

PACIFIC SALMON OUTLOOK PACIFIC REGION 2007



2007 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	Stock is (or is forecast to be) less	Directed fisheries are unlikely and there
	concern	than 25% of target or is	may be a requirement to avoid indirect
		declining rapidly.	catch of the stock.
2	Low	Stock is (or is forecast to be)	Directed fisheries are uncertain and likely
		well below target or below target	to be small if permitted. Allocation policy
		and declining.	will determine harvest opportunities.
3	Near Target	Stock is (or is forecast to be)	Directed fisheries subject to allocation
		within 25% of target and stable	policy.
		or increasing.	
4	Abundant	Stock is (or is forecast to be)	Directed fisheries subject to allocation
		well above target.	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 2007

A total of **93** stock groups were considered and outlooks were provided for **89** of them. **Forty** stock groups are forecast to be at or above target abundance (category 3-4), while **18** (**3** Chinook, **4** coho, **3** chum and **8** sockeye stocks) are forecast to be of some conservation concern (category 1, 1/2, 1/3, 1/4). For clarity some adjacent stock groups have been grouped in the following table where their outlooks were similar.

Species/Stock	Outlook status	Comments
Sockeye		
Okanagan	2	The forecast is for a return of 20,700 sockeye to the Okanagan River, which is below the brood year return but very near the recent cycle line average.
Early Stuart	1	The forecast is for a return of 45,000 sockeye. Cycle year escapements have decreased by 91% over the last four generations, and the 2003 brood year escapement (13,000) was only 54% of the 1999 escapement (24,000) and 26% of the long term cycle average escapement (52,000).
Early Summer – North Thompson	3	The forecast is for a return of 200,000 sockeye, including Raft, Fennell and the North Thompson mainstem. The 2003 brood year was the largest cycle year escapement to the system on record, and it was over 3 times greater than both the 1999 escapement and the recent cycle average. Improved visibility as a result of low water, as well as increased survey effort (extension of survey period) likely accounted for the record escapement observed in the North Thompson River mainstem in 2003 (24,000) which was more than 3 times the previous record for all cycle years (7,500). The 2003 escapements to Raft (10,000) and Fennell (9,000) were also well above 1999 levels.
Early Summer – South Thompson	3	The forecast is for a return of 48,000 sockeye to Scotch Creek and 188,000 sockeye to Seymour River (total of 267,000 to the system). The 2003 brood year escapement doubled at the Seymour River relative to 1999 levels; however, escapement to both systems remained similar to their respective cycle averages.
Early summer – upper Fraser	2	The forecast is for a return of 94,000 sockeye, including Gates, Nadina and Bowron. Although the brood year (2003) escapement doubled the previous cycle escapement in the Gates system, both the Nadina and Bowron continued their downward trends relative to the brood observed over the last three and two generations, respectively. All three systems fell below the recent cycle line averages by 10%, 90% and 48%, respectively.
Early Summer – lower Fraser	3	The forecast is for a return of 71,000 sockeye. Cycle year escapements have increased dramatically over the last two generations. The 2003 brood year (78,000) was double the 1999 escapement and well above the long term cycle average escapement (28,000).
Summer – Chilko	4	The forecast is a return of 1.71 million sockeye. The 2003 brood year escapement (612,000) was only 69% of the 1999 escapement (892,000), but remained well above the long term cycle average (375,000).
Summer – Late Stuart	2/3	The forecast is for a return of 159,000 sockeye. The 2003 brood year escapement (38,000) was only 62% of the 1999 escapement (62,000), but remained just above the recent cycle year average of 36,500.
Summer – Nechako	4	The forecast is a return of 255,000 sockeye. The 2003 brood year escapement (78,000) was only 57% of the 1999 escapement (138,000) and 72% of the long term cycle average (108,000).

Species/Stock	Outlook status	Comments
Summer – Quesnel	3	The forecast is for a return of 1.24 million sockeye. Returns in 2007 represent the first off-cycle year in this system. Similar to the other cycle years, the 2007 cycle has also experienced remarkable growth since the early 1990's, however recent returns on the dominant (2005) and sub-dominant cycles (2006) have 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 4,000 sockeye. The 2003 brood year escapement (2,000) was the lowest on record for this cycle year; it was only 16% of the 1999 escapement and only 8% of the cycle year average (24,000). 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 planned for 2007 include a captive brood stock program, pikeminnow removal, milfoil control, and biophysical studies to assess the quality of spawning habitat.
Fall – Portage	2	The forecast is for a return of 39,000 sockeye. Cycle year escapements have been trending downwards over the last three generations. The 2003 escapement (5,000) exhibited a 22% decrease in abundance relative to 1999 (6,500) and a 40% decrease relative to the recent cycle average (8,500). 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	4	These stocks are in their sub-dominant cycle year in 2007. The forecast return is for a return of 994,000, however concerns continue with entry timing related mortality for all Fraser Late Run stocks. Escapement on this cycle has remained steady over the last three generations at an average of 385,000 spawners.
Fall – Birkenhead	4	The forecast is for a return of 543,000 sockeye. The 2003 brood year escapement was the second largest on record for this cycle (310,000), over six times greater than the 1999 escapement (49,500) and four times the long term cycle average (78,000). This system experienced severe flooding in the fall of 2003, which may have impacted egg-to-fry survival to an unknown degree.
Fall – lower Fraser	4	The forecast is for a return of 22,000 sockeye to Harrison River and 416,000 sockeye to Weaver Creek. The 2003 brood year escapement to Weaver Creek (50,000) was the third largest cycle escapement on record, 1.4 times greater than both the 1999 escapement and the cycle year average, while escapement to the Harrison (8,600) remained similar to the 1999 level but below the cycle average (13,000).
Somass	1/2	The expectation for Somass sockeye is well below the 1980 to 2005 average of 760,000. 2006 returns consisted of 3,000 jacks (age-3) which is less than 10% of the long term average and escapement was ~185,000. The 100,000 age-4 returns were well below the long term average of 260,000. These brood years experienced poor survival, and indicate low age-4 and -5 returns in 2007.
Henderson	1	Recent escapements were very low, despite ongoing enhancement efforts and additional enhancement efforts are being considered. 2006 escapement increased slightly from recent years, but escapements in 2002 and particularly 2003 (brood years contributing most to 2007 returns) were 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	2006 returns appear extremely varied. For many of the small Johnstone Strait stocks assessment data are sparse, but some stocks continue to be of concern (Village Bay) while others appear low to stable (Heydon Creek). For 2006, Nimpkish returns are below expectations, but an anticipated stronger age-5 component will contribute mainly to the 2007 return (due to an abundant return in

Species/Stock	Outlook status	Comments
		2002). 2007 expectations are for low and stable abundances with some stocks of concern.
Sakinaw	1	Three fish entered the lake in 2003, 100 in 2004 and 27 in 2005. In 2006 there was one female sockeye recorded entering the system. This was not unexpected as only 142 smolts were counted in spring 2004. The female was hatchery origin, as were 39 of the smolts in 2004. In 2007 there will likely be no returning sockeye as 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.
Area 7-10	2/3	The outlook is uncertain and final forecasts are not yet available. 2006 returns were below forecast for Rivers and Smith Inlet and suggest a break in the recent trend of improved marine survival. 2006 escapement age data are not yet available for the quantitative forecast. 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	4	Poor return forecast for age-4 fish based on poor jack returns. Above average age-5 return expected from strong age-4 returns.
Skeena wild	1/4	Non-Babine sockeye status continues to be variable.
Nass	2/4	Recent good aggregate returns are expected to continue. Stock specific status of non-Meziadin sockeye uncertain.
QCI	2/4	Status uncertain for some systems.
Alsek	3	Average run expected based on brood year escapements. However, both early and late runs have declined recently and survivals are below average.
Stikine-wild	3/4	Stikine sockeye had been declining since 1995; however major improvements in production occurred from 2002 to 2006, indicating 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	Brood year escapement was above target. 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.
Chinook		
Early spring – upper & mid-Fraser, North Thompson	1	Populations of concern are upper Chilcotin, Westroad, Cottonwood, and Chilako rivers. Continued poor escapements observed in 2006 with escapements less than 50% of brood year escapements (similar to the pattern observed in 2005). No indicator stock.
Late summer – South Thompson	4	2006 returns were generally well above brood year escapements with highest ever observed in South Thompson (>100,000) and Lower Adams. Indicator is Lower Shuswap.
Spring – upper & mid-Fraser, North Thompson	2	2006 returns were generally about 50% of brood year escapements. Indicator is Dome Creek.
Summer – upper & mid-Fraser, North Thompson	2/3	2006 returns were generally about 50% of brood year escapements. Nechako was only significant departure, with high escapement numbers produced from the high escapement in 2001. Brood abundances were good but current survivals appear low. No indicator.
Spring – lower Thompson	1/2	Very poor returns in 2005 and 2006. Continued major decline in escapements from brood year, with all stocks at half or below half of brood year escapement. No indication of change in trend. Indicator is Nicola.

Species/Stock	Outlook status	Comments
Fall – lower Fraser natural	2	The 2006 adult spawning escapement (61,000) was below the escapement goal range and near its forecast (64,000). Expectations in 2007 are for a slightly below target spawning escapement (65,000) after considering harvest rates associated with recent fisheries. The main brood year (2003) had record high spawning escapement (~250,000). However an unusually large flood coincided with the peak spawning period in 2003, and while the overall impact on production is unclear, after the water receded many spawning redds were dewatered. Further, very few age-2 fish spawned in 2006, indicating very low recruitment for the 2004 brood year.
Fall – lower Fraser hatchery	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 returns consist mainly of Chilliwack Hatchery releases. The 2006 adult spawning escapement (48,000) was below the escapement goal range and below the forecast. Expectations in 2007 are for a spawning escapement (42,000) near the 1985-2006 average, after considering harvest rates associated with recent fisheries.
Early spring – lower Fraser	2	The preliminary 2006 Birkenhead River escapement is estimated at ~1,250 adults. This is significantly greater than the 2001 brood year estimate (703 adults) and much greater than the previous 10-year average (561). In 2005, estimated escapement was unusually large as well (1,491 adults). Previous to 2005, the trend in escapement was down. Returns in 2007 will be predominately from the 2002 escapement of about 512 adults.
Summer – lower Fraser	3	Preliminary escapement to Maria Slough in 2006 is very low (<50 adults). Extremely low water levels left much of the spawning area inaccessible to returning adults. Escapement in 2007 will be predominately returns from brood years 2004 (not assessed) and 2003 (752 adults). Expectations for 2007 are for near target abundance levels. Future outlooks will have to reflect the poor productivity from the 2006 brood.
WCVI-hatchery	4	Abundant returns are expected based on anticipated strong returns of age-4 and -5 fish. Poor survival from the 2004 brood suggests a low age-3 component. A high proportion of female returns are expected.
WCVI-wild	2	Escapements appear to have increased slightly in 2006 relative to 2005. Age compositions are currently unavailable. A similar return is expected for 2007.
Johnstone Strait area including mainland inlets	2/3	Preliminary 2006 returns to the Quinsam River hatchery indicator show a continued stabilization of the return. Escapement monitoring is ongoing at this time. A similar return is expected for 2007.
Georgia Strait Fall (wild and small hatchery operations)	1	Outlook is for a stock of concern. Extended summer drought conditions hampered fresh water entry in 2006. Returns to the Cowichan River (indicator system) were the lowest on record. 2007 returns are expected to be very low due to the continuing low ocean survival and lack of hatchery production from brood year 2004 (entire hatchery production died during a power outage). Returns to Chemainus, Englishman and Nanaimo rivers are also less than 2005.
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.
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		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 a near target to abundant return.
Area 9-10	2/3	Wannock River age-4 returns are from a poor brood year, which may result in a below average return. The spring-run stocks including the Owikeno tributary stocks and Chuckwalla/Kilbella are expected to be similar to recent years.

Species/Stock	Outlook status	Comments
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 2006 return age structure).
QCI	3/4	Stock appears stable at relatively high levels.
Skeena	3/4	Average return expected (pending detailed review of the 2006 return age structure).
Alsek	2/3	Brood year escapements were within what is considered to be the optimum range which would leave one to expect an average to above average run in 2007. However, the brood year escapements are similar to those which produced the 2006 run which was the lowest on record due to poor survival.
Stikine	3	This stock was subjected to directed commercial fisheries in 2005 and 2006 as a result of a Canada/U.S. agreement reached in 2005 under the Pacific Salmon Treaty. Brood year escapements for 2007 were within/above the target range, however sibling-based forecast is about half of that for 2006 but above the trigger for conducting a directed fishery. Under the new fishing regime, Canadian and US commercial fisheries will occur again in 2007 but below average production is expected.
Taku	2	Although brood year escapements were within the target range, the pre-season forecast, based on sibling analysis, is below the threshold for conducting directed chinook fisheries. Hence, only a very limited assessment fishery will be conducted initially to gather data upon which to base inseason run size projections. If inseason projections exceed the trigger for allowing directed fishing opportunities, these will follow PST arrangements established in 2005.
Yukon	3	Escapements have generally recovered from the poor numbers observed in 1998 through 2000; this is attributed to increased marine survival and precautionary management in Alaska and Canada. However, total production has not yet returned to levels observed prior to 1998. Estimates of the total upper Yukon spawning escapements in 2001 to 2003, three contributing brood years for the 2007 run, were all within the upper part of the escapement goal range for rebuilt stocks. An average run is expected.
Coho		
Mid/upper-Fraser	1	2006 returns were very poor and below the brood year escapement for the third year. Rebuilding is influenced by marine survival, which continues to be poor. The 2007 forecast is for continuing very low returns.
Thompson	1	2006 returns were very poor and below the brood year escapement for the third year. Rebuilding is influenced by marine survival, which continues to be poor. The 2007 forecast is for continuing very low returns.
Lower Fraser	1/2	2006 returns were very poor and below the brood year escapement. Rebuilding is influenced by marine survival, which continues to be poor. The 2007 forecast is for extremely low marine survival.
WCVI	2/3	2006 returns to the wild indicator were less than brood and the lowest on record. 2006 hatchery jack (age-2) returns indicate the poor survival rates experienced by the 2005 smolts (0.5%) are not expected to repeated for the 2006 smolts (return as adults in 2007, forecast survival 3.6%). Expectations are for higher abundance in 2007 relative to 2006.
Area-12	2/3	Preliminary marine survival (3%) at Keogh River indicates lower survival than 2005. In 2006, Keogh smolt production was slightly lower than 2005 and just below the historic average production. Expectations are for returns similar to the last 3 years.
Area-13 North	2	Preliminary data for 2006 shows a significant reduction in survival from 2005. Abundance remains low and expectations are for levels similar to the past 3 years.

Species/Stock	Outlook status	Comments
Georgia Strait	1	The forecast is below replacement level (similar to 2006). Extended summer drought in 2006 created a substantial delay in entry to freshwater for most systems. The 2006 observed ocean survival was the lowest on record, 1.5% for wild stocks and 0.1-0.2% for hatchery stocks. Poor ocean survivals are forecast to continue.
Area-7-10		The outlook is very uncertain. Brood year escapements were abundant, but the brood year survival is uncertain, although the brood year survival for 2006 return was very poor. Management plans may 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 abundant brood year spawners, and a recent pattern of variable but 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 rebuild. However, outlook for lower Skeena tributaries is poorer, based on poor quality assessments.
Skeena – high Interior	2/3	Stocks continue to rebuild.
Alsek	2/3	Average run expected based on weir count in 2003. However a below average return of three-year-olds is expected.
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. An above average run is expected; escapements in 2003 and 2004 appeared favorable, with the latter exceeding the escapement goal range.
Taku		Favorable marine survival in last 4-5 years combined with low exploitation has resulted in large in-river run sizes and escapements. An average run is expected based on the estimated smolt abundance in 2006 (which was about average), combined with recent smolt-adult survival data. Under the current PST, Canada is permitted to harvest 3,000-10,000 fish in a directed fishery.
Yukon		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.
Pink		
Fraser – Odd		The forecast return (19.6 million pink) is above the long term average of 12 million. The abundance of outmigrating fry in the brood year (615 million) was double the long term average of 370 million (1961-2005). The most recent spawning escapement program occurred in 2001.
Squamish - Odd	ND	No qualitative assessment information is available.
WCVI-odd		No quantitative assessment information is available for this stock.
Area-11/13-even	2/3	2006 returns appear lower than 2004. This reduced survival appears more widespread and regionally-based than localized in the Area 11/13. 2007 is typically the off cycle run and returns in 2005 were similar to brood levels in 2003. Historically, the mainland inlets populations have been highly variable, with expectations of low to near target abundance in 2007.
Georgia Strait-west		Low to near target returns expected. Good brood year escapement (2005) to Puntledge 75,000 and Englishman 5,000. Few systems surveyed.
Georgia Strait - east	2	Lang and Sliammon (enhanced systems) appear stable at low abundances (<1,000), and Deserted Creek was 2,500.

Species/Stock	Outlook status	Comments
Area-7/10 Odd	3/4	Strong brood year escapements to Areas 7 and 8 are expected to provide directed fisheries. Very large pink escapements to Rivers Inlet in the brood year may provide a strong return to Rivers Inlet. Area 10 brood year spawners were low. Note of caution that 2006 returns indicated very poor brood year survivals.
North Coast Areas-3/6 Odd	3/4	Good return expected from strong brood year escapement. Odd year stocks have been abundant but variable over the last decade. Note of caution that 2006 returns indicated poor brood year survivals.
QCI- Odd	ND	Off cycle year for QCI pink.
Chum		
Fraser River	4	Quantitative forecasts are not prepared for Fraser chums (catch-by-stock and escapement info is extremely limited). The largest contributing age class is age-4 (~80%). The 2003 brood year escapement for assessed populations (1.3M chum; 92% in the Harrison River) was below the recent average (post 2001 average: 1.7 M). Although extreme flooding occurred in 2003 (e.g. Harrison & Chilliwack), the timing was largely before any significant spawning occurred. Age-3 and -5 y brood year escapements are, respectively, 1.5 x higher than average in 2004 (2.4 M) and similar to average in 2002 (2.0 M).
WCVI	3	Brood year (2003) escapements were average or above average in most areas. Survivals appear average in most areas and above average returns are expected to Nitinat, whereas at Nootka returns are expected near the recent year average. Fishing opportunities are expected.
Johnstone Strait area and mainland inlets (Area-11-13)	3/4	2006 returns appear average. Combining the average to above average brood returns encountered in 2002, 2003 and 2004, expectations are for average to above average returns. 2006 summer-run returns vary with poor returns to Bute Inlet (Area 13) and good returns in Area 12 Mainland Inlets (Ahnuhati and Viner).
Georgia Strait	3	Brood year (2003) escapements were average. Survival rates appear average, although preliminary 2006 returns appear low. Forecasts are highly uncertain. Some 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	1/3	Poor returns expected. Brood year escapements relatively poor. Long term widespread decline among wild stocks.
Area-7-10	3/4	An abundant return is expected from average to abundant brood year escapements for areas 7 and 8. Area 9 and 10 brood year escapements were abundant.
Yukon	3	This stock group includes upper Yukon River populations (excluding Porcupine drainage stocks). Spawning escapements have exceeded targets since 2002; this has been attributed to reduced in-river exploitation and improved marine survival. Escapements in 2002 and 2003, the principle brood years contributing to the 2007 run, were well above the minimum goal established for a rebuilt stock.
Porcupine (Yukon)	2	This stock group includes stocks with the Porcupine River drainage, a major tributary of the Yukon River. The main indicator stock, Fishing Branch River, had depressed runs from 1997-2003. Although the 2004-2006 runs exceeded preseason outlooks, the stock has not achieved the lower end of the escapement goal range since 1996 except in 2005, when the upper end of the target range was met. If the recent improving trend continues, some fishing opportunities may occur.
Taku	1	The stock has been depressed since 1991, although little information is available. Non-retention provisions are expected to continue.

CITATION

Fisheries and Oceans Canada. 2024. Pacific Salmon Outlook, Pacific Region, 2007. 1-9 pp.

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

© His Majesty the King in Right of Canada, as represented by the Minister of the Department of Fisheries and Oceans, 2024.

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