



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

**PACIFIC SALMON OUTLOOK  
PACIFIC REGION  
2008**

Canada 

## 2008 SALMON STOCK OUTLOOK

DFO Stock Assessment has developed a categorical outlook for salmon stock status since 2002. It's intended to provide an objective and consistent context within which to initiate fisheries planning. In particular, the outlook provides a preliminary indication of potential fishing opportunities and the stocks of concern around which fisheries might be shaped.

For each stock group, a status outlook is provided on a categorical scale of 1 to 4 (please see the following Table). The category reflects interpretation of available quantitative and qualitative information and forecasts as well as expert opinion of status. In many cases, stock targets have not been formally described and for those cases targets were either historical levels or expert opinion.

Stock status implies consequences to fisheries where the stock group is caught directly or incidentally. In the context of this outlook the probable fishery consequences associated with each of the four status categories are identified in the following table. Stock groups forecast in category "2" are considered "sensitive" and in general, fisheries will be planned to reduce impacts on these groups where possible.

Status 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 status categories do not include interactions with other stocks. Consequently, conservation requirements for stocks in status categories 1 and 2 may limit fishing opportunities for stock groups for which there are no concerns. Where possible the comments associated with each stock identify such potential constraints. A range of status categories indicates significant geographic variation in status within the stock group and fisheries may be shaped in response to that variation.

**The outlook should be regarded as very preliminary and is subject to change as more information becomes available and as statistical forecasts and assessments are completed and reviewed.**

## Salmon outlook for 2008

A total of **93** stock groups were considered and outlooks were provided for **89** of them. **Thirty-four (34)** stock groups are likely to be at or above target abundance (category 3-4), while **34** are expected to be of some conservation concern (category 1, 2, 1/2). The remaining **21** stock groups had mixed status levels (1/4, 2/3, 2/4). For clarity some adjacent stock groups have been grouped in the following table where their outlooks were similar. Overall, the outlook for 2008 for each species is not as positive as in recent years.

Species/Stock	Outlook status	Comments
<b>Sockeye</b>		
Okanagan	3	Survival rates for Okanagan sockeye salmon have exhibited substantial variation over the past 4 years (i.e. range of returns per spawner from 0.75 to 2.09). The majority of Okanagan sockeye salmon return in their 4th year of life so applying the recent 4-year average return per spawner value (1.25) to 2004 brood-year adults suggests total returns in 2008 on the order of 97,000 adult sockeye at Wells Dam (i.e. 58,000 on the grounds in the Okanagan R. at Oliver). These values assume virtually no harvest in U.S. portions of the migratory route as has been the practice in recent years in order to protect ESA listed Redfish Lake sockeye that co-mingle with Wenatchee and Okanagan sockeye salmon stocks returning to the Columbia River.
Early Stuart	1	The forecast is for a return of 35,000 sockeye. Cycle year escapements have decreased by 90% over the last three generations. The 2004 brood year escapement (9,300) was only 10% of the 2000 escapement (90,000) and 24% of the long term cycle average escapement (38,000).
Early Summer – North Thompson	2/3	The forecast is for a return of 77,000 sockeye to the Raft, Fennell and the North Thompson. The 2004 brood year escapement (10,000) was the lowest observed on this cycle since 1968. It was only 12% of the 2000 record cycle escapement (89,000) and 43% of the long term cycle average (24,000). Above average rainfall in the North Thompson system in 2004 led to poor counting conditions at several streams, therefore the 2004 system escapement is likely biased low. Prior to 2004, cycle year escapements to this system had been trending upwards, increasing by 78% over the previous three generations.
Early Summer – South Thompson	2	The forecast is for a return of 25,000 sockeye. The 2004 brood year escapement (3,900) was the fourth lowest observed on this cycle. It was only 3% of the 2000 record cycle escapement (126,000) and 20% of the long term average (20,000). Above average rainfall in the South Thompson system in 2004 led to poor counting conditions at several streams, therefore the 2004 system escapement is likely biased low. Prior to 2004, cycle year escapements to this system had been trending upwards over the previous three generations.
Early summer – upper Fraser	1/2	The forecast is for a combined total return of 171,000 sockeye to the Gates, Nadina and Bowron systems. Brood year (2004) escapements decreased significantly relative to the brood in all three systems (90%, 89% and 93%, respectively) and fell below the recent cycle line (1984-2000) averages by 84%, 53% and 90%, respectively. Bowron is a very small populations returning in the 2008 cycle.
Early Summer – lower Fraser	3	The forecast is for a return of 75,000 sockeye. The 2004 brood year escapement (102,000) was the largest on record for this cycle line. It was almost double the 2000 escapement (56,000) and well above the long term cycle average (44,000). Record escapements were observed at both the Upper Pitt River (61,000) and Chilliwack Lake system (40,000).

Species/Stock	Outlook status	Comments
Summer – Chilko	3	The forecast is for a return of 885,000 sockeye. The 2004 brood year escapement (92,000) was the lowest on record for this cycle. It was only 12% of the 2000 escapement (759,000) and 18% of the long term cycle average (500,000).
Summer – Late Stuart	2	The forecast is for a return of 355,000 sockeye. The 2004 brood year escapement (83,000) was only 18% of the 2000 escapement (454,000) and 75% of the recent cycle year average of 111,000. Prior to 2004, cycle year escapements had been trending upwards, increasing by 100% over the previous six generations.
Summer – Nechako	3	The forecast is for a return of 477,000 sockeye. The 2004 brood year escapement (88,000) was only 23% of the 2000 escapement (373,000) and 36% of the recent cycle average (247,000).
Summer – Quesnel	2	The forecast is for a return of 93,000 sockeye. Returns in 2008 represent the second off-cycle year in this system. Similar to the other cycle lines, the 2008 cycle experienced remarkable growth through the 1990's. The 2004 brood year escapement (10,000) was only 16% of the 2000 escapement (64,000) and 35% of the recent cycle average (30,000). Similarly, recent returns on the dominant (2005), sub-dominant (2006) and first off-cycle (2007) have also declined substantially relative to the respective brood. This has raised concerns with respect to juvenile rearing capacity limitation in Quesnel Lake as a result of the large annual escapements since 1993.
Fall – Cultus	1	The forecast is for a return of 5,000 sockeye. The 2004 brood year escapement (90) was the lowest on record; it was only 7% of the 2000 escapement (1,227) and only a small fraction of the long term cycle year average (13,000). Identified threats to this population are harvest, habitat alteration in Cultus Lake, environmental fluctuations, and impacts related to parasites (early migration) and predators (freshwater predation). Recovery activities will be on ongoing in 2008.
Fall – Portage	1/2	The forecast is for a return of 15,000 sockeye. The 2004 escapement (1,300) was similar to the 2000 escapement but fell short of the recent cycle average (2,100) by 39%. Cycle line escapements have been relatively steady since 1972, ranging between 1,300-3,800 spawners. Portage sockeye continue to be a concern as they are impacted by early Fraser River entry mortality exhibited by Late Run stocks since 1995.
Fall – South Thompson	1/2	The forecast is for a return of 17,000 sockeye. These stocks are in their first off-cycle year in 2008. The 2004 escapement (3,000) was well above the 2000 escapement (855), but only 57% of the recent cycle average (7,200). Concerns continue with entry timing related mortality for all Fraser Late Run stocks.
Fall – Birkenhead	3	The forecast is for a return of 238,000 sockeye. The 2004 brood year escapement (38,000) was the almost four times greater than the 2000 escapement (14,000), but only 44% of the long term cycle year average (86,000). Prior to 2004, cycle line escapements were on a downward trend, decreasing by 94% over the previous three generations.
Fall – lower Fraser	3	The forecast is for a return of 140,000 sockeye to Harrison River & tributaries and 290,000 sockeye to Weaver Creek. The 2004 brood year escapement to the Weaver Creek system (25,000) was over four times greater than the 2000 escapement (6,600) but 80% of the long term cycle year average (32,000), while escapement to the Harrison (2,100) was only 48% of the 2000 escapement and 27% of the long term cycle average (7,800).
Somass	1/2	Expectations for 2008 are well below the long term average of approximately 760,000 combined return to Great Central and Sproat Lake. Of continued concern is the extremely low production so far resulting from the 2003 brood year. We expect a very poor return of 5 <sub>2</sub> year old fish in 2008. Normally, this age group

Species/Stock	Outlook status	Comments
		contributes to about 35% of the return.
Henderson	1	Recent escapements to Henderson are very low, although preliminary assessment of the 2007 return is encouraging and shows improvement. However, there were low numbers of spawners from two brood years (2003 and 2004) that will contribute to the 2008. As well, marine survival rates experienced by the 2003 brood were likely also very low.
WCVI-other	1/2	Assessment data are not available for Hobiton and others systems; however, Kennedy and Jantzen Lake stocks are depressed.
Area 11-13	1/2	For many of the small Johnstone Strait stocks, assessment data are sparse, but most systems surveyed appear to be low to stable (Quatse River and Heydon Creek). Returns to Village Bay have been non-existent in 4 of the last 5 years with a high likelihood that this stock is extinct in that watershed. Preliminary information for 2007 escapement to Nimpkish are below expectations. Nimpkish in 2008 will likely contribute another low return based on the fairly weak 2003 and 2004 brood years and continued poor marine survival. 2008 expectations are for low and stable abundances with some stocks of concern.
Sakinaw	1	Three fish entered the lake in 2003, 100 in 2004, 27 in 2005, and 1 female in 2006. Only 11 smolts were counted in spring 2005. In 2006, 8,351 hatchery-origin and 2,926 wild-origin smolts were enumerated at the weir. The field operations ran successfully throughout the 2007 summer and, as forecast based on 2005 smolt production, there were no sockeye salmon returns to Sakinaw Lake.
Area 7-10	1/2	The outlook is uncertain and final forecasts are not yet available. 2006 and 2007 returns indicated extremely poor survivals from brood year escapements in Area 8, 9 and 10. Returns to Areas 7 and 8 were variable with some stocks showing improvement while others continue to be depressed.
Coastal 3/6	2/4	Status is uncertain. Very limited assessment data for evaluation.
Babine Lake enhanced	3	Modest forecast for age-4 fish based on 2007 jack returns. Well below average age-5 return expected from very poor age-4 returns in 2007.
Skeena wild	1/4	Non-Babine sockeye status continues to be variable. Very poor Kitwanga sockeye return.
Nass	2/4	Average returns are expected. Stock specific status of non-Meziadin sockeye uncertain.
QCI	2/4	Status uncertain for some systems.
Alsek	3	An above average run is expected based on brood year escapements and the historical stock-recruitment relationship. However, both early and late runs have been below expectations recently and survivals appear to have been below average.
Stikine-wild	3/4	Stikine sockeye production has varied dramatically since 1985. Low production periods occurred in the mid 1980(s) to early 1990(s). Since 2003 production has been relatively good which may have been due to improved marine survival. The Tahltan Lake component is predicted to return in abundant numbers, whereas the mainstem component is expected to return in average numbers. A more restrictive fishing regime may be implemented during the overlap with the latter part of the Tahltan run and early segment of the mainstem run.
Taku-wild	3	Although the principle brood year escapement was record high, production is expected to be below average based on stock-recruitment. Fishing opportunities are expected within the confines of conservation and PST requirements. Special measures may be needed to achieve the egg-take goal for Tatsamenie enhancement.

Species/Stock	Outlook status	Comments
<b>Chinook</b>		
Early spring – upper & mid-Fraser, North Thompson	1	Populations of concern are upper and lower Chilcotin, Westroad, Cottonwood, and Chilako rivers. Very poor escapements observed in 2007 with escapements averaging ~22% of brood escapements. Very poor survivals have been observed for of Fraser salmon that went to sea in 2005. These fish will form the bulk of returns in 2008. No indicator stock.
Late summer – South Thompson	3	Indicator is Lower Shuswap. Returns in 2007 were generally above brood year escapements, although mid and lower Shuswap were below brood. South Thompson and Lower Adams were both strong.
Spring – upper & mid-Fraser, North Thompson	1	Returns throughout range in 2007 were poor, averaging only 25% of brood year escapements. Very poor survivals have been observed for of Fraser salmon that went to sea in 2005. These fish will form the bulk of returns in 2008. No indicator stock.
Summer – upper & mid-Fraser, North Thompson	1	No indicator. Returns throughout range in 2007 were poor. Escapements averaged only 29% of brood escapements. Very poor survivals have been observed for of Fraser salmon that went to sea in 2005. These fish will form the bulk of returns in 2008.
Spring – lower Thompson	1	Indicator is Nicola. Extremely poor returns in 2005 to 2007. Continued major decline in escapements from brood year. Returns averaged 10% of brood year escapements in 2003.
Fall – lower Fraser natural	2	Four year old returns expected to be poor, however, large jack returns in 2007 predict strong returns of 3 year-olds in 2008.
Fall – lower Fraser hatchery	2/3	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. 2007 adult spawning escapements indicated weaknesses in 3 year-olds. Forecasts for 4 year-old returns in 2008 are poor, however, strong returns of 3 year-olds are predicted.
Early spring – lower Fraser	2	Birkenhead River escapement (~1,000 adults) is significantly greater than brood year 2002 (512 adults) and greater than the previous 10-year average. Previous to past three years, the trend in escapement was down. Returns in 2008 will be predominately from the 2003 escapement of about 427 adults. A major flood in the Birkenhead drainage may also have adversely affected recruitment from the 2003 brood. Very poor survivals have been observed for of Fraser salmon that went to sea in 2005 (2003 brood). These fish will form the bulk of returns in 2008. No indicator stock.
Summer – lower Fraser	2	Maria Creek escapements in 2007 (650 adults) were slightly lower than the brood year (823). Big Silver escapement was only 70. Expectations are for near target abundance levels, however, returns in 2008 will have mostly gone to sea in 2005, and may have experienced poor survival.
WCVI-hatchery	3	2007 returns were below forecast expectations. . For 2008, returns are expected to be lower than 2007 based on anticipated low returns of age-4 fish resulting from poor survival of the 2004 brood.
WCVI-wild	1	Escapements appear to have decreased in 2007 relative to 2006. Final escapements and age compositions are currently unavailable. However, returns are expected to decrease in 2008 and females may be limited in small populations.
Johnstone Strait area including mainland inlets	2/3	Preliminary 2007 returns to the Quinsam River hatchery indicator show a continued stabilization of the return. Escapement monitoring is ongoing at this time and expect to meet 6000 escapement target. Preliminary estimate of returns to the Campbell River indicates ~300 adults. A similar return is expected for 2008.

Species/Stock	Outlook status	Comments
Georgia Strait Fall (wild and small hatchery operations)	1	Outlook is for a stock of concern. The 2007 Cowichan River return was estimated to be 1450 jacks and 2413 adult chinook. Of these, 51 jacks and 315 adults were collected for broodstock and 132 jacks and 238 adults were caught in a Food, Social and Ceremonial fishery by Cowichan Tribes. Returns to Chemainus are thought to be extremely low, probably less than 50. The return to Nanaimo was estimated to be 2322 adult 1973 jack chinook which is 65% higher than the 1995-2005 average.
Georgia Strait Fall (large hatchery operations)	4	Returns to rivers with major hatcheries (Big Qualicum, Little Qualicum and Puntledge) have been very strong with record numbers in recent years. In contrast, stocks with smaller hatchery operations have had less abundant returns. Early 2007 indications are similar returns as 2006.
Georgia Strait Spring and Summer	2	Returns to Nanaimo (spring and summer) and Puntledge (summer) hatcheries are at or above 2005 levels, but are still below target escapements. Rebuilding efforts are continuing.
Area 7-8	3/4	Dean River brood year escapements were good and an average return is expected. Bella Coola/Atnarko enhanced returns and production for the modest brood year escapements are expected to provide an average return.
Area 9-10	2/3	Wannock River returns are from relatively poor brood years, which may result in a below average return. The spring-run stocks including the Owikeno tributary stocks and Chuckwalla/Kilbella are expected to be below average as brood year escapements were poor.
Coastal Areas 3 to 6	2/3	Stocks generally depressed but stable and this pattern is expected to continue. Poor quality assessments except at Kwinamass and Khutzeymateen rivers.
Nass	3/4	Average return expected (pending detailed review of the 2007 return age structure).
QCI	3/4	Stock appears stable at relatively high levels.
Skeena	3/4	Average return expected (pending detailed review of the 2007 return age structure).
Alsek	2/3	Brood year escapements were within what is considered to be the optimal range. Based on the historical stock recruitment relationship, an above average run is expected. However, it should be noted the brood year escapements are similar to those which produced the 2006 and 2007 returns which were the lowest and second lowest respectively on record due to poor survival. Hence there is much uncertainty over the 2008 run outlook.
Stikine	3	This stock was subjected to directed commercial fisheries in 2005 through 2007 as a result of a Canada/U.S. agreement reached in 2005 under the Pacific Salmon Treaty. Brood year escapements for 2008 were within/above the target range. The 2008 Transboundary Technical Committee sibling-based forecast of approximately 46,100 large Chinook suggests production may be average to below average but above the trigger for conducting a directed fishery. Under the new fishing regime, a directed Canadian commercial fishery will occur again in 2008. Once inseason projections become available (likely starting the third week in May), the fishery will continue providing run projections are greater than 24,500 large Chinook salmon.
Taku	2	Although brood year escapements were within the target range, the Transboundary Technical Committee pre-season forecast of 39,400 large Chinook, based on sibling analysis, is below the threshold for conducting directed Chinook fisheries, i.e. 42,400 large chinook. At this time, it appears that only a very limited assessment fishery will be conducted initially to gather data upon which to base inseason run size projections. If in-season projections exceed 42,400 large chinook salmon, directed fisheries may be allowed. In-season projections are not expected to be available until after May 18. As on the Stikine River, management will be directed by the terms of the Canada/U.S. agreement reached in 2005 under the PST.

Species/Stock	Outlook status	Comments
Yukon	2/3	A total run of 80,000-111,000 Canadian-origin Yukon River Chinook salmon is expected in 2008, a below average run. Until 2007, as a result of increased marine survival and more precautionary management particularly in Alaska, spawning escapements generally recovered from the poor runs observed from 1998 to 2000. The estimates of the total upper Yukon spawning escapements from 2001 to 2003, the three primary brood years contributing to the 2008 run, were close to, or exceeded, the upper end of the escapement goal range for rebuilt stocks of 33,000-43,000 Chinook salmon. However, total production has not yet returned to the levels observed prior to 1998. The 2007 run was unexpectedly weak and conservation measures were required- i.e. there were no commercial or domestic fishery openings and Chinook retention was varied to zero in the recreational fishery. If the factors that contributed to the weak 2007 run persist, fishing opportunities may also be limited in 2008.
<b>Coho</b>		
Mid/upper-Fraser	1	2007 returns were better than recent levels, and mainly exceeded brood escapement levels. Rebuilding will continue to be affected by marine survival, which continues to be poor but may be improving.
Thompson	1	2007 returns were similar to brood escapement levels in the North Thompson, but failed to meet brood levels in other areas. Rebuilding will continue to be affected by marine survival, which continues to be poor but may be improving.
Lower Fraser	1/2	Escapements in 2007 were poor to fair even with the improved marine conditions in 06-07. Rebuilding will continue to be affected by marine survival, which continues to be poor but may be improving. The 2007 hatchery marine survival was higher than forecast. The 2008 marine survival is forecast to be the same as 2007 at 1.3%
WCVI	2	2007 returns were less than forecast but higher than the 2006 return. Hatchery and wild marine survivals were 2.0% and 2.2%, respectively. Forecast marine survival for 2008 is 0.7% (hatchery) and 3.8% (wild).. Due to continuing low marine survivals the Outlook status has been decreased from category 3 to category 2.
Area-12	2/3	Preliminary marine survival (4%) at Keogh River indicates a slight improvement in marine survival over 2007. In 2007, Keogh smolt production was slightly higher than 2007 and close to the historic average production. Expectations are for returns similar to the last 3 years.
Area-13 North	2	Preliminary data for 2007 shows a significant improvement in survival from 2006. Abundance remains low and expectations are for levels similar to the past 3 years.
Georgia Strait	1	2007 returns were higher than forecast but still at low levels. Marine survivals for hatchery stocks ranged from 0.3% to 0.7%. Marine survival for the wild indicator (Black Creek) was 2.6%. These survival rates are at replacement level over the brood year. The 2008 forecast, using time series models, is for a decrease in marine survival from 2007. Hatchery stock marine survivals are forecast to decrease to 0.2% to 0.3% and wild stocks are forecast to decrease to 1.7%
Area-7-10	2/4	The outlook is very uncertain, survivals have been poor for the last two years. Management plans will rely on in-season abundance data.
Area 5/6	2/4	Stocks continue to rebuild in Area 6. Area 5 not assessed (no data).
Area-3	3/4	Strong return is expected from relatively abundant brood year spawners, and a recent pattern of variable but relatively good survival.
QCI-E	3/4	Assessments poor since 2002, outlook status based on previous assessments.
QCI-N	3/4	Assessments poor since 2002, outlook status based on previous assessments.
QCI-W	3/4	Assessments poor since 2002, outlook status based on previous assessments.
Skeena	3/4	Outlook is good for the middle and upper Skeena stocks, as they continue to around



Species/Stock	Outlook status	Comments
		a higher abundance in recent years. Outlook for lower Skeena tributaries is uncertain, based on poor quality assessments.
Skeena – high Interior	2/3	Stocks continue to fluctuate around a higher abundance in recent years.
Alsek	2/3	A below average run is expected based on low weir counts in in the Klukshu River 2004 and 2005 and recent poor survivals.
Stikine	3	An ABM regime has not yet been developed for this stock. Under the current PST arrangements, Canada is permitted to harvest 5,000 coho in a directed fishery. Reliable brood year escapement data is limited and available information is contradictory – extrapolated test fishing indices were above average, yet results from limited aerial surveys were below average. Marine survival of coho salmon in other nearby locations (Taku River, SEAK Hatcheries) was well below average in 2007. If this continues in 2008, a below average run can be expected
Taku	2/3	Excluding 2007, favorable marine survival combined with low exploitation resulted in large in-river run sizes and spawning escapements since 2000. However in 2007, the run was well below average as a result of marine survival being at the lowest level recorded (smolt-to-adult survival of 3.7% compared to 8.7% average). For 2008, a below average run of approximately 111,500 coho is expected based on the estimated smolt abundance in 2007 (1.3 million which was below average), combined with recent smolt-adult survival data. If marine survival observed in 2007 continues in 2008, the run size may be less than half this prediction. Under the current PST, Canada is permitted to harvest 3,000-10,000 Taku coho salmon in a directed fishery.
Yukon	ND	Little is known about the stock status within Canadian portions of the Yukon River drainage. Harvest data from the U.S. portion of the drainage indicates spawning abundance decreased since 1984-91 but has recently been increasing. The general sense in Alaska is that exploitation is low and has been influenced by conservation actions to protect co-migrating fall chum particularly during 1998-2004.
<b>Pink</b>		
Fraser – Even	ND	There is no Fraser Pink salmon run in even years, with the exception of small numbers of pinks of unknown origins. Therefore, no quantitative forecast is available.
Squamish - Even	ND	No qualitative assessment information is available.
WCVI-Even	ND	No quantitative assessment information is available for this stock.
Area-11/13-even	2/3	2007 returns improved slightly over the brood returns in 2005. 2008 is typically the dominant cycle run and returns in 2006 were depressed throughout the area and was attributed to poor marine survival in the 2005. Survival of juvenile salmon entering the sea in 2005 affected pink, coho, sockeye and Chinook salmon throughout the Pacific Region. The parental brood in 2006 was the second lowest return in recent cycle years and well below the historic average escapement. Historically, the mainland inlets populations have been highly variable but expectations for 2008 would be low to near target abundance.
Georgia Strait-west	2/3	Low to near target returns expected. Good brood year escapement (2005) to Puntledge 75,000 and Englishman 5,000. Few systems surveyed. 2007 Tsolum River pink return was less than brood year
Georgia Strait - east	2	Lang and Sliammon (enhanced systems) appear stable at low abundances (<1,000), and Deserted Creek was 2,500.
Area-7/10 Even	3	2006 brood year escapements were generally poor. Expect below average return.
North Coast Areas-3/6 Even	3	2006 brood year escapements were generally poor. Expect below average return.

Species/Stock	Outlook status	Comments
QCI- Even	3	2006 brood year escapements were generally poor. Expect below average return.
<b>Chum</b>		
Fraser River	3	Quantitative forecasts are not prepared for Fraser chums (catch-by-stock and escapement info is limited). The largest contributing chum age class is 4 years (~70%). The 2004 brood year (age-4) escapement for assessed populations (2.6 M) was above the recent average (1998-2007 average: 2.1 M). Since chum salmon are immediate fry migrants, poor ocean conditions in 2005 should result in reduced marine survival and below average returns of age-4 chum in 2008. Age-3 and -5 y brood year escapements are ~50% below average, respectively, in 2005 (1.3 M) and 2003 (1.5 M). In combination, the Age 3-5 return in 2008 is likely to be below average.
WCVI	2/3	Brood year (2003) escapements were average or above average in most areas. Assessment ongoing, but most returns appear lower than expected.. Nitinat returns are under the escapement target and chum escapement to NWVI rivers was extremely poor.
Johnstone Strait area and mainland inlets (Area-11-13)	3	2007 returns appear below average. The dominant year class (4 year old) associated with study area chum contributing to the 2008 return outmigrated to the ocean in 2005. Information on coho and pink (2006 returns) and sockeye (2007 returns) have demonstrated that marine survival in 2005 may have been compromised. Taking that into account along with lower than average 3-year old catch composition in the Johnstone Starit fisheries (preliminary results) abundance to the Studay Area may be blow average to average for 2008. 2007 summer-run returns demonstrated low returns in both Area 12 Mainland Inlets (Ahnuhati and Viner) and Bute Inlet (Orford River, Area 13). Summer run parental brood returns were low except for the year that would contribute to the 3-year old components. Those factors contribute to the below average expectations assigned to summer run chum in Area 12 and 13 for 2008.
Georgia Strait	3	Brood year (2004) escapements were low. Survival rates appear lower than average, and preliminary 2007 returns were low and variable. A below average return is forecasted, however, chum forecasts remain highly uncertain. Limited fishing opportunities are expected.
Coastal Areas 5/6	1/4	Low returns expected to areas other than Kitimat. Long term widespread decline among small and medium wild stocks. Good return of enhanced fish expected at Kitimat as well as 'wild' chum from a strong brood year escapement
QCI	2/4	Variable brood year escapements may result in local surpluses.
Skeena-Nass	1/2	Poor returns expected. Brood year escapements relatively poor. Long term widespread decline among wild stocks.
Area-7-10	3/4	A good return is expected from average to abundant brood year escapements for areas 7 -10.
Yukon	3	This stock group includes upper Yukon River populations (excluding Porcupine drainage stocks). Spawning escapements have exceeded the targets since 2002; this has been attributed to reduced in-river exploitation and improved marine survival. Escapements in 2003 and 2004, the principle brood years contributing to the 2008 run, were well above the minimum goal established for a rebuilt stock. Based on the excellent brood year escapements, an above average run is expected.
Porcupine (Yukon)	3	This stock group includes all stocks located within the Porcupine River drainage, a major tributary of the Yukon River. The principle stock, the Fishing Branch River which is annually assessed via an enumeration weir, had depressed runs from 1997 to 2003. The 2004-2006 runs exceeded preseason outlooks and escapements having been rebuilding. As a result, an average to above average run is expected. The Yukon River Panel has recommended an interim management escapement goal

Species/Stock	Outlook status	Comments
		range for Fishing Branch chum salmon of 22,000-49,000 for 2008.
Taku	2	The stock has been depressed since 1991, although little information is available. The inriver run abundance index for the primary brood year was low but similar to the recent 10-year average. Non-retention provisions are expected to continue.

# CITATION

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