

Exxon Valdez Oil Spill
Restoration Project Annual Report

Coded Wire Tag Recoveries from Pink Salmon in Prince
William Sound Salmon Fisheries, 1994

Restoration Project 94320B
Annual Report

This annual report has been prepared for peer review as part of the *Exxon Valdez* Oil Spill Trustee Council restoration program for the purpose of assessing project progress. Peer review comments have not been addressed in this annual report.

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Study History: The coded wire tag program for pink salmon in Prince William Sound was initiated in 1986, to partition returns of pink salmon into wild and hatchery stocks, and to determine the size of returns of hatchery pink salmon. After the *Exxon Valdez* oil spill, the program was incorporated into Natural Resource Damage Assessment Fish/Shellfish Study 3 (F/S 3), to document effects of the spill on wild pink salmon by comparing returns to oiled and unoled streams, as well as to estimate size of hatchery and wild stock returns. The project effort was continued under Restoration Study R60A (Coded wire tag studies on Prince William Sound pink salmon) and Restoration Study 93067 (Coded wire tag recoveries from pink salmon in Prince William Sound salmon fisheries, 1993).

Abstract: During 1993, about 567,317,409 pink salmon fry were released into Prince William Sound from A.F. Koernig, W. Noerenberg, Cannery Creek, and Solomon Gulch hatcheries; 950,844 were tagged with half-length coded wire tags. During 1994, tags from the 1993 releases were recovered in the commercial catch, and preliminary estimates based upon detected tags were given to the management biologists. The inseason estimates of hatchery and wild stock contributions agreed very closely to the postseason estimates. In the postseason analysis, 37.99 million pink salmon were caught in all commercial fisheries. A.F. Koernig W. Noerenberg Cannery Creek and Solomon Gulch hatcheries, and wild stocks produced 1.73 million, 6.22 million, 8.40 million, 12.57 million, and 8.06 million pink salmon, respectively. An historical adjustment factor of 1.71 was used to compensate for differential mortality and tag loss for tagged fish from all hatcheries, and consisted of the average of adjustment factors calculated for W. Noerenberg hatchery from 1989 to 1994. The overall survival rates for pink salmon from A.F. Koernig, W. Noerenberg, Cannery Creek, and Solomon Gulch hatcheries were 1.53%, 3.55%, 6.6% and 8.86%, respectively.

Key Words: Coded wire tag, commercial harvest, hatchery, *Oncorhynchus gorbuscha*, pink salmon, Prince William Sound, wild stock.

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EXECUTIVE SUMMARY

This report documents Restoration Study 94320B, one of the projects designed to restore the pink salmon *Oncorhynchus gorbuscha* resource of Prince William Sound to its pre-spill status. Coded wire tags applied in 1993 at four hatcheries in Prince William Sound, the W. Noerenberg, Cannery Creek, A. F. Koernig and Solomon Gulch facilities, were recovered in the commercial catch of 1994 and used to provide inseason estimates of hatchery contributions. These estimates were used by fishery managers to target the numerically superior hatchery returns, and thus to reduce the pressure placed upon oil-damaged wild stocks. Inseason estimates were made in two stages. Preliminary estimates were based solely on detected tags (not extracted) and were made available to managers upon completion of sampling. These estimates were then updated approximately three days later with code-specific information.

The postseason analysis revealed that out of a commercial catch of 37.99 million pink salmon, 8.06 million fish were estimated to be of wild origin. Of the hatchery component (estimated at 29.93 million pink salmon), 1.73 million, 6.22 million, 9.4 million, and 12.57 million originated from the A.F. Koernig, W. Noerenberg, Cannery Creek and the Solomon Gulch hatcheries, respectively. Overall adult survival rates of hatchery reared pink salmon were 1.53%, 3.55%, 6.60%, and 8.86%, for the A.F. Koernig, W. Noerenberg, Cannery Creek, and Solomon Gulch facilities, respectively.

INTRODUCTION

Between 1961 and 1976, when hatcheries were absent from Prince William Sound, the commercial seine harvest of wild pink salmon *Oncorhynchus gorbuscha* averaged about 3.4 million fish. In the early 1970's, run failures led to an aggressive enhancement program which included construction of hatcheries. By 1986 five hatcheries were operating (Figure 1): the Solomon Gulch hatchery, producing pink salmon, and later, chum *O. keta*, coho *O. kisutch* and chinook salmon *O. tshawytscha*, the A. F. Koernig hatchery, producing pink salmon, the W. Noerenberg hatchery, producing pink salmon, and later, chum, coho and chinook salmon, the Cannery Creek hatchery, producing pink salmon, and the Main Bay hatchery which produced chum and presently raises sockeye salmon *O. nerka*. From the late 1980's to the present, returns to these facilities have contributed approximately 20 million fish to the annual pink salmon run. Significant numbers of sockeye, coho, chum and chinook salmon have also been produced.

Parent stocks for Prince William Sound hatchery production were selected from native populations in the Sound with the consequence that the migratory timings of adult hatchery and wild returns coincided. Furthermore, virtually all these salmon stocks migrate to their natal streams or hatcheries through corridors in the southwestern and western areas of the Sound. The coincident timing and location of the large hatchery return and the considerably smaller wild returns lead to the danger of over-exploitation of the latter by the commercial fishery. Indeed, shortfalls in wild escapements were observed in more than half of the 15 years prior to hatchery production, when the average exploitation rate was 42%, a figure considerably lower than the 60% considered appropriate today for returning hatchery fish.

To protect wild stocks in a hatchery-dominated fishery, managers needed information pertaining to the temporal and spatial distributions of hatchery and wild fish. To meet this requirement, a coded wire tagging program was initiated in 1986 for hatchery releases of pink salmon with recovery of tagged returning adults in commercial and cost-recovery fisheries beginning in 1987. Tag recovery data enabled managers to estimate hatchery and wild contributions to catches from temporal and spatial strata within the fishery.

The March 24, 1989, *Exxon Valdez* oil spill exacerbated the problems faced by the fishery manager. The spill contaminated intertidal portions of streams where the majority of wild salmon stocks in western Prince William Sound spawn as well as the marine waters traversed by juvenile salmon on their migration seaward through the Sound. Natural Resource Damage Assessment Fish/Shellfish (F/S) studies 2 and 4, demonstrated significant detrimental effects

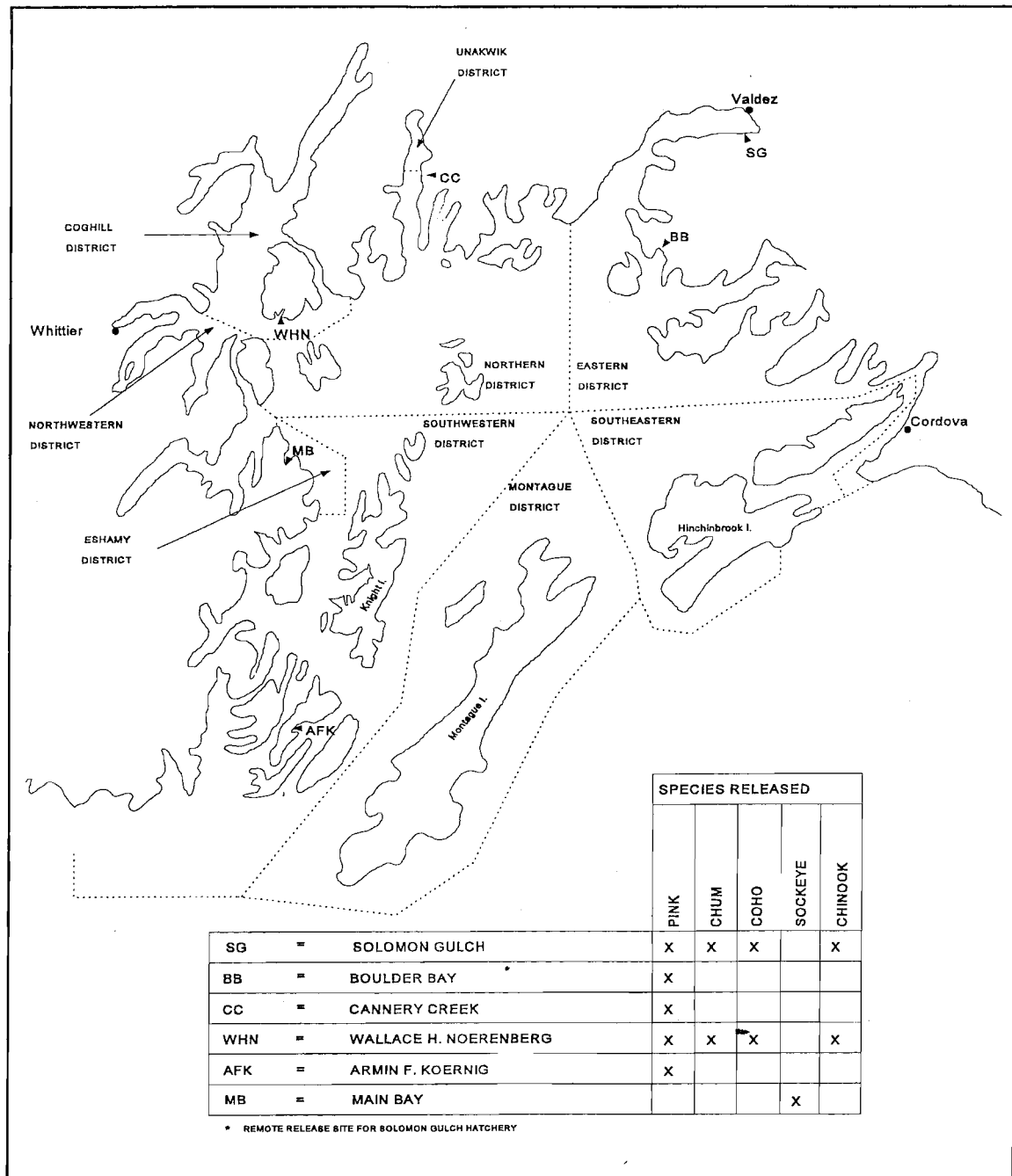


Figure 1. Fishing districts and hatcheries of Prince William Sound, Alaska

of oil contamination upon pink salmon embryos, preemergent fry, and juvenile salmon from wild populations in the Sound. The decisions made by fishery managers suddenly became more complicated in as far as they affected wild populations injured by the oil spill.

The coded wire tagging program was continued through the years following the spill, and was funded under the Natural Resource Damage Assessment study F/S 3 through 1991 (Sharr et al, 1995a). During this period, the program continued to provide information pertaining to the nature of the commercial salmon catch. In 1992, the pink salmon tagging program was supported through Restoration Study R60A (Sharr et al, 1995b) and in 1993 and 1994 through Restoration Study 93067 (Sharr et al, 1995c) along with matching funds from the Prince William Sound Aquaculture Corporation (PWSAC), Valdez Fisheries Development Association (VFDA) and the State of Alaska. For 1994 the program was supported by R94320B, along with matching funds from PWSAC, VFDA, and the State of Alaska.

This report documents the activities and results of the coded wire tag program from 1989 through 1994, as it pertains to pink salmon, with emphasis placed on the 1994 recovery years. It focuses primarily upon hatchery contributions to the different fisheries, survival rates of different hatchery release groups, and inseason estimation of contributions. Although some hatchery contribution data from 1989 through 1993 were reported in F/S 3, R60A and R93067, they were often comprised of data aggregated over recovery strata, and no access to the component strata was made available. In the current report, contribution data from all district-week strata from 1989 to 1994 are provided in appendices. Aggregated data is presented in the main body of the document. It is believed that such a reporting policy presents the data in a more universally useful way.

OBJECTIVES

1. To make determinations of wild and hatchery components of the pink salmon commercial fisheries of 1994 and to make these available to fishery managers on an inseason basis, so that fishing effort may be directed towards hatchery stocks.
2. To estimate marine survival rates for each uniquely coded hatchery release group.
3. To evaluate the method selected in 1993 for inseason analysis of coded wire tag data, whereby an historical adjustment factor and numbers of detected (undecoded) tags are used to estimate the hatchery and wild contributions.

METHODS

Tagging

Tagging of pink salmon fry occurred at the three PWSAC facilities (W. Noerenberg, Cannery Creek, and A. F. Koernig hatcheries) and at the VFDA facility (Solomon Gulch hatchery). Tagging rates and recovery efforts should yield contribution estimates which are sufficiently precise to allow fishery managers to make meaningful inseason decisions. Assuming a potential sampling rate of approximately 20% of all commercial and cost-recovery harvests and following an analysis of the performance of previous tagging studies (Peltz and Miller 1990; Peltz and Geiger 1990; Geiger and Sharr 1990), an overall tagging rate of approximately 1 coded wire tag per 600 fish (0.001667) was chosen. A different tag code was given to each release group, a release group representing a batch of fish subjected to a certain feeding regimen (early feeding, late feeding or no feeding) and release timing. An effort was made to keep tagging rates as uniform as possible between hatcheries and between release groups within hatcheries.

Pink salmon fry to be tagged were randomly selected as they emerged from incubators. Fry were anesthetized in a 1 ppm solution of MS-222 prior to removal of adipose fins and application of tags. Half-length coded wire tags were applied with a Northwest Marine Technology tag injector (model MKII). Adipose fin-clipped and tagged fish were passed through an electronic quality control device to test for tag retention. Rejected fish were held and retested later. If rejected a second time, they were killed to minimize the number of untagged clipped fish in the release. Fry which retained tags were held overnight at PWSAC and for 72 hours at VFDA, to determine short-term mortality and tag-loss. Mortality rates were determined by counting the number of fish floating on the surface (floaters) after the holding period. The tag loss rate was estimated by randomly selecting 200 fish and testing them with the quality control device before release into saltwater rearing pens. Tag placement was checked periodically, but not quantified.

At the PWSAC hatcheries, after the overnight holding period and prior to release, all tagged fry were introduced into saltwater pens within the larger pens holding their unmarked cohorts. This allowed determination of short-term saltwater mortalities through enumeration of floaters. At the VFDA Solomon Gulch hatchery, tagged fry were transferred to the saltwater net pen holding their unmarked cohorts following the 72 hr. mortality check in freshwater; no saltwater mortality estimate was made on the tagged fish. The number of fry released with tags of tag code t , Tr_t , was estimated for each release group by deducting both the short-term tagging and saltwater rearing mortalities (for PWSAC facilities) from the number of fry initially tagged, and accounting for tag loss :

$$\hat{Tr}_t = (T_t - Mo_t - Msw_t)(1 - \hat{Lo}_t), \quad (1)$$

where

- T_t = total number of tagged (t) fish
- Mo_t = number of deaths during holding period among tagged (t) fish
- Msw_t = number of deaths during saltwater rearing period among tagged (t) fish (PWSAC only); and,
- Lo_t = proportion of tagged (t) fish which lost their tags during the holding period.

At all hatcheries, unmarked fry entering the large saltwater rearing pens were enumerated with electronic fry counters. Pink salmon fry mortalities were estimated visually immediately prior to release. These mortality estimates were applied equally to tagged and untagged fish to obtain final release estimates. With the exception of experimental release groups, fry releases were timed to coincide with peak plankton abundances near the hatcheries.

Tag Recovery

Commercial and Cost-Recovery Harvests

Recoveries were stratified by district, week, and processor. This stratification was chosen as result of the findings of Peltz and Geiger (1990) who detected significant differences between the proportions of some tag codes among such strata. The differences indicate that processors tend to receive catches from only certain parts of a district and is believed to be the result of traditional tendering patterns.

Recoveries of pink salmon tags from commercial and cost-recovery harvests were made after each opening, as fish were pumped from tenders onto conveyor belts at land-based processors located in Cordova, Valdez, Seward, Anchorage, Whittier, Kodiak, Kenai, Uganik Bay and aboard two floating processors in PWS. Technicians sampled fish that were moving down the conveyor belt, and subjected each sampled fish to a visual and tactile examination for a missing adipose fin.

Data recorded for each tender included harvest type (i.e., commercial or cost-recovery catch), fishing district(s) from which the catch was taken, catch date, processor, and the number of fish examined. Catch data were later verified from fish tickets.

Heads of adipose-fin clipped fish were excised, identified with a uniquely numbered cinch strap and bagged. Once sampling was finished, individual heads were passed through a Northwest Marine field sampling tag detector. The detector produced an audible signal upon detection of a metal tag in the head. This procedure yielded numbers of tags in the sample.

All heads were then frozen, and together with sample data, were shipped twice weekly from each site to the Alaska Department of Fish and Game Coded Wire Tag Processing Laboratory in Juneau (Tag Lab). Tag Lab staff located and removed tags from heads, decoded extracted tags, and entered tag code and sample data into a database accessible to biologists in Cordova.

Brood Stock Harvests

Tag shedding from release to return and differential mortality between tagged and untagged fish lead to discrepancies between marking rates at release and recovery. Hatchery brood stocks were scanned for tags in order to estimate adjustment factors which could be used to account for the loss of tags from the population. Three assumptions inherent in the use of the brood stock for this purpose are a) the brood stock consists only of fish reared at the hatchery, b) the tendency for a tagged fish to lose a tag or to die is similar for all fish marked at the same hatchery, and c) for a specific tag code, the marking rate in the commercial fishery is the same as that in the brood stock. It is believed that the first of these assumptions is violated at all facilities except the W. Noerenberg hatchery (Sharr et al. 1995c). Consequently, only the adjustment factor calculated from the brood stock from the W. Noerenberg hatchery was considered an appropriate quantity with which to adjust for tag loss and differential mortality. Historical average W. Noerenberg adjustment factors were used for both inseason (1989-1993) and postseason (1989-1994) estimations.

The adjustment factor for hatchery h , α_h , was estimated as the ratio of sampled fish in the brood stock to the expanded number of fish based on tags found in the sample :

$$\hat{\alpha}_h = \frac{S_h}{\sum_i \frac{x_i}{p_i}}, \quad (2)$$

where

T = number of tag codes released from hatchery h ,

- p_i = tagging rate at release for the i th tag code (defined as number of tagged fish released with the i th code divided by the total number of fish in release group i),
 x_i = number of tags of the i th code found in s_h and,
 s_h = number of brood stock fish examined in hatchery h .

The W. Noerenberg historical average adjustment factor was then used to adjust contribution estimates (Equation 3) if it could be shown that it was significantly greater than 1.0 at the 90% level. An appropriate test of the hypothesis: $H_0 : \alpha_h \leq 1.0$ is given in Sharr *et al.* (1995a).

While only the adjustment factor associated with the W. Noerenberg facility was used in contribution estimations, brood stock samples were taken during hatchery egg-take operations at all four Prince William Sound pink salmon hatcheries. Technicians stationed at each hatchery examined approximately 92% of the fish by visual and tactile means for missing adipose fins. The number of fish sampled was recorded daily. When adipose-clipped fish were found, the heads were excised and shipped on a weekly basis along with sample data to the Tag Lab.

Estimation of Contributions and Survival Rates

Postseason Hatchery Contributions and Survival Rates

The contribution of release group t to the sampled common property, cost-recovery, brood stock and special harvests, and escapement, C_t , was estimated as:

$$\hat{C}_t = \sum_{i=1}^L x_{it} \left(\frac{N_i \hat{\alpha}}{s_i p_t} \right), \quad (3)$$

where

- x_{it} = number of group t tags recovered in the i th stratum,
 N_i = total number of fish in the i th stratum,
 s_i = number of fish sampled from the i th stratum,
 p_t = proportion of group t tagged,
 α = historical adjustment factor associated with W. Noerenberg facility; and,
 L = number of recovery strata associated with common property, cost-recovery, brood stock, special harvests and escapement in which tag code t was found.

The contribution of release group t to unsampled strata, Cu_t , was estimated from contribution rates associated with strata which were sampled from the same district-week openings as the unsampled strata:

$$\hat{C}u_t = \sum_{i=1}^U N_i * \left[\frac{\sum_{j=1}^S \hat{C}_{tj}}{\sum_{j=1}^S N_j} \right], \quad (4)$$

where

- U = number of unsampled strata,
- N_i = number of fish in i th unsampled stratum
- S = number of strata sampled in the period in which the unsampled stratum resides,
- C_{tj} = contribution of release coded with tag t to the sampled stratum j ,
and
- N_j = number of fish in j th sampled stratum.

When a district-week opening was not sampled at all (an infrequent occurrence), the catch from that opening was treated as unsampled catch of the subsequent opening in the same district.

An estimate of the contribution of tag group t to the total Prince William Sound return for 1994 was obtained through summation of contribution estimates for sampled and unsampled strata. An estimate of the total hatchery contribution to the Prince William Sound return was calculated through summation of contributions over all release groups.

A variance approximation for \hat{C}_t , derived by Clark and Bernard (1987) and simplified by Geiger (1990) was used:

$$\hat{V}(\hat{C}_t) = \sum_{i=1}^L x_{it} \left[\frac{N_i \hat{a}}{s_i p_t} \right] \left[\frac{N_i \hat{a}}{s_i p_t} - 1 \right]. \quad (5)$$

Assuming that covariances between contributions of different release groups to a stratum could be ignored, summation of variance components over all tag codes provided an estimate of the variance of the total hatchery contribution. Inspection of the formula given by Clark and Bernard (1987) for the aforementioned covariances shows them to be negligible for large N and s , and to be consistently negative, so that when ignored, conservative estimates of variance are obtained. Variances associated with unsampled strata are believed to be small (Sharr et al, 1995b).

The survival rate of the release group coded with tag t (S_t), was estimated as:

$$\hat{S}_t = \frac{\hat{C}_t + \hat{C}u_t}{R_t}, \quad (6)$$

where

- C_t = contribution of release group coded with tag t to sampled strata,
- Cu_t = contribution of release group coded with tag t to unsampled strata,
- R_t = total number of fish in release group coded with tag t released from hatchery.

Assuming the total release of fish associated with a tag code is known with negligible error, and that the cumulative variance contributions associated with the unsampled strata are small, a suitable variance estimate for \hat{S}_t is given by:

$$\hat{V}(\hat{S}_t) = \frac{\sum_{i=1}^L x_{it} \left[\frac{N_i \hat{a}}{s_i p_t} \left| \frac{N_i \hat{a}}{s_i p_t} - 1 \right| \right]}{R_t^2}. \quad (7)$$

Inseason Hatchery Contributions

Two inseason estimates of hatchery contributions of pink salmon were generated for each opening. The first and more timely estimate was made using the method suggested by Sharr et al. (1995b). This method depended on number of (undecoded) tags detected in heads of adipose-clipped fish by a Northwest Marine tag scanner. Estimates using undecoded tags required that assumptions be made about adjustment (α) and expansion ($1/p_t$) factors (see Equation 3). For all inseason estimation, an adjustment factor of 1.65 was used, which is the historical average adjustment factor (1989-1993) associated with the W. Noerenberg facility. For fishery openings in the western and northern portions of Prince William Sound, late run hatchery returns to PWSAC facilities were assumed to be the only hatchery contributors. For openings in the Southwestern district, an expansion factor of 587 was used; this is a weighted average of all expansion factors associated with tags released at the A.F. Koernig (570), W. Noerenberg (604) and Cannery Creek (602) hatcheries in 1993. The weighting scheme depended upon historical contributions of hatcheries to the Southwestern district. Using a similar weighting scheme for the Coghill and Northern districts, expansion factors of 594 and 602 were calculated. For openings in the Eastern district, the early run hatchery returns to Solomon Gulch were assumed to be the only hatchery contributors, and an expansion factor of 605 was used. This is the average of all expansion factors associated with releases from the VFDA facility in 1993. The second method, which used fully decoded data, was used less frequently. Fully decoded data were usually available about 1 week after the heads were collected, and the results were not as useful in making

management decisions. The results from the second method agreed very closely to results based on number of detected tags. Calculations of inseason contributions were consistent with those used to generate postseason results (Equation 3). Postseason estimation is a more thorough, but less timely method which uses data from extracted and fully decoded tags, and which allowed tag-specific expansion factors to be used.

RESULTS

Tagging

Pink salmon fry were released from the A.F. Koernig, W. Noerenberg, Cannery Creek, and Solomon Gulch hatcheries in 1994 (Table 1). Pink salmon were by far the most abundant salmon species cultivated and released from Prince William Sound hatcheries. Numbers of pink salmon fry released ranged from 85 million for the Cannery Creek hatchery to 172 million for the W. Noerenberg hatchery. Tagging rates among facilities were fairly constant and in the region of 1 tag per 573 fish (0.001745), excluding experimental release groups, which were tagged at 1 tag per 200 fish (0.005). Solomon Gulch applied 5 tag codes, Cannery Creek applied 9 codes, W. Noerenberg and A.F. Koernig hatcheries both applied 16 codes.

Tag Recoveries

Sampling Rates

Approximately 16% of the pink salmon captured in the common property and 20% of those captured in the cost-recovery harvests were sampled during 1994. These sampling rates were functions of the magnitudes of the catch, the number of samplers and the short time period the fish were accessible to the samplers. The proportion of the pink salmon brood stock sampled was 92%.

Table 1. Tagging data for pink salmon by hatchery for 1994, Prince William Sound, Alaska.

Hatchery	Number				Range of Fish per Tag
	Released	Tag Codes	Tagged	Fish per Tag	
A.F. Koernig	113,337,345	16	197,597	599 ^a	153 - 611
W. Noerenberg	172,084,433	14	284,957	604	593 - 611
Cannery Creek	140,030,396	14	232,526	602	596 - 621
Solomon Gulch	141,865,235	6	235,764	602	597 - 618

^a One of the 16 release groups was experimental; 6,667 tags were applied to a total release of 1,020,051 smolt for a tagging rate of 1/153 (0.00654). The experimental tag group is not included in the average number of fish per tag.

Estimates of Contributions

Tags from hatchery produced pink salmon were recovered in the common property, cost-recovery and brood stock harvests. Hatcheries contributed 29.93 million pink salmon (79%) to the total Prince William Sound catch of 37.99 million (Table 2, Appendix A.6). Of the four hatcheries cultivating pink salmon in the Sound, Solomon Gulch hatchery produced the largest number, 12.57 million fish (33%), while A.F. Koernig hatchery contributed the smallest number, 1.73 million, or 5% of the total catch. In the common property fisheries, 26.17 million fish were harvested, of which 21.17 million were hatchery fish and 5 million were wild fish. Of the 10.37 million fish harvested in the cost recovery fisheries, 7.61 million were hatchery fish and 2.76 million were wild fish.

The inseason estimates of hatchery stock contribution agreed very closely with the postseason estimates (Figure 2). In the Eastern district, the inseason and postseason estimates were similar for 5 weeks out of 7. In the week ending July 9, the inseason estimate was slightly outside of the postseason estimate's confidence interval. For the week ending July 16, the inseason and postseason estimates were at the edge of each other's confidence interval. The inseason and postseason estimates for the Northern district agreed very closely for all weeks calculated. The estimates for Southwestern district were similar for the week ending July 30, and diverged somewhat for the second week.

Common Property Catches

The overall Prince William Sound pink salmon return was very strong. For common property harvests between 1989 and 1994, the 1990 harvest was larger, and the 1991 harvest was comparable (Table 3, Figure 3, Appendix B). Some 26.17 million pink salmon were harvested overall, of which 9.65 million fish originated from Solomon Gulch hatchery, 6.8 million fish came from Cannery Creek hatchery, and wild stocks were the third largest contributor with 5.00 million fish. About 4.16 million W. Noerenberg fish were caught in the common property fisheries, as were 0.56 million A.F. Koernig fish (Table 2).

The Eastern district common property harvest was very strong due to good returns of Solomon Gulch fish. Total harvest was 11.44 million fish, of which 9.45 million were from Solomon Gulch. Over 2 million fish were harvested in the weeks of July 9 and 16, and 4.64 million fish were harvested during the peak week of July 23 (Figure 4, Appendix B.6). Wild Fish contributed about 16.5% of the harvest, 1.89 million fish, and the other hatcheries contributed less than 95,000 fish to the harvest.

Northern and Unakwik district common property harvest was the second largest after Eastern district. The peak weekly harvest occurred from August 7 to 13, with 3.5 million fish harvested in Northern district; 0.11 million fish were harvested the same week in Unakwik district (Figure 4, Appendix B.6). About 5.06 million fish of the 7.17 million pink salmon harvested in the combined districts originated from Cannery Creek hatchery. Wild fish

Table 2. Postseason estimates of hatchery and wild stock contributions to the Prince William Sound catch of 1994 (in millions of fish).

Contributor	Common Property	Cost Recovery	Brood Stock	Total Contribution	95% Bounds	Percent of Total Catch
Hatchery Stocks						
A.F. Koernig	0.56	0.95	0.20	1.73	1.5-1.9	4.57
W. Noerenberg	4.16	1.58	0.46	6.22	5.9-6.6	16.38
Cannery Creek	6.80	2.42	0.16	9.40	8.9-9.9	24.75
Solomon Gulch	9.65	2.66	0.26	12.57	11.9-13.3	33.09
Total	21.17	7.61	1.08	29.93	28.9-30.9	78.79
Wild Stocks	5.00	2.76	0.30	8.06		21.21
Total	26.17	10.37	1.38	37.99		

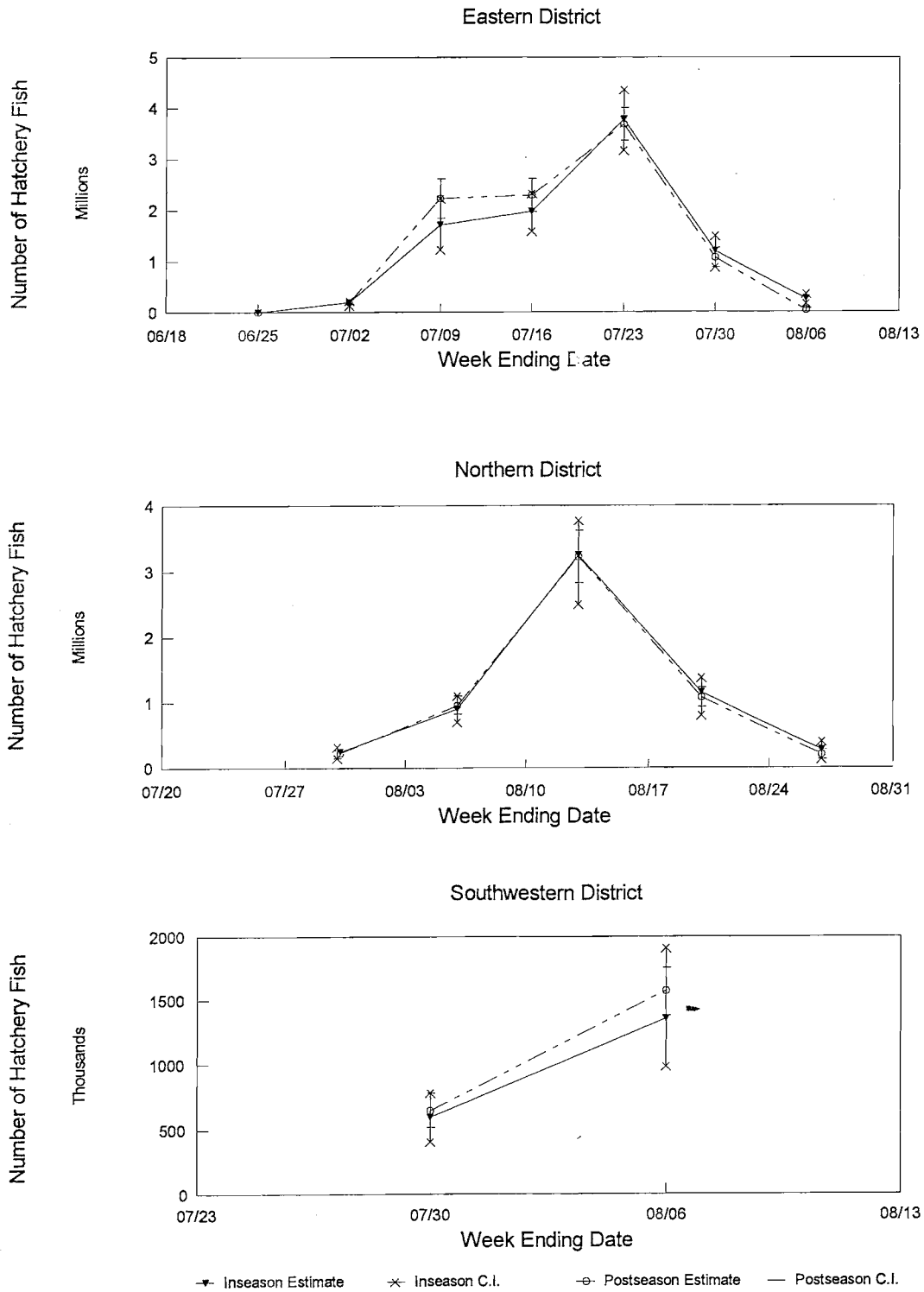


Figure 2. Comparison of inseason and postseason estimates of hatchery contributions to Eastern, Northern, and Southwestern district common property fisheries in Prince William Sound during 1994.

Table 3. Hatchery and wild stock contributions to the pink salmon common property harvest in Prince William Sound from 1989 to 1994.

Year	Common Property Harvest		Total
	Hatchery	Wild	
1989	10,559,782	3,247,055	13,805,837
1990	24,386,360	11,035,140	35,421,500
1991	20,977,418	5,196,219	26,893,179
1992	4,347,954	1,230,141	5,578,095
1993	2,398,904	1,114,477	3,513,395
1994	21,173,273	5,004,780	26,178,053

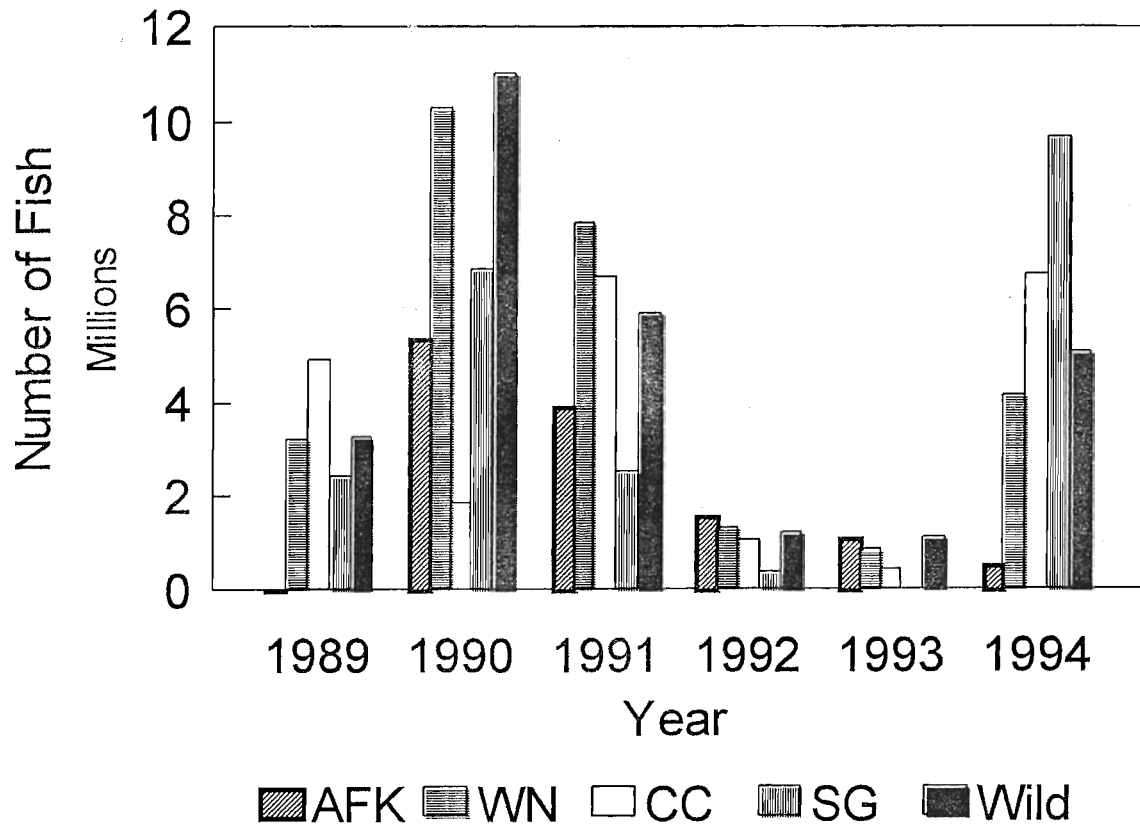


Figure 3. Pink salmon hatchery and wild stock contributions to common property fishery catches in Prince William Sound from 1989 to 1994.

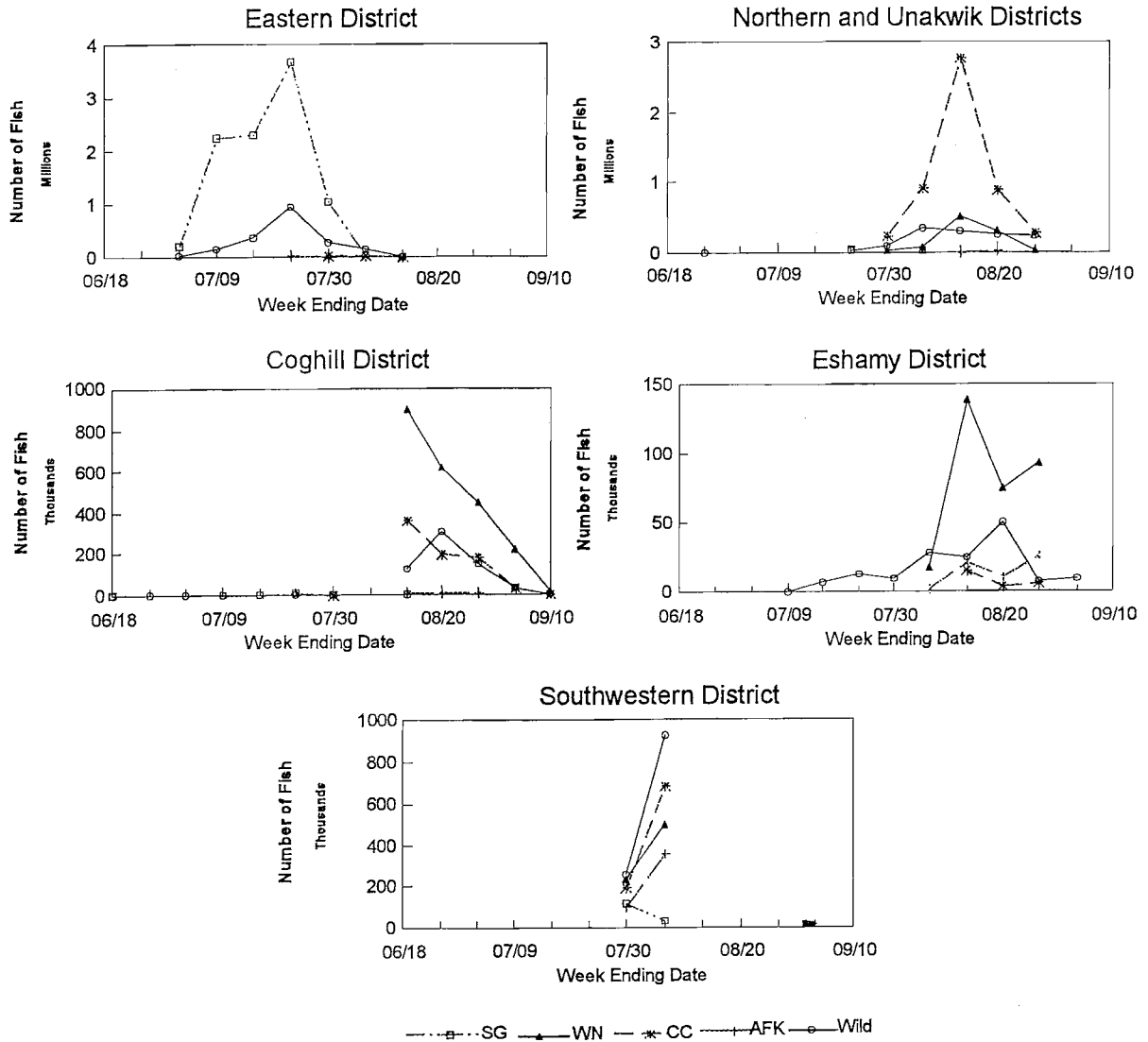


Figure 4. Hatchery and wild stock contributions to common property fishery catches by district and week in Prince William Sound in 1994.

comprised the second largest portion, contributing 1.18 million fish. The portion of the harvest from Wally Noerenberg hatchery consisted of 0.89 million fish.

The Coghill district common property purse seine fishery for pink salmon began the week from August 7 to August 13, and 1.39 million fish were caught, of which 0.90 million and 0.36 million fish originated from Wally Noerenberg and Cannery Creek, respectively (Figure 4, Appendix B.6). Prior to August 7, the pink salmon harvests were harvested incidentally in the gillnet fishery targeting on sockeye salmon. The harvest peaked during the first week of the purse seine fishery, and dropped progressively thereafter. Wally Noerenberg and Cannery Creek hatcheries were the first and second largest contributors, respectively, with wild fish comprising the third largest portion of the catch.

Eshamy district had the smallest common property pink salmon harvest, with 0.565 million pink salmon caught. Wild fish appeared consistently over 9 weeks, from July 3 to September 3, while hatchery fish appeared for only 4 weeks, and peaked during the week ending August 13 (Figure 4, Appendix B.6). The largest portion of the catch originated from Wally Noerenberg hatchery, and the second largest portion consisted of wild fish.

Southwestern District was fished for only 2 weeks, because of the large number of hatchery fish bound for other districts in the harvest (in season estimates calculated from coded wire tag samples), and the low numbers of fish in wild stock escapement. Wild fish comprised the largest portion of the common property harvest, 1.18 million fish. Cannery Creek was the origin of the second largest portion of the harvest, with 0.88 million fish (Figure 4, Appendix B.6).

Cost Recovery Catches

In contrast to other years (1989 to 1993), the 1994 cost recovery fisheries had three of 5 possible sources of pink salmon producing comparable numbers of fish (Figure 5, Appendix C). Wild fish comprised the largest portion of the overall catch, with 2.81 million pink salmon. Solomon Gulch fish were the second largest part, with 2.66 million fish, and Cannery Creek was third, with 2.42 million fish. The high proportion of wild fish was due to a "fish for PWSAC" volunteer effort by the commercial fleet in expanded Terminal Harvest Areas between August 5 and August 9, in order to bring the cost recovery portion up to 40%. The total cost recovery catch for 1994 was higher than previous years (Table 4), due to a large return and a change in the percent of fish allocated to cost recovery from 30% to 40%.

The 1994 cost recovery fishery for the Eastern district peaked during the week ending July 2, with 1.10 million fish caught (Figure 6, Appendix C). The number of wild pink salmon in the cost recovery increased after July 16.

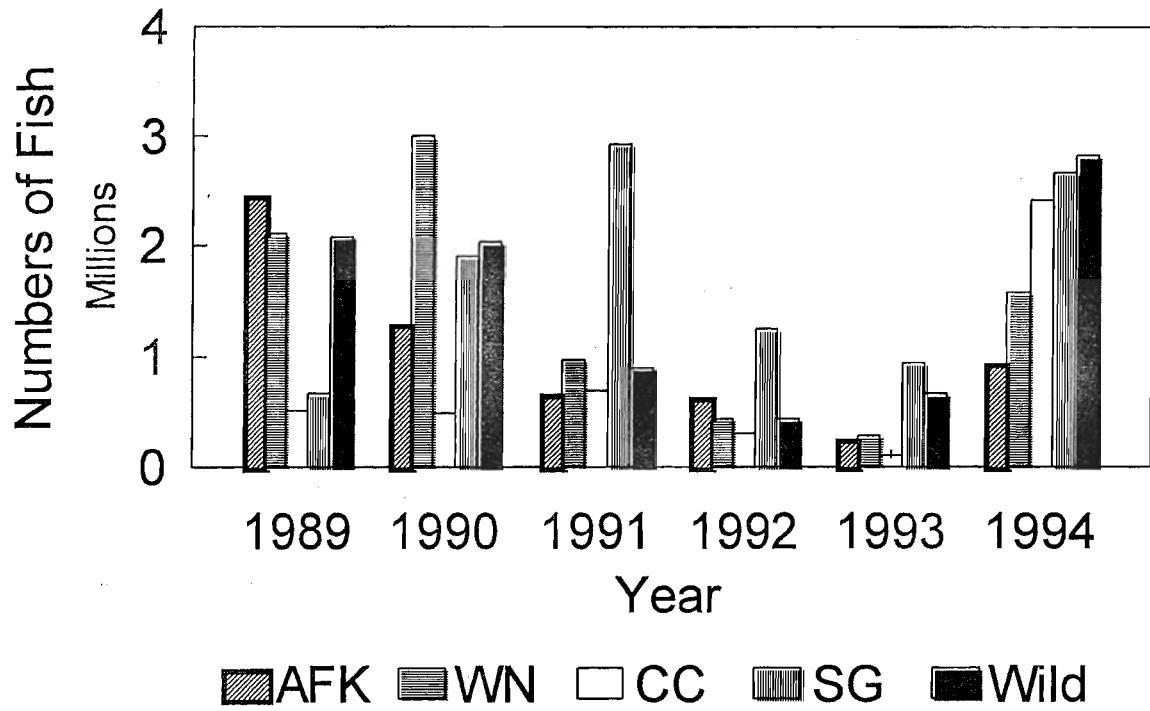


Figure 5. Pink salmon hatchery and wild stock contributions to cost recovery fishery catches in Prince William Sound from 1989 to 1994.

Table 4. Hatchery and wild stock contributions to the pink salmon cost recovery harvest in Prince William Sound from 1989 to 1994.

Year	Cost Recovery Harvest		Total
	Hatchery	Wild	
1989	5,767,913	2,085,506	7,853,419
1990	6,691,155	2,041,500	8,732,655
1991	5,219,024	900,105	6,119,129
1992	2,617,023	437,206	3,054,229
1993	1,548,670	663,733	2,212,403
1994	7,613,582	2,757,466	10,371,048

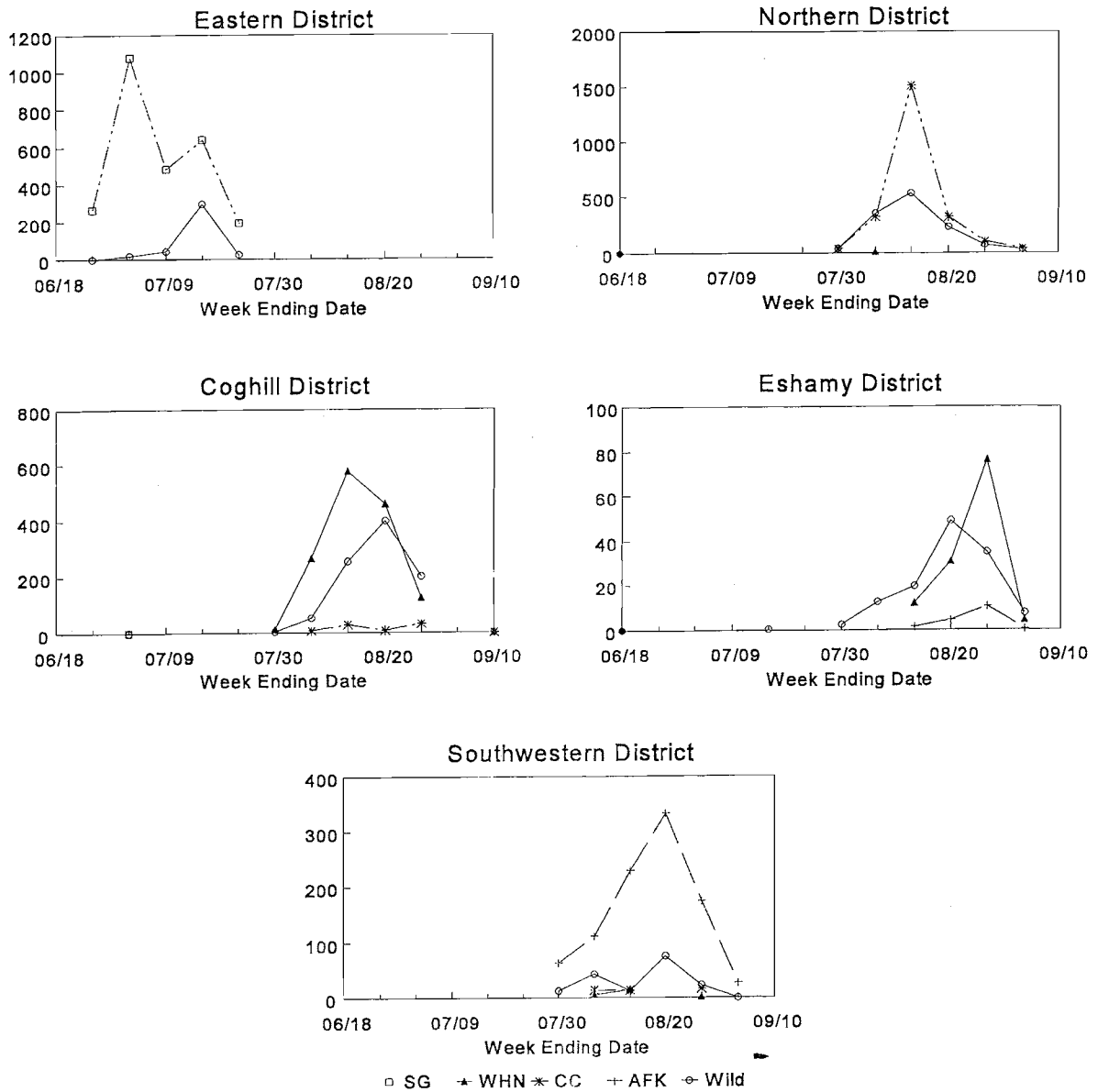


Figure 6. Hatchery contributions to cost recovery fishery catches by district and week in Prince William Sound in 1994.

The cost recovery catch curve mirrored the common property catch curve (Figure 6, Appendix C), due to the large number of Cannery Creek pink salmon. Wild stocks comprised the second largest portion of the catch, and was larger due to the "fish for PWSAC" effort. A small number of pink salmon originated from Wally Noerenberg.

Like the common property fishery, the Coghill district cost recovery fishery peaked during the week of August 13 (Figure 6, Appendix C).

Since pink salmon are caught incidentally to sockeye salmon, the number of pink salmon caught in Eshamy district is an order of magnitude smaller than the other cost recovery harvests (Figure 6, Appendix C). Since few if any fish were checked for tags during weeks 33, 34, and 36, proportions from week 35 (week of August 27) were used to estimate stock contributions for all Eshamy district cost recovery catches.

The cost recovery harvest in Southwestern district had a lower proportion of wild fish in the cost recovery harvest (Figure 6, Appendix C). Fewer vessels volunteered for the "fish for PWSAC" effort in Southwestern district than other districts, and the volunteers encountered small quantities of fish, in comparison to those caught in the traditional Terminal Harvest Area.

Survival Rates

Survival rates (over all tag codes) of adult hatchery pink salmon were 8.86% for Solomon Gulch, 6.6% for Cannery Creek, 3.55% for W. Noerenberg, and 1.53% for A.F. Koernig (Table 5). Significant differences ($\alpha=0.05$) in survival rates of hatchery-reared fish were detected between all hatcheries ($P<0.0005$). The above tests assume zero-covariance between the survival rates tested within each comparison, and that the variability associated with unsampled strata is minimal. Estimates of percent marine survival for individual tag codes of pink salmon returning to Prince William Sound between 1989 and 1994 are presented in appendix F.

Survival rates by hatchery of pink salmon returning in 1994 ranged from 1.53% for A.F. Koernig fish to 8.86% for Solomon Gulch fish; Cannery Creek and W. Noerenberg pink salmon had survival rates of 6.6% and 3.55%, respectively. By comparison, survival rates for 1989 ranged from 2.8% to 4.12%, while survival rates for 1990 ranged from 4.3% to 10.5%. The range of 1991 hatchery survival rates was more confined, 4.6% to 6.06%. In 1992, the highest survival rate was 2.38%, and the lowest was 0.99%. The 1993 survival rates were even lower, 0.54% to 1.42%. Survival rates for fish returning to W. Noerenberg, Cannery Creek, and (especially) Solomon Gulch facilities rebounded from their lows in 1992 and 1993, while A. F. Koernig hatchery returns have remained depressed (Figure 7). The 1994 returns to AFK hatchery extends a general trend of reduced survival rates for that hatchery since 1989.

Table 5. Survival rates of pink salmon returning to Prince William Sound hatcheries in 1994.

Hatchery	Survival Rate (%)	95% Bounds
A.F. Koernig	1.53	1.36-1.69
W. Noerrnberg	3.55	3.35-3.75
Cannery Creek	6.60	6.22-6.98
Solomon Gulch	8.86	8.38-9.34

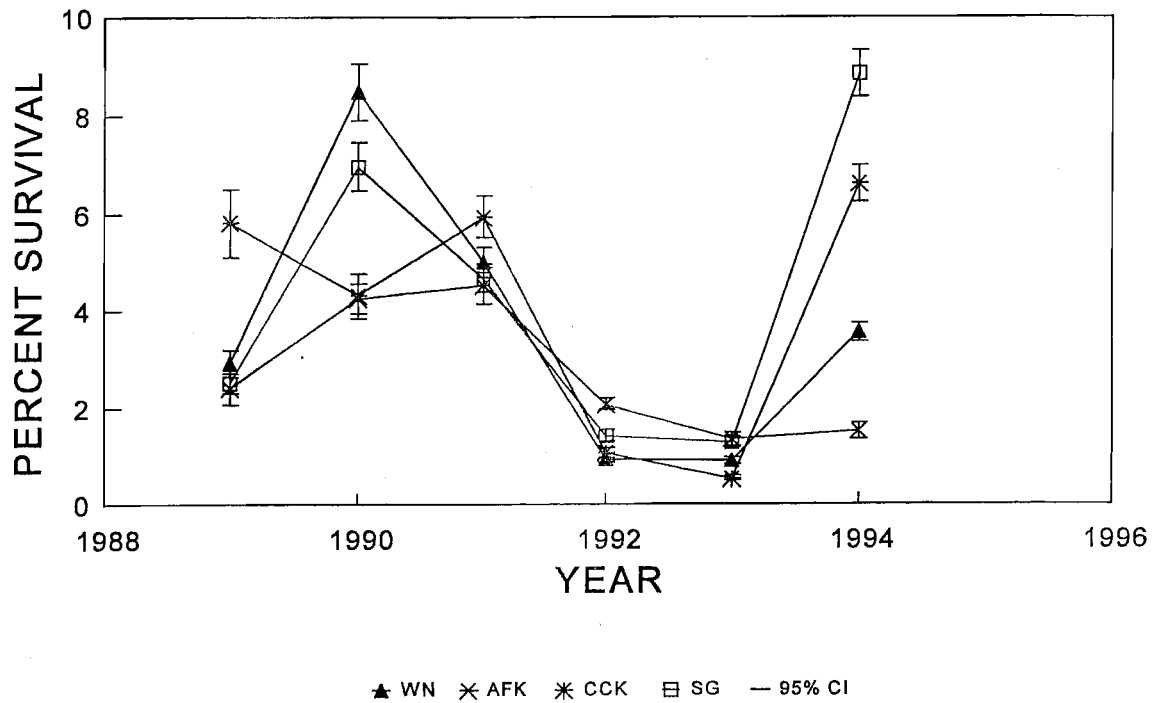


Figure 7. Estimated pink salmon marine survival rates for each hatchery in Prince William Sound from 1989 to 1994.

Adjustment Factors

Adjustment factors were estimated from pink salmon brood stocks and are presented in Table 6. The smallest brood stock adjustment factor was for A.F. Koernig, at 1.75. Cost recovery adjustment factors for the Solomon Gulch and Cannery Creek hatcheries were 1.89 and 2.64, respectively. The brood adjustment factor for W. Noerenberg was 2.05, which was the second smallest of the brood adjustment factors. It was, however, the largest adjustment factor calculated for that hatchery (Table 7). Thus, an average of all W. Noerenberg brood adjustment factors was calculated, in order to increase the likelihood of approaching the actual value. The W. Noerenberg historical (1989-1994) adjustment factor estimate of 1.71 was found to be significantly greater than 1.0, and was used for all postseason contribution estimates.

DISCUSSION

Contributions of Hatchery Fish to the Commercial Catch

Supplemental hatchery production of salmon in Prince William Sound has complicated management of the commercial salmon fisheries. While wild pink salmon production is overshadowed by total hatchery production, wild stocks produce a significant portion of the harvest. From 1989 to 1994, wild salmon stocks were one of the 3 largest contributors (out of 5) to the common property harvest, (Appendix B). During this time, a strong wild stock return in conjunction with weak hatchery returns has not taken place. The largest total returns during this period occurred in 1991 and in 1994, while the weakest total returns took place during 1992 and 1993. For the most part, the peak returns of hatchery fish have coincided with peak returns of wild stocks in all districts. Since wild and hatchery stocks are not separated in time, management biologists use spatial restriction of harvest areas to protect the weak elements, with varying degrees of success.

As in the previous year, the most important task of the coded wire tag program in 1994 was to provide accurate and timely inseason estimates of hatchery contributions to fishery managers. This was achieved through the method recommended by Sharr et al. (1995b), i.e. preliminary estimation was based solely upon numbers of detected but undecoded tags. Inseason estimates of contribution rates were made available to fishery managers within 24-48 hours of the termination of the fishing period. Unlike the returns of 1993, those of 1994 were strong. The 1994 inseason estimates compared favorably with the postseason results, which were calculated from decoded tag data, tag-specific expansion factors, and an updated W. Noerenberg historical (1989-1994) adjustment factor. The agreement depicted in Figure 2 underscores the utility of the coded wire tag program as a management tool.

Table 6. Adjustment factors by hatchery, estimated from the 1994 brood stock harvests.

Hatchery	Adjustment Factor		P Value for Ho: A. Factor \leq 1.0
	Estimate	SE	
A.F. Koernig	1.75	0.106	0
W. Noerrnberg	2.05	0.114	0
Cannery Creek	2.38	0.196	0
Solomon Gulch	3.15	0.219	0
Historical Average	1.71	0.137	0

Table 7. Adjustment Factors estimated from brood and cost-recovery harvests by facility for pink salmon from 1989 through 1994.

Year	Brood				Cost-Recovery	
	WHN ^a	AFK ^b	VFDA ^c	CC ^d	VFDA ^c	CC ^d
1989	1.73	1.36	1.13	2.12	1.11	1.81
1990	1.28	1.58	1.82	1.96	1.23	1.71
1991	1.82	1.45	1.94	2.28	1.55	1.97
1992	1.63	1.43	2.55	2.74	1.25	1.58
1993	1.78	2.06	3.82	2.91	2.41	2.36
1994	2.05	1.75	3.15	2.38	1.89	2.64

^a W. Noerenberg

^b A.F. Koernig

^c Solomon Gulch

^d Cannery Creek

An example of the usefulness of coded wire tag data is the common property fishery in the Southwestern district during 1994. The catch in the first commercial opening was good, given the amount of effort. The general assumption was that the fish were virtually all wild and represented a strong return, and should be fished heavily. Preliminary coded wire tag information (percent of hatchery fish in the catch) indicated a strong hatchery component in the catch. A weak cost recovery catch for A.F. Koernig hatchery implied that most of the hatchery component in the catch were fish from other hatcheries, which was confirmed the next week by specific tag information. The fishery was restricted, and closed early to increase escapement of wild fish along the migration corridor, and to allow hatchery fish to move closer to their destined hatcheries prior to being harvested.

In addition, coded wire tag information is the only management tool in place which tracks the number of hatchery fish in common property and cost recovery fisheries in Prince William Sound. At present, pink salmon fisheries are managed so that the hatchery component of the common property fishery is approximately 60 percent of the cost recovery harvest. In the absence of coded wire tag information, the fisheries would be managed to provide 60 percent of the total catch to the common property fisheries, and 40 percent to cost recovery, on the assumption that wild fish would be harvested in equal proportions. Since the percent of hatchery fish in the catch often varies wildly from opening to opening, the wild pink salmon harvests would also vary wildly.

Survival Rates of Hatchery Fish

Overall marine survival rates increased markedly for W. Noerenberg, Cannery Creek, and Solomon Gulch fish from 1993 to 1994. The increased survival rates may be due to increased ocean temperatures, as suggested by the data from Willette and Carpenter (1994). The average surface temperature (calculated from measurements taken by ships of opportunity) for March, April, and May of 1993 was 0.9° C warmer than average. The reasons for low survival rates of A.F. Koernig fish are unknown.

Adjustment Factors

Adjustment factors were developed to address violations of underlying assumptions in the analysis; namely, that fish do not lose tags; and, that mortality rates are the same for tagged and untagged fish. Adjustment factors shape the CWT model to more closely mirror reality, a necessity since the results of the model are used in making management decisions. However, adjustment factors are not an optimum solution, due to their own underlying assumptions, e.g. that all pink salmon in the brood originate from that hatchery. Data are not presently available to properly test for and quantify deviations from the assumptions. Otolith marking combined with coded wire tags should enable us to analyze and test the validity of the adjustment factors.

Historical W. Noerenberg adjustment factors were used as a standard in all inseason (adjustment factor =1.65: 1989-1993) and postseason (adjustment factor =1.71: 1989-1994) estimates of hatchery returns in 1994. The standardized adjustment factor was used due to growing concerns that brood stocks (and cost recovery stocks) at the Cannery Creek, Solomon Gulch and A.F. Koernig hatcheries are contaminated with wild fish, and yield inflated adjustment factors inappropriate for contribution estimation (Table 5). The Solomon Gulch and Cannery Creek hatcheries have pink salmon spawning streams in close proximity to the brood intake structures. A.F. Koernig hatchery yields adjustment factors which are similar to W. Noerenberg hatchery. However, the location of A.F. Koernig hatchery in a migration corridor used by the majority of pink salmon returning to Prince William Sound obliges us to be wary of adjustments based upon brood stock from that facility. At the W. Noerenberg hatchery, there are no known local wild populations which are likely to contaminate the brood stock, and the facility is not in the pathway of any major returns of wild pink salmon. Therefore, the adjustment factor derived for this facility is believed to be more accurate in accounting for lost tags and differential mortality of tagged fish. Further discussion of large adjustment factors observed at the Solomon Gulch and Cannery Creek facilities is given in Sharr et al (1995c). The adjustment factors calculated for Solomon Gulch, Cannery Creek (both cost recovery and brood estimates) were suspiciously large, and lend justification to the use of the W. Noerenberg historical average.

No empirical evidence exists that confirms the validity of the above arguments, and we are increasingly critical of the use of adjustment factors. We do not know if the brood stock returning to W. Noerenberg hatchery has a higher proportion of hatchery fish than the other facilities. An independent assessment of numbers of wild fish in the various brood stocks is needed to scientifically address any controversy over adjustment factors. Such an assessment will be possible under the proposed otolith thermal marking project (R95320C). In that study, all pink salmon released from Prince William Sound hatcheries in 1996 will be thermally marked, with each facility receiving a different mark. In the brood stocks of 1997, every fish lacking the otolith mark will be considered wild, and an estimate of the proportion of wild fish present will be available. Comparisons between actual brood stock composition based on otolith marking and calculations of adjustment factors should allow us to evaluate adjustment factors.

Historical Trends in Hatchery Contributions

Common Property Catches

The Eastern district has the earliest harvests, with peak catches usually occurring during the first 2 weeks in July. (Figures 4, 8, 9, 10, 11, and 12). In the Eastern district, Solomon Gulch is the primary contributor of hatchery fish; all other hatcheries make token contributions to the harvest. The estimated proportion of Solomon Gulch fish in the common property harvest has ranged from 74.2% in 1992 to 93.4% in 1994 (Appendix B). Generally, peak harvests of hatchery fish have coincided with the peak harvests of wild stocks, and wild

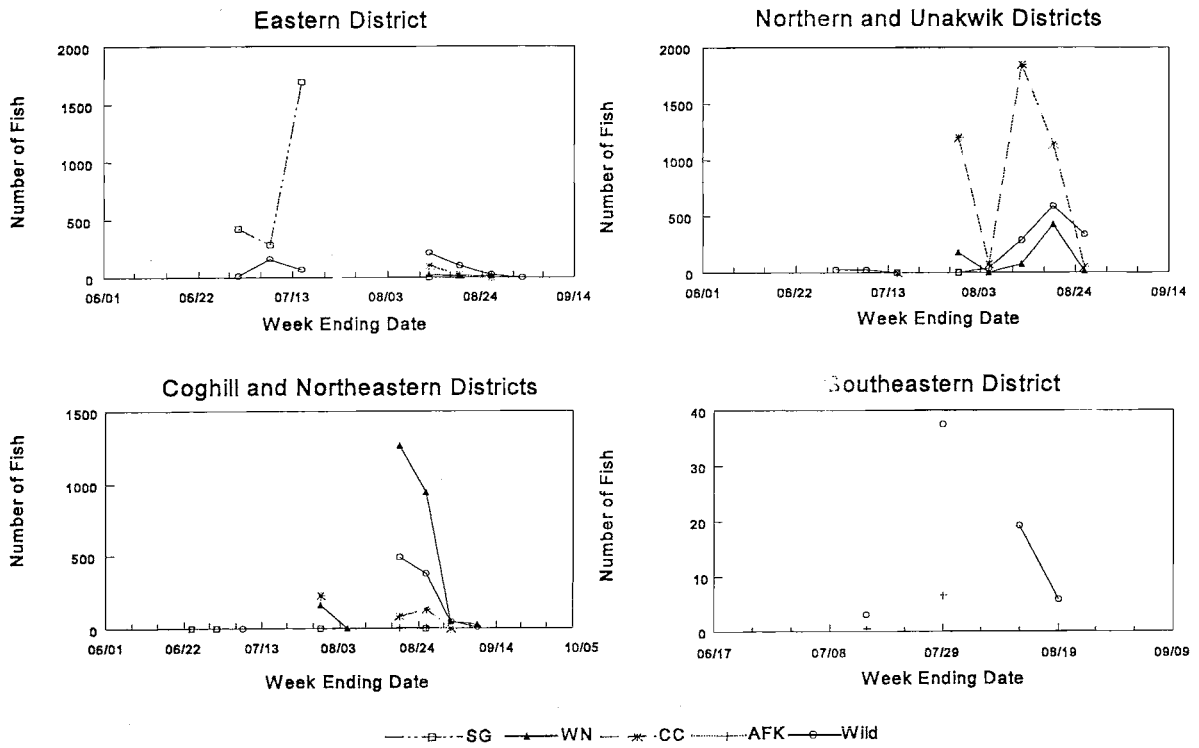


Figure 8. Hatchery contributions to common property fishery catches by district and week in Prince William Sound during 1989.

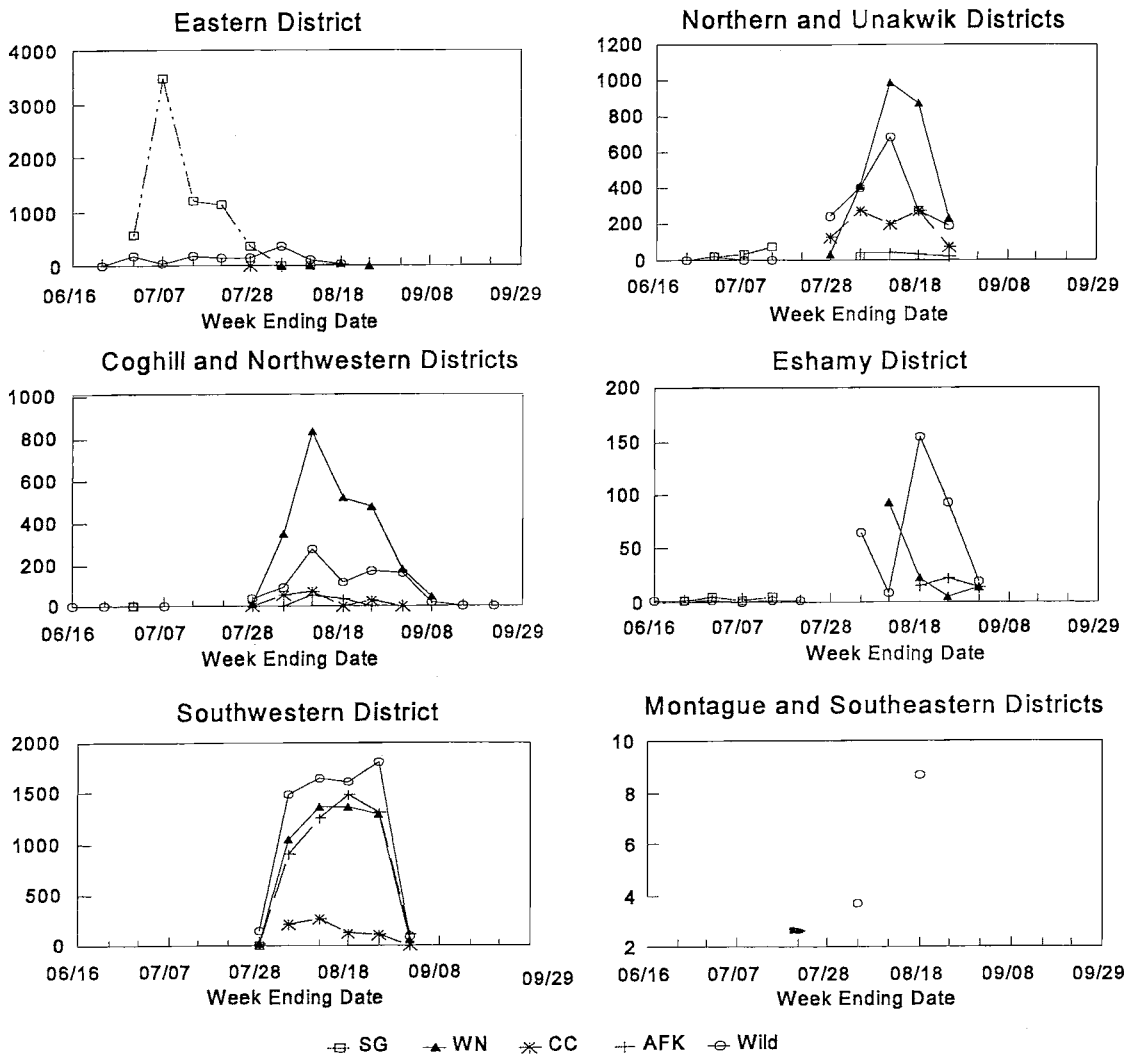


Figure 9. Hatchery contributions to common property fishery catches by district and week in Prince William Sound in 1990.

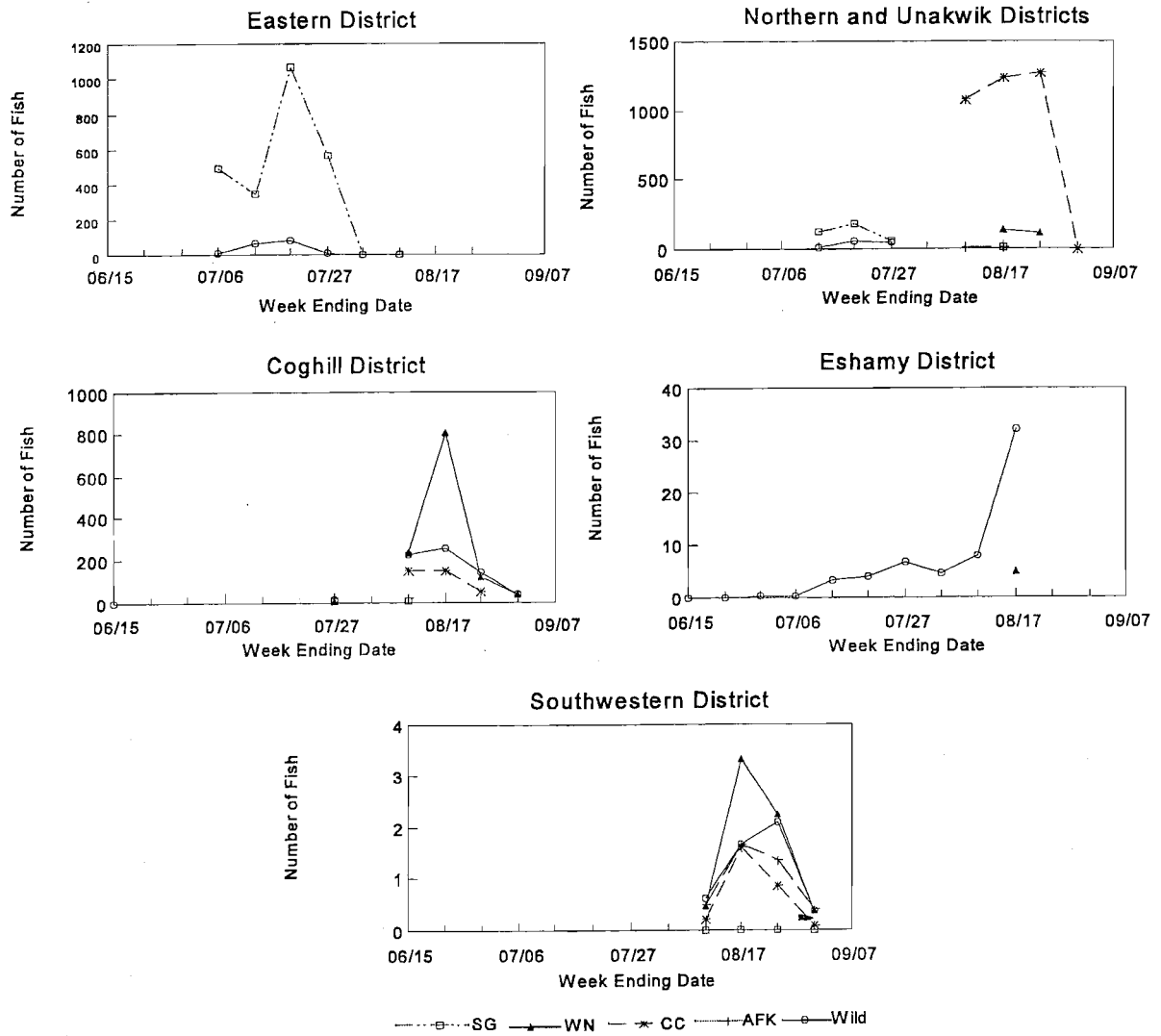


Figure 10 . Hatchery contributions to common property fishery catches by district and week in Prince William Sound in 1991.

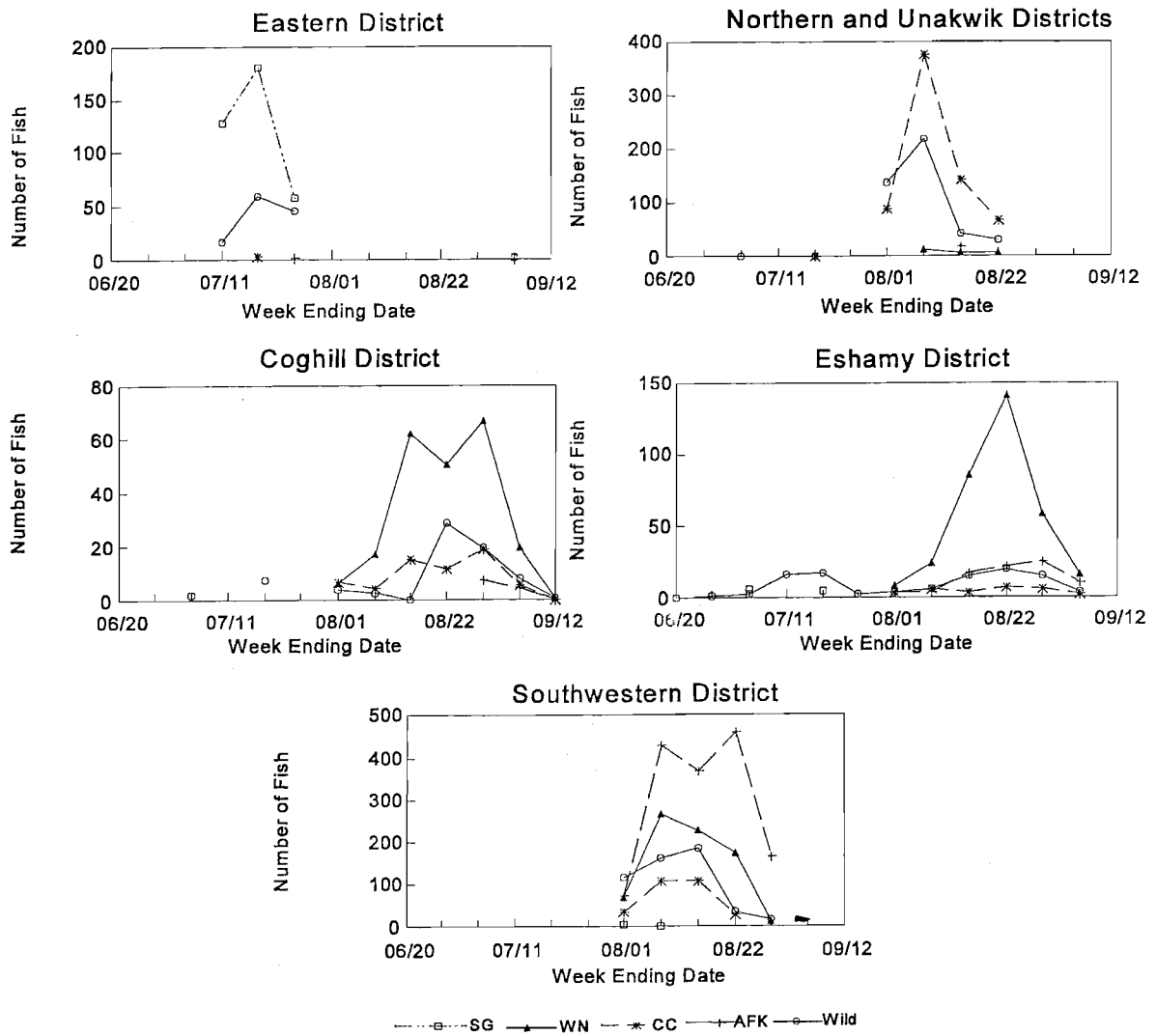


Figure 11 . Hatchery contributions to common property fishery catches by district and week in Prince William Sound in 1992.

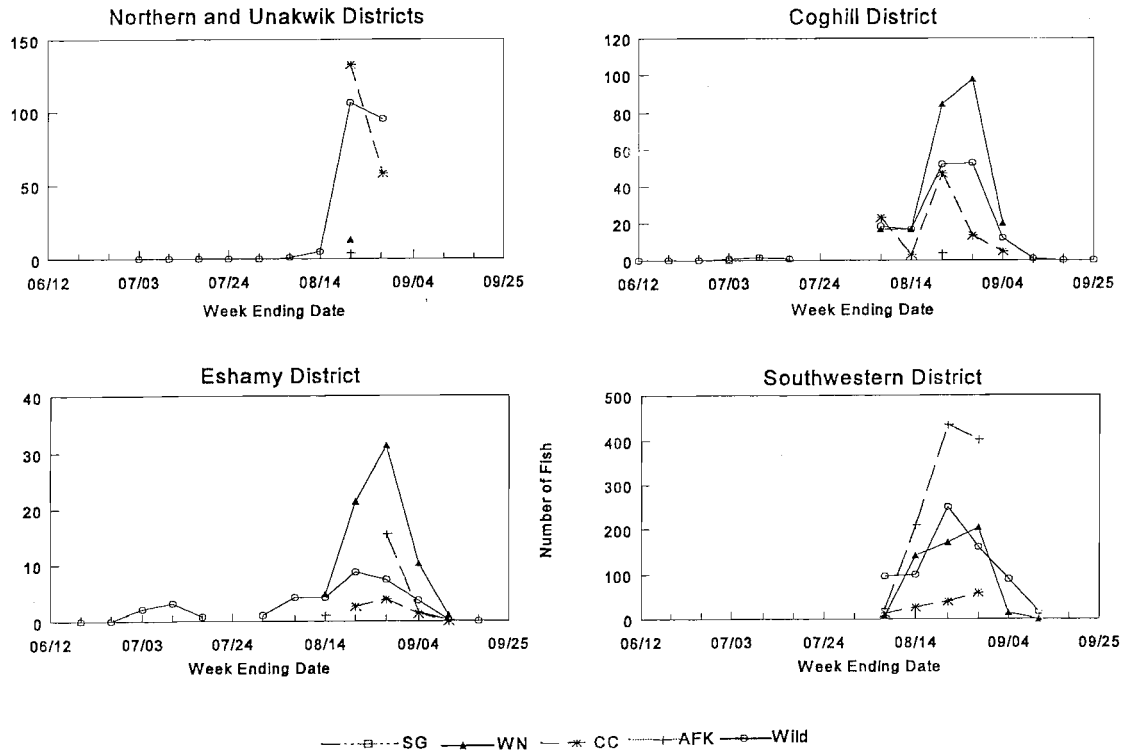


Figure 12 . Hatchery contributions to common property fishery catches by district and week in Prince William Sound in 1993.

stocks have been overshadowed by the Solomon Gulch returns. Adverse impacts on wild stocks have been minimized by restricting the fleet to Port Valdez and the Valdez Arm. However, wild stocks in that vicinity can be regularly overharvested, due to concentration of effort when such restrictions are instituted.

Common property pink salmon harvests for Northern and Unakwik districts are combined in this discussion in Figures 5, 8, 9, 10, 11, and 12. Unakwik district was formed to manage for sockeye salmon harvests; the Unakwik district pink salmon composition resembles that of the Northern district. Peak weekly harvests usually occur around August 15. The major contributors of hatchery pink salmon are the W. Noerenberg and Cannery Creek facilities. Being the resident hatchery in the district, Cannery Creek returns generally make up the largest portion of the catch. In 1990, W. Noerenberg fish were the largest component of the harvest, due to a low number of returns to Cannery Creek. From 1989 to 1994, wild stocks have consistently been the second largest component of the Northern district common property harvest. During years of strong Cannery Creek returns, such as in 1991, the wild stock component has been as small as 8% of the Cannery Creek component. During 1990 and 1993, the wild stock contribution was 65% to 70% of the size of the largest hatchery stock component.

Prior to July 21, Coghill district is managed for sockeye and chum salmon, and only drift gillnets are allowed. After July 21, the district is managed primarily for pink salmon, and both gillnets and purse seines are allowed. After August 25, purse seine harvest is restricted to the Noerenberg Hatchery Terminal Harvest Area of Lake and Quillian Bays. Peak harvest weeks usually occur between the first and fourth weeks of August. Wally Noerenberg is the resident hatchery within the district, and fish originating from there have been the primary component of the harvest from 1989 to 1994, with a range of 48% to 67.4% of the harvest.

Cannery Creek, Armin F. Koernig, and Solomon Gulch also contribute to the catch, in decreasing order of importance. Wild stocks were the second largest component of the common property catch, slipping to third in 1994. Northwestern district catches are combined with Coghill district (in the figures) for 1989 and 1990: Northwestern catches are small, and are similar in composition to Coghill district catches. Salmon bound for Coghill and Northwestern districts must pass through several intensive fisheries prior to entering their spawning areas. The escapement into Coghill district and portions of Northwestern district has consistently been below desired levels since before 1989. The decreasing number of wild fish in Coghill district common property harvests from 1989 to 1994 suggests a downward trend in the Coghill district stocks. A run reconstruction model of wild pink salmon in the Prince William Sound fishery during 1990 and 1991 (Templin, Collie, and Quinn 1994) estimated the respective harvest rates for Coghill wild stocks to be 89% and 64%. These harvest rates were the highest of all of the district wild stocks. However, insufficient (auxilliary) data precludes validation of the model, and any definitive conclusions.

Eshamy district impinges upon a major migration corridor, and harvests include fish bound for other districts, as well as those destined for Eshamy district. Since the district is managed for sockeye salmon, and only gillnets are used, the Eshamy usually has the smallest catch of pink

salmon of any of the districts. An unusually large pink salmon harvest occurred in 1992, due to a remote release of pink salmon in Main Bay. In 1990 and 1991, wild stocks constituted the largest proportion of the Eshamy district pink salmon common property harvest. From 1992 to 1993, W. Noerenberg fish comprised the the largest proportion of the catch, and wild stocks were second most abundant. A.F. Koernig fish constituted the third most prevalent group from 1990 to 1994. Cannery Creek and Solomon Gulch intermittently contribute small proportions to the common property harvest. In Eshamy district, wild fish start to arrive in the fishery in early July, and continue to be caught until the end of the season. At the end of July or beginning of August, hatchery fish appear in the catch, usually abating after 3 or 4 weeks. Salmon from W. Noerenberg form a sharp peak of abundance, and subside quickly. During 1990 and 1991, wild salmon numbers increased sharply at the same time as the hatchery stocks appeared. These wild fish are likely to have been migrants bound for other districts, such as Coghill and Northwestern.

Southwestern district straddles major migration corridors into Prince William Sound, and fish from all other districts are caught there. The district is closed to fishing prior to July 18. Fish originating from Solomon Gulch make up the smallest proportion of Southwestern district harvests. Due to the early timing of Solomon Gulch pink salmon, the majority pass through Southwestern district prior to the opening of the fishery, or enter the Sound by alternate migration routes. Wild fish bound for Eastern district also generally avoid this fishery because of early timing and use of alternate migration routes. The contributions of other stocks to the harvest seems to be in relation to overall abundance. Armin F. Koernig hatchery is sited in the district, but it was the major source of harvested fish only during 1992 and 1993. During those years, A.F. Koernig had the highest number of hatchery returns in Prince William Sound. Between 1990 and 1994, wild stocks constituted one of the three largest portions (out of 5) in the common property harvest. The number of wild fish caught in Southwestern district between 1990 and 1994 exceeds the sum from any other source. Since no protocol is in place to discriminate between wild fish destined for other districts, one cannot quantify the impact of the fishery on specific wild stocks.

Cost Recovery Catches

Since cost recovery harvests (also known as private non-profit harvests) occur in restricted areas near a hatchery, supposedly few if any of the fish harvested come from sources other than that hatchery. In practice, large portions of the catch may be from other sources, such as wild stocks (Figures 6, 13, 14, 15, 16, and 17, Appendix C). In 1994, wild fish constituted the largest portion of the private non-profit harvest. The large proportion of wild fish was due in part to a "fish for PWSAC" effort. During years of high abundance, the aquaculture associations may have difficulty harvesting their allocation. At such times, the cost recovery harvest area is expanded, the common property fishery is closed, and the aquaculture association relies on the fleet to help harvest its allocation. This procedure was instituted during 1990 and 1994.

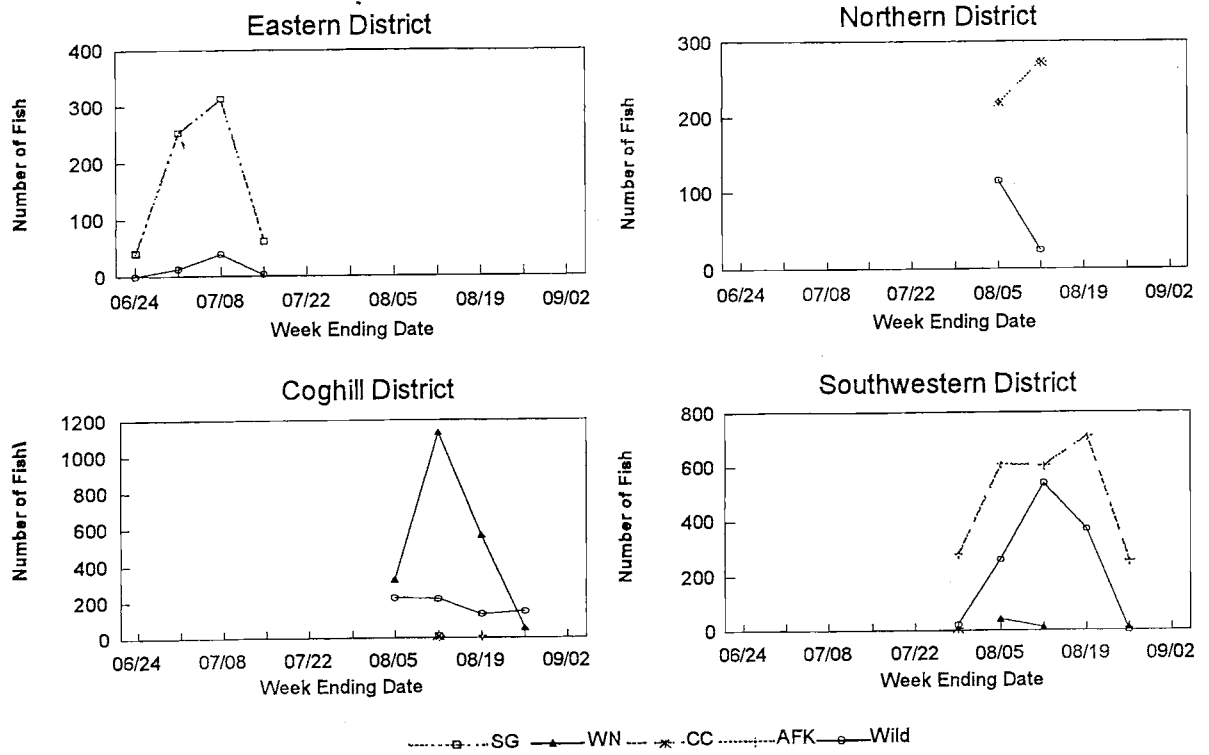


Figure 13. Hatchery contributions to cost recovery catches by district and week in Prince William Sound in 1989.

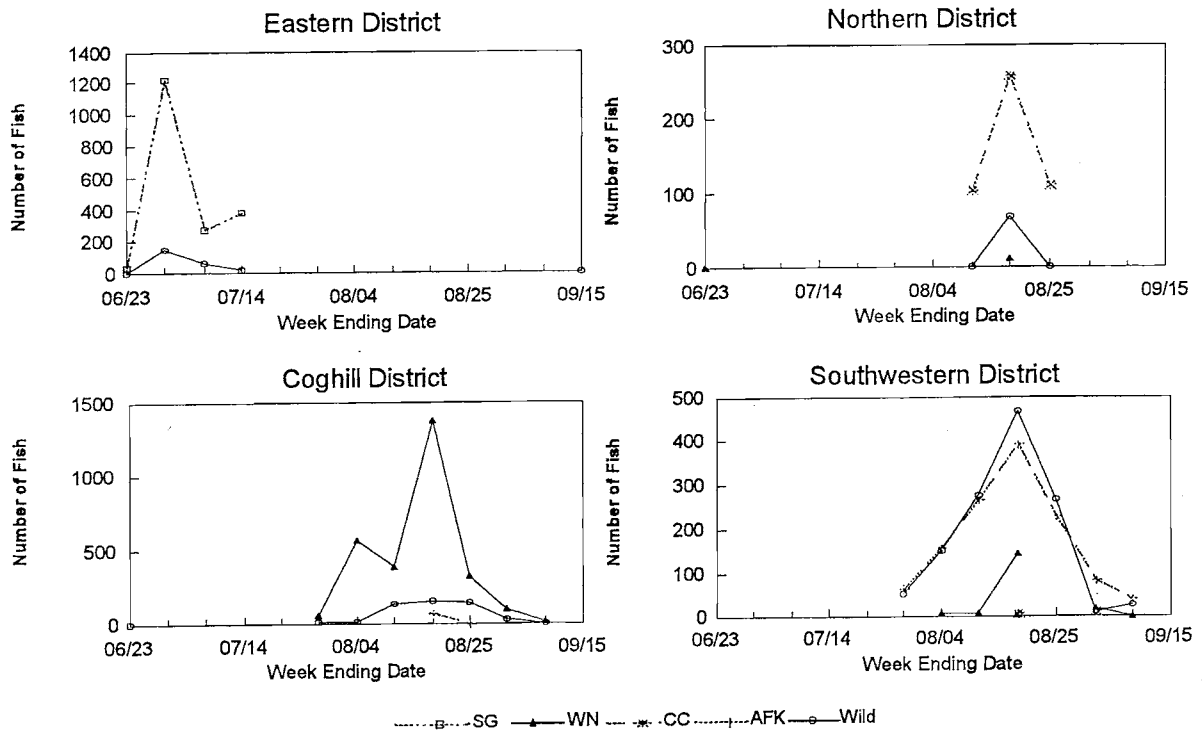


Figure 14. Hatchery contributions to cost recovery fishery catches by district and week in Prince William Sound in 1990.

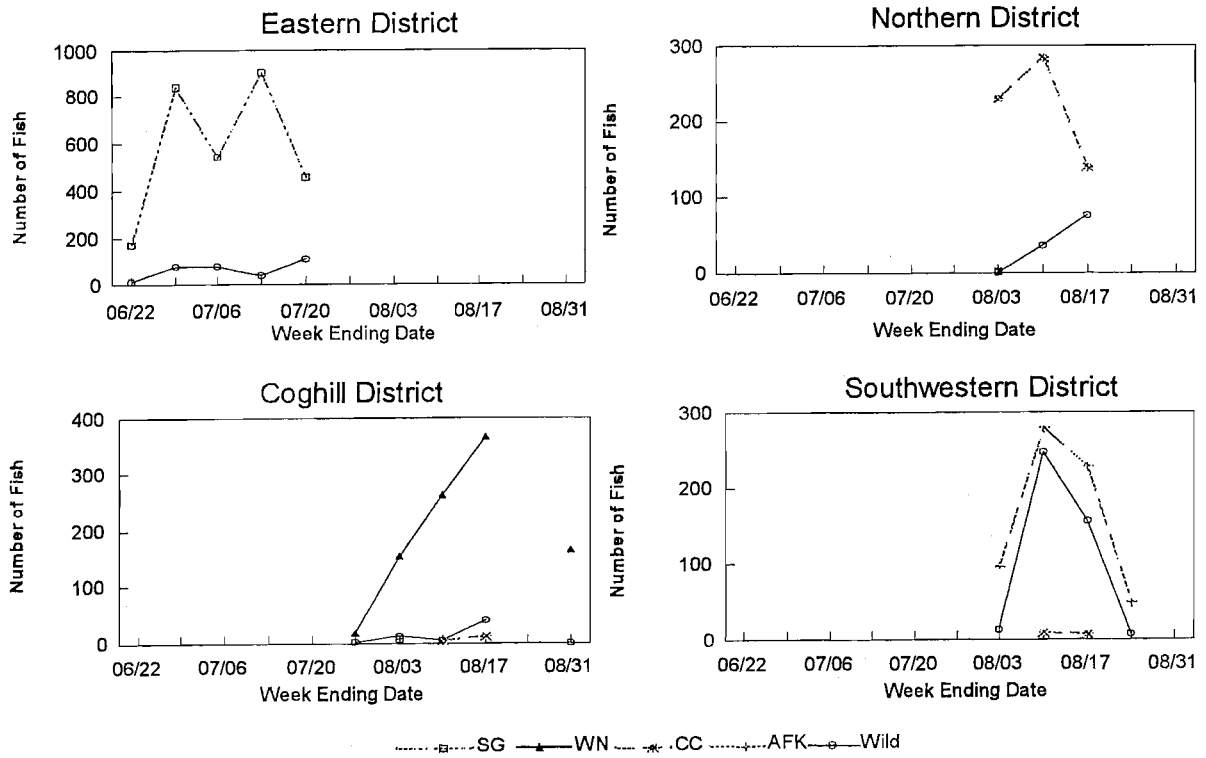


Figure 15. Hatchery contributions to cost recovery fishery catches by district and week in Prince William Sound in 1991.

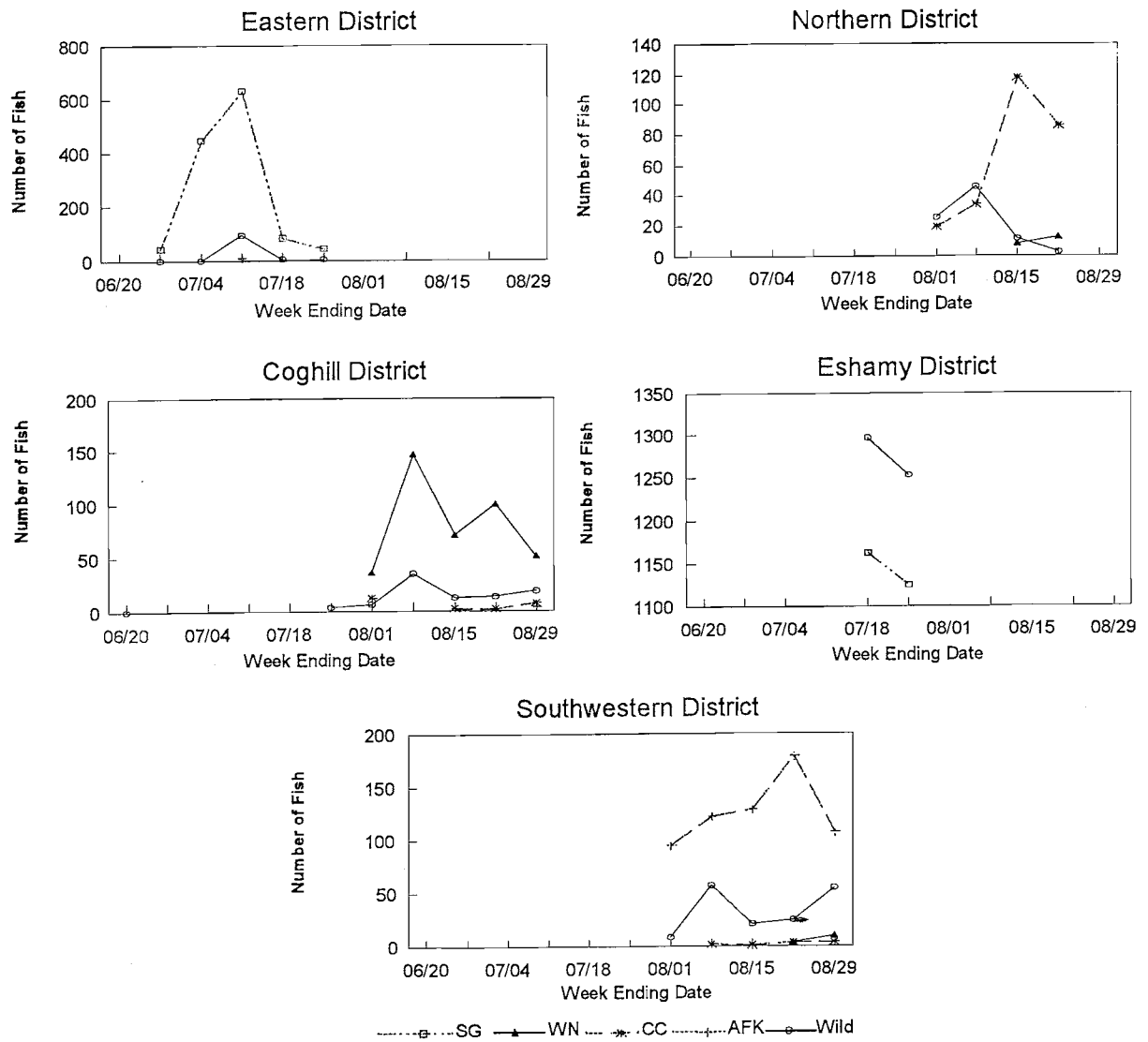


Figure 16. Hatchery contributions to cost recovery fishery catches by district and week in Prince William Sound in 1992.

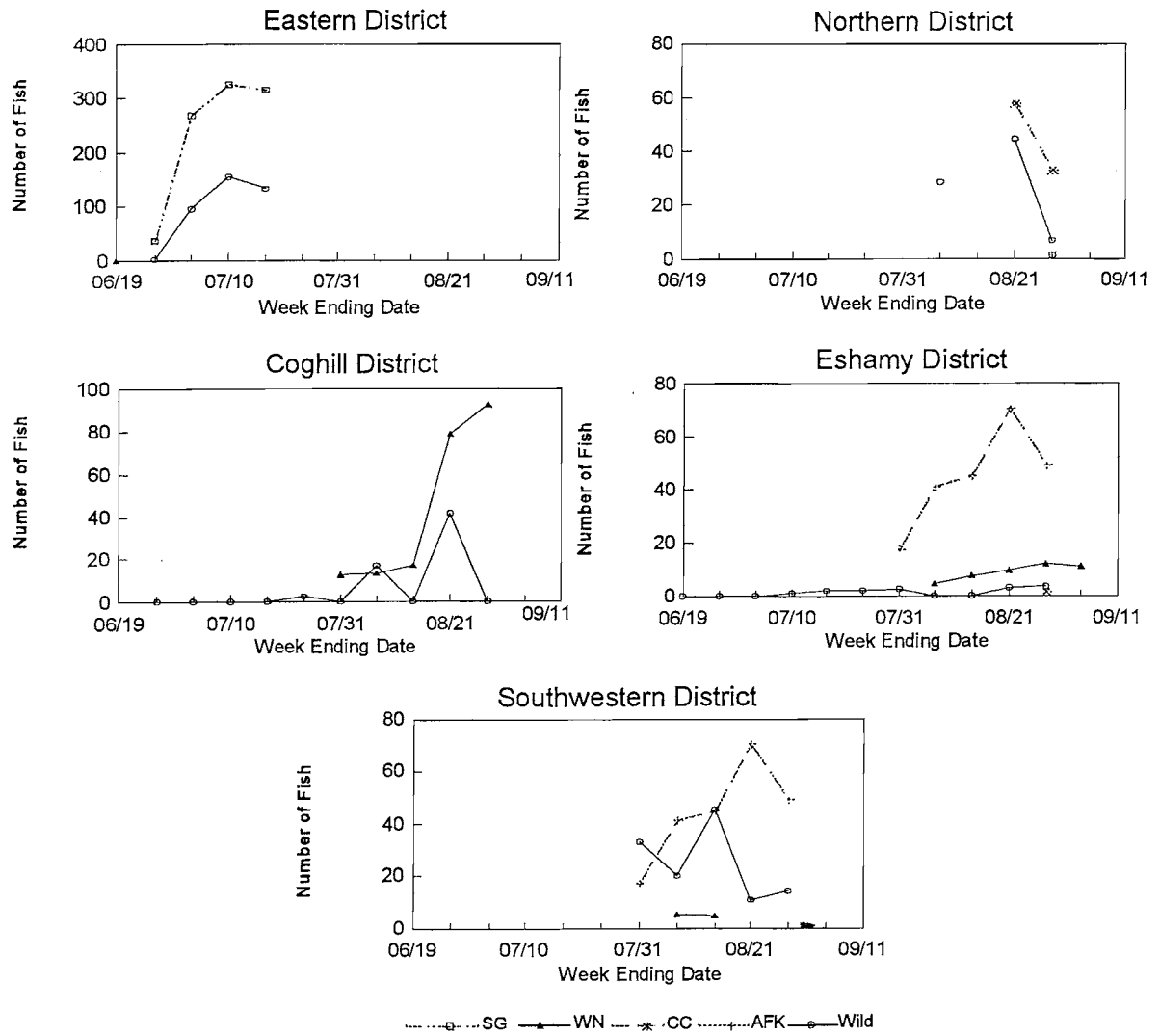


Figure 17. Hatchery contributions to cost recovery fishery catches by district and week in Prince William Sound in 1993.

In the Eastern district, Solomon Gulch fish comprised 71% to 93% of the cost recovery harvests between 1989 and 1994, with wild stocks making up the rest. An estimate of 566 fish from AFK hatchery in 1992 has been the only quantified contribution of other hatchery stocks to cost recovery.

In Northern district, Cannery Creek fish make up the bulk of the private non-profit harvest, while other hatcheries contribute little. From 1989 to 1994, the proportion of Cannery Creek fish in cost recovery ranged from 53% to 86% of the catch, with other hatchery contributing not more than 6% of the harvest. During the same period, wild stock contributions ranged from 12% to 46% of the cost recovery harvest. The higher wild stock percentages are generally seen in years of weak Cannery Creek hatchery returns, such as 1992 and 1993. The high wild stock component for 1994 (39%) was due in part to the "fish for PWSAC" effort.

Wally Noerenberg pink salmon comprise the bulk of the Coghill district cost recovery harvest, with all other hatcheries contributing 5% or less. The proportion of W. Noerenberg fish in the catch was lowest in 1994, with 60% of the catch. The highest proportion of W. Noerenberg fish in the cost recovery harvest was 92% during 1991. The percentage of wild fish ranged from a low of 5% in 1991 to a high of 38% in 1994. The "fish for PWSAC" effort contributed to the high proportion of wild stock fish in the 1994 cost recovery harvest. Any pink salmon caught in the Eshamy district cost recovery harvest are incidental, since Main Bay hatchery produces only sockeye salmon. Pink salmon were recorded in Eshamy cost recovery harvests for 1992 through 1994. Wally Noerenberg is the largest contributor of hatchery fish, with A.F. Koernig being the source for the next largest percentage of hatchery fish. Wild fish comprised from 17% to 53% of the season's cost recovery harvest between 1992 and 1994. The percentage of the catch that is sampled is generally small, due to the higher priority given to sampling Eshamy district cost recovery sockeye salmon.

Since the Main Bay hatchery raises only sockeye salmon, pink salmon caught in the cost recovery are incidental.

In Southwestern district, W. Noerenberg, Cannery Creek, and Solomon Gulch hatcheries make minor contributions to the cost recovery harvests. The major sources for cost recovery pink salmon are A.F. Koernig hatchery and wild stocks. Between 1989 and 1994, the portion of the cost recovery harvest classified as AFK fish ranged from 46% in 1990 to 80.3% in 1994. The percentage of wild fish ranged from 47% in 1990 to 14% in 1994. In 1990, a "fish for PWSAC" year, the percentage of wild fish in cost recovery exceeded that of other sources. In 1994, "fish for "PWSAC" effort in Southwestern district was minimal, and helped keep the wild stock proportions low. Only a couple of boats participated in the effort, and they caught very few fish. Almost all of the fish in cost recovery were caught in the Terminal Harvest Area near the hatchery.

Special Harvests and Brood

The number of fish taken in special harvests and for brood stock is very small, when compared to the numbers caught in the common property and cost recovery fisheries (Appendices D and E). Special harvests usually involve only test fisheries, educational fisheries, and confiscated fish. In 1991, due to the lateness and subsequent temporal compression of the spawning migration, the processors were unable to work up the fish as fast as they were being delivered. As a result, large numbers of fish became unsalable. Over 4,000,000 pink salmon were dumped into Prince William Sound, and were recorded as part of the special harvest.

As with cost recovery harvests, brood stock harvests can contain large percentages of wild fish, when the proportion of wild fish is supposedly minimal. This is especially true of Eastern and Northern districts, which are the respective sites of Solomon Gulch and Cannery Creek hatcheries. Significant numbers of wild fish from adjacent streams stray into the brood areas of these two hatcheries. The large proportion of wild fish in the brood results in positive biases in the adjustment factors for those hatcheries. Therefore, a standard adjustment factor (from W. Noerenberg hatchery) is used in the pertinent calculations. In Southwestern district, and A.F. Koernig hatcheries, the proportion of wild fish in a given week may be high, but the overall contribution to the brood stock is usually 10% or less.

CONCLUSIONS

The major objective of this study was to provide fishery managers with time and location-specific data relating to the occurrence of wild stocks in the commercial fishery, and to do this in real-time with a newly developed technique based upon detected (undecoded) tags. Excellent returns in 1994 allowed for a reasonable trial of this new methodology. Inseason coded wire tag data were used in important management decisions during the 1994 pink salmon fishery. In postseason analysis, reasonably precise estimates of hatchery contributions were obtained, as were estimates of hatchery survival rates.

LITERATURE CITED

- Clark, J.E. and D.R. Bernard. 1987. A compound multivariate binomial-hypergeometric distribution describing microwire tag recovery from commercial salmon catches in southeast Alaska. Information Leaflet 261. Alaska Department of Fish and Game Juneau.
- Geiger, H.J. 1990. Parametric bootstrap confidence intervals for estimating contributions to fisheries from marked salmon populations. American Fisheries Society Symposium 7:667-676.
- Geiger, H.J. and S. Sharr. 1990. The 1988 Tag Study of Pink Salmon from the Solomon Gulch Hatchery in Prince William Sound, Alaska. *In* Pilot Studies in Tagging Prince William Sound Hatchery Pink Salmon with Coded Wire Tags. Fishery Research Bulletin No. 90-02.
- Peltz, L. and H.J. Geiger. 1990. A Tagging Study of the Effects of Hatcheries on the 1987 Pink Salmon Fishery in Prince William Sound, Alaska, *In* Pilot Studies in Tagging Prince William Sound Hatchery Pink Salmon with Coded Wire Tags. Fishery Research Bulletin No. 90-02.
- Peltz, L. and J. Miller. 1990. Performance of half-length coded wire tags in a pink salmon hatchery marking program. American Fisheries Society Symposium 7:244-252.
- Sharr, S., T.M. Willette, C.J. Peckham, D.G. Sharp, J.L. Smith, D.G. Evans, and B.G. Bue. 1995a. Coded Wire Tag Studies on Prince William Sound Salmon. Natural Resource Damage Assessment Fish/Shellfish Study Number 3, Alaska Department of Fish and Game, Cordova.
- Sharr, S., C.J. Peckham, D.G. Sharp, J.L. Smith, D.G. Evans, and B.G. Bue. 1995b. Coded Wire Tag Studies on Prince William Sound Salmon. Natural Resource Damage Assessment Restoration Study R60A, Alaska Department of Fish and Game, Cordova.
- Sharr, S., C.J. Peckham, D.G. Sharp, J.L. Smith, D.G. Evans, and B.G. Bue. 1995c. Stock Identification of Chum, Sockeye, Coho and Chinook Salmon in Prince William Sound. Natural Resource Damage Assessment Restoration Study 93068, Alaska Department of Fish and Game, Cordova.
- Sharr, S., C.J. Peckham, D. Evans, D.G. Sharp, and B.G. Bue. 1993. Coded Wire Tag from Pink Salmon in Prince William Sound Salmon Fisheries. Restoration Study 93067, Alaska Department of Fish and Game, Cordova.

LITERATURE CITED (continued)

- Templin, W.D., J.S. Collie, and T.J. Quinn II. 1994. Run reconstruction of the wild pink salmon fishery in Prince William Sound, 1990-1991. *in* Rice, S.D., R.B. Spies, D. A. Wolfe, and B.A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society. *in press*.
- Willette, T.M. and G. Carpenter. 1994. Early marine salmon injury assessment in Prince William Sound. Natural Resource Damage Assessment Fish/Shellfish Study Number 4, Alaska Department of Fish and Game, Cordova.

**Appendix A: Pink Salmon Hatchery and Stock Contributions to All
Prince William Sound Commercial Fisheries by District
and Week from 1989 to 1994.**

Appendix A.1. Pink salmon hatchery and wild stock contributions to Prince William Sound commercial fisheries by district and week during 1989.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25							41570	1.4E+08	41570	1.4E+08	476	42046	8
07/01	26							672889	2.0E+09	672889	2.0E+09	20544	693433	389
07/08	27							603799	3.8E+09	603799	3.8E+09	197022	800821	331
07/15	28							1755573	1.2E+10	1755573	1.2E+10	66300	1821873	774
07/22	29							50117	28840000	50117	28840000	8814	58931	88
07/29	30							62865	4.3E+08	62865	4.3E+08	0	62865	95
08/05	31							38371	21530000	38371	21530000	2048	40419	69
08/12	32			24238	98790000	102846	3.0E+08	44725	2.7E+08	171809	6.7E+08	215014	386823	121
08/19	33			9272	41960000	24850	6.1E+08	7116	3936201	41238	6.6E+08	99341	140579	17
08/26	34			14423	38370000	4109	7865866			18532	46235866	25014	43546	7
09/02	35													
Subtotal		0	0	47933	1.8E+08	131805	9.3E+08	3277025	1.8E+10	3456763	1.9E+10	634573	4091336	1899

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25							1222	186661	1222	186661	0	1222	2
07/01	26							0		0		33941	33941	0
07/08	27							0		0		24514	24514	0
07/15	28					3940	276150			3940	276150	0	3940	1
07/22	29							0		0		0	0	0
07/29	30			184000	1.8E+09	1203279	2.3E+10	14174	21811065	1401453	2.5E+10	179016	1580469	244
08/05	31			5356	417962	297481	6.4E+08	735	67528	303572	6.4E+08	152440	456012	83
08/12	32			74109	2.3E+08	2101637	5.3E+10	6857	5877322	2182603	5.3E+10	310894	2493497	326
08/19	33			433209	3.9E+09	1136476	4.1E+10	431	23220	1570116	4.5E+10	587027	2157143	153
08/26	34			17127	3956310	55207	1.7E+08			72334	1.8E+08	342888	415222	10
09/02	35					34907	1.6E+08			34907	1.6E+08	0	34907	44
09/09	36					51365	51040000			51365	51040000	8759	60124	52
09/16	37					13552	13190000			13552	13190000	17335	30887	14
09/23	38									0		1144	1144	0
Subtotal		0	0	713801	5.9E+09	4897844	1.2E+11	23419	27965796	5635064	1.2E+11	1657958	7293022	929

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Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25									0		31	31	0
07/01	26							391	5112	391	5112	140	531	1
07/08	27									0		1001	1001	0
07/15	28									0		0	0	0
07/22	29									0		0	0	0
07/29	30			160367	7.9E+08	225373	1.2E+09	1482	1105413	387222	2.0E+09	168843	556065	93
08/05	31			321097	2.3E+09					321097	2.3E+09	221167	542264	49
08/12	32	4777	13980000	1129575	2.2E+10	3994	5822239	2629	467322	1140975	2.2E+10	211848	1352823	158
08/19	33	14579	50266393	1831554	1.2E+10	84766	5.5E+08			1930899	1.2E+10	625346	2556245	234
08/26	34	13722	32141663	952848	2.7E+10	136493	4.0E+08			1103063	2.7E+10	504758	1607821	207
09/02	35	848	265533	111339	4.6E+09	5086	20960001			117273	4.7E+09	49797	167070	49
09/09	36			163178	1.2E+08					163178	1.2E+08	16485	179663	46
09/16	37			155071	0					155071	0	0	155071	48
Subtotal		33926	96653589	4825029	6.8E+10	455712	2.1E+09	4502	1577847	5319169	7.0E+10	1799416	7118585	885

Northwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25													
07/01	26													
07/08	27									0		282	282	0
07/15	28													
07/22	29													
07/29	30													
08/05	31													
08/12	32													
08/19	33													
08/26	34			83523	11810000					83523	11810000	23790	107313	8
09/02	35													
Subtotal		0	0	83523	11810000	0	0	0	0	83523	11810000	24072	107595	8

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Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25													0
07/01	26													0
07/08	27													0
07/15	28													0
07/22	29													0
07/29	30	280231	3.9E+09			5333	7111030			285564	3.9E+09	18232	303796	78
08/05	31	613401	1.1E+10	38909	3.3E+08					652310	1.1E+10	258017	910327	123
08/12	32	605379	4.7E+09	9259	38500000					614638	4.8E+09	539325	1153963	85
08/19	33	711505	5.6E+09							711505	5.6E+09	371687	1083192	57
08/26	34	265560	9.7E+09	12104	30338929					277664	9.8E+09	0	277664	68
09/02	35	60124	6.3E+08							60124	6.3E+08	0	60124	86
09/09	36	46923	33820000	1406	1978155					48329	35798155	2386	50715	68
Subtotal		2583123	3.6E+10	61678	4.1E+08	5333	7111030	0	0	2650134	3.6E+10	1189647	3839781	565

Montague District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/08	27													0
07/15	28									0		54	54	0
07/22	29													0
Subtotal		0	0	0	0	0	0	0	0	0	0	54	54	0

Southeastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/01	26									0		92	92	0
07/08	27									568	78404	3154	3722	0
07/15	28	568	78404											0
07/22	29									6765	11120000	37561	44326	3
07/29	30	6765	11120000											0
08/05	31									0		19173	19173	0
08/12	32									0		5956	5956	0
08/19	33													0
08/26	34													0
Subtotal		7333	11198404	0	0	0	0	0	0	7333	11198404	65936	73269	3

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Unakwik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25									0		2	2	0
07/01	26									0		17	17	0
07/08	27													
07/15	28													
07/22	29													
07/29	30													
08/05	31													
08/12	32					23999	5381254			23999	5381254	6969	30968	6
08/19	33													
Subtotal		0	0	0	0	23999	5381254	0	0	23999	5381254	6988	30987	6
Grand Total		2624382	3.6E+10	5707166	8.1E+10	5516222	1.2E+11	3304946	1.8E+10	17152716	2.6E+11	5401913	22554629	4295

Appendix A.2. Pink salmon hatchery and wild stock contributions to Prince William Sound commercial fisheries by district and week during 1990.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25							37648	84690000	37648	84690000	0	37648	35
06/30	26							1770210	1.4E+10	1770210	1.4E+10	157503	1927713	791
07/07	27							3761699	6.7E+10	3761699	6.7E+10	236950	3998649	1102
07/14	28							1580533	1.3E+10	1580533	1.3E+10	47224	1627757	592
07/21	29							1119444	7.8E+09	1119444	7.8E+09	193013	1312457	353
07/28	30					2658	6403177	379236	1.5E+09	381894	1.5E+09	162807	544701	182
08/04	31	3488	12160000	3628	7724909			30654	20626304	37770	40511213	172161	209931	52
08/11	32			3313	10360000			32212	33290000	35525	43650000	378347	413872	50
08/18	33			27322	82770000			10403	6050430	37725	88820430	126992	164717	22
08/25	34			2789	3765950					2789	3765950	37273	40062	1
09/01	35													
09/08	36													
09/15	37									0		1	1	0
Subtotal		3488	12160000	37052	1.0E+08	2658	6403177	8722039	1.0E+11	8765237	1.0E+11	1512271	10277508	3180

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25													
06/30	26							17636	6578309	17636	6578309	17404	35040	10
07/07	27							32762	12150000	32762	12150000	0	32762	14
07/14	28							65922	7768257	65922	7768257	0	65922	12
07/21	29													
07/28	30			26199	1.1E+08	125915	5.8E+08			152114	6.9E+08	234815	386929	31
08/04	31	36014	3.7E+08	407379	6.0E+09	271253	2.4E+09	15530	86860000	730176	8.9E+09	394433	1124609	109
08/11	32	42448	3.0E+08	987759	3.5E+10	298736	2.2E+09			1328943	4.0E+10	683417	2012360	158
08/18	33	22994	1.4E+08	884514	2.0E+10	525509	4.6E+09			1433017	2.2E+10	333572	1766589	191
08/25	34	21041	1.2E+08	2298187	1.4E+09	182723	1.9E+09			433582	3.5E+09	183569	617151	96
09/01	35					32532	24960000			32532	24960000	3474	36006	50
09/08	36					81308	71870000			81308	71870000	3516	84824	108
09/15	37			1439	1034918	49479	49650000			50918	50684918	12215	63133	58
Subtotal		122497	9.3E+08	2537108	6.2E+10	1567455	1.2E+10	131850	1.1E+08	4358910	7.5E+10	1866415	6225325	837

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Coghill District

Week Ending Dat	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/16	24									0		87	87	0
06/23	25									0		1650	1650	0
06/30	26							735	40000	735	40000	3778	4513	1
07/07	27									0		812	812	0
07/14	28													
07/21	29													
07/28	30			69777	2.5E+08	2046	2507777			71823	2.5E+08	50585	122408	46
08/04	31	5281	760387	904639	1.8E+10	53252	4.8E+08			963172	1.8E+10	103607	1066779	200
08/11	32	35887	81811096	983677	7.5E+09	33739	1.2E+08			1053303	7.7E+09	296783	1350086	353
08/18	33	101360	3.2E+08	1698000	6.3E+10	4525	4297742			1803885	6.3E+10	262753	2066638	304
08/25	34	8133	31486981	750433	3.3E+09	31709	1.3E+08			790275	3.5E+09	269753	1060028	236
09/01	35			326486	1.9E+09	7229	49180306			333715	2.0E+09	189663	523378	148
09/08	36	3960	4510047	163553	72911939					167513	77421986	25440	192953	177
09/15	37			114478	84260000					114478	84260000	4572	119050	86
09/22	38			9824	4111498					9824	4111498	3	9827	6
Subtotal		154621	4.4E+08	5020867	9.3E+10	132500	7.9E+08	735	40000	5308723	9.4E+10	1209486	6518209	1557

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Northwestern District

Week Ending Dat	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25													
06/30	26													
07/07	27													
07/14	28													
07/21	29													
07/28	30													
08/04	31													
08/11	32	16700	1.0E+08	2343937	2.4E+09	44337	1.6E+08			295430	2.7E+09	109586	405016	48
08/18	33	10730	5599941	193850	3.8E+09					204580	3.8E+09	12777	217357	17
08/25	34			58920	1.4E+08					58920	1.4E+08	40770	99690	5
09/01	35													
Subtotal		27430	1.1E+08	487163	6.4E+09	44337	1.6E+08	0	0	558930	6.7E+09	163133	722063	70

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/16	24									0		419	419	0
06/23	25							1599	34302	1599	34302	583	2182	3
06/30	26							4301	134517	4301	134517	1000	5301	8
07/07	27							1275	15876	1275	15876	208	1483	1
07/14	28							3771	1247277	3771	1247277	915	4686	2
07/21	29							0		0		462	462	0
07/28	30													
08/04	31									0		64271	64271	0
08/11	32			93184	1.0E+09					93184	1.0E+09	7652	100836	4
08/18	33	14502	1.9E+08	21579	2.1E+08					36081	4.1E+08	154112	190193	3
08/25	34	21969	4.8E+08	4238	17960000					26207	5.0E+08	92515	118722	2
09/01	35	13158	1.1E+08	13905	1.1E+08					27063	2.1E+08	19338	46401	4
Subtotal		49629	7.8E+08	132906	1.4E+09	0	0	10946	1431972	193481	2.2E+09	341475	534956	27

Southwestern District

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Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25													
06/30	26													
07/07	27													
07/14	28													
07/21	29													
07/28	30	86609	1.2E+09	29687	1.0E+08			11135	6137585	127431	1.3E+09	192394	319825	35
08/04	31	1058811	9.5E+09	1056354	7.5E+09	221245	2.0E+09			2336410	1.9E+10	1635635	3972045	320
08/11	32	1523284	1.2E+10	1370450	8.5E+09	270605	2.6E+09			3164339	2.3E+10	1919830	5084169	466
08/18	33	1884505	2.2E+10	1509357	1.3E+10	143822	1.2E+09	3438	1702901	3541122	3.6E+10	2080496	5621618	490
08/25	34	1548833	1.2E+10	1291918	2.3E+10	109768	3.7E+08			2950519	3.5E+10	2074285	5024804	549
09/01	35	219730	8.0E+08	81622	6.0E+08	17997	31542592			319349	1.4E+09	97614	416963	77
09/08	36	97115	93010000	769	589985					97884	9359985	29920	127804	131
09/15	37	36185	99960000	595	88581					36780	1.0E+08	2	36782	51
Subtotal		6455072	5.7E+10	5340752	5.3E+10	763437	6.2E+09	14573	7840486	12573834	1.2E+11	8030176	20604010	2119

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Montague District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/04	31													
08/11	32											10658	10658	0
08/18	33									0				
Subtotal		0	0	0	0	0	0	0	0	0	0	10658	10658	0

Southeastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/28	30													
08/04	31									0		3670	3670	0
08/11	32													
08/18	33									0		8655	8655	0
08/25	34													
Subtotal		0	0	0	0	0	0	0	0	0	0	12325	12325	0

Unakwik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25													
06/30	26													
07/07	27													
07/14	28													
07/21	29													
07/28	30									0		145	145	0
08/04	31									0		24	24	0
08/11	32	64	66	1478	78163	292	3377			1834	81606	1023	2857	0
08/18	33	60	958	2263	134486	694	22338			3017	157782	688	3705	0
08/25	34	137	5118	1498	60309	445	19286			2080	84713	1175	3255	0
09/01	35													
Subtotal		261	6142	5239	272958	1431	45001	0	0	6931	324101	3055	9986	0
Grand Total		6812998	5.9E+10	13521298	2.2E+11	2511818	1.9E+10	8880143	1.0E+11	31726257	4.0E+11	13188783	44915040	7790

Appendix F.5. Percent survival by tag code of pink salmon returning to Prince William Sound during 1993.

Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
A.F. Koernig	1301020115	14,534	8,076,614	1.771836	0.185083	1.409073	2.134598
	1301020201	15,203	7,976,815	2.061815	0.307445	1.459222	2.664408
	1301020202	14,442	7,974,858	2.119271	0.32399	1.48425	2.754292
	1301020203	14,910	7,978,614	2.78648	0.419656	1.963954	3.609006
	1301020204	13,248	7,512,861	2.320489	0.29448	1.743307	2.897672
	1301020205	11806	6990259	2.225556	0.370241	1.499882	2.951229
	1301020206	12,534	6,991,198	1.007634	0.152329	0.709067	1.306199
	1301020207	13,031	7,983,638	1.790907	0.41862	0.970411	2.611402
	1301020208	12,255	7,010,264	1.041585	0.236366	0.578307	1.504863
	1301020209	12,435	7,018,523	0.891967	0.217072	0.466505	1.31743
	1301020210	12,503	7,007,713	0.532758	0.205464	0.130005	0.935468
	1301020211	13,648	7,370,900	1.255445	0.288755	0.689483	1.821406
	1301020213	12,622	7,049,467	1.106525	0.293443	0.531376	1.681674
	1301020214	12,533	6,995,595	0.817553	0.346915	0.60199	2.046372
	1301020215	3,643	1,890,215	1.324181	0.367464	0.60199	2.046372
W. Noerenberg	1301020402	21,292	11,864,131	0.766575	0.107788	0.555309	0.977841
	1301020403	24,123	12,381,206	0.995677	0.098576	0.802467	1.188887
	1301020404	21,709	11,978,823	0.881992	0.108999	0.668353	1.095632
	1301020405	22,135	11,991,533	1.210669	0.132654	0.950665	1.470672
	1301020406	21,099	11,863,900	1.1378	0.199652	0.74648	1.52912
	1301020407	22,454	12,125,144	0.988172	0.098168	0.795762	1.180583
	1301020408	25,401	13,397,359	0.703144	0.078367	0.549544	0.856745
	1301020409	24,028	12,968,845	0.446592	0.077198	0.295283	0.597902
	1301020410	21,218	12,053,577	0.903892	0.151689	0.606582	1.201203
	1301020411	21,408	12,091,368	0.608773	0.149484	0.315784	0.901762
	1301020412	21,543	12,088,956	0.706157	0.107137	0.496167	0.916147
	1301020413	20,986	11,869,422	0.793231	0.104974	0.587481	0.998981
	1301020414	20,965	11,829,417	2.231391	0.229129	1.782297	2.680485
1301020415	10,880	5,298,975	0.55336	0.079203	0.398121	0.708599	
Cannery Creek	1301020302	15,357	8,561,786	0.810873	0.160549	0.496195	1.125551
	1301020303	15,614	8,803,390	0.599803	0.124515	0.355753	0.813853
	1301020304	15,535	9,154,576	0.439754	0.074635	0.293469	0.586038
	1301020305	16,567	9,748,120	0.439754	0.074635	0.293469	0.586038
	1301020306	17,627	9,636,839	0.558987	0.13175	0.300757	0.817217
	1301020307	17,686	9,802,341	0.283386	0.079402	0.127758	0.439014
	1301020308	17,319	9,874,596	0.542913	0.134264	0.279754	0.806072
	1301020309	17,529	9,990,754	0.222117	0.006579	0.093171	0.351063
	1301020310	17,454	9,996,202	0.569356	0.155137	0.265286	0.873425
	1301020311	17,806	9,934,823	0.799075	0.131599	0.54114	1.05701
	1301020312	18,136	9,882,778	0.911689	0.150799	0.616122	1.207256
	1301020313	17,815	10,496,640	0.856697	0.140104	0.582091	1.131302
	1301020314	19,002	10,649,666	1.464684	0.183318	1.105381	1.823988
	1301020315	10,058	5,633,720	0.518572	0.171218	0.182983	0.854161
Solomon Gulch	131020506	55,557	29,502,525	0.55336	0.079203	0.398121	0.708599
	131020507	54,631	30,375,140	1.905037	0.216898	1.479915	2.330158
	131020510	39,169	20,410,534	2.123009	0.256879	1.619526	2.626492
	131020512	11,376	6,614,216	3.595831	0.546003	2.525666	4.665998

Appendix A.3. Pink salmon hatchery and wild stock contributions to Prince William Sound commercial fisheries by district and week during 1991.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25							169820	5.8E+08	169820	5.8E+08	13352	183172	86
06/29	26							839802	4.0E+09	839802	4.0E+09	76232	916034	342
07/06	27							1033478	4.1E+09	1033478	4.1E+09	83378	1116856	437
07/13	28							1241196	7.6E+09	1241196	7.6E+09	99481	1340677	506
07/20	29							1523573	1.0E+10	1523573	1.0E+10	187227	1710800	503
07/27	30							596597	4.5E+09	596597	4.5E+09	24993	621590	249
08/03	31							53661	47080494	53661	47080494	23621	77282	61
08/10	32							66973	60870027	66973	60870027	8743	75716	74
08/17	33							45538	37880000	45538	37880000	11945	57483	55
08/24	34							13282	28780000	13282	28780000	4	13286	17
08/31	35							0		0		1209	1209	0
09/07	36													
Subtotal		0	0	0	0	0	0	5583920	3.1E+10	5583920	3.1E+10	530185	6114105	2330

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25													
06/29	26													
07/06	27													
07/13	28													
07/20	29													
07/27	30													
08/03	31					229584	8.8E+08	1688	711914.1	231272	8.8E+08	17	231289	81
08/10	32	7083	8858744			1241735	1.0E+10			1248818	1.0E+10	109598	1358416	188
08/17	33	8332	17190000	134357	6.2E+08	1393636	1.5E+10	8021	15940000	1544346	1.5E+10	177025	1721371	170
08/24	34			119791	1.8E+09	1638883	2.6E+10			1758674	2.8E+10	115148	1873822	143
08/31	35			909	825667	434105	8.3E+09			435014	8.3E+09	4803	439817	85
09/07	36					114679	6.7E+08			114679	6.7E+08	0	114679	94
09/14	37			963	927353	81722	1.2E+08			82685	1.2E+08	47930	130615	57
09/21	38					1155	1334622			1155	1334622	2433	3588	1
Subtotal		15415	26048744	256020	2.4E+09	5135499	6.1E+10	9709	16651914	5416643	6.3E+10	456954	5873597	819

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Coghill District

Week Ending Dat	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/15	24									0		6	6	0
06/22	25													
06/29	26													
07/06	27													
07/13	28			5						5			5	0
07/20	29			958						958			958	0
07/27	30			20549	65524641			4336	3514071	24885	69038712	13541	38426	13
08/03	31			154414	4.7E+08			6410	20670000	160824	4.9E+08	11099	171923	58
08/10	32	18281	18430000	495664	1.9E+09	152793	8.1E+08	4101	1546570	670839	2.7E+09	223986	894822	201
08/17	33			1167777	7.6E+09	154909	1.2E+09			1322686	8.8E+09	289712	1612398	204
08/24	34			855429	1.1E+10	80084	3.8E+08			935513	1.2E+10	139543	1075056	116
08/31	35			1765835	2.9E+10	32690	1.5E+08			1798525	2.9E+10	333718	2132230	297
09/07	36			390874	2.7E+09					390874	2.7E+09	116288	507162	192
09/14	37			224277	40038272					224277	40038272	1172	225449	196
Subtotal		18281	18430000	5075782	5.3E+10	420476	2.5E+09	14847	25730641	5529386	5.6E+10	1129049	6658435	1277

Eshamy District

Week Ending Dat	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/15	24									0		4	4	0
06/22	25									0		164	164	0
06/29	26									0		307	307	0
07/06	27									0		311	311	0
07/13	28									0		3538	3538	0
07/20	29									0		4012	4012	1
07/27	30									0		6773	6773	1
08/03	31									0		4586	4586	1
08/10	32									0		7835	7835	2
08/17	33			4986	3104654					4986	3104654	32137	37123	1
08/24	34													
08/31	35													1
Subtotal		0	0	4986	3104654	0	0	0	0	4986	3104654	59667	64653	7

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Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25													
06/29	26													
07/06	27													
07/13	28													
07/20	29													
07/27	30													
08/03	31	95875	2.7E+08							95875	2.7E+08	12729	108604	34
08/10	32	770087	5.1E+09	462388	3.5E+09	234460	2.4E+09	3496	6563725	1470431	1.1E+10	862536	2332967	322
08/17	33	1882855	1.5E+10	3327430	4.5E+10	1611577	1.9E+10	9812	94480000	6831674	7.9E+10	1826144	8657818	1075
08/24	34	1735289	2.3E+10	2256275	1.7E+10	852446	7.7E+09	10585	27330000	4854595	4.8E+10	2183865	7038460	838
08/31	35	432445	2.2E+09	355896	1.8E+09	101075	6.9E+08	8689	15610000	898105	4.7E+09	381101	1279206	189
09/07	36	96995	79040000	909	825667					97904	79865667	2875	100779	121
09/14	37	96379	3.2E+08							96379	3.2E+08	0	96379	133
Subtotal		5109925	4.6E+10	6402898	6.8E+10	2799558	3.0E+10	32582	1.4E+08	14344963	1.4E+11	5269250	19614213	2712

Unakwk District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25													
06/29	26									0		1	1	0
07/06	27									0		2	2	0
07/13	28									0		1	1	0
07/20	29									0		6	6	0
07/27	30													
08/03	31									0		4	4	0
08/10	32					117159	2.8E+08			117159	2.8E+08	1316	118475	23
08/17	33													
08/24	34													
08/31	35													
Subtotal		0	0	0	0	117159	2.8E+08	0	0	117159	2.8E+08	1330	118489	23
Grand Total		5143621	4.6E+10	11729182	1.2E+11	8476315	9.4E+10	5642940	3.1E+10	30992058	3.0E+11	7451434	37936330	7168

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Appendix A.4. Pink salmon hatchery and wild stock contributions to Prince William Sound commercial fisheries by district and week during 1992.

Eastern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26							40895	71410000	40895	71410000	0	40895	32
07/04	27							447890	3.1E+09	447890	3.1E+09	0	447890	322
07/11	28	5670	16070000					755573	4.0E+09	761243	4.0E+09	106453	867696	387
07/18	29					1913	3417034	263878	4.2E+08	265791	4.2E+08	61577	327368	178
07/25	30	1641	2429356					120549	1.1E+08	122190	1.2E+08	76803	198993	73
08/01	31					1000	1000102	42636	30250000	43636	31250102	37860	81496	62
08/08	32	841	707890					30842	20880000	31683	21587890	34324	66007	47
08/15	33							22214	15080000	22214	15080000	13656	35870	33
08/22	34											5085	5085	0
08/29	35											603	603	0
09/05	36	8	52					266	1440	274	1492	211	485	0
Subtotal		8160	19207298	0	0	2913	4417136	1724743	7.8E+09	1735816	7.8E+09	336572	2072388	1134

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Northern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26													
07/04	27													
07/11	28													
07/18	29													
07/25	30													
08/01	31					105536	3.7E+08			105536	3.7E+08	155740	261276	22
08/08	32			12188	61820000	411752	2.6E+09			423940	2.7E+09	262491	686431	86
08/15	33	17827	19670000	14305	18693660	261561	1.1E+09			293693	1.1E+09	52357	346050	33
08/22	34			19270	19150792	152832	3.7E+08			172102	3.9E+08	32834	204936	42
08/29	35			992	983166	1967	1933799			2959	2916965	5234	8193	0
09/05	36			1797	1616121	57504	52480000			59301	54096121	16498	75799	0
09/12	37			1000	1000506	36371	35750000			37371	36750506	41122	78493	0
09/19	38					4476	4006683			4476	4006683	1897	6373	5
Subtotal		17827	19670000	49552	1.0E+08	1031999	4.6E+09	0	0	1099378	4.7E+09	568173	1667551	188

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Coghill District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26													
07/04	27									0		1482	1482	0
07/11	28									0		12	12	0
07/18	29									0		7096	7096	0
07/25	30			218						218		3356	3574	1
08/01	31			42338	1.1E+08	17954	30962644			60292	1.4E+08	8755	69047	15
08/08	32			163751	2.9E+08	4018	1511266			167769	2.9E+08	36546	204315	74
08/15	33			133624	64622242	17473	6460180			151097	71082422	12542	163639	68
08/22	34			150533	1.7E+08	13932	21761531			164465	1.9E+08	42236	206701	76
08/29	35	10057	13370008	147509	1.9E+08	26203	70792287			183769	2.7E+08	37721	221490	91
09/05	36	4385	705332	102236	5092180	5305	1184231			111926	6981743	8044	119970	108
09/12	37	69	180	83676	1299	84	302			83829	1781	128	83957	82
09/19	38			34941						34941			34941	22
Subtotal		14511	14075520	858826	8.3E+08	84969	1.3E+08	0		958306	9.7E+08	157918	1116224	537

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Eshamy District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25									0		112	112	0
06/27	26									0		967	967	0
07/04	27							5132	48516	5132	48516	2348	7480	2
07/11	28									0		16151	16151	0
07/18	29							4904	1485042	4904	1485042	18520	23424	6
07/25	30							1125	835277	1125	835277	3063	4188	8
08/01	31	3595	743970	7701	1810137	2593	606978			13889	3161085	3803	17692	20
08/08	32	3113	2266229	23273	21230000	5309	3503197			31695	26999426	5306	37001	27
08/15	33	16406	8468088	85033	1.0E+08	3240	2686416			104679	1.1E+08	14550	119229	87
08/22	34	21547	7119051	140662	2.9E+08	6940	2475006			169149	3.0E+08	19045	188194	87
08/29	35	41712	35300000	57545	1.0E+08	5358	4357050			104615	1.4E+08	14886	119501	81
09/05	36	74573	57126053	16835	13196946	1919	490905			93327	70813904	4083	97410	101
09/12	37	59495	68460000	1698	361311					61193	68821311	1	61194	78
09/19	38	9971	12430000							9971	12430000	568	10539	8
Subtotal		230412	1.9E+08	332747	5.3E+08	25359	14119552	11161	2368835	599679	7.4E+08	103403	703082	505

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Southwestern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26													
07/04	27													
07/11	28													
07/18	29													
07/25	30													
08/01	31	167807	5.2E+08	69608	2.8E+08	33646	1.1E+08	3340	2515565	274401	9.0E+08	123674	398075	63
08/08	32	550684	1.2E+09	264001	5.1E+08	111042	1.9E+08	1254	1126391	926981	1.9E+09	218927	1145908	285
08/15	33	497158	1.0E+09	226572	6.4E+08	107742	2.4E+08			831472	1.9E+09	206657	1038129	207
08/22	34	636809	1.5E+09	174978	3.1E+08	33241	50598331			845028	1.9E+09	61476	906504	160
08/29	35	272671	3.9E+08	23591	35650000	4235	637556			300497	4.3E+08	73070	373567	45
09/05	36													
09/12	37													
09/19	38													
09/26	39													
Subtotal		2125129	4.6E+09	758750	1.8E+09	289906	5.9E+08	4594	3641956	3178379	7.0E+09	683804	3862183	760

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Unakwik District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26													
07/04	27											3	3	0
07/11	28													
07/18	29					25	369					69	94	0
07/25	30													
08/01	31					1825	2008453			1825	2008453	5110	6935	1
08/08	32													
08/15	33													
08/22	34													
08/29	35													
Subtotal		0	0	0	0	1850	2008822	0	0	1825	2008453	5182	7032	1
Grand Total		2396039	4.9E+09	1977545	3.4E+09	1449738	5.3E+09	1740716	7.8E+09	7564013	2.1E+10	1864422	9428460	3125

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Coghill District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/12	24									0		1	1	0
06/19	25									0		24	24	0
06/26	26									0		139	139	0
07/03	27							329	20164	329	20164	1321	1650	1
07/10	28									0		1786	1786	0
07/17	29									0		1395	1395	0
07/24	30									0		2397	2397	0
07/31	31			12929	6874975					12929	6874975	347	13276	10
08/07	32			30499	82880000	23416	42510000			53915	1.3E+08	35319	89234	15
08/14	33			34300	48720000	3767	13180000			38067	61900000	17718	55785	20
08/21	34	4503	15180000	163396	2.0E+08	46955	66400000			214854	2.9E+08	93483	308337	70
08/28	35			252758	2.4E+08	13753	4259927			266511	2.5E+08	52772	319283	116
09/04	36			124276	98000000	5255	25820000			129531	1.2E+08	11906	141437	121
09/11	37	1165	151321	125217						126382	151321	834	127216	133
09/18	38	14	22	46830						46844	22	10	46854	40
09/25	39									0		1	1	0
Subtotal		5682	15331343	790205	1.3E+09	111514	1.6E+08	329	20164	882962	8.5E+08	219453	1108815	526

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Eshamy District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25									0		1	1	0
06/26	26									0		91	91	0
07/03	27									0		2107	2107	0
07/10	28									0		3339	3339	0
07/17	29									0		1650	1650	0
07/24	30									0		2046	2046	0
07/31	31									0		3099	3099	0
08/07	32			4631	17310000					4631	17310000	6580	11211	1
08/14	33	5204	4442261	12102	10129531					17306	14571792	4305	21611	10
08/21	34			30686	52598982	2584	6672434			33270	59271416	8693	41963	16
08/28	35	31056	62210000	43442	69290000	5242	5543587			79740	1.4E+08	10500	90240	29
09/04	36	1479	273993.5	21426	21165856	1279	409198.3			24184	21849048	6878	31062	21
09/11	37	168	3520	1176	47347	145	5256			1489		405	1894	0
09/18	38									0		16	16	0
Subtotal		37907	66929775	113463	1.7E+08	9250	12630475	0	0	160620	2.5E+08	49710	210330	77

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Southwestern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25													
06/26	26													
07/03	27													
07/10	28													
07/17	29													
07/24	30													
07/31	31	25300	33515918							25300	33515918	34338	59638	13
08/07	32	69177	1.1E+08	17110	19017121	15543	32420000			101830	1.6E+08	125004	226834	38
08/14	33	257007	9.6E+08	146463	8.8E+08	27494	60440000			430964	1.9E+09	144546	575510	145
08/21	34	506636	3.7E+09	172696	1.2E+09	41697	1.9E+08			721029	5.1E+09	260143	981172	157
08/28	35	484898	1.8E+09	207192	6.0E+08	58958	83350000			751048	2.5E+09	182093	933141	185
09/04	36	63760	87240000	17864	3394169	908	206390			82532	90840559	91319	173851	76
09/11	37	62739	62540000	6787	3911249					69526	66451249	27565	97091	67
09/18	38	14369	15880000	1125	1266387					15494	17146387	7636	23130	14
Subtotal		1483886	6.8E+09	569237	2.7E+09	144600	3.7E+08	0	0	2197723	9.9E+09	872644	3070367	695

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Unakwik District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25													
06/26	26													
07/03	27									0		1	1	0
07/10	28									0		7	7	0
07/17	29									0		12	12	0
07/24	30									0		8	8	0
07/31	31									0		20	20	0
08/07	32									0		137	137	0
08/14	33									0		4897	4897	0
08/21	34									0		1489	1489	0
08/28	35													
Subtotal		0	0	0	0	0	0	0	0	0	0	6571	6571	0
Grand Total		1532218	6.9E+09	1469951	4.3E+09	766642	1.6E+09	1112683	2.8E+09	4881494	1.6E+10	2047270	6928764	2001

Appendix A.6. Pink salmon hatchery and wild stock contributions to Prince William Sound commercial fisheries by district and week during 1994.

Eastern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25													
06/25	26							265139	5.4E+09	265139	5.4E+09	0	265139	120
07/02	27							1286610	5.8E+09	1286610	5.8E+09	49727	1336337	326
07/09	28							2708722	4.2E+10	2708722	4.2E+10	175590	2884312	487
07/16	29							2937458	2.9E+10	2937458	2.9E+10	656762	3594220	548
07/23	30	11964	71790000					3880618	2.7E+10	3892582	2.8E+10	969867	4862449	661
07/30	31	2255	4651662	11457	87340000	33656	95330000	1079900	1.1E+10	1127268	1.1E+10	317858	1445126	279
08/06	32					33385	1.4E+08	65829	1.1E+08	99214	2.6E+08	192782	291996	55
08/13	33					85	941	69387	85810364	69472	85811305	20764	90236	56
08/20	34							51585	71880000	51585	71880000	57809	109394	37
08/27	35							19572	29450000	19572	29450000	28313	47885	13
09/03	36							4406	6469302	4406	6469302	12492	16898	3
Subtotal		14219	76441662	11457	87340000	67126	2.4E+08	12369226	1.2E+11	12462028	1.2E+11	2481964	14943992	2585

Northern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/16	29													
07/23	30							29108	1.2E+08	29108	1.2E+08	9065	38173	7
07/30	31			11516	56120000	246371	1.2E+09			257887	1.3E+09	111617	369504	44
08/06	32			52274	2.8E+08	1230709	5.3E+09	5321	28020000	1288304	5.6E+09	689573	1977877	287
08/13	33	2210	4797562	504333	3.7E+09	4228756	5.1E+10			4735299	5.5E+10	782928	5518227	541
08/20	34	5882	7296264	300517	1.5E+09	1096715	5.9E+09			1403114	7.5E+09	393936	1797050	263
08/27	35			24976	1.9E+08	294149	1.4E+09			319125	1.6E+09	285978	605103	51
09/03	36			1057	1117786	104533	98671116			105590	99788902	44060	149650	67
09/10	37			0	0	40357	49320000			40357	49320000	25985	66342	33
09/17	38			1236	1528068	24458	29890000			25694	31418068	10605	36299	21
Subtotal		8092	12093826	895909	5.8E+09	7266048	6.5E+10	34429	1.5E+08	8204478	7.1E+10	2353747	10558225	1314

Appendix A.5. Pink salmon hatchery and wild stock contributions to Prince William Sound commercial fisheries by district and week during 1993.

Eastern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS	
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance				
06/19	25														
06/26	26							34903	75590000	34903	75590000	1341	36244	19	
07/03	27							267629	8.2E+08	267629	8.2E+08	94983	362612	89	
07/10	28							324534	8.9E+08	324534	8.9E+08	155398	479932	125	
07/17	29							314450	8.3E+08	314450	8.3E+08	133225	447675	132	
07/24	30							28291	30780000	28291	30780000	2518	30809	26	
07/31	31							54201	55440000	54201	55440000	33181	87382	53	
08/07	32			1121	1256581			37137	40590000	38258	41846581	45812	84070	35	
08/14	33							34436	35980000	34436	35980000	63144	97580	33	
08/21	34							11474	10980000	11474	10980000	28676	40150	12	
08/28	35							3821	3656441	3821	3656441	15795	19616	4	
09/04	36									0		2176	2176	0	
09/11	37														
09/18	38														
Subtotal		0	0	1121	1256581	0	0	1110876	2.8E+09	1111997	2.8E+09	576249	1688246	528	

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Northern District

Week Ending Date	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25													
06/26	26													
07/03	27													
07/10	28													
07/17	29													
07/24	30													
07/31	31													
08/07	32									0		28822	28822	0
08/14	33													
08/21	34	3506	8195967	12375	37780000	190860	6.7E+08			206741	7.2E+08	149630	356371	40
08/28	35					114163	2.2E+08	1478	2182173	115641	2.2E+08	115490	231131	47
09/04	36	1237	873275	6643	5029699	58916	45000000			66796	50902974	0	66796	50
09/11	37			1675	1023786	88231	53630000			89906	54653786	11870	101776	54
09/18	38					49108	24420000			49108	24420000	10431	59539	24
Subtotal		4743	9069242	20693	43833485	501278	1.0E+09	1478	2182173	528192	1.1E+09	316243	844435	215

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Coghill District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25							45	729	45	729	0	45	1
06/25	26									0		50	50	0
07/02	27							34	289	34	289	311	345	1
07/09	28							72	6.25	72	6.25	438	510	1
07/16	29							171	7310	171	7310	525	696	1
07/23	30							3067	4701999	3067	4701999	336	3403	2
07/30	31			9505	5596253	2149	4617572	1051	276150	12705	10489975	2323	15028	10
08/06	32			263745	1.1E+09	5069	22810000			268814	1.1E+09	51760	320574	66
08/13	33	5468	3811693	1479020	1.0E+10	383210	1.4E+09	2272	1274091	1869970	1.2E+10	372925	2242895	385
08/20	34	5527	28860000	1077306	5.7E+09	199722	6.8E+08			1282555	6.4E+09	707160	1989715	247
08/27	35	5591	4948097	639100	2.3E+09	210633	9.9E+08			855324	3.3E+09	349638	1204962	157
09/03	36			334173	8.7E+08	31987	38530000			366160	9.1E+08	26946	393106	160
09/10	37			131826	50050013	1186	348523			133012	50398536	406	133418	103
09/17	38			80198	9796	169	2318			80367	12114	1109	81476	79
09/24	39			54024						54024			54024	26
Subtotal		16586	37619790	4068897	2.0E+10	834125	3.2E+09	6712	6260574	4926320	2.3E+10	1513927	6440247	1239

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Eshamy District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/02	27									0		676	676	0
07/09	28									0		7774	7774	0
07/16	29									0		13080	13080	0
07/23	30									0		12385	12385	0
07/30	31									0		12385	12385	0
08/06	32	2720	5034087	17529	48720000					20249	53754087	41489	61738	9
08/13	33	23582	83953934	151067	5.2E+08	15961	56890000			190610	6.6E+08	30435	221045	45
08/20	34	15099	43940263	106220	3.1E+08	3565	12710000			124884	3.7E+08	63979	188863	25
08/27	35	36497	99130000	170002	4.7E+08	7471	10908916			213970	5.8E+08	42563	256533	44
09/03	36	1776	3102111	11466	20912615					13242	24014726	21973	35215	7
09/10	37	971	236117	12481	4377625	950	225845			14402	4839587	0	14402	15
09/17	38	885	196033	4484	1409631					5369	1605664	0	5369	6
09/24	39			255	16256					255	16256	0	255	1
Subtotal		81530	2.4E+08	473504	1.4E+09	27947	80734761	0	0	582981	1.7E+09	234354	817335	152

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Southwestern District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/23	30													
07/30	31	170977	9.9E+08	242695	1.7E+09	200339	1.3E+09	121326	8.0E+08	735337	4.8E+09	266884	1002221	112
08/06	32	483156	2.5E+09	512712	2.8E+09	710832	4.2E+09	35940	2.0E+08	1742640	9.7E+09	965747	2708387	318
08/13	33	228371	1.5E+09	14158	28010000	14156	16700000			256685	1.5E+09	12190	268875	51
08/20	34	333052	2.4E+09							333052	2.4E+09	75251	408303	65
08/27	35	187682	1.0E+09	1359	461817	15225	1.2E+08			204266	1.2E+09	21217	225483	77
09/03	36	82374	97040000	1037	1074514					83411	98114514	962	84373	73
09/10	37	45423	43100000			1046	273668			45423	43100000	7629	53052	57
09/17	38	83549	4.2E+08	1060	281204					85655	4.2E+08	0	85655	98
09/24	39									0		480	480	0
Subtotal		1614584	8.9E+09	773021	4.5E+09	941598	5.7E+09	157266	1.0E+09	3486469	2.0E+10	1350360	4836829	851

Unakwik District

Week Ending Dat	Hatchery Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25													
06/25	26											1	1	0
07/02	27													
07/09	28													
07/16	29													
07/23	30													
07/30	31													
08/06	32													
08/13	33					63184	75203692			63184		44205	107389	0
08/20	34					103682	2.0E+08			103682	2.0E+08	72536	176218	11
08/27	35					91459	6.0E+08			91459	6.0E+08	8123	99582	11
09/03	36					5520	2187580			5520		490	6010	
Subtotal		0	0	0	0	263845	8.8E+08	0	0	263845	8.0E+08	125355	389200	22
Grand Total		1735011	9.3E+09	6222788	3.2E+10	9400689	7.5E+10	12567633	1.2E+11	29926121	2.4E+11	8059707	37985828	6163

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**Appendix B: Pink Salmon Hatchery and Wild Stock Contributions to
Prince William Sound Common Property Fisheries by
District and Week during 1989.**

Appendix B.1. Pink salmon hatchery and wild stock contributions to Prince William Sound common property fisheries by district and week during 1989.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25													
07/01	26							418946	1.6E+09	418946	1.6E+09	8254	427200	219
07/08	27							290078	3.2E+08	290078	3.2E+08	158300	448378	173
07/15	28							1689901	1.1E+10	1689901	1.1E+10	64359	1754260	740
07/22	29													
07/29	30													
08/05	31													
08/12	32			24238	98790000	102846	3.0E+08	2280	3508578	129364	4.1E+08	214666	344030	47
08/19	33			9272	41960000	24850	6.1E+08			34122	6.6E+08	99079	133201	4
08/26	34			14423	38370000	4109	7865866			18532	46235866	25014	43546	7
09/02	35											481	481	0
Subtotal		0	0	47933	1.8E+08	131805	9.3E+08	2401205	1.3E+10	2580943	1.4E+10	570153	3151096	1190

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25													
07/01	26									0		33937	33937	0
07/08	27									0		24514	24514	0
07/15	28					3940	276150			3940	276150	0	3940	1
07/22	29													
07/29	30			184000	1.8E+09	1203279	2.3E+10	7046	15460000	1394325	2.5E+10	179016	1573341	244
08/05	31			5356	417962	78389	83710000			83745	84127962	36348	120093	17
08/12	32			74109	2.3E+08	1829330	4.8E+10			1903439	4.8E+10	287101	2190540	261
08/19	33			433209	3.9E+09	1136476	4.1E+10			1569685	4.5E+10	587027	2156712	153
08/26	34			17127	3956310	54507	1.7E+08			71634	1.8E+08	342888	414522	9
09/02	35													
Subtotal		0	0	713801	5.9E+09	4305921	1.1E+11	7046	15460000	5026768	1.2E+11	1490831	6517599	685

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Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25									0		31	31	0
07/01	26							391	5112	391	5112	140	531	1
07/08	27									0		1001	1001	0
07/15	28													
07/22	29													
07/29	30			160367	7.9E+08	225373	1.2E+09	1482	1105413	387222	2.0E+09	168843	556065	93
08/05	31													
08/12	32													
08/19	33	8461	47630000	1265246	2.7E+10	84473	5.5E+08			1358180	2.7E+10	492148	1850328	198
08/26	34	13624	32140000	856594	4.6E+09	135518	4.0E+08			1005736	5.1E+09	360016	1365752	179
09/02	35	848	265533	51805	1.2E+08	5085	20960000			57738	1.4E+08	49785	107523	22
09/09	36			27949	1.0E+08					27949	1.0E+08	16485	44434	3
Subtotal		22933	80035533	2361961	3.2E+10	450449	2.1E+09	1873	1110525	2837216	3.5E+10	1088449	3925665	496

Northwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/26	34			83523	11810000					83523	11810000	23790	107313	8

Southeastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25													
07/01	26													
07/08	27													
07/15	28 1/	568	78404							568		3154	3722	0
07/22	29													
07/29	30	6765	11120000							6765	11120000	37561	44326	3
08/05	31													
08/12	32									0		19173	19173	0
08/19	33									0		5956	5956	0
08/26	34													
09/02	35													
Subtotal		7333	11198404	0	0	0	0	0	0	7333	11120000	65844	73177	3

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Unakwik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25									0		2	2	0
07/01	26									0		17	17	0
07/08	27													
07/15	28													
07/22	29													
07/29	30													
08/05	31													
08/12	32					23999	5381254			23999	5381254	6969	30968	6
08/19	33													
08/26	34													
09/02	35													
Subtotal		0	0	0	0	23999	5381254	0	0	23999	5381254	6988	30987	6
Grand Total		30266	91233937	3207218	3.8E+10	4912174	1.2E+11	2410124	1.3E+10	10559782	1.7E+11	3246055	13805837	2388

Appendix B.2. Pink salmon hatchery and wild stock contributions to Prince William Sound common property fisheries by district and week during 1990.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25													
06/30	26							550651	1.9E+09	550651	1.9E+09	8739	559390	252
07/07	27							3490240	6.5E+10	3490240	6.5E+10	170228	3660468	1002
07/14	28							1200971	1.2E+10	1200971	1.2E+10	24470	1225441	476
07/21	29							1110629	7.8E+09	1110629	7.8E+09	191946	1302575	334
07/28	30					2658	6403177	344792	1.5E+09	347450	1.5E+09	150549	497999	121
08/04	31	3488	12160000	3628	7724909			1220	1486304	8336	21371213	151974	160310	4
08/11	32			3313	10360000			4117	16030000	7430	26390000	368814	376244	2
08/18	33			27322	82770000					27322	82770000	124928	152250	3
08/25	34			2789	3765950					2789	3765950	37273	40062	1
09/01	35													
Subtotal		3488	12160000	37052	1.0E+08	2658	6403177	6702620	8.8E+10	6745818	8.8E+10	1228921	7974739	2195

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25													
06/30	26							17636	6578309	17636	6578309	17404	35040	10
07/07	27							32762	12150000	32762	12150000	0	32762	14
07/14	28							65922	7768257	65922	7768257	0	65922	12
07/21	29													
07/28	30			26199	1.1E+08	125915	5.8E+08			152114	6.9E+08	234815	386929	31
08/04	31	36014	3.7E+08	407379	6.0E+09	271253	2.4E+09	15530	86860000	730176	8.9E+09	394433	1124609	109
08/11	32	42448	3.0E+08	987759	3.5E+10	195450	1.5E+09			1225657	3.9E+10	683417	1909074	134
08/18	33	22994	1.4E+08	872675	2.0E+10	267690	3.3E+09			1163359	2.1E+10	265418	1428777	85
08/25	34	21041	1.2E+08	229818	1.4E+09	68313	4.5E+08			319172	2.0E+09	180291	499463	56
09/01	35													
Subtotal		122497	9.3E+08	2523830	6.2E+10	928621	8.3E+09	131850	1.1E+08	3706798	7.1E+10	1775778	5482576	451

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Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/16	24									0	87		87	0
06/23	25									0	1650		1650	0
06/30	26							735	40000	735	40000		3778	4513
07/07	27									0	812		812	0
07/14	28													
07/21	29													
07/28	30			15419	9929764	2036	2507720			17455	12437484	36053	53508	14
08/04	31	5275	760377	346193	4.2E+09	53191	4.8E+08			404659	4.6E+09	87570	492229	98
08/11	32	35756	81810000	596744	3.8E+09	33616	1.2E+08			666116	4.0E+09	165103	831219	307
08/18	33	29607	47580000	322648	3.2E+09	4508	4297681			356763	3.2E+09	108020	464783	108
08/25	34	6033	27200000	416886	1.8E+09	31556	1.3E+08			454475	2.0E+09	125969	580444	111
09/01	35			181164	9.6E+08	7211	49180000			188375	1.0E+09	163894	352269	39
09/08	36	3960	4510047	50350	63590000					54310	68100047	22326	76636	16
09/15	37									0	4572		4572	0
09/22	38									0	3		3	0
Subtotal		80631	1.6E+08	1929404	1.4E+10	132118	7.9E+08	735	40000	2142888	1.5E+10	719837	2862725	694

Northwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/04	31													
08/11	32	16700	1.0E+08	234393	2.4E+09	44337	1.6E+08			295430	2.7E+09	109586	405016	48
08/18	33	10730	5599941	193850	3.8E+09					204580	3.8E+09	12777	217357	17
08/25	34			58920	1.4E+08					58920	1.4E+08	40770	99690	5
09/01	35													
Subtotal		27430	1.1E+08	487163	6.4E+09	44337	1.6E+08	0	0	558930	6.7E+09	163133	722063	70

Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/16	24									0	419		419	0
06/23	25							1599	34302	1599	34302	583	2182	3
06/30	26							4301	134517	4301	134517	1000	5301	8
07/07	27							1275	15876	1275	15876	208	1483	1
07/14	28							3771	1247277	3771	1247277	915	4686	2
07/21	29									0	462		462	0
07/28	30													
08/04	31										64271		64271	0
08/11	32			93184	1.0E+09					93184	1.0E+09	7652	100836	4
08/18	33	14502	1.9E+08	21579	2.1E+08					36081	4.1E+08	154112	190193	3
08/25	34	21969	4.8E+08	4238	17960000					26207	5.0E+08	92515	118722	2
09/01	35	13158	1.1E+08	13905	1.1E+08					27063	2.1E+08	19338	46401	4
Subtotal		49629	7.8E+08	132906	1.4E+09	0	0	10946	1431972	193481	2.2E+09	341475	534956	27

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Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/21	29													
07/28	30	22472	58460000	29687	1.0E+08			11135	6137585	63294	1.7E+08	140747	204041	32
08/04	31	902926	8.2E+09	1047875	7.4E+09	221245	2.0E+09			2172046	1.8E+10	1485704	3657750	294
08/11	32	1257879	1.1E+10	1362910	8.5E+09	270605	2.6E+09			2891394	2.2E+10	1643454	4534848	433
08/18	33	1493219	1.5E+10	1366383	1.2E+10	135860	1.2E+09			2995462	2.8E+10	1612266	4607728	441
08/25	34	1319353	1.2E+10	1291918	2.3E+10	109768	3.7E+08			2721039	3.5E+10	1810165	4531204	538
09/01	35	115032	7.0E+08	64765	6.0E+08	8482	29930000			188279	1.3E+09	87622	275901	37
Subtotal		5110881	4.6E+10	5163538	5.1E+10	745960	6.1E+09	11135	6137585	11031514	1.0E+11	6779958	17811472	1775

Montague District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/11	32									0		10658	10658	0

Southeastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/28	30									0		3670	3670	0
08/04	31									0		8655	8655	0
08/11	32									0				
08/18	33									0				
08/25	34									0				
09/01	35									0				
Subtotal		0	0	0	0	0	0	0	0	0	0	12325	12325	0

Unakwik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/21	29									0		145	145	0
07/28	30									0		24	24	0
08/04	31									0		1023	2857	0
08/11	32 1/	64	666	1478	78163	292	3377			1834	82206	688	3705	0
08/18	33 2/	60	958	2263	134486	694	22338			3017	157782	1175	3255	0
08/25	34 3/	137	5118	1498	60309	445	19286			2080	84713			
09/01	35									0				
Subtotal		261	6742	5239	272958	1431	45001	0	0	6931	324701	3055	9986	0
Grand Total		5394817	4.8E+10	10279132	1.4E+11	1855125	1.5E+10	6857286	8.8E+10	24386360	2.9E+11	11035140	35421500	5212

Appendix B.3. Pink salmon hatchery and wild stock contributions to Prince William Sound common property fisheries by district and week during 1991.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25													
06/29	26													
07/06	27							491156	2.1E+09	491156	2.1E+09	7283	498439	189
07/13	28							339750	1.3E+09	339750	1.3E+09	61678	401428	96
07/20	29							1067127	8.0E+09	1067127	8.0E+09	79375	1146502	382
07/27	30							559942	4.5E+09	559942	4.5E+09	10674	570616	218
08/03	31 1/							186	494	186		190	4	0
08/10	32 1/							43	27	43		44	1	0
08/17	33													
08/24	34													
08/31	35													
Subtotal		0	0	0	0	0	0	2458204	1.6E+10	2458204	1.6E+10	159244	2616990	885

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/03	31													
08/10	32	7083	8858744			957476	8.8E+09			964559	8.8E+09	74128	1038687	114
08/17	33	8332	17190000	134357	6.2E+08	1239950	1.4E+10	8021	15940000	1390660	1.5E+10	101735	1492395	146
08/24	34			119791	1.8E+09	1269730	2.1E+10			1389521	2.3E+10	106982	1496503	114
08/31	35					4535	5141556			4535	5141556	0	4535	1
Subtotal		15415	26048744	254148	2.4E+09	3471691	4.4E+10	8021	15940000	3749275	4.6E+10	282845	4032120	375

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/20	29													
07/27	30													
08/03	31			1558	904641			4336	3514071	5894	4418712	12514	18408	5
08/10	32	18281	18430000	233415	1.1E+09	146767	8.0E+08	4101	1546570	402564	2.0E+09	219728	622292	76
08/17	33			800399	6.3E+09	143725	1.1E+09			944124	7.5E+09	250240	1194364	90
08/24	34			120684	5.7E+08	51950	2.8E+08			172634	8.5E+08	139338	311972	34
08/31	35			30578	42460000					30578	42460000	31641	62219	15
09/07	36													
09/14	37 2/			1133	58272					1133		1172	2305	0
Subtotal		18281	18430000	1187767	8.1E+09	342442	2.2E+09	8437	5060641	1556927	1.0E+10	654639	2211566	220

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/15	24									0		4	4	0
06/22	25									0		164	164	0
06/29	26									0		307	307	0
07/06	27									0		311	311	0
07/13	28									0		3488	3488	0
07/20	29									0		4007	4007	1
07/27	30									0		6773	6773	1
08/03	31									0		4585	4585	1
08/10	32									0		7832	7832	2
08/17	33			4986	3104654					4986	3104654	32137	37123	1
08/24	34													
Subtotal		0	0	4986	3104654	0	0	0	0	4986	3104654	59608	64594	6

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/03	31													
08/10	32	491170	4.3E+09	462388	3.5E+09	225254	2.3E+09	3496	6563725	1182308	1.0E+10	615577	1797885	210
08/17	33	1655443	1.4E+10	3327430	4.5E+10	1605239	1.9E+10	9812	94480000	6597924	7.8E+10	1669311	8267235	1011
08/24	34	1339461	9.1E+09	2256275	1.7E+10	846884	7.7E+09	10585	27330000	4453205	3.4E+10	2099318	6552523	771
08/31	35	391770	2.1E+09	355896	1.8E+09	101075	6.9E+08	8689	15610000	857430	4.7E+09	374347	1231777	139
Subtotal		3877844	2.9E+10	6401989	6.8E+10	2778452	3.0E+10	32582	1.4E+08	13090867	1.3E+11	4758553	17849420	2131

Unakw ik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25													
06/29	26									0		1	1	0
07/06	27									0		2	2	0
07/13	28									0		1	1	0
07/20	29									0		6	6	0
07/27	30													
08/03	31									0		4	4	0
08/10	32					117159	2.8E+08			117159	2.8E+08	1316	118475	23
08/17	33													
Subtotal		0	0	0	0	117159	2.8E+08	0	0	117159	2.8E+08	1330	118489	23
Grand Total		3911540	3.0E+10	7848890	7.8E+10	6709744	7.6E+10	2507244	1.6E+10	20977418	2.0E+11	5916219	26893179	3640

Appendix B.4. Pink salmon hatchery and wild stock contributions to Prince William Sound common property fisheries by district and week during 1992.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/04	27													
07/11	28							127649	3.6E+08	127649	3.6E+08	15552	143201	62
07/18	29					1913	3417034	180257	3.1E+08	182170	3.1E+08	58382	240552	120
07/25	30	1641	2429356					57679	67460000	59320	69889356	45670	104990	47
08/01	31													
08/08	32													
08/15	33													
08/22	34													
08/29	35													
09/05	36 1/	8	52					266	1440	274	1492	211	485	0
Subtotal		1649	2429408	0	0	1913	3417034	365851	7.3E+08	369413	7.4E+08	119815	489228	229

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/25	30													
08/01	31					85955	3.1E+08			85955	3.1E+08	130004	215959	18
08/08	32			12188	61820000	377152	2.5E+09			389340	2.5E+09	217015	606355	86
08/15	33	17827	19670000	6297	7783660	143310	7.7E+08			167434	8.0E+08	41283	208717	21
08/22	34			6661	750792	66842	2.3E+08			73503	2.3E+08	30494	103997	9
08/29	35													
Subtotal		17827	19670000	25146	70354452	673259	3.8E+09	0	0	716232	3.9E+09	418796	1135028	134

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/27	26									0		1475	1475	0
07/04	27													
07/11	28													
07/18	29									0		7079	7079	0
07/25	30													
08/01	31			6000	1532644	6431	1532644			12431	3065288	3578	16009	2
08/08	32			16876	11170000	3953	1510858			20829	12680858	2221	23050	11
08/15	33			61824	33350000	14984	6143867			76808	39493867	13	76821	37
08/22	34			49971	59060000	11532	20990000			61503	80050000	28383	89886	22
08/29	35	7193	12910000	66761	1.5E+08	18645	33950000			92599	1.9E+08	19249	111848	35
09/05	36	4350	705285	19535	5091843	5262	1184153			29147	6981281	7979	37126	19
09/12	37 2/	69	180	312	1299	84	302			465	1781	128	593	0
Subtotal		11612	13615465	221279	2.6E+08	60891	65311824	0	0	293782	3.4E+08	70105	363887	126

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25									0		112	112	0
06/27	26									0		963	963	0
07/04	27							5132	48516	5132	48516	2346	7478	2
07/11	28									0		16122	16122	0
07/18	29							3741	591918	3741	591918	17205	20946	6
07/25	30									0		1808	1808	0
08/01	31	3595	743970	7701	1810137	2593	606978			13889	3161085	3622	17511	20
08/08	32	3113	2266229	23273	21230000	5309	3503197			31695	26999426	5306	37001	27
08/15	33	16406	8468088	85033	1.0E+08	3240	2686416			104679	1.1E+08	14550	119229	87
08/22	34	21547	7119051	140662	2.9E+08	6940	2475006			169149	3.0E+08	19045	188194	87
08/29	35	24749	24200000	57545	1.0E+08	5358	4357050			87652	1.3E+08	14886	102538	60
09/05	36	9978	4316053	15904	12330000	1919	490905			27801	17136958	3444	31245	21
Subtotal		79388	47113391	330118	5.3E+08	25359	14119552	8873	640434	443738	5.9E+08	99409	543147	310

Southw estern District

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Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/25	30													
08/01	31	73529	2.3E+08	69608	2.8E+08	33646	1.1E+08	3340	2515565	180123	6.2E+08	115062	295185	63
08/08	32	428575	1.0E+09	264001	5.1E+08	108837	1.9E+08	1254	1126391	802667	1.7E+09	161429	964096	285
08/15	33	369109	8.7E+08	226572	6.4E+08	106305	2.4E+08			701986	1.7E+09	185602	887588	207
08/22	34	458632	1.1E+09	171687	3.0E+08	29164	43940000			659483	1.4E+09	36563	696046	160
08/29	35	165342	3.1E+08	13338	23080000					178680	3.3E+08	18178	196858	45
Subtotal		1495187	3.5E+09	745206	1.8E+09	277952	5.8E+08	4594	3641956	2522939	5.8E+09	516834	3039773	760

Unakw ik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26													
07/04	27									0		3	3	0
07/11	28													
07/18	29					25	369			25	369	69	94	0
07/25	30													
08/01	31					1825	2008453			1825	2008453	5110	6935	1
08/08	32													
Subtotal		0	0	0	0	1850	2008822	0	0	1850	2008822	5182	7032	1
Grand Total		1605663	3.6E+09	1321749	2.6E+09	1041224	4.4E+09	379318	7.4E+08	4347954	1.1E+10	1230141	5578095	1560

Appendix B.5. Pink salmon hatchery and wild stock contributions to Prince William Sound common property fisheries by district and week during 1993.

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/14	33													
08/21	34	3506	8195967	12375	37780000	132913	4.6E+08			148794	5.1E+08	105152	253946	33
08/28	35					57557	1.5E+08			57557	1.5E+08	95234	152791	10
Subtotal		3506	8195967	12375	37780000	190470	6.1E+08	0	0	206351	6.6E+08	200386	406737	43

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/12	24									0		1	1	0
06/19	25									0		24	24	0
06/26	26									0		128	128	0
07/03	27							329	20164	329	20164	1296	1625	1
07/10	28									0		1773	1773	0
07/17	29									0		1046	1046	0
07/24	30													
07/31	31													
08/07	32			16988	32100000	23416	42510000			40404	74610000	18401	58805	10
08/14	33			17219	29340000	3767	13180000			20986	42520000	17346	38332	9
08/21	34	4504	15180000	84752	1.0E+08	46955	66400000			136211	1.9E+08	51929	188140	43
08/28	35			97721	53790000	13753	4259927			111474	58049927	52772	164246	17
09/04	36			20441	98000000	5255	25820000			25696	1.2E+08	11906	37602	5
09/11	37	1166	151321							1166	151321	834	2000	1
09/18	38 1/	14	22									10	24	0
09/25	39											1	1	0
Subtotal		5684	15331343	237121	3.2E+08	93146	1.5E+08	329	20164	336266	4.9E+08	157467	493747	86

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25									0		1	1	0
06/26	26									0		74	74	0
07/03	27									0		2045	2045	0
07/10	28									0		3068	3068	0
07/17	29									0		792	792	0
07/24	30													
07/31	31									0		1145	1145	0
08/07	32									0		4147	4147	0
08/14	33	1126	283846	4621	1740700					5747	2024546	4305	10052	5
08/21	34			21215	51220000	2584	6672434			23799	57892434	8693	32492	11
08/28	35	15404	32110000	31241	54400000	3997	3993897			50642	90503897	7463	58105	14
09/04	36	1479	273994	10376	3685856	1279	409198			13134	4369048	3577	16711	14
09/11	37 1/	168	3520	1176	47347	145	5256			1489	56123	405	1894	0
09/18	38									0		16	16	0
Subtotal		18177	32671360	68629	1.1E+08	8005	11080785	0	0	94811	1.5E+08	35731	130542	44

Southw estern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/31	31													
08/07	32	24754	76430000	8463	12820000	15543	32420000			48760	1.2E+08	95041	143801	9
08/14	33	212000	9.1E+08	141461	8.7E+08	27494	60440000			380955	1.8E+09	99203	480158	105
08/21	34	435838	3.2E+09	172445	1.2E+09	41697	1.9E+08			649980	4.6E+09	249579	899559	147
08/28	35	400343	1.5E+09	205220	5.9E+08	58958	83350000			664521	2.2E+09	160908	825429	142
09/04	36			14382	2266795					14382	2266795	91319	105701	1
09/11	37 2/			2878	90756					2878	90756	18272	21150	0
Subtotal		1072935	5.7E+09	544849	2.7E+09	143692	3.6E+08	0	0	1761476	8.7E+09	714322	2475798	404

Unakw ik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WLD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/26	26													
07/03	27													
07/10	28													
07/17	29													
07/24	30													
07/31	31													
08/07	32													
08/14	33													
08/21	34													
08/28	35													
Subtotal		0	0	0	0	0	0	0	0	0	0	6571	6571	0
Grand Total		1100302	5.7E+09	862974	3.2E+09	435313	1.1E+09	329	20164	2398904	1.0E+10	1114477	3513395	577

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Appendix B.6. Pink salmon hatchery and wild stock contributions to Prince William Sound common property fisheries by district and week during 1994.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25													
06/25	26													
07/02	27							205028	6.3E+08	205028	6.3E+08	32995	238023	101
07/09	28							2228423	4.0E+10	2228423	4.0E+10	133072	2361495	346
07/16	29							2300085	2.7E+10	2300085	2.7E+10	363149	2663234	353
07/23	30	11964	71790000					3681426	2.7E+10	3693390	2.7E+10	947864	4641254	586
07/30	31	2255	4651662	11457	87340000	33656	95330000	1024575	1.1E+10	1071943	1.1E+10	255309	1327252	231
08/06	32					33385	1.4E+08	15422	56000000	48807	2.0E+08	155609	204416	11
08/13	33 1/					85	941	39	364	124	1305	397	521	0
08/20	34													
08/27	35													
Subtotal		14219	76441662	11457	87340000	67126	2.4E+08	9454998	1.1E+11	9547800	1.1E+11	1888395	11436195	1628

1/ Proportions from week 32 were used to allocate catch for week 33.

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/16	29													
07/23	30							29108	1.2E+08	29108	1.2E+08	9065	38173	7
07/30	31			11516	56120000	209868	1.1E+09			221384	1.2E+09	78880	300264	28
08/06	32			48958	2.7E+08	913846	4.8E+09	5321	28020000	968125	5.1E+09	335210	1303335	199
08/13	33	2210	4797562	504333	3.7E+09	2719998	3.8E+10			3226541	4.2E+10	250518	3477059	333
08/20	34	5882	7296264	300517	1.5E+09	779684	3.9E+09			1086083	5.5E+09	164502	1250585	212
08/27	35			23907	1.9E+08	176043	1.2E+09			199950	1.3E+09	212462	412412	31
Subtotal		8092	12093826	889231	5.8E+09	4799439	4.9E+10	34429	1.5E+08	5731191	5.5E+10	1050637	6781828	810

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25							45	729	45	729	0	45	1
06/25	26									0		35	35	0
07/02	27									0		294	294	0
07/09	28							72	6.25	72	6.25	315	387	1
07/16	29							171	7310	171	7310	525	696	1
07/23	30							3067	4701999	3067	4701999	336	3403	2
07/30	31					2149	4617572	1051	276150	3200	4893722	1768	4968	2
08/06	32													
08/13	33	5468	3811693	902178	4.8E+09	356126	1.2E+09	2272	1274091	1266044	6.0E+09	121394	1387438	290
08/20	34	5527	28860000	618294	2.8E+09	193698	6.5E+08			817519	3.5E+09	307704	1125223	180
08/27	35	5591	4948097	448756	2.0E+09	180122	9.1E+08			634469	2.9E+09	149633	784102	103
09/03	36			216572	8.7E+08	31987	38530000			248559	9.1E+08	26946	275505	84
09/10	37			13439	50050000	1180	348520			14619	50398520	365	14984	6
Subtotal		16586	37619790	2199239	1.0E+10	765262	2.8E+09	6678	6260285	2987765	1.3E+10	609315	3597080	670

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/02	27									0		676	676	0
07/09	28									0		7444	7444	0
07/16	29									0		13080	13080	0
07/23	30									0		9731	9731	0
07/30	31									0		28972	49221	9
08/06	32	2720	5034087	17529	48720000					20249	53754087	24888	201532	45
08/13	33	21847	83080000	138836	5.2E+08	15961	56890000			176644	6.6E+08	50027	139777	25
08/20	34	10734	38410000	75451	2.7E+08	3565	12710000			89750	3.2E+08	7950	133862	35
08/27	35	25668	65090000	93665	2.3E+08	6579	10710000			125912	3.1E+08	10338	10338	0
09/03	36									0				0
Subtotal		60969	1.9E+08	325481	1.1E+09	26105	80310000	0	0	412555	1.3E+09	153106	565661	114

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/23	30											254789	905684	97
07/30	31	101886	6.7E+08	237595	1.7E+09	192618	1.3E+09	118796	7.9E+08	650895	4.5E+09	923183	2502405	266
08/06	32	361340	1.9E+09	499800	2.8E+09	685829	4.2E+09	32253	2.0E+08	1579222	9.1E+09			
08/13	33													
08/20	34													
08/27	35													
Subtotal		463226	2.6E+09	737395	4.5E+09	878447	5.5E+09	151049	9.9E+08	2230117	1.4E+10	1177972	3408089	363

Unakwik District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25									0		1	1	0
06/25	26													
07/02	27													
07/09	28													
07/16	29													
07/23	30													
07/30	31													
08/06	32													
08/13	33 1/					63184	75203692			63184	75203692	44205	107389	0
08/20	34					103682	2.0E+08			103682	2.0E+08	72536	176218	11
08/27	35					91459	6.0E+08			91459	6.0E+08	8123	99582	11
09/03	36 2/					5520	2187580			5520	2187580	490	6010	0
Subtotal		0	0	0	0	263845	8.8E+08	0	0	263845	8.8E+08	125355	389200	22
Grand Total		563092	2.9E+09	4162803	2.2E+10	6800224	5.9E+10	9647154	1.1E+11	21173273	1.9E+11	5004780	26178053	3607

1/ Proportions from week 34 were used to allocate catch in week 33.
 2/ Proportions from week 35 were used to allocate catch in week 36.

**Appendix C: Pink Salmon Hatchery and Wild Stock Contributions to
Prince William Sound Cost Recovery Fisheries by
District and Week from 1989 to 1994.**

Appendix C.1. Pink salmon hatchery and wild stock contributions to Prince William Sound cost recovery fisheries by district and week during 1989.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25							40607	1.4E+08	40607	1.4E+08	0	40607	7
07/01	26							253943	4.2E+08	253943	4.2E+08	12290	266233	170
07/08	27							312939	3.5E+09	312939	3.5E+09	38306	351245	158
07/15	28							60834	3.4E+08	60834	3.4E+08	1129	61963	27
07/22	29													
Subtotal		0	0	0	0	0	0	668323	4.4E+09	668323	4.4E+09	51725	720048	362

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/29	30													
08/05	31					219092	5.6E+08			219092	5.6E+08	116092	335184	66
08/12	32					272307	4.9E+09			272307	4.9E+09	23793	296100	65
08/19	33													
Subtotal		0	0	0	0	491399	5.5E+09	0	0	491399	5.5E+09	139885	631284	131

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/29	30													
08/05	31			321097	2.3E+09					321097	2.3E+09	221167	542264	49
08/12	32	4777	13980000	1129575	2.2E+10	3994	5822239	2629	467322	1140975	2.2E+10	211848	1352823	158
08/19	33	6088	2635806	561865	1.1E+10					567953	1.1E+10	131467	699420	36
08/26	34			49688	3.4E+08					49688	3.4E+08	142153	191841	6
09/02	35													
Subtotal		10865	16615806	2062225	3.5E+10	3994	5822239	2629	467322	2079713	3.5E+10	706635	2786348	249

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/22	29													
07/29	30	280231	3.9E+09			5333	7111030			285564	3.9E+09	18232	303796	78
08/05	31	613401	1.1E+10	38909	3.3E+08					652310	1.1E+10	258017	910327	123
08/12	32	605379	4.7E+09	9259	38500000					614638	4.8E+09	539325	1153963	85
08/19	33	711505	5.6E+09							711505	5.6E+09	371687	1083192	57
08/26	34	253504	9.7E+09	10957	30010000					264461	9.7E+09	0	264461	47
09/02	35													
Subtotal		2464020	3.5E+10	59125	4.0E+08	5333	7111030	0	0	2528478	3.5E+10	1187261	3715739	390
Grand Total		2474885	3.5E+10	2121350	3.5E+10	500726	5.5E+09	670952	4.4E+09	5767913	8.0E+10	2085506	7853419	1132

Appendix C.2. Pink salmon hatchery and wild stock contributions to Prince William Sound cost recovery fisheries by district and week during 1990.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/23	25							37648	84690000	37648	84690000	0	37648	35
06/30	26							1219559	1.2E+10	1219559	1.2E+10	148764	1368323	539
07/07	27							271459	1.4E+09	271459	1.4E+09	66722	338181	100
07/14	28							379562	1.3E+09	379562	1.3E+09	22754	402316	116
Subtotal		0	0	0	0	0	0	1908228	1.5E+10	1908228	1.5E+10	238241	2146469	790

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/11	32					103286	6.5E+08			103286	6.5E+08	0	103286	24
08/18	33			11839	15710000	257819	1.3E+09			269658	1.3E+09	68154	337812	106
08/25	34					111399	1.5E+09			111399	1.5E+09	0	111399	34
Subtotal		0	0	11839	15710000	472504	3.5E+09	0	0	484343	3.4E+09	68154	552497	164

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/28	30			54285	2.4E+08					54285	2.4E+08	14361	68646	32
08/04	31			558052	1.3E+10					558052	1.3E+10	15938	573990	102
08/11	32			384749	3.7E+09					384749	3.7E+09	131076	515825	46
08/18	33	71642	2.7E+08	1374139	6.0E+10					1445781	6.0E+10	154326	1600107	196
08/25	34	2071	4286344	324034	1.5E+09					326105	1.5E+09	143174	469279	99
09/01	35			96703	5.2E+08					96703	5.2E+08	25360	122063	18
09/08	36			11148	9654939					11148	9654939	3114	14262	14
Subtotal		73713	2.8E+08	2803110	7.9E+10	0	0	0	0	2876823	7.9E+10	487349	3364172	507

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/28	30	64137	1.2E+09							64137	1.2E+09	51647	115784	3
08/04	31	155885	1.4E+09	8479	71880000					164364	1.4E+09	149931	314295	26
08/11	32	265405	1.1E+09	7540	13670000					272945	1.1E+09	276376	549321	33
08/18	33	391286	6.5E+09	142974	1.7E+09	7962	10510000	3438	1702901	545660	8.2E+09	468230	1013890	49
08/25	34	226628	4.9E+08							226628	4.9E+08	264120	490748	5
09/01	35	83122	67610000	16857	3257974	9515	1612592			109494	72480566	9992	119486	6
09/08	36	37764	42300000	769	589985					38533	42889985	27460	65993	43
Subtotal		1224227	1.1E+10	176619	1.8E+09	17477	12122592	3438	1702901	1421761	1.3E+10	1247756	2669517	165
Grand Total		1297940	1.1E+10	2991568	8.1E+10	489981	3.4E+09	1911666	1.5E+10	6691155	1.1E+11	2041500	8732655	1626

Appendix C.3. Pink salmon hatchery and wild stock contributions to Prince William Sound cost recovery fisheries by district and week during 1991.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/22	25							169820	5.8E+08	169820	5.8E+08	13352	183172	86
06/29	26							839802	4.0E+09	839802	4.0E+09	76232	916034	342
07/06	27							542322	1.9E+09	542322	1.9E+09	76095	618417	248
07/13	28							901446	6.3E+09	901446	6.3E+09	37803	939249	410
07/20	29							455771	2.0E+09	455771	2.0E+09	107802	563573	121
07/27	30													
Subtotal		0	0	0	0	0	0	2909161	1.5E+10	2909161	1.5E+10	311284	3220445	1207

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/27	30													
08/03	31					229584	8.8E+08	1688	711914.1	231272	8.8E+08	17	231289	81
08/10	32					284259	1.4E+09			284259	1.4E+09	35470	319729	74
08/17	33					139446	6.9E+08			139446	6.9E+08	74966	214412	24
08/24	34													
Subtotal		0	0	0	0	653289	2.9E+09	1688	711914.1	654977	2.9E+09	110453	765430	179

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/20	29													
07/27	30			17928	64620000					17928	64620000	1027	18955	5
08/03	31			153595	4.7E+08			6410	20670000	160005	4.9E+08	11099	171104	55
08/10	32			262136	7.5E+08	6026	9925488			268162	7.6E+08	4255	272417	125
08/17	33			367378	1.3E+09	11184	41720000			378562	1.3E+09	39472	418034	114
08/24	34													
08/31	35			163580	7.2E+08					163580	7.2E+08	0	163580	33
Subtotal		0	0	964617	3.3E+09	17210	51645488	6410	20670000	988237	3.3E+09	55853	1044090	332

South western District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/27	30													
08/03	31	95875	2.7E+08							95875	2.7E+08	12729	108604	33
08/10	32	278917	8.4E+08			9206	43330000			288123	8.8E+08	246959	535082	112
08/17	33	227412	9.0E+08			6338	40170000			233750	9.4E+08	156833	390583	64
08/24	34	48901	1.3E+08							48901	1.3E+08	5994	54895	29
08/31	35													
Subtotal		651105	2.1E+09	0	0	15544	83500000	0	0	666649	2.2E+09	422515	1089164	238
Grand Total		651105	2.1E+09	964617	3.3E+09	686043	3.1E+09	2917259	1.5E+10	5219024	2.3E+10	900105	6119129	1956

Appendix C.4. Pink salmon hatchery and wild stock contributions to Prince William Sound cost recovery fisheries by district district and week during 1992.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26							40895	71410000	40895	71410000	0	40895	32
07/04	27							447890	3.1E+09	447890	3.1E+09	0	447890	322
07/11	28	5670	16070000					627924	3.6E+09	633594	3.6E+09	90901	724495	325
07/18	29							83621	1.1E+08	83621	1.1E+08	3195	86816	58
07/25	30 1/							42926	29909773	42926	29909773	1641	44567	0
08/01	31													
Subtotal		5670	16070000	0	0	0	0	1243256	7.0E+09	1248926	7.0E+09	95737	1344663	737

1/ Proportions from week 29 were used to allocate the catch.

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/25	30													
08/01	31					19581	58380000			19581	58380000	25736	45317	4
08/08	32 2/					34600	1.8E+08			34600	1.8E+08	45476	80076	0
08/15	33			8008	10910000	118251	3.3E+08			126259	3.4E+08	11074	137333	12
08/22	34			12609	18400000	85990	1.4E+08			98599	1.6E+08	2340	100939	33
08/29	35													
Subtotal		0	0	20617	29310000	258422	7.1E+08	0	0	279039	7.4E+08	84626	363665	49

2/ Proportions from week 31 were used to allocate the catch.

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/25	30									0		3356	3356	0
08/01	31			36338	1.1E+08	11523	29430000			47861	1.4E+08	5177	53038	13
08/08	32			146598	2.8E+08					146598	2.8E+08	34288	180886	63
08/15	33			71293	31270000	2366	315899.8			73659	31585900	12529	86188	31
08/22	34			100220	1.1E+08	2321	770545			102541	1.1E+08	13658	116199	54
08/29	35	2805	459138	50461	42070000	7405	36840000			60671	79369138	18314	78985	19
Subtotal		2805	459138	404910	5.7E+08	23615	67356445	0	0	431330	6.4E+08	87322	518652	180

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/11	28													
07/18	29 1/							1163	893124	1163	893124	1297	2460	0
07/25	30							1125	835277	1125	835277	1254	2379	8
08/01	31													
Subtotal		0	0	0	0	0	0	2288	1728401	2288	1728401	2551	4839	8

1/ Proportions from week 30 were used to allocate the catch.

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/25	30													
08/01	31	94278	2.8E+08			2205	2070305			94278	2.8E+08	8612	102890	34
08/08	32	122109	1.8E+08			1437	431078			124314	1.8E+08	57498	181812	48
08/15	33	128049	1.3E+08			4077	6658331			129486	1.3E+08	21055	150541	105
08/22	34	178177	4.7E+08	3291	3444615	4077	6658331			185545	4.8E+08	24913	210458	77
08/29	35	107329	79990000	10253	12570000	4235	637556			121817	93197556	54892	176709	28
Subtotal		629942	1.1E+09	13544	16014615	11954	9797270	0	0	655440	1.2E+09	166970	822410	292
Grand Total		638417	1.2E+09	439071	6.1E+08	293991	7.8E+08	1245544	7.0E+09	2617023	9.5E+09	437206	3054229	1266

Appendix C.5. Pink salmon hatchery and wild stock contributions to Prince William Sound cost recovery fisheries by district and week during 1993.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25													
06/26	26													
07/03	27							34903	75590000	34903	75590000	1341	36244	19
07/10	28							267629	8.2E+08	267629	8.2E+08	94983	362612	89
07/17	29							324534	8.9E+08	324534	8.9E+08	155398	479932	125
07/24	30							314450	8.3E+08	314450	8.3E+08	133225	447675	132
Subtotal		0	0	0	0	0	0	941516	2.6E+09	941516	2.6E+09	384947	1326463	365

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/31	31													
08/07	32									0		28822	28822	0
08/14	33													
08/21	34					57947	2.1E+08			57947	2.1E+08	44478	102425	7
08/28	35					33258	52670000	1478	2182173	34736	54852173	6841	41577	22
Subtotal		0	0	0	0	91205	2.6E+08	1478	2182173	92683	2.6E+08	80141	172824	29

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25													
06/26	26									0		6	6	0
07/03	27									0		25	25	0
07/10	28									0		0	0	0
07/17	29									0		342	342	0
07/24	30									0		2366	2366	0
07/31	31					12929	6874975			12929	6874975	347	13276	10
08/07	32					13511	50780000			13511	50780000	16918	30429	5
08/14	33					17081	19380000			17081	19380000	372	17453	11
08/21	34					78644	98560000			78644	98560000	41554	120198	27
08/28	35					92547	1.9E+08			92547	1.9E+08	0	92547	24
Subtotal		0	0	214712	3.6E+08	0	0	0	0	214712	3.6E+08	61930	276642	77

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25									0		13	13	0
06/26	26									0		51	51	0
07/03	27									0		149	149	0
07/10	28									0		750	750	0
07/17	29									0		1919	1919	0
07/24	30									0		1954	1954	0
07/31	31									0				
08/07	32			4631	17310000					4631	17310000	2433	7064	1
08/14	33	4078	4158415	7481	8388831					11559	12547246	0	11559	5
08/21	34			9471	1378982					9471	1378982	0	9471	5
08/28	35	15652	30100000	12201	14890000	1245	1549690			29098	46539690	3037	32135	15
09/04	36			11050	17480000					11050	17480000	3301	14351	7
Subtotal		19730	34258415	44834	59447813	1245	1549690	0	0	65809	95255918	13607	79416	33

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/24	30													
07/31	31	17315	30000000							17315	30000000	33171	50486	10
08/07	32	41393	32580000	5519	4242322					46912	36822322	20065	66977	25
08/14	33	45007	48620000	5002	5399148					50009	54019148	45343	95352	40
08/21	34	70295	5.7E+08							70295	5.7E+08	10564	80859	7
08/28	35	49419	3.0E+08							49419	3.0E+08	13965	63384	7
Subtotal		223429	9.8E+08	10521	9641470	0	0	0	0	233950	9.9E+08	123108	357058	89
Grand Total		243159	1.0E+09	270067	4.3E+08	92450	2.6E+08	942994	2.6E+09	1548670	4.3E+09	663733	2212403	593

Appendix C.6. Pink salmon hatchery and wild stock contributions to Prince William Sound cost recovery fisheries by district and week during 1994.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25													
06/25	26							265139	5.4E+09	265139	5.4E+09	0	265139	120
07/02	27							1081582	5.2E+09	1081582	5.2E+09	16732	1098314	225
07/09	28							480299	1.6E+09	480299	1.6E+09	42518	522817	141
07/16	29							637373	2.1E+09	637373	2.1E+09	293613	930986	195
07/23	30							193328	5.3E+08	193328	5.3E+08	20841	214169	70
07/30	31													
Subtotal		0	0	0	0	0	0	2657721	1.5E+10	2657721	1.5E+10	373704	3031425	751

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/23	30													
07/30	31					36503	1.1E+08			36503	1.1E+08	32737	69240	16
08/06	32			3316	5063217	316863	5.1E+08			320179	5.2E+08	354363	674542	88
08/13	33					1508758	1.3E+10			1508758	1.3E+10	532410	2041168	208
08/20	34					317031	2.0E+09			317031	2.0E+09	229434	546465	51
08/27	35 1/					98054	1.9E+08			98054	1.9E+08	70961	169015	0
09/03	36 1/					33650	22611116			33650	22611116	24353	58003	0
Subtotal		0	0	3316	5063217	2310859	1.6E+10	0	0	2314175	1.6E+10	1244258	3558433	363

1/ Proportions from week 34 were used to allocate the catch.

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25													
06/25	26													
07/02	27							34	289	34	289	17	51	1
07/09	28													
07/16	29													
07/23	30													
07/30	31					9505	5596253			9505	5596253	555	10060	8
08/06	32			263745	1.1E+09	5069	22810000			268814	1.1E+09	51760	320574	66
08/13	33			576842	5.3E+09	27084	2.1E+08			603926	5.5E+09	251531	855457	95
08/20	34			459012	2.9E+09	6024	31040000			465036	2.9E+09	399456	864492	67
08/27	35			124381	3.2E+08	30511	75450000			154892	3.9E+08	200005	354897	15
09/03	36													
09/10	37 2/			25	13	6	3			31	16	41	72	0
09/17	38 2/			689	9796	169	2318			858	12114	1109	1967	0
Subtotal		0	0	1434199	9.6E+09	68863	3.4E+08	34	289	1503096	1.0E+10	904474	2407570	252

2/ Proportions from week 35 were used to allocate the catch.

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/09	28													
07/16	29									0		330	330	0
07/23	30									0		2654	2654	0
07/30	31									0		12517	12517	0
08/06	32									0		19513	33479	0
08/13	33 1/	1735	873934	12231	6202774					13966	7076708	19513	33479	0
08/20	34 1/	4365	5530263	30769	39251219					35134	44781482	49086	84220	0
08/27	35	10829	34040000	76337	2.4E+08					87166	2.8E+08	34613	121779	8
09/03	36 1/	657	1850594	4632	13134651					5289	14985245	7389	12678	0
Subtotal		17586	42294791	123969	3.0E+08	0	0	0	0	141555	3.4E+08	126102	267657	8

1/ Proportions from week 35 were used to allocate the catch.

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/23	30													
07/30	31	61492	3.2E+08							61492	3.2E+08	12095	73587	15
08/06	32	110742	5.6E+08	5479	7501984	13751	18900000			129972	5.8E+08	42564	172536	43
08/13	33	228371	1.5E+09	14158	28010000	14156	16700000			256685	1.5E+09	12190	268875	51
08/20	34	333052	2.4E+09							333052	2.4E+09	75251	408303	65
08/27	35	173035	1.0E+09	1359	461817	15225	1.2E+08			189619	1.2E+09	21217	210836	58
09/03	36	26215	42960000							26215	42960000	0	26215	4
Subtotal		932907	5.8E+09	20996	35973801	43132	1.5E+08	0	0	997035	6.0E+09	163317	1160352	236
Grand Total		950493	5.8E+09	1582480	1.0E+10	2422854	1.6E+10	2657755	1.5E+10	7613582	4.7E+10	2811855	10425437	1610

**Appendix D: Pink Salmon Hatchery and Wild Stock Contributions to
Prince William Sound Special Fisheries by District
and Week from 1989 to 1994.**

Appendix D.1. Pink salmon hatchery and wild stock contributions to Prince William Sound special fisheries by district and week during 1989.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25							963	821856	963	821856	476	1439	1
07/01	26													
07/08	27 1/							782	568832	782	568832	416	1198	0
07/15	28 1/							1402	1830390	1402	1830390	747	2149	0
07/22	29													
07/29	30													
08/05	31													
08/12	32 1/							652	396343	652	396343	348	1000	0
Subtotal		0	0	0	0	0	0	3799	3617421	3799	3617421	1987	5786	1

1/ Proportions from week 25 were used to allocate catch.

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/24	25							1222	186661	1222	186661	0	1222	2
07/01	26									0		4	4	0
07/08	27													
07/15	28													
07/22	29													
07/29	30 2/							7128	6351065	7128		0	7128	0
08/05	31 2/							735	67528	735		0	735	0
08/12	32 2/							6857	5877322	6857		0	6857	0
08/19	33 2/							437	23220	437		0	437	0
Subtotal		0	0	0	0	0	0	16379	12505796	16379	186661	4	16383	2

2/ Proportions from week 25 were used to allocate the catch.

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/19	33 3/	30	587	4443	329185	293	6751			4766	336523	1731	6497	0
08/26	34 4/	98	1663	6162	240026	975	20665			7235	262354	2589	9824	0
09/02	35 5/			13	7	1	1			14	8	12	26	0
Subtotal		128	2250	10618	569218	1269	27417	0	0	12015	598885	4332	16347	0

3/ Proportions from the Coghill district common property fishery for week 33 were used to allocate the catch.

4/ Proportions from the Coghill district common property fishery for week 34 were used to allocate the catch.

5/ Proportions from the Coghill district common property fishery for week 35 were used to allocate the catch.

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Northwestern District

Week		AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
Ending Date	Stat Week	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/08	27									0		282	282	0

Montague District

Week		AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
Ending Date	Stat Week	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/15	28									0		54	54	0

Southeastern District

Week		AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
Ending Date	Stat Week	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/08	27									0		92	92	0
Subtotal		0	0	0	0	0	0	0	0	0	0	92	92	0
Grand Total		128	2250	10618	569218	1269	27417	20178	16123217	32193	4402967	6751	38944	3

Appendix D.2. Pink salmon hatchery and wild stock contributions to Prince William Sound special fisheries by district and week during 1990.

Coghill District

Week		AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
Ending Date	Stat Week	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/21	29													
07/28	30 1/			73	224	10	57			83	281	171	254	0
08/04	31 2/	6	10	394	5384	61	627			461	6021	99	560	0
08/11	32 3/	131	1096	2184	51109	123	1567			2438	53772	604	3042	0
08/18	33 4/	111	673	1213	45163	17	61			1341	45897	407	1748	0
08/25	34 5/	29	637	2017	42062	153	3035			2199	45734	610	2809	0
09/01	35 6/			452	5979	18	306			470	6285	409	879	0
Subtotal		277	2416	6333	149921	382	5653	0	0	6992	157990	2300	9292	0

- 1/ Proportions from the Coghill district common property fishery for week 30 were used to allocate the catch.
- 2/ Proportions from the Coghill district common property fishery for week 31 were used to allocate the catch.
- 3/ Proportions from the Coghill district common property fishery for week 32 were used to allocate the catch.
- 4/ Proportions from the Coghill district common property fishery for week 33 were used to allocate the catch.
- 5/ Proportions from the Coghill district common property fishery for week 34 were used to allocate the catch.
- 6/ Proportions from the Coghill district common property fishery for week 35 were used to allocate the catch.

Appendix D.3. Pink salmon hatchery and wild stock contributions to Prince William Sound special fisheries by district and week during 1991.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/20	29 1/							675	3216	675	3216	50	725	0
07/27	30 2/							643	5875	643	5875	12	655	0
Subtotal		0	0	0	0	0	0	1318	9091	1318	9091	62	1380	0

1/ Proportions from the Eastern district common property fishery for week 29 were used to allocate the catch.

2/ Proportions from the Eastern district common property fishery for week 30 were used to allocate the catch.

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/17	33 3/					14240	7887840			14240	7887840	324	14564	0
08/24	34					359684	5.0E+09			359684	5.0E+09	8166	367850	17
08/31	35					344361	8.2E+09			344361	8.2E+09	737	345098	8
Subtotal		0	0	0	0	718285	1.3E+10	0	0	718285	1.3E+10	9227	727512	25

3/ Proportions from week 34 were used to allocate the catch.

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/24	34			734745	1.1E+10	28134	98950000			762879	1.1E+10	205	763084	82
08/31	35			1479260	2.8E+10	32690	1.5E+08			1511950	2.8E+10	302064	1814014	144
09/07	36			215250	2.7E+09					215250	2.7E+09	116288	331538	16
09/14	37			38087	39980000					38087	39980000	0	38087	20
Subtotal		0	0	2467342	4.2E+10	60824	2.4E+08	0	0	2528166	4.2E+10	418557	2946723	262

Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/13	28									0		50	50	0
07/20	29									0		5	5	0
Subtotal		0	0	0	0	0	0	0	0	0	0	55	55	0

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/24	34	346927	1.4E+10			5562	4704955			352489	1.4E+10	78553	431042	38
08/31	35													
Subtotal		346927	1.4E+10	0	0	5562	4704955	0	0	352489	1.4E+10	78553	431042	38
Grand Total		346927	1.4E+10	2467342	4.2E+10	784671	1.3E+10	1318	9091	3600258	6.9E+10	506454	4106712	325

Appendix D.4. Pink salmon hatchery and wild stock contributions to Prince William Sound special fisheries by district and week during 1992.

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/27	26									0		7	7	0
07/04	27									0		12	12	0
07/11	28									0		17	17	0
07/18	29													
07/25	30													
08/01	31													
08/08	32 1/			277	3020	65	408			342	3428	37	379	0
08/15	33 2/			507	2242	123	413			630	2655	0	630	0
08/22	34 3/			342	2774	79	986			421	3760	195	616	0
08/29	35 4/	59	870	548	9835	153	2287			760	12992	158	918	0
09/05	36 5/	35	47	159	337	43	78			237	462	65	302	0
Subtotal		94	917	1833	18208	463	4172	0	0	2390	23297	491	2881	0

- 1/ Proportions from the Coghill district common property fishery for week 32 were used to allocate the catch.
- 2/ Proportions from the Coghill district common property fishery for week 33 were used to allocate the catch.
- 3/ Proportions from the Coghill district common property fishery for week 34 were used to allocate the catch.
- 4/ Proportions from the Coghill district common property fishery for week 35 were used to allocate the catch.
- 5/ Proportions from the Coghill district common property fishery for week 36 were used to allocate the catch.

Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/20	25													
06/27	26									0		4	4	0
07/04	27									0		2	2	0
07/11	28									0		29	29	0
07/18	29									0		18	18	0
07/25	30									0		1	1	0
08/01	31									0		181	181	0
08/08	32													
Subtotal		0	0	0	0	0	0	0	0	0	0	235	235	0
Grand Total		94	917	1833	18208	463	4172	0	0	2390	23297	726	3116	0

Appendix D.5. Pink salmon hatchery and wild stock contributions to Prince William Sound special fisheries by district and week during 1993.

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25									0		5	5	0
06/26	26									0		13	13	0
07/03	27									0		7	7	0
07/10	28									0		31	31	0
07/17	29									0				
07/24	30									0				
07/31	31									0				
Subtotal		0	0	0	0	0	0	0	0	0	0	56	56	0

Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/19	25									0		4	4	0
06/26	26									0		11	11	0
07/03	27									0		122	122	0
07/10	28									0		108	108	0
07/17	29									0		127	127	0
07/24	30									0				
07/31	31									0				
Subtotal		0	0	0	0	0	0	0	0	0	0	372	372	0

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/24	30													
07/31	31	7985	3515918							7985	3515918	1167	9152	3
08/07	32	3030	1833629	3128	1954799					6158	3788428	9898	16056	4
08/14	33													
Subtotal		11015	5349547	3128	1954799	0	0	0	0	14143	7304346	11065	25208	7
Grand Total		11015	5349547	3128	1954799	0	0	0	0	14143	7304346	11493	25636	7

Appendix D.6. Pink salmon hatchery and wild stock contributions to Prince William Sound special fisheries by district and week during 1994.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
06/18	25													
06/25	26									0		15	15	0
07/02	27									0		123	123	0
07/09	28													
07/16	29													
Subtotal		0	0	0	0	0	0	0	0	0	0	138	138	0

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL HATCHERY		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/23	30													
07/30	31	7599	8022701	5100	3252105	7721	4967107	2530	1600118	22950		0	22950	0
08/06	32	11074	17040000	7433	6907383	11252	10550000	3687	3398607	33446	37895990	0	33446	9
08/13	33													
Subtotal		18673	25062701	12533	10159488	18973	15517107	6217	4998725	56396	37895990	0	56396	9
Grand Total		18673	25062701	12533	10159488	18973	15517107	6217	4998725	56396	37895990	138	56534	9

1/ Proportions from week 32 were used to allocate the catch.

**Appendix E. Pink Salmon Hatchery and Wild Stock Contributions to
Prince William Sound Hatchery Brood Stock by
District and Week from 1989 to 1994.**

Appendix E.1. Pink salmon hatchery and wild stock contributions to Prince William Sound hatchery brood stock by district and week during 1989.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/08	27													
07/15	28							3436	1704860	3436	1704860	65	3501	7
07/22	29							50117	28840000	50117	28840000	8814	58931	88
07/29	30							62865	4.3E+08	62865	4.3E+08	0	62865	95
08/05	31							38371	21530000	38371	21530000	2048	40419	69
08/12	32							41793	2.6E+08	41793	2.6E+08	0	41793	74
08/19	33							7116	3936201	7116	3936201	262	7378	13
08/26	34													
Subtotal		0	0	0	0	0	0	203698	7.5E+08	203698	7.5E+08	11189	214887	346

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/19	33													
08/26	34					700	122500			700	122500	0	700	1
09/02	35					34907	1.6E+08			34907	1.6E+08	0	34907	44
09/09	36					51365	51040000			51365	51040000	8759	60124	52
09/16	37					13552	13190000			13552	13190000	17335	30887	14
09/23	38									0		1144	1144	0
Subtotal		0	0	0	0	100524	2.2E+08	0	0	100524	2.2E+08	27238	35607	45

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/19	33													
08/26	34			40404						40404			40404	22
09/02	35			59521						59521			59521	27
09/09	36			135229						135229			135229	43
09/16	37			155071						155071			155071	48
Subtotal		0		390225		0		0		390225		0	390225	140

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/19	33													
08/26	34	12056	26990000	1147	328929					13203	27318929	0	13203	21
09/02	35	60124	6.3E+08							60124	6.3E+08	0	60124	86
09/09	36	46923	33820000	1406	1978155					48329	35798155	2386	50715	68
Subtotal		119103	6.9E+08	2553	2307084	0	0	0	0	121656	6.9E+08	2386	124042	175
Grand Total		119103	6.9E+08	367980	6.0E+09	102053	2.2E+08	203698	7.5E+08	792834	7.6E+09	64082	764761	706

Appendix E.2. Pink salmon hatchery and wild stock contributions to Prince William Sound hatchery brood stock by district and week during 1990.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/14	28													
07/21	29							8815	4274394	8815	4274394	1067	9882	19
07/28	30							34444	20710000	34444	20710000	12258	46702	61
08/04	31							29434	19140000	29434	19140000	20187	49621	48
08/11	32							28095	17260000	28095	17260000	9533	37628	48
08/18	33							10403	6050340	10403	6050340	2064	12467	19
08/25	34													
Subtotal		0	0	0	0	0	0	111191	67434734	111191	67434734	45109	156300	195

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/18	33													
08/25	34					3011	1508009			3011	1508009	3278	6289	6
09/01	35					32532	24960000			32532	24960000	3474	36006	50
09/08	36					81308	71870000			81308	71870000	3516	84824	108
09/15	37			1439	1034918	49479	49650000			50918	50684918	12215	63133	58
Subtotal		0	0	1439	1034918	166330	1.5E+08	0	0	167769	1.5E+08	22483	190252	222

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/18	33													
08/25	34			7496						7496			7496	26
09/01	35			48167						48167			48167	91
09/08	36			102055						102055			102055	147
09/15	37			114478						114478			114478	86
09/22	38			9824						9824			9824	6
Subtotal		0		282020		0		0		282020		0	282020	356

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/18	33													
08/25	34	2852	744476							2852	744476	0	2852	6
09/01	35	21576	36610000							21576	36610000	0	21576	34
09/08	36	59351	50710000							59351	50710000	2460	61811	88
09/15	37	36185	99960000	595	88581					36780	1.0E+08	2	36782	51
Subtotal		119964	1.9E+08	595	88581	0		0		120559	1.9E+08	2462	123021	179
Grand Total		119964	1.9E+08	244265	2.3E+09	166330	1.5E+08	111191	67434734	641750	2.7E+09	109843	751593	952

Appendix E.3. Pink salmon hatchery and wild stock contributions to Prince William Sound hatchery brood stock by district and week during 1991.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/20	29													
07/27	30							36012	41960000	36012	41960000	14307	50319	31
08/03	31							53475	47080000	53475	47080000	23617	77092	61
08/10	32							66930	60870000	66930	60870000	8742	75672	74
08/17	33							45538	37880000	45538	37880000	11945	57483	55
08/24	34							13282	28780000	13282	28780000	4	13286	17
08/31	35									0		1209	1209	0
09/07	36													
Subtotal		0	0	0	0	0	0	215237	2.2E+08	215237	2.2E+08	59824	275061	238

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/17	33													
08/24	34					9469	7200426			9469	7200426	0	9469	12
08/31	35			909	825667	85209	96800000			86118	97625667	4066	90184	76
09/07	36					114679	6.7E+08			114679	6.7E+08	0	114679	94
09/14	37			963	927353	81722	1.2E+08			82685	1.2E+08	47930	130615	57
09/21	38					1155	1334622			1155	1334622	2433	3588	1
Subtotal		0	0	1872	1753020	292234	8.9E+08	0	0	294106	9.0E+08	54429	348535	240

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/06	27													
07/13	28				5					5			5	0
07/20	29				958					958			958	0
07/27	30				1063					1063			1063	3
08/03	31				819					819			819	3
08/10	32				113					113			113	0
08/17	33													
08/24	34													
08/31	35				92417					92417			92417	105
09/07	36				175624					175624			175624	176
09/14	37				185057					185057			185057	176
Subtotal		0			456056	0		0		456056		0	456056	463

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Eshamy District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/27	30									0		1	1	0
08/03	31											3	3	0
08/10	32													
08/17	33													
08/24	34													
08/31	35									0			0	1
Subtotal		0	0	0	0	0	0	0	0	0	0	4	4	1

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/24	34													
08/31	35	40675	33080000							40675	33080000	6754	47429	50
09/07	36	96995	79040000	909	825667					97904	79865667	2875	100779	121
09/14	37	96379	3.2E+08							96379	3.2E+08	0	96379	133
Subtotal		234049	4.3E+08	909	825667	0	0	0	0	234958	4.3E+08	9629	244587	304
Grand Total		234049	4.3E+08	448333	1.2E+09	295857	9.0E+08	217119	2.2E+08	1195358	2.7E+09	128885	1324243	1246

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Appendix E.4. Pink salmon hatchery and wild stock contributions to Prince William Sound hatchery brood stock by district and week during 1992.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/18	29													
07/25	30													
08/01	31					1000	1000102	19944	15570000	19944	15570000	29492	49436	26
08/08	32	841	707890					42636	30250000	43636	31250102	37860	81496	62
08/15	33							30842	20880000	31683	21587890	34324	66007	47
08/22	34							22214	15080000	22214	15080000	13656	35870	33
08/29	35									0		5085	5085	0
										0		603	603	0
Subtotal		841	707890	0	0	1000	1000102	115636	81780000	117477	83487992	121020	238497	168

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/22	34													
08/29	35			992	983166	1967	1933799			2959	2916965	5234	8193	4
09/05	36			1797	1616121	57504	52480000			59301	54096121	16498	75799	65
09/12	37			1000	1000506	36371	35750000			37371	36750506	41122	78493	38
09/19	38					4476	4006683			4476	4006683	1897	6373	5
Subtotal		0	0	3789	3599793	100318	94170482	0	0	104107	97770275	64751	168858	112

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/18	29													
07/25	30													
08/01	31			218						218			218	1
08/08	32													
08/15	33													
08/22	34													
08/29	35			29739						29739			29739	37
09/05	36			82542						82542			82542	89
09/12	37			83364						83364			83364	82
09/19	38			34941						34941			34941	22
Subtotal		0		230804		0		0		230804		0	230804	231

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/22	34													
08/29	35	16963	11100000							16963	11100000	0	16963	21
09/05	36	64595	52810000	931	866946					65526	53676946	639	66165	80
09/12	37	59495	68460000	1698	361311					61193	68821311	1	61194	78
09/19	38	9971	12430000							9971	12430000	568	10559	8
Subtotal		151024	1.4E+08	2629	1228257	0	0	0	0	153653	1.5E+08	1208	154861	187
Grand Total		151865	1.5E+08	214892	2.0E+08	114060	1.1E+08	115854	81791881	596671	5.4E+08	196349	793020	698

Appendix E.5. Pink salmon hatchery and wild stock contributions to Prince William Sound hatchery brood stock by district and week during 1993.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/17	29													
07/24	30							28291	30780000	28291	30780000	2518	30809	26
07/31	31							54201	55440000	54201	55440000	33181	87382	53
08/07	32			1121	1256581			37137	40590000	38258	41846581	45812	84070	35
08/14	33							34436	35980000	34436	35980000	63144	97580	33
08/21	34							11474	10980000	11474	10980000	28676	40150	12
08/28	35							3821	3656441	3821	3656441	15795	19616	4
09/04	36								0		0	2176	2176	0
Subtotal		0	0	1121	1256581	0	0	169360	1.8E+08	170481	1.8E+08	191302	361783	163

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/21	34													
08/28	35					23348	15120000			23348	15120000	13415	36763	15
09/04	36	1237	873275	6643	5029699	58916	45000000			66796	50902974	0	66796	50
09/11	37			1675	1023786	88231	53630000			89906	54653786	11870	101776	54
09/18	38					49108	24420000			49108	24420000	10431	59539	24
Subtotal		1237	873275	8318	6053485	219603	1.4E+08	0	0	229158	1.5E+08	35716	264874	143

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/21	34													
08/28	35			62490									62490	75
09/04	36			103835									103835	116
09/11	37			125217									125217	132
09/18	38			46830									46830	40
Subtotal		0		338372		0		0				0	338372	363

Southwestern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/14	33													
08/21	34	503	31668	251	15834					754	47502	0	754	3
08/28	35	35136	36300000	1972	1946374					37108	38246374	7220	44328	36
09/04	36	63760	87240000	3482	1127374	908	206390			68150	88573764	0	68150	75
09/11	37	62739	62540000	3909	3820493					66648	66360493	9293	75941	67
09/18	38	14369	15880000	1125	1266387					15494	17146387	7636	23130	14
Subtotal		176507	2.0E+08	10739	8176462	908	206390	0	0	188154	2.1E+08	24149	212303	195
Grand Total		177744	2.0E+08	333782	6.7E+08	238879	1.5E+08	169360	1.8E+08	919765	1.2E+09	257567	1177332	864

Appendix E.6. Pink salmon hatchery and wild stock contributions to Prince William Sound hatchery brood stock by district and week during 1994.

Eastern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
07/16	29													
07/23	30							5864	6873168	5864	6873168	1162	7026	5
07/30	31							55325	63720000	55325	63720000	62549	117874	48
08/06	32							50407	57700000	50407	57700000	37173	87580	44
08/13	33							69348	85810000	69348	85810000	20367	89715	56
08/20	34							51585	71880000	51585	71880000	57809	109394	37
08/27	35							19572	29450000	19572	29450000	28313	47885	13
09/03	36							4406	6469302	4406	6469302	12492	16898	3
Subtotal		0	0	0	0	0	0	256507	3.2E+08	256507	3.2E+08	219865	476372	206

Northern District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/20	34													
08/27	35			1069	1143702	20052	21150000			21121	22293702	2555	23676	20
09/03	36			1057	1117786	70883	76060000			71940	77177786	19707	91647	67
09/10	37					40357	49320000			40357	49320000	25985	66342	33
09/17	38			1236	1528068	24458	29890000			25694	31418068	10605	36299	21
Subtotal		0	0	3362	3789556	155750	1.8E+08	0	0	159112	1.8E+08	58852	217964	141

Coghill District

Week Ending Date	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/20	34													
08/27	35			65963						65963			65963	39
09/03	36			117601						117601			117601	76
09/10	37			118362						118362			118362	97
09/17	38			79509						79509			79509	79
09/24	39			54024						54024			54024	26
Subtotal		0		435459		0		0		435459		0	435459	317

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Eshamy District

Week	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
Ending Date		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/20	34													
08/27	35					892	198916			892	198916	0	892	1
09/03	36	1119	1251517	6834	7777964					7953	9029481	9535	17488	7
09/10	37	971	236117	12481	4377625	950	225845			14402	4839587	0	14402	15
09/17	38	885	196033	4484	1409631					5369	1605664	0	5369	6
09/24	39			255	16256					255	16256	0	255	1
Subtotal		2975	1683667	24054	13581476	1842	424761	0	0	28871	15689904	9535	38406	30

Southwestern District

Week	Stat Week	AFK Hatchery		WN Hatchery		CC Hatchery		SG Hatchery		TOTAL Hatchery		TOTAL WILD	TOTAL CATCH	NUMBER TAGS
Ending Date		Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance	Contribution	Variance			
08/20	34													
08/27	35	14647	10710000							14647	10710000	0	14647	19
09/03	36	56159	54080000	1037	1074514					57196	55154514	962	58158	69
09/10	37	45423	43100000							45423	43100000	7629	53052	57
09/17	38	83549	4.2E+08	1060	281204	1046	273668			85655	4.2E+08	0	85655	98
09/24	39									0	0	480	480	0
Subtotal		199778	5.2E+08	2097	1355718	1046	273668	0	0	202921	5.3E+08	9071	211992	243
Grand Total		202753	5.3E+08	394335	5.8E+08	159766	1.8E+08	256507	3.2E+08	1013361	1.6E+09	366832	1380193	937

**Appendix F: Percent Survival by Tag Code of Pink Salmon Returning to Prince William
Sound from 1989 to 1994.**

Appendix F.1. Percent survival by tag code of pink salmon returning to Prince William Sound in 1989.

Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
A. F. Koernig	131010104	15,395	89,275,660	2.990548	0.227122	2.545388	3.435708
	131010105	27,678	9,239,388	2.624176	0.480833	1.823842	3.42451
	131010106	27,450	11,521,690	2.828822	0.424221	1.997348	3.660297
W. Noerenberg	131010107	225,887	184,266,971	3.589046	0.2262	3.145694	4.032399
	131010108	54,592	11,340,868	1.848018	0.224171	1.408642	2.287394
Cannery Creek	131010109	92,013	55,321,283	3.673139	0.34985	2.987432	4.358846
	131010114	79,119	40,249,949	9.68173	0.852812	8.010219	11.35324
	310000*1	1,459	1,459				
Solomon Gulch	131010110	40,274	17,002,012	1.255165	0.147606	0.965856	1.544473
	131010111	73,409	37,198,777	3.587696	0.39539	2.812731	4.362661
	131010112	81,749	33,212,726	2.743023	0.323341	2.109273	3.376774
	131010113	81,933	43,413,770	3.751959	0.443244	2.8832	4.620718

Appendix F.2. Percent survival by tag code of pink salmon returning to Prince William Sound in 1990.

Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
A. F. Koernig	1301010301	143,241	40,789,137	6.432868	0.351572	5.743786	7.121951
	1301010302	39,636	32,598,111	5.607551	0.444824	4.735695	6.479407
	1301010303	55,711	43,330,484	4.610818	0.324291	3.975208	5.246428
	1301010309	84,442	43,769,111	2.864187	0.229513	2.414342	3.314033
W. Noerenberg	1301010304	237,996	112,235,578	11.93289	0.500756	10.9514	12.91436
	1301010305	50,090	45,788,756	7.176239	0.451995	6.290328	8.062151
	1301010404	24,918	1,689,329	3.959536	0.531892	2.917027	5.002045
Cannery Creek	1301010306	40,401	10,032,595	7.964726	0.536589	6.913011	9.01644
	1301010307	35,584	20,702,409	4.502188	0.413937	3.690871	5.313504
	1301010308	49,884	28,234,535	2.848971	0.273767	2.312387	3.385555
Solomon Gulch	1301010207	63,183	21,403,343	7.393989	0.842716	5.742263	9.045713
	1301010208	62,775	19,901,952	7.386902	0.81775	5.784111	8.989692
	1301010209	60,855	20,282,560	9.43924	0.848682	7.775824	11.10266
	1301010210	25,402	14,401,344	11.72814	1.197575	9.380891	14.07539
	1301010211	58,406	32,608,996	5.781311	0.492637	4.815742	6.74688
	1301010212	19,098	9,208,491	3.673821	0.37799	2.93296	4.414683
	1301010213	22,477	10,692,994	6.073199	0.554682	4.986021	7.160377

Appendix F.3. Percent survival by tag code of pink salmon returning to Prince William Sound during 1991.

Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
A. F. Koernig	1301010506	25,491	14,075,323	5.199983	0.487974	4.243554	6.156412
	1301010507	24,460	14,329,181	3.031455	0.36002	2.325815	3.737095
	1301010508	24,889	14,052,068	4.397299	0.459225	3.497217	5.29738
	1301010509	26,012	14,925,619	5.512533	0.657513	4.223806	6.80126
	1301010510	24,645	14,047,212	3.675268	0.391243	2.90843	4.442106
	1301010511	24,316	14,078,736	4.569085	0.464593	3.658482	5.479688
	1301010701	25,201	14,023,560	5.466685	0.682639	4.128711	6.804658
	1301010810	27,251	14,312,215	5.102664	0.626479	3.874764	6.330564
W. Noerenberg	1301010606	50,321	26,349,382	4.646595	0.417425	3.828443	5.464749
	1301010607	45,530	23,538,531	4.950893	0.437799	4.092807	5.80898
	1301010608	50,508	25,282,074	5.278819	0.423932	4.44791	6.109727
	1301010609	49,892	24,989,178	5.051922	0.423349	4.222156	5.881688
	1301010610	50,675	21,111,505	3.46255	0.298297	2.877887	4.047213
	1301010611	48,546	25,018,168	4.20642	0.358051	3.50464	4.9082
	1301010612	19,777	10,393,264	8.063652	1.33303	5.450912	10.67639
	1301010613	48,546	25,018,168	6.167169	0.513965	5.159796	7.174542
	1301010614	46,467	24,944,097	5.680874	0.487182	4.725997	6.635751
	1301010615	48,224	24,954,088	5.680874	0.487182	4.725997	6.635751
1301010804	9,121	3,835,933	4.450058	0.78732	2.906909	5.993207	
Cannery Creek	1301010513	33,883	20,372,456	7.349566	0.614061	6.146006	8.553125
	1301010514	36,126	20,076,216	4.129253	0.414054	3.317706	4.9408
	1301010515	36,035	20,236,540	7.626804	0.656061	6.340923	8.912684
	1301010601	20,743	11,423,334	1.056937	0.226371	0.613247	1.500625
	1301010602	34,164	20,051,379	3.308852	0.44468	2.437279	43180426
	1301010603	34,577	20,580,569	4.976362	0.496113	4.00398	5.948745
	1301010604	25,585	20,688,056	10.01214	0.749888	8.542363	11.48193
	1301010605	17,080	10,233,961	9.363666	0.94871	7.504194	11.22314
Solomon Gulch	1301010415	38,483	24,112,764	2.534666	0.202034	2.138679	2.930652
	1301010501	35,337	22,921,170	4.803731	0.350926	4.115916	5.491547
	1301010502	44,986	24,829,430	5.422199	0.330677	43774072	6.070326
	1301010503	42,734	244,778,251	4.947008	0.325611	4.308809	5.585206
	1301010504	49,314	25,600,682	5.698584	0.365916	4.981388	6.41578
Cathead Creek (Wild)	1301010709	30,381	125,326	3.296201	0.302111	2.704063	3.88834
	13010105710	9,617	29,051	2.66752	0.458932	1.768012	3.567027
Hayden Creek (Wild)	1301010802	31,358	275,233	2.635232	0.273561	2.099052	3.171413
	1301010803	12,724	89,804	0.512928	0.182578	0.155073	0.870782
Herring Bay (Wild)	1301010705	15,762	84,184	0.726677	0.216215	0.302896	1.150459
	1301010801	30,225	309,229	2.877311	0.27018	2.237758	3.406865
Loomis Creek (Wild)	1301010707	28,029	130,586	3.031464	0.342761	2.359651	3.703277
	1301010708	18,284	72,729	1.218504	0.254304	0.720068	1.71694
O'Brian Creek (Wild)	1301010711	5,581	82,342	0.222492	0.218711	0	0.651167
	1301010712	25,798	207,366	1.663337	0.382346	1.913937	2.412735
Totemoff Creek (Wild)	1301010713	31,045	440,358	2.043592	0.214811	1.622561	2.464623
	1301010714	19,881	274,101	1.090058	0.214811	1.622561	2.464623

Appendix F.4. Percent survival by tag code of pink salmon returning to Prince William Sound in 1992.

Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
A.F.Koernig	1301011110	14,241	8,027,510	2.196542	0.197487	1.809467	5.583616
	1301011111	14,423	7,998,489	2.878864	0.265297	2.358881	3.398848
	1301011112	13,449	7,982,939	2.412331	0.257749	1.907142	53917519
	1301011113	13,662	7,981,281	2.408615	0.245597	13927244	2.889987
	1301011114	12,806	7,150,346	3.10911	0.294468	2.531953	3.686267
	1301011115	12,091	6,986,444	2.8956	0.276546	2.353568	3.437632
	1301011201	12,898	6,979,974	2.831177	0.247623	2.345835	3.31652
	1301011202	12,668	7,026,667	2.975684	0.275834	2.435049	3.516319
	1301011203	12,594	6,988,383	2.851747	0.338405	2.188473	3.515021
	1301011204	12,085	7,063,103	2.355371	0.25842	1.848867	2.861875
	1301011205	12,320	7,386,055	2.240002	0.226613	1.795841	2.684164
	1301011206	12,157	7,004,885	2.128605	0.225148	1.687315	2.569896
	1301011207	11,979	6,985,423	1.64608	0.192861	1.268072	2.024089
	1301011208	13,542	8,008,942	2.145428	0.233883	1.687017	2.603839
	1301011209	11,484	6,853,198	1.515706	0.182673	1.157665	1.873746
	1301011210	9,436	5,338,408	1.298998	0.178185	0.949754	1.648242
	W. Noerenberg	1301011003	22,537	12,731,093	1.204386	0.101474	1.005495
1301011004		22,333	12,485,342	0.865148	0.099893	0.669358	1.060939
1301011005		21,701	12,460,893	1.625415	0.130636	1.369368	1.881462
1301011006		22,197	9,960,478	1.479517	0.147377	1.190327	1.768377
1301011007		23,793	12,487,647	1.273953	0.120707	1.037365	1.51054
1301011008		23,911	12,487,647	1.486759	0.124864	1.242026	1.731493
1301011009		24,771	13,181,095	0.884515	0.081823	0.72414	1
1301011010		21,731	12,459,854	0.909781	0.091699	0.730051	1.089512
1301011011		22,145	12,473,010	0.858232	0.118507	0.625958	1.090506
1301011012		22,349	12,490,986	0.539022	0.081332	0.379612	0.697433
1301011013		23,064	12,484,385	0.548407	0.072056	0.407177	0.689637
1301011014		16,666	9,210,856	2.425774	0.264406	1.907537	2.944011
1301011015		22,928	12,469,099	0.914595	0.114827	0.689533	1.139657
1301011101		23,999	12,472,522	0.799823	0.090051	0.623322	0.976324
1301011102		21,923	12,545,490	0.58773	0.076654	0.437487	0.737972
1301011103	22,286	12,462,980	0.586094	0.0768	0.435564	0.736624	
1301011104	22,436	12,461,793	0.526266	0.059994	0.408678	0.643855	
1301011105	14,543	7,641,209	0.66361	0.084082	0.498809	0.828411	
Cannery Creek	1301011413	18,752	10,215,528	2.17771	0.278994	1.630881	2.72454
	1301011414	18,391	10,175,655	2.094784	0.286201	1.533829	2.655739
	1301011415	17,232	10,098,129	2.367809	0.320278	1.740063	2.995555
	1301011501	17,241	10,133,533	1.813858	0.225798	1.371293	2.256424
	1301011502	17,745	10,363,857	0.885111	0.151774	0.587633	1.18259
	1301011503	17,242	10,515,076	1.001203	0.180828	0.646779	1.355627
	1301011504	17,632	10,067,327	0.750785	0.152406	0.452069	1.049501
	1301011505	17,324	10,107,959	0.897813	0.144147	0.615284	1.180342
	1301011506	17,379	10,080,260	0.965623	0.183649	0.605671	1.325576
	1301011507	18,338	10,368,567	0.918826	0.184452	0.5573	1.280354
	1301011508	18,851	10,999,974	0.651687	0.183239	0.292537	1.010837
	1301011509	16,208	9,577,391	0.325033	0.081064	0.166148	0.483919
	1301011510	17,874	10,518,423	0.100522	0.063328	0	0.224646
	1301011511	13,995	8,298,171	0.234646	0.069356	0.098708	0.370584
Solomon Gulch	1301011211	19,276	9,983,873	2.005513	0.390146	1.240826	237702
	1301011212	18,153	11,861,595	1.97979	0.376394	1.242057	2.717523
	1301011213	21,865	9,967,148	2.125509	0.361818	1.416344	2.834673
	1301011214	22,444	10,849,756	2.106732	0.36526	1.390822	2.822642
	1301011215	18,456	10,921,943	1.139926	0.195587	0.756573	1.523278
	1301011301	18,999	10,201,697	2.420445	0.365755	1.703564	3.137327
	1301011302	20,032	9,580,847	1.638746	0.229819	1.1883	2.089191
	1301011303	20,236	9,512,207	1.806099	0.300467	1.217183	2.395015
	1301011304	56,197	29,151,689	0.823527	0.169767	0.490782	1.156272
	1301011305	34,393	19,264,338	0.539145	0.132002	0.280421	0.79787

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Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
Cathead Creek (Wild)	1301011404	15,149	172,677	0.602595	0.129151	0.349459	0.855732
	1301011405	17,489	54,920	0.706498	0.144312	0.423646	0.98935
	1301011406	3,738	7,401	0.319094	0.117922	0.087967	0.550221
Hayden Creek (Wild)	1301011407	18,961	125,024	0.231448	0.054261	0.125097	0.3378
	1301011408	20,235	82,098	0.162695	0.036188	0.091766	0.233624
	1301011409	22,487	181,617				
Herring Bay (Wild)	1301011311	7,614	11,457				
	1301011312	8,748	21,021				
	1301011313	15,342	121,736	1.168665	0.14318	0.88803	1.449299
	1301011315	20,487	65,867	0.842238	0.122322	0.602486	1.081991
	1301011515	13,376	53,127	0.148997	0.041252	0.068141	0.229852
Loomis Creek (Wild)	1301011401	13,858	36,257	1.046258	0.127667	0.766028	1.266487
	1301011402	18,234	27,907	0.390897	0.068033	0.257552	0.524243
	1301011403	16,725	54,731	0.062601	0.02447	0.014638	0.110563
	1301011514	11,576	33,551				
O'Brian Creek (Wild)	1301011314	11,571	59,479				
	1301011410	15,720	104,344				
	1301011411	16,047	82,305	0.131248	0.049111	0.03499	0.227505
	1301011412	19,739	101,448				
Totemoff Creek (Wild)	1301011308	13,305	31,611	0.724893	0.084391	0.559485	0.890301
	1301011309	18,731	382,564	1.204719	0.108301	0.992448	1.416989
	1301011310	17,781	96,038	1.009591	0.126512	0.761626	1.257555

Appendix F.6. Percent survival by tag code of pink salmon returning to Prince William Sound during 1994.

Origin	Tag Code	# Tagged	# Released	Estimate of % Survival	Standard Error	Lower 95% Conf. Limit	Upper 95% Conf. Limit
A.F. Koernig	1301020811	13,509	7,976,770	3.145698	0.441131	2.28108	4.010316
	1301020812	13,371	8,178,517	1.705346	0.283914	1.148874	2.261818
	1301020813	13,371	7,992,494	0.138387	0.099071	0	0.332566
	1301020814	13,248	7,975,690	0.438167	0.154242	0.135851	0.740482
	1301020815	13,385	7,975,497	0.257798	0.096229	0.069188	0.446408
	1301020901	13,146	7,975,242	0.160592	0.075795	0.012033	0.30915
	1301020902	11,859	7,006,119	0.590062	0.214705	0.169239	1.010885
	1301020903	11,813	6,981,010	0.357228	0.149917	0.063389	0.651067
	1301020904	11,662	6,999,822	0.171454	0.078777	0.01705	0.325858
	1301020905	11,943	7,168,239	0.372202	0.184151	0.01705	0.325858
	1301020906	12,373	7,363,609	0.422415	0.148131	0.132077	0.712752
	1301020907	11,709	7,111,484	0.102991	0.082256	0	0.264214
	1301020908	11,701	7,045,612	6.993602	0.742799	5.537715	8.449489
	1301020909	11,860	6,975,193	0.371924	0.156926	0.064348	0.679499
	1301020910	11,538	6,916,286	7.066813	0.767675	5.562169	8.571458
1301020911	11,109	1,695,761	8.720289	0.946697	6.864763	10.57582	
W. Noerenberg	1301021012	20,757	12,688,033	5.344273	0.510004	4.344664	6.343881
	1301021013	19,901	12,036,519	5.248547	0.479511	4.308705	6.188389
	1301021014	19,562	11,900,957	3.4548	0.356042	2.756957	4.152643
	1301021015	20,087	12,105,181	3.405236	0.341749	2.735407	4.075065
	1301021101	19,973	12,003,572	1.693484	0.243266	1.216682	2.170286
	1301021102	19,910	11,976,571	2.204503	0.28845	1.63914	2.769866
	1301021103	19,819	12,016,427	1.85995	0.243324	1.383033	2.336866
	1301021104	21,118	12,727,191	2.837786	0.324476	2.201812	3.473761
	1301021105	20,036	12,167,539	2.265819	0.283359	1.710434	2.821203
	1301021106	19,690	12,003,914	3.076506	0.335001	2.419903	3.733109
	1301021107	19,901	12,020,607	1.588383	0.239975	1.118032	2.058735
	1301021108	20,194	12,022,492	1.532489	0.229462	1.082742	1.982236
	1301021109	19,808	12,063,272	8.870708	0.657025	7.582938	10.15848
	1301021110	24,201	14,352,158	6.99958	0.509936	6.000104	7.999056
Cannery Creek	1301020912	16,457	9,951,523	8.05868	0.764006	6.561227	9.556131
	1301020913	16,713	9,982,219	5.755855	0.658355	4.465477	7.046233
	1301020914	16,618	9,941,026	5.528337	0.617083	4.318883	6.737852
	1301020915	16,808	10,031,625	7.200574	0.706065	5.816685	8.584463
	1301021001	16,449	9,974,576	7.242904	0.766623	5.740323	8.745486
	1301021002	16,055	9,977,249	5.390296	0.668785	4.079476	6.701115
	1301021003	16,596	9,974,215	7.12651	0.736764	5.682452	8.570568
	1301021004	16,534	9,967,084	9.539519	0.915365	7.745402	11.33364
	1301021005	16,767	10,073,962	7.724174	0.741958	6.269935	9.178412
	1301021006	16,600	9,973,185	9.441556	0.981971	7.516891	11.36622
	1301021007	16,945	10,162,835	6.636293	0.632046	5.397482	7.875104
	1301021008	16,648	9,957,657	6.116417	0.637359	4.867194	7.365641
	1301021009	16,802	10,066,503	5.692704	0.634167	4.449735	6.935672
	1301021010	16,534	9,996,737	3.644717	0.439522	2.783253	4.506181
Solomon Gulch	1301020508	51,650	31,028,437	7.934947	0.508379	6.938523	8.931373
	1301020509	50,158	29,948,159	11.15499	0.600435	9.978139	12.33185
	1301020511	30,358	18,237,547	9.841	0.657663	8.551979	11.13002
	1301021302	66,651	40,031,900	9.773089	0.504779	8.78372	10.76246
	1301021305	6,724	4,161,909	7.780141	1.034944	5.751651	9.808632
	1301021310	30,223	18,457,283	5.604424	0.441809	4.738479	6.470371