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Abundance of Adult Hatchery and Wild Salmon by Region of the North Pacific

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Introduction

This report provides data tables that were used in support of the salmon MALBEC project, which is a North Pacific-scale study to support salmon conservation planning (Mantua et al. 2009). The data tables were also used in support of a manuscript that examined abundance trends of hatchery and wild pink, chum, and sockeye salmon throughout their range in North America and Asia (Ruggerone et al. 2010).

Methods

To estimate the total annual abundance of adult pink, chum, and sockeye salmon in the North Pacific Ocean, we compiled all available annual data for the period 1952–2005 on catches, spawner abundances, harvest rates, and abundances of wild and hatchery-released adults of these species from South Korea, Japan, Russia, Alaska, British Columbia, and Washington (including the Columbia River). The resulting data series were aggregated into 135 major pink, chum, and sockeye salmon population groups (Mantua et al. 2009) within 19 regions (Fig. 1). Such large aggregations had the benefit of greatly reducing problems of poor stock identification in catches that would, for example, incorrectly allocate fish from one population to another if the spatial extent of units was too small.

Our goal was to produce absolute total abundance estimates of wild and hatchery salmon for each region so that abundance could be compared across regions and time. The extent and quality of data collection programs varied among regions of the North Pacific and in some areas spawner abundance had to be estimated indirectly from harvest data, as described later. In general, the methods of data collection and verification were similar across regions.

Hatchery fish were not always segregated from wild fish in the reported data. When possible, we utilized government estimates of wild versus hatchery salmon abundance in the returning run, catch, and spawning population, but typically we had to estimate adult hatchery fish and remove them from total catch. We did not attempt to identify the proportion of river spawners represented by hatchery strays because few data were available. Therefore, hatchery estimates were low and wild salmon spawner estimates were high to the extent that hatchery salmon stray and spawn in streams.

Approaches to estimating wild salmon spawner abundances

In many areas, estimates were available for total numbers of adult salmon in the catch and spawning populations. However, in most regions, data on spawner abundances of wild salmon did not extend back to the 1950s, were sometimes intermittent, or often only estimated part of the spawning population. We addressed these issues using a four-pronged approach.

Approach 1. In British Columbia and Alaska, where spawning data were intermittently missing for some stocks within a region but were available for other stocks in the same region, we filled in the missing values by interpolating values from the other stocks within the region (see English et al. 2006). First, the average contribution of each stock to total spawner abundance within the region was calculated by summing average spawner abundances across stocks and calculating the proportion that each stock contributes to this sum. We then summed spawner abundance for each year, skipping stocks with missing data. In the final step, we iteratively scaled the sum of spawner abundances to account for missing data. For each year in which data for a given stock were missing, we expanded the observed spawner abundance by the missing stock's average relative contribution to the total, thus accounting for the missing contribution of that stock. For example, if stock 'X' on average contributed 5% of the region's spawning abundance, then spawning abundance estimates for years where data on stock 'X' were missing would be expanded by 100% / 95% to account for the missing contribution from 'X' in those years. This infilling procedure was used for cases where data were available to cover at least 50% of expected spawning abundance, as measured by the sum of average contributions from each stock. If the data represented less than 50% of expected spawning abundance, then spawning data for that year were considered unreliable and treated as missing altogether.

Approach 2. In some areas of British Columbia and Alaska, annual estimates of spawning abundance were consistently underestimated because coverage of spawning areas was incomplete. In these cases, we used information from area management reports (e.g., Bue et al. 2002, 2008; Geiger and McPherson 2004, Nelson et al. 2005, 2006; Baker et al. 2006; English et al. 2006; Dinnocenzo and Caldentey 2008) and managers (see Acknowledgements) to expand the index counts. These expansions were based on the proportion and relative size of total streams surveyed and the approximate proportion of total spawners counted in the surveyed streams.

Approach 3. In most areas, including Asia, there were years in which spawning abundance could not be reliably estimated, therefore we estimated spawning abundance and total adult abundance from catch data and estimates of harvest rate. In most of these cases, we used a regression of harvest rate (proportion) on $\log_e$(catch) during years for which full data were available to estimate harvest rate as a function of catch (e.g., Rogers 1987). In tests with simulated data, this regression method provided better results than using a simple overall average of observed harvest rates.

Approach 4. In a few areas, which typically involved stocks with low abundances and low fishing effort, we used assumed harvests rates that were based on fishing effort and/or harvest rates of monitored species. For example, in Southeast Alaska, where only 82 of approximately 1,200 chum salmon streams were examined for peak period spawners, we assumed the harvest rate on wild chum salmon was 90% of the rate for pink salmon because many wild chum were captured incidentally in fisheries for pink salmon (Geiger and McPherson 2004; Eggers and Heinl 2008).

The degree of reliance on the four approaches used to address missing or questionable spawning abundance varied among regions, species, and years. Reported total abundance (catch plus spawners) was available for only 24% and 30% of the stock-years in North America and Asia, respectively. Reported catch plus expanded index spawner counts (Approaches 1 & 2) were used in 32% of the stock-years in North America, but this method was not used in Asia. The regression method (Approach 3) for estimating harvest rate was the primary method for 27% and 66% of the stock-years in North America and Asia, respectively, mainly during early years. An assumed harvest rate (Approach 4) was used to estimate total abundance in 18% and 4% of the stock-years in North America and Asia, respectively, largely among relatively small stocks that were incidentally harvested.

Data for sockeye salmon were the most complete and reliable, followed by pink salmon, and then chum salmon. For example, in North America, approximately 48% of total abundance estimates of sockeye salmon were provided by agency reports, whereas only 11% of pink salmon and 10% of chum salmon were reported. In Asia, approximately 70% of annual spawning abundance values were estimated from catch and harvest rate because spawning abundances were typically not available prior to 1992. The aforementioned procedures to estimate total spawning abundance were necessary for comparison of abundance of species and populations across the Pacific Rim.

North American salmon data

The largest portion of data on salmon populations on the west coast of North America came from 120 populations of pink, chum, and sockeye salmon that were previously described in Pyper et al. (2001, 2002), Mueter et al. (2002), Peterman et al. (1998), and Dorner et al. (2008), the latter of which includes the original dataset through the early 2000s. The database was updated with catch and spawning abundance values from recent regional reports, run reconstructions (Starr and Hilborn 1988; English et al. 2006), and data that were not included in those specific populations.

In Alaska, the reported spawner counts for pink and chum salmon were typically annual peak values rather than total estimates, and Approach 2 (see above) was used to estimate total spawner abundance. Spawning abundance estimates were often not available during earlier years and in these cases Approach 3 was used to estimate total spawner abundance, which was then added to catch. Sockeye salmon abundances were typically reported as total abundances for major stocks within each region of Alaska. Estimates or approximations of adult hatchery salmon abundance in Alaska were reported annually, and were subtracted from total salmon estimates when appropriate (e.g., White 2005).

In British Columbia, we supplemented the above data sets with recent run reconstructions of wild salmon (K. English, LGL Limited, Sidney, B.C., Canada, pers. comm.; English et. al. 2004, 2006), which accounted for spawners in unmonitored streams as described previously. In these run reconstructions, sockeye salmon produced from spawning channels were included in wild salmon estimates, whereas chum salmon produced from channels were included with the hatchery salmon. Estimates of returning adult salmon from enhancement facilities in British Columbia were based on annual releases and survival of salmon estimated from coded-wire-tag data, marked fish, or from literature values (e.g., Heard 1991; Bradford 1995; Mahnken et al. 1998; Ryall et al. 1999; RMISD 2009). The mean of annual survival rates was applied when yearly survival values were not available, e.g., ~0.8-1.1% for chum, 3.1% for pink, and 0.2-5% for sockeye salmon fry and smolts. Recent estimates of salmon abundance from the conterminous United States (primarily Washington and the Columbia River basin) were provided by state biologists and Pacific Fishery Management Council reports (e.g., PFMC 2007), but some earlier wild salmon spawning abundance estimates were based on Approach 3.

Asian salmon data

In Russia, we relied upon catch and spawning abundance statistics for each district as provided in annual reports by Russia to the North Pacific Anadromous Fish Commission (NPAFC) beginning in 1992 (e.g., Anonymous 2007a). Spawning abundance estimates in Russia were often based on aerial counts or redd counts (e.g., Sinyakov 1998; Bocharov and Melnikov 2005), but estimates were not available prior to 1992; therefore, Approach 3 and catch reported by the International North Pacific Fisheries Commission (e.g., INPFC 1979) were used for most earlier years. For Kamchatka pink salmon, we used recent run reconstruction estimates dating back to 1957 (Bugaev 2002). These statistics did not account for unreported harvests of salmon (Clarke 2007).

Russian statistics did not identify hatchery versus wild adult salmon, therefore hatchery releases in Russia (W. J. McNeil, August 4, 1976, pers. comm.; Morita et al. 2006; Sharov 2006; Anonymous 2007b) and their assumed survival rates (see below) were used to estimate hatchery production of adult salmon, which was subtracted from total abundance to estimate abundance of wild salmon. Russian hatchery releases prior to 1971 were not available, except for the Sakhalin and Kurile Island region, but they were likely small compared with recent years (Zaporozhets and Zaporozhets 2004). Average survival rates of hatchery chum salmon (range of means: 0.21% to 0.64%) were available from Zaporozhets and Zaporozhets (2004) and N. Kran (Sevvostrybvod, Petropavlovsk-Kamchatsky, Russia, pers. comm.). Survival rates were lower in southern regions of Russia and during years prior to the 1990s when hatchery fish quality was lower. Survival of hatchery pink salmon increased from approximately 1.38% in 1971-1983 to 5.08% in 1989-1997, owing to improved hatchery practices (Tarasyuk and Tarasyuk 2007; Kaev and Geraschenko 2008).

Abundances of Japanese hatchery salmon were largely available from NPAFC documents or other processed reports (e.g., CCAHSHP 1988; Hiroi 1998; Eggers et al. 2005; NASREC 2007). Most production of pink salmon in Japan was previously thought to originate from hatcheries (Hiroi 1998), but recent evidence (e.g., recovery of otolith-marked juvenile and adult pink salmon in rivers, hatcheries and coastal areas, and body morphology) suggests many pink salmon originated from natural spawners (Fujiwara 2006; Miyakoshi 2006; Hoshino et al. 2008). We used estimates of hatchery and wild pink salmon production provided by Morita et al. (2006). Recent evidence indicates Japan also produces some wild chum salmon but estimates were not available (Y. Ishida, Tohoku National Fisheries Research Institute, Fisheries Research Agency, Shiogama, Japan, pers. comm.). The relatively small production of hatchery chum salmon in South Korea was updated from Seong (1998) and included with Japanese hatchery estimates unless noted otherwise (S. Kang, National Fisheries Research Development Institute, Yangyang-gun, Gangwon-do, Korea, pers. comm.). Small numbers of pink salmon return to North Korea, but quantities were unavailable (Kim et al. 2007).

High seas harvests

Annual harvests of salmon in the Japanese high seas fisheries (mothership, landbased, and the more recent fishery in the Russian Exclusive Economic Zone) were reported by Eggers et al. (2005) and updated by M. Fukuwaka, Hokkaido National Fisheries Research Institute, Fisheries Research Agency, Kushiro, Japan, pers. comm. These harvests were relatively high during 1952-1979, averaging 40 million pink, 17 million chum and 8 million sockeye salmon per year. Proportions of mature and immature salmon were reported by Fredin et al. (1977), Harris (1988), Shepard et al. (1968), Myers et al. (1993), and Radchenko (1994). Catches of maturing and immature salmon were converted to adult-equivalent catch estimates based on monthly mortality schedules for each species (Ricker 1976; Bradford 1995). Continent of origin of the high seas salmon catch was reported by Fredin et al. (1977), Harris (1988), and Myers et al. (1993). Some sockeye salmon, and to a much lesser extent chum and pink salmon, harvested in the mothership fishery were from North American rivers. Sockeye and chum salmon originating from North America were allocated to western Alaska; harvests of North American pink salmon averaged less than 25,000 fish per year. The high seas catch of Asian-bound salmon (after removing North American salmon from the total catch) was split into hatchery and wild fish based on the proportion of hatchery versus wild salmon returning to Asia in that year. The proportion of hatchery or wild fish returning to each region was used to allocate the high seas catch to that region. Salmon harvested by Japan in the Russian Exclusive Economic Zone were allocated to Russia.

Results and Discussion

Table 1 provides a legend to interpret abbreviations of regional names used in the data tables. Tables 2, 3, and 4 provide annual regional estimates of wild pink, chum and sockeye salmon. Tables 5, 6, and 7 provide annual regional estimates of hatchery pink, chum and sockeye salmon. Tables 8, 9, and 10 provide annual regional estimates of total pink, chum and sockeye salmon. Values are shown to the nearest 0.1 million or 0.01 million salmon depending on stock abundance.

Cautions regarding data quality

As with previous analyses of such data by Rogers (1987, 2001), Beamish et al. (1997) Eggers (2009), and Kaeriyama et al. (2009), we have had to make many assumptions. However, we believe that the general patterns and trends in abundances across time, regions, and species are likely robust to these assumptions. We urge readers to focus on these broad patterns, rather than on particular year-to-year variations in estimates; the latter may be imprecise. The quality of data for some species in some regions is low. Lower quality data are typically associated with relatively smaller levels of abundance and low fishing effort, e.g., pink salmon in western Alaska.

The data presented here represent a more complete accounting of both wild and hatchery salmon abundances throughout the North Pacific than previous estimates (e.g., Rogers 1987, 2001; Beamish et al. 1997; Eggers 2009, Kaeriyama et al. 2009; Irvine et al. 2009) because we expanded spawner counts where appropriate and accounted for hatchery salmon in all regions. Nevertheless, we caution readers that the quality of our salmon abundance data is variable among species and regions. Estimating stock-specific catch and spawning abundance of wild salmon is difficult, especially in large remote watersheds, but it is much more difficult when hatchery and wild salmon are mixed in the catch and hatchery fish stray to the spawning grounds. However, the key question is, how would the following caveats and assumptions have led to incorrect conclusions about spatial and temporal differences in abundances? In most cases, we believe that errors in our assumptions would have produced more imprecision in year-to-year estimates than consistent bias in one direction or the other. Thus, the general patterns and approximate magnitude of hatchery versus wild salmon in the compiled data are likely valid.

Spawner abundance represents the least accurate component of total salmon abundance because only a portion of total spawners is typically enumerated. For example, in British Columbia, observed spawner counts were expanded by approximately 1.7x for pink salmon (where x is the field estimate of abundance of spawners), 2.7x for sockeye salmon (often smaller populations), and by 4x for chum salmon (e.g., English et al. 2006). In Alaska, similar expansion values were used for pink and chum salmon, whereas most large stocks of sockeye salmon were close to complete counts. Price et al. (2008) noted that the quality of spawner counts in British Columbia has declined in recent years because fewer streams are now monitored, especially smaller streams whose populations may not be highly correlated with the monitored populations. In Russia, total spawning abundance has been reported by district since 1992, but information on expansion factors was not readily available (V. Svirdov, TINRO, Vladivostok, Russia, pers. com.) and it is not possible to evaluate the potential for error in spawner counts. However, as in British Columbia and Alaska, we suspect effort to enumerate spawning salmon in Russia has declined in response to declining budgets for salmon management.

Numbers of hatchery salmon on the spawning grounds are typically not reported because hatchery fish cannot be identified without a mark for identification (which some hatcheries fail to do) and because spawning salmon, especially pink and chum salmon, are typically enumerated using techniques such as aerial flights that prohibit identification of hatchery versus wild-origin salmon. The degree to which hatchery salmon contributed to regional natural spawning populations in our dataset reflects the ability of harvesters to remove most hatchery salmon in the region (e.g., terminal hatchery harvest area), the ratio of hatchery to wild salmon abundance, distance of the stream from the hatchery, species of salmon and associated degree of straying, and characteristics of the hatchery to attract homing hatchery salmon. As a result of these factors, our dataset overestimates wild salmon abundance and underestimates hatchery salmon production in some regions such as Prince William Sound and Southeast Alaska where hatchery production of pink and chum salmon is high. In these regions, the Alaska Department of Fish and Game (ADFG) has begun investigations to determine numbers of hatchery salmon on the spawning grounds (R. Brenner, S. Moffitt, ADFG, pers. comm.). The influence of hatchery strays on wild salmon counts was greater after about 1980 when hatchery production was relatively high.

Harvest rate estimation was a key approach for estimating total spawners, especially during early years of our dataset when fewer spawner counts were available. Years with low harvest rates could lead to greater error in total salmon abundance. However, in most regions, fisheries were fully developed by the 1950s and harvest rates were often greater than 50%, suggesting that harvest estimates, which are relatively accurate, typically accounted for most of total abundance. Again, even if our estimated harvest rates were imprecise (as opposed to consistently being biased either low or high), this would not change our overall conclusions about regional and temporal trends in abundance. Labor strikes may affect abundance estimates in some regions in some years, but their effect on the abundance trends shown here was likely small because abundances in recent decades were often based on estimated spawners and reported harvests, and because the area influenced by the strike was often small. Less frequently, we used assumed harvest rates, primarily for small, less exploited stocks.

Often, abundance of hatchery salmon in the harvest was not reported by the harvest management agency. We used hatchery abundances reported by the hatchery when possible but we often estimated total abundance of hatchery salmon using survival rate estimates and removed these hatchery fish from the total abundance counts when appropriate. Species-specific survival rates were typically mean annual values for a region because most hatcheries do not estimate survival annually. This approach introduced error to the extent that survival of hatchery salmon varies year to year.

Regardless of these uncertainties in our data, we are confident that the spatial and temporal patterns and relative contributions of hatchery and wild fish in our data are robust. Some of these data have been used in a variety of earlier investigations (e.g., Pyper et al. 2001, 2002; Mueter et al. 2002; Dorner et al. 2008), including a North Pacific-wide simulation study that demonstrated density-dependence in the ocean was an important factor contributing to the observed trends in hatchery and wild salmon abundance (Mantua et al. 2009).

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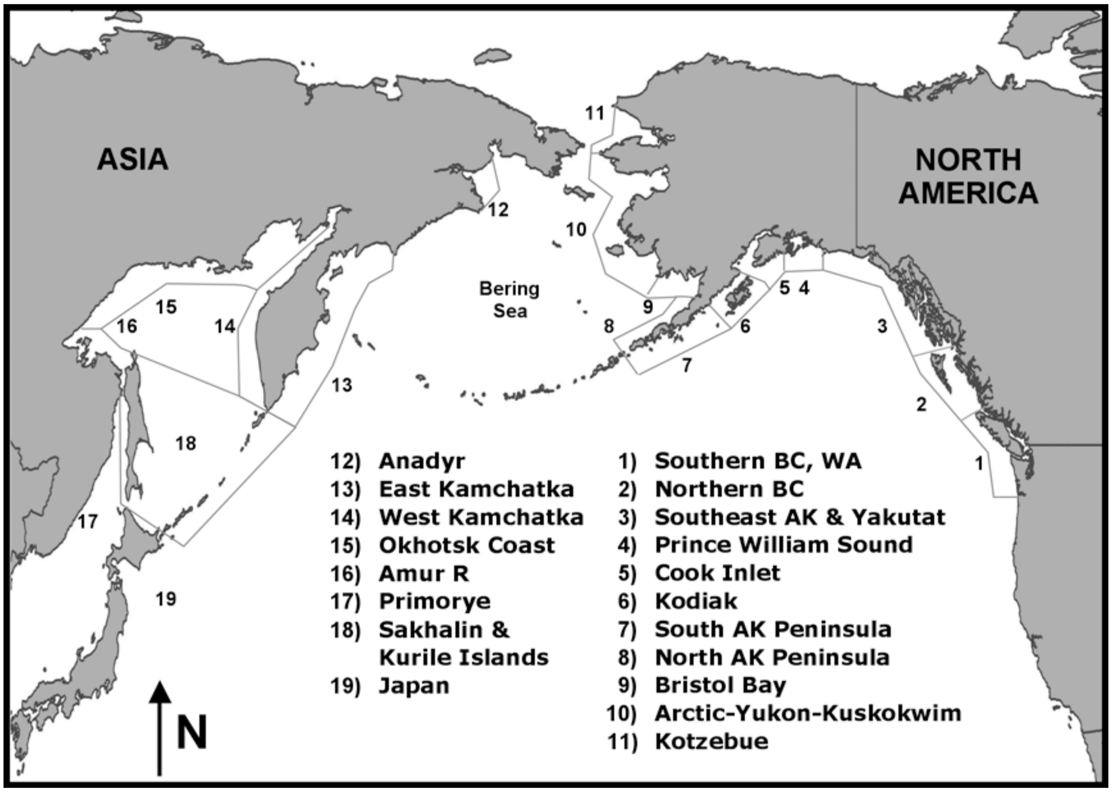

Fig. 1. The approximate geographic locations of regional stock groups. Area 1, Southern British Columbia (BC) and Washington (WA), includes the Columbia River and all areas south of the central coast of British Columbia (~51°N). Area 2, Northern BC, includes central and northern British Columbia. Area 3, Southeast Alaska (AK), includes the Yakutat coast. The Central Alaska region extends from the Bering River (~60°N), which is near Prince William Sound in Area 4, westward to Unimak Island (~166°W), thereby including Areas 4 through 7. Western Alaska includes Areas 8 through 11, i.e., all North American drainages into the Bering Sea from Unimak Island to Kotzebue. Data for East and West Kamchatka (Areas 13 and 14) are separated from data for the Russian mainland and islands (called "Mainland & Islands" here, which includes the Okhotsk coast, Amur River, Primorye, Sakhalin and Kurile Islands, and relatively small runs to the Anadyr). Area 19, Japan includes the islands of Hokkaido and Honshu and small hatchery production in South Korea (not shown).

Table 1. Regional names associated with abbreviations in each of the following tables of salmon abundance.

Abbreviation	Regional name
Japan	Japan & South Korea
M&I	Russia: Mainland & Islands
WKam	Western Kamchatka
EKam	Eastern Kamchatka
WAK	Western Alaska
SPen	Southern Alaska Peninsula
Kod	Kodiak
CI	Cook Inlet
PWS	Prince William Sound
SEAK	Southeast Alaska
NBC	Northern British Columbia
SBC	Southern British Columbia & Washington

Table 2. Abundance (catch and escapement, millions of fish) of "wild" pink salmon returning to regions of Asian and North America, 1952-2005.

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	1.4	26.3	98.1	16.3	5.2	2.7	6.6	4.4	3.4	19.9	10.0	4.9
1953	1.3	44.2	208.6	26.6	0.6	6.0	7.3	1.3	3.2	11.5	3.7	21.7
1954	0.9	46.1	59.6	13.5	5.2	4.8	10.9	4.7	4.3	18.4	5.9	0.9
1955	2.6	78.2	117.7	28.6	0.6	5.6	13.4	2.7	4.3	19.1	7.5	16.7
1956	2.6	103.9	85.5	4.5	5.2	6.0	5.1	3.6	5.9	26.2	10.8	1.4
1957	1.1	66.7	169.0	78.9	0.6	2.7	6.7	0.8	1.5	14.8	8.1	15.4
1958	2.2	104.6	9.6	11.5	5.2	3.6	5.9	4.5	7.7	19.9	7.3	1.8
1959	1.2	66.9	35.4	93.5	0.6	2.6	3.3	0.4	4.3	16.5	4.0	12.4
1960	1.0	38.8	13.0	25.3	5.2	3.8	9.0	3.9	3.0	7.6	12.3	0.5
1961	0.7	36.5	26.8	61.2	0.6	4.2	5.8	0.9	3.5	15.9	11.1	4.5
1962	1.3	17.1	21.1	16.2	4.5	6.7	16.9	7.4	9.9	18.1	55.3	1.2
1963	1.6	42.6	37.2	59.7	0.7	6.6	7.6	0.6	6.1	30.3	10.4	16.7
1964	1.3	20.7	4.5	27.2	3.9	7.6	14.7	8.8	6.3	26.4	16.3	1.3
1965	1.2	81.0	14.4	48.0	0.2	5.6	4.5	0.4	3.3	17.7	7.4	4.6
1966	0.9	40.3	0.8	23.3	5.9	3.0	13.4	5.5	4.1	29.9	19.8	4.2
1967	2.7	82.1	15.2	46.1	0.5	1.2	0.6	1.0	3.5	6.2	3.3	19.9
1968	1.3	34.1	1.4	17.0	11.1	4.7	11.9	6.2	3.6	33.4	32.9	4.6
1969	2.0	108.5	11.1	39.1	1.2	6.8	14.3	0.6	4.9	11.3	2.1	6.0
1970	3.0	22.5	0.5	26.5	3.1	5.1	15.9	2.2	3.9	18.0	17.4	3.0
1971	1.6	93.1	11.9	30.8	0.2	3.6	5.5	1.1	9.4	18.8	4.3	16.2
1972	1.0	45.8	2.4	13.1	0.9	0.3	3.7	1.7	0.8	20.8	25.8	1.3
1973	3.3	102.8	9.4	20.5	0.7	0.5	1.2	1.5	3.7	14.6	4.2	11.4
1974	1.9	64.2	2.8	19.4	6.3	0.9	5.0	1.3	2.0	11.9	14.9	2.5
1975	3.2	99.3	33.9	46.8	0.6	1.1	4.2	2.9	6.1	13.1	3.1	8.8
1976	1.7	81.4	13.2	23.3	5.7	5.1	14.5	3.4	4.1	28.4	16.1	5.2
1977	1.7	105.1	63.6	57.7	0.7	6.1	8.7	3.6	5.7	24.8	9.8	12.5
1978	1.0	81.5	15.5	12.5	22.8	11.0	20.4	4.6	4.3	40.1	21.4	2.2
1979	0.5	71.7	78.6	59.1	2.0	12.6	14.0	5.6	18.7	33.1	6.9	21.1
1980	1.5	97.0	24.3	5.0	12.5	11.4	23.8	4.9	15.2	32.0	12.8	2.4
1981	1.6	72.4	46.6	65.0	2.7	9.3	13.1	6.2	20.2	39.0	10.9	24.9
1982	0.5	51.7	41.0	17.8	8.7	8.9	13.1	2.2	17.5	42.2	7.3	0.7
1983	1.3	89.5	164.5	41.6	1.1	4.2	5.1	2.1	11.9	61.1	21.5	24.3
1984	0.9	29.7	87.2	29.8	9.8	16.9	13.2	2.1	24.6	51.4	15.1	0.5
1985	1.8	120.1	9.8	24.8	0.4	7.0	7.7	1.6	21.3	95.5	19.4	27.1
1986	0.9	37.1	42.0	4.4	2.3	7.8	13.6	4.1	3.0	83.7	33.3	1.7
1987	2.5	92.8	1.7	56.3	0.4	3.7	4.2	0.6	12.7	30.3	15.5	9.0
1988	2.2	31.7	36.5	9.5	8.0	15.7	18.8	2.2	2.1	24.3	35.0	2.6
1989	4.5	96.9	1.6	68.8	0.4	11.6	19.6	1.6	6.9	88.2	16.6	24.5
1990	4.3	56.9	28.0	27.5	6.4	6.4	11.9	1.1	15.1	54.3	29.9	7.2
1991	12.3	147.7	2.8	97.2	0.4	15.5	18.3	0.8	10.3	87.1	26.3	24.7
1992	12.2	97.3	19.3	9.9	5.9	16.8	6.3	1.9	1.6	58.0	22.4	3.3
1993	11.2	100.4	0.6	69.8	1.9	16.6	26.6	0.8	2.4	85.7	7.5	22.0
1994	20.3	111.7	108.6	21.2	15.9	12.7	10.4	1.8	10.7	85.2	6.3	1.5
1995	11.7	90.7	0.5	78.0	0.3	30.8	50.0	1.5	3.8	81.4	12.2	16.9
1996	21.8	88.9	77.4	15.9	6.9	9.2	6.0	0.9	8.1	122.1	23.1	2.4
1997	6.8	124.4	0.8	99.7	0.5	12.2	13.2	1.1	5.0	63.2	6.7	11.0
1998	14.7	76.0	137.6	13.3	7.3	16.4	23.6	1.8	6.0	80.3	8.8	2.4
1999	6.3	111.2	0.1	107.6	0.2	17.6	12.1	0.6	11.1	149.9	11.1	5.7
2000	16.9	118.5	88.9	1.8	4.4	8.6	11.2	1.1	8.2	50.3	13.1	6.5
2001	4.1	117.6	1.4	43.4	0.3	12.5	10.1	0.6	8.9	112.8	18.7	29.0
2002	14.6	78.9	82.4	4.7	4.9	7.8	20.9	2.2	1.2	96.8	15.8	1.1
2003	12.4	135.0	0.7	66.7	1.2	14.3	13.1	0.7	9.0	95.3	20.7	15.3
2004	6.0	40.7	85.3	22.8	13.7	16.6	26.9	5.3	6.5	83.7	7.5	1.6
2005	9.3	160.3	23.9	100.5	5.3	17.0	20.5	4.5	18.2	107.5	17.7	11.4

Table 3. Abundance (catch and escapement, millions of fish) of "wild" chum salmon returning to regions of Asian and North America, 1952-2005. No data: "-".

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	-	19.3	3.7	3.7	4.9	1.8	1.7	1.3	0.8	6.5	2.1	4.3
1953	-	19.4	3.7	2.0	5.1	2.3	0.9	1.4	0.6	5.7	3.2	5.9
1954	-	28.1	7.4	3.6	5.4	2.1	1.7	1.9	0.7	6.6	3.5	7.4
1955	-	38.7	10.5	7.4	4.6	1.6	0.8	1.0	0.7	3.1	1.8	2.8
1956	-	44.6	7.1	7.2	5.4	2.5	1.1	2.1	0.8	4.7	2.7	2.2
1957	-	28.7	2.4	3.4	5.0	2.1	1.7	2.8	1.0	5.6	3.0	2.8
1958	-	34.0	2.3	4.1	5.1	1.6	1.4	1.6	1.0	4.8	2.8	4.7
1959	-	28.4	6.8	6.1	5.6	1.3	1.1	1.2	0.8	2.8	1.6	4.1
1960	-	35.5	3.1	3.3	7.2	1.8	1.8	1.9	0.6	2.0	2.0	2.5
1961	-	26.9	2.4	3.1	5.2	1.5	0.9	1.2	0.5	3.8	1.9	1.9
1962	-	26.4	2.2	3.7	5.5	1.9	1.2	2.6	1.2	3.3	2.5	1.9
1963	-	25.8	1.6	4.6	4.2	1.4	0.6	1.4	1.2	2.6	2.4	2.1
1964	-	24.1	1.8	3.3	5.4	2.0	1.6	3.1	0.8	3.0	3.7	2.1
1965	-	26.1	1.6	2.1	4.4	1.0	0.8	1.0	0.4	2.7	1.8	1.1
1966	-	30.0	1.7	2.4	4.4	1.4	1.2	1.7	0.7	5.3	2.7	2.3
1967	-	22.2	0.6	2.7	4.3	0.7	0.4	1.1	0.6	4.1	2.3	1.9
1968	-	18.2	0.7	1.9	4.6	1.0	0.9	2.7	0.5	3.9	4.0	4.0
1969	-	9.6	0.8	1.9	4.5	0.6	0.6	1.0	0.5	1.4	1.9	2.6
1970	-	17.8	1.6	1.8	6.7	1.8	1.0	2.4	0.4	4.6	4.4	3.6
1971	-	14.5	0.6	1.4	5.8	2.4	1.8	1.3	0.8	4.3	2.4	1.4
1972	-	15.7	0.5	1.8	5.2	1.0	1.5	1.8	0.7	5.5	4.3	6.6
1973	-	11.5	0.3	1.6	6.9	0.6	0.6	2.1	1.8	4.4	4.6	6.9
1974	-	13.2	0.8	1.5	8.1	0.7	0.4	1.2	0.5	4.5	3.1	3.4
1975	-	10.6	0.1	1.4	9.6	0.5	0.3	2.7	0.2	2.5	1.6	1.9
1976	-	16.8	0.2	1.9	7.9	1.0	1.0	1.1	0.6	6.1	1.9	3.6
1977	-	12.0	0.3	3.2	9.3	1.8	1.9	4.0	0.9	1.5	2.2	2.8
1978	-	11.4	0.8	2.6	9.4	1.7	1.3	1.2	0.8	1.8	2.7	5.2
1979	-	10.7	0.6	3.5	7.9	1.5	1.0	2.8	0.5	2.8	2.0	1.2
1980	-	10.9	0.3	2.2	12.4	2.0	1.9	1.4	0.6	3.9	2.9	4.3
1981	-	9.8	0.6	3.0	12.8	2.7	2.1	3.7	2.0	1.8	1.9	2.6
1982	-	11.2	0.5	2.1	8.3	2.5	2.4	3.2	2.1	2.3	2.5	5.0
1983	-	11.9	0.2	5.1	8.7	2.0	2.0	2.5	1.8	1.8	1.8	2.1
1984	-	9.9	0.7	3.0	12.0	3.0	1.3	1.9	1.6	6.0	2.7	3.1
1985	-	10.0	2.6	4.2	9.4	1.9	0.9	2.1	1.7	4.7	4.0	8.0
1986	-	11.5	1.7	4.8	8.8	2.6	1.7	2.8	1.9	4.0	5.3	6.5
1987	-	10.4	1.5	3.8	8.9	2.3	1.1	1.4	2.4	4.7	2.9	3.3
1988	-	11.6	1.4	2.4	11.9	2.9	2.0	2.4	2.6	5.2	5.3	6.9
1989	-	12.0	1.0	2.8	9.7	1.2	1.2	1.0	1.3	2.1	2.4	2.9
1990	-	9.7	1.2	4.4	7.2	1.9	1.0	0.8	1.0	2.2	3.4	4.9
1991	-	10.6	1.0	1.5	8.4	2.6	1.9	0.8	0.2	2.6	2.2	4.6
1992	-	8.3	0.8	1.8	7.1	2.3	1.2	1.0	0.2	5.1	1.6	7.8
1993	-	22.3	1.0	2.1	5.1	1.6	0.8	0.4	0.3	5.3	2.6	6.9
1994	-	20.5	1.7	3.6	9.0	3.2	1.1	0.9	0.4	6.4	3.1	8.4
1995	-	20.2	1.2	2.4	11.0	3.2	1.7	1.4	0.4	6.6	3.6	4.2
1996	-	22.0	1.6	2.3	10.8	2.0	0.9	0.6	0.7	6.9	2.5	4.0
1997	-	14.0	1.4	2.0	5.2	2.5	0.7	1.0	0.7	5.6	2.1	4.7
1998	-	15.6	2.0	2.2	5.7	2.3	0.5	0.7	0.7	9.9	5.3	11.5
1999	-	14.1	1.2	3.3	6.2	2.4	1.2	0.6	1.1	8.7	2.2	5.1
2000	-	13.4	2.7	6.5	4.0	2.2	1.6	0.7	1.3	9.6	1.6	1.8
2001	-	20.5	3.1	5.2	6.6	3.0	1.3	0.6	1.4	6.0	2.0	5.6
2002	-	15.4	3.5	3.8	6.4	1.7	0.9	0.9	0.8	4.6	2.7	8.1
2003	-	13.7	2.0	2.2	7.8	1.6	1.0	0.6	2.7	4.4	4.0	6.2
2004	-	16.1	2.1	1.9	6.8	2.0	1.7	1.0	0.5	6.9	3.6	7.4
2005	-	11.0	3.0	4.5	11.9	2.4	0.7	0.6	0.5	7.6	2.5	5.3

Table 4. Abundance (catch and escapement, millions of fish) of "wild" sockeye salmon returning to regions of Asian and North America, 1952-2005.

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	0.0	0.2	4.6	0.3	24.7	0.4	1.6	2.3	2.0	1.2	2.0	4.4
1953	0.0	0.1	3.5	0.2	12.7	0.7	1.1	2.3	1.2	1.8	4.6	6.7
1954	0.0	0.2	4.1	1.0	10.5	0.6	1.1	2.0	1.8	1.6	2.0	14.5
1955	0.0	0.4	6.9	4.2	10.2	0.8	0.9	1.8	1.3	1.0	1.5	3.5
1956	0.0	0.3	5.6	3.5	27.1	1.4	1.0	2.1	1.4	1.2	2.9	3.7
1957	0.0	1.2	10.2	4.1	20.2	0.8	1.0	1.3	1.2	1.4	1.8	5.9
1958	0.0	0.4	6.3	6.1	7.7	0.7	1.1	1.0	0.8	1.3	3.6	22.1
1959	0.0	0.4	5.0	5.9	15.0	0.8	1.1	1.2	0.8	1.2	2.8	6.0
1960	0.0	0.4	5.5	6.7	41.8	1.3	1.2	1.7	0.9	0.8	1.5	4.5
1961	0.0	0.4	8.9	2.9	25.7	0.7	1.3	2.0	1.2	1.0	3.2	5.4
1962	0.0	0.4	8.3	2.9	12.9	0.9	1.9	2.0	1.4	1.0	3.6	4.1
1963	0.0	0.3	5.3	4.3	9.0	0.9	1.3	1.7	1.0	0.9	3.8	5.0
1964	0.0	0.2	1.7	5.4	12.7	0.9	1.4	1.7	1.4	1.2	4.2	2.3
1965	0.0	0.3	3.6	4.3	61.7	1.1	1.2	2.3	1.6	1.5	2.2	3.7
1966	0.0	0.3	2.5	5.7	21.1	0.8	1.6	2.8	1.9	1.4	2.0	6.3
1967	0.0	0.4	3.4	7.5	12.7	1.0	1.1	2.3	1.1	1.3	3.6	8.4
1968	0.0	0.3	1.0	7.3	10.5	1.8	1.8	1.9	1.3	1.1	6.5	3.6
1969	0.0	0.2	0.7	6.7	23.4	1.0	1.6	1.3	1.7	1.1	2.7	5.8
1970	0.0	0.2	1.1	6.4	46.0	2.5	2.1	1.4	2.0	0.9	1.3	7.2
1971	0.0	0.2	1.9	4.3	19.7	2.2	1.4	1.3	1.4	0.8	2.6	9.7
1972	0.0	0.2	1.7	3.9	8.2	1.0	1.0	1.6	1.7	0.7	2.2	4.6
1973	0.0	0.2	1.3	4.4	4.4	1.7	0.9	1.3	1.0	0.9	6.6	8.3
1974	0.0	0.5	2.9	1.1	12.7	1.5	1.3	1.1	1.4	1.0	2.7	10.1
1975	0.0	0.2	1.3	3.9	27.0	1.0	0.9	1.3	1.1	0.9	2.3	4.5
1976	0.0	0.2	1.6	3.5	14.4	2.2	1.6	2.6	1.7	1.6	2.6	5.3
1977	0.0	0.2	0.4	2.6	12.1	3.1	1.6	3.2	1.6	2.0	3.0	8.0
1978	0.0	0.2	0.9	3.6	24.2	2.5	1.9	3.3	1.0	1.5	2.6	10.4
1979	0.0	0.3	0.8	3.3	46.2	1.9	1.7	1.6	0.8	1.9	2.4	8.3
1980	0.0	0.2	1.4	3.2	70.5	1.5	2.2	2.5	0.6	1.5	5.9	5.1
1981	0.0	0.2	1.6	2.9	41.3	3.0	2.0	2.3	1.4	1.5	9.9	9.5
1982	0.0	0.3	1.3	2.5	28.0	2.6	2.3	4.1	3.3	2.0	7.7	15.6
1983	0.0	0.3	1.4	3.3	52.0	3.3	2.0	6.0	1.5	1.8	4.7	7.3
1984	0.0	0.2	1.9	2.9	46.4	4.5	3.2	3.0	2.1	1.6	4.0	8.2
1985	0.0	0.1	3.5	2.3	44.2	1.9	4.3	4.9	2.2	2.1	8.9	15.6
1986	0.0	0.2	3.0	2.1	28.6	2.8	4.0	5.2	2.0	1.6	5.7	16.4
1987	0.0	0.2	4.4	2.2	30.8	3.2	1.6	10.6	2.5	1.8	5.6	9.1
1988	0.0	0.1	3.0	1.7	27.0	1.6	5.2	8.0	0.6	1.3	7.1	5.5
1989	0.0	0.2	3.9	1.6	49.6	2.2	2.5	6.7	1.2	2.0	4.7	19.5
1990	0.0	0.1	6.5	0.7	54.3	3.2	7.3	3.8	0.7	2.0	5.2	22.8
1991	0.0	0.3	6.7	0.7	49.1	3.5	8.4	2.3	1.7	2.0	7.1	14.6
1992	0.0	0.3	5.9	2.2	52.8	2.4	3.7	9.8	2.1	2.5	8.8	8.3
1993	0.0	0.4	6.9	3.7	61.3	2.9	2.0	5.5	2.3	3.2	8.5	25.6
1994	0.0	0.3	6.1	3.2	57.6	3.1	2.7	4.8	1.9	2.1	4.5	18.1
1995	0.0	0.5	5.1	5.3	69.0	2.9	6.7	3.9	1.9	1.6	7.5	4.3
1996	0.0	0.6	5.4	5.2	43.0	3.1	6.4	4.8	3.0	3.1	9.4	5.4
1997	0.0	0.3	3.6	4.5	24.1	1.6	4.1	5.6	3.7	2.2	5.8	17.5
1998	0.0	0.2	4.2	3.4	22.6	1.9	4.3	2.2	1.7	1.4	2.3	11.6
1999	0.0	0.3	4.2	4.7	46.5	4.5	6.4	3.4	2.3	1.6	2.1	4.3
2000	0.0	0.4	5.7	3.2	34.1	3.1	4.5	2.1	1.6	1.3	5.8	6.0
2001	0.0	0.5	4.7	3.3	26.5	3.2	4.0	2.0	2.1	1.8	5.4	8.4
2002	0.0	0.3	11.4	2.0	20.6	2.4	2.8	3.1	1.9	1.5	3.5	12.2
2003	0.0	0.2	6.4	3.1	29.8	2.1	6.5	4.1	2.1	1.7	4.1	5.0
2004	0.0	0.1	6.7	2.4	48.7	1.7	5.7	5.5	2.0	1.9	2.7	3.5
2005	0.0	0.7	9.3	3.1	45.2	2.0	4.4	6.0	2.2	1.7	1.7	3.8

Table 5. Abundance (catch and escapement, millions of fish) of hatchery pink salmon returning to regions of Asian and North America, 1952-2005. No data: "-".

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	0.7	0.0	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1953	0.5	0.2	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1954	0.7	0.2	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1955	0.5	0.5	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1956	1.3	1.2	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1957	1.4	1.6	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1958	1.6	1.1	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.01
1959	1.5	1.9	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.01
1960	2.3	1.6	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1961	0.6	0.3	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1962	2.4	2.3	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.03
1963	1.1	0.9	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.01
1964	2.2	1.5	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.14
1965	1.3	1.4	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1966	3.5	3.0	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.14
1967	2.2	3.0	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1968	6.5	5.7	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.12
1969	2.4	3.2	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1970	8.0	5.8	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.39
1971	6.5	2.8	-	-	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1972	1.7	2.7	0.01	0.0	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.42
1973	2.3	5.3	0.02	0.0	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.00
1974	1.4	3.9	0.01	0.0	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.59
1975	2.9	6.2	0.02	0.0	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.01
1976	2.1	6.5	0.02	0.0	0.0	0.0	0.00	0.00	0.0	0.00	0.00	0.71
1977	2.0	7.4	0.02	0.0	0.0	0.0	0.13	0.00	0.1	0.00	0.00	0.02
1978	1.5	5.4	0.02	0.0	0.0	0.0	0.19	0.01	0.3	0.00	0.00	0.79
1979	1.7	6.6	0.02	0.0	0.0	0.0	0.68	0.09	0.7	0.07	0.00	0.01
1980	1.9	10.6	0.03	0.0	0.0	0.0	0.68	0.17	1.7	0.10	0.00	0.96
1981	1.0	0.1	0.00	0.0	0.0	0.0	0.88	0.12	2.5	0.21	0.00	0.01
1982	1.7	3.5	0.01	0.0	0.0	0.0	1.04	0.19	6.2	0.17	0.00	0.82
1983	0.9	2.8	0.01	0.0	0.0	0.0	1.91	0.28	4.9	0.57	0.03	0.17
1984	2.5	5.8	0.02	0.0	0.0	0.0	2.85	0.28	4.2	0.61	0.00	1.04
1985	5.4	2.5	0.01	0.0	0.0	0.0	3.43	0.33	8.7	1.81	0.00	0.09
1986	4.6	6.0	0.02	0.0	0.0	0.0	2.96	0.44	7.3	1.01	0.02	0.88
1987	5.6	8.4	0.02	0.0	0.0	0.0	3.89	0.48	18.7	1.92	0.00	0.20
1988	4.7	5.2	0.02	0.0	0.0	0.0	0.75	0.15	11.3	0.31	0.00	0.93
1989	4.3	23.0	0.07	0.0	0.0	0.0	3.71	0.28	21.5	1.11	0.08	0.60
1990	2.3	16.0	0.05	0.0	0.0	0.0	0.81	0.95	38.3	1.82	0.00	1.53
1991	2.4	4.5	0.01	0.0	0.0	0.0	3.34	0.67	15.9	1.99	0.04	1.13
1992	2.7	9.3	0.03	0.0	0.0	0.0	1.02	0.47	8.6	4.16	0.00	1.61
1993	6.8	20.9	0.00	0.0	0.0	0.0	12.87	1.55	5.8	1.27	0.08	1.85
1994	1.8	15.8	0.00	0.0	0.0	0.0	2.37	1.74	30.7	6.71	0.00	1.93
1995	2.5	19.9	0.10	0.0	0.0	0.0	4.77	2.63	15.5	2.51	0.03	0.72
1996	2.0	16.4	0.10	0.0	0.0	0.0	1.27	0.60	28.1	3.54	0.00	1.29
1997	1.7	17.5	0.09	0.0	0.0	0.0	1.48	2.96	26.5	3.07	0.01	0.47
1998	2.2	18.6	0.00	0.0	0.0	0.0	6.66	1.49	27.9	2.63	0.00	1.16
1999	3.2	4.6	0.00	0.0	0.0	0.0	4.54	1.26	41.2	4.97	0.04	0.47
2000	2.3	8.1	0.00	0.0	0.0	0.0	3.96	1.34	34.5	0.63	0.03	0.98
2001	1.7	9.6	0.00	0.0	0.0	0.0	13.60	0.75	30.2	2.65	0.00	0.55
2002	2.8	19.0	0.00	0.0	0.0	0.0	7.07	1.36	20.3	2.15	0.00	0.91
2003	4.1	4.3	0.00	0.0	0.0	0.0	6.95	0.94	50.6	1.30	0.07	0.58
2004	2.0	14.5	0.00	0.0	0.0	0.0	4.33	2.61	22.6	1.78	0.04	1.02
2005	2.7	5.6	0.00	0.0	0.0	0.0	14.01	2.37	52.7	1.79	0.04	0.61

Table 6. Abundance (catch and escapement, millions of fish) of hatchery chum salmon returning to regions of Asian and North America, 1952-2005. No data: "-".

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	2.8	0.00	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.07
1953	3.0	0.22	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.10
1954	5.2	0.21	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.03
1955	4.5	0.17	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.02
1956	3.2	0.23	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00
1957	6.0	0.26	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.01
1958	8.7	0.23	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.02
1959	4.6	0.21	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.07
1960	4.2	0.44	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.08
1961	5.9	0.38	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.05
1962	6.7	0.45	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.02
1963	7.7	0.52	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.20
1964	9.8	0.48	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.07
1965	10.4	0.70	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.06
1966	10.4	0.46	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.07
1967	11.9	0.33	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.18
1968	7.9	0.79	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.13
1969	11.3	0.34	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.10
1970	13.1	0.47	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.20
1971	18.2	0.98	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.29
1972	18.9	0.57	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.45
1973	20.1	1.07	-	-	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.55
1974	25.1	0.75	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.44
1975	32.6	0.68	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.33
1976	23.5	0.73	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.55
1977	18.4	0.59	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.61
1978	20.0	0.71	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.91
1979	27.6	0.66	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.1	0.00	0.54
1980	26.1	0.57	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.1	0.00	0.66
1981	33.5	0.68	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.1	0.00	0.51
1982	32.6	0.62	0.01	0.05	0.00	0.00	0.00	0.01	0.01	0.1	0.01	0.94
1983	37.3	0.62	0.01	0.05	0.00	0.00	0.00	0.00	0.02	0.2	0.03	1.50
1984	42.3	0.61	0.01	0.05	0.00	0.00	0.00	0.00	0.09	1.7	0.07	0.84
1985	52.3	0.62	0.01	0.05	0.00	0.00	0.12	0.00	0.07	1.1	0.11	1.46
1986	50.6	0.73	0.01	0.06	0.00	0.00	0.08	0.02	0.28	1.5	0.09	1.63
1987	44.8	0.53	0.01	0.05	0.01	0.00	0.01	0.01	0.21	1.7	0.17	2.42
1988	52.5	0.66	0.01	0.06	0.02	0.00	0.00	0.01	0.43	1.6	0.24	1.46
1989	55.6	0.53	0.01	0.05	0.02	0.00	0.01	0.01	0.29	0.8	0.26	2.29
1990	69.1	0.57	0.01	0.05	0.01	0.00	0.03	0.05	0.74	1.2	0.21	2.57
1991	60.9	0.61	0.01	0.05	0.02	0.00	0.06	0.08	0.82	1.9	0.28	2.10
1992	46.0	0.55	0.01	0.05	0.05	0.00	0.02	0.00	0.44	2.6	0.32	1.38
1993	62.8	0.63	0.01	0.05	0.05	0.00	0.05	0.04	1.27	5.1	0.26	0.94
1994	63.9	0.77	0.01	0.05	0.06	0.00	0.05	0.08	0.98	7.5	0.23	2.22
1995	75.8	0.96	0.00	0.00	0.06	0.00	0.26	0.12	0.82	8.5	0.26	1.69
1996	87.0	0.76	0.00	0.01	0.06	0.00	0.05	0.02	2.32	14.0	0.21	2.09
1997	77.9	0.70	0.01	0.05	0.07	0.00	0.03	0.00	2.06	10.5	0.19	1.89
1998	59.5	0.69	0.01	0.05	0.06	0.00	0.05	0.00	1.21	12.2	0.24	2.09
1999	51.7	0.99	0.01	0.08	0.00	0.00	0.17	0.00	2.85	12.0	0.29	1.33
2000	46.2	0.89	0.02	0.12	0.00	0.00	0.34	0.00	4.78	13.6	0.28	1.22
2001	64.3	0.77	0.02	0.15	0.00	0.00	0.24	0.00	2.67	6.3	0.30	2.38
2002	56.1	0.74	0.01	0.13	0.00	0.00	0.14	0.00	6.32	6.1	0.31	2.62
2003	73.6	0.82	0.02	0.20	0.00	0.00	0.51	0.00	3.53	9.7	0.38	2.59
2004	77.0	0.82	0.00	0.05	0.00	0.00	0.28	0.00	1.95	8.7	0.37	1.92
2005	70.9	0.77	0.00	0.15	0.00	0.00	0.12	0.00	2.20	5.2	0.26	2.05

Table 7. Abundance (catch and escapement, millions of fish) of hatchery sockeye salmon (excluding spawning channel fish) returning to regions of Asian and North America, 1952-2005.

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1953	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1954	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1955	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1956	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1957	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1958	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1959	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1960	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1961	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1962	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1963	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1964	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1965	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1966	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1967	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1968	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1969	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1970	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1971	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1972	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1973	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1974	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1975	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1976	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00
1977	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.01	0.00	0.00	0.00	0.00
1978	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.01	0.00	0.00	0.00
1979	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.03	0.00	0.00	0.00
1980	0.00	0.00	0.00	0.0	0.0	0.0	0.04	0.00	0.02	0.00	0.00	0.00
1981	0.00	0.00	0.00	0.0	0.0	0.0	0.32	0.36	0.02	0.00	0.00	0.01
1982	0.00	0.00	0.00	0.0	0.0	0.0	0.24	0.27	0.02	0.00	0.00	0.02
1983	0.00	0.00	0.00	0.0	0.0	0.0	0.17	0.24	0.04	0.00	0.00	0.02
1984	0.00	0.00	0.00	0.0	0.0	0.0	0.02	0.29	0.03	0.00	0.00	0.03
1985	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.60	0.06	0.00	0.00	0.02
1986	0.00	0.00	0.00	0.0	0.0	0.0	1.03	0.67	0.07	0.05	0.00	0.01
1987	0.00	0.00	0.00	0.0	0.0	0.0	1.08	0.90	0.10	0.10	0.00	0.01
1988	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.07	0.81	0.09	0.00	0.01
1989	0.00	0.00	0.00	0.0	0.0	0.0	0.81	0.20	0.73	0.03	0.00	0.01
1990	0.01	0.00	0.00	0.0	0.0	0.0	0.00	0.97	0.91	0.07	0.00	0.00
1991	0.01	0.00	0.00	0.0	0.0	0.0	0.00	1.06	0.86	0.42	0.00	0.01
1992	0.01	0.00	0.00	0.0	0.0	0.0	2.55	0.60	0.53	0.01	0.00	0.01
1993	0.01	0.00	0.00	0.0	0.0	0.0	3.39	0.64	0.47	0.52	0.00	0.01
1994	0.01	0.00	0.00	0.0	0.0	0.0	3.08	0.34	0.41	0.35	0.00	0.00
1995	0.01	0.00	0.00	0.0	0.0	0.0	0.28	0.40	0.43	0.30	0.00	0.01
1996	0.01	0.01	0.00	0.0	0.0	0.0	0.47	0.48	0.99	0.66	0.00	0.01
1997	0.01	0.00	0.06	0.0	0.0	0.0	0.81	0.21	1.51	0.50	0.00	0.02
1998	0.01	0.00	0.05	0.0	0.0	0.0	1.32	0.25	0.93	0.38	0.00	0.02
1999	0.01	0.00	0.03	0.0	0.0	0.0	1.00	0.64	0.61	0.32	0.00	0.03
2000	0.01	0.02	0.03	0.0	0.0	0.0	0.57	0.48	0.60	0.43	0.00	0.06
2001	0.01	0.00	0.07	0.0	0.0	0.0	0.49	1.23	1.09	0.53	0.00	0.04
2002	0.00	0.00	0.18	0.0	0.0	0.0	0.80	1.37	1.33	0.15	0.00	0.04
2003	0.00	0.00	0.05	0.0	0.0	0.0	0.87	1.78	1.74	0.44	0.00	0.03
2004	0.00	0.00	0.01	0.0	0.0	0.0	0.33	1.88	0.75	0.60	0.00	0.08
2005	0.00	0.02	0.01	0.0	0.0	0.0	0.22	1.34	0.73	0.30	0.00	0.06

Table 8. Abundance (catch and escapement, millions of fish) of total pink salmon returning to regions of Asian and North America, 1952-2005.

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	2.1	26.3	98.1	16.3	5.2	2.7	6.6	4.4	3.4	19.9	10.0	4.9
1953	1.9	44.4	208.6	26.6	0.6	6.0	7.3	1.3	3.2	11.5	3.7	21.7
1954	1.6	46.3	59.6	13.5	5.2	4.8	10.9	4.7	4.3	18.4	5.9	0.9
1955	3.1	78.8	117.7	28.6	0.6	5.6	13.4	2.7	4.3	19.1	7.5	16.7
1956	3.9	105.1	85.5	4.5	5.2	6.0	5.1	3.6	5.9	26.2	10.8	1.4
1957	2.5	68.3	169.0	78.9	0.6	2.7	6.7	0.8	1.5	14.8	8.1	15.4
1958	3.8	105.7	9.6	11.5	5.2	3.6	5.9	4.5	7.7	19.9	7.3	1.8
1959	2.7	68.9	35.4	93.5	0.6	2.6	3.3	0.4	4.3	16.5	4.0	12.5
1960	3.3	40.3	13.0	25.3	5.2	3.8	9.0	3.9	3.0	7.6	12.3	0.5
1961	1.2	36.7	26.8	61.2	0.6	4.2	5.8	0.9	3.5	15.9	11.1	4.5
1962	3.7	19.4	21.1	16.2	4.5	6.7	16.9	7.4	9.9	18.1	55.3	1.3
1963	2.7	43.6	37.2	59.7	0.7	6.6	7.6	0.6	6.1	30.3	10.4	16.8
1964	3.5	22.2	4.5	27.2	3.9	7.6	14.7	8.8	6.3	26.4	16.3	1.5
1965	2.5	82.4	14.4	48.0	0.2	5.6	4.5	0.4	3.3	17.7	7.4	4.6
1966	4.4	43.3	0.8	23.3	5.9	3.0	13.4	5.5	4.1	29.9	19.8	4.4
1967	4.9	85.1	15.2	46.1	0.5	1.2	0.6	1.0	3.5	6.2	3.3	19.9
1968	7.7	39.9	1.4	17.0	11.1	4.7	11.9	6.2	3.6	33.4	32.9	4.7
1969	4.4	111.7	11.1	39.1	1.2	6.8	14.3	0.6	4.9	11.3	2.1	6.0
1970	11.0	28.4	0.5	26.5	3.1	5.1	15.9	2.2	3.9	18.0	17.4	3.4
1971	8.1	95.9	11.9	30.8	0.2	3.6	5.5	1.1	9.4	18.8	4.3	16.2
1972	2.7	48.5	2.5	13.1	0.9	0.3	3.7	1.7	0.8	20.8	25.8	1.7
1973	5.6	108.1	9.4	20.5	0.7	0.5	1.2	1.5	3.7	14.6	4.2	11.4
1974	3.2	68.1	2.8	19.4	6.3	0.9	5.0	1.3	2.0	11.9	14.9	3.1
1975	6.1	105.4	33.9	46.8	0.6	1.1	4.2	2.9	6.1	13.1	3.1	8.8
1976	3.8	87.9	13.2	23.3	5.7	5.1	14.5	3.4	4.1	28.4	16.1	5.9
1977	3.7	112.5	63.6	57.7	0.7	6.1	8.8	3.6	5.8	24.8	9.8	12.5
1978	2.5	86.9	15.5	12.5	22.8	11.0	20.6	4.6	4.6	40.1	21.4	3.0
1979	2.2	78.2	78.6	59.1	2.0	12.6	14.7	5.7	19.4	33.1	6.9	21.1
1980	3.4	107.6	24.3	5.0	12.5	11.4	24.5	5.0	16.9	32.1	12.8	3.4
1981	2.7	72.5	46.6	65.0	2.7	9.3	13.9	6.3	22.7	39.2	10.9	24.9
1982	2.2	55.3	41.1	17.8	8.7	8.9	14.1	2.3	23.7	42.3	7.3	1.5
1983	2.2	92.3	164.5	41.6	1.1	4.2	7.0	2.4	16.8	61.6	21.6	24.5
1984	3.5	35.5	87.2	29.8	9.8	16.9	16.0	2.4	28.8	52.0	15.1	1.5
1985	7.2	122.5	9.8	24.8	0.4	7.0	11.1	1.9	30.1	97.3	19.4	27.1
1986	5.4	43.1	42.0	4.4	2.3	7.8	16.5	4.5	10.3	84.7	33.3	2.6
1987	8.1	101.2	1.7	56.3	0.4	3.7	8.0	1.1	31.4	32.2	15.5	9.2
1988	6.9	36.9	36.5	9.5	8.0	15.7	19.5	2.3	13.4	24.6	35.0	3.6
1989	8.8	119.8	1.7	68.8	0.4	11.6	23.3	1.9	28.4	89.3	16.7	25.1
1990	6.5	72.9	28.1	27.5	6.4	6.4	12.7	2.0	53.4	56.1	29.9	8.7
1991	14.7	152.1	2.9	97.2	0.4	15.5	21.6	1.4	26.3	89.1	26.3	25.8
1992	14.9	106.6	19.3	9.9	5.9	16.8	7.3	2.4	10.1	62.1	22.4	4.9
1993	18.0	121.3	0.6	69.8	1.9	16.6	39.5	2.3	8.1	87.0	7.6	23.8
1994	22.1	127.5	108.6	21.2	15.9	12.7	12.7	3.5	41.3	91.9	6.3	3.4
1995	14.2	110.6	0.6	78.0	0.3	30.8	54.8	4.1	19.3	83.9	12.2	17.7
1996	23.8	105.3	77.5	15.9	6.9	9.2	7.3	1.5	36.2	125.6	23.1	3.7
1997	8.5	142.0	0.9	99.7	0.5	12.2	14.7	4.0	31.4	66.2	6.7	11.5
1998	16.9	94.6	137.6	13.3	7.3	16.4	30.3	3.3	33.9	82.9	8.8	3.5
1999	9.5	115.8	0.1	107.6	0.2	17.6	16.7	1.9	52.3	154.9	11.1	6.2
2000	19.2	126.6	88.9	1.8	4.4	8.6	15.1	2.4	42.6	50.9	13.1	7.5
2001	5.8	127.1	1.4	43.4	0.3	12.5	23.7	1.4	39.1	115.5	18.7	29.6
2002	17.4	97.9	82.4	4.7	4.9	7.8	28.0	3.6	21.4	98.9	15.8	2.0
2003	16.5	139.3	0.7	66.7	1.2	14.3	20.1	1.7	59.5	96.6	20.8	15.8
2004	8.0	55.1	85.3	22.8	13.7	16.6	31.2	8.0	29.1	85.4	7.5	2.6
2005	12.0	165.9	23.9	100.5	5.3	17.0	34.5	6.8	70.8	109.3	17.8	12.0

Table 9. Abundance (catch and escapement, millions of fish) of total chum salmon returning to regions of Asian and North America, 1952-2005.

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	2.8	19.3	3.7	3.7	4.9	1.8	1.7	1.3	0.8	6.5	2.1	4.3
1953	3.0	19.6	3.7	2.0	5.1	2.3	0.9	1.4	0.6	5.7	3.2	6.0
1954	5.2	28.3	7.4	3.6	5.4	2.1	1.7	1.9	0.7	6.6	3.5	7.4
1955	4.5	38.9	10.5	7.4	4.6	1.6	0.8	1.0	0.7	3.1	1.8	2.8
1956	3.2	44.8	7.1	7.2	5.4	2.5	1.1	2.1	0.8	4.7	2.7	2.2
1957	6.0	29.0	2.4	3.4	5.0	2.1	1.7	2.8	1.0	5.6	3.0	2.8
1958	8.7	34.3	2.3	4.1	5.1	1.6	1.4	1.6	1.0	4.8	2.8	4.7
1959	4.6	28.6	6.8	6.1	5.6	1.3	1.1	1.2	0.8	2.8	1.6	4.2
1960	4.2	35.9	3.1	3.3	7.2	1.8	1.8	1.9	0.6	2.0	2.0	2.6
1961	5.9	27.3	2.4	3.1	5.2	1.5	0.9	1.2	0.5	3.8	1.9	1.9
1962	6.7	26.9	2.2	3.7	5.5	1.9	1.2	2.6	1.2	3.3	2.5	1.9
1963	7.7	26.4	1.6	4.6	4.2	1.4	0.6	1.4	1.2	2.6	2.4	2.3
1964	9.8	24.6	1.8	3.3	5.4	2.0	1.6	3.1	0.8	3.0	3.7	2.1
1965	10.4	26.8	1.6	2.1	4.4	1.0	0.8	1.0	0.4	2.7	1.8	1.1
1966	10.4	30.4	1.7	2.4	4.4	1.4	1.2	1.7	0.7	5.3	2.7	2.3
1967	11.9	22.5	0.6	2.7	4.3	0.7	0.4	1.1	0.6	4.1	2.3	2.0
1968	7.9	19.0	0.7	1.9	4.6	1.0	0.9	2.7	0.5	3.9	4.0	4.1
1969	11.3	9.9	0.8	1.9	4.5	0.6	0.6	1.0	0.5	1.4	1.9	2.7
1970	13.1	18.2	1.6	1.8	6.7	1.8	1.0	2.4	0.4	4.6	4.4	3.8
1971	18.2	15.5	0.6	1.4	5.8	2.4	1.8	1.3	0.8	4.3	2.4	1.7
1972	18.9	16.2	0.5	1.8	5.2	1.0	1.5	1.8	0.7	5.5	4.3	7.0
1973	20.1	12.6	0.3	1.6	6.9	0.6	0.6	2.1	1.8	4.4	4.6	7.5
1974	25.1	14.0	0.8	1.6	8.1	0.7	0.4	1.2	0.5	4.5	3.1	3.8
1975	32.6	11.3	0.1	1.5	9.6	0.5	0.3	2.7	0.2	2.5	1.6	2.2
1976	23.5	17.5	0.2	1.9	7.9	1.0	1.0	1.1	0.6	6.1	1.9	4.2
1977	18.4	12.6	0.3	3.3	9.3	1.8	1.9	4.0	0.9	1.5	2.2	3.4
1978	20.0	12.1	0.8	2.6	9.4	1.7	1.3	1.2	0.8	1.8	2.7	6.1
1979	27.6	11.3	0.6	3.6	7.9	1.5	1.0	2.8	0.5	2.9	2.0	1.7
1980	26.1	11.5	0.3	2.3	12.4	2.0	1.9	1.4	0.6	4.0	2.9	4.9
1981	33.5	10.5	0.6	3.0	12.8	2.7	2.1	3.7	2.0	1.8	1.9	3.1
1982	32.6	11.8	0.6	2.2	8.3	2.5	2.4	3.2	2.1	2.5	2.5	6.0
1983	37.3	12.5	0.2	5.2	8.7	2.0	2.0	2.5	1.9	2.0	1.8	3.6
1984	42.3	10.5	0.7	3.0	12.0	3.0	1.3	1.9	1.7	7.7	2.8	4.0
1985	52.3	10.6	2.6	4.2	9.4	1.9	1.0	2.1	1.7	5.8	4.1	9.4
1986	50.6	12.2	1.7	4.9	8.8	2.6	1.8	2.8	2.2	5.6	5.4	8.1
1987	44.8	10.9	1.5	3.9	8.9	2.3	1.1	1.4	2.6	6.3	3.0	5.7
1988	52.5	12.3	1.4	2.5	11.9	2.9	2.0	2.4	3.0	6.7	5.5	8.3
1989	55.6	12.5	1.0	2.9	9.7	1.2	1.2	1.0	1.6	2.9	2.7	5.1
1990	69.1	10.3	1.2	4.4	7.2	1.9	1.1	0.8	1.7	3.4	3.6	7.4
1991	60.9	11.2	1.0	1.6	8.5	2.6	2.0	0.9	1.1	4.5	2.5	6.7
1992	46.0	8.9	0.8	1.9	7.2	2.3	1.2	1.0	0.7	7.8	1.9	9.2
1993	62.8	22.9	1.0	2.1	5.1	1.6	0.8	0.4	1.6	10.5	2.9	7.9
1994	63.9	21.3	1.7	3.6	9.1	3.2	1.1	1.0	1.4	13.9	3.4	10.6
1995	75.8	21.1	1.2	2.4	11.0	3.2	2.0	1.5	1.2	15.2	3.9	5.9
1996	87.0	22.8	1.6	2.4	10.8	2.0	0.9	0.6	3.0	20.9	2.7	6.0
1997	77.9	14.7	1.4	2.0	5.3	2.5	0.8	1.0	2.8	16.1	2.2	6.6
1998	59.5	16.3	2.0	2.3	5.7	2.3	0.6	0.7	1.9	22.1	5.6	13.6
1999	51.7	15.0	1.2	3.4	6.2	2.4	1.4	0.6	3.9	20.7	2.5	6.5
2000	46.2	14.3	2.7	6.6	4.0	2.2	2.0	0.7	6.1	23.2	1.9	3.0
2001	64.3	21.3	3.1	5.3	6.6	3.0	1.5	0.6	4.0	12.3	2.3	8.0
2002	56.1	16.1	3.5	4.0	6.4	1.7	1.1	0.9	7.1	10.7	3.0	10.7
2003	73.6	14.5	2.0	2.4	7.8	1.6	1.5	0.6	6.3	14.1	4.3	8.8
2004	77.0	17.0	2.1	2.0	6.8	2.0	2.0	1.0	2.5	15.6	4.0	9.3
2005	70.9	11.8	3.0	4.6	11.9	2.4	0.9	0.6	2.7	12.8	2.8	7.3

Table 10. Abundance (catch and escapement, millions of fish) of total sockeye salmon returning to regions of Asian and North America, 1952-2005.

Year	Japan	M&I	WKam	EKam	WAK	SPen	Kod	CI	PWS	SEAK	NBC	SBC
1952	0.00	0.2	4.6	0.3	24.7	0.4	1.6	2.3	2.0	1.2	2.0	4.4
1953	0.00	0.1	3.5	0.2	12.7	0.7	1.1	2.3	1.2	1.8	4.6	6.7
1954	0.00	0.2	4.1	1.0	10.5	0.6	1.1	2.0	1.8	1.6	2.0	14.5
1955	0.00	0.4	6.9	4.2	10.2	0.8	0.9	1.8	1.3	1.0	1.5	3.5
1956	0.00	0.3	5.6	3.5	27.1	1.4	1.0	2.1	1.4	1.2	2.9	3.7
1957	0.00	1.2	10.2	4.1	20.2	0.8	1.0	1.3	1.2	1.4	1.8	5.9
1958	0.00	0.4	6.3	6.1	7.7	0.7	1.1	1.0	0.8	1.3	3.6	22.1
1959	0.00	0.4	5.0	5.9	15.0	0.8	1.1	1.2	0.8	1.2	2.8	6.0
1960	0.00	0.4	5.5	6.7	41.8	1.3	1.2	1.7	0.9	0.8	1.5	4.5
1961	0.00	0.4	8.9	2.9	25.7	0.7	1.3	2.0	1.2	1.0	3.2	5.4
1962	0.00	0.4	8.3	2.9	12.9	0.9	1.9	2.0	1.4	1.0	3.6	4.1
1963	0.00	0.3	5.3	4.3	9.0	0.9	1.3	1.7	1.0	0.9	3.8	5.0
1964	0.00	0.2	1.7	5.4	12.7	0.9	1.4	1.7	1.4	1.2	4.2	2.3
1965	0.00	0.3	3.6	4.3	61.7	1.1	1.2	2.3	1.6	1.5	2.2	3.7
1966	0.00	0.3	2.5	5.7	21.1	0.8	1.6	2.8	1.9	1.4	2.0	6.3
1967	0.00	0.4	3.4	7.5	12.7	1.0	1.1	2.3	1.1	1.3	3.6	8.4
1968	0.00	0.3	1.0	7.3	10.5	1.8	1.8	1.9	1.3	1.1	6.5	3.6
1969	0.00	0.2	0.7	6.7	23.4	1.0	1.6	1.3	1.7	1.1	2.7	5.8
1970	0.00	0.2	1.1	6.4	46.0	2.5	2.1	1.4	2.0	0.9	1.3	7.2
1971	0.00	0.2	1.9	4.3	19.7	2.2	1.4	1.3	1.4	0.8	2.6	9.7
1972	0.00	0.2	1.7	3.9	8.2	1.0	1.0	1.6	1.7	0.7	2.2	4.6
1973	0.00	0.2	1.3	4.4	4.4	1.7	0.9	1.3	1.0	0.9	6.6	8.3
1974	0.00	0.5	2.9	1.1	12.7	1.5	1.3	1.1	1.4	1.0	2.7	10.1
1975	0.00	0.2	1.3	3.9	27.0	1.0	0.9	1.3	1.1	0.9	2.3	4.5
1976	0.00	0.2	1.6	3.5	14.4	2.2	1.6	2.6	1.7	1.6	2.6	5.3
1977	0.00	0.2	0.4	2.6	12.1	3.1	1.6	3.2	1.6	2.0	3.0	8.0
1978	0.00	0.2	0.9	3.6	24.2	2.5	1.9	3.3	1.0	1.5	2.6	10.4
1979	0.00	0.3	0.8	3.3	46.2	1.9	1.7	1.6	0.8	1.9	2.4	8.3
1980	0.00	0.2	1.4	3.2	70.5	1.5	2.3	2.5	0.6	1.5	5.9	5.1
1981	0.00	0.2	1.6	2.9	41.3	3.0	2.3	2.6	1.4	1.5	9.9	9.5
1982	0.00	0.3	1.3	2.5	28.0	2.6	2.5	4.3	3.3	2.0	7.7	15.6
1983	0.00	0.3	1.4	3.3	52.0	3.3	2.2	6.2	1.6	1.8	4.7	7.4
1984	0.00	0.2	1.9	2.9	46.4	4.5	3.2	3.3	2.1	1.6	4.0	8.3
1985	0.00	0.1	3.5	2.3	44.2	1.9	4.3	5.5	2.3	2.1	8.9	15.6
1986	0.00	0.2	3.0	2.1	28.6	2.8	5.0	5.9	2.1	1.6	5.7	16.4
1987	0.00	0.2	4.4	2.2	30.8	3.2	2.7	11.5	2.6	1.9	5.6	9.1
1988	0.00	0.1	3.0	1.7	27.0	1.6	5.2	8.0	1.4	1.4	7.1	5.5
1989	0.00	0.2	3.9	1.6	49.6	2.2	3.3	6.9	1.9	2.1	4.7	19.5
1990	0.01	0.1	6.5	0.7	54.3	3.2	7.3	4.8	1.6	2.1	5.2	22.9
1991	0.01	0.3	6.7	0.7	49.1	3.5	8.4	3.4	2.6	2.4	7.1	14.6
1992	0.01	0.3	5.9	2.2	52.8	2.4	6.3	10.4	2.6	2.5	8.8	8.3
1993	0.01	0.4	6.9	3.7	61.3	2.9	5.4	6.2	2.7	3.7	8.5	25.6
1994	0.01	0.3	6.1	3.2	57.6	3.1	5.8	5.2	2.3	2.4	4.5	18.1
1995	0.01	0.5	5.1	5.3	69.0	2.9	7.0	4.3	2.4	1.9	7.5	4.3
1996	0.01	0.6	5.4	5.2	43.0	3.1	6.8	5.3	4.0	3.7	9.4	5.4
1997	0.01	0.3	3.7	4.5	24.1	1.6	4.9	5.8	5.2	2.7	5.8	17.5
1998	0.01	0.2	4.3	3.4	22.6	1.9	5.6	2.5	2.6	1.7	2.3	11.6
1999	0.01	0.3	4.2	4.7	46.5	4.5	7.4	4.1	2.9	1.9	2.1	4.3
2000	0.01	0.4	5.8	3.2	34.1	3.1	5.0	2.6	2.2	1.7	5.8	6.1
2001	0.01	0.5	4.8	3.3	26.5	3.2	4.5	3.3	3.2	2.4	5.4	8.5
2002	0.00	0.3	11.6	2.0	20.6	2.4	3.6	4.4	3.2	1.7	3.5	12.3
2003	0.00	0.2	6.5	3.1	29.8	2.1	7.4	5.9	3.8	2.1	4.1	5.1
2004	0.00	0.1	6.7	2.4	48.7	1.7	6.1	7.4	2.8	2.5	2.7	3.6
2005	0.00	0.7	9.3	3.1	45.2	2.0	4.6	7.4	2.9	2.0	1.7	3.9