Central Coast were reported as 85 chinook while the non-tidal catch of terminal Atnarko River Chinook was 2,807 chinook.

3.4 Overview of Northern BC Chinook Stock Status

Since assessments of the ISBM fisheries are relative to the escapements achieved in the chinook indicator stocks, a brief overview of the 2008 returns is provided. Northern BC terminal runs were similar to 2007. Preliminary estimates of Nass River escapements decreased slightly to 18,697. Skeena River chinook escapements were on par with recent estimates at approximately 33,848. Kitimat River and Yakoun River chinook escapements were not estimated in 2008.

4 FRASER RIVER SOCKEYE

4.1 OBJECTIVES AND OVERVIEW

The sockeye run-size forecast for 2008 resulted in a pre-season plan based on the 50% probability level of abundance (2.9 million) with a predicted diversion through Johnstone Strait of 29%. The pre-season plan also incorporated provisions to protect Early Stuart and Late-run stocks in addition to Cultus and Sakinaw Lake sockeye. The U.S. share of the annual Fraser River sockeye salmon total allowable catch (TAC), harvested in the waters of Washington State was set at 16.5% as per the PST Annex IV Chapter IV agreement. There were no catch overages of Fraser River sockeye from previous years to address. The panel adopted 50% probability level forecasts for all sockeye run timing groups for planning fisheries.

The 2008 50% probability forecasts for the four management aggregates were as follows: Early Stuart 35,000; Early Summer 349,000; Summer-run 1.8 million; and Late-run 705,000, of which 331,000 were Birkenhead type, for a total of 2,899,000 Fraser sockeye. Comparing forecasted stocks only with the historic cycle line from 1980-2005, Early Stuart was 19% of average, Early Summers (excluding miscellaneous stocks) 54% of average, Summers 32% of average, Lates (excluding

Birkenhead and miscellaneous stocks) 75% of average, and Birkenhead 81% of average. Overall, the 2008 forecasted stocks were 62% of the cycle line average (excluding miscellaneous stocks).

The lower than average forecasts for all the stock aggregates reflect low brood year escapements in 2004 and poor anticipated survivals of the 5 year old components of some stocks due to very poor marine survival in the 2005 ocean entry year.

Late-run sockeye have historically delayed in the Strait of Georgia for 4-8 weeks prior to entering the Fraser River. Beginning in 1996, this behaviour has changed to one where there has been a shorter delay and occasionally immediate river entry. Concerns for Late-run early entry and the associated elevated rates of en-route and pre-spawn mortality continue. Management objectives and actions implemented in 2008 placed priority on conserving Fraser River Late-run sockeye (which include Cultus Lake sockeye) while providing opportunities to harvest surplus Summer-run sockeye. To increase management flexibility and permit some by-catch of Late-run sockeye while harvesting surplus Summer-run sockeye, the allowable Late-run and Cultus Lake exploitation rate was fixed and limited to 20%.

The pre-season plan made several assumptions, including:

- Late-run sockeye would continue their early migration behaviour with an associated en-route mortality and an estimated difference between estimates (DBE)³ of 82%;
- that Fraser sockeye would return earlier than usual (based on a sea surface temperature model), and an eight day separation exists in the 50% marine migration timing between Summer-run (July 30) and Late-run (August 7) sockeye;
- that although the capability to assess in-season run size and migration timing would be good for Summer-run and Late-run sockeye, an in-season run size estimate for Cultus Lake sockeye would not be possible due to low abundance relative to co-migrating sockeye stocks. As a result the harvest impacts on Cultus Lake sockeye would be assessed using other Late-run stocks (excluding Birkenhead and Harrison) as a proxy; and
- that using Canada's escapement plan with escapement requirements that vary with run size for the Early Stuart, Early Summer, and Summer run aggregates, in addition to the 20% fixed exploitation rate limit for Late-run and Cultus, would provide a more flexible approach to management in 2008.

³ The DBE is the difference in sockeye passage estimates at Mission and escapement estimates on the spawning grounds when accounting for all catch between Mission and the spawning grounds. The DBE would include measurement errors in Mission estimates, catch estimates and spawning ground assessments as well as en-route mortality.

In past years, the Fraser River sockeye spawning targets were based upon a Rebuilding Strategy which was developed in 1987. Due to some shortcomings in this approach, the Department adopted a new escapement strategy for Fraser River sockeye in 2005 using the approach known as the Fraser River Sockeye Spawning Initiative. The escapement strategy has been modified as a result of a series of yearly consultation workshops beginning in the spring of 2006 and continuing through to 2008.

The Canadian fishing plan also addressed conservation specific-concerns for: LGS Chinook, Interior Fraser River coho, Early Stuart sockeye, Cultus Lake sockeye and Late run sockeye, Sakinaw Lake sockeye, West Coast Vancouver Island Chinook, Interior Fraser River steelhead, Nimpkish sockeye, spring and summer yearling Fraser River Chinook, and Inshore Rockfish.

Sockeye catch and release information from all fisheries can be found in Appendix 2.

4.2 IN-SEASON ASSESSMENT

The main challenge facing the Fraser Panel in 2008 was the assessment of in-season run size while, as the season progressed, observing run timings that were either near historically observed or record early timing to the Fraser River.

Table 4.1 Chronology of run size changes through 2008. Decisions to open the commercial and recreational fisheries occurred on 25-July and to close fisheries on 29-July.

| | Pre-season | Jul-22 | Jul-29 | Aug-01 | Aug-05 |
|-------------------|------------|----------------|------------------|----------------|----------------|
| E. Stuart | 35,000 | 35,000 | 40,000 | 40,000 | 40,000 |
| E. Summer | 349,000 | 500,000 | 425,000 | 425,000 | 425,000 |
| Summer | 1,810,000 | 1,810,000 | 1,182,000 | 800,000 | 875,000 |
| Birkenhead | 331,000 | 331,000 | 331,000 | 137,000 | 50,000 |
| Harrison | 47,000 | 47,000 | 47,000 | 47,000 | 47,000 |
| L. Lates | 327,000 | 327,000 | 327,000 | 242,000 | 136,000 |

Note: bold represents run size changes

Table 4.2 Timing estimates used for pre-season planning and final in-season estimates of timing by stock group relative to historical observations.

| | Pre-season | Final In-season | # Days Diff. | Earliest Historic* |
|-------------------|-------------------|------------------------|---------------------|---------------------------|
| E. Stuart | Jun-30 | Jun-28 | -2 | Jun-27 |
| E. Summer | Jul-24 | Jul-15 | -9 | Jul-19 |
| Summer | Jul-30 | Jul-25 | -5 | Jul-29 |
| Birkenhead | Aug-06 | Aug-06 | 0 | n/a |
| Harrison | Jul-30 | Jul-22 | -8 | n/a |
| L. Lates | Aug-07 | Aug-03 | -4 | Aug-06 |

* for the 04/05 cycle line since 1976

Timing for all stock groups, with the exception of Birkenhead, were earlier than the pre-season estimates. Timing for the Early Summer, Summer-run and the Late-run aggregates were 3 or 4 days earlier than historically observed.

Table 4.3 The final in-season estimated returns of Fraser River sockeye compared to the forecasts used for pre-season planning purposes.

| Run Timing Group | Pre season forecast (50% probability forecast) | Final In-Season estimate of run size (22-Sep-2008) |
|------------------------------------|---|---|
| Early Stuart | 35,000 | 40,000 |
| Early Summer | 349,000 | 450,000 |
| Mid-Summer | 1,810,000 | 980,000 |
| Late Run | 705,000 | 245,000 |
| <i>Total Fraser sockeye</i> | <i>2,899,000</i> | <i>1,715,000</i> |

In addition to directed FSC fisheries in Canada there were small commercial and recreational fishery openings directed on Fraser River sockeye in 2008. There were also sockeye directed Treaty Indian Ceremonial, Treaty Indian and non-Treaty commercial fisheries in US waters. The final in-season estimated proxy exploitation

rate on Late- run and Cultus Lake sockeye was estimated at 16.0% and 13.8%, respectively. Final estimates should be available in late January, 2009.

The diversion rate of sockeye through Johnstone Strait was much lower than forecast and was estimated to be 10% in 2008. Figure 4.1 below describes 2008 test-fishery CPUE compared to historical CPUE in both approach areas. The low diversion rate of sockeye through Johnstone Strait limited the ability to harvest sockeye in this approach area.

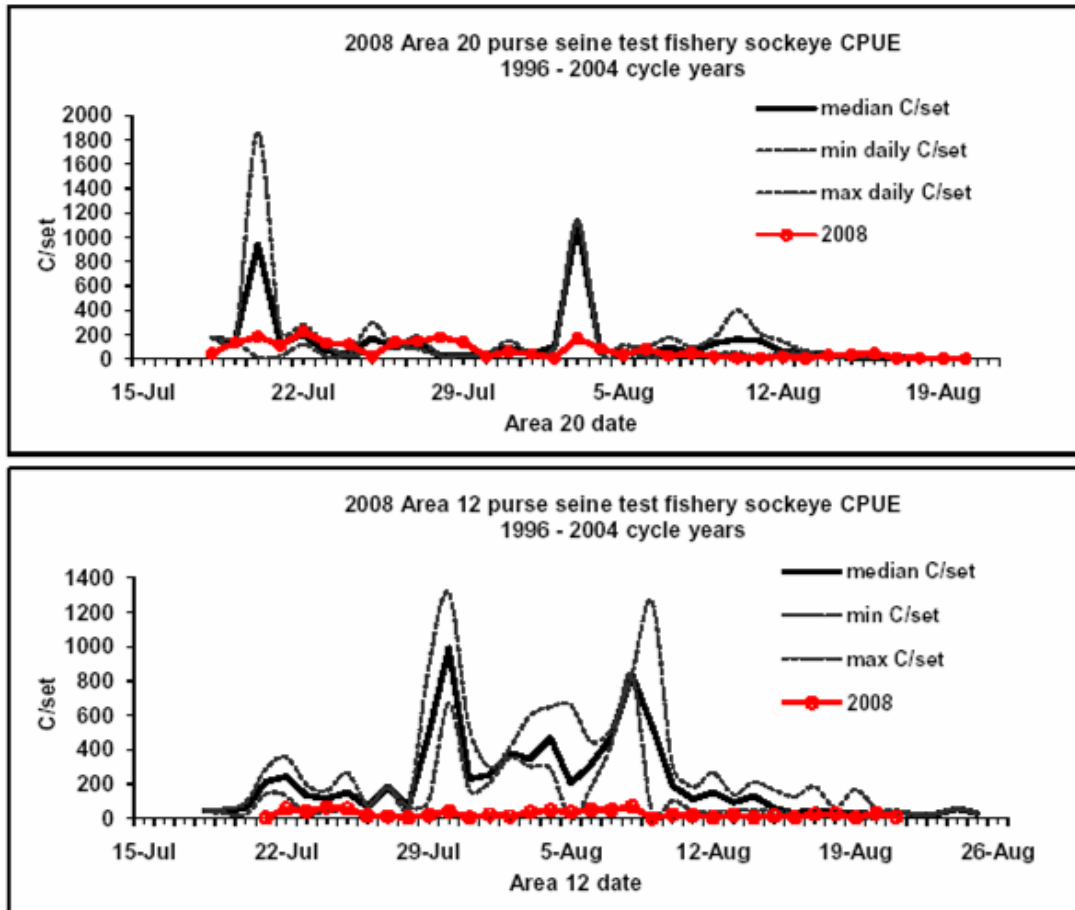


Figure 4.1 Test-fishery CPUE vs historical CPUE in Areas 12 and 20.

4.3 FISHERIES

In response to low expected abundances and conservation needs for Early Stuart, Early Summer-run and Late-run sockeye, it was expected that any commercial and recreational fishery opportunities would be directed at Summer-run sockeye. At the beginning of the season, harvest opportunities on Summers for all fisheries, including food, social and ceremonial (FSC), would be limited at the front end of their migration by a closure to protect Early Stuart sockeye. Fisheries would be constrained further when considering Late-run and Cultus impacts, as well as conservation objectives for other stocks and species.

On July 25th openings for commercial and recreational fisheries were initiated. At this time in-season assessments for Early Stuart and Early Summer sockeye appeared to be earlier in timing and at or greater than the 50% probability level forecast, and Summer-run sockeye appeared to be following this pattern as well. At these run sizes, there was limited commercial and recreational TAC available to Canada and the United States. Due to uncertainty in return timing and run size assessments, the Fraser Panel agreed to initiate small precautionary ITQ commercial fisheries by Area B seine and Area H troll and a short duration commercial fishery opening by Area D gillnet. Recreational fishery openings on sockeye were also initiated in tidal and non-tidal waters and non-Treaty Indian fisheries in US Fraser River Panel waters were also opened. On July 29th run sizes for both Early Summer and Summer-run sockeye were reduced and the commercial and recreational fisheries were closed shortly after. A chronology of run size changes before and after commercial and recreational fisheries were initiated on July 25, 2008, is shown in Table 4.1.

FSC fisheries in Canada opened soon after the window closure to protect the Early Stuart sockeye ended. Most First Nations did not achieve FSC catch objectives in 2008. The marine FSC catch was particularly poor, relative to targets, due to low abundance and a low diversion rate through Johnstone Strait.

Fisheries in the United States Fraser River Panel area waters were opened on July 19th and closed on August 1st.

Preliminary sockeye catch harvest levels for 2008 are documented in Table 4.4 and Appendix 2.

Table 4.4 Preliminary estimates of Fraser River sockeye catch, 2008.

| | |
|---|----------------|
| Total Fraser Sockeye Caught | 571,300 |
| Test fisheries | 41,300 |
| Canadian Catch | 480,200 |
| Canadian First Nation FSC fisheries- Marine | 31,600 |
| Canadian First Nation FSC fisheries- Fraser | 415,000 |
| Canadian commercial fisheries (includes commercial selective & FN economic) | 17,000 |
| Canadian recreational fisheries | 16,600 |
| | |
| United States Catch | 49,800 |
| U.S. Treaty Indian & non-treaty Indian fisheries | 48,400 |
| U.S. Treaty Indian ceremonial fisheries | 1,400 |

Note: The catch estimates tabled above are preliminary estimates as of December 19, 2008.

4.4 STOCK STATUS

Environmental conditions this summer were favorable for sockeye passage. Preliminary spawning escapement estimates compared to in-season escapement targets at the final in-season run size are shown in the table below. Table 4.5 shows the projected escapement estimates to the spawning grounds, which incorporates the estimated escapement past Mission, minus the catch above Mission, and an adjustment for projected differences between estimates (based on river conditions for Early Stuart, Early Summer and Summer-run management groups and on the 50% date at Mission for Late-run sockeye). Although the escapement goal was not achieved for Early Stuart sockeye, preliminary escapement estimates indicate a good return relative to the brood year which is counter to recent trends (brood escapement 2004: 9,300 adult sockeye). Preliminary escapement estimates for the Early Summer aggregate appear to have surpassed the escapement goal however; preliminary assessments indicate high levels of pre-spawn mortality for most stocks. A summary of preliminary spawning ground assessments for Summer-run, Birkenhead and Late-run sockeye will be available in January, 2009. Early indications are that pre-spawn mortality levels will be higher than usual for these runs, as well.

Table 4.5 2008 escapement estimates.

| Management Group | Escapement Goal at the final in-season run size ^a | Projected Escapement ^b | Preliminary Spawning Escapement ^c | Pre-Spawn Mortality ^c (PSM) | Effective Spawners ^d | Effective Females ^c |
|--------------------------|--|-----------------------------------|--|--|---------------------------------|--------------------------------|
| Early Stuart | 40,000 | 21,400 | 29,914 | 12.1% | 26,294 | 14,440 |
| Early Summer | 180,000 | 307,100 | 188,796 | 54.7% | 85,525 | 43,705 |
| Summer | 520,000 | 591,900 | 564,513 | 30.5% | 392,337 | 213,221 |
| Birkenhead+ ^e | 29,200 | 54,600 | 22,561 | 34.0% | 14,890 | 7,708 |
| L.Lates | 152,000 | 12,000 | 10,269 | 16.6% | 8,564 | 5,208 |
| Total | 921,200 | 987,000 | 816,053 | 35.1% | 527,610 | 284,282 |

^a Escapement goals at the in-season run sizes agreed to by the Fraser Panel on August 26th 2008.

^b Projected escapements=(run size - catch) * (1-projected difference between estimates) run size as of the last in-season Panel meeting on 26-Aug-2008, catch & projected DBE on 12-Jan-2009

^c As of January 12th 2009.

^d Effective spawners= preliminary spawning escapement * (1-PSM). This calculation assumes PSM affects males and females equally and a 50:50 male/female sex ratio.

^e includes stocks such as Cogburn, Poole, and Big Silver.

5 FRASER RIVER PINK

Pink salmon return to the Fraser River in significant numbers on odd years only; therefore, in 2008 there was a negligible number of pink salmon that returned to the Fraser River.

6 SOUTHERN BC AABM CHINOOK

6.1 OBJECTIVES AND OVERVIEW

Chinook fisheries are managed by either an AABM (aggregate abundance-based management) or ISBM (individual stock-based management) regime. Allowable harvest impacts in AABM areas are determined by provisions in the Pacific Salmon Treaty (PST) and subject to domestic considerations, such as conservation and allocation. In Southern BC, all AABM chinook fisheries are located off the WCVI, including components of the recreational fishery, First Nations fisheries, and the WCVI Area G troll fishery.

For the period October 2007 through September 2008, the forecast chinook abundance index was 0.76 of the PST base period. Therefore, under treaty provisions, the maximum allowable catch was 162,600 chinook for WCVI AABM fisheries. Further considerations for managing chinook catch in WCVI AABM fisheries are driven by concerns regarding the low status of natural WCVI, Lower Strait of Georgia (LGS), and early-timed Upper Fraser River chinook populations.

Ocean fisheries in Canada that intercept WCVI chinook are limited to a 10% exploitation rate, even if PST provisions allow for a higher catch. Management measures are in place to reduce the impact of fisheries on WCVI chinook while still providing harvest opportunities.

Additional efforts were made in 2008 to reduce the marine harvest rate of fisheries that intercept a number of other low status chinook populations. Specifically, the total WCVI troll TAC was reduced by 20% to limit the impact of the fishery on LGS chinook. Further constraints in the form of time and area limits were introduced in the troll fishery to protect early-timed Fraser River chinook stocks.

AABM chinook catch and release information from all fisheries can be found in Appendix 4.

Table 6.1 Pre-season and post-season total allowable and preliminary catch estimates for October 2007 – September 2008 WCVI AABM Chinook fisheries.

| | Pre-Season | Post-Season |
|-----------------------------|---|----------------|
| WCVI AABM Abundance Index | 0.76 | under review |
| WCVI AABM Chinook TAC | 162,600 | under review |
| Offshore Recreational Catch | 50,000 | 50,319 |
| First Nations Catch | 5,000 | 3,794 |
| Area G Troll Catch | $107,600 + 3,500^a =$ $111,100 (0.8)^b = 88,880$ | 89,704 |
| Total AABM Catch | | 143,817 |

^a In-season it was estimated that 3,500 chinook would remain uncaught by the recreational fleet during the 2007-2008 AABM fishery. This amount was applied to the Area G Troll TAC.

^b The total Area G troll TAC was reduced by 20% to limit impacts on LGS Chinook.

Table 6.2 Post-season preliminary monthly catch estimates for 2005/06 to 2007/08 WCVI AABM chinook commercial troll fisheries.

| | 2007/2008 | 2006/2007 | 2005/2006 |
|--------------|------------------|------------------|------------------|
| October | 3,137 | 16,000 | 12,198 |
| November | 0 | 1,200 | 2,156 |
| December | 0 | 800 | 1,689 |
| January | 1,634 | 5,500 | 1,468 |
| February | 1,911 | 2,600 | 5,154 |
| March | 0 | 2,300 | 7,883 |
| April | 1,717 | 5,200 | 20,561 |
| May | 11,105 | 23,500 | 7,078 |
| June | 15,944 | 25,000 | 20,807 |
| July | 0 | 0 | 0 |
| August | 9,099* | 0 | 886* |
| September | 45,157 | 6,000 | 24,098 |
| Total | 89,704 | 88,100 | 103,978 |

* Plug fishery

6.2 RECREATIONAL

Fishing regulations in WCVI recreational AABM areas include barbless hook requirements to lower post-release mortality on sub-legal size chinook (less than 45 cm), and a daily bag limit of two chinook. Additional conservation measures include the '77 cm maximum size limit', imposed in those portions of Areas 124-127 that lie shoreward of a line drawn 1-mile seaward of the surfline. This area is commonly referred to as the 'chinook corridor', and is in place to protect migrating WCVI origin chinook. Prior to 2008, recreational harvesters were permitted to retain one chinook over 77 cm and one chinook under 77 cm, per day. In 2008, this regulation was changed; retention of chinook over 77 cm was not permitted within the chinook corridor and extending inside the surfline in some areas.

Catch in the WCVI recreational fishery is estimated through a creel survey, which collects effort (number of boat trips), and catch per unit effort (CPUE) data. Catch for any given species within a defined time-area stratum is estimated by multiplying effort by CPUE. Total effort is estimated through vessel counts, gathered through either aerial or boat surveys of the fishing area. CPUE is estimated from interviews with anglers at specific landing sites and from trip logbooks and manifests submitted by lodges and guides through a voluntary monitoring program. Data regarding the daily activity profile of the fishery, fishing locations, and the proportion of guided versus un-guided effort are also gathered from angler interviews.

Creel observers conducted 9,505 fishing interviews at 20 landing sites along the WCVI from the beginning of June to the end of September during the 2008 salmon fishing season. Effort was 31,168 boat trips in AABM areas, and a total of 64,281 boat trips for all of WCVI. Thus, sampling coverage of the 2008 WCVI creel program (AABM and ISBM combined) was approximately 15% based on unit effort.

Total recreational catch and release in the 2008 WCVI AABM fishery was approximately 50,319 and 21,939 chinook, respectively, during the survey period (June-Sept). There was some additional catch during winter fisheries that occurs in near-shore areas. However, catch was very low because inclement weather, smaller fish and low CPUE deters anglers. Overall, previous sampling has indicated that there is virtually no effort during this period.

The 2008 AABM catch represents an increase of approximately 9% relative to 2007. However, effort in AABM areas decreased by approximately 17%.

Table 6.3 Estimated WCVI recreational AABM effort, chinook catch, and total chinook releases by PFMA, 2008.

| | Area | AABM Effort (Boat Trips) | AABM Chinook Catch | AABM Total Chinook Releases |
|-----------------|---------------------------|-----------------------------|--------------------------|-----------------------------------|
| | Port Renfrew (21) | 479 | 492 | 27 |
| | Alberni Inlet (23) | 743 | - | - |
| | Barkley Sound (23) | 5,286 | 6,106 | 2,255 |
| | Clayoquot (24) | 731 | 450 | 123 |
| | Nootka (25) | 628 | 226 | 59 |
| | Kyoquot (26) | 34 | 99 | - |
| | Quatsino (27) | 322 | 8 | - |
| | Subtotal | 8,223 | 7,382 | 2,464 |
| Offshore | Area 121 | 2,006 | 3,318 | 675 |
| | Area 123 | 9,269 | 16,108 | 8,708 |
| | Area 124 | 2,862 | 9,118 | 7,236 |
| | Area 125 | 3,575 | 5,406 | 2,088 |
| | Area 126 | 1,360 | 4,481 | - |
| | Area 127 | 3,872 | 4,507 | 768 |
| | Subtotal | 22,945 | 42,938 | 19,475 |
| WCVI | Total | 31,168 | 50,319 | 21,939 |

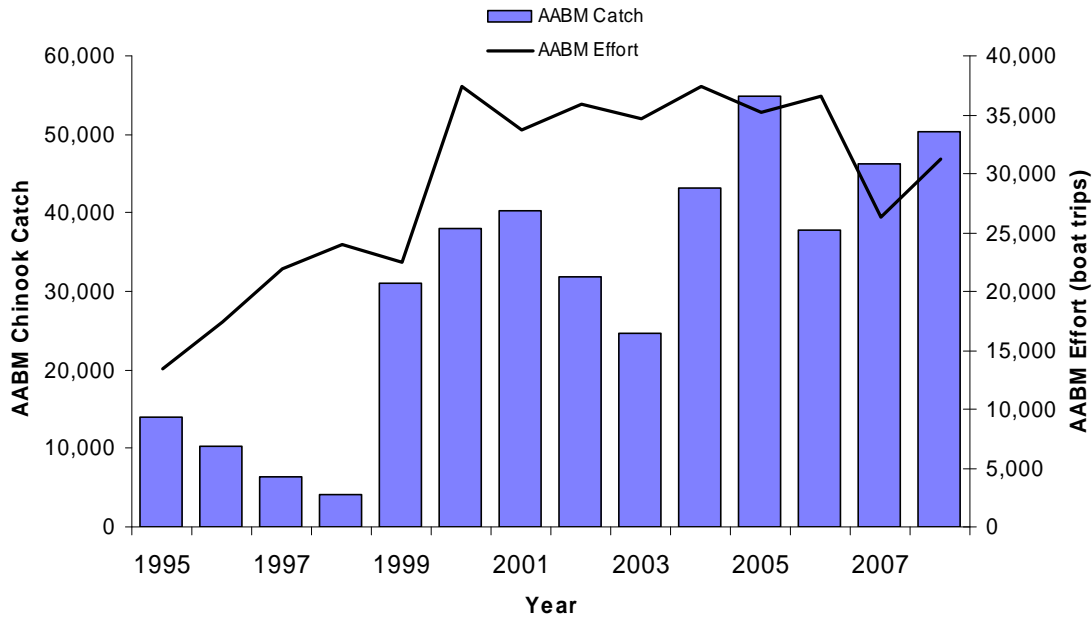


Figure 6.1 Recreational WCVI chinook AABM catch and effort, 1995-2008.

6.3 FIRST NATIONS

The 2007/2008 First Nations AABM chinook catch was estimated to be 3,794.

6.4 COMMERCIAL

After the completion of the 2008 CTC chinook model calibration, the AABM Canadian allowable harvest was 162,600. It was anticipated that the FSC harvest would be 5,000; and that the recreational catch would be 50,000, leaving 107,600 available to plan for commercial harvest by Area G troll.

For the 2007/2008 chinook year, fisheries continued to be shaped by conservation concerns for the following domestic stocks: early-timed Fraser River chinook, Interior Fraser River coho, WCVI origin chinook salmon, and LGS chinook. As well, additional management measures were introduced in-season to protect spring and summer-run Fraser River chinook stocks that were observed to be returning at very low levels. The following management measures were used to protect these domestic stocks:

- To protect the early-timed Fraser River chinook, the WCVI troll fishery was limited to a catch ceiling of 13,000 chinook in the period March to May. As well, the fishery was restricted to the areas north of Estevan Point (Areas 125 – 127) during March and April.
- To limit impacts on low status spring/summer-run Fraser River chinook stocks, troll effort in the months of June and July was restricted to a two week fishery in early June.

- For LGS chinook, the pre-season management objective was to reduce the annual exploitation rate on LGS chinook by 10% of the recent year's average from 2001/02 to 2006/07. In the previous fishing year, troll fishery impacts were restricted by limiting in-season Cowichan coded wire tag (CWT) recoveries. In 2008, a more certain approach of reducing the overall Area G troll exploitation rate on LGS stock chinook was adopted by reducing the TAC by 20%.
- To ensure protection for local WCVI chinook stocks, the August troll fishery took place 5 nautical miles seaward of the surfline and harvest was limited to 10,000 chinook.

For all troll fisheries, selective fishing practices were mandatory, including single barbless hooks and “revival tanks” for resuscitating non-retention species prior to release.

Since 1999, a major objective for the management of the WCVI troll fishery has been to distribute the catch throughout the fall-winter-spring-summer periods. This objective was continued in 2007/2008.

Fisheries were also monitored to determine encounter rates of other species and estimate numbers of released chinook. Biological sampling was conducted for size distributions, and stock compositions (via CWT, DNA and otolith samples).

7 SOUTHERN BC ISBM CHINOOK

7.1 OBJECTIVES AND OVERVIEW

In addition to the PST regime, Canada implemented management actions as required to ensure conservation of Canadian origin chinook and to meet domestic allocation requirements. These chinook fisheries were managed to harvest rates on an individual stock basis (ISBM).

Measures were taken in 2008 to protect WCVI, LGS, early-timed Upper Fraser River chinook stocks, and spring/summer-run Fraser River chinook stocks. Specific management actions were taken to protect WCVI origin chinook in Canadian ocean fisheries (not including enhanced terminal areas), the harvest of which was restricted to an exploitation rate of 10% of the return to Canada. Most Southern BC commercial fisheries were regulated so that impact on WCVI wild chinook stocks was minimized. Robertson Creek hatchery-origin chinooks were harvested in the terminal area of Alberni Inlet by First Nations, recreational and commercial net fisheries.

LGS chinook stocks are experiencing a period of low productivity and management measures continue to be in place throughout 2008 to protect these stocks. As in recent years, recreational chinook non-retention areas and finfish closures were in place throughout the Strait of Georgia to reduce impacts at critical times and in key areas. As in recent years, commercial retention of chinook was not permitted in the Strait of Georgia and in Johnstone Strait.

In addition to these specific restrictions, in 2008 area and time closures were in place to protect returning early-timed upper Fraser River chinook and spring/summer-run chinook stocks during sport and commercial fisheries. There was a general requirement in all commercial fisheries to apply selective fishing techniques, including area and gear restrictions and the mandatory use of revival tanks. Catch monitoring included requirements for daily catch reporting, mandatory logbooks, hailing catches on a regular basis, and independent on-board observers on vessels when requested. Post-release mortality information for chinook included in ISBM management was determined from studies conducted in 2000-2001 and detailed in the Canadian Stock Assessment Secretariat, Research Document 99/128 (CSAS, Doc 99/128).

ISBM chinook catch and release information from all fisheries can be found in Appendix 5.

7.2 RECREATIONAL

West Coast Vancouver Island

The WCVI ISBM chinook sport fishery was regulated using minimum/maximum size limits, possession limits and area closures to reduce impacts of the recreational fishery on natural (un-enhanced) WCVI chinook stocks. Daily bag limits were two chinook per day. Regulations in 2008 required chinook retained within the chinook corridor exceed a minimum fork length of 45cm, and be smaller than the maximum size limit of 77cm. This restriction was in effect commencing July 15th for those waters north of Estevan Point and commencing August 1st for those waters south of Estevan Point. Retention of chinook greater than 77cm was permitted in some terminal areas with a high percentage of returning hatchery origin fish. Area restrictions include areas “closed to salmon fishing” or “closed to all fin fishing”, depending on the vulnerability of local stocks of concern. These closed areas were expanded in 2008.

Total recreational chinook catch and release by the 2008 WCVI ISBM fishery was approximately 24,381 and 8,750, respectively, from 33,113 boat trips. The 2008 catch represents a decrease of approximately 31% relative to 2007, and total fishing effort in WCVI ISBM areas decreased by approximately 5% from 2007.

Table 7.1 Estimated WCVI Recreational ISBM Effort, chinook catch, and total chinook releases by PFMA, 2008.

| | Area | ISBM Effort (Boat Trips) | ISBM Chinook Catch | ISBM Total Chinook Releases |
|-------------|--------------------|-----------------------------|--------------------------|-----------------------------------|
| Inshore | Port Renfrew (21) | 195 | 305 | 6 |
| | Alberni Inlet (23) | 6,742 | 5,112 | 408 |
| | Barkley Sound (23) | 12,494 | 10,272 | 5,508 |
| | Clayoquot (24) | 304 | 67 | 66 |
| | Nootka (25) | 9,783 | 6,003 | 2,100 |
| | Kyoquot (26) | 435 | 1,351 | - |
| | Quatsino (27) | 3,159 | 1,271 | 662 |
| | Subtotal | 33,113 | 24,381 | 8,750 |
| Offshore | Area 121 | - | - | - |
| | Area 123 | - | - | - |
| | Area 124 | - | - | - |
| | Area 125 | - | - | - |
| | Area 126 | - | - | - |
| | Area 127 | - | - | - |
| | | Subtotal | - | - |
| WCVI | Total | 33,113 | 24,381 | 8,750 |

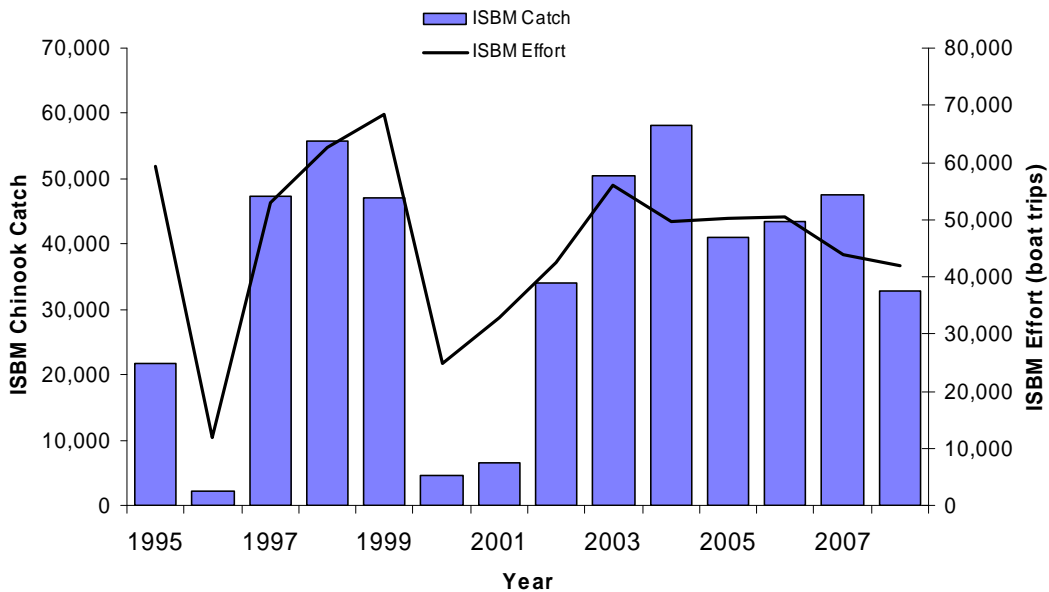


Figure 7.1 Recreational WCVI chinook ISBM Catch and Effort, 1995-2008.

Note: To be consistent with historical data, 2008 catch and effort estimates include the West Coast portion of Juan de Fuca Strait, Area 20.

Inside Areas: Strait of Georgia, Johnstone Strait, and Juan de Fuca Strait

For Johnstone Strait and the Strait of Georgia north of Cadboro Point, sport catch regulations included an annual bag limit of 15, a daily bag limit of two and a size limit of 62 cm. For the Canadian portion of Juan de Fuca Strait south of Cadboro Point, the daily bag limit was two chinook over 45 cm and a seasonal limit of 20 chinook was in effect.

In 2008 marine recreational fisheries were monitored by creel surveys in three main areas; 1) Juan de Fuca including Victoria (south of Cadboro Point) and Juan de Fuca Strait through PFMA 20-1; 2) Strait of Georgia including Areas 14 through 18, that portion of Area 19 north of Cadboro Point, 28 and 29 and 3) Johnstone Strait including Areas 11 to 13. Monitoring of the Strait of Georgia sport fishery (April to October) and Juan de Fuca Strait sport fishery (January to December) has been fairly consistent from year to year using an access point (landing site) survey for collecting catch, CPUE, and biological information combined with an aerial survey for effort counts. The Johnstone Strait creel survey commenced in Area 13 in April and continued through until October; it was expanded from June through August to include Areas 11 and 12.

Overall, effort in the Strait of Georgia declined by more than 50% from 2007 to 2008. The corresponding catch declined approximately 40%. Juan de Fuca Strait effort decreased by approximately 25% and the catch also declined by nearly 25% compared with 2007. As part of these creel surveys, encounter rate information was also collected for legal and sub-legal chinook and coho. Releases of chinook in the Strait of Georgia and Juan de Fuca Strait were significantly lower in 2008.

Table 7.2 Preliminary estimates of catch and effort for 2008 inside recreational ISBM fisheries.

| Fishing Area | Survey Period | Chinook Kept | Chinook Released | Effort (Boat Trips) |
|---------------------|----------------------|---------------------|-------------------------|----------------------------|
| Strait of Georgia | Apr - Oct | 3,890 | 6,849 | 29,537 |
| Johnstone Strait | Apr - Oct | 9,047 | 6,434 | 33,032 |
| Juan de Fuca Strait | Jan-Oct | 20,467 | 5,369 | 41,624 |
| Fraser River | May - Oct | 18,739 | 13,229 | n/a |
| TOTAL | | 52,143 | 31,881 | 104,193 |

7.3 FIRST NATIONS FISHERIES

WCVI FSC and Economic Opportunity Fisheries

An agreement was reached in 2008 with the Hupacasath and Tseshaht First Nations for an economic fishery targeting Somass chinook (Area 23). Hupacasath and Tseshaht First Nations harvested 11,959 chinook in upper Alberni Inlet. A further 200 chinook were harvested by the Mowachat as well for a total ISBM chinook catch of 12,159

Strait of Georgia FSC Fisheries

Data are still being compiled on various First Nations catches in the Strait of Georgia, however preliminary catch is estimated at 769 chinook.

Fraser River FSC and Economic Opportunity Fisheries

FSC fisheries, as well as economic opportunity fisheries took place in the Fraser River in 2008 harvesting ISBM chinook in the both the upper and lower reaches of the Fraser River. Approximately 5,673 chinook were harvested by First Nations in the upper river FSC and economic opportunity fisheries, and approximately 26,145 chinook were harvested in the lower river; for a total chinook harvest of 31,818.

7.4 COMMERCIAL FISHERIES

In 2008 several commercial fisheries targeted ISBM chinook including gillnet and seine fisheries in Alberni Inlet.

Area B seine

In 2008, seine fisheries occurred on August 25th and 26th, September 2nd, 3rd, 8th, and 9th in upper Alberni Inlet targeting Somass chinook. Five vessels fished during these openings with a total chinook catch of 3,409 chinooks.

Area D gill net

In 2008, gill net fisheries occurred on August 24th, September 3rd and 9th in upper Alberni Inlet (Area 23) targeting Somass chinook. An average of 82 vessels participated in the first two openings, and an average 25 vessels participated in the last two openings. The total Area D gill net chinook catch was 4,848.

7.5 STOCK STATUS

Fraser River and Area Chinook

Interior Fraser

All early spring chinook returns were poor to very poor, although some such as Coldwater improved over 2007. Spius, Louis and Chilako Rivers all had critically low returns of fewer than 200 spawners. Most escapements for the upper river and later lower Thompson spring populations were again well below their parental brood escapements; for example, escapement in the Nicola is estimated at 4,150 spawners from a parental brood of over 7,850. On average, the five year old upper river stocks returned at about 35% of parental brood escapements while the four year old Thompson stocks returned at an average of about 50% of the parental brood. Spawning and counting conditions were reasonable and little to no pre-spawn mortality was observed.

Yearling summer chinook returns were poor and below brood escapements. Summer returns also averaged only 35% of parental brood for the stream-type stocks (Chilko ~5,180; Quesnel ~1,380; and Clearwater ~3,400). In contrast, the late South Thompson ocean-type aggregate was strong again, averaging ~ 200% of brood escapements. South Thompson had escapement of ~ 76,000; Lower Adams (3,500) and Little River (11,500).

Lower Fraser River:

Spring-run: Lower Fraser Spring chinook returns continue to be poor, including returns to Birkenhead River (~225). Visual surveys of the escapement to the upper Pitt River were conducted in 2008; preliminary estimates of adult chinook escapement to this system are poor at only 198.

Information for other populations is unavailable at this time.

Summer-run: Summer-run chinook returns to Maria Slough were assessed visually in 2008. The escapement of ~580 is less than the previous year (~650). Information for other summer populations is not available at this time.

Fall-run: Annual lower Fraser River fall-run chinook stock group escapements are, on average, large (>100,000). The major contributor and principal focus of assessment of this stock group is Chinook returning to the Harrison River, and Harrison River transplants to the Chilliwack River. For both the Harrison and Chilliwack Rivers, the field study portions of the escapement assessments are complete; however analyses are ongoing. Extreme rain events significantly raised water levels in these systems making in-season assessments difficult. Preliminary escapement estimates are not yet available.

Howe Sound/Squamish River:

No information is available at this time.

Burrard Inlet:

Returns of fall-run chinook to the Capilano Hatchery (i.e. swim-ins) were 911 adults and 131 jacks (~1040 total).

Boundary Bay:

Escapement data are unavailable at present.

Strait of Georgia Chinook

Fall Stocks

Total returns to Vancouver Island streams north of Nanaimo, virtually all of which are enhanced, have been stable for the last six to nine years (Puntledge and Englishman) or seventeen years (Big Qualicum and Little Qualicum). In general, all have had recent escapements near or above target. On the mainland side of the northern Strait

of Georgia, Sliammon and Lang hatcheries continue to have variable returns. There are a few very small wild populations remaining in Theodosia River, Skwakwa, and Jervis Inlet, where assessment data are poor or non-existent. Historically a large proportion of the chinook stock aggregate north of Nanaimo migrates into central and northern BC and Alaska. Exploitation rates on this stock aggregate have gradually been reduced over the last 15 years, thus the stable trend in annual returns to rivers over this period suggests a reduction in marine survival.

In the southern Strait of Georgia, returns to the Nanaimo River have been generally stable since 1995 at slightly higher levels than those recorded back to 1975. The area of most concern is further south, where chinook stocks returning to the Chemainus, Cowichan, and Goldstream Rivers have experienced continued declines. Unlike the central and northern Strait stocks, these southern populations historically rear within the Strait of Georgia. However, there appears to be an increasing proportion rearing off the west coast of Vancouver Island.

In particular, Cowichan River chinook (a wild chinook indicator stock) has been in decline since 1995-1996. The status of this population continues to be a stock of concern. According to preliminary estimates, the 2008 return appears similar to that of 2007. Exploitation rates on Cowichan chinook were historically high (averaging 80-90%), declined to a low of 34% on the 1995 brood year, and then have steadily increased to 75% on the 2000 and 2001 brood years. Various harvest restrictions have been put into effect over the last 20 years to reduce exploitation on Strait of Georgia chinook. Additional conservation measures were introduced in 2005 to reduce the harvest of Cowichan chinook by the Strait of Georgia sport and WCVI troll fisheries. First Nations harvest of Cowichan chinook has been substantially reduced in recent years. The declining returns to various southern Strait of Georgia rivers are attributed to high exploitation rates, a drastic decline in marine survival, and in some cases, freshwater habitat issues.

Spring/Summer stocks

Of the three early runs in the Strait of Georgia, assessment data are available for Puntledge and Nanaimo; the Cowichan summer run still exists but it is small and quantitative data are not available for that stock. Efforts to recover Puntledge summers to viable levels have resulted in improved returns to the river since 1999. The 2006 and 2007 natural spawning escapements range from 200 - 500 adults (not including brood capture), which is down from the record high in 2005 of approximately 2,500 adults, but substantially higher than escapements recorded in the previous decades. The preliminary estimate of 2008 natural spawning escapement is approximately 200 fish (does not include 300 brood capture). Of concern is the exploitation rate which climbed sharply from a low of approximately 30% in 2001 to 55-60% in 2003-2004. Recent, monitoring of Nanaimo spring and summer chinook escapement has occurred less frequently. This year's single escapement observation saw more than 500 chinook, which is greater than recent observations. Nanaimo escapements appear to be stable, however at a lower level than seen in the 1970s.

West Coast Vancouver Island Chinook

All salmon escapement estimates from extensively surveyed WCVI streams are preliminary. However, observations indicate escapement to most natural chinook systems were similar to, or are slightly greater than, 2007 escapements in the WCVI area; both 2007 and 2008 were well below targets. Escapements to Clayoquot Sound (Area 24) and the Nahmint River (Area 23) remain very low. In two un-enhanced systems in Clayoquot Sound (Megin and Bedwell-Ursus) less than 70 spawners were observed. In the Nahmint River only about 140 spawners were observed and no broodstock were collected to support the stock enhancement program there.

Preliminary data suggest that lower escapements in 2008 are at least partially explained by extremely unfavourable ocean conditions during the 2005 sea-entry year. Smolts that entered the marine environment in 2005 returned as 4-year old adults in 2008 and very few 4-year olds were observed. This observation suggests that the return of 5-year olds will also be extremely low in 2009. Additionally, low jack numbers were observed in 2008 escapements, suggesting that low returns of 3-year olds may further impact total returns in 2009.

For WCVI hatchery stocks, the terminal return is defined as total catch (First Nation, recreational and commercial) in the near approach areas of the hatchery plus escapement (brood collection plus natural spawners). In these approach areas, catch is dominated by the hatchery stock (e.g. >95%) therefore higher exploitation rates are permitted than in times and areas dominated by naturally produced WCVI chinook stocks. Returns to hatchery systems were below expectations and decreased on average by about 40% in 2008 relative to 2007. Similar to natural stocks, this decrease seems mostly explained by the extremely low survival of the 2004 brood that returned in 2008 as 4-year old adults as production levels for the contributing broods were similar.

The preliminary total terminal return of Stamp River/Robertson Creek hatchery chinook was approximately 48,000 adults, very close to the forecast 53,000. Escapement through Stamp Falls was approximately 21,000 adult chinook (expected to increase slightly as data are reviewed) and 1,000 jacks. The total terminal return and escapement to the Conuma River hatchery system was approximately 30,500 and 8,600, respectively. The total terminal return and escapement to the Nitinat River hatchery system was approximately 9,000 and 7,600, respectively.

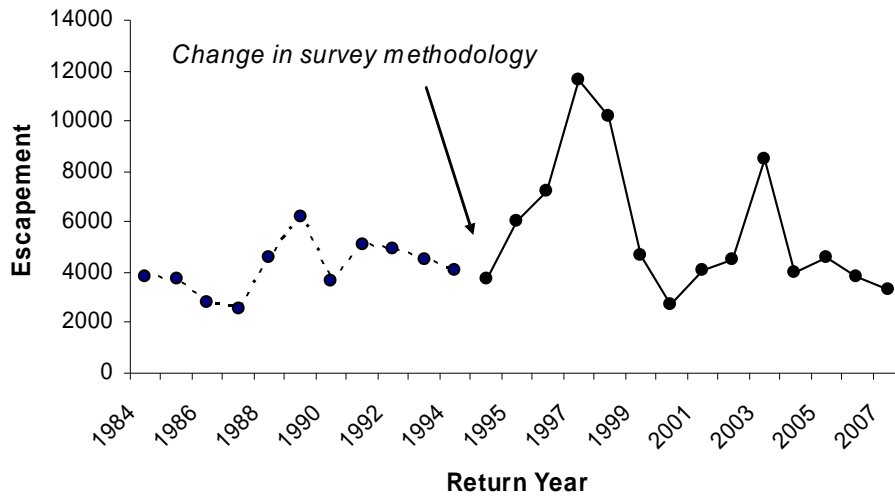


Figure 7.2 Escapement index of PSC indicator stocks of WCVI chinook, 1984-2008.

Johnstone Strait/Mainland Inlet Chinook

Currently only two systems were monitored consistently in Areas 12 and 13. The Nimpkish River was monitored using standardized swim surveys and stream walks by the hatchery staff. The Quinsam hatchery staff conducted an intensive mark-recapture program to estimate escapement on the Quinsam/Campbell system. Other systems were covered using intermittent visual surveys.

Nimpkish River

Preliminary observations from the swim surveys indicate a continued low abundance of Chinook to the Nimpkish Watershed, similar to recent years. At this time approximately 22% of the brood target has been obtained by the hatchery. Final estimates are not available at this time.

Quinsam/Campbell

The deadpitch has concluded for the year. Normal water levels in both river systems this fall, provided better than average conditions for the mark-recapture program. Favourable river conditions also permitted the floating fence to be installed on the Quinsam River in early October, allowing brood stock seining to be carried out, and in conjunction with hatchery swim-ins, the Chinook brood target was attained. Average Chinook migration timing was observed on both systems. Abundance estimates are not available at this time, however preliminary indications suggest the total return to be similar, or slightly less than that seen in 2007, but remaining above the historical average.

8 SOUTHERN BC COHO

8.1 OBJECTIVES AND OVERVIEW

In 2008 the abundance forecast indicated that the status of Interior Fraser River (including Thompson River) coho remained critically low. The lower Fraser, Georgia Basin (east and west), and the Johnstone Strait coho management units were all forecast as low status.

In 2008, Interior Fraser coho were a primary concern when implementing fisheries. Under the Abundance Based Management provisions in the Pacific Salmon Treaty, the US was limited to a maximum 10% exploitation on Interior Fraser coho. In Canada, the management objective for these coho was to limit the total mortality to a ceiling of 3% across all Canadian fisheries. The total exploitation on Interior Fraser coho was therefore limited to a maximum of 13%.

To ensure this limit was not exceeded in Canadian fisheries, retention of wild “unmarked” coho was not permitted in many recreational and commercial fisheries operating in areas of southern BC where Interior Fraser coho were known to be prevalent. Wild coho retention was permitted in some terminal areas along the west coast Vancouver Island (WCVI), in the Mainland Inlets, and in a small portion of upper Johnstone Strait, and Queen Charlotte Strait. The only non-terminal commercial fishery where coho retention was permitted was in the WCVI Area G commercial troll fishery which retained hatchery coho in late September 2008.

Table 8.1 Preliminary coho catch and release estimates of the recreational, First Nations (FSC, economic opportunity and ESSR), and commercial fisheries for 2008.

| | Catch | Release |
|----------------------|---------------|----------------|
| Recreational | 33,260 | 37,135 |
| First Nations | 28,554 | 316 |
| Commercial | 5,354 | 11,065 |
| Total | 67,168 | 48,516 |

Coho catch and release information from all fisheries can be found in Appendix 6.

8.2 RECREATIONAL

Sport fisheries can be categorized as occurring in mixed stock areas where specific coho stocks (such as Interior Fraser River coho) could not be avoided, and terminal areas where local stocks dominate the catch. The table below outlines the areas in Southern BC where these mixed stock fisheries occurred and the general regulations pertaining to them.

Table 8.2 Southern BC coho fishery regulations.

| Mixed stock fishing area | Daily Limit (marked or unmarked) | Size Limit | Coho Season |
|--|---|-----------------------|--------------------|
| WCVI offshore areas 121-127 | 2 marked | 30 cm. | Jun 1 – Aug 31 |
| WCVI offshore areas 121-127 | 4 marked | 30 cm. | Sept 1 – Dec 31 |
| WCVI inshore area 21-27 | 2 | 30 cm. | Jun 1 – Aug 31 |
| WCVI inshore area 21-27 | 4, only 2 wild | 30 cm. | Sept 1 – Dec 31 |
| Juan de Fuca: areas 19-20 | 2 marked | 30 cm. | Jun 1 – Dec 31 |
| Strait of Georgia: areas 13-19, 28, portions of 29, excluding some terminal areas and times. | 2 marked | 30 cm. | June 1 – Dec 31 |
| Johnstone Strait – Queen Charlotte Strait: all areas | 2 marked | 30 cm. | June 1 – Dec 31 |

The table below outlines coho catch and release information for recreational coho fisheries in Southern BC. The WCVI coho fisheries had a boundary in place distinguishing coho catch in the mixed-stock fishery (outside the coho boundary) and catch in the terminal area (inside the coho boundary).

Table 8.3 2008 recreational coho catch and release in Southern BC.

| Area | Coho Kept | Coho Released | Effort (Boat Trips) |
|---|------------------|--------------------------|--------------------------------|
| WCVI – Outside Coho Boundary | 12,606 | 22,204 | 31,360 |
| WCVI – Inside Coho Boundary | 15,143 | 5,105 | 41,670 |
| Strait of Georgia (PFMAs 14 to portion 19, PFMAs 28 and 29) | 233 | 637 | 29,537 |
| Fraser River | 2,798 | 2,808 | NA |
| Juan de Fuca (portion of PFMA 19 and PFMA 20) | 1,235 | 2,741 | 41,624 |
| Johnstone Strait (PFMAs 11-13) | 1,245 | 3,640 | 33,032 |

Mixed Stock Areas

In 2008, hatchery selective mark fisheries (SMF) fisheries in southern BC allowed hatchery coho retention starting June 1st in most areas.

Release of wild “unmarked” coho was required in all sport fisheries operating in areas of southern BC where Interior Fraser River coho were known to be prevalent, including the mixed stock areas of the WCVI (Statistical Areas 21-27, 121-127), Strait of Juan de Fuca (Statistical Areas 19-20), Strait of Georgia (Areas 14-19, 28, 29), and the majority of Johnstone Strait and Queen Charlotte Strait (Statistical Areas 11, 12 and 13). Some wild “unmarked” retention opportunities were provided in terminal areas of WCVI and Areas 11, 12 and 13 with catch limit, time and area constraints (Details in Pacific Region Integrated Fisheries Management Plan, Salmon Southern B.C. 2008). In addition, the use of barbless hooks was mandatory in all these areas.

West Coast Vancouver Island

In offshore and rearing areas off the WCVI, SMF regulations are in effect in order to protect weak coho stocks of concern, such as those originating from the Interior Fraser River. The daily bag limit is 2 marked coho (i.e. hatchery-origin coho with an adipose clip). For 2008, total catch in offshore areas was estimated at 12,606, a decrease of approximately 50% over 2007 levels. This decrease was likely due to a decrease in coho abundance as effort levels were up slightly.

Inside Areas: Strait of Georgia, Juan de Fuca Strait, and Johnstone Strait

Recreational catch monitoring occurs year-round in portions of Southern Strait of Georgia in Area 19, but operates mainly from May to October. Coho catch, release, and mark rates are derived from two main sources; creel surveys and guide logbooks. The total coho catch in Strait of Georgia mixed stock and terminal areas was approximately –Strait of Georgia– 233, Juan de Fuca Strait– 1,235, Johnstone Strait– 1,245.

Terminal Fishing Areas

West Coast Vancouver Island

In WCVI terminal fishing areas, retention of adipose clipped hatchery origin coho was permitted as well as retention of wild “unmarked” coho in some portions of inshore areas where WCVI origin stocks dominate (portions of Port San Juan (Area 20), Alberni Inlet and portions of Barkley Sound (Area 23), portions of Clayoquot Sound (Area 24), portions of Nootka Sound and Esperanza Inlet (Area 25), and portions of Quatsino Sound (Area 27). Where retention of wild coho was permitted, the seasonal daily bag limit was 2 “unmarked” coho after June 1st with the exception of Alberni Inlet where the bag limit was increased to 4 “unmarked” coho after August 1st. In 2008, the total coho catch from the inshore WCVI terminal area was approximately 15,143, a decrease of approximately 16% over 2007 levels. This decrease was likely due to a decrease in coho abundance as effort levels were up slightly.

8.3 NON-TIDAL RECREATIONAL FISHERIES

Strait of Georgia

During 2008 there were limited non-tidal openings throughout the Strait of Georgia. No directed coho opportunities were permitted in Big Qualicum River and Puntledge River.

Johnstone Strait

In Johnstone Strait, non-tidal openings for coho were initially available on the Campbell/Quinsam River from October 1st to December 31st where 2 hatchery marked coho were permitted in addition to jacks. Other non-tidal opportunities were provided, but limited to where hatchery marked coho were available and limited to 2 per day.

West Coast Vancouver Island

During 2008 there was a non-tidal opening for the Somass/Stamp Rivers (Area 23-1) open from August 25, 2008 to December 31, 2008. The daily limit was four salmon per day. Anglers were allowed to retain two coho (marked or unmarked) and two chinook (of which only one may be greater than 77cm in length). The Somass/Stamp Rivers were not monitored by creel survey during 2008.

8.4 FIRST NATIONS FISHERIES

Somass Economic Opportunity Fishery

Tseshah and Hupacasath Bands both signed a Fisheries Agreement for chinook, coho and chum. There was a directed coho fishery on September 14th where 1,933 coho were harvested and an additional 1,277 chinook were taken as by-catch.

Lower Fraser

Total FSC, EO and ESSR catch in 2008 for the Lower Fraser River was 12,513 coho, the majority of which was caught in ESSR fisheries (12,153).

Cowichan

Cowichan Tribes traditionally have a dip-net fishery on the Cowichan River. The fishery is currently underway and could continue through to the end of December 2008. A preliminary catch estimate will be available once the fishery is complete.

Nanaimo

FSC fisheries are not directly monitored in-season but are reported to DFO post season. There is a small hook and line and net fishery that takes place between mid August and late November. Catch totals are generally less than 1,000. Catch estimates will be available once the AFS reporting for the area is complete.

Qualicum

Data are still being analyzed and catch estimates are not available at this time.

8.5 COMMERCIAL FISHERIES

In 2008, Southern BC commercial fisheries were generally regulated so that impacts on coho, and especially Interior Fraser coho stocks, were minimized. Terminal opportunities to retain coho by-catch during directed chinook and chum fisheries were available to Area B seine, Area D gill net and Area G Troll.

Area B commercial seine fisheries occurred on August 25th and 26th, September 2nd, 3rd, 8th and 9th in upper Alberni Inlet targeting Somass chinook. Five vessels fished during these openings. The total coho by-catch was 3,437.

Area D commercial gill net fisheries occurred on August 24th and September 3rd and 9th in upper Alberni Inlet targeting Somass chinook. Harvesters were allowed to retain incidentally caught coho salmon. The total coho catch was 805. There were also chum assessment fisheries in Barkley Sound on September 30th, October 7th, 14th and 15th (maximum 8 vessels). Harvesters were allowed to retain incidentally caught coho salmon. The total coho catch was 95.

Coho retention was permitted in the Area D Nootka and Esperanza chum gill net fisheries which occurred at the same time as the Barkley Sound openings. The total catch in these fisheries was 633 coho.

Area G troll fisheries were permitted to retain incidentally caught hatchery-marked coho during the October 2007 and September 2008 AABM chinook fishing periods. The preliminary estimates are 314 coho retained and 8,675 released.

8.6 STOCK STATUS

Upper Fraser

Field programs to estimate escapements have just concluded, analysis is underway, and only preliminary results are available. Early returns to the Interior Fraser River were at best modest and likely similar to the 2005 brood year escapements.

Preliminary data indicate returns to the entire Interior Fraser River may range between 12,000 and 20,000; however preliminary estimates are not yet available for many systems, and near final estimates will not be available until late January. Observed escapements were not strong in any of the populations.

Lower Fraser

The Lower Fraser Area (LFA) can be divided into four sub-areas: lower Fraser River, Howe Sound/Squamish River, Burrard Inlet and Boundary Bay.

Lower Fraser River:

Escapement studies are currently underway, and many populations have not reached peak spawning at the time of writing. To date, 820 coho have been counted through the Salmon River fence; this is an extremely poor return. Preliminary escapement estimates should be available by late January, 2009.

A hatchery coho indicator stock is provided by Inch Creek Hatchery. Adult escapement is assessed annually and marine survival and exploitation rates are calculated, these estimates are not yet available. Adult coho visual surveys are conducted for a number of systems within the lower Fraser River sub-area as part of multi-species assessments; however estimates are not yet available as the programs are not complete.

Howe Sound/Squamish River:

Assessments for Howe Sound and Squamish River are incomplete at this time. Tenderfoot hatchery staff will be taking broodstock until February, 2009.

Burrard Inlet:

An assessment of the returns to Capilano Hatchery is not yet complete, and therefore the 2008 abundance and status of this stock group is not known at this time.

Boundary Bay:

Community-run SEP projects contribute significantly to coho returns to this sub-area. The 2008 data will not be available until late February 2009.

Strait of Georgia

The 2007 observed marine survivals (0.3% - 0.7% hatchery, 2.6% wild) improved over the previous year however these levels remain very low. The forecast models predicted continuing low levels of marine survival in 2008, 0.2% - 0.3% for hatchery stocks and 1.7% for wild stocks.

Hatchery stocks

The coho escapement estimates to Big Qualicum and Puntledge Hatcheries in 2008 were higher than the previous year (2007) and the previous brood return (2005). Conversely, Lang Creek and Goldstream Hatcheries saw lower escapements than the previous year and previous brood year.

Wild stocks

There are two wild indicators in the Strait of Georgia, at Black Creek and Myrtle Creek.

Myrtle Creek

The Myrtle Creek escapement was lower than last year and lower than the previous brood return in 2005. Marine survival estimates for the 2008 return will not be available until early 2009.

Black Creek

Adequate discharge due to a large rainfall event that started on October 4th and continued throughout the weekend facilitated adult coho migration by October 7th. Sporadic rainfall and water levels over the course of the season lead to bursts of fish movement but not consistent migration. Two pulses of fish migration, one in the third week of October (17th-19th) and another in early November (1st-10th) made up the bulk of adult coho escapement to Black Creek in 2008. A total of 1,335 coho were enumerated through the fence; of those 390 (29%) were male, 500 (38%) were female, and 445 (33%) were jacks. The deadpitch program commenced on November 18th, and recovered a total of 194 coho carcasses of which 143 have a floy tag number and/or opercular punch (therefore sampled at the fence) and 51 have neither a tag nor an opercular punch. Both fence enumeration and deadpitch programs have been concluded for the year.

Wild Escapements

Coho escapement enumerations are ongoing in Cowichan River and will not be available until early 2009. Early spawner counts are very low, which is similar to the indicator information.

Overall, stock status of coho in the Strait of Georgia continues to be very low.

West Coast Vancouver Island

There are two indicators in WCVI, Robertson Creek Hatchery (RCH) and Carnation Creek. Both are located in Area 23.

The 2008 forecast was for 0.7% marine survival for RCH and for 42 adults at Carnation Creek. The 2008 observed marine survivals of 2.0% for RCH and of 50 adults at Carnation Creek were improvements over the previous year; however, these levels are still low.

Preliminary coho escapement enumeration for WCVI streams indicate that the numbers are higher than the previous year and similar to the brood year. Within this region, Areas 23 and 24 showed relatively higher escapement than Areas 25 and 26.

Returns to the West Coast of Vancouver Island have improved over the last two years, but stock status is still considered low.

Johnstone Strait and Mainland Inlet

The Keogh River plays an important role as the wild coho indicator stock for the Upper Johnstone Strait Area. Smolt production in 2007 was around 56,200, similar to the long term average of 55,000. Preliminary indication from the resulting adult escapement in 2008 is that marine survival has declined relative to the last few years (~1.5-2% smolt to adult survival). Smolt production from the Keogh in 2008 was significantly higher than the long term average (~72,000).

The marine survival indicator for Area 13 is the Quinsam River Hatchery. Early information from Quinsam indicates a continued reduced abundance similar to conditions encountered in 2006.

Current escapement reports are varied showing a significant improvement in some systems and declines in others relative to returns in 2007. At this time it is still too early to provide an indication of stock status.

9 JOHNSTONE STRAIT CHUM

9.1 OBJECTIVES AND OVERVIEW

The Johnstone Strait chum fisheries primarily target chum that spawn in Johnstone Strait, Strait of Georgia, and Fraser River areas. In order to improve the management of Johnstone Strait chum fisheries and to ensure sufficient escapements, a 20% fixed exploitation rate strategy, independent of run size, was implemented in 2002 for Study Area Chum in Johnstone Strait. This year constituted the 6th year of the fixed exploitation rate harvest strategy. Of the 20% exploitation rate, 16% is allocated to the commercial sector; the remaining 4% is set aside for the First Nations and recreational sectors, and to provide a buffer to the commercial exploitation. Since the implementation of this management strategy, annual fisheries have been planned well in advance of the chum return.

For commercial fisheries, the pre-season fishing schedule was developed based on expectation of effort, exploitation levels by gear group, and historical run timing (peak estimated as October 9th). The fishing schedule was developed to achieve the commercial allocation sharing guidelines of 77% for seine, 17% for gillnet and 6% for troll. In-season adjustments to the fishing plan are made in-season if warranted. In 2008, the Area B (seine) and Area D (gill net) fisheries did not opt to participate in any demonstration fisheries; full derby fisheries were held for both gear types.

The Area H (troll) fleet opted to participate in an effort based ITQ demonstration fishery. A total number of 450 boat-days were determined to correspond to the troll share of the harvest rate described above, and two time periods were defined to spread the catch over a 29 day period. Each Area H licence holder was assigned 3 boat-days in period 1, and 2 boat-days in period 2. Boat-days from each period could be transferred to other licence holders within each period but not between periods. A maximum of one third of the total number of boat days in period 1 could be carried over to fishing period 2, provided that day was not fished.

Data are still being compiled and analyzed to determine the final harvest rate estimates.

Chum catch and release information from all fisheries can be found in Appendix 7.

9.2 FIRST NATIONS

First Nations fisheries for chum were not restricted and several First Nations reported catch. The preliminary estimated catch by First Nations in the Johnstone Strait area is estimated at 13,100 chum salmon.

9.3 MARINE RECREATIONAL

The marine recreational catch limits for chum are 4 per day and a possession limit of 8. The recreational catch in Johnstone Strait, Areas 12 and 13, was estimated at 2,892 chums. This estimate represents catch from July through October from a directed creel survey. The majority of the catch is from Area 13 during the month of October.

9.4 NON-TIDAL RECREATIONAL

There were no directed chum fisheries in non-tidal waters in the Johnstone Strait area.

9.5 COMMERCIAL

Seine, gillnet and troll fisheries were conducted in Johnstone Strait between October 1st and November 6th. The total commercial chum catch from Johnstone Strait is estimated at 298,927 pieces. A description of each fishery is provided below.

There was a general requirement to apply selective fishing techniques, including area and gear restrictions and the mandatory use of revival tanks in all commercial fisheries. Catch monitoring included requirements for catch reporting, mandatory logbooks, and for the Area H troll fishery mandatory dockside validation.

Area B Seine

In 2008, there were three commercial seine openings for chum salmon in portions of Areas 12 and 13. The first opening took place on October 1st for 12 hrs, the second on October 20th for 10 hrs and the third opening on October 21st for 5 hrs. Due to lower than modelled effort, the third opening (October 21st) was added to the fishing plan. The total Area B catch is estimated at 188,180 chum.

Area D Gillnet

In 2008, there were three commercial gillnet openings for chum salmon in portions of Areas 12 and 13. The first opening took place from 1600h October 6th to 0900h October 8th; the second opening was from 1800h October 13th to 0900h October 16th; and, the third opening was from 1600h October 23rd to 0900h October 25th. The total Area D catch is estimated at 89,450 chums.

Due to several nights of poor weather that hampered fishing during the first opening, the second opening commenced 22 hours earlier than was originally modelled.

Area H Troll

In 2008 there were two commercial troll fishing periods. Period 1 of the effort-based troll ITQ fishery opened on September 29th and closed on October 11th. A maximum of 37 vessels participated in the opening and the total validated catch was 10,546 chum. Period two opened on October 14th and ended on November 5th, although it

was closed for a 24 hr period on October 20th during the commercial seine opening. A maximum of 25 vessels participated in the second opening and the total validated catch was 10,751. In all, 328 days of the allocated 450 ITQ days were fished.

Table 9.1 Johnstone Strait commercial catch and by date and gear type.

Johnstone Strait Fisheries (Areas 12 and 13)

| Fishery Date | Gear type Effort Catch | | |
|---------------------|-------------------------------|------|--------|
| Oct 1 | B - SN | 75 | 59,240 |
| Oct 20 | B - SN | 88 | 80,495 |
| Oct 21 | B - SN | 88 | 48,445 |
| Oct 6 to 8 | D- GN | 115 | 23,165 |
| Oct 13 to 16 | D- GN | 125 | 38,795 |
| Oct 23 to 25 | D- GN | 117 | 27,490 |
| Sept 29 to Oct 11 | H-TR | 1-37 | 10,546 |
| Oct 14 to Nov 5 | H-TR | 0-25 | 10,751 |

| Gear Type | Total Catch | % of catch | J.S. Allocation Plan |
|---------------------|--------------------|-------------------|-----------------------------|
| Area B | 188,180 | 63.1% | 77% |
| Area D | 89,450 | 29.9% | 17% |
| Area H | 21,297 | 7.0% | 6% |
| Total Catch: | 298,927 | | |

Nimpkish River

At this time chum returns to the Nimpkish River are low. It is unlikely there will be any chum harvest other than removals for Nimpkish River Hatchery brood stock.

9.6 STOCK STATUS

Mixed Stocks

The pre-season expectation for Study Area chums suggested average to below average returns to the area. The main component to the return was expected to be the Fraser River stocks, although both Fraser and Non-Fraser components of the return were originating from average brood returns in 2004.

The test-fishery was re-instated in 2008 after a 2 year break. The test-fishery was reduced in duration and daily effort (relative to the past program), but provided timing and spread information of the 2008 return which is important for assessing the performance of the 20% harvest strategy implemented in the Johnstone Strait fisheries. Age composition derived from the test-fishery samples demonstrated the very low contribution of the 4-year old brood component as expected based on the poor survivals encountered by all species migrating to the ocean in 2005. Preliminary information on escapements and catches to date suggest returns were average to below average for Inside Study Area chum stocks. In-season information is still being collected and analyzed in regards to total stock size.

Terminal returns

Most summer run chum returns in Area 12 were varied with stronger than expected returns to the Viner and low but stable returns to other systems (Ahta and Ahnuhati Rivers). Summer Chum returns to the Orford River (Bute Inlet) were well below brood returns, as has been the case in recent years.

It is still too early to assess the status of fall run chum in the Johnstone Strait Area. Preliminary information indicates returns are below average for a variety of systems within the area. Initial observations on the Nimpkish River, under poor assessment conditions, indicate some low numbers of returning chum. The assessment of the Nimpkish system will continue into late December.

10 FRASER RIVER CHUM

10.1 OBJECTIVES AND OVERVIEW

The escapement objective for Fraser River chum is 800,000. Required protection for co-migrating stocks of concern delays chum fisheries from the peak of the run (mid-October) to the end of the run (late October – early November). Chum returns to the Fraser have been above the escapement objective for a number of years. Small numbers of short fishery openings have prevented adverse impacts on local chum populations.

Chum catch and release information from all fisheries can be found in Appendix 7.

10.2 GENERAL OVERVIEW OF FISHERIES

Fraser River chum are harvested in Johnstone Strait, in the Strait of Georgia, in Juan de Fuca Strait, in US waters of 7 and 7A, as well as in the Fraser River.

Fraser River chum returns coincide with Interior Fraser coho and Interior Fraser steelhead runs. Therefore, commercial Gillnet Chum fisheries in the Fraser River are severely limited by conservation concerns for Interior Fraser (including Thompson River) coho and Interior Fraser steelhead. The catch of Fraser River chum in fisheries that take place outside the Fraser River has not yet been determined.

10.3 FIRST NATIONS

FSC fisheries commenced October 4 (below Mission) at the end (97.5%) of the Interior Fraser coho migration. The estimated catch from all fisheries (FSC and economic opportunity) below Sawmill Creek to the end of November is 80,914. The FSC catch was 31,524 and the economic opportunity catch was 40,679. ESSR harvests are ongoing for 2008. As of December 15th there have been 43,488 chum reported harvested through ESSR fisheries.

10.4 RECREATIONAL

Major chum recreational fisheries are assessed in the lower Fraser River mainstem and the Chilliwack River (a tributary to the Fraser in the lower Fraser Valley). The Fraser River mainstem recreational fishery is open to the retention of chum salmon year round. In 2008, the mainstem fishery was assessed from May 1st to October 15th; preliminary estimates of 760 and 2,923 chum were kept and released, respectively. The Chilliwack River recreational fishery is open to the retention of chum salmon from July to March. The Chilliwack River fishery was assessed from September 16th to November 15th; preliminary estimates of 3,937 and 25,309 chum were kept and released, respectively.

Although not directed at chum, the recreational fishery in Nicomen Slough (a tributary to the Fraser River) was assessed from October 13th to November 30th in 2008; preliminary estimates of 0 and 530 chum were kept and released, respectively.

In total, of the assessed recreational fisheries in the Fraser River, 4,697 and 28,762 chum were kept and release, respectively.

10.5 COMMERCIAL

Chum test fishing began on September 1st and was conducted every alternate day until October 21st when chinook test fishing was terminated and chum test fishing then continued on a daily basis. Chum catches in the 6.75" chum test net from September 1st to November 30th, representing 65 test fishing days, totalled 7,173 chum.

Commercial fisheries in the lower Fraser River (below Mission) were closed from September 2nd to October 3rd to protect Interior Fraser coho. Further restrictions on commercial fisheries were in place until late October to protect Interior Fraser steelhead. Only one Area E (gill net) commercial opening took place in Area 29 during the 2008 fishing season due to concerns with by-catch of Interior Fraser River coho and steelhead. The commercial opening occurred on October 29th for 12 hours in portions of Area 29. The total catch from this opening was estimated at 38,000.

10.6 STOCK STATUS

Terminal run-size to the Fraser River (at Albion) is estimated in-season using a Bayesian model (CSAS Res.Doc. 2000/159, Gazey and Palermo) and Albion test fishing catch per unit effort data (CPUE). In 2008, a terminal run-size of 1.775 million was estimated using Albion CPUE data to November 26th.

Fraser River chum return to many spawning locations in the lower Fraser River. Spawning escapement to five of the largest chum producing populations and to a small number of lesser producing populations is assessed annually. Escapement estimates for these populations in 2008 are currently not available.

While there have been substantial returns in recent years (e.g. 1998) concern has been raised over the recent timing of the run; the late run component appears to be truncated compared to historical run distribution. In the past, chum returned to the Fraser River and its tributaries well into December. The run is now predominately over by mid-late November. Whether this is a result of fishing practices, habitat changes to the spawning area that were used by late returning fish (e.g. mainstem spawning areas) or some other currently unidentified factor, has yet to be determined.

11 STRAIT OF GEORGIA CHUM

11.1 OBJECTIVES AND OVERVIEW

Strait of Georgia chum fisheries consist of terminal opportunities for chum returning to their natal spawning streams. Many of the potential terminal fishing areas has enhancement facilities and/or spawning channels associated with the rivers. Terminal fishery strategies consist of monitoring and assessing stocks (escapement and returning abundance) with the objective of ensuring adequate escapement and providing harvest opportunities where possible. Stocks assessments may include test fisheries, escapement enumeration, and over flights. In some areas where stocks receive considerable enhancement or where stocks have above average productivity, limited fishing may occur prior to major escapement occurring.

Area 14

This fishery is directed at the enhanced stocks of three river systems; Puntledge, Little Qualicum and Big Qualicum Rivers. Chum returning to this area have been enhanced since the late 1960s and terminal fisheries have occurred in October and November since the 1970s. The returning Area 14 chum abundance is forecasted pre-season using brood escapement, average survival and age composition. In-season run strength is assessed from any early catches, visual observations at river estuaries and by escapement counts to the three river systems. The escapement goals for the three river systems are 60,000 for Puntledge River, 130,000 for Little Qualicum River, and 100,000 for Big Qualicum River, adding up to an overall escapement goal of 290,000 chum not including enhancement facility requirements (approximately 10,000 chum). This fishery has a specific harvest strategy, implemented since 1981. This strategy consists of limited early harvest prior to escapement occurring. The allowable early chum harvest is calculated from 65% of the predicted surplus (terminal return run size minus escapement (300,000) and buffer 100,000. The buffer safeguards against errors in forecast stock abundance. The surplus within the 100,000 buffer and remaining 35% of the surplus may be harvested provided that escapement targets have been achieved. Since 2002, Puntledge River stock returns have been above average resulting in terminal fisheries focusing on this slightly earlier timed stock. This fishery continued in 2008.

Area 16

This fishery targets wild chum stocks returning to river systems in the Jervis Inlet area. The main systems are Tzoonie, Deserted and Skwawka Rivers. The overall escapement goal for Jervis Inlet streams is 110,000. These terminal fisheries occur when the individual or combined escapement goals have been assured. Fishing opportunities do not occur on a regular basis. There were no fisheries in Area 16 in 2008

Area 17

This fishery is a terminal fishery targeting Nanaimo River stocks. The Nanaimo River chum stocks are supplemented by the Nanaimo River Hatchery (supplementation is on a sliding scale), where increased enhancement occurs during poor escapement years. Escapements fluctuate annually and fishery openings are planned in-season based on escapement estimates. The overall escapement goal for the Nanaimo River is 60,000.

Area 18

This fishery is directed primarily at Cowichan River stocks, however Goldstream chum are also harvested. Fishery openings in mid to late November are limited to Satellite Channel in order to minimize impacts on the earlier timed Goldstream stocks. Chemainus River stocks could also be impacted if the fisheries are earlier in November, but likely to a lesser extent.

Fishery openings are planned in-season based on escapement estimates from data from a DIDSON counter. Management is also guided by advice from the Cowichan Fisheries Roundtable (the Roundtable) and the Mid Vancouver Island (MVI) Chum Subcommittee. The overall escapement goal for the Cowichan River is currently 110,000 chums. This escapement goal may be reviewed and revised, as the DIDSON counter is a new method of enumerating chum on the Cowichan River.

Area 19

This fishery is directed primarily at Goldstream River stocks although some Cowichan River chum are also harvested. Fishery openings set for mid to late November are limited to the portion of Saanich Inlet (Sub area 19-8) which is outside or to the north of Squally Reach. This area restriction is implemented to minimize impact on Goldstream chinook and coho stocks.

Fisheries are planned in-season based on escapement estimates. Area 19 falls under the same management regime as Area 18. The overall escapement goal for the Goldstream River is 15,000.

Chum catch and release information from all fisheries can be found in Appendix 7.

11.2 FIRST NATIONS

The preliminary estimated catch by First Nations in the Strait of Georgia is approximately 10,000 chum primarily in Area 18/19; additional catch data are currently being compiled. In addition, there was an ESSR fishery at the Puntledge hatchery where approximately 1,200 chum were harvested.

11.3 RECREATIONAL

The recreational creel survey extends from the marine area of Discovery Passage, (outside of Campbell River) to Saanich Inlet. The majority of recreational effort directed at chum salmon occurs in the Discovery Passage area. The total creel catch estimate for the recreational fleet in the Strait of Georgia area is approximately 2,910 chum of which 2,890 was caught in Area 13 (reported in the tables as Johnstone Strait) during the month of October.

Tidal recreational fisheries are subject to the normal daily and possession limits (daily limit four per day/possession eight) and are open throughout the area.

Occasionally recreational in-river fisheries occur where surpluses or target escapements will be met. These fisheries are almost exclusively where enhancement facilities are present.

11.4 COMMERCIAL

Strait of Georgia chum are managed as a component of “mixed-stock harvest strategy” chum for Johnstone Strait and the northern Strait of Georgia. Fishing opportunities are guided by commercial allocation targets for chum salmon in the south coast. Management is guided by advice from the MVI Chum Subcommittee.

Strait of Georgia commercial chum fisheries for seine, gillnet and troll were conducted between October 11th and November 22nd. The total commercial chum catch from Strait of Georgia is estimated at 18,240 pieces (see table below). A description of each fishery is provided below.

Area 14

Area D gill net openings occurred on October 16th to 18th, October 20th to 22nd, October 29th to 31st and November 5th to 7th in upper Area 14 (Puntledge area). There were no openings in lower Area 14 (Big and Little Qualicum areas) due to low escapements. There was a total of 8 days fished for a catch of approximately 13,700 chum. The troll fishery opened from October 11 to November 6 in the same area as for gill net; however there was neither effort nor catch in this fishery. No seine fisheries were conducted.

Area 16 – Jervis Inlet

No commercial fisheries occurred in Jervis Inlet as no surplus was identified.

Area 17 - Nanaimo

One gill net opening occurred for 24 hours on October 30th, with a catch of approximately 800 chum.

Area 18 - Cowichan

There were 2 gill net openings in Area 18, one on November 15th and 16th for 24 hours and one from November 20th to 22nd for 48 hours. The total estimated catch is 3,560

chum. There was one seine opening on November 16th, however effort was very low and there was no catch.

Area 19 - Goldstream

No commercial fisheries occurred in the Goldstream area as there was no surplus available for commercial fisheries.

Table 11.1 Strait of Georgia commercial chum catch and by date and gear type.

| Fishery Date | Gear type | Area | Effort | Catch |
|---------------------|------------------|-------------|---------------|---------------|
| Oct. 11 - Nov. 6 | H | 14 | 0 | 0 |
| Oct. 16-18 | D | 14 | 35-44 | 4,466 |
| Oct. 20-22 | D | 14 | 36-45 | 6,215 |
| Oct 29-31 | D | 14 | 22-39 | 2,566 |
| Oct. 30 | E | 17 | 21 | 802 |
| Nov. 5-7 | D | 14 | 0-20 | 631 |
| Nov 15-16 | E | 18 | 58 | 3,427 |
| Nov. 16 | B | 18 | 1 | 0 |
| Nov 20-22 | E | 18 | 24 | 133 |
| Total | | | | 18,240 |

11.5 STOCK STATUS

The returning chum stock abundance to the Strait of Georgia for 2008 was forecast to be slightly below average based upon slightly below average brood year escapement (2004) and anticipated average to below average survival. Historically however, chum returns have been highly variable relative to brood year escapements. Conditions for returning chum migration were good with water flows ample for most of the season. To date, returns have been variable with some areas receiving their escapement goal and others escapements below their target.

Two marine test-fisheries were conducted, one off the Cowichan River and the other adjacent to the Goldstream River. The Cowichan seine test-fishery commenced on November 4th and continued until November 18th for a total of 6 fishing days. Test catches totaled 3,209 chum and 1 coho. Each fishing day generally consists of six sets; all captured fish were released. The Goldstream River (Saanich Inlet) seine test-fishery commenced on November 3rd and continued until November 18th for a total of 6 days. Test catches totaled 4,728 chum and 1 coho; all fish captured were released.

Spawning escapements continue to be monitored and are currently being compiled. Current escapements are as follows: Puntledge River 70,000 chum (target 60,000), Little Qualicum River 31,000 (target 130,000), Big Qualicum River 24,000 (target 100,000), Nanaimo River 62,000 (target 60,000), Deserted River 9,000 (target 35,000), Cowichan 158,000 – DIDSON estimate (target 110,000 under review), Goldstream 31,000 (target 15,000). Escapement estimates are all preliminary and subject to change.

12 WEST COAST VANCOUVER ISLAND CHUM

12.1 OBJECTIVES AND OVERVIEW

Commercial chum salmon fisheries occur from late September to early November in WCVI fishing areas. The majority of chum fishing on the WCVI takes place adjacent to Nitinat Lake (PFMA 21), and in PFMA 25 (Nootka Sound and Esperanza Inlet). Commercial fisheries target both wild chum stocks returning to local streams, and enhanced chum stocks from Nitinat and Conuma hatcheries.

With the exception of Nitinat and Tlupana Inlet where hatchery stocks dominate, WCVI chum fisheries are managed to a 20% harvest rate. Fishery managers consider run timing, fishing effort, and fleet distribution when implementing in-season management measures. In-season management measures, such as limiting fishing effort to one or two days per week, are implemented to ensure that target harvest rate objectives are not exceeded.

Both the Area D and Area E commercial gillnet fleets, and the Area B commercial seine fleet target WCVI chum. Seine opportunities generally occur once surplus to escapement/brood requirements have been identified (Nitinat and Conuma).

Since 2004, there have been limited-fleet gillnet fisheries in both Esperanza Inlet (Area 25) and Barkley Sound (Area 23). A limited-fleet assessment fishery was initiated for Clayquot Sound (Area 24) in 2007; this fishery was again opened in 2008.

First Nations FSC fisheries remain a priority, and primarily occur in terminal areas. Despite being a priority, FSC fishing effort and catch are usually relatively low. ESSR fisheries also took place at Nitinat Lake targeting hatchery surplus production.

In-river recreational fisheries are not popular with the recreational sector, but recently effort has increased in terminal area rivers (i.e. Nitinat River). Directed effort for and catch of chum in recreational marine fisheries off WCVI is relatively low.

Chum catch and release information from all fisheries can be found in Appendix 7.

12.2 FIRST NATIONS

The Dididaht First Nation conducts FSC and ESSR fisheries in Nitinat Lake. Combined FSC and ESSR fishery catch in 2008 was 6,454 chums.

Tsashaht and Hupacasath Bands both signed a Fisheries Agreement for Chinook, Coho and Chum. Combined, both bands harvested 2,248 chum during directed FSC chum fisheries.

12.3 RECREATIONAL

The WCVI recreational fishery is open year-round with a limit of four (4) per day. WCVI recreational anglers kept approximately 60 chums during the 2008 WCVI sport fishery.

12.4 COMMERCIAL

Nitinat

The Nitinat commercial chum fishery is the largest on the west coast and targets returning Nitinat River hatchery stocks. The fishing period is generally October 1st to November 15th. The fishery is managed to achieve a minimum escapement target of 225,000 and maximum escapement target of 325,000 chum salmon. The commercial TAC is based on the pre-season forecast.

This fishery provides opportunities for both seine and gill net fleets. Gill net and seine fishing opportunities are dependent on reaching established in-lake escapement milestones by specific dates. Fleet size has varied over the past 15 years, largely due to pre-season forecasts and fish value. The size of the gill net fleet in the 1990s ranged as high as 240 vessels. Over the past 5 years the gill fleet size has fluctuated between 30 and 90 vessels. The seine fleet size typically will vary from 20 to 100 vessels.

For Area 21/121 Nitinat stocks a new harvest approach was recommended by Area B seine advisors. Area B seine advisors requested earlier access to Nitinat chum. After two meetings with both Area B and E advisors a preliminary agreement was reached. Area E gill nets would fish for a minimum of two days during the first week, and a limited number of Area B seine vessels would fish to a TAC during the second week. Further fishing opportunities would be dependent on in-lake stock assessment.

Area E gill nets

Area E gill nets fished September 30th and October 1st. Fishing was slow during the two day opening with 99 vessels harvesting 13,900 chums. A second gill opening took place October 15th during which 78 vessels harvested 10,000 chums.

Area B seine

Six Area B seines participated in a fleet-limited two day opening during the second week of October. Fishing commenced on October 5th but was closed for two days at the request of the harvesters due to inclement weather, the fishery resumed on October 8th. Catch for the two days of seine fishing was 18,800 chums.

Areas 23, 24 and 25 Chum Fisheries

Commercial chum fisheries in Areas 23, 24 and 25 are managed using weekly in-season effort estimates. This harvest rate approach is designed to maintain a harvest rate of 20% or less on all stocks.

In 2008, the Department met with Area D advisors to discuss the 2008 WCVI chum season and agreed to a conservative fishing plan. It was agreed there would be two one-day openings in consecutive weeks, and further fishing opportunities would be dependent on observed escapement and fleet size. Initially fisheries were scheduled for September 30th and October 7th in Areas 23 and 25. Following the first two openings, additional openings were scheduled for October 14th and October 15th. In the Area 24 Clayoquot Sound fishery, openings were schedule for October 8th and 15th.

Area 23

The commercial chum assessment fishery in Area 23 Barkley Sound targets returning wild stocks. This gill net fishery was limited to eight vessels to a maximum of sixteen vessel days per week. In 2008 there were four one-day openings, and effort ranged from four to seven vessels depending on the opening. This fishery assesses the feasibility of harvesting low levels of chums from areas that have not been fished for many years. Vessels fished in pre-determined zones on the first day and on the second day all vessels were free to choose among the zones. The retention of coho was permitted during this fishery. One on-board observer was required in this fishery; the observer was on a different vessel for each day of the fishery.

The 2008 in-season chum catch estimate for Area D gill nets in Area 23 was 2,109 chum salmon.

Area 24

The Clayquot Sound chum assessment fishery is designed to avoid Chinook interceptions. The Clayquot fishery commenced nine days later than other WCVI chum fisheries to reduce the likelihood of Clayquot Chinook by-catch. There were only two one-day openings in 2008, October 8th and October 15th. The fleet size was restricted to a maximum of four vessels; this year only 3 vessels fished. The in-season chum catch estimate for Area D gill nets in Area 24 was 483 chum salmon.

Area 25

There are three fishing areas in Area 25, Outer Nootka Sound, Tlupana Inlet and Esperanza Inlet all targeting both wild and hatchery stocks. The Outer Nootka gill net fishery was limited to 50 vessel days per week. The Esperanza Inlet gill net fishery was restricted to a maximum of 8 vessels and is open in conjunction with the outer Nootka gill net fishery. Fishing opportunities in Tlupana Inlet were dependent on identifying surplus returns to the Conuma River Hatchery.

This year it was agreed there would be two one day openings in consecutive weeks. Area D gill nets fished on September 30th, October 7th, 14th, and 15th.

The in-season catch estimate for Area D gill nets in Area 25 was 14,810 chum salmon.

12.5 STOCK STATUS

All salmon escapement estimates from extensively surveyed WCVI streams are preliminary. Peak live plus dead observations indicate escapement of chum to most natural systems decreased in 2008, relative to 2007, in the WCVI conservation unit (CU). Overall, preliminary return estimates across statistical areas were only 20 to 40% of long term (1995 – 2007) average returns. Similarly, the Nitinat hatchery (Area 21/22) total return is currently estimated at about 130,000, which is well below average. Pending further analysis of catch composition and escapement data, the status of chum returns in 2008 to WCVI populations is low to very low across the WCVI CU. Low returns were influenced by poor returns of age 3 and 4 fish, resulting from poor survivals from the 2004 and 2005 sea entry years.

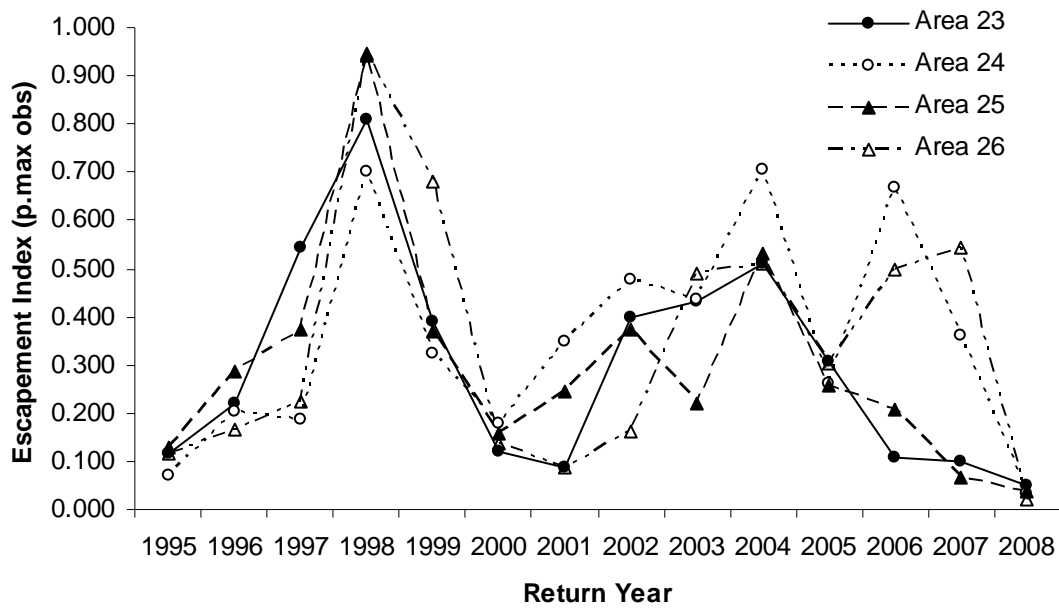


Figure 12.1 Index abundance of WCVI chum stocks, by Area and return year. The index expresses the current year escapement relative to the maximum observation from the 1984-2008 period.

13 APPENDICES

Appendix 1. Catches in Canadian Treaty Limit fisheries, 1995 to 2008 (preliminary).

| Fisheries/Stocks | Species | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 | 1996 | 1995 |
|--|------------|---------------------------------------|--|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|------------------------------|-----------------------------|----------------------------|---------------------------|----------------------------|---------------------|----------------------------|
| Stikine River (all gears) | Sockeye | 33,614 | 59,237 | 101,209 | 85,890 | 84,866 | 58,784 | 17,294 | 25,600 | 27,468 | 38,055 | 43,803 | 65,559 | 74,281 | 53,467 |
| | Coho | 2,398 | 47 | 72 | 276 | 275 | 190 | 82 | 233 | 301 | 181 | 726 | 401 | 1,404 | 3,418 |
| | Chinook-Ig | 7,860 | 10,576 | 15,776 | 18,997 | 3,857 | 1,396 | 1,362 | 1,480 | 3,086 | 2,916 | 2,164 | 4,483 | 2,471 | 1,646 |
| | Chinook-jk | 1,067 | 1,735 | 2,078 | 2,177 | 2,574 | 1,052 | 578 | 103 | 628 | 1,264 | 423 | 286 | 421 | 860 |
| Taku River (commercial gillnet) | Sockeye | 19,445 | 16,564 | 21,093 | 21,932 | 19,860 | 32,730 | 31,053 | 47,660 | 28,009 | 20,681 | 19,038 | 24,003 | 41,665 | 32,640 |
| | Coho | 4,866 | 5,399 | 9,180 | 6,860 | 5,954 | 3,168 | 3,082 | 2,568 | 4,395 | 4,416 | 5,090 | 2,594 | 5,028 | 13,629 |
| | Chinook-Ig | 1,184 | 862 | 7,312 | 7,534 | 2,074 | 1,894 | 1,561 | 1,458 | 1,576 | 908 | 1,107 | 2,731 | 3,331 | 1,577 |
| | Chinook-jk | 330 | 337 | 198 | 821 | 334 | 547 | 291 | 118 | 87 | 257 | 227 | 84 | 144 | 298 |
| Areas 3 (1-4)* (commercial net) | Pink | 8,330 | 1,740,270 | 228,378 | 878,552 | 402,459 | 667,103 | 876,631 | 473,318 | 127,000 | 2,162,280 | 61,000 | 329,000 | 987,000 | 2,613,000 |
| Area 1 (commercial troll) | Pink | 29,295 | 61,276 | 34,854 | 39,430 | 27,751 | 98,347 | 41,418 | 175,000 | 28,295 | 25,000 | 0 | 261,000 | 732,000 | 1,284,000 |
| North Coast** (troll + sport) | Chinook | 95,647 52,147+ 43,500 | 144,235 83,235 + 61,000 | 215,985 151,485 + 64,500 | 243,606 174,806 + 68,800 | 241,508 167,508 + 74,000 | 191,657 137,357 + 54,300 | 150,137 103,037 + 47,100 | 43,500 | 32,048 | 70,701 | 144,650 | 145,568 | 26,900 | 119,100 |
| West Coast Vancouver Island (troll + sport + FN) | Chinook | 143,817 89,704+ 50,319+ 3794 | 139,150 87,921 + 46,229 + 5,000 | 145,970 103,978 + 36,992 + 5,000 | 195,791 143,614 + 52,177 | 210,875 168,837+ 42,038 | 179,706 152,677 + 27,029 | 165,824 134,308+ 31,516 | 102,266 78,302+ 23,964 | 89,139 64,216+ 24,923 | 28,540 6,906+ 21,634 | 10,855 6,678+ 4,177 | 59,796 53,396+ 6,400 | 3677 4+ 3,673 | 86,230 81,258+ 4,972 |
| | Sockeye | 16,942 | 0 | 4,633,623 | 137,000 | 1,993,800 | 1,042,986 | 2,182,700 | 295,000 | 953,000 | 54,000 | 1,295,000 | 8,737,000 | 1,019,000 | 903,000 |
| Fraser River Canadian Commercial Catch | Pink | 0 | 333,300 | 68,325 | 338,000 | 0 | 1,149,189 | 0 | 579,000 | 0 | 3,000 | 0 | 3,660,000 | 0 | 3,777,000 |
| Fraser River U.S. Commercial Catch | Sockeye | 49,800 | 3,900 | 701,300 | 0 | 192,200 | 244,000 | 434,600 | 240,000 | 494,000 | 41,000 | 707,000 | 1,578,000 | 257,000 | 415,000 |
| West Coast Vancouver Island (commercial troll) | Pink | 0 | 377,600 | 0 | 0 | 0 | 773,000 | 0 | 427,000 | 0 | 3,000 | 0 | 1,565,000 | 0 | 1,919,000 |
| West Coast Vancouver Island (commercial troll) | Coho | 369 | 1,424 | 2,399 | 5,989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 761,000 | 1,345,000 |
| Johnstone Strait (clockwork catch)*** | Chum | 298,931 | 494,944 | 800,363 | 787,226 | 1,089,100 | 1,026,029 | 700,000 | 236,000 | 161,000 | 41,411 | 1,820,000 | 104,593 | 101,971 | 269,000 |

*AREA 5-11 CATCHES INCLUDED PRIOR TO 1995 AND EXCLUDED FROM 1995-1998 INCLUSIVE. NOT PART OF 1999 ANNEX IV PROVISIONS.

** NORTH COAST CATCH EXCLUDES TERMINAL EXCLUSION CATCHES OF 6,000 ('91), 6,100 ('92), 7,400 ('93), 6,400 ('94), 1,702 ('95), 16,000 ('96), 5,943 ('97), and 2,182 in 1998. NO TERMINAL EXCLUSION IN THE 1999 AGREEMENT - COVERED UNDER THE AABM ARRANGEMENT; CENTRAL COAST AREAS NOT PART OF 1999 ANNEX IV PROVISIONS.

*** CANADIAN CATCH INCLUDES COMMERCIAL, FSC AND TEST-FISH CATCHES IN AREAS 11-13 FOR 1991-94 INCLUSIVE, AND IN AREAS 12-13 FOR 1995 TO 2004 INCLUSIVE. 2002-PRESENT, CATCHES FROM FISHERIES MANAGED TO FIXED HARVEST RATE OF 20%.

NOTE 1: WCVI CHINOOK CATCHES FROM 1995-1998 ARE REPORTED BY CALENDAR YEAR; CATCHES FROM 2008-1999 ARE REPORTED BY CHINOOK YEAR (OCT-SEPT).

NOTE 2: 1999 CATCHES ARE REPORTED ACCORDING TO FISHERIES/STOCKS UNDER THE 1999 ANNEX IV PROVISIONS.

Appendix 2. Preliminary 2008 South Coast sockeye catch by fishery and area.

| Fishery | Gear | Fishery (Area) | Numbers | | |
|--------------------------------------|----------------|-----------------------------------|-----------------|----------------|---------------------|
| | | | Non-Fraser Kept | Fraser Kept | All stocks Released |
| Commercial | Area G Troll | WCVI Chinook (23 - 27, 123 - 127) | 0 | 1 | 9 |
| | Area H Troll | Fraser Sockeye (12,13,18) | 0 | 469 | 0 |
| | Area H Troll | JST Chum (12,13) | 0 | 0 | 3 |
| | Area H Troll | MVI Chum (14) | 0 | 0 | 0 |
| | Area H Troll | Fraser Chum (29) | 0 | 0 | 0 |
| | Area B Seine | Fraser Sockeye (12,13) | 0 | 1,039 | 0 |
| | Area B Seine | Fraser Sockeye (20) | 0 | 11,335 | 0 |
| | Area B Seine | Somass Chinook (23) | 0 | 0 | 4 |
| | Area B Seine | Nitinat Chum (21) | 0 | 0 | 0 |
| | Area B Seine | JST Chum (12,13) | 0 | 0 | 2 |
| | Area B Seine | MVI Chum (18) | 0 | 0 | 0 |
| | Area D Gillnet | Fraser Sockeye (12,13) | 0 | 4,098 | 0 |
| | Area D Gillnet | Somass Chinook (23) | 0 | 0 | 0 |
| | Area D Gillnet | Nootka Chum (25) | 0 | 0 | 0 |
| | Area D Gillnet | Esperenza Chum (25) | 0 | 0 | 0 |
| | Area D Gillnet | Clayoquot Chum (24) | 0 | 0 | 0 |
| | Area D Gillnet | Barkley Chum (23) | 0 | 0 | 0 |
| | Area D Gillnet | JST Chum (12,13) | 0 | 0 | 0 |
| | Area D Gillnet | MVI Chum (14) | 0 | 0 | 0 |
| | Area E Gillnet | MVI Chum (17) | 0 | 0 | 0 |
| | Area E Gillnet | MVI Chum (18) | 0 | 0 | 0 |
| | Area E Gillnet | Nitinat Chum (21) | 0 | 0 | 0 |
| | Area E Gillnet | Fraser Chum (29) | 0 | 0 | 0 |
| Total Commercial Catch | | | 0 | 16,942 | 18 |
| Recreational | Sport | Juan de Fuca | - | 141 | 20 |
| | Sport | Strait of Georgia | - | 37 | - |
| | Sport | Johnstone Strait | - | 56 | 267 |
| | Sport | WCVI - Inside | 71 | - | 112 |
| | Sport | Fraser River | 0 | 16,344 | 17,157 |
| Total Recreational Catch | | | 71 | 16,578 | 17,556 |
| First Nations FSC | | Johnstone Strait | - | 13,627 | 0 |
| | | Strait of Georgia | - | 16,297 | 0 |
| | | WCVI | 4,309 | 1,715 | 0 |
| | | Fraser River | - | 415,012 | 744 |
| Total First Nations FSC Catch | | | 4,309 | 446,651 | 744 |
| First Nations EO | | Johnstone Strait | - | - | - |
| | | Strait of Georgia | - | - | - |
| | | WCVI | - | - | - |
| | | Fraser River | - | 13 | 3 |
| Total First Nations EO Catch | | | - | 13 | 3 |
| TOTAL - ALL FISHERIES | | | 4,380 | 480,184 | 18,321 |

Appendix 3. Preliminary 2008 South Coast pink catch by fishery and area.

| Fishery | Gear | Fishery (Area) | Numbers | |
|--------------------------------------|----------------|-----------------------------------|---------------|--------------|
| | | | Kept | Released |
| Commercial | Area G Troll | WCVI Chinook (23 - 27, 123 - 127) | 10 | 45 |
| | Area H Troll | Fraser Sockeye (12,13,18) | 280 | 63 |
| | Area H Troll | JST Chum (12,13) | 1 | 13 |
| | Area H Troll | MVI Chum (14) | 0 | 0 |
| | Area H Troll | Fraser Chum (29) | 0 | 0 |
| | Area B Seine | Fraser Sockeye (12,13) | 3,363 | 0 |
| | Area B Seine | Fraser Sockeye (20) | 37 | 0 |
| | Area B Seine | Somass Chinook (23) | 0 | 0 |
| | Area B Seine | Nitinat Chum (21) | 0 | 0 |
| | Area B Seine | JST Chum (12,13) | 29 | 12 |
| | Area B Seine | MVI Chum (18) | 0 | 0 |
| | Area D Gillnet | Fraser Sockeye (12,13) | 4,084 | 57 |
| | Area D Gillnet | Somass Chinook (23) | 0 | 0 |
| | Area D Gillnet | Nootka Chum (25) | 0 | 0 |
| | Area D Gillnet | Esperenza Chum (25) | 0 | 0 |
| | Area D Gillnet | Clayoquot Chum (24) | 0 | 0 |
| | Area D Gillnet | Barkley Chum (23) | 0 | 0 |
| | Area D Gillnet | JST Chum (12,13) | 6 | 9 |
| | Area D Gillnet | MVI Chum (14) | 0 | 0 |
| | Area E Gillnet | MVI Chum (17) | 0 | 0 |
| | Area E Gillnet | MVI Chum (18) | 0 | 0 |
| | Area E Gillnet | Nitinat Chum (21) | 0 | 0 |
| | Area E Gillnet | Fraser Chum (29) | 0 | 0 |
| Total Commercial Catch | | | 7,810 | 199 |
| Recreational | Sport | Juan de Fuca | 123 | 120 |
| | Sport | Strait of Georgia | 14 | 169 |
| | Sport | Johnstone Strait | 7,147 | 1,752 |
| | Sport | WCVI | 905 | 100 |
| | Sport | Fraser River | 0 | 0 |
| Total Recreational Catch | | | 8,189 | 2,141 |
| First Nations FSC | | Johnstone Strait | 2,975 | 0 |
| | | Strait of Georgia | 35 | 0 |
| | | WCVI | 6 | 0 |
| | | Fraser River | 7 | 0 |
| Total First Nations FSC Catch | | | 3,023 | 0 |
| TOTAL - ALL FISHERIES | | | 19,022 | 2,340 |

Appendix 4. Preliminary 2008 WCVI AABM chinook catch by fishery and area.

| PST Regime | Fishery | Month | Numbers | |
|----------------------------|-------------------|--------|----------------|---------------|
| | | | Kept | Released |
| WCVI-AABM | Area G Troll | Oct-07 | 3,137 | 1,464 |
| | | Nov-07 | 0 | 0 |
| | | Dec-07 | 0 | 0 |
| | | Jan-08 | 1,634 | 250 |
| | | Feb-08 | 1,911 | 266 |
| | | Mar-08 | 0 | 0 |
| | | Apr-08 | 1,717 | 41 |
| | | May-08 | 11,105 | 141 |
| | | Jun-08 | 15,944 | 362 |
| | | Jul-08 | 0 | 0 |
| | | Aug-08 | 9,099 | 174 |
| | | Sep-08 | 45,157 | 4,583 |
| Troll Total | | | 89,704 | 7,281 |
| | Outside Sport | Jun-08 | 6,380 | 1,336 |
| | Outside Sport | Jul-08 | 19,775 | 6,219 |
| | Outside Sport | Aug-08 | 22,035 | 13,376 |
| | Outside Sport | Sep-08 | 2,129 | 1,008 |
| Sport Total | | | 50,319 | 21,939 |
| First Nations | Johnstone Strait | | | |
| First Nations | Strait of Georgia | | | |
| First Nations | WCVI Offshore | | 3,794 | 0 |
| First Nations | WCVI Inshore | | | |
| First Nations | Fraser River | | | |
| First Nations Total | | | 3,794 | 0 |
| AABM Total | | | 143,821 | 29,220 |

Appendix 5. Preliminary 2008 South Coast ISBM chinook catch by fishery and area.

| Fishery | Gear | Fishery (Area) | Numbers | |
|---------------------------------------|----------------|-----------------------------------|----------------|---------------|
| | | | Kept | Released |
| ISBM | Area G Troll | WCVI Chinook (23 - 27, 123 - 127) | | |
| | Area H Troll | Fraser Sockeye (12,13,18) | 0 | 0 |
| | Area H Troll | JST Chum (12,13) | 0 | 7 |
| | Area H Troll | MVI Chum (14) | 0 | 0 |
| | Area H Troll | Fraser Chum (29) | 0 | 0 |
| | Area B Seine | Fraser Sockeye (12,13) | 0 | 49 |
| | Area B Seine | Fraser Sockeye (20) | 0 | 50 |
| | Area B Seine | Somass Chinook (23) | 3,409 | 0 |
| | Area B Seine | Nitinat Chum (21) | 0 | 7 |
| | Area B Seine | JST Chum (12,13) | 0 | 33 |
| | Area B Seine | MVI Chum (18) | 0 | 0 |
| | Area D Gillnet | Fraser Sockeye (12,13) | 0 | 16 |
| | Area D Gillnet | Somass Chinook (23) | 4,848 | 2 |
| | Area D Gillnet | Nootka Chum (25) | 0 | 2 |
| | Area D Gillnet | Esperenza Chum (25) | 0 | 0 |
| | Area D Gillnet | Clayoquot Chum (24) | 0 | 0 |
| | Area D Gillnet | Barkley Chum (23) | 0 | 1 |
| | Area D Gillnet | JST Chum (12,13) | 0 | 21 |
| | Area D Gillnet | MVI Chum (14) | 0 | 0 |
| | Area E Gillnet | MVI Chum (17) | 0 | 0 |
| | Area E Gillnet | MVI Chum (18) | 0 | 0 |
| | Area E Gillnet | Nitinat Chum (21) | 0 | 3 |
| | Area E Gillnet | Fraser Chum (29) | 10 | 19 |
| Total Commercial Catch | | | 8,267 | 210 |
| Recreational | Sport | Juan de Fuca | 20,467 | 5,369 |
| | Sport | Strait of Georgia | 3,890 | 6,849 |
| | Sport | Johnstone Strait | 9,047 | 6,434 |
| | Sport | WCVI | 24,381 | 8,750 |
| | Sport | Fraser River | 18,739 | 13,229 |
| Total Recreational Catch | | | 76,524 | 40,631 |
| First Nations FSC | | Johnstone Strait | 324 | 0 |
| | | Strait of Georgia | 769 | 0 |
| | | WCVI | 12,159 | 0 |
| | | Fraser River | 25,722 | 41 |
| Total First Nations FSC Catch | | | 38,974 | 41 |
| First Nations EO | | Johnstone Strait | - | - |
| | | Strait of Georgia | - | - |
| | | WCVI | - | - |
| | | Fraser River | 879 | 17 |
| Total First Nations EO Catch | | | 879 | 17 |
| First Nations ESSR | | Johnstone Strait | - | - |
| | | Strait of Georgia* | 4,079 | - |
| | | WCVI | - | - |
| | | Fraser River | 5,217 | 0 |
| Total First Nations ESSR Catch | | | 9,296 | 0 |
| TOTAL - ALL FISHERIES | | | 133,940 | 40,899 |

*Number includes both adults and jacks; FSC & ESSR combined.

Appendix 6. Preliminary 2008 South Coast coho catch by fishery and area.

| Fishery | Gear | Fishery (Area) | Numbers | |
|---------------------------------------|----------------|-----------------------------------|---------------|---------------|
| | | | Kept | Released |
| Commercial | Area G Troll | WCVI Chinook (23 - 27, 123 - 127) | 369 | 9,011 |
| | Area H Troll | Fraser Sockeye (12,13,18) | 5 | 3 |
| | Area H Troll | JST Chum (12,13) | 0 | 118 |
| | Area H Troll | MVI Chum (14) | 0 | 0 |
| | Area H Troll | Fraser Chum (29) | 0 | 0 |
| | Area B Seine | Fraser Sockeye (12,13) | 0 | 66 |
| | Area B Seine | Fraser Sockeye (20) | 0 | 12 |
| | Area B Seine | Somass Chinook (23) | 3,437 | 0 |
| | Area B Seine | Nitinat Chum (21) | 0 | 135 |
| | Area B Seine | JST Chum (12,13) | 6 | 640 |
| | Area B Seine | MVI Chum (18) | 0 | 0 |
| | Area D Gillnet | Fraser Sockeye (12,13) | 0 | 152 |
| | Area D Gillnet | Somass Chinook (23) | 805 | 4 |
| | Area D Gillnet | Nootka Chum (25) | 325 | 1 |
| | Area D Gillnet | Esperenza Chum (25) | 308 | 1 |
| | Area D Gillnet | Clayoquot Chum (24) | 0 | 24 |
| | Area D Gillnet | Barkley Chum (23) | 95 | 2 |
| | Area D Gillnet | JST Chum (12,13) | 0 | 627 |
| | Area D Gillnet | MVI Chum (14) | 0 | 32 |
| | Area E Gillnet | MVI Chum (17) | 0 | 1 |
| | Area E Gillnet | MVI Chum (18) | 0 | 0 |
| | Area E Gillnet | Nitinat Chum (21) | 4 | 144 |
| | Area E Gillnet | Fraser Chum (29) | 0 | 92 |
| Total Commercial Catch | | | 5,354 | 11,065 |
| Recreational | Sport | Juan de Fuca | 1,235 | 2,741 |
| | Sport | Strait of Georgia | 233 | 637 |
| | Sport | Johnstone Strait | 1,245 | 3,640 |
| | Sport | WCVI - Inside Retention | 15,143 | 5,105 |
| | Sport | WCVI - MSF | 12,606 | 22,204 |
| | Sport | Fraser River | 2,798 | 2,808 |
| Total Recreational Catch | | | 33,260 | 37,135 |
| First Nations FSC | | Johnstone Strait | 250 | 0 |
| | | Strait of Georgia | - | - |
| | | WCVI | 3,354 | 0 |
| | | Fraser River | 252 | 38 |
| Total First Nations FSC Catch | | | 3,856 | 38 |
| First Nations EO | | Johnstone Strait | - | - |
| | | Strait of Georgia | - | - |
| | | WCVI | 2,699 | 0 |
| | | Fraser River | 108 | 278 |
| Total First Nations EO Catch | | | 2,807 | 278 |
| First Nations ESSR | | Johnstone Strait | - | - |
| | | Strait of Georgia | 95 | 0 |
| | | WCVI | 9,643 | 0 |
| | | Fraser River | 12,153 | 0 |
| Total First Nations ESSR Catch | | | 21,891 | 0 |
| TOTAL - ALL FISHERIES | | | 67,168 | 48,516 |

Appendix 7. Preliminary 2008 South Coast chum catch by fishery and area.

| Fishery | Gear | Fishery (Area) | Numbers | |
|---------------------------------------|-------------------|-----------------------------------|----------------|---------------|
| | | | Kept | Released |
| Commercial | Area G Troll | WCVI Chinook (23 - 27, 123 - 127) | 319 | 16 |
| | Area H Troll | Fraser Sockeye (12,13,18) | 0 | 0 |
| | Area H Troll | JST Chum (12,13) | 21,297 | 20 |
| | Area H Troll | MVI Chum (14) | | |
| | Area H Troll | Fraser Chum (29) | 0 | 0 |
| | Area B Seine | Fraser Sockeye (12,13) | 61 | 0 |
| | Area B Seine | Fraser Sockeye (20) | 0 | 20 |
| | Area B Seine | Somass Chinook (23) | 0 | 26 |
| | Area B Seine | Nitinat Chum (21) | 18,796 | 0 |
| | Area B Seine | JST Chum (12,13) | 188,181 | 0 |
| | Area B Seine | MVI Chum (18) | 0 | 0 |
| | Area D Gillnet | Fraser Sockeye (12,13) | 60 | 2 |
| | Area D Gillnet | Somass Chinook (23) | 0 | 0 |
| | Area D Gillnet | Nootka Chum (25) | 7,276 | 0 |
| | Area D Gillnet | Esperenza Chum (25) | 7,534 | 0 |
| | Area D Gillnet | Clayoquot Chum (24) | 483 | 0 |
| | Area D Gillnet | Barkley Chum (23) | 2,109 | 0 |
| | Area D Gillnet | JST Chum (12,13) | 89,453 | 3 |
| | Area D Gillnet | MVI Chum (14) | 13,878 | 1 |
| Area E Gillnet | MVI Chum (17) | 802 | 0 | |
| Area E Gillnet | MVI Chum (18) | 3,560 | 0 | |
| Area E Gillnet | Nitinat Chum (21) | 23,919 | 9 | |
| Area E Gillnet | Fraser Chum (29) | 38,016 | 47 | |
| Total Commercial Catch | | | 415,744 | 144 |
| Recreational | Sport | Juan de Fuca | 251 | 228 |
| | Sport | Strait of Georgia | 17 | 0 |
| | Sport | Johnstone Strait | 2,892 | 181 |
| | Sport | WCVI | 31 | 44 |
| | Sport | Fraser River | 4,697 | 28,762 |
| Total Recreational Catch | | | 7,888 | 29,215 |
| First Nations FSC | | Johnstone Strait | 13,106 | 0 |
| | | Strait of Georgia | 10,000 | - |
| | | WCVI | 1,420 | 0 |
| | | Fraser River | 31,524 | 1,417 |
| Total First Nations FSC Catch | | | 56,050 | 1,417 |
| First Nations EO | | Johnstone Strait | - | - |
| | | Strait of Georgia | - | - |
| | | WCVI | 2,248 | 0 |
| | | Fraser River | 49,263 | 7 |
| Total First Nations EO Catch | | | 51,511 | 7 |
| First Nations ESSR | | Johnstone Strait | - | - |
| | | Strait of Georgia | 1,216 | 0 |
| | | WCVI | 5,034 | 0 |
| | | Fraser River | 40,679 | 0 |
| Total First Nations ESSR Catch | | | 46,929 | 0 |
| TOTAL - ALL FISHERIES | | | 578,122 | 30,783 |

Appendix 8. Preliminary 2008 Southern Coast commercial catch totals by gear and area.

| Gear | Fishing Area | Sockeye Kept | Sockeye Released | Coho Kept | Coho Released | Pink Kept | Pink Released | Chum Kept | Chum Released | Chinook Kept | Chinook Released |
|----------------|--------------------------------|---------------|------------------|--------------|---------------|--------------|---------------|----------------|---------------|---------------|------------------|
| Area G Troll | WCVI Chinook (23-27, 123-127)* | 1 | 9 | 369 | 9,011 | 10 | 45 | 319 | 16 | 89,704 | 7,281 |
| Area H Troll | Fraser Sockeye (12,13,18) | 469 | 0 | 5 | 3 | 280 | 63 | 0 | 0 | 0 | 6 |
| Area H Troll | JST Chum (12,13) | 0 | 3 | 0 | 118 | 1 | 13 | 21,297 | 20 | 0 | 7 |
| Area H Troll | MVI Chum (14) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Area H Troll | Fraser Chum (29) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Area B Seine | Fraser Sockeye (12,13) | 1,039 | 0 | 0 | 66 | 3,363 | 0 | 61 | 0 | 0 | 49 |
| Area B Seine | Fraser Sockeye (20) | 11,335 | 0 | 0 | 12 | 37 | 0 | 0 | 20 | 0 | 50 |
| Area B Seine | Somass Chinook (23) | 0 | 4 | 3,437 | 0 | 0 | 0 | 0 | 26 | 3,409 | 0 |
| Area B Seine | Nitinat Chum (21) | 0 | 0 | 0 | 135 | 0 | 0 | 18,796 | 0 | 0 | 7 |
| Area B Seine | JST Chum (12,13) | 0 | 2 | 6 | 640 | 29 | 12 | 188,181 | 0 | 0 | 33 |
| Area B Seine | MVI Chum (18) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Area D Gillnet | Fraser Sockeye (12,13) | 4,098 | 0 | 0 | 152 | 4,084 | 57 | 60 | 2 | 0 | 16 |
| Area D Gillnet | Somass Chinook (23) | 0 | 0 | 805 | 4 | 0 | 0 | 0 | 0 | 4,848 | 2 |
| Area D Gillnet | Nootka Chum (25) | 0 | 0 | 325 | 1 | 0 | 0 | 7,276 | 0 | 0 | 2 |
| Area D Gillnet | Esperanza Chum (25) | 0 | 0 | 308 | 1 | 0 | 0 | 7,534 | 0 | 0 | 0 |
| Area D Gillnet | Clayoquot Chum (24) | 0 | 0 | 0 | 24 | 0 | 0 | 483 | 0 | 0 | 0 |
| Area D Gillnet | Barkley Chum (23) | 0 | 0 | 95 | 2 | 0 | 0 | 2,109 | 0 | 0 | 1 |
| Area D Gillnet | JST Chum (12,13) | 0 | 0 | 0 | 627 | 6 | 9 | 89,453 | 3 | 0 | 21 |
| Area D Gillnet | MVI Chum (14) | 0 | 0 | 0 | 32 | 0 | 0 | 13,878 | 1 | 0 | 0 |
| Area E Gillnet | MVI Chum (17) | 0 | 0 | 0 | 1 | 0 | 0 | 802 | 0 | 0 | 0 |
| Area E Gillnet | MVI Chum (18) | 0 | 0 | 0 | 0 | 0 | 0 | 3,560 | 0 | 0 | 0 |
| Area E Gillnet | Nitinat Chum (21) | 0 | 0 | 4 | 144 | 0 | 0 | 23,919 | 9 | 0 | 3 |
| Area E Gillnet | Fraser Chum (29) | 0 | 0 | 0 | 92 | 0 | 0 | 38,016 | 47 | 10 | 19 |
| TOTALS | | 16,942 | 18 | 5,354 | 11,065 | 7,810 | 199 | 415,744 | 144 | 97,971 | 7,497 |

*Oct'07-Sept'08

Appendix 9. Preliminary 2008 Southern Coast recreational catch totals by area.

| Fishing Area | Sockeye Kept | Sockeye Released | Coho Kept | Coho Released | Pink Kept | Pink Released | Chum Kept | Chum Released | Chinook ISBM Kept | Chinook ISBM Released | Chinook AABM Kept | Chinook AABM Released |
|-------------------|---------------|------------------|---------------|---------------|--------------|---------------|--------------|---------------|-------------------|-----------------------|-------------------|-----------------------|
| Juan de Fuca | 141 | 20 | 1,235 | 2,741 | 123 | 120 | 251 | 228 | 20,467 | 5,369 | | |
| Strait of Georgia | 37 | | 233 | 637 | 14 | 169 | 17 | 0 | 3,890 | 6,849 | | |
| Johnstone Strait | 56 | 267 | 1,245 | 3,640 | 7,147 | 1,752 | 2,892 | 181 | 9,047 | 6,434 | | |
| WCVI | 71 | 112 | 27,749 | 27,309 | 905 | 100 | 31 | 44 | 24,381 | 8,750 | 50,319 | 21,939 |
| Fraser River | 16,344 | 17,157 | 2,798 | 2,808 | 0 | 0 | 4,697 | 28,762 | 18,739 | 13,229 | | |
| Total | 16,649 | 17,556 | 33,260 | 37,135 | 8,189 | 2,141 | 7,888 | 29,215 | 76,524 | 40,631 | 50,319 | 21,939 |

Appendix 10. 2008 Southern Coast First Nations catch estimates by area.

| Fishery type | Fishing Area | Sockeye | | Coho | | Pink | | Chum | | Chinook | | Chinook | |
|--------------|-------------------|----------------|------------|---------------|------------|--------------|----------|----------------|--------------|---------------|---------------|--------------|---------------|
| | | Kept | Released | Kept | Released | Kept | Released | Kept | Released | ISBM Kept | ISBM Released | AABM Kept | AABM Released |
| FSC | Johnstone Strait | 13,627 | 0 | 250 | 0 | 2,975 | 0 | 13,106 | 0 | 324 | 0 | | |
| FSC | Strait of Georgia | 16,297 | 0 | - | - | 35 | 0 | 10,000 | - | 769 | 0 | | |
| ESSR | Strait of Georgia | - | - | 95 | 0 | - | - | 1,216 | 0 | 4,079 | - | | |
| FSC | WCVI | 6,024 | 0 | 3,354 | 0 | 6 | 0 | 1,420 | 0 | 12,159 | 0 | 3,794 | 0 |
| EO | WCVI | - | - | 2,699 | 0 | - | - | 2,248 | 0 | - | - | | |
| ESSR | WCVI | - | - | 9,643 | 0 | - | - | 5,034 | 0 | - | - | | |
| FSC | Fraser River | 415,012 | 744 | 252 | 38 | 7 | 0 | 31,524 | 1,417 | 25,722 | 41 | | |
| EO | Fraser River | 13 | 3 | 108 | 278 | - | - | 49,263 | 7 | 879 | 17 | | |
| ESSR | Fraser River | - | - | 12,153 | 0 | - | - | 40,679 | 0 | 5,217 | 0 | | |
| Total | | 450,973 | 747 | 28,554 | 316 | 3,023 | 0 | 154,490 | 1,424 | 49,149 | 58 | 3,794 | 0 |

Appendix 11. 2008 South Coast Test-fishery catches.

| Test-Fishery | Sockeye retain | Sockeye release | Coho retain | Coho release | Pink retain | Pink release | Chum retain | Chum release | Chinook retain | Chinook release |
|--|-------------------|--------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|-------------------|--------------------|
| Blinkhorn (Area 12) Sockeye Seine | 3156 | 1573 | 0 | 248 | 0 | 10968 | 0 | 415 | 0 | 440 |
| Round Island (Area 12) Sockeye Gillnet | 1496 | 0 | 80 | 53 | 975 | 1 | 51 | 0 | 48 | 4 |
| Area 13 Sockeye Seine | 1481 | 27 | 0 | 77 | 32 | 1488 | 3 | 147 | 0 | 156 |
| Area 20 Sockeye Seine | 4258 | 9714 | 0 | 354 | 0 | 158 | 0 | 112 | 0 | 429 |
| Area 20 Sockeye Gillnet | 19157 | 0 | 0 | 87 | 149 | 0 | 94 | 1 | 172 | 95 |
| Area 23 Sockeye Seine | 0 | 1646 | 0 | 2 | 0 | 0 | 0 | 0 | 8 | 58 |
| Area 12 Chum Seine | 0 | 3 | 1 | 115 | 0 | 10 | 844 | 32528 | 0 | 3 |
| Area 18 Chum Seine | 0 | 0 | 0 | 1 | 0 | 0 | | 3209 | 0 | 0 |
| Area 18/19 Chum Seine | 0 | 0 | 0 | 1 | 0 | 0 | | 4728 | 0 | 0 |
| Nitinat Lake Chum Gillnet | 1 | | 42 | 1 | 0 | 0 | 2923 | 2 | 2 | 0 |
| Cottonwood Sockeye Gillnet | 1658 | 0 | 0 | 10 | 1 | 0 | 3 | 0 | 82 | 65 |
| Whonnock Sockeye Gillnet | 2016 | 0 | 2 | 59 | 0 | 0 | 497 | 1 | 1246 | 19 |
| Albion Gillnet | 1190 | 0 | 0 | 195 | 0 | 0 | 10155 | 0 | 2699 | 0 |
| Totals | 34413 | 12963 | 125 | 1203 | 1157 | 12625 | 14570 | 41143 | 4257 | 1269 |