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PACIFIC SALMON OUTLOOK
PACIFIC REGION
2013

Canada

2013 SALMON OUTLOOK

Since 2002, Pacific Region (BC & Yukon) Stock Assessment staff has provided a categorical outlook for the next year's salmon returns. The Outlook is intended to provide an objective and consistent context within which to initiate fisheries planning. In particular, it provides a preliminary indication of salmon production and associated fishing opportunities by geographic area and species stock groups called an Outlook Unit. The Conservation Units covered by each Outlook Unit are listed in Appendix 1. For each Outlook Unit, as Outlook Category is provided on a scale of 1 to 4 (table below). The category reflects the current interpretation of available quantitative and qualitative information, including pre-season forecasts if available, and the opinion of DFO Stock Assessment staff. Where management targets for stocks have not been formally described, interim targets were either based on historical return levels or, if necessary, opinion of local staff. The Department is currently defining methods to determine benchmarks of status under the Wild Salmon Policy.

Outlook Categories may have consequences to fisheries where an Outlook Unit is caught directly or incidentally. In the context of this outlook the probable fishery consequences associated with each of the four Outlook Categories are identified in the table. Outlook Units forecast in category "2" are considered "sensitive" and fisheries should be planned to reduce impacts on these groups.

Outlook Category	Category Definition	Criteria	Fishery Consequences
1	Stock of Concern	Stock is (or is forecast to be) less than 25% of target or is declining rapidly.	Directed fisheries are unlikely and there may be a requirement to avoid indirect catch of the stock.
2	Low	Stock is (or is forecast to be) well below target or below target and declining.	Directed fisheries are uncertain and likely to be small if permitted. Allocation policy will determine harvest opportunities.
3	Near Target	Stock is (or is forecast to be) within 25% of target and stable or increasing.	Directed fisheries subject to allocation policy.
4	Abundant	Stock is (or is forecast to be) well above target.	Directed fisheries subject to allocation policy.
ND	No Data	Insufficient data to determine an outlook category.	

It is important to note that the fishery consequences implied by any of the Outlook Categories do not include interactions with stocks in other Outlook Units. Consequently, conservation requirements for stocks in Outlook Units with Outlook Categories 1 and 2 may limit fishing opportunities for Outlook Units for which there are no concerns. Where possible the comments associated with each Outlook Unit identify such potential constraints. A range of Outlook Categories indicates significant geographic variation in outlook within the Outlook Unit and fisheries may be shaped in response to that variation.

This version of the 2013 outlook should be regarded as an early scan of salmon production, as very preliminary information, and as subject to change as more information becomes available. This version of the document replaces the one released in November 2012. The outlook may be periodically updated as statistical forecasts and assessments are completed and reviewed.

Summary of Pacific Salmon Outlook Units for 2013

A total of **91** Outlook Units were considered and outlooks categorized for **85**. Five units were data deficient (ND), and one pink unit was not applicable (NA). **30** Outlook Units are likely to be at or above target abundance (categories 3, 4, 3/4), while **28** are expected to be of some conservation concern (categories 1, 2, 1/2). The remaining **27** Outlook Units have mixed outlook levels (categories 1/3, 1/4, 2/3, 2/4). Two new units were added to deal with Fraser sockeye run-timing changes for some stocks. The Fraser chinook Outlook Units were re-aligned from nine units down to five units in order to match the stock groupings used for fisheries management purposes. Overall, the outlook for 2013 has declined slightly relative to the previous outlook (2012 for most species but 2011 for pink).

Outlook Unit	2013 Outlook Category	Comments
Sockeye		
1. Okanagan	3	The 2009 brood year escapement of 64,000 was approximately double the Canadian domestic target for this CU. However, following the spring 2010 Testalinden Creek slide into the Okanagan R., smolt production in spring 2011 was <30% of that expected (i.e. 1 million "smolts" observed versus 3.5 million expected). Environmental conditions at ocean entry were ENSO-neutral in spring 2011 so a mid-range, smolt-to-adult survival around 5% may be expected for this cohort. Consequently, adult returns in 2013 should consist of roughly 50,000 age 4s plus 40,000 age 5s and 20,000 age 3s for a total return of 110,000 (i.e. lower than the 2009 brood year and much lower than record returns above 300,000 adults in 2010 and 2012). Returns in 2013 should be sufficient to achieve the Canadian escapement objective of roughly 60,000 at Wells Dam or 36,000 as peak live plus dead in the terminal spawning area. A formal forecast will be produced later in the year in collaboration with Columbia River Inter-Tribal Fish Commission in Washington State. *(2012 Outlook Category was 4.)*
Fraser Sockeye	**Overview**	Quantitative forecasts for Fraser sockeye stocks will be available January 2013, through the Canadian Science Advice Pacific (CSAP) process. In the absence of leading survival indicators, Fraser sockeye forecasts have been particularly uncertain in recent years, due to the systematic declines in survival exhibited by most stocks, which culminated in the lowest survival on record in the 2005 brood year (2009 four year old and 2010 five year old returns). Subsequently, survival has improved for the 2006 (2010 four year old returns) through to 2008 (2012 four year old returns) brood years.
2. Early Stuart (CU: Takla-Trembleur-Early Stuart)	1	Below average returns are expected in 2013 relative to the cycle average of 792,000 (1953-2009). The 2009 brood year escapement for Early Stuart (21,900 effective female spawners: EFS) was the second lowest escapement observed on this cycle, falling well below the cycle average (114,400 EFS). *(2012 Outlook Category was 1.)*
3. Early Summer – North Thompson (CU: North Barriere-ES)	2	**Upper Barriere River** (previously identified as Fennell Creek)**:** Below average returns are expected for 2013 relative to the cycle average of 12,000 (1973-2009). The 2009 brood year escapement for Fennell (700 EFS) was less than half the cycle average (2,000 EFS). Note change to OU composition from last year; Raft has moved into the Summer Run. *(2012 Outlook Category was 1/3.)*

Outlook Unit	2013 Outlook Category	Comments
4. Early Summer South Thompson (CU: Shuswap-ES)	3	**Scotch:** Below average returns are expected in 2013 relative to the cycle average of 25,000 (1985-2009). The 2009 brood year escapement for Scotch (2,700 EFS) was close to the cycle average (3,000 EFS). **Seymour:** Near average returns are expected in 2013 relative to the cycle average of 27,000 (1953-2009). The 2009 brood year escapement for Seymour (3,100 EFS) was very similar to the cycle average (3,200 EFS). *(2012 Outlook Category was 1.)*
5. Early Summer – Mid & Upper Fraser (CUs: Anderson-Seton-ES; Nadina-Francois-ES (new mixed); Bowron-ES; Taseko-ES)	1/3	**Gates:** Above average returns are expected in 2013 relative to the cycle average of 40,000 (1973-2009). The 2009 brood year escapement for Gates (5,300 EFS) was larger than the cycle average (3,900 EFS). Individual 2013 Outlook Category is 3. **Nadina:** Below average returns are expected in 2013 relative to the cycle average of 72,000 (1981-2009). The 2009 brood year escapement for Nadina (3,700 EFS) was well below the cycle average (8,600 EFS)**.** Individual 2013 Outlook Category is 1. **Bowron:** Below average returns are expected in 2013 relative to the cycle average of 24,000 (1953-2009). The 2009 brood year escapement for Bowron (1,000 EFS) was well below the cycle average (2,900 EFS). Individual 2013 Outlook Category is 1. **Taseko:** (Moved from Summer - Chilko where it was reported in 2012.) The brood year escapement index for Taseko (20 EFS) was extremely low and fell below the cycle average (140 EFS); note that Taseko escapement assessments are an index of abundance only. Individual 2013 Outlook Category is 1. *(2012 Outlook Category was 1/2.)*
6. Early Summer – Lower Fraser (CU: Pitt-ES; Chilliwack-ES; Nahatlach-ES)	2	**Pitt:** Well below average returns are expected in 2013 relative to the average of 74,000 (1953-2009). The age-5 brood year escapement for Pitt (5,400 EFS) was well below average, while the age-4 escapement (18,100 EFS) was close to average (13,700 EFS). Pitt has a higher proportion of age-5 recruits (~70%) relative to age-4 recruits. **Chilliwack Lake/Dolly Varden Creek and Nahatlatch Lake/River**: Return data are not available for these two CUs in this Outlook Unit; only escapements can be compared to time series averages. Chilliwack Lake/Dolly Varden Creek brood year escapement in 2009 (2,400 EFS) was below the recent time series average (5,500 EFS from 2002-2011 when both sites were assessed) across all cycles. Nahatlatch Lake/River brood year escapement (700 EFS) was below the cycle average (1,015 EFS). *(2012 Outlook Category was 1/3.)*
7. Summer – Chilko (CUs: Chilko-S; Chilko-ES)	4	Well above average returns are expected in 2013 relative to the cycle average of 824,000 (1953-2009). The number of out migrating smolts in the 2009 brood year (2011outmigration year) (34.4 million sub2 smolts) was well above the cycle average (14.5 million) for Chilko. Note change to OU composition from last year; Taseko has moved into the Early Summer Run. *(2012 Outlook Category was 1/3.)*
8. Summer – Late Stuart (CUs: Takla-Trembleur-Stuart-S)	2	Well below average returns are expected in 2013 relative to the cycle average of 1.65 million (1953-2009). The 2009 brood year escapement for Late Stuart (43,300 EFS) was less than one fifth the cycle average (239,000 EFS). *(2012 Outlook Category was 3.)*

Outlook Unit	2013 Outlook Category	Comments
9. Summer – Nechako (CU: Francois-Fraser-S)	2	Below average returns are expected in 2013 relative to the cycle average of 245,000 (1953-2009). The 2009 brood year escapement for Stellako (15,800 EFS) was below the cycle average (29,900 EFS). *(2012 Outlook Category was 3.)*
10. Summer – Quesnel (CU: Quesnel-S)	2	Below average returns are expected in 2013 relative to the cycle average of 3.96 million (1953-2009). The 2009 brood year escapement for Quesnel (82,800 EFS) was one sixth the cycle average (508,000 EFS). Outlook for Quesnel is highly uncertain due to recent high degree of variability in productivity for this CU. *(2012 Outlook Category was 2.)*
94. Summer-Harrison (CU: Harrison-River Type)	4	This CU moved from a Fall to a Summer management group in 2012. Average returns are expected in 2013 relative to the cycle average of 84,000 (1953-2009). Escapement for Harrison was 100,600 EFS in the 2009 brood year (age-4 recruits in 2013) and 399,700 EFS in the 2010 brood year (age-3 recruits in 2013), both falling well above the long term average (12,100 EFS). Given these high abundances, density-dependence is expected to reduce productivity of the three year old age class. In contrast to most other Fraser sockeye stocks, productivity for Harrison has increased in recent years. *(2012 final Outlook Category was 4.)*
95. Summer-Raft (CU: Kamloops-ES)	3	This CU moved from an Early Summer to a Summer management group in 2012. Above average returns are expected in 2013 relative to the cycle average of 28,000 (1953-2009). The 2009 brood year escapement for Raft (6,000 EFS) was close to the cycle average (4,000 EFS). *(2012 final Outlook Category was 3.)*
11. Fall – Cultus (CU: Cultus-L)	1	Below average returns are expected in 2013 relative to the cycle average of 14,000 (1953-2009). Juvenile production of 174,000 smolts (67% hatchery origin) was similar to, but below the cycle average (286,000 smolts). *(2012 Outlook Category was 1.)*
12. Fall – Portage (CU: Seton-L)	2	Below average returns are expected in 2013 relative to the cycle average of 47,000 (1957-2009). The 2009 brood year escapement for Portage (800 EFS) fell well below the cycle average (2,900 EFS). *(2012 Outlook Category was 2.)*
13. Fall – South Thompson (CU: Shuswap-L)	3	Average returns are expected in 2013 relative to the cycle average of 182,000 (1953-2009). The 2009 brood year escapement for Late Shuswap (20,200 EFS) was well above the cycle average (2,800 EFS). *(2012 Outlook Category was 1.)*
14. Fall – Birkenhead (CU: Lillooet-Harrison-L)	3	Average returns are expected in 2013 relative to the cycle average of 310,000 (1953-2009). The 2009 brood year escapement for Birkenhead (34,500 EFS) was similar to the cycle average (28,100 EFS). *(2012 Outlook Category was 2.)*
15. Fall – Lower Fraser CUs: Harrison (U/S)-L; Harrison (D/S)-L; Harrison (River-Type); Widgeon (River-Type)	1/3	**Weaver (including miscellaneous Harrison Lake-rearing stocks):** Below average returns are expected in 2013 relative to the cycle average of 281,000 (1969-2009). The 2009 brood year escapement for Weaver (12,900 EFS) was below the cycle average (21,600 EFS). Individual 2013 Outlook Category is 2/3. **Widgeon Creek:** CU return data are not available, instead only escapements are compared to time series averages. Brood year escapement (800 EFS) was above the cycle average (280 EFS). Individual 2013 Outlook Category is 1. *(2012 Outlook Category was 1/3.)*

Outlook Unit	2013 Outlook Category	Comments
16. Somass	3	Adult returns in 2013 are from the 2008 and 2009 brood years, and 2010 and 2011 sea entry years. Spawner abundances for the two contributing brood years were low and about average, respectively. Estimated pre-smolt abundances for the brood years were slightly below or about average, respectively. Smolt survival rates for the two sea entry years were below average and average, respectively. Returns in 2013 are expected to be near target although lower than 2012. (*2012 Outlook Category was 4.*)
17. Henderson	3	Similar to Somass sockeye, returns in 2013 are expected to be near target although lower than 2012. (*2012 Outlook Category was 3*.)
18. WCVI - Other	2	Assessment data are not available to forecast others systems. However, limited assessment data suggests moderate increases in abundance in recent years. (*2012 Outlook Category was 2.*)
19. Areas 11 to 13	2	Preliminary information for 2012 sockeye from Nimpkish River has shown a near average return. Survival over the last three years has shown a dramatic improvement relative to the low stable returns observed prior. Other monitored systems such as Heydon Creek and Quatse River demonstrated strong returns as well. Sockeye returns to Heydon Creek were almost double the brood return in 2007 and escapement to Quatse River was the largest recorded since an intensive monitoring program began in 2006 (2nd largest was in 2011). Brood year escapements that will contribute to the 2013 return were low for most area sockeye stocks. It is still early in assessing the outmigration conditions they encountered in 2011, and whether that will equate to another strong return in 2013; however, returns of pink in 2012 are showing improved survivals, indicating outmigration conditions may have been favourable in 2011. Based on good marine conditions, continued improved survival trend and weakness of brood years, our expectations for 2012 sockeye continue to be low with some possible improved survival. (*2012 Outlook Category was 1/2.*)
20. Sakinaw	1	239 adult sockeye were enumerated in 2012, coming from a smolt count of 69,900 in 2010. This group is comprised of progeny from captive brood, held at Rosewall and Ouilette hatcheries. The expectation for 2013 is for fewer numbers of adults due to a smaller number of smolts (32,900). No broodstock will be collected and existing captive brood will be used to augment natural spawning production. *(2012 Outlook Category was 1.)*
21. Areas 7 to 10	1/2	Returns are expected to be poor. Brood year escapements for 2013 returns were very low. Sockeye returns to Area 8 continue to be depressed. *(2012 Outlook Category was 1/2.)*
22. Coastal Areas 3 to 6	2/4	Status is uncertain. Indications are escapements are improving in the last cycle. Limited assessment data for evaluation. *(2012 Outlook Category was 2/4.)*
23. Babine Lake - Enhanced	3/4	Well below average abundance forecast for age-4 sockeye based on 2012 jack returns. Poor age-5 return expected based on age-4 returns in 2012. *(2012 Outlook Category was 4.)*
24. Skeena - Wild	1/3	Generally expect below average survival for sockeye that went to sea in 2010 (returning as 5 year olds in 2013). The survival for sockeye that went to sea in 2011 (returning as 4 year olds in 2013) is very uncertain, but Babine jack indications are for a very poor return. Returns of some middle and lower Skeena sockeye stocks have improved over the last cycle. *(2012 Outlook Category was 1/4.)*
25. Nass	1/4	Below average returns are expected. Kwinageese had extremely poor brood year escapements. *(2012 Outlook Category was 1/4.)*
26. Haida Gwaii	2/4	Status uncertain for some systems; limited assessment work indicates improved returns over the last cycle. *(2012 Outlook Category was 2/4.)*

Outlook Unit	2013 Outlook Category	Comments
27. Alsek	2/3	Based on brood year escapements (lowest on record) and stock-recruitment relations from historical records, a well-below average run is expected. Several recent returns were also well below expectations (2008-09), but it appears survivals have improved (2010 to 2012 returns were above expectations). *(2012 Outlook Category was 3.)*
28. Stikine - Wild	3	Stikine sockeye production has varied widely since 1985. Low production periods occurred in the mid 1980s to early 1990s. From 2003 through 2006 production improved, believed due to improved marine survival. Returns since 2007, however, were below forecast suggesting a downturn in marine survival. The 2011 return was slightly above forecast however. The 2012 return was weak and well below forecast. For 2013, the Tahltan Lake component is predicted to be below average due to the below average number of smolts which emigrated from the lake in 2010. The main stem component is also expected to be below average. Fishing opportunities are expected within the confines of conservation and PST harvest sharing arrangements. *(2012 Outlook Category was 3.)*
29. Taku - Wild	3	Although the data are preliminary, the 2012 run was close to that forecasted. Regarding the outlook for 2013, the dominant and sub-dominant brood year escapements were within the range associated with maximum production. Production is expected to be above average based on preliminary stock-recruitment analysis. Fishing opportunities are expected within those of conservation levels and PST harvest sharing arrangements. (2012 Outlook Category was 3.)
Chinook		
96. Fraser River Spring Run 42	1/3	Late Summer – South Thompson: Aggregate escapement in 2012 declined sharply, failing to attain parental brood year escapement level in all systems. Concern exists for Mid Shuswap where escapement was estimated at under 300 from parental brood of over 1,400. Uncertainty associated with smolt to adult survival conditions tempers outlook for this aggregate: if favourable marine conditions return abundance should be high based on parental levels; however, if the conditions that resulted in the 2012 decline continue, escapement could trend lower. *(2012 Outlook Category was 3/4.)* Spring – Lower Thompson OU34: Escapement in 2012 exceeded parental levels for all except Deadman and Bonaparte. Expectations for 2013 are for continued low abundance levels resulting from persisting poor smolt to adult survival rates and returns originating from the very depressed spawning populations in 2009. *(2012 Outlook Category was 1.)*

Outlook Unit	2013 Outlook Category	Comments
97. Fraser River Spring Run 52	1	Early spring – upper & mid-Fraser, North Thompson: Escapements in 2012 continue to be low, however, for the first time in six years aggregate escapement roughly equaled parental spawning abundance. Populations of concern continue to include the Cottonwood system and the Upper Chilcotin River. Expectations are for continued low escapements in 2013, related to depressed parental abundance and persisting unfavorable marine conditions. *(2012 Outlook Category was 1.)* Spring – upper & mid-Fraser, North Thompson: Escapements in 2012 continue to be low, however, for the first time in six years aggregate escapement roughly equaled parental spawning abundance. Expectations are for continued low escapements in 2013, related to depressed parental abundance and persisting unfavorable marine conditions. *(2012 Outlook Category was 1.)* Early Spring – lower Fraser: The preliminary estimate of the 2012 Birkenhead River escapement (~680) was lower than abundance seen in 2010 and 2011, and much less than the 2007 brood year escapement of 1,970 adults. The brood for the 2013 return was very low (234). *(2012 Outlook Category was 1/2.)*
98. Fraser River Summer Run 52	1/3	Late Summer – South Thompson: Aggregate escapement in 2012 declined sharply, failing to attain parental brood year escapement level in all systems. Uncertainty associated with smolt to adult survival conditions tempers outlook for this aggregate: if favourable marine conditions return abundance should be high based on parental levels; however, if the conditions that resulted in the 2012 decline continue, escapement could trend lower. *(2012 Outlook Category was 3/4.)* Summer – upper & mid-Fraser, North Thompson: Escapements in 2012 continue to be low, however, for the first time in six years aggregate escapement roughly equaled parental spawning abundance. Expectations are for continued low escapements in 2013, related to depressed parental abundance and persisting unfavorable marine conditions. *(2012 Outlook Category was 1.)* Summer – lower Fraser: Expectations are for abundance levels in 2013 similar to those seen in 2012. Very little is known about the productivity of these small populations. The escapement to Big Silver continued to be very low. *(2012 Outlook Category was 1/2.)*

Outlook Unit	2013 Outlook Category	Comments
99. Fraser River Summer Run 41	1/3	Late Summer – South Thompson: Aggregate escapement in 2012 declined sharply, failing to attain parental brood year escapement level in all systems. Concern exists for Mid Shuswap where escapement was estimated at under 300 from parental brood of over 1,400. Uncertainty associated with smolt to adult survival conditions tempers outlook for this aggregate: if favourable marine conditions return abundance should be high based on parental levels; however, if the conditions that resulted in the 2012 decline continue, escapement could trend lower. *(2012 Outlook Category was 3/4.)* Summer – lower Fraser: Expectations are for abundance levels in 2013 similar to those seen in 2012. Very little is known about the productivity of these small populations. Maria Slough escapement in 2012 was similar to that seen in recent years, however the escapement to Big Silver continued to be very low. *(2012 Outlook Category was 1/2.)*
100. Fraser River Fall Run 41	2/3	Fall – Lower Fraser Natural: Average returns are expected in 2013. 2012 adult escapement surveys at Harrison are underway currently, and indications are for a poor return. A formal forecast for 2013 will be available in late winter. *(2012 Outlook Category was 2/3.)* Fall – Lower Fraser Hatchery: Although there are significant hatchery releases of Harrison fall-run chinook stock into the Harrison & Stave Rivers, lower Fraser River fall-run hatchery chinook consists mainly of Chilliwack Hatchery releases. 2012 adult escapement surveys at Chilliwack are underway currently. Average returns expected in 2013. Forecasts will be prepared for late-winter release. *(2012 Outlook Category was 2/3.)*
39. WCVI - Hatchery	3	2012 returns to hatchery systems were below average and near forecast levels. The outlook for 2013 is for another low return given that smolt survival rates for the three sea entry years (2009, 2010 and 2011) were either low or very low. Forecast will be available in March 2013. *(2012 Outlook Category was 3.)*
40. WCVI-Wild	1	Wild populations have either been well below target and/or declining for several generations. In recent years, stocks in the NWVI CU showed moderate improvements; however this trend is not observed in SWVI. Expectations are for continued declines and/or persistent low abundance in 2013. *(2012 Outlook Category was .1)*
41. Johnstone Strait Area (including mainland inlets)	2/3	Preliminary 2012 returns to the Quinsam River hatchery indicator are similar to 2009 and above the historic average. Escapement monitoring is ongoing and preliminary information suggests a return of approximately 5,900 chinook to the Campbell/Quinsam River system. Data are sparse for most of the Mainland Inlet chinook stocks, but most chinook populations surveyed are well below historic abundances. Outlook is similar to 2012 with wild stocks at low level (category 2) and hatchery stocks likely near target (category 3). *(2012 Outlook Category was 2/3.)*
42. Georgia Strait Fall (wild and small hatchery operations)	2	Spawner levels are below escapement goal but are improving from historic lows in 2009. The returns in 2012 were similar or less than 2011. Cowichan jack returns in 2012 are lower than last two years suggesting that the rebuilding seen recently is slowing. For Nanaimo, returns were again similar to 2011 and represent a slowing in recent year recoveries. *(2012 Outlook Category was 2.)*
43. Georgia Strait Fall (large hatchery operations)	2	Returns in 2012 to rivers with major hatcheries (Big Qualicum, Little Qualicum and Puntledge) are similar to last year's (2011) returns and continue to improve from recent lows. *(2012 Outlook Category was 2.)*

Outlook Unit	2013 Outlook Category	Comments
44. Georgia Strait Spring and Summer	2	Nanaimo Springs were monitored in 2012 and the return was extremely low (<10). Nanaimo Summers are higher than near term averages and returns to Puntledge (summer) hatchery are less than near term average, both are below target escapements. Rebuilding efforts are continuing. *(2012 Outlook Category was 2.)*
45. Areas 7 to 8	3/4	Dean River and Bella Coola returns are expected to be below average. However, the average is a healthy abundance. *(2012 Outlook Category was 3/4.)*
46. Areas 9 to 10	2/3	Wannock River chinook returns are expected to be average. The spring-run stocks including the Owikeno tributary stocks and Chuckwalla/Kilbella are expected to be below average based on recent trends. *(2012 Outlook Category was 2/3.)*
47. Coastal Areas 3 to 6	2/3	Stocks are generally depressed and variable and this pattern is expected to continue. Poor quality assessments. *(2012 Outlook Category was 2/3.)*
48. Nass	3/4	Below average return expected (pending detailed review of the 2012 return age structure). However, the average is a healthy abundance. *(2012 Outlook Category was 3/4.)*
49. Haida Gwaii	3/4	The Yakoun chinook stock appears stable at relatively high levels. *(2012 Outlook Category was 3/4.)*
50. Skeena	2/4	Declining ocean survivals for Skeena chinook in recent years. Well below average returns are anticipated, in the range of recent years. However some components are still above target. *(2012 Outlook Category was 3/4.)*
51. Alsek	2/3	Brood year escapements were below the established optimal range. Based on stock recruitment relation using historical records, a below average run will be expected. Alsek chinook were in a state of poor productivity; runs in 2006 to 2008 were the three lowest on record. This trend may have reversed as the escapement goals were met in 2009 to 2011 and nearly met in 2012. The 2013 outlook reflects the varied productivity. *(2012 Outlook Category was 3.*)
52. Stikine	2	A bilaterally developed run outlook is not yet available but is required by December 01. This stock has been subjected to directed commercial fisheries since 2005 due to new provisions under the Pacific Salmon Treaty (PST). Under the Treaty, directed fisheries are allowed if the preseason forecast is greater than 28,100 large chinook (chinook > 659 mm MEF) and in-season projections are >24,500 large chinook. The preliminary pre-season sibling-based forecast is 31,000 large chinook suggesting production will be slightly above the pre-season trigger for conducting a directed fishery in Canada. Since 2010 the run sizes were well below predictions. This outlook can be updated after the Trans-boundary Technical Committee (TTC) analysis is done (by December 01). *(2012 Outlook Category was 2.)*
53. Taku	2	Taku chinook salmon have been managed under a PST fishing regime implemented in 2005 and renewed for 2009 to 2018 with minor modifications. The TTC presented an interim revised escapement goal before the 2009 season. It is anticipated that the revised goal of 25,500 large chinook (range: 19,000-36,000) will be used for 2009-18. The previous goal was 36,000 (range: 30,000-55,000). A bilaterally developed run outlook for 2012 is not yet available but required by December 01. Preliminary estimates of the 2012 return and historical sibling relationships suggest the 2013 run will be below the average of 45,000 large chinook. Based on the new escapement goal and PST harvest sharing arrangements, a run of this magnitude is unlikely to support directed fishing in Canada or the U.S. This outlook will be updated once the TTC analysis is done (by December 01). *(2012 Outlook Category was 3.)*

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54. Yukon	2	A below average run is expected in 2013. An Interim Spawning Escapement Goal (IMEG) of >45,000 was adopted for 2008-09. An escapement goal of 42,500 to 55,000 was agreed to in 2010. Given sonar-based estimates of the total upper Yukon spawning escapements in 2007-08, the primary brood years expected to contribute to the 2013 return is well below target. Total production is well below pre-1998 periods. The runs since 2007 have been weak. If conditions contributing to the recent weak runs persist, fishing opportunities may be limited in 2013. (*2012 Outlook Category was 2/3.)*
Coho		
55. Mid and Upper - Fraser	1	Fall 2012 escapement surveys are now underway; however, it is too early to determine trends. Escapements to most streams in 2011 exceeded parental brood levels. Rebuilding will continue to be affected by smolt to adult survival conditions. The outlook for 2013 is for continued low abundance, a result of low escapement in 2010 and persistent unfavorable conditions affecting coho survival. Sustained improvement in marine conditions will be required to improve outlook. *(2012 Outlook Category was 1.)*
56. Thompson	1	Fall 2012 escapement surveys are now underway; however, it is too early to determine trends. Escapements to most streams in 2011 exceeded parental brood levels. Rebuilding will continue to be affected by smolt to adult survival conditions. The outlook for 2013 is for continued low abundance, a result of low escapement in 2010 and persistent unfavorable conditions affecting coho survival. Sustained improvement in marine conditions will be required to improve outlook. *(2012 Outlook Category was 1.)*
57. Lower Fraser	2	Fall/winter 2012/2013 escapement surveys are now underway; however, it is too early to determine trends. Escapements last fall were generally marginally above those of the parental brood year. Parental brood escapements in 2010 were moderate. Sustained improvements in smolt to adult survival will be required to improve outlook further. *(2012 Outlook Category was 2.)*
58. WCVI	4	Most adults returning in 2013 are from the 2010 brood year that smolted in 2012. There were abundant spawners in 2010 and the marine indicators for the 2012 sea entry year are very positive. Therefore, the outlook for 2013 is for an abundant return. *(2012 Outlook Category was 2/3.)*
59. Area 12	2/3	It is early in the assessment of coho in this area. Intensive and extensive monitoring of key streams (e.g. Keogh) is still ongoing but preliminary data suggest returns are showing slightly improved survivals for 2012, but still below average. Return levels in 2013 will be influenced by below average returns in the brood year of 2010 and the highest recorded Keogh smolt production of 2012 (indicator) and 2012 marine conditions. Expectations are for coho returns similar to the last 3 years but are highly uncertain. *(2012 Outlook Category was 2/3.)*
60. Area 13 - North	2	Escapement monitoring for 2012 is ongoing, extensive monitoring to this point has indicated variable returns in the area, some systems yielded above average returns, but the larger proportion of systems have poor returns. It is unknown why local coho stocks did not see the same improved marine survival as did the local pink stocks. Both species out-migrated in 2011. 2013 expectations are for returns similar to the last 3 years but are highly uncertain. *(2012 Outlook Category was 2.)*

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61. Georgia Strait	2/3	The 2011 marine survivals ranged from 0.6% to 0.9% for hatchery stocks and 1.3% for wild stocks. Marine survival rates for 2012 returns are not available. The 2012 observations of improved returns in southern Georgia Strait are likely to continue (2013 Outlook Category 3). Northern Georgia Strait returns have not exhibited similar improvements (2013 Outlook Category 2). The forecast will be available in March 2013. *(2012 Outlook Category was 2.)*
62. Areas 7 to 10	3/4	Survivals were relatively good over the last cycle after very poor returns in 2006 to 2008. Returns are uncertain and depend on the survivals of the juveniles to sea in 2012. *(2012 Outlook Category was 3/4.)*
63. Areas 5 and 6	3/4	Survivals were relatively good over the last cycle after very poor returns in 2006 to 2008. Returns are uncertain and depend on the survivals of the juveniles to sea in 2012. *(2012 Outlook Category was 3/4.)*
64. Area 3	3/4	Average return is expected, but depends on the survivals of the juveniles to sea in 2012. *(2012 Outlook Category was 3/4.)*
65. Haida Gwaii -E (Area 2 East)	3/4	Assessments limited to two populations since 2002 (Tlell weir and Deena intensive escapement surveys). *(2012 Outlook Category was 3/4.)*
66. Haida Gwaii -N (Area 1)	ND	No recent assessments. *(2012 Outlook Category was ND.)*
67. Haida Gwaii -W (Area 2 West)	ND	No recent assessments. *(2012 Outlook Category was ND.)*
68. Skeena	3/4	Returns are uncertain and depend on the survivals of the juveniles to sea in 2012. Outlook for lower Skeena tributaries is less certain, based on poor quality assessments. *(2012 Outlook Category was 3/4.)*
69. Skeena – High Interior	3/4	Returns are uncertain and depend on the survivals of the juveniles to sea in 2012. *(2012 Outlook Category was 3/4.)*
70. Alsek	2/3	A below average run is expected based on a poor weir count in the Klukshu River for the 2009 brood year. *(2012 Outlook Category was 3.)*
71. Stikine	3	Reliable brood year escapement data are limited and ancillary observations are sometimes contradictory: extrapolated test fishing indices were average but results from limited aerial surveys were below average for brood years contributing to the 2013 return as in 2012. Based on data of limited quality, the 2013 return is expected to be average. *(2012 Outlook Category was 3.)*
72. Taku	3	For 2013, a below average run is expected based on a preliminary smolt abundance in 2012 combined with recent smolt-to-adult survival rates. It is anticipated that the run will be sufficient to allow harvest of 10,000 coho in a directed fishery, plus excess to spawning escapement requirements, as identified in the new PST arrangements. *(2012 Outlook Category was 4.)*
73. Yukon	ND	Very little is known about the stock status within Canadian portions of the Yukon River drainage. Data from the US portion of the drainage indicate returns to the drainage in the last five years have been near the long term average. The general sense in Alaska is that exploitation is influenced by actions taken to manage co-migrating fall chum. This may have resulted in reduced spawning escapement in 2011, but those in Canadian tributaries have never been quantified for lack of funding and logistic difficulties (e.g. under ice movement). *(2012 Outlook Category was ND.)*
Pink		
74. Fraser - Odd only(CU: Fraser River)	4	Above average returns are expected in 2013 relative to the average of 12.6 million (1961-2011). The 2011 brood year fry abundance for pink (520 million) was above the cycle average of 480 million fry (1975-2011). *(2011 Outlook Category was 4; 2012 Outlook Category was NA.)*

Outlook Unit	2013 Outlook Category	Comments
75. Squamish - Odd only	ND	No quantitative assessment information is available. *(2011 Outlook Category was ND; 2012 Outlook Category was ND.)*
76. WCVI - Odd & Even	ND	No quantitative assessment information is available. (*2011 Outlook Category was ND; 2012 Outlook Category was ND.*)
77. Areas 11 to 13 - Odd & Even	2/3	Returns in 2012 showed strong abundance not seen in the even cycle since 2004. Indications of improved survival for pink were evident throughout this area. An improving trend in odd year pink continued up until the 2011 return. With possible improved marine conditions, demonstrated by the strong survivals seen in 2012 and the reduction in brood year returns in 2011, expectations are for average to below average returns again in 2013. Historically pink returns to this area have been highly variable and expectations are highly uncertain. *(2011 Outlook Category was 2/3; 2012 Outlook Category was 2.)*
78. Georgia Strait - West - Odd & Even	2/3	Preliminary information suggests returns in 2012 are less than or equal to the 2010 brood year but are still above average. Seapen returns in 2012 were good in Nanaimo and Cowichan. Outlook is for highly variable returns, (natural returns low, seapen returns average to good). The expectation for 2013 is for below average escapements to natural stocks in this on cycle year. *(2011 Outlook Category was 2/3; 2012 Outlook Category was 2/3.)*
79. Georgia Strait - East - Odd & Even	2	Assessment information on pink salmon in this area is limited. Generally, pink salmon have been reported in small numbers across a broad range of systems. Enhancement is limited to Chapman and Lang Creeks. The expectation for 2013 is for low escapements. *(2011 Outlook Category was 2; 2012 Outlook Category was 2.)*
80. Areas 7 to 10 - Odd & Even	3/4	2011 brood year escapements were below average for Areas 7 and 8. *(2011 Outlook Category was 3/4; 2012 Outlook Category was 2/3.)*
81. North Coast Areas 3 to 6 - Odd & Even	2/4	Very poor returns are expected from the low 2011 brood year escapements. Returns are dependent upon survival rates which have been highly variable in recent years. *(2011 Outlook Category was 3/4; 2012 Outlook Category was 2/3.)*
82. Haida Gwaii - Odd & Even	NA	Off cycle year. *(2011 Outlook Category was NA; 2012 Outlook Category was 3/4.)*
Chum		
83. Fraser River (CUs: Fraser Canyon and Lower Fraser)	3	Fraser chum salmon escapement trended downward from 1998 to 2010. In 2011, the escapement decline was halted with an estimated 1.0 million spawners reported. The in-season estimate of the terminal return in 2012 was approximately 2.25 million; post-season estimates from every major Chum producing system are not yet available. Chum salmon body size in 2012 was reported as "normal", unlike the smaller bodied chum reported in 2011. Preliminary age analysis indicates a higher than average proportion of 5-year olds in the escapement. *(2012 Outlook Category was 2.)*
84. WCVI	2/3	Adult returns in 2013 are from the 2008 to 2010 brood years and 2009 to 2011 sea entry years. Spawner abundances for the three contributing brood years were either low or very low. Smolt survival rates for the three sea entry years were either low or very low. Therefore, returns in 2013 are expected to be below target for wild stocks, although hatchery surpluses are likely for enhanced stocks. *(2012 Outlook Category was 3.)*

Outlook Unit	2013 Outlook Category	Comments
85. Johnstone Strait Area and Mainland Inlets (Areas 11 to 13)	2/3	Returns in 2012 are still being assessed, however abundance appears to vary greatly from below average to above average; dominated by age-5 fish which out-migrated in 2008 when marine survival conditions were more favourable. Inseason assessments in 2012 identified a strong migration of chum through Johnstone Strait much earlier than average, likely driven by the strong 5 year-old component. Expectations for 2013 are low, to near target. This is based on the below average parental brood abundance of the 2009 return, the indications of stable to slightly reduced marine survival (pink and coho returns in 2011) in 2010 the contributing outmigration year of 2009 brood, and the high variability in chum returns. Summer chum stocks in 2009 were mainly below average throughout the area and will likely stay the same in 2013. *(2012 Outlook Category was 2/3.)*
86. Georgia Strait	3	Brood year (2009) escapements were near target. Survival rates appear average for most stocks. Preliminary 2012 returns are projecting to be higher than the pre-season forecast for southern Strait stocks. For 2013, a below average return is expected for Baynes Sound and Sunshine Coast systems, and on target for southern Strait systems. *(2012 Outlook Category was 3.)*
87. Coastal Areas 5 & 6	1/4	Extremely poor 2009 brood year escapement. Very poor chum returns in recent years. Kitimat enhanced return strength uncertain; depends on ocean survivals which have been variable in recent years. *(2012 Outlook Category was 1/3.)*
88. Haida Gwaii	2/4	Average to good escapements may provide harvest opportunities, particularly in 2E. *(2012 Outlook Category was 2/3.)*
89. Skeena-Nass	1/2	Very poor returns expected from very poor brood year escapements. Recent survivals have been poor. *(2012 Outlook Category was 1/2.)*
90. Areas 7 to 10	2/4	Wild brood year escapements generally poor. Returns of enhanced stocks are dependent upon ocean survival which has been highly variable in recent years. *(2012 Outlook Category was 2/4.)*
91. Yukon	2	This stock group includes upper Yukon River populations (excluding Porcupine drainage stocks). Spawning escapements have exceeded targets since 2002 although severe conservation measures were required in Alaska and Canada in 2009. Escapements in 2008-09, the principle brood years contributing to the 2013 run, were well over the minimum goal of 80,000 established to rebuild the stock to the long term average of approximately 100,000 chum salmon. Even larger spawning escapements produced returns exceeding replacement levels and were better than anticipated based on stock-recruit relations, in 2012. Consequently, an above average run is expected in 2013. *(2012 Outlook Category was 2/3.)*
92. Porcupine (Yukon)	3	An Interim Management Escapement Goal of 22,000 to 49,000 was set for the Fishing Branch River for 2008 to 2010 based on revised analyses. This goal range is substantially less that the longstanding goal of 50,000 to 120,000. This IMEG has only been achieved once since it was established. Returns over the last five years have been well below expected. Escapements in 2008-09, the principle brood years contributing to the 2013 run, were 20,000 and 22,000 respectively. If conditions contributing to the weak returns persist, a below average run is again expected in 2013. *(2012 Outlook Category was 3.)*
93. Taku	2	Ancillary observations suggest that escapements have been relatively low since 1991, but no scientifically defensible estimates are available. The in-river run abundance index for the primary brood year was below the recent 10-year average. Non-retention provisions are expected to continue. *(2012 Outlook Category was 2.)*

Appendix 1. Outlook Units and associated Conservation Units.

No.	Outlook Unit Name	Conservation Unit
Sockeye (sockeye CU types: SEL = lake type, SER = river type)		
1	Okanagan	SEL::Osoyoos
2	Early Stuart	SEL::Takla/Trembleur-Early Stuart timing
3	Early Summer - North Thompson	SEL::North Barriere-Early Summer timing
4	Early Summer South Thompson	SEL::Shuswap-Early Summer timing
5	Early Summer - Mid and Upper Fraser	SEL::Anderson/Seton-Early Summer timing
		SEL::Bowron-Early Summer timing
		SEL::Chilko-Early Summer timing
		SEL::Francois-First Run-Early Summer timing
		SEL::Francois-Second Run-Early Summer timing
		SEL::Indian/Kruger-Early Summer timing
		SEL::Nadina/Francois-Early Summer timing
		SEL::Nahatlatch-Early Summer timing
		SEL::Taseko-Early Summer timing
6	Early Summer - Lower Fraser	SEL::Chilliwack-Early Summer timing
		SEL::Pitt-Early Summer timing
7	Summer - Chilko	SEL::Chilko-Summer timing
8	Summer - Late Stuart	SEL::Takla/Trembleur/Stuart-Summer timing
9	Summer - Nechako	SEL::Francois/Fraser-Summer timing
10	Summer - Quesnel	SEL::Quesnel-Summer timing
94	(new) Summer - Harrison	SER::Harrison River
95	(new) Summer - Raft	SEL::Kamloops-Early Summer timing
11	Fall - Cultus	SEL::Cultus-Late timing
12	Fall - Portage	SEL::Seton-Late timing
13	Fall - South Thompson	SEL::Shuswap Complex-Late timing
14	Fall -Birkenhead	SEL::Lillooet/Harrison-Late timing
15	Fall - Lower Fraser	SEL::Harrison-downstream migrating-Late timing
		SEL::Harrison-upstream migrating-Late timing
16	Somass	SEL::Great Central
		SEL::Sproat
17	Henderson	SEL::Henderson
18	WCVI - Other	SEL::Alice
		SEL::Canoe Creek
		SEL::Cecilia
		SEL::Cheewat
		SEL::Clayoquot
		SEL::Deserted
		SEL::Fairy
		SEL::Hesquiat
		SEL::Hobiton
		SEL::Jansen
		SEL::Kanim
		SEL::Kennedy
		SEL::Maggie
		SEL::Megin
		SEL::Muchalat
		SEL::Muriel
		SEL::Nitinat

No.	Outlook Unit Name	Conservation Unit
		SEL::O'Connell
		SEL::Owossitsa
		SEL::Park River
		SEL::Power
		SEL::William/Brink
19	Areas 11 to 13	SEL::Fulmore
		SEL::Heydon
		SEL::Ida/Bonanza
		SEL::Kakweiken
		SEL::Loose
		SEL::Mackenzie
		SEL::Nahwitti
		SEL::Nimpkish
		SEL::Pack
		SEL::Phillips
		SEL::Quatse
		SEL::Schoen
		SEL::Shushartie
		SEL::Tzoonie
		SEL::Vernon
		SEL::Village Bay
		SEL::Woss
20	Sakinaw	SEL::Sakinaw
21	Areas 7 to 10	SEL::Long
		SEL::Owikeno
		SEL::Owikeno-Late timing
		SEL::South Atnarko Lakes
		SEL::Wannock[Owikeno]
22	Coastal Areas 3 to 6	SEL::Backland
		SEL::Banks
		SEL::Bloomfield
		SEL::Bolton Creek
		SEL::Bonilla
		SEL::Borrowman Creek
		SEL::Busey Creek
		SEL::Canoona
		SEL::Cartwright Creek
		SEL::Chic Chic
		SEL::Curtis Inlet
		SEL::Dallain Creek
		SEL::Deer
		SEL::Devon
		SEL::Dome
		SEL::Douglas Creek
		SEL::Elizabeth
		SEL::Elsie/Hoy
		SEL::End Hill Creek
		SEL::Evelyn
		SEL::Evinrude Inlet
		SEL::Fannie Cove
		SEL::Freeda/Brodie
		SEL::Hartley Bay

No.	Outlook Unit Name	Conservation Unit
		SEL::Hevenor Inlet
		SEL::Higgins Lagoon
		SEL::Kadjusdis River
		SEL::Kainet Creek
		SEL::Kdelmashan Creek
		SEL::Keecha
		SEL::Kent Inlet Lagoon Creek
		SEL::Kenzuwash Creeks
		SEL::Keswar Creek
		SEL::Kildidt Creek
		SEL::Kildidt Lagoon Creek
		SEL::Kimsquit
		SEL::Kisameet
		SEL::Kitkiata
		SEL::Kitlope
		SEL::Koeye
		SEL::Kooryet
		SEL::Kunsoot River
		SEL::Kwakwa Creek
		SEL::Lewis Creek
		SEL::Limestone Creek
		SEL::Lowe/Simpson/Weare
		SEL::Mary Cove Creek
		SEL::Mcdonald Creek
		SEL::Mcloughlin
		SEL::Mikado
		SEL::Monckton Inlet Creek
		SEL::Namu
		SEL::Pine River
		SEL::Port John
		SEL::Powles Creek
		SEL::Price Creek
		SEL::Prudhomme
		SEL::Roderick
		SEL::Ryan Creek
		SEL::Salter
		SEL::Scoular/Kilpatrick
		SEL::Shawatlan
		SEL::Sheneeza Inlet
		SEL::Ship Point Creek
		SEL::Sockeye Creek
		SEL::Spencer Creek
		SEL::Stannard Creek
		SEL::Talamoosa Creek
		SEL::Tankeeah River
		SEL::Treneman Creek
		SEL::Tsimtack Lakes
		SEL::Tuno Creek East
		SEL::Tuno Creek West
		SEL::Tuwartz
		SEL::Tyler Creek
		SEL::Wale Creek

No.	Outlook Unit Name	Conservation Unit
		SEL::Watt Bay
		SEL::West Creek
		SEL::Whalen
		SEL::Yaaklele Lagoon
		SEL::Yeo
23	Babine Lake - Enhanced	SEL::Babine
24	Skeena - Wild	SEL::Alastair
		SEL::Aldrich
		SEL::Asitika
		SEL::Atna
		SEL::Azuklotz
		SEL::Bear
		SEL::Clements
		SEL::Damshilgwit
		SEL::Dennis
		SEL::Ecstall/Lower
		SEL::Footsore/Hodder
		SEL::Johanson
		SEL::Johnston
		SEL::Kitsumkalum
		SEL::Kitwancool
		SEL::Kluatantan
		SEL::Kluayaz
		SEL::Lakelse
		SEL::Maxan
		SEL::Mcdonell
		SEL::Morice
		SEL::Motase
		SEL::Nilkitkwa
		SEL::Sicintine
		SEL::Slamgeesh
		SEL::Spawning
		SEL::Split Mountain/Leverson
		SEL::Stephens
		SEL::Sustut
		SEL::Swan
		SEL::Tahlo/Morrison
25	Nass	SEL::Bowser
		SEL::Bulkley
		SEL::Damdochax/Wiminasik
		SEL::Fred Wright
		SEL::Kwinageese
		SEL::Meziadin
		SEL::Oweegee
26	Haida Gwaii	SEL::Ain/Skundale/Ian
		SEL::Awun
		SEL::Fairfax
		SEL::Jalun
		SEL::Marian/Eden
		SEL::Marie
		SEL::Mathers
		SEL::Mercer

No.	Outlook Unit Name	Conservation Unit
		SEL::Skidegate
		SEL::Yakoun
27	Alsek	SEL::Blanchard
		SEL::Klukshu
		SEL::Neskatahin
28	Stikine - Wild	SEL::Christina
		SEL::Chutine
		SEL::Tahltan
29	Taku-Wild	SEL::King Salmon
		SEL::Kuthai
		SEL::Little Trapper
		SEL::Tatsamenie
Chinook		
96	Fraser River Spring Run 42	CK::South Thompson-Bessette Creek
		CK::Lower Thompson-spring timing-age 1.2
97	Fraser River Spring Run 52	Lower Fraser River-spring timing
		Lower Fraser River-Upper Pitt
		Fraser Canyon-Nahatlatch
		Middle Fraser River-spring timing
		Upper Fraser River-spring timing
		North Thompson-spring timing-age 1.3
98	Fraser River Summer Run 52	Lower Fraser River-summer timing
		Middle Fraser River-Portage
		Middle Fraser River-summer timing
		South Thompson-summer timing-age 1.3
		North Thompson-summer timing-age 1.3
99	Fraser River Summer Run 41	Maria Slough
		South Thompson-summer timing-age 0.3
		Shuswap River-summer timing-age 0.3
100	Fraser River Fall Run 41	Lower Fraser River-fall timing (white)
		(P)Hatchery Exclusion-Lower Fraser River
39	WCVI - Hatchery	includes production from major hatchery facilities at Conuma, Stamp, and Nitinat rivers
40	WCVI - Wild	CK::Nootka and Kyuquot
		CK::Northwest Vancouver Island
		CK::Port San Juan
		CK::Southwest Vancouver Island
41	Johnstone Strait Area (including mainland inlets)	CK::Homathko
		CK::Klinaklini
		CK::Northeast Vancouver Island
		CK::South Coast-southern fjords
42	Georgia Strait Fall (wild and small hatchery operations)	CK::Boundary Bay
		CK::East Vancouver Island-Cowichan and Koksilah
		CK::East Vancouver Island-Goldstream
		CK::East Vancouver Island-Nanaimo and Chemainus-fall timing
		CK::South Coast-Georgia Strait
43	Georgia Strait Fall (large hatchery operations)	CK::East Vancouver Island-Qualicum and Puntledge-fall timing
44	Georgia Strait Spring and Summer	CK::East Vancouver Island-Nanaimo and Chemainus-summer timing
		CK::East Vancouver Island-Nanaimo-spring timing

No.	Outlook Unit Name	Conservation Unit
		CK::East Vancouver Island-Puntledge-summer timing
45	Areas 7 to 8	CK::Bella Coola-Bentinck
		CK::Dean River
46	Areas 9 to 10	CK::Docee
		CK::Rivers Inlet
		CK::Wannock
47	Coastal Areas 3 to 6	CK::North and Central Coast-early timing
		CK::North and Central Coast-late timing
		CK::Portland Sound-Observatory Inlet-Lower Nass
		CK::Skeena Estuary
48	Nass	CK::Upper Nass
49	Haida Gwaii	CK::Haida Gwaii-East
		CK::Haida Gwaii-North
50	Skeena	CK::Ecstall
		CK::Kalum-early timing
		CK::Kalum-late timing
		CK::Lakelse
		CK::Lower Skeena
		CK::Middle Skeena-large lakes
		CK::Middle Skeena-mainstem tributaries
		CK::Sicintine
		CK::Upper Bulkley River
		CK::Upper Skeena
		CK::Zymoetz
51	Alsek	CK::Alsek
52	Stikine	CK::Stikine-early timing
		CK::Stikine-late timing
53	Taku	CK::Taku-early timing
		CK::Taku-late timing
		CK::Taku-mid timing
54	Yukon	CK::Big Salmon
		CK::Middle Yukon River and tributaries
		CK::Nordenskiold
		CK::Northern Yukon River and tributaries
		CK::Old Crow
		CK::Pelly
		CK::Porcupine
		CK::Salmon Fork
		CK::Stewart
		CK::Upper Yukon River
		CK::White and tributaries
		CK::Yukon River-Teslin headwaters
Coho		
55	Mid and Upper - Fraser	CO::Fraser Canyon
		CO::Middle Fraser
56	Thompson	CO::Lower Thompson
		CO::North Thompson
		CO::South Thompson
57	Lower Fraser	CO::Lillooet
		CO::Lower Fraser-A
		CO::Lower Fraser-B

No.	Outlook Unit Name	Conservation Unit
58	WCVI	CO::Clayoquot
		CO::Juan de Fuca-Pachena
		CO::West Vancouver Island
59	Area 12	CO::Homathko-Klinaklini Rivers
		CO::Nahwitti Lowland
60	Area 13 - North	CO::East Vancouver Island-Johnstone Strait-Southern Fjords
		CO::Southern Coastal Streams-Queen Charlotte Strait-Johnstone Strait-Southern Fjords
61	Georgia Strait	CO::Boundary Bay
		CO::East Vancouver Island-Georgia Strait
		CO::Georgia Strait Mainland
		CO::Howe Sound-Burrard Inlet
62	Areas 7 to 10	CO::Bella Coola-Dean Rivers
		CO::Rivers Inlet
		CO::Smith Inlet
63	Areas 5 to 6	CO::Brim-Wahoo
		CO::Douglas Channel-Kitimat Arm
		CO::Hecate Strait Mainland
		CO::Mussel-Kynoch
		CO::Northern Coastal Streams
64	Area 3	CO::Lower Nass
		CO::Portland Sound-Observatory Inlet-Portland Canal
		CO::Skeena Estuary
		CO::Upper Nass
65	Haida Gwaii - East (Area 2 East)	CO::Haida Gwaii-East
66	Haida Gwaii - North (Area 1)	CO::Haida Gwaii-Graham Island Lowlands
67	Haida Gwaii - West (Area 2 West)	CO::Haida Gwaii-West
68	Skeena	CO::Lower Skeena
		CO::Middle Skeena
69	Skeena - High Interior	CO::Upper Skeena
70	Alsek	CO::Alsek River
71	Stikine	CO::Lower Stikine
72	Taku	CO::Taku-early timing
		CO::Taku-late timing
		CO::Taku-mid timing
73	Yukon	CO::Porcupine
Pink (pink CU types: PKO = odd year, PKE = even year)		
74	Fraser - Odd only	PKO::Fraser River
75	Squamish - Odd only	PKO::East Howe Sound-Burrard Inlet
76	WCVI - Odd & Even	PKE::Northwest Vancouver Island
		PKE::West Vancouver Island
		PKO::West Vancouver Island
77	Areas 11 to 13 - Odd & Even	PKE::Southern Fjords
		PKO::Nahwitti
		PKO::Southern Fjords
		PKO::East Vancouver Island-Johnstone Strait
78	Georgia Strait - West - Odd & Even	not yet defined; includes some seapen releases
79	Georgia Strait - East - Odd & Even	PKE::Georgia Strait
		PKO::Georgia Strait
80	Areas 7 to 10 - Odd & Even	PKE::Hecate Lowlands
		PKE::Hecate Strait-Fjords

No.	Outlook Unit Name	Conservation Unit
		PKO::Hecate Strait-Fjords
		PKO::Hecate Strait-Lowlands
		PKO::Homathko-Klinaklini-Smith-Rivers-Bella Coola-Dean
81	North Coast Areas 3 to 6 - Odd & Even	PKE::Hecate Lowlands
		PKE::Hecate Strait-Fjords
		PKE::Middle-Upper Skeena
		PKE::Nass-Skeena Estuary
		PKE::Upper Nass
		PKO::Hecate Strait-Fjords
		PKO::Hecate Strait-Lowlands
		PKO::Lower Skeena
		PKO::Middle and Upper Skeena
		PKO::Nass-Portland-Observatory
		PKO::Nass-Skeena Estuary
		PKO::Upper Nass
82	Haida Gwaii - Odd & Even	PKE::East Haida Gwaii
		PKE::North Haida Gwaii
		PKE::West Haida Gwaii
		PKO::East Haida Gwaii
		PKO::North Haida Gwaii
		PKO::West Haida Gwaii
Chum		
83	Fraser River	CM::Fraser Canyon
		CM::Lower Fraser
84	WCVI	CM::Northwest Vancouver Island
		CM::Southwest Vancouver Island
85	Johnstone Strait Area and Mainland Inlets (Areas 11 to 13)	CM::Bute Inlet
		CM::Loughborough
		CM::Northeast Vancouver Island
		CM::Southern Coastal Streams
		CM::Upper Knight
86	Georgia Strait	CM::Georgia Strait
		CM::Howe Sound-Burrard Inlet
87	Coastal Areas 5 & 6	CM::Douglas-Gardner
		CM::Hecate Lowlands
		CM::Mussel-Kynoch
88	Haida Gwaii	CM::East HG
		CM::North Haida Gwaii
		CM::North Haida Gwaii-Stanley Creek
		CM::Skidegate
		CM::West Haida Gwaii
89	Skeena - Nass	CM::Lower Nass
		CM::Lower Skeena
		CM::Middle Skeena
90	Areas 7 to 10	CM::Bella Coola River-Late
		CM::Bella Coola-Dean Rivers
		CM::Rivers Inlet
		CM::Smith Inlet
		CM::Spiller-Fitz Hugh-Burke
		CM::Wannock

No.	Outlook Unit Name	Conservation Unit
91	Yukon	CM::Donjek-Kluane
		CM::Middle Yukon River
		CM::North Yukon River
		CM::Old Crow
		CM::Stewart
		CM::Teslin
		CM::White River
92	Porcupine (Yukon)	CM::Porcupine River
93	Taku	CM::Taku

CITATION

Fisheries and Oceans Canada. 2024. Pacific Salmon Outlook, Pacific Region, 2013. 1-23 pp.

Fisheries and Oceans Canada
3190 Hammond Bay Road
Nanaimo, BC V9T 6N7

Cat. No. Fs141-9E-PDF
ISSN 2817-2426