Migrational Characteristics of Juvenile Salmon and Steelhead in the Columbia River Basin – 1982

by
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June 1983

COASTAL ZONE AND ESTUARINE STUDIES

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Final Report

Financed by U.S. Army Corps of Engineers
Contracts DACW57-82-F-0397 and DACW65-78-C-0051

and

Coastal Zone and Estuarine Studies Division
Northwest and Alaska Fisheries Center
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
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June 1983

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INTRODUCTION

During 1982, the National Marine Fisheries Service (NMFS) monitored the seaward migration of juvenile salmonids in the Snake-Columbia River system. The purpose was to define the timing of migrations, measure travel time, estimate survival through the Snake River system, and estimate the population sizes of steelhead and yearling chinook salmon smolts at Lower Granite, McNary, and John Day Dams.

These data are necessary to: (1) assess the timing of the smolt migration so that daily spill and augmented river flows at dams can be utilized by management agencies concomitant with peak fish passage (Northwest Power Planning Council 1982), (2) ensure that spill allocated for fish passage by hydroelectric entities is judiciously used, (3) estimate the percentage of the total smolt migration that is being transported downstream from upstream collector dams (Basham et al. 1983), and (4) assess the success of the 1982 smolt outmigration.

METHODS

Juvenile salmonid migrations were sampled at Lower Granite Dam on the Snake River and McNary and John Day Dams on the Columbia River (Figure 1). Sampling schedules at the various locations were as follows:

Sampling site	Period sampled
Lower Granite Dam	13 April to 29 July
McNary Dam	26 April to 22 September
John Day Dam	15 April to 11 December

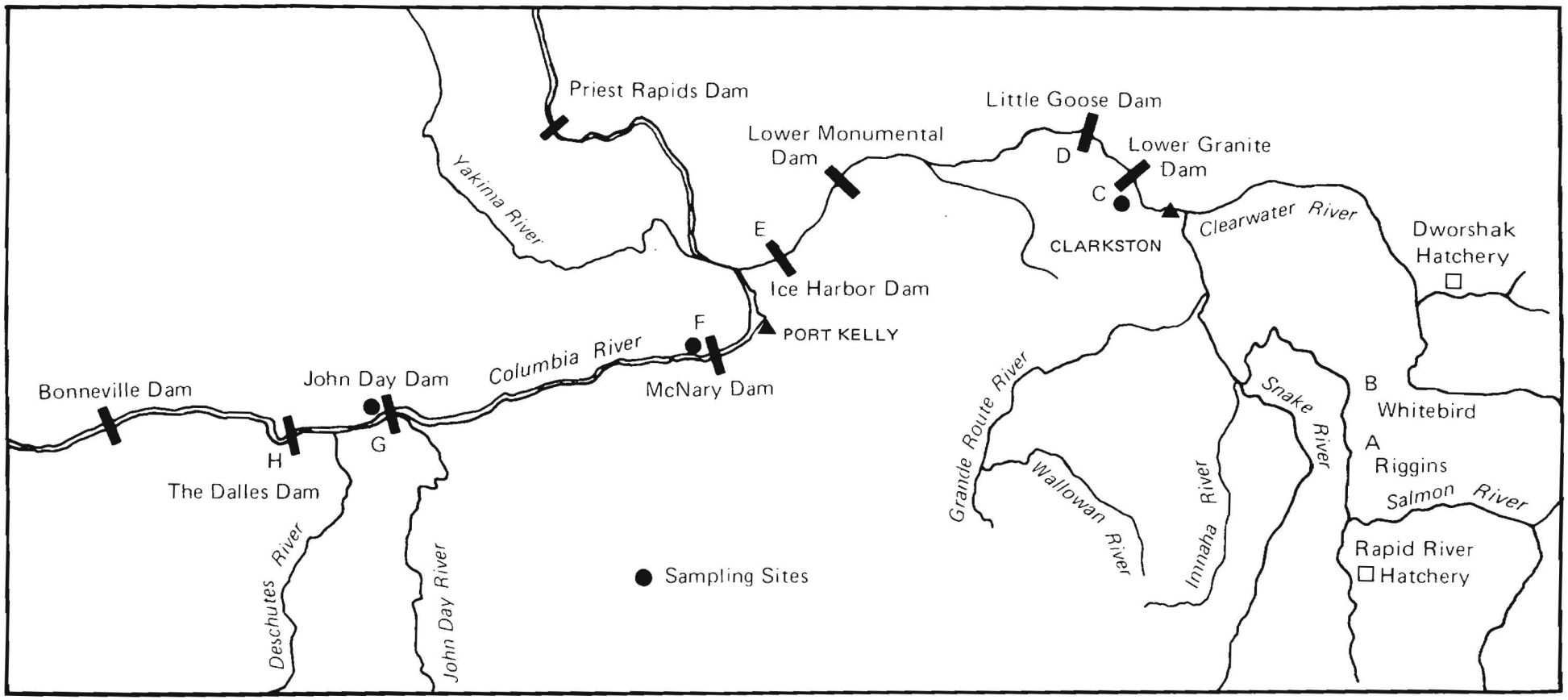


Figure 1.--Sampling sites for juvenile salmonids on the Snake River and Columbia Rivers. The Port Kelly and Clarkston release sites are indicated by triangles.

Fish entering the fingerling collection system at Lower Granite and McNary Dams were sampled. Numbers sampled were expanded by the sampling rate/hour to provide estimates of numbers collected at each of these dams. An air-lift pump system (Sims et al. 1981) was used at John Day Dam to sample Intake Units 3B and 3C.

Sampling Efficiency and Population Estimation

A percentage of smolts sampled at McNary Dam was marked by freeze branding and released back into the reservoir above the dam at Port Kelly, Oregon. An assumed 5% postmarking and reservoir related mortality was deducted from the actual release number, and the resultant was used in the analyses. The recoveries of these marked fish were then used to calculate flow-efficiency regression lines (Figure 2), see Appendix J for details.

If the percentage of river flow through the powerhouse flow did not fluctuate more than 10% during the entire recovery period (typically 7-12 days), all recoveries were used in the regression analysis. However, in cases where the powerhouse discharge changed more than 10%, the number of recoveries used in the analysis was truncated to include only the first 5 days from the initial recaptures.

The relationships shown are from 1982 data only and should not be considered final. The regression equation for McNary Dam will be upgraded and the precision increased as more data points are obtained in subsequent years, particularly in the area near or at 100% of the river flow through the powerhouse. At this time, data are lacking for periods when 100% of the fiver flows through the powerhouse. A similar regression was calculated for steelhead at Lower Granite Dam using 1980, 1981, and 1982 data (Figure 3). However, the post marking mortality was assumed to be

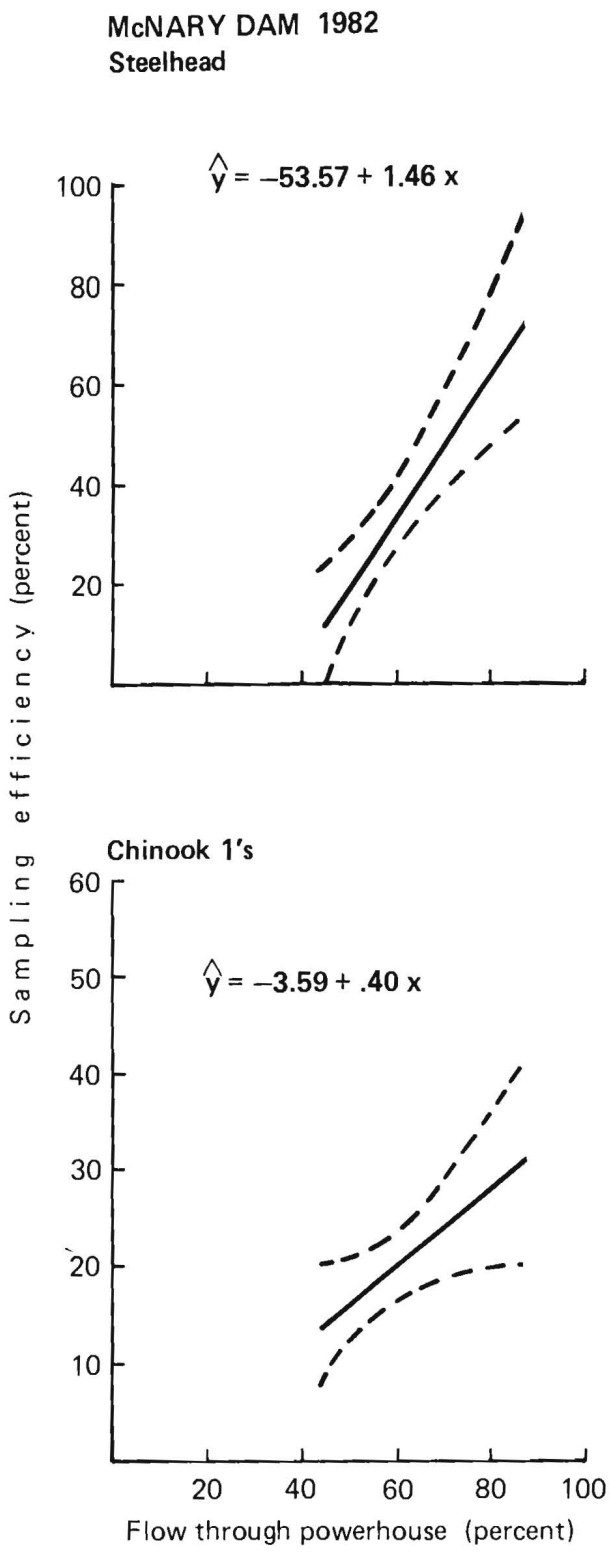


Figure 2.--Flow/efficiency regressions for yearling chinook salmon and steelhead at McNary Dam, 1982.

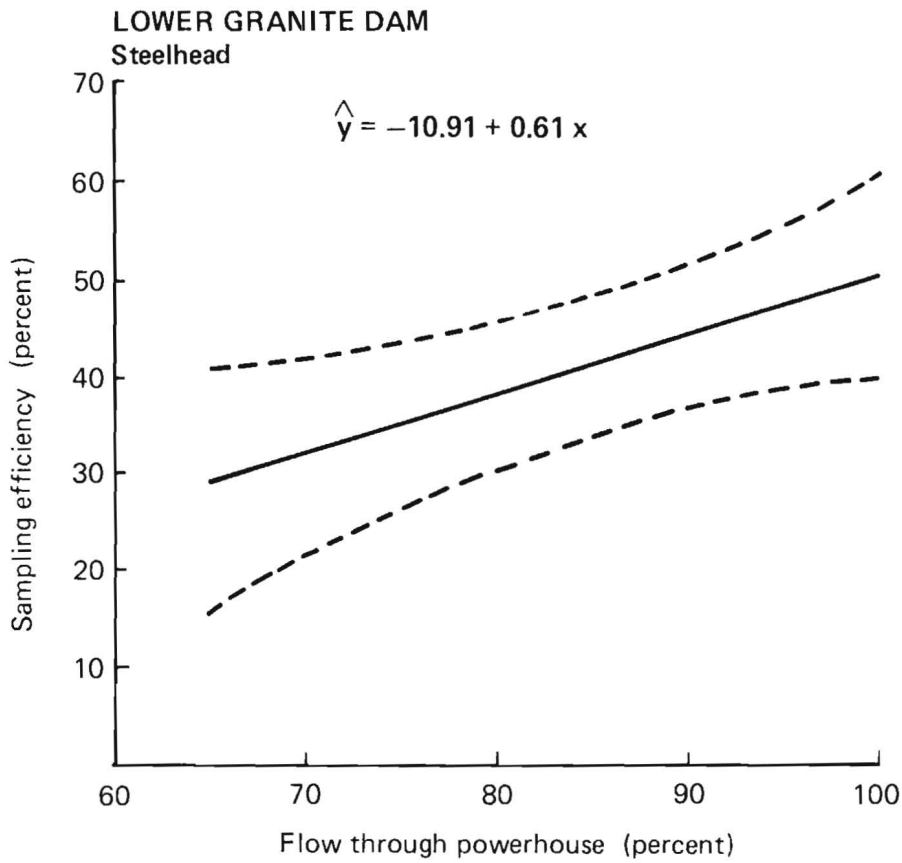


Figure 3.--Flow/efficiency regression for steelhead at Lower Granite Dam, 1980-1982.

20% for any marked lots transported up or downstream from Lower Granite Dam. This was to compensate for suspected increased mortality resulting from the extended transport times from the dam to the release sites.

Not all mark-release and sampling situations lend themselves to regression analysis. If either the number of marked lots is few, or changes in powerhouse discharge are negligible over the sampling period (as was the case at Lower Granite Dam in 1981), another form of analysis must be applied.

The NMFS has devised a procedure whereby sampling efficiencies estimated under either of the aforementioned limiting conditions are adjusted to a standard flow through the sampling unit, be it a gatewell as in the case of John Day Dam, or a bypass collection facility such as that in place at Lower Granite Dam. A mean collection efficiency at the given flow and the 90% confidence limits for that mean are then calculated for those adjusted estimates. Then, according to our model, the mean and 90% confidence limits are projected to the origin based on the following assumptions:

1) With no water entering the sampling unit, there can be no marked fish entrained in the unit, thus the estimated sampling efficiency is zero.

2) The variance is proportional to the flow through the sampling unit, resulting in the estimate boundaries approaching zero at the origin.

Figure 4 illustrates the application of this procedure to 4 years of chinook salmon and steelhead data collected at John Day Dam. This model was similarly applied to 1 year of chinook salmon data at Lower Granite Dam (Figure 5).

Although the upper and lower boundaries are not, and should not be construed as confidence limits, they do provide tolerance limits around the

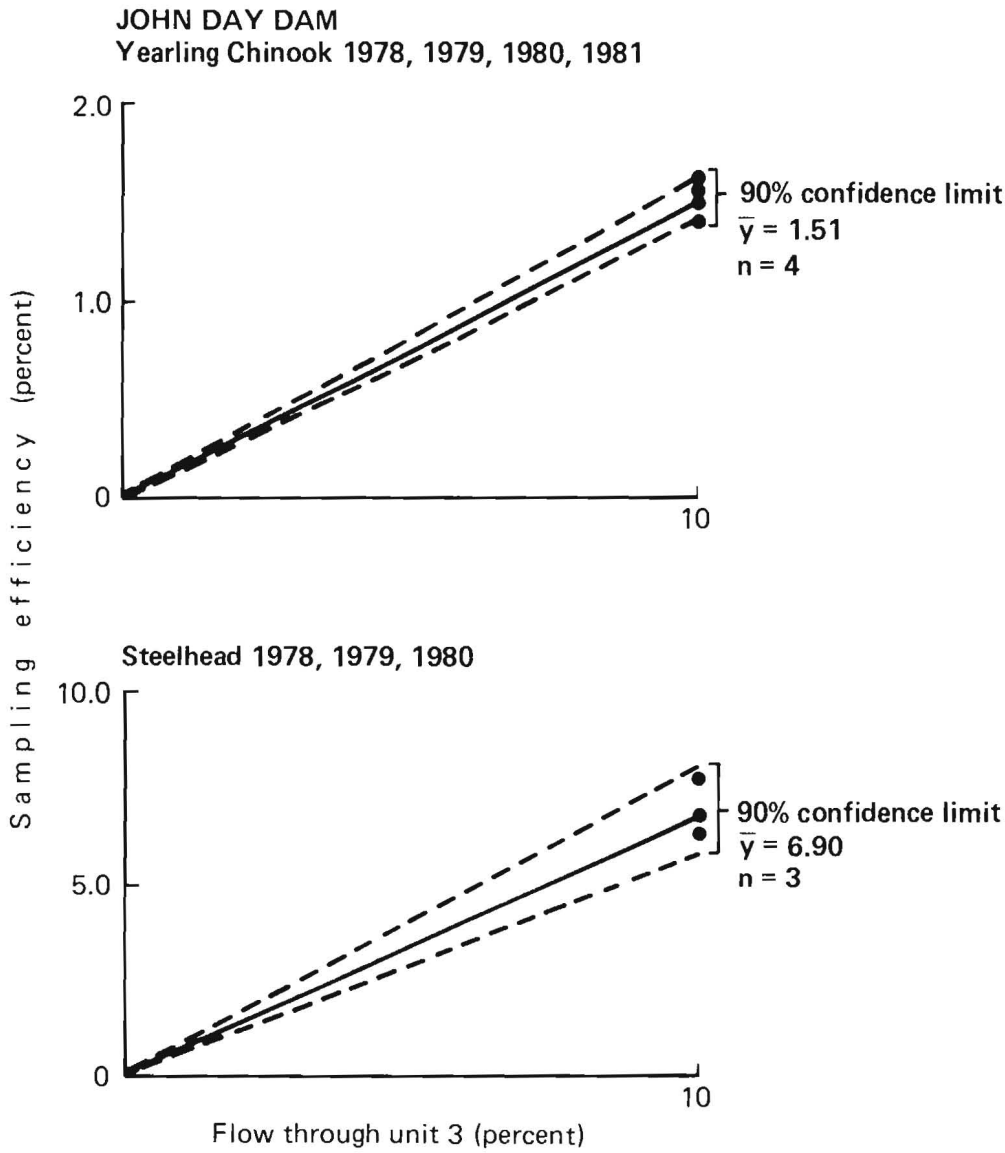


Figure 4.--Flow/efficiency relationships for yearling chinook salmon and steelhead at John Day Dam, 1978-81.

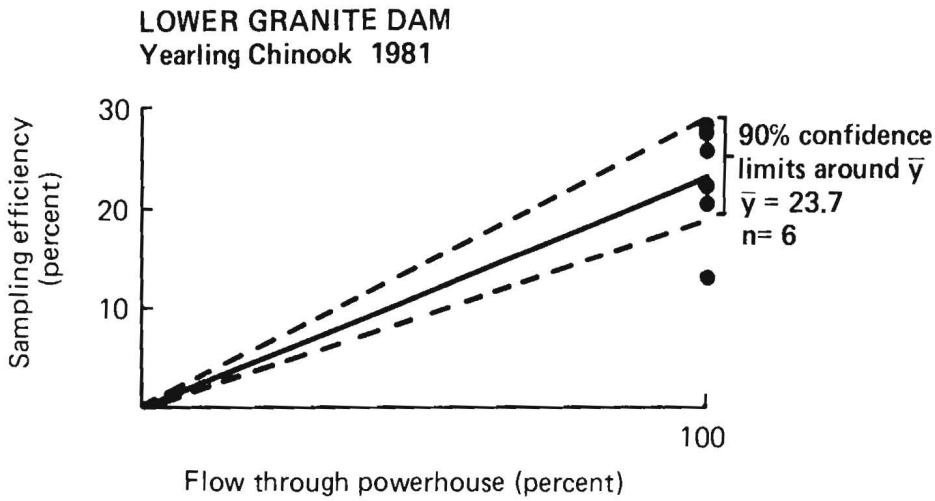


Figure 5.--Flow/efficiency relationship for yearling chinook salmon at Lower Granite Dam, 1981.

projected mean estimator line, which considering the small variability around the actual data points from which they were derived, appears consistent and reproducible for several years of data. Henceforth, we will refer to these as the 90% estimate boundaries (E.B.).

For steelhead and yearling chinook salmon, daily and annual population estimates with corresponding 90% confidence limits or 90% estimate boundaries are then calculated from the sampling efficiency relations:

$$Ni = {}^{Ci}/SE_{ij}$$

where:

Ni = estimated passage on day i

Ci = estimated number entrained in the collection facility on day i.[1/]

SE_{ij} = the sampling efficiency on day i for the mean flow (j) occurring between 2100 and 0600h, as determined from the flow-efficiency relationships depicted in Figures 2 through 5.[2/]

1/ At Lower Granite and McNary Dams, Ci is the product of the hand counted samples and the reciprocal of the proportion of the time the sampling gate was open. At John Day Dam, Ci is the entire sample inspected on day i (see Sims et al. 1981 for details on the sampling system).

2/ To estimate the steelhead population size on days when the powerhouse flows were at levels below those which occurred during the efficiency brand releases and recaptures, the following was used: $y = 0.00 + 0.27(x)$.

Ninety percent confidence limits on population estimates are calculated from the confidence limits bounding the regression lines (Figures 2 and 3). Similarly, 90% estimate boundaries for both steelhead and yearling chinook salmon at John Day Dam and yearling chinook salmon at Lower Granite Dam are calculated from the estimate boundaries depicted in Figures 4 and 5.

If, in future years, the management agencies permit the NMFS to mark spring chinook salmon at Lower Granite Dam, we will be able to apply regression analysis techniques and generate more precise population estimates. This will be particularly important to pursue after corrections are made in the collection system to improve collection efficiency. However, we see no need in executing more efficiency brand releases of steelhead or spring chinook salmon at John Day Dam since Bonneville Dam is scheduled to replace it as the lower river index site in a few years.

Survival through the Snake-Columbia River System

An accurate assessment of smolt survival from Lower Granite Dam to John Day Dam is not possible because we are not sampling at Little Goose Dam and have no way of determining how many of our marks are being collected and transported. Estimates of overall survival have been made, however, based on assumptions regarding smolt survival at Lower Granite and Little Goose Dams, and through Little Goose pool (see Appendix Tables I1 and I2 for detailed explanation). These estimates are presented to provide a relative index of actual survival and have no statistical basis.

Survival estimates for specific sections of the overall Snake-Columbia system are based either on ratios of actual and expected mark recovery rates at given dams or on estimated numbers of marks arriving at a given dam as determined from flow/efficiency curves. Confidence limits around these estimates are defined by the variance around the mean survival rates of mark release groups (see Appendix Tables I1 and I2).

Travel Time

Travel time through specified sections of the Columbia River system was calculated from recoveries of marked fish; the difference between the median release date and the median recovery date provided a general measure of travel time. In addition, a more detailed and precise measure of travel time was calculated. The sampling program at John Day Dam permits travel time from upriver release sites to be analyzed with hourly resolution, rather than daily. For selected marks, hourly travel time from point of release to John Day Dam was measured for the first 25 percentile of recoveries arriving at the dam. Based on the release site and species, the travel time of each fish was then regressed on the average daily flows detailed below:

Release site	Species	Average daily flow
Little Goose tailrace	Steelhead	$\left(\sum_{i=1}^{3} \bar{X}i + \sum_{i=4}^{5} \bar{Y}i\right) \div 5$
Port Kelly	Steelhead	$\left(\sum_{i=1}^{5} \bar{Y}i\right) \div 5$
Port Kelly	Yearling chinook	$\left(\sum_{i=1}^{5} \bar{Y}i\right) \div 5$

where i = the first day after the release date.

$\bar{X}i$ = daily average flow at Ice Harbor Dam on day i.

$\bar{Y}i$ = daily average flow at McNary Dam on day i.

The reason different flow regimes were used for steelhead and yearling chinook salmon is that they migrate at different rates and encounter certain sections of river for varying lengths of time.

RESULTS AND DISCUSSION

The juvenile outmigration was monitored and sampled at Lower Granite, McNary, and John Day Dams during 1982. Smolt survival, travel time, migrational magnitude and timing were defined and flow/survival and flow/travel time relationships developed.

Daily catch summaries and fish passage estimates provided general definitions of the magnitude and timing of the migrations at the three dams (Appendixes A through C). Mark recovery and mark release data are included in Appendixes D through G. Appendix H provides water flow data at Lower Granite, McNary, and John Day Dams.

Timing of Migrations

Smolts began to appear at Lower Granite Dam on 2 April; sampling was initiated on 13 April. The yearling chinook salmon migration peaked on 29 April, and 90% of the total migration had arrived at Lower Granite Dam by 17 May. Steelhead peaked 11 days later on 10 May, with 90% passage reached on 31 May. Subyearling chinook salmon began arriving at Lower Granite Dam on 23 May; they peaked on 30 June. Migrational timing at Lower Granite Dam in 1982 as related to river flows and spill is shown in Figure 6. Approximately 20% of the river flow was spilled at Lower Granite and Little Goose Dams throughout most of the smolt migration period. Maximum flow at Lower Granite Dam during the spring migration period was 186,000 cfs on 27 May. During the subyearling chinook salmon migration, flow at Lower Granite Dam reached 206,000 cfs on 18 June and remained above 160,000 cfs through early July.

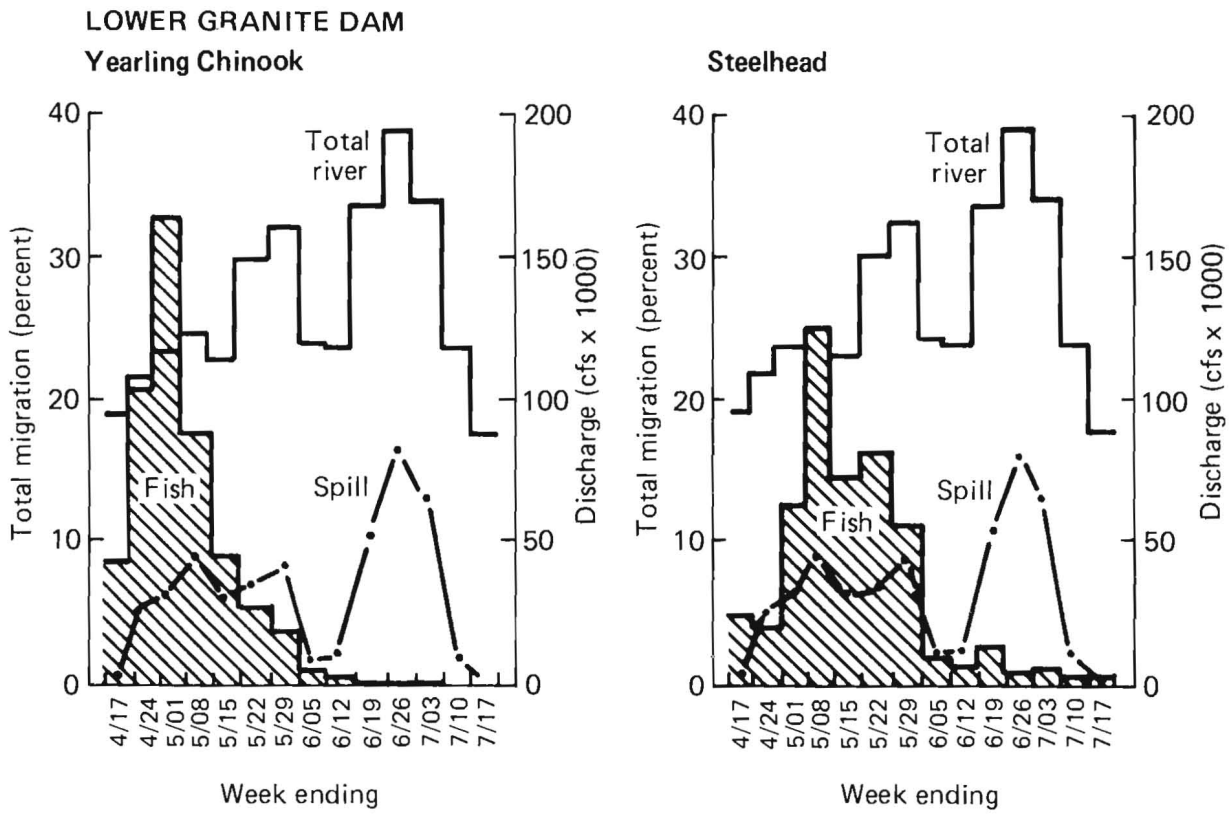


Figure 6.--Timing of smolt migrations in relation to total river discharge and spill at Lower Granite Dam, 1982.

Sampling at McNary Dam began on 26 April. The yearling chinook salmon migration peaked on 9 May and was essentially over by 1 June (Figure 7). Approximately 80% of the migration passed McNary Dam between 2 and 22 May, and 50% of the migration passed between 9 and 15 May. The steelhead migration at McNary Dam began in late April and extended through 25 May. Flows at McNary Dam exceeded recommended optimum flows through most of the April-June period. McNary Dam had forced spill every day from 1 April through 18 July except for 1 day in April and 3 days in May (COFO 1983). The sockeye salmon migration extended from late April through early June, whereas subyearling chinook salmon began arriving at McNary Dam in late May, and their migration continued through September.

Monitoring at John Day Dam began on 15 April. Timing of the spring migration of yearling chinook salmon and steelhead is shown in Figure 8. Yearling chinook salmon and steelhead passage at John Day peaked on 14 and 19 May, respectively, and migration continued through mid-June. Fall/summer chinook salmon smolts began arriving at John Day Dam on 23 April (Umatilla River Hatchery releases), and the migration continued through September.

Magnitude and Survival

Population and survival estimates of yearling chinook salmon and steelhead arriving at Lower Granite, McNary, and John Day Dams are shown in Table 1. Approximately 2.1 million yearling chinook salmon and 4.3 million steelhead are estimated to have arrived at Lower Granite Dam in

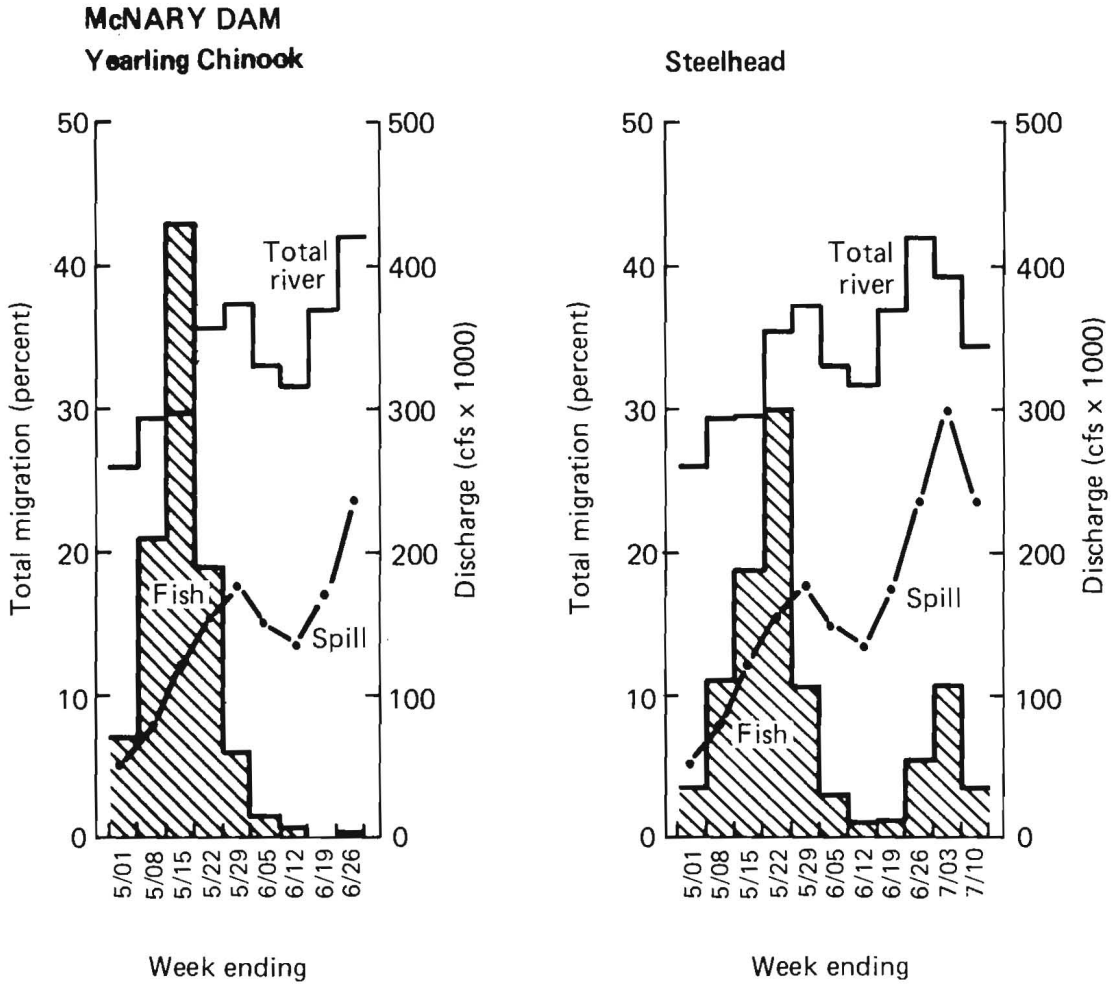


Figure 7.--Timing of smolt migrations in relation to total river discharge and spill at McNary Dam, 1982.

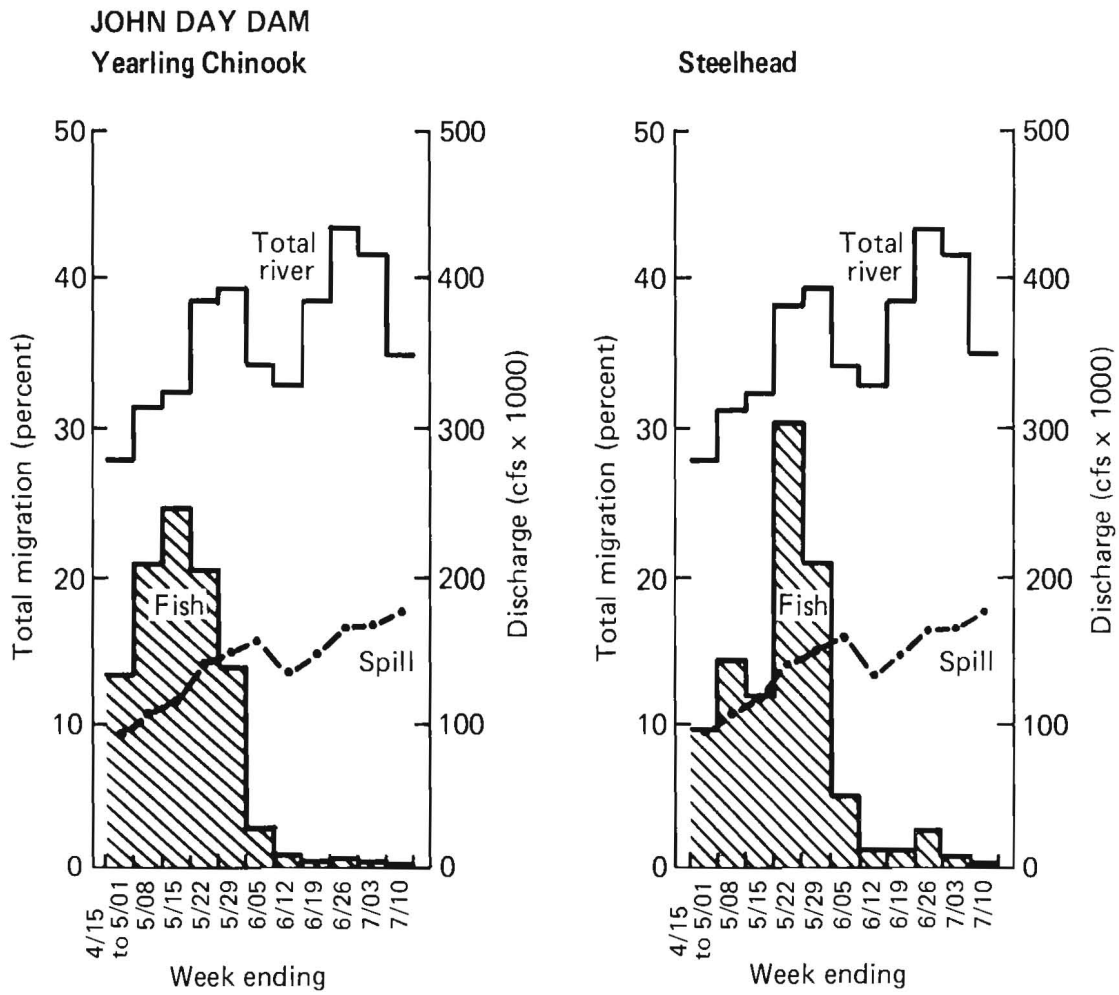


Figure 8.--Timing of smolt migrations in relation to total river discharge and spill at John Day Dam, 1982.

Table 1.--Estimated smolt migrations (millions of fish) and survival at Lower Granite, McNary, and John Day Dams in 1982.

	Yearling chinook salmon		Steelhead	
	Number	90% C.I.	Number	90% C.I.
Migration				
Lower Granite Dam	2.09	1.7-2.6	4.33	3.3-6.8
Transported Lower Granite and Little Goose	0.67		2.37	
McNary Dam	3.78	3.1-5.1	1.45	1.1-1.8
Transported McNary	0.82		0.44	
John Day Dam	1.76	1.7-1.9	1.21	1.0-1.15

Survival[a/]	Yearling chinook salmon (%)	Steelhead (%)
Lower Granite to McNary	34	56
McNary to John Day	68	85
Lower Granite to John Day	23	48
Per Project Average	75	86

a/ See Appendix I for computations.

1982. This compares to 3.2 million chinook salmon and 3.7 million steelhead in 1981. Approximately 0.67 million chinook salmon and 2.37 million steelhead (pt. est. = 52%, 90% C.I. 33-74%) were collected at Lower Granite and Little Goose Dams and transported downstream (COFO 1983). Approximately 3.8 million yearling chinook salmon and 1.5 million steelhead are estimated to have arrived at McNary Dam in 1982. About 0.82 million chinook salmon (20%) and 0.44 million steelhead (33%) were collected and transported downstream (COFO 1983). The 1982 spring migration at John Day Dam amounted to 1.76 million yearling chinook salmon and 1.21 million steelhead.

The 1.76 million yearling chinook (90% E.B. = 1.7-1.9 million) estimated at John Day Dam equates to 59% survival between McNary and John Day Dams. The point estimate for survival in this area based on selected marks was 68% (90% C.I. = 37-99%) indicating that the population estimates at the two dams are reasonable. By contrast, steelhead survival from McNary to John Day Dams was estimated at 85% (90% C.I. = 47-100%) based on mark recoveries. It was not possible to calculate comparative survival estimates from estimated steelhead population at the two dams because of an unknown quantity of steelhead entering John Day Reservoir from the Umatilla and John Day Rivers. However, it is obvious that survival is very high (1.45 million steelhead at McNary Dam minus 0.4 million transport and 1.2 million estimated at John Day Dam). Steelhead survival in this area was in line with the survival expected with the high river flows and spill during the 1982 migrations.

Survival of steelhead from below Little Goose Dam (see Appendix Table I1) to McNary Dam was estimated at 87% (90% C.I. = 76 to 100%). This equates to an average survival per project of 95% (2.5 $\sqrt{0.87}$). Survival from above Lower Granite Dam to below Little Goose Dam could not be measured in 1982 because the marks removed at Little Goose Dam were not sampled. However, lower survival in this area was indicated by various releases of hatchery steelhead. For example, steelhead released from the Tucannon Hatchery below Little Goose Dam survived at better than twice the rate of those from the same hatchery released into the Grande Ronde River above Lower Granite Dam. Samples of steelhead obtained by the Fish Transportation Oversight Team (FTOT) exhibited a higher descaling at Little Goose Dam than at Lower Granite Dam indicating some possible problem at Lower Granite Dam. Overall steelhead survival from above Lower Granite Dam to John Day Dam in 1982 was 48% (86% survival per project), the best survival measured since the completion of the new dams in the late 1960s and 70s (Figure 9).

In contrast to the high steelhead survival, given the same spill levels and river flows, survival of nontransported yearling chinook salmon from Lower Granite Dam to John Day Dam was estimated to be only 23% (75% average survival per project). This estimate was based on hatchery releases of marked fish in the upper Snake River (no marking of yearling chinook salmon was permitted at Lower Granite Dam in 1982) and is presented as a point of reference only. It is possible that the use of river run marked fish would have shown higher survival levels through the system. Survival of yearling chinook salmon from the mid-Columbia River was

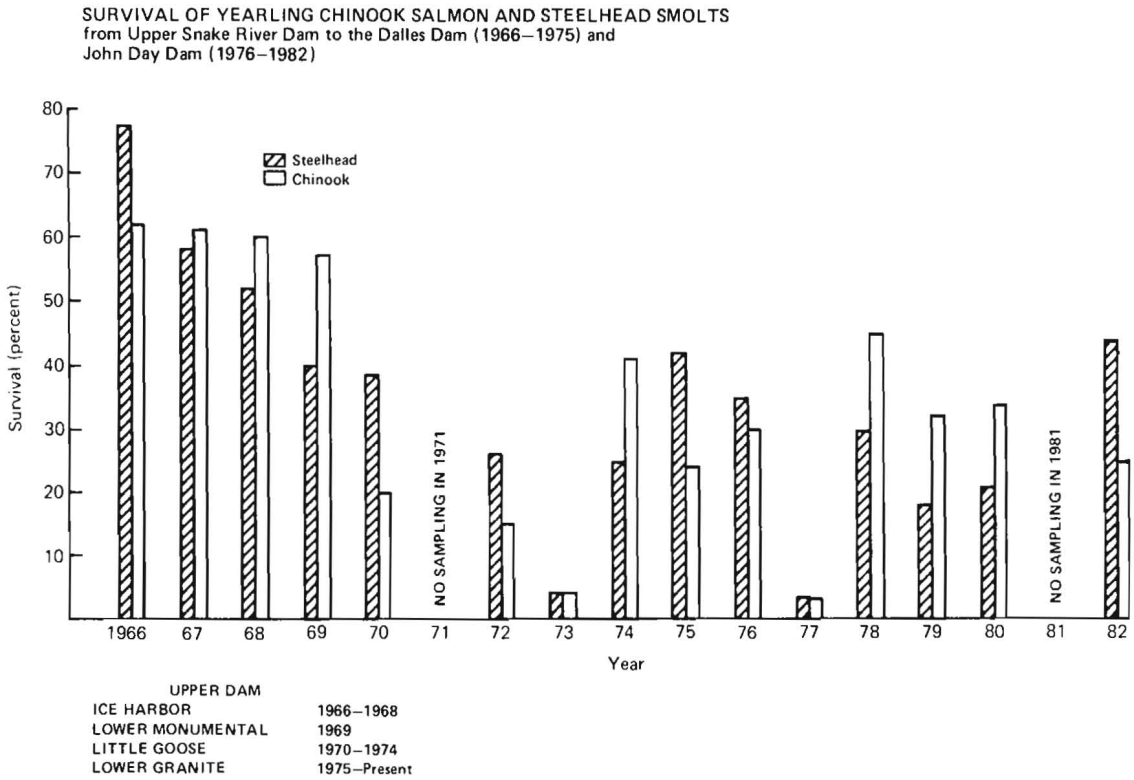


Figure 9.--Survival of yearling chinook salmon and steelhead smolts, 1966-1982.

estimated at 38% overall through five Public Utility District (PUD) dams to McNary Dam (McKenzie et al. 1983). Yearling chinook salmon survival from McNary Dam to John Day Dam (Appendix Table I2) was measured at 68% (90% C.I. = 37 to 99%). Multiplying the two estimates (0.38 x 0.68) gives an overall survival of 26% from above Wells Dam to John Day Dam. This compares very closely to the 23% overall survival estimated for Snake River yearling chinook salmon.

Flow/Survival Relationships

Research was conducted in 1982 to determine if within-year flow/survival relationships can be developed for salmonid migrants in sections of the Snake and Columbia Rivers. Four data points were obtained for the Snake River (Little Goose tailrace to Port Kelly) and four for the Columbia River (Port Kelly to John Day Dam) during 1982 (Table 2). It would appear that the variance around survival estimates will not permit the definitive definition of within year flow/survival relationships. However, these data will be combined with data points obtained in 1983 for further analysis to determine if the development of within-year flow/survival relationships is possible. It appears probable that the development of these relationships will be dependent upon our ability to increase the precision of the existing sampling efficiency curves at both McNary and John Day Dams.

Between-year flow/survival data points were developed in 1982 and added to our data base (Table 3). Flow/survival curves have been plotted from these data (Figures 10 and 11). The correlation coefficient for both the yearling chinook salmon and steelhead curves are statistically significant at the 95% level of confidence. Based on these curves and the

Table 2.--Within-year flow and steelhead survival data points developed for the Snake and Columbia Rivers in 1982.

Snake River[a/]			Columbia River[b/]		
Mark	Survival (%)	Flow[c/] ($cfs x 10^3$)	Mark	Survival (%)	Flow[d/] ($cfs x 10^3$)
LA & RA 21	99	121	LA & RA 151	120	289
LA & RA 22	76	113	LA & RA 152	83	301
LA & RA 23	89	139	LA & RA 153	59	396
LA 24	86	149	LA & RA 154	102	373
	$\bar{x}_s$=87.50	$\bar{x}_f$=131		$\bar{x}_s$=91.32	$\bar{x}_f$=327

a/ Little Goose tailrace to Port Kelly.

b/ Port Kelly to John Day Dam.

c/ Average flow Ice Harbor Dam for 7-day period following date of release.

d/ Average flow McNary Dam for 7-day period following date of release.

Table 3.--River flow and smolt survival summary, 1973-1982.

Year	Yearling Chinook		Steelhead	
	Per project survival (%)	Ice Harbor flow cfs x 10^3)a/	Per project survival (%)	Ice Harbor flow (cfs x 10^3)a/
1973	55	71	55	63
1974	82	158	75	103
1975	79	140	87	136
1976	79	110	81	167
1977	52	40	46	40
1978	85	106	79	106
1979	79	85	70	89
1980	82	110	72	99
1981	b/	94	b/	89
1982	76	120	86	126

a/ At migration peak ± 7 days.

b/ No survival data available for 1981.

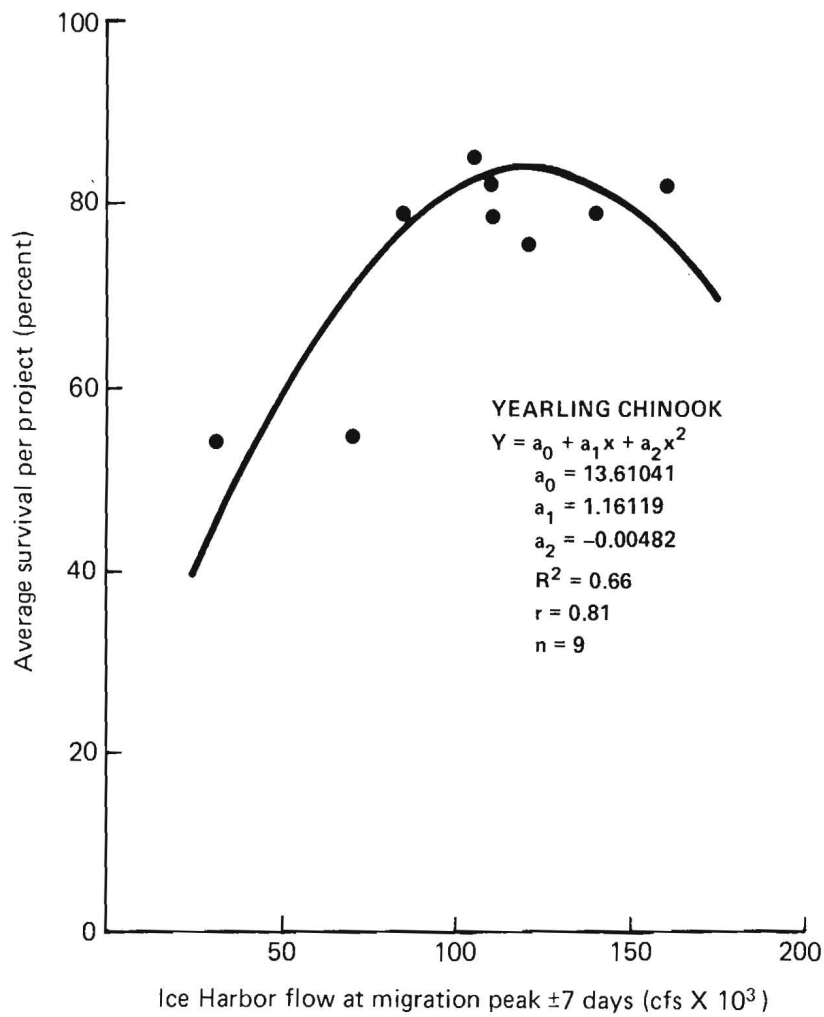


Figure 10.--Relationship of yearling chinook salmon survival to river flow at Ice Harbor Dam, 1973-1982.

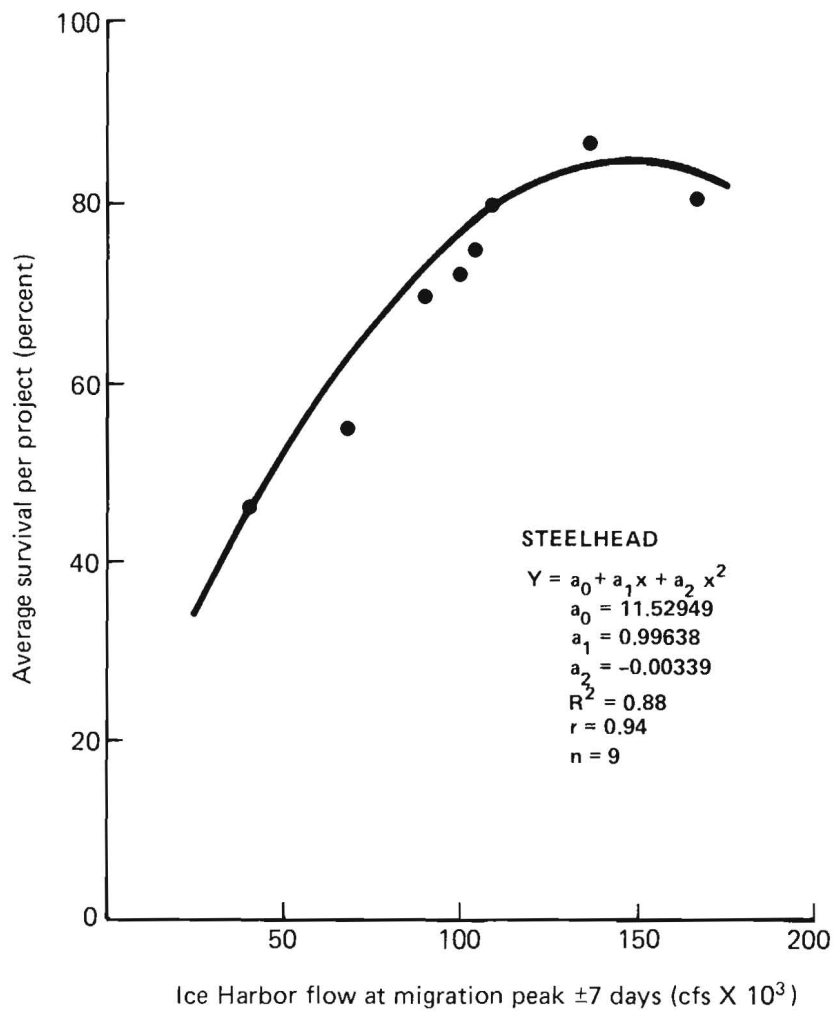


Figure 11.--Relationship of steelhead survival to river flow at Ice Harbor Dam, 1973-1982.

prevailing Snake River flows in 1982, we would have predicted 84% per project yearling chinook salmon survival (41% overall) and 82% per project steelhead survival (36% overall). Actual estimated per project survival for chinook salmon and steelhead in 1982 were 75% and 86%, respectively (23% and 48% overall survival - Lower Granite to John Day).

Flow/Travel Time Relationships

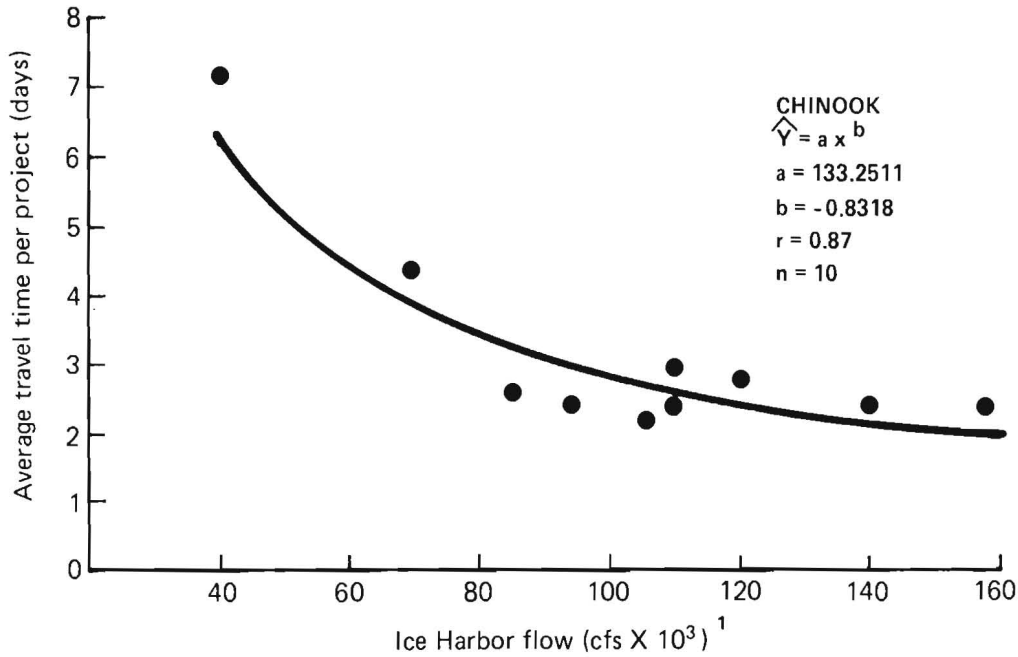
Travel time for Snake River smolts from Lower Granite Dam to John Day Dam was 14 days for yearling chinook salmon and 9 days for steelhead in 1982 (Table 4). Flows in the Snake River during the period of peak migration of chinook salmon were the highest since 1975. Flows during the peak period of steelhead migration were the highest since 1976. Between-year flow/travel time data points were developed for 1982, added to our data base (Sims et al. 1982), and flow/travel time regressions calculated (Figure 12). Correlation coefficients of both the chinook salmon and steelhead regressions remain high ($r = 0.87$ and $r = 0.95$, respectively) and both coefficients are statistically significant at the = .001 level. Based on these regressions, per project travel time of Snake River chinook salmon and steelhead between Lower Granite and John Day Dams in 1982 were estimated at 2.4 and 1.9 days, respectively. This compares to measured values of 2.8 days per project for chinook salmon and 1.8 days per project for steelhead.

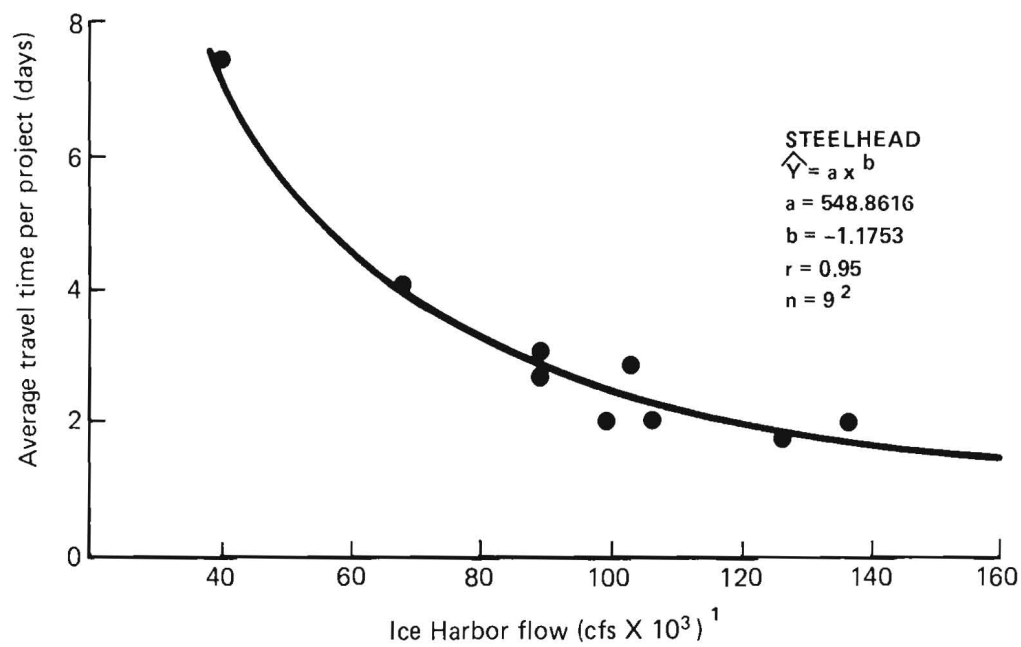
Releases of branded steelhead into the Little Goose tailrace were used to develop within-year flow/travel time relationships for both the Snake and Columbia Rivers (Figure 13). Whereas, the sample size is small ($n = 5$), the r value for both regressions is high (Snake River $r = 0.88$,

Table 4.--Travel time from Lower Granite Dam to John Day Dam for yearling chinook salmon and steelhead smolts, 1973-82.

	Average river flow at Ice Harbor Dam (cfs)a/		Average river flow at John Day Dam (cfs)a/		Average travel time (days)	
Year	Chinook	Steelhead	Chinook	Steelhead	Chinook	Steelhead
1973	71,000	68,000	150,000	146,000	22	20
1974	158,000	103,000	351,000	317,000	12	14
1975	140,000	136,000	344,000	344,000	12	10
1976	110,000	167,000	363,000	339,000	15	17
1977	40,000	40,000	125,000	119,000	36	37
1978	106,000	106,000	268,000	273,000	11	10
1979	85,000	89,000	255,000	255,000	13	13
1980	110,000	99,000	261,000	249,000	12	10
1981	94,000	89,000	219,000	226,000	12	15
1982	120,000	126,000	360,000	385,000	14	9

a/ At migration peak ± 7 days.





[1] At migration peak ±7 days

[2] 1976 data not included

Figure 12.--Relationship of chinook salmon and steelhead per project travel time and river flow at Ice Harbor Dam, 1973-1982.

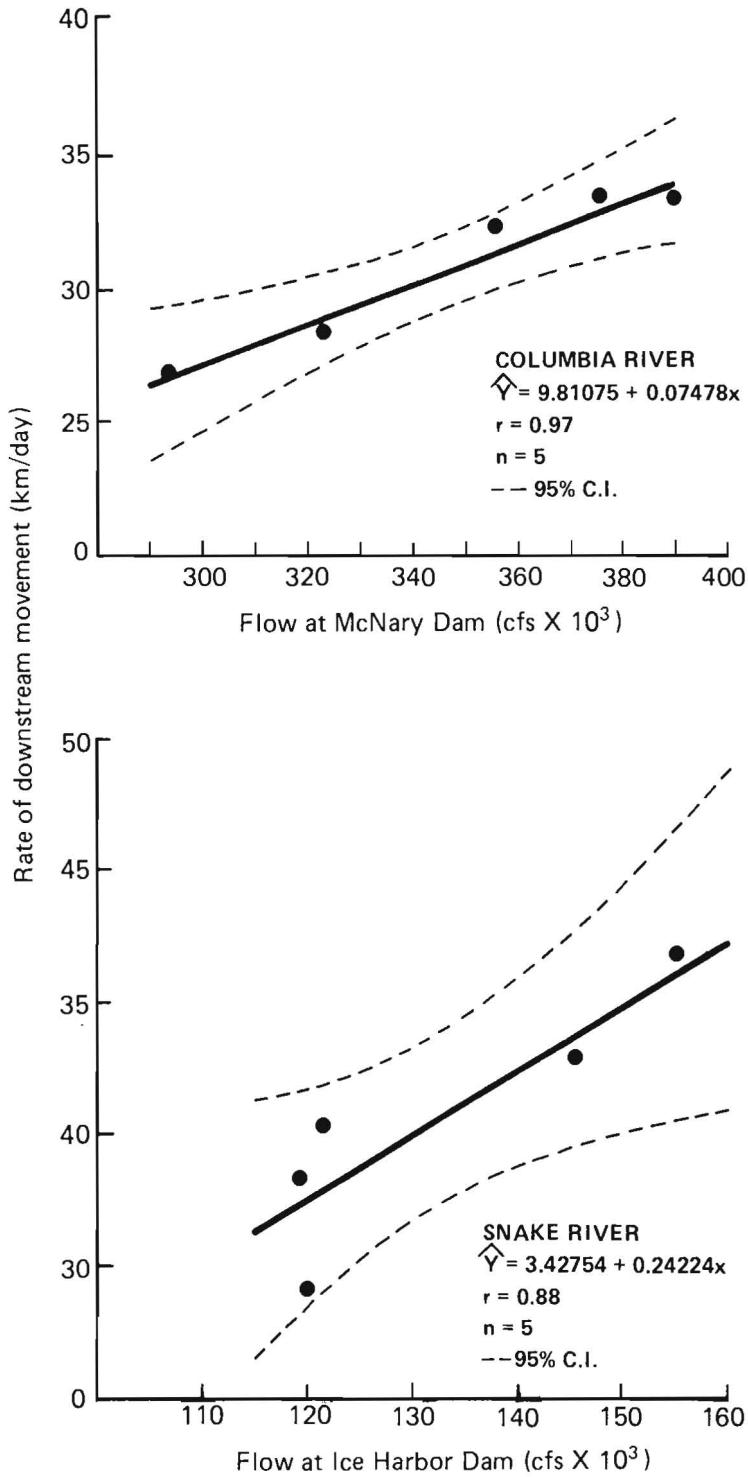


Figure 13.--Rate of downstream movement of steelhead relative to Columbia and Snake River flows.

Columbia River r = 0.97) and statistically significant at the = 0.05 level. It is interesting to note that the rate of downstream movement (km/days) of each release group in the Snake River was almost identical to the rate of downstream movement of the same release group in the Columbia River (Table 5). It is obvious that a much larger increment of flow is necessary to affect the rate of movement in the Columbia River as compared to the Snake River. Based on the regression lines developed, we would estimate that over the range of flows measured in 1982 (118 to 156 kcfs in the Snake River and 294 to 390 kcfs in the Columbia River) a change of 4.1 kcfs in Snake River flows and 13.5 kcfs in Columbia River flows would be needed to produce a change of 1 km/day in the rate of downstream movement in the respective rivers.

A comparison of travel time/flow relationships relative to river run spring chinook salmon (captured and marked at McNary Dam and released at Port Kelly) and hatchery spring chinook salmon (marked at the hatchery by the Chelan, Douglas and Grant County PUDs and released at Port Kelly) was made to determine if the behavior of efficiency releases of hatchery fish is the same as river run fish (Figure 14). Results of our analysis indicate that the rate of downstream movement of the hatchery releases is significantly slower at all levels of flow measured (at 95% level of confidence) than river run fish.

SUMMARY AND CONCLUSIONS

NMFS monitored juvenile migrations of salmon and steelhead at Lower Granite, McNary, and John Day Dams in 1982. Timing of migrations, smolt

Table 5.--Rate of downstream movement and flow data for marked steelhead released in the tailrace of Little Goose Dam and subsequently recaptured at John Day Dam.

	Snake River[a/]		Columbia River[b/]	
Mark release number	Rate of movement (km/day)	Flow[c/] (cfsx10^3)	Rate of movement (km/day)	Flow[d/] (cfs x 10^3)
1	29.1	120	31.9	294
2	33.3	118	33.3	323
3	35.4	122	37.3	356
4	37.9	146	38.3	390
5	41.8	156	38.3	376
	$\bar{x}_1$= 35.5	132.4	$\bar{x}_2$= 35.8	347.8

95% CI $\bar{x}_1$= 29.56-41.44 (Snake River) 95% CI $\bar{x}_2$= 32.1 to 39.6 (Columbia River)

a/ Little Goose tailrace to McNary Dam.
b/ Port Kelly to John Day Dam.
c/ Average daily flow at Ice Harbor Dam for 5-day period following mark release.
d/ Average daily flow at John Day Dam for 5-day period following mark release.

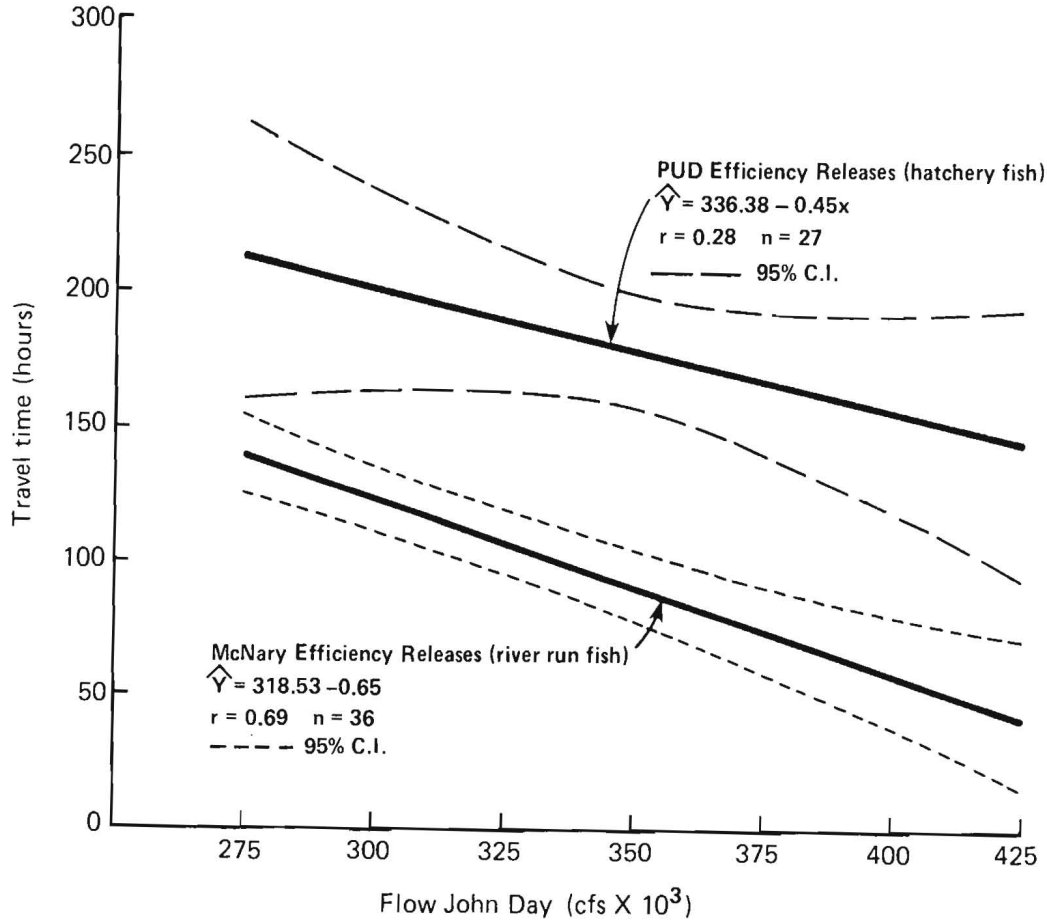


Figure 14.--Flow/travel time relationships for river run and hatchery yearling chinook salmon, Port Kelly to John Day Dam, 1982.

survival and travel time, and magnitude of migrations were defined. Results of 1982 research are summarized as follows:

1. Approximately 2.1 million yearling chinook salmon and 4.3 million steelhead are estimated to have arrived at Lower Granite Dam in 1982. Peak migration occurred at Lower Granite Dam on 29 April for chinook salmon and 10 May for steelhead. An estimated 3.8 million yearling chinook salmon and 1.5 million steelhead arrived at McNary Dam, with peak numbers passing the dam during the third and fourth week of May, respectively. Approximately 1.8 million yearling chinook salmon and 1.2 million steelhead were estimated to have arrived at John Day Dam with the migrations peaking during the middle and end of May, respectively.

2. Travel time and rate of downstream movement for juvenile salmonids were estimated in the Snake-Columbia River System.

(a) Travel time from Lower Granite Dam to John Day Dam in 1982 was 14 and 9 days for yearling chinook salmon and steelhead, respectively.

(b) Steelhead moved downstream at the same rate in the Snake River (Little Goose to McNary Dam) as they did in the Columbia River from McNary Dam to John Day Dam, although flow levels were appreciably different in the two rivers.

(c) Hatchery spring chinook salmon released above McNary Dam moved downstream at a significantly slower rate than river run fish. Based on this finding, we question the validity of using releases of marked hatchery fish to estimate survival and behavior of river run fish.

3. Sampling efficiency/flow regressions, including 90% confidence intervals, were calculated for both yearling chinook salmon and steelhead at McNary Dam for the first time.

4. Survival of yearling chinook salmon and steelhead from Lower Granite Dam to John Day Dam was estimated at 23 and 48%, respectively. This was the best survival estimated for steelhead since 1968, whereas spring chinook salmon survival remained one of the poorest since 1966.

LITERATURE CITED

Basham, L.R., M.R. Delarm, S.W. Pettit, J.B. Athearn, and 2LT. J.V. Barker.
1983. Fish transportation oversight team annual report - FY 1982 transport operations on the Snake and Columbia Rivers. NOAA Tech. Memor. NMFS F/NWR5, 34 p.

Committee on Fishery Operations.
In press. 1982 annual report. Columbia River Water Management Group.

McKenzie, D., D. Weitkamp, T. Schadt, D. Carlile, and D. Chapman.
In press. 1982 systems mortality study, prepared for Chelan, Grant and Douglas County Public Utility Districts.

Northwest Power Planning Council.
1982. Columbia River Basin Fish and Wildlife Program. NW Power Planning Council, 700 S.W. Taylor, Portland, OR.

Raymond, H.L.
1979. Effects of dams and impoundments on migration of juvenile chinook salmon and steelhead from the Snake River, 1966 to 1975. Trans. Am. Fish. Soc., 108(6):505-529.

Sims, C.W., J.C. Williams, D.A. Faurot, R.C. Johnsen, D.A. Brege.
1981. Migrational characteristics of juvenile salmon and steelhead in the Columbia River Basin and related passage research at John Day Dam, Vol. I and II. NOAA, NMFS, NWAFC, Seattle, WA. Final report for U.S. Army Corps of Engineers, Vol. I and II, 61 p. Contracts DACW57-80-F-0394 and DACW68-78-C-0051.

Sims, C.W., R.C. Johnsen and D.A. Brege.
1982. Migrational characteristics of juvenile salmon and steelhead trout in the Columbia River system - 1981, Vol. I Assessment of the 1981 smolt migration. NOAA, NMFS, NWAFC, Seattle, WA. Final report for U.S. Army Corps of Engineers, 16 p. Contracts DACW68-78-C-0051 and DACW57-81-F-0342.

APPENDIX A

Daily Catch and Passage Estimate Summary, Lower Granite Dam

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

SOCKEYE LOWER GRANITE DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820413	100.00		103	303	
820414	100.00		41	519	
820415	100.00		12	406	
820416	100.00		46	608	
820417	81.27		21	216	
820418	72.42		23	204	
820419	62.94		16	215	
820420	75.72		13	116	
820421	75.32		16	164	
820422	78.82		19	205	
820423	80.17		13	125	
820424	83.93		15	149	
820425	80.85		13	135	
820426	81.50		37	186	
820427	65.56		14	166	
820428	78.42		12	86	
820429	76.89		5	82	
820430	73.74		9	187	
820501	59.83		4	81	
820502	58.24				
820503	57.90		3	62	
820504	61.44		12	114	
820505	62.61		10	106	
820506	64.24		13	155	
820507	64.44		3	62	
820508	66.49		2	40	
820509	70.61				
820510	68.21		12	240	
820511	75.68		3	59	
820512	70.47		0	0	
820513	66.71		1	18	
820514	70.24		1	15	
820515	66.60		2	41	
820516	63.00				
820517	64.67		5	101	
820518	72.18		5	84	
820519	71.28		7	135	
820520	73.66		3	64	
820521	77.83		4	79	
820522	94.69		4	80	
820523	88.66				
820524	72.44		12	230	
820525	75.39		8	160	
820526	72.02		10	208	
820527	71.37		13	241	
820528	67.33		6	125	
820529	69.00		14	236	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820530	80.53				
820531	95.39		18	362	
820601	100.00		4	77	
820602	100.00		9	93	
820603	100.00		4	37	
820604	91.10		2	22	
820605	80.18		7	74	
820606	80.96				
820607	83.55		20	198	
820608	87.44		14	124	
820609	90.43		11	112	
820610	100.00		9	96	
820611	91.26		4	43	
820612	100.00		5	48	
820613	100.00				
820614	85.84		17	177	
820615	74.03		6	60	
820616	64.41		7	128	
820617	59.06		5	92	
820618	59.30		1	21	
820619	58.21		1	19	
820620	61.12		2	38	
820621	62.02		1	18	
820622	60.01				
820623	59.08		1	21	
820624	50.23				
820625	60.48		5	52	
820626	54.52				
820627	42.56		1	10	
820628	50.11				
820629	52.31		8	92	
820630	53.41		0	0	
820701	72.03		2	41	
820702	71.07		0	0	
820703	74.73		0	0	
820704	78.90		6	54	
820705	85.19		5	53	
820706	90.78				
820707	100.00		3	32	
820708	100.00				
820709	100.00		3	46	
820710	100.00				
820711	100.00		2	19	
820712	100.00				
820713	100.00		3	30	
820714	100.00				
820715	100.00		9	93	
820716	100.00				
820717	100.00		4	39	
820718	100.00				
820719	100.00		1	10	
820720	100.00				
820721	100.00		3	29	
	TOTALS		788	9,268	

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

COHO LOWER GRANITE DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820520	73.66		2	43	
820521	77.83		0	0	
820522	94.69		0	0	
820523	88.66				
820524	72.44		0	0	
820525	75.39		0	0	
820526	72.02		0	0	
820527	71.37		1	19	
820528	67.33		2	42	
820529	69.00		1	17	
820530	80.53				
820531	95.39		0	0	
820601	100.00		0	0	
820602	100.00		2	21	
820603	100.00		1	9	
820604	91.10		0	0	
820605	80.18		0	0	
820606	80.96				
820607	83.55		1	10	
820608	87.44		0	0	
820609	90.43		0	0	
820610	100.00		0	0	
820611	91.26		1	11	
820612	100.00		0	0	
820613	100.00				
820614	85.84		0	0	
820615	74.03		1	10	
820616	64.41		0	0	
820617	59.06		0	0	
820618	59.30		0	0	
820619	58.21		0	0	
820620	61.12		0	0	
820621	62.02		0	0	
820622	60.01				
820623	59.08		0	0	
820624	50.23				
820625	50.48		0	0	
820626	54.52				
820627	42.56		0	0	
820628	50.11				
820629	52.31		1	12	
820630	53.41		0	0	
820701	72.03		0	0	
820702	71.07		0	0	
820703	74.73		0	0	
820704	78.90		0	0	
820705	85.19		0	0	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820706	90.78				
820707	100.00		1	11	
	TOTALS		14	205	

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

CHINOOK 1'S LOWER GRANITE DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.237(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.237(FLOW) WHEN FLOW > 45.0%

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE	
820413		100.00	23.70 %	755	2,218	9,359	
820414		100.00	23.70	749	9,478	39,991	
820415		100.00	23.70	400	13,517	57,035	
820416		100.00	23.70	1,199	15,859	66,914	
820417		81.27	19.26	756	7,777	40,376	-10%
820418		72.42	17.16	724	6,436	37,497	
820419		62.94	14.92	555	7,464	50,041	
820420		75.72	17.95	989	8,853	49,332	
820421		75.32	17.85	862	8,845	49,547	
820422		78.82	18.68	1,542	16,617	88,954	
820423		80.17	19.00	1,368	13,128	69,096	
820424		83.93	19.89	2,137	21,196	106,558	
820425		80.85	19.16	1,801	18,647	97,317	
820426		81.50	19.32	5,084	25,585	132,460	
820427		65.56	15.54	1,550	18,330	117,971	
820428		78.42	18.59	2,035	14,572	78,408	-50%
820429		76.89	18.22	1,035	17,003	93,306	
820430		73.74	17.48	758	15,738	90,051	
820501		59.83	14.18	584	11,791	83,151	
820502		58.24					
820503	2	57.90	13.76	630	13,045	94,788	
820504		61.44	14.56	740	7,012	48,158	
820505		62.61	14.84	611	6,449	43,461	
820506		64.24	15.22	804	9,595	63,023	
820507		64.44	15.27	261	5,424	35,512	
820508		66.49	15.76	273	5,418	34,381	
820509		70.61					
820510	2	68.21	16.45	512	10,231	62,191	
820511		75.68	17.94	415	8,195	45,693	
820512		70.47	16.70	138	2,804	16,790	
820513		66.71	15.81	135	2,479	15,679	
820514		70.24	16.65	169	2,473	14,853	
820515		66.60	15.78	167	3,426	21,707	
820516		63.00					
820517	2	64.67	15.13	191	3,850	25,451	
820518		72.18	17.11	247	4,152	24,272	-90%
820519		71.28	16.89	128	2,469	14,613	
820520		73.66	17.46	143	3,066	17,565	
820521		77.83	18.45	116	2,292	12,424	
820522		94.69	22.44	99	1,978	8,816	
820523		88.66					
820524	2	72.44	19.09	258	4,943	25,890	
820525		75.39	17.87	88	1,756	9,825	
820526		72.02	17.07	76	1,582	9,271	
820527		71.37	16.91	93	1,721	10,173	
820528		67.33	15.96	81	1,688	10,578	
820529		69.00	16.35	118	1,988	12,157	

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820530		80.53				
820531	2	95.39	20.85 %	131	2,637	12,647
820601		100.00	23.70	34	656	2,768
820602		100.00	23.70	66	680	2,868
820603		100.00	23.70	73	682	2,877
820604		91.10	21.59	37	413	1,911
820605		80.18	19.00	29	305	1,605
820606		80.96				
820607	2	83.55	19.49	142	1,405	7,209
820608		87.44	20.72	45	397	1,916
820609		90.43	21.43	32	325	1,515
820610		100.00	23.70	40	427	1,801
820611		91.26	21.63	41	440	2,036
820612		100.00	23.70	23	222	936
820613		100.00				
820614	2	85.94	22.02	27	281	1,274
820615		74.03	17.55	3	30	171
820616		64.41	15.27	21	384	2,517
820617		59.06	14.00	18	330	2,356
820618		59.30	14.05	0	0	0
820619		58.21	13.80	0	0	0
820620		61.12	14.49	6	115	794
820621		62.02	14.70	5	90	615
820622		60.01				
820623	2	59.08	14.11	0	0	0
820624		50.23				
820625	2	60.48	13.12	1	10	80
820626		54.52				
820627	2	42.56	11.50	0	0	0
820628		50.11				
820629	2	52.31	12.14	0	0	0
820630		53.41	12.66	102	990	7,820
		TOTALS		32,252	371,909	2,090,351

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

STEELHEAD LOWER GRANITE DAM DATE OF REPORT: 2/24/83

EFFICIENCY = -10.910 + 0.610(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = -10.910 + 0.610(FLOW) WHEN FLOW > 45.0%

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE	
820413		100.00	50.09 %	3,751	11,019	21,999	
820414		100.00	50.09	690	8,731	17,431	
820415		100.00	50.09	1,128	38,119	76,101	
820416		100.00	50.09	2,047	27,075	54,052	
820417		81.27	38.66	1,674	17,220	44,537	
820418		72.42	33.27	1,213	10,783	32,413	
820419		62.94	27.48	539	7,249	26,377	
820420		75.72	35.28	868	7,770	22,024	
820421		75.32	35.04	335	3,437	9,811	
820422		78.82	37.17	722	7,780	20,932	
820423		80.17	37.99	524	5,029	13,236	
820424		83.93	40.29	2,008	19,916	49,436	
820425		80.85	38.41	2,049	21,215	55,235	-10%
820426		81.50	38.81	7,432	37,402	96,383	
820427		65.56	29.08	3,236	38,268	131,590	
820428		78.42	36.93	2,881	20,631	55,870	
820429		76.89	35.99	1,537	25,250	70,152	
820430		73.74	34.07	1,381	39,053	114,622	
820501		59.83	25.59	1,566	31,617	123,569	
820502		58.24					
820503	2	57.90	24.51	2,327	48,185	196,570	
820504		61.44	26.57	1,837	17,408	65,521	
820505		62.61	27.28	1,836	19,379	71,030	
820506		64.24	28.28	5,507	65,723	232,429	
820507		64.44	28.40	1,884	39,149	137,857	
820508		66.49	29.65	1,996	39,612	133,602	
820509		70.61					
820510	2	68.21	31.43	2,778	55,509	176,610	
820511		75.68	35.25	3,533	69,770	197,903	-50%
820512		70.47	32.08	1,775	36,068	112,443	
820513		66.71	29.78	1,403	25,763	86,501	
820514		70.24	31.94	1,775	25,969	81,314	
820515		66.60	29.72	1,129	23,163	77,947	
820516		63.00					
820517	2	64.67	28.03	2,348	47,335	168,876	
820518		72.18	33.12	2,760	46,397	140,088	
820519		71.28	32.57	2,488	47,985	147,326	
820520		73.66	34.02	2,323	49,811	146,407	
820521		77.83	36.57	2,017	39,847	108,973	
820522		94.69	46.85	2,032	40,608	86,675	
820523		88.66					
820524	2	72.44	33.23	3,209	61,475	160,823	
820525		75.39	35.08	1,193	23,799	67,847	
820526		72.02	33.02	1,654	34,437	104,286	
820527		71.37	32.63	1,632	30,197	92,556	
820528		67.33	30.16	1,026	21,380	70,887	
820529		69.00	31.18	1,682	28,338	90,885	-90%

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820530		30.53				
820531	2	95.39	42.75 %	1,420	28,579	66,859
820601		100.00	50.09	514	9,918	19,799
820602		100.00	50.09	752	7,745	15,463
820603		100.00	50.09	770	7,191	14,356
820604		91.10	44.66	603	6,723	15,053
820605		80.18	38.00	480	5,049	13,286
820606		80.96				
820607	2	83.55	39.27	1,403	13,885	35,362
820608		87.44	42.43	610	5,382	12,685
820609		90.43	44.25	401	4,070	9,197
820610		100.00	50.09	351	3,746	7,478
820611		91.26	44.76	421	4,521	10,101
820612		100.00	50.09	563	5,427	10,835
820613		100.00				
820614	2	85.84	45.77	1,722	17,895	39,097
820615		74.03	34.25	590	5,896	17,216
820616		64.41	28.38	405	7,410	26,110
820617		59.06	25.12	268	4,910	19,549
820618		59.30	25.26	156	3,275	12,965
820619		58.21	24.60	100	1,927	7,833
820620		61.12	26.37	132	2,530	9,594
820621		62.02	26.92	67	1,211	4,497
820622		60.01				
820623	2	59.08	25.41	58	1,223	4,813
820624		50.23				
820625	2	60.48	22.86	132	1,381	6,042
820626		54.52				
820627	2	42.56	18.70	110	1,052	5,624
820628		50.11				
820629	2	52.31	20.33	87	1,005	4,943
820630		53.41	21.67	34	330	1,523
820701		72.03	33.03	13	270	816
820702		71.07	32.44	15	249	768
820703		74.73	34.68	10	121	348
820704		78.90	37.22	29	261	700
820705		85.19	41.06	22	235	573
820706		90.78				
820707	2	100.00	47.28	28	295	623
820708		100.00				
820709	2	100.00	50.09	25	383	764
820710		100.00				
820711	2	100.00	50.09	21	203	405
820712		100.00				
820713	2	100.00	50.09	26	259	518
820714		100.00				
820715	2	100.00	50.09	31	322	643
820716		100.00				
820717	2	100.00	50.09	21	204	407
820718		100.00				
820719	2	100.00	50.09	25	257	513
820720		100.00				
820721	2	100.00	50.09	20	192	383
820722		100.00				
820723	2	100.00	50.09	6	62	124

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820724		100.00				
820725	2	100.00	50.09 %	6	57	115
820726		100.00				
820727	2	100.00	50.09	2	21	42
820728		100.00				
820729	2	100.00	50.09	3	28	56
		TOTALS		100,677	1,470,571	4,389,205

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

CHINOOK O'S LOWER GRANITE DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820522	94.69		20	400	
820523	88.66				
820524	72.44		26	498	
820525	75.39		7	140	
820526	72.02		11	229	
820527	71.37		12	222	
820528	67.33		6	125	
820529	69.00		5	84	
820530	80.53				
820531	95.39		7	141	
820601	100.00		1	19	
820602	100.00		92	948	
820603	100.00		467	4,361	
820604	91.10		244	2,720	
820605	80.18		117	1,231	
820606	80.96				
820607	83.55		117	1,158	
820608	87.44		42	371	
820609	90.43		25	254	
820610	100.00		57	608	
820611	91.26		57	612	
820612	100.00		78	752	
820613	100.00				
820614	85.84		550	5,716	
820615	74.03		153	1,529	
820616	64.41		100	1,830	
820617	59.06		42	769	
820618	59.30		64	1,344	
820619	58.21		123	2,370	
820620	61.12		220	4,217	
820621	62.02		118	2,132	
820622	60.01				
820623	59.08		124	2,615	
820624	50.23				
820625	60.48		174	1,820	
820626	54.52				
820627	42.56		146	1,396	
820628	50.11				
820629	52.31		511	5,901	
820630	53.41		2,597	25,203	
820701	72.03		593	12,295	
820702	71.07		253	4,203	
820703	74.73		228	2,749	
820704	78.90		300	2,696	
820705	85.19		189	2,022	
820706	90.73				
820707	100.00		276	2,903	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820708	100.00				
820709	100.00		153	2,341	
820710	100.00				
820711	100.00		101	977	
820712	100.00				
820713	100.00		48	479	
820714	100.00				
820715	100.00		112	1,163	
820716	100.00				
820717	100.00		108	1,048	
820718	100.00				
820719	100.00		134	1,377	
820720	100.00				
820721	100.00		107	1,026	
820722	100.00				
820723	100.00		103	1,066	
820724	100.00				
820725	100.00		82	786	
820726	100.00				
820727	100.00		96	1,000	
820728	100.00				
820729	100.00		141	1,308	
	TOTALS		9,337	111,154	

APPENDIX B

Daily Catch and Passage Estimate Summary, McNary Dam

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

SOCKEYE MCNARY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	92.18		80	1,487	
820427	87.34		47	1,241	
820428	83.40		88	1,122	
820429	82.21		155	836	
820430	83.01		376	2,039	
820501	81.04		597	3,411	
820502	82.72		794	4,537	
820503	67.60		805	4,600	
820504	70.54		2,436	13,920	
820505	71.39		1,644	13,152	
820506	58.13		803	5,917	
820507	64.57		1,032	5,897	
820508	78.62		1,325	7,571	
820509	62.61		1,385	11,080	
820510	66.12		577	5,188	
820511	60.38		688	6,423	
820512	53.13		583	5,429	
820513	58.40		816	6,755	
820514	63.61		502	4,156	
820515	62.66		429	3,551	
820516	53.51		385	1,839	
820517	54.18		550	3,347	
820518	50.92		519	3,301	
820519	52.11		1,111	5,555	
820520	39.90		868	4,340	
820521	45.51		723	3,615	
820522	56.32		623	3,115	
820523	53.61		632	3,160	
820524	54.83		653	3,265	
820525	48.83		1,108	5,540	
820526	50.55		1,323	9,937	
820527	48.71		1,568	8,340	
820528	49.71		1,386	6,933	
820529	55.18		908	5,189	
820530	52.82		671	4,129	
820531	57.15		687	4,228	
820601	61.04		690	4,600	
820602	58.03		372	3,284	
820603	49.16		250	2,073	
820604	53.86		196	1,307	
820605	50.60		119	680	
820606	54.27		169	1,194	
820607	54.07		115	812	
820608	54.47		104	734	
820609	58.95		42	257	
820610	60.69		24	169	
820611	61.08		23	173	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820612	61.97		29	218	
820613	61.68		26	195	
820614	61.87		22	165	
820615	46.28		19	143	
820616	49.15		12	100	
820617	48.85		16	66	
820618	56.71		2	19	
820619	50.46		11	83	
820620	52.08		9	68	
820621	54.89		4	30	
820622	43.52		2	20	
820623	39.76		9	90	
820624	35.66		14	53	
820625	38.54		12	21	
820626	26.17		17	29	
820627	18.33		0	0	
820628	25.45		9	15	
820629	28.89		15	15	
820630	23.49		8	16	
820701	28.36		9	9	
820702	20.67		34	34	
820703	18.41		1	10	
820704	15.05		6	60	
820705	17.95		6	68	
820706	24.11		419	419	
820707	31.67		65	650	
820708	39.01		37	370	
820709	61.22		31	310	
820710	41.81		47	470	
820711	56.95		34	340	
820712	68.47		193	386	
820713	65.86		536	536	
820714	66.12		197	394	
820715	65.04		560	788	
820716	67.77		484	779	
820717	74.77		264	615	
820718	80.32				
820719	81.14		187	1,142	
820720	65.80		69	363	
820721	83.60		67	325	
820722	91.71		36	432	
820723	100.00				
820724	100.00				
820725	100.00		3	171	
820726	100.00		25	70	
820727	100.00		56	112	
820728	100.00		42	84	
820729	100.00		50	115	
820730	100.00				
820731	100.00		8	251	
820801	100.00				
820802	100.00		28	196	
820803	100.00		32	61	
820804	100.00		13	22	
820805	100.00		29	51	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820806	100.00		42	84	
820807	100.00		9	108	
820808	100.00				
820809	100.00		27	196	
820810	100.00		13	75	
820811	100.00				
820812	100.00		11	76	
820813	100.00		26	44	
820814	100.00		3	34	
820815	100.00				
820816	100.00		29	143	
820817	100.00		7	84	
820818	100.00				
820819	100.00		29	117	
820820	100.00		8	96	
820821	100.00		1	13	
820822	100.00				
820823	100.00		14	49	
820824	100.00		7	10	
820825	100.00				
820826	100.00		15	26	
820827	100.00		9	13	
820828	100.00				
820829	100.00		1	12	
820830	100.00		5	7	
820831	100.00		6	8	
820901	100.00		8	11	
820902	100.00		6	8	
820903	100.00		4	10	
820904	100.00		0	0	
820905	100.00		3	36	
820906	100.00		2	24	
820907	100.00		1	12	
820908	100.00		2	24	
820909	100.00		0	0	
820910	100.00		2	24	
820911	100.00		1	12	
820912	100.00		3	36	
820913	100.00		2	27	
820914	100.00		2	33	
820915	100.00		0	0	
820916	100.00		1	14	
820917	100.00		1	13	
820918	100.00		1	13	
820919	100.00		1	14	
820920	100.00		0	0	
820921	100.00		1	12	
820922	100.00		2	30	
	TOTALS		35,690	211,955	

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

COHO MCNARY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	92.18		1	19	
820427	87.34		0	0	
820428	83.40		1	13	
820429	82.21		3	16	
820430	83.01		2	11	
820501	81.04		4	23	
820502	82.72		11	63	
820503	67.60		3	17	
820504	70.54		4	23	
820505	71.39		4	32	
820506	58.13		1	7	
820507	64.57		4	23	
820508	78.62		5	29	
820509	62.61		47	376	
820510	66.12		13	117	
820511	60.38		15	140	
820512	53.13		63	587	
820513	58.40		131	1,084	
820514	63.61		246	2,036	
820515	62.66		189	1,565	
820516	53.51		411	1,963	
820517	54.18		545	3,317	
820518	50.92		642	4,084	
820519	52.11		1,948	9,740	
820520	39.90		1,470	7,350	
820521	45.51		1,297	6,485	
820522	56.32		1,481	7,405	
820523	53.61		1,690	8,450	
820524	54.83		1,398	6,990	
820525	48.83		954	4,770	
820526	50.55		753	4,104	
820527	48.71		661	3,305	
820528	49.71		487	2,436	
820529	55.18		211	1,206	
820530	52.82		128	788	
820531	57.15		134	825	
820601	61.04		129	860	
820602	58.03		42	371	
820603	49.16		51	423	
820604	53.86		35	233	
820605	50.60		31	177	
820606	54.27		28	198	
820607	54.07		44	311	
820608	54.47		16	113	
820609	58.95		2	12	
820610	60.69		1	7	
820611	61.08		0	0	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820612	61.97		2	15	
820613	61.68		2	15	
820614	61.87		1	8	
820615	46.28		0	0	
820616	49.15		2	17	
820617	48.85		9	37	
820618	56.71		2	19	
820619	50.46		13	98	
820620	52.08		4	30	
820621	54.89		9	68	
820622	43.52		7	70	
820623	39.76		5	50	
820624	35.66		1	4	
820625	38.54		5	9	
820626	26.17		3	5	
820627	18.33		0	0	
820628	25.45		0	0	
820629	28.89		0	0	
820630	23.49		0	0	
820701	28.36		1	1	
820702	20.67		1	1	
820703	18.41		0	0	
820704	15.05		2	20	
820705	17.95		1	11	
	TOTALS		15,406	82,582	

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

CHINOOK 1'S MCNARY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = -3.590 + 0.400(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = -3.590 + 0.400(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE	
820426	92.18	33.23 %	573	10,647	31,991	
820427	87.34	31.35	396	10,458	33,363	
820428	83.40	29.77	995	12,685	42,610	
820429	82.21	29.29	1,768	9,532	32,538	
820430	83.01	29.61	4,747	25,741	86,923	
820501	81.04	28.83	5,929	33,880	117,533	
820502	82.72	29.50	6,548	37,417	126,845	-10%
820503	67.60	23.45	5,407	30,897	131,756	
820504	70.54	24.63	7,680	43,885	178,208	
820505	71.39	24.97	2,807	22,456	89,946	
820506	58.13	19.66	2,729	20,107	102,265	
820507	64.57	22.24	3,867	22,097	99,365	
820508	78.62	27.86	5,919	33,823	121,411	
820509	62.61	21.45	8,753	70,024	326,391	
820510	66.12	22.86	4,572	41,111	179,856	
820511	60.38	20.56	5,175	48,309	234,943	-50%
820512	53.13	17.66	5,528	51,474	291,437	
820513	58.40	19.77	6,503	53,832	272,293	
820514	63.61	21.85	4,167	34,495	157,841	
820515	62.66	21.47	3,882	32,136	149,649	
820516	53.51	17.81	4,049	19,336	103,544	
820517	54.18	18.08	2,831	17,228	95,279	
820518	50.92	16.78	2,372	15,089	89,932	
820519	52.11	17.25	4,510	22,550	130,694	
820520	39.90	12.37	2,735	13,675	110,550	
820521	45.51	14.61	1,932	9,660	66,101	
820522	56.32	18.94	2,239	11,195	59,114	-90%
820523	53.61	17.85	2,387	11,935	66,848	
820524	54.33	18.34	1,558	7,790	42,471	
820525	48.83	15.94	993	4,965	31,144	
820526	50.55	16.63	854	4,655	27,991	
820527	48.71	15.89	827	4,135	26,016	
820528	49.71	16.29	593	2,966	18,204	
820529	55.18	18.48	265	1,514	8,194	
820530	52.82	17.54	247	1,520	8,667	
820531	57.15	19.27	224	1,378	7,153	
820601	61.04	20.83	246	1,640	7,875	
820602	58.03	19.62	165	1,456	7,423	
820603	49.16	16.07	176	1,460	9,081	
820604	53.86	17.95	129	860	4,790	
820605	50.60	16.65	281	1,606	9,644	
820606	54.27	18.12	132	932	5,145	
820607	54.07	18.04	149	1,052	5,833	
820608	54.47	18.20	57	403	2,212	
820609	58.95	19.99	34	208	1,043	
820610	60.69	20.69	21	148	717	
820611	61.08	20.84	19	143	684	

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820612		61.97	21.20 %	21	158	743
820613		61.68	21.08	51	383	1,815
820614		61.87	21.16	20	150	709
820615		46.28	14.92	17	128	855
820616		49.15	16.07	6	50	310
820617		48.85	15.95	15	62	389
820618		56.71	19.09	12	116	610
820619		50.46	16.59	9	68	407
820620		52.08	17.24	13	98	566
820621		54.89	18.37	13	98	531
820622		43.52	13.82	52	520	3,763
820623		39.76	12.31	42	420	3,411
820624		35.66	10.67	38	143	1,341
820625		38.54	11.83	16	27	232
820626		26.17	6.88	26	45	648
820627		18.33	3.74	0	0	0
820628		25.45	6.59	10	17	251
820629		28.89	7.97	11	11	138
820630		23.49	5.81	3	6	103
820701		28.36	7.75	4	4	52
820702		20.67	4.68	3	3	64
820703		18.41	3.77	0	0	0
820704		15.05	2.43	0	0	0
820705		17.95	3.59	0	0	0
820706		24.11	6.05	1	1	17
820707		31.67	9.08	0	0	0
820708		39.01	12.01	0	0	0
820709		61.22	20.90	0	0	0
820710		41.81	13.13	0	0	0
820711		56.95	19.19	0	0	0
820712		68.47	23.80	10	20	84
820713		65.86	22.75	11	11	48
820714		66.12	22.86	0	0	0
820715		65.04	22.43	1	1	6
820716		67.77	23.52	5	8	34
820717		74.77	26.32	6	14	53
820718		80.32				
820719	2	81.14	28.70	1	6	21
820720		65.80	22.73	0	0	0
820721		83.60	29.85	1	5	16
820722		91.71	33.09	0	0	0
820723		100.00				
820724		100.00				
820725	3	100.00	36.41	0	0	0
820726		100.00	36.41	0	0	0
820727		100.00	36.41	0	0	0
820728		100.00	36.41	3	6	16
820729		100.00	36.41	1	2	6
820730		100.00				
820731	2	100.00	36.41	0	0	0
820801		100.00				
820802	2	100.00	36.41	0	0	0
820803		100.00	36.41	0	0	0
820804		100.00	36.41	0	0	0
820805		100.00	36.41	0	0	0

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820806		100.00	36.41 %	0	0	0
820807		100.00	36.41	0	0	0
820808		100.00				
820809	2	100.00	36.41	0	0	0
820810		100.00	36.41	0	0	0
820811		100.00				
820812	2	100.00	36.41	0	0	0
820813		100.00	36.41	0	0	0
820814		100.00	36.41	0	0	0
820815		100.00				
820816	2	100.00	36.41	3	15	41
820817		100.00	36.41	0	0	0
820818		100.00				
820819	2	100.00	36.41	24	97	266
820820		100.00	36.41	242	2,904	7,976
820821		100.00	36.41	113	1,525	4,189
820822		100.00				
820823	2	100.00	36.41	342	1,206	3,313
820824		100.00	36.41	340	507	1,391
820825		100.00				
820826	2	100.00	36.41	1,141	1,974	5,421
820827		100.00	36.41	496	739	2,030
820828		100.00				
820829	2	100.00	36.41	46	558	1,533
820830		100.00	36.41	187	252	693
820831		100.00	36.41	237	320	878
820901		100.00	36.41	190	256	704
820902		100.00	36.41	141	197	542
820903		100.00	36.41	60	148	407
820904		100.00	36.41	1	12	33
820905		100.00	36.41	3	36	99
820906		100.00	36.41	6	72	198
820907		100.00	36.41	5	60	165
820908		100.00	36.41	6	72	198
820909		100.00	36.41	3	46	126
820910		100.00	36.41	14	168	461
820911		100.00	36.41	17	204	560
820912		100.00	36.41	25	300	824
820913		100.00	36.41	17	227	625
820914		100.00	36.41	7	117	322
820915		100.00	36.41	8	105	289
820916		100.00	36.41	13	187	513
820917		100.00	36.41	5	65	179
820918		100.00	36.41	4	50	138
820919		100.00	36.41	4	55	151
820920		100.00	36.41	8	102	281
820921		100.00	36.41	14	174	478
820922		100.00	36.41	8	119	326
		TOTALS		122,122	819,955	3,811,102

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

STEELHEAD MCNARY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.270(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = -53.570 + 1.460(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE	
820426	92.18	81.01 %	520	9,663	11,927	
820427	87.34	73.95	242	6,391	8,643	
820428	83.40	68.19	393	5,010	7,347	
820429	82.21	66.46	857	4,620	6,952	
820430	83.01	67.62	1,746	9,468	14,001	
820501	81.04	64.75	1,368	7,817	12,073	
820502	82.72	67.20	1,497	8,554	12,729	
820503	67.60	45.13	1,546	8,834	19,577	
820504	70.54	49.42	1,871	10,691	21,634	
820505	71.39	50.66	7,789	62,312	123,002	-10%
820506	58.13	31.30	1,014	7,471	23,870	
820507	64.57	40.70	1,650	9,428	23,165	
820508	78.62	61.22	2,629	15,023	24,541	
820509	62.61	37.84	2,922	23,376	61,775	
820510	66.12	42.97	1,829	16,446	38,278	
820511	60.38	34.58	1,663	15,524	44,887	
820512	53.13	24.00	1,562	14,544	60,602	
820513	58.40	31.69	4,296	35,563	112,206	
820514	63.61	39.30	2,826	23,394	59,525	-50%
820515	62.66	37.91	2,341	19,379	51,114	
820516	53.51	24.55	2,617	12,498	50,897	
820517	54.18	25.53	1,416	8,617	33,750	
820518	50.92	20.77	1,433	9,116	43,882	
820519	52.11	22.51	2,489	12,445	55,285	
820520	39.90	10.77	1,680	8,400	77,973	
820521	45.51	12.87	1,180	5,900	45,827	
820522	56.32	28.66	1,322	6,610	23,066	
820523	53.61	24.70	1,304	9,020	36,517	
820524	54.83	26.48	1,593	7,965	30,077	
820525	48.83	17.72	936	4,680	26,408	
820526	50.55	20.23	750	4,088	20,205	
820527	48.71	17.55	892	4,460	25,418	
820528	49.71	19.01	909	4,547	23,922	-90%
820529	55.18	26.99	503	2,874	10,649	
820530	52.82	23.55	288	1,772	7,527	
820531	57.15	29.87	303	1,865	6,242	
820601	61.04	35.55	492	3,280	9,227	
820602	58.03	31.15	255	2,251	7,225	
820603	49.16	18.20	277	2,297	12,621	
820604	53.86	25.07	241	1,607	6,410	
820605	50.60	20.31	208	1,189	5,853	
820606	54.27	25.66	185	1,307	5,091	
820607	54.07	25.37	145	1,024	4,036	
820608	54.47	25.96	120	847	3,265	
820609	58.95	32.50	107	656	2,019	
820610	60.69	35.04	80	565	1,612	
820611	61.08	35.61	88	660	1,854	

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820612		61.97	36.91 %	59	443	1,199
820613		61.68	36.48	107	803	2,200
820614		61.87	36.76	84	630	1,714
820615		46.28	14.00	106	795	5,680
820616		49.15	18.19	62	515	2,829
820617		48.85	17.75	66	273	1,539
820618		56.71	29.23	16	155	531
820619		50.46	20.10	40	300	1,493
820620		52.08	22.47	44	330	1,469
820621		54.89	26.57	31	233	875
820622		43.52	11.75	29	290	2,468
820623		39.76	10.74	36	360	3,353
820624		35.66	9.63	64	241	2,504
820625		38.54	10.41	34	58	560
820626		26.17	7.07	89	153	2,160
820627		18.33	4.95	5	50	1,010
820628		25.45	6.87	22	36	530
820629		28.89	7.80	72	72	923
820630		23.49	6.34	3	6	95
820701		28.36	7.66	21	21	274
820702		20.67	5.58	52	52	932
820703		18.41	4.97	0	0	0
820704		15.05	4.06	1	10	246
820705		17.95	4.85	1	11	235
820706		24.11	6.51	8	8	123
820707		31.67	8.55	0	0	0
820708		39.01	10.53	1	10	95
820709		61.22	35.81	2	20	56
820710		41.81	11.29	2	20	177
820711		56.95	29.58	3	30	101
820712		68.47	46.40	3	6	13
820713		65.86	42.59	31	31	73
820714		66.12	42.97	4	8	19
820715		65.04	41.39	5	7	17
820716		67.77	45.37	11	18	39
820717		74.77	55.59	5	12	21
820718		80.32				
820719	2	81.14	64.30	5	31	47
820720		65.80	42.50	2	11	25
820721		83.60	68.49	7	34	50
820722		91.71	80.33	0	0	0
820723		100.00				
820724		100.00				
820725	3	100.00	92.43	0	0	0
820726		100.00	92.43	3	8	9
820727		100.00	92.43	1	2	2
820728		100.00	92.43	3	6	6
820729		100.00	92.43	4	9	10
820730		100.00				
820731	2	100.00	92.43	0	0	0
820801		100.00				
820802	2	100.00	92.43	1	7	8
820803		100.00	92.43	3	6	6
820804		100.00	92.43	2	3	4
820805		100.00	92.43	3	5	6

DATE		TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820806		100.00	92.43 %	1	2	2
820807		100.00	92.43	1	12	13
820808		100.00				
820809	2	100.00	92.43	1	7	8
820810		100.00	92.43	2	11	12
820811		100.00				
820812	2	100.00	92.43	0	0	0
820813		100.00	92.43	1	2	2
820814		100.00	92.43	0	0	0
820815		100.00				
820816	2	100.00	92.43	3	15	16
820817		100.00	92.43	0	0	0
820818		100.00				
820819	2	100.00	92.43	1	4	4
820820		100.00	92.43	0	0	0
820821		100.00	92.43	0	0	0
820822		100.00				
820823	2	100.00	92.43	0	0	0
820824		100.00	92.43	0	0	0
820825		100.00				
820826	2	100.00	92.43	7	12	13
820827		100.00	92.43	1	1	2
820828		100.00				
820829	2	100.00	92.43	3	36	39
820830		100.00	92.43	0	0	0
820831		100.00	92.43	0	0	0
820901		100.00	92.43	0	0	0
820902		100.00	92.43	0	0	0
320903		100.00	92.43	0	0	0
820904		100.00	92.43	0	0	0
820905		100.00	92.43	0	0	0
820906		100.00	92.43	0	0	0
820907		100.00	92.43	1	12	13
820908		100.00	92.43	0	0	0
820909		100.00	92.43	0	0	0
820910		100.00	92.43	1	12	13
820911		100.00	92.43	0	0	0
820912		100.00	92.43	0	0	0
820913		100.00	92.43	0	0	0
820914		100.00	92.43	0	0	0
820915		100.00	92.43	1	13	14
		TOTALS		64,051	440,316	1,350,583

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

CHINOOK O'S MCNARY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820501	81.04		26	149	
820502	82.72		14	80	
820503	67.60		11	63	
820504	70.54		9	51	
820505	71.39		28	224	
820506	58.13		26	192	
820507	64.57		29	166	
820508	78.62		15	86	
820509	62.61		16	128	
820510	66.12		12	108	
820511	60.38		28	261	
820512	53.13		6	56	
820513	58.40		13	108	
820514	63.61		31	257	
820515	62.66		30	248	
820516	53.51		35	167	
820517	54.18		43	262	
820518	50.92		56	356	
820519	52.11		25	125	
820520	39.90		220	1,100	
820521	45.51		215	1,075	
820522	56.32		338	1,690	
820523	53.61		556	2,780	
820524	54.83		673	3,365	
820525	48.83		1,207	6,035	
820526	50.55		1,366	7,446	
820527	48.71		919	4,595	
820528	49.71		1,565	7,828	
820529	55.18		848	4,846	
820530	52.82		1,804	11,102	
820531	57.15		1,530	9,415	
820601	61.04		1,271	8,473	
820602	58.03		675	5,958	
820603	49.16		508	4,213	
820604	53.86		898	5,986	
820605	50.60		901	5,149	
820606	54.27		805	5,685	
820607	54.07		1,371	9,682	
820608	54.47		2,056	14,520	
820609	58.95		2,447	15,002	
820610	60.69		1,979	13,975	
820611	61.08		1,531	11,485	
820612	61.97		1,125	8,439	
820613	61.68		1,150	8,627	
820614	61.87		1,283	9,624	
820615	46.28		1,250	9,377	
820616	49.15		1,169	9,703	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820617	48.85		2,553	10,566	
820618	56.71		589	5,714	
820619	50.46		1,334	10,007	
820620	52.08		1,720	12,903	
820621	54.89		3,397	25,483	
820622	43.52		5,636	56,360	
820623	39.76		5,022	50,220	
820624	35.66		8,464	31,880	
820625	38.54		9,132	15,663	
820626	26.17		8,437	14,471	
820627	18.33		657	6,570	
820628	25.45		3,687	6,104	
820629	28.39		8,551	8,551	
820630	23.49		2,342	4,684	
820701	28.36		1,806	1,806	
820702	20.67		3,018	3,018	
820703	18.41		336	3,360	
820704	15.05		304	3,040	
820705	17.95		136	1,549	
820706	24.11		2,106	2,106	
820707	31.67		686	6,860	
820708	39.01		357	3,570	
820709	61.22		827	8,270	
820710	41.81		1,453	14,530	
820711	56.95		890	8,900	
820712	68.47		3,276	6,552	
820713	65.86		8,806	8,806	
820714	66.12		3,704	7,408	
820715	65.04		7,237	10,180	
820716	67.77		9,121	14,689	
820717	74.77		11,130	25,912	
820718	80.32				
820719	81.14		17,925	109,485	
820720	65.80		8,313	43,731	
820721	83.60		18,704	90,614	
820722	91.71		4,408	52,896	
820723	100.00				
820724	100.00				
820725	100.00		2,485	141,754	
820726	100.00		8,279	23,262	
820727	100.00		6,605	13,210	
820728	100.00		10,372	20,744	
820729	100.00		11,107	25,536	
820730	100.00				
820731	100.00		3,502	109,921	
820801	100.00				
820802	100.00		3,065	21,434	
820803	100.00		2,251	4,324	
820804	100.00		1,912	3,168	
820805	100.00		4,695	8,207	
820806	100.00		11,182	22,362	
820807	100.00		2,125	25,500	
820808	100.00				
820809	100.00		4,486	32,576	
820810	100.00		2,726	15,674	

DATE	TURBINE FLOW (%)	SAMPLING EFFICIENCY	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820811	100.00				
820812	100.00		2,200	15,270	
820813	100.00		2,432	4,150	
820814	100.00		428	4,910	
820815	100.00				
820816	100.00		7,536	37,240	
820817	100.00		2,066	24,792	
820818	100.00				
820819	100.00		5,832	23,577	
820820	100.00		1,097	13,164	
820821	100.00		1,187	16,023	
820822	100.00				
820823	100.00		1,805	6,366	
820824	100.00		1,715	2,555	
820825	100.00				
820826	100.00		4,849	8,388	
820827	100.00		2,467	3,677	
820828	100.00				
820829	100.00		467	5,665	
820830	100.00		1,519	2,049	
820831	100.00		2,234	3,012	
820901	100.00		3,383	4,566	
820902	100.00		4,726	6,617	
820903	100.00		2,107	5,206	
820904	100.00		335	4,020	
820905	100.00		352	4,224	
820906	100.00		350	4,200	
820907	100.00		267	3,204	
820908	100.00		378	4,536	
820909	100.00		316	4,838	
820910	100.00		341	4,092	
820911	100.00		405	4,860	
820912	100.00		661	7,932	
820913	100.00		588	7,865	
820914	100.00		451	7,553	
820915	100.00		314	4,130	
820916	100.00		427	6,141	
820917	100.00		488	6,358	
820918	100.00		519	6,536	
820919	100.00		423	5,810	
820920	100.00		368	4,709	
820921	100.00		353	4,388	
820922	100.00		214	3,174	
	TOTALS		328,569	1,650,189	

APPENDIX C

Daily Catch and Passage Estimate Summary, John Day Dam

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

STEELHEAD JOHN DAY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.690(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.690(FLOW) WHEN FLOW > 45.0%

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE	
820415		4.87	3.36 %	41	1,220	
820416		4.93	3.40	208	6,115	
820417		5.56				
820418		6.20				
820419	3	5.12	3.88	152	3,915	
820420		5.25				
820421		4.99				
820422	3	5.55	3.63	205	5,645	
820423		5.20				
820424		6.51				
820425		5.10				
820426	4	5.87	3.91	508	12,985	
820427		5.95	4.11	566	13,786	
820428		4.72	3.26	804	24,687	
820429		5.53	3.82	876	22,958	
820430		5.52	3.81	301	7,903	
820501		5.70	3.93	760	19,324	
820502		5.41	3.73	777	20,815	-10%
820503		5.47	3.77	429	11,366	
820504		5.57	3.84	732	19,046	
820505		4.60	3.17	1,025	32,294	
820506		4.46	3.08	1,076	34,965	
820507		4.54	3.13	914	29,177	
820508		5.05	3.48	918	26,345	
820509		5.78	3.99	834	20,912	
820510		5.22	3.60	809	22,461	
820511		4.70	3.24	448	13,814	
820512		4.98	3.44	915	26,628	
820513		5.25	3.62	409	11,291	
820514		4.65	3.21	456	14,212	
820515		4.23	2.92	1,133	38,819	
820516		4.26	2.94	2,031	69,096	
820517		4.70	3.24	2,078	64,076	
820518		4.44	3.06	622	20,303	
820519		4.12	2.84	1,756	61,770	-50%
820520		4.55	3.14	1,066	33,954	
820521		4.46	3.08	1,437	46,695	
820522		4.41	3.04	2,216	72,825	
820523		4.57	3.15	2,035	64,536	
820524		4.41	3.04	968	31,812	
820525		4.11	2.84	910	32,089	
820526		4.17	2.88	1,223	42,505	
820527		4.06	2.80	835	29,807	
820528		4.21	2.90	713	24,545	
820529		4.79	3.31	992	30,014	
820530		3.92	2.70	351	12,977	
820531		4.15	2.86	256	8,940	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820601		5.72	3.95 %	708	17,939 -90%
820602		4.54	3.13	257	3,204
820603		4.84	3.34	234	7,007
820604		4.22	2.91	284	9,753
820605		4.70	3.24	91	2,806
820606		4.74	3.27	92	2,813
820607		4.82	3.33	56	1,684
820608		5.55	3.83	124	3,238
820609		4.71	3.25	73	2,246
820610		5.18	3.57	111	3,106
820611		5.10	3.52	112	3,183
820612		4.70			
820613		5.14			
820614	3	5.84	3.61	129	3,577
820615		4.43	3.06	71	2,323
820616		4.10	2.83	105	3,712
820617		4.12	2.84	168	5,910
820618		3.96	2.73	59	2,159
820619		4.11			
820620		4.10			
820621	3	4.11	2.83	240	8,470
820622		3.68	2.54	133	5,238
820623		3.68	2.54	116	4,568
820624		3.64	2.51	204	8,122
820625		3.67	2.53	123	4,857
820626		4.06			
820627		4.00			
820628	3	3.99	2.77	156	5,629
820629		4.00	2.76	20	725
820630		4.11	2.84	15	529
820701		3.37	2.33	22	946
820702		3.37	2.33	15	645
820703		3.41	2.35	16	680
820704		3.47			
820705		3.55			
820706	3	3.98	2.53	14	553
820707		4.37	3.02	2	66
820708		4.24	2.93	0	0
820709		4.50	3.11	0	0
820710		5.25			
820711		4.87			
820712	3	4.44	3.35	1	30
820713		5.20	3.59	2	56
820714		5.09	3.51	0	0
820715		5.04	3.48	1	29
820716		4.86	3.35	0	0
820717		5.45			
820718		5.55			
820719	3	6.65	4.06	1	25
820720		6.33	4.37	4	92
820721		7.03	4.85	20	412
820722		5.69	3.93	3	76
820723		5.62	3.88	3	77
820724		8.36			
820725		7.36			

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820726	3	7.12	5.25 %	0	0
820727		7.64	5.27	0	0
820728		7.63	5.26	0	0
820729		9.78	6.75	0	0
820730		8.99	6.20	0	0
820731		9.52			
820801		10.63			
820802	3	11.12	7.19	0	0
820803		11.01	7.60	0	0
820804		9.90	6.83	0	0
820805		9.57	6.60	0	0
820806		6.65	4.59	0	0
820807		7.14			
820808		7.14			
820809	3	7.44	5.00	2	40
820810		9.68	6.68	0	0
820811		10.47	7.22	0	0
820812		10.98	7.58	0	0
820813		11.39	7.86	1	13
820814		8.04			
820815		12.68			
820816	3	15.00	8.22	0	0
820817		10.59	7.31	0	0
820818		10.47	7.22	0	0
820819		8.82	6.09	0	0
820820		9.09	6.27	0	0
820821		9.51			
820822		9.89			
820823	3	11.84	7.19	2	28
820824		12.00	8.28	0	0
820825		11.11	7.67	0	0
820826		13.24	9.14	0	0
820827		13.85	9.56	0	0
820828		16.67			
820829		15.52			
820830	3	15.52	10.97	0	0
820831		16.98	11.72	0	0
820901		11.84	8.17	0	0
820902		13.04	9.00	0	0
820903		13.85	9.56	0	0
820904		13.64			
820905		14.29			
820906		15.79			
820907	4	14.75	10.09	0	0
820908		11.39	7.86	0	0
820909		9.38	6.47	0	0
820910		9.89	6.82	0	0
820911		12.33			
820912		13.64			
820913	3	13.64	9.11	0	0
820914		11.54	7.96	0	0
820915		10.84	7.48	0	0
820916		12.86	8.87	0	0
820917		15.25	10.52	0	0
820918		15.25			

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820919		15.79			
820920	3	14.52	10.48 %	0	0
820921		15.00			
820922	2	16.67	10.93	0	0
820923		15.79	10.90	0	0
820924		15.25	10.52	0	0
820925		16.67			
820926		20.93			
820927	3	18.75	12.96	0	0
820928		13.24	9.14	0	0
820929		14.75	10.18	0	0
820930		18.00	12.42	0	0
821001		15.52	10.71	0	0
821002		15.52			
821003		16.36			
821004	3	16.98	11.24	0	0
821005		14.29	9.86	0	0
821006		12.50	8.63	0	0
821007		12.33	8.51	1	12
821008		13.43	9.27	0	0
821009		14.75			
821010		14.75			
821011	3	15.52	10.35	1	10
821012		12.16	8.39	0	0
821013					
821014		12.16	8.39	0	0
821015		11.84	8.17	0	0
821016		11.39			
821017		12.50			
821018	3	13.24	8.54	1	12
821019		9.09	6.27	0	0
821020		10.00	6.90	0	0
821021		10.34	7.13	0	0
821022		12.16	8.39	0	0
821023		15.25			
821024		15.52			
821025	3	15.52	10.65	0	0
821026		12.86	8.87	0	0
821027		12.00	8.28	0	0
821028		10.84	7.48	0	0
821029		11.69	8.07	0	0
821030		9.78			
821031		10.00			
821101	3	11.69	7.24	0	0
821102		9.47	6.53	0	0
821103		8.57	5.91	0	0
821104		11.54	7.96	0	0
821105		11.11	7.67	0	0
821106		11.39			
821107		12.50			
821108	3	11.54	8.15	0	0
821109		12.50	8.63	0	0
821110		10.71	7.39	0	0
821111		12.68	8.75	0	0
821112		12.00	8.28	0	0

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
821113		10.84			
821114		11.69			
821115	3	12.50	8.06 %	0	0
821116		13.04	9.00	0	0
821117		11.69	8.07	0	0
821118		13.43	9.27	0	0
821119		13.43	9.27	0	0
821120		12.00			
821121		13.04			
821122	3	13.64	8.90	0	0
821123		13.85			
821124		12.33			
821125	3	13.24	9.07	0	0
821126		10.00			
821127		10.00			
821128		10.71			
821129	4	13.24	7.58	1	13
821130		13.85			
821201	2	8.33	7.65	0	0
821202		11.25			
821203	2	10.34	7.45	0	0
821204		12.33			
821205		13.43			
821206	3	13.43	9.01	0	0
821207		11.25			
821208	2	9.38	7.12	0	0
821209		10.34			
821210	2	9.47	6.83	1	15
821211		9.09			
821212		12.50			
821213	3	12.50	7.84	1	13
		TOTALS		38,581	1,208,268

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

COHO JOHN DAY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820505		4.60		1	
820506		4.46		2	
820507		4.54		6	
820508		5.05		0	
820509		5.78		0	
820510		5.22		0	
820511		4.70		0	
820512		4.98		0	
820513		5.25		0	
820514		4.65		0	
820515		4.23		2	
820516		4.26		3	
820517		4.70		0	
820518		4.44		6	
820519		4.12		14	
820520		4.55		10	
820521		4.46		75	
820522		4.41		87	
820523		4.57		115	
820524		4.41		89	
820525		4.11		66	
820526		4.17		69	
820527		4.06		99	
820528		4.21		58	
820529		4.79		14	
820530		3.92		16	
820531		4.15		13	
820601		5.72		19	
820602		4.54		11	
820603		4.84		8	
820604		4.22		6	
820605		4.70		35	
820606		4.74		3	
820607		4.32		3	
820608		5.55		10	
820609		4.71		11	
820610		5.18		9	
820611		5.10		7	
820612		4.70			
820613		5.14			
820614	3	5.84		5	
820615		4.43		0	
820616		4.10		0	
820617		4.12		4	
820618		3.96		0	
820619		4.11			
820620		4.10			

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820621	3	4.11		3	
820622		3.68		0	
820623		3.68		1	
820624		3.64		1	
820625		3.67		0	
820626		4.06			
820627		4.00			
820628	3	3.99		2	
820629		4.00		0	
820630		4.11		1	
820701		3.37		1	
820702		3.37		0	
820703		3.41		0	
820704		3.47			
820705		3.55			
820706	3	3.98		14	
			TOTALS	899	

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

CHINOOK 1'S JOHN DAY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.151(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.151(FLOW) WHEN FLOW > 45.0%

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE	
820415		4.87	0.74 %	183	24,885	
820416		4.93	0.74	584	78,449	
820417		5.56				
820418		6.20				
820419	3	5.12	0.85	258	30,366	
820420		5.25				
820421		4.99				
820422	3	5.55	0.79	448	56,369	-10%
820423		5.20				
820424		6.51				
820425		5.10				
820426	4	5.87	0.86	90	10,512	
820427		5.95	0.90	40	4,452	
820428		4.72	0.71	80	11,225	
820429		5.53	0.84	91	10,898	
820430		5.52	0.83	38	4,559	
820501		5.70	0.86	53	6,158	
820502		5.41	0.82	139	17,015	
820503		5.47	0.83	100	12,107	
820504		5.57	0.84	220	26,157	
820505		4.60	0.69	926	133,314	
820506		4.46	0.67	392	58,207	
820507		4.54	0.69	592	86,355	
820508		5.05	0.76	304	39,866	
820509		5.78	0.87	309	35,404	
820510		5.22	0.79	504	63,942	
820511		4.70	0.71	325	45,794	
820512		4.98	0.75	707	94,018	
820513		5.25	0.79	228	28,761	
820514		4.65	0.70	285	40,590	-50%
820515		4.23	0.64	819	128,223	
820516		4.26	0.64	400	62,183	
820517		4.70	0.71	776	109,342	
820518		4.44	0.67	268	39,974	
820519		4.12	0.62	303	48,704	
820520		4.55	0.69	198	28,819	
820521		4.46	0.67	216	32,073	
820522		4.41	0.67	263	39,495	
820523		4.57	0.69	356	51,589	
820524		4.41	0.67	305	45,802	
820525		4.11	0.62	185	29,809	
820526		4.17	0.63	210	33,351	
820527		4.06	0.61	160	26,099	-90%
820528		4.21	0.64	150	23,596	
820529		4.79	0.72	241	33,320	
820530		3.92	0.59	104	17,570	
820531		4.15	0.63	42	6,702	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820601		5.72	0.86 %	112	12,967
820602		4.54	0.69	22	3,209
820603		4.84	0.73	18	2,463
820604		4.22	0.64	19	2,982
820605		4.70	0.71	61	8,595
820606		4.74	0.72	26	3,633
820607		4.82	0.73	16	2,198
820608		5.55	0.84	26	3,102
820609		4.71	0.71	26	3,656
820610		5.18	0.78	20	2,557
820611		5.10	0.77	23	2,987
820612		4.70			
820613		5.14			
820614	3	5.84	0.79	39	4,942
820615		4.43	0.67	3	448
820616		4.10	0.62	5	808
820617		4.12	0.62	8	1,286
820618		3.96	0.60	5	836
820619		4.11			
820620		4.10			
820621	3	4.11	0.62	8	1,290
820622		3.68	0.56	5	900
820623		3.68	0.56	7	1,260
820624		3.64	0.55	23	4,185
820625		3.67	0.55	14	2,526
820626		4.06			
820627		4.00			
820628	3	3.99	0.61	34	5,606
820629		4.00	0.60	1	166
820630		4.11	0.62	1	161
820701		3.37	0.51	3	590
820702		3.37	0.51	1	197
820703		3.41	0.51	2	388
820704		3.47			
820705		3.55			
820706	3	3.98	0.55	6	1,084
820707		4.37	0.66	2	303
820708		4.24	0.64	3	469
820709		4.50	0.68	1	147
820710		5.25			
820711		4.87			
820712	3	4.44	0.73	3	409
820713		5.20	0.79	6	764
820714		5.09	0.77	8	1,041
820715		5.04	0.76	17	2,234
820716		4.86	0.73	1	136
820717		5.45			
820718		5.55			
820719	3	6.65	0.89	5	563
820720		6.33	0.96	3	314
820721		7.03	1.06	17	1,601
820722		5.69	0.86	0	0
820723		5.62	0.85	0	0
820724		8.36			
820725		7.36			

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

CHINOOK O'S JOHN DAY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820419		5.12		34	
820420		5.25			
820421		4.99			
820422	3	5.55		1,642	
820423		5.20			
820424		6.51			
820425		5.10			
820426	4	5.87		9,493	
820427		5.95		7,655	
820428		4.72		3,808	
820429		5.53		1,446	
820430		5.52		1,423	
820501		5.70		880	
820502		5.41		219	
820503		5.47		368	
820504		5.57		769	
820505		4.60		592	
820506		4.46		388	
820507		4.54		216	
820508		5.05		177	
820509		5.78		235	
820510		5.22		185	
820511		4.70		184	
820512		4.98		103	
820513		5.25		53	
820514		4.65		142	
320515		4.23		82	
820516		4.26		82	
820517		4.70		80	
820518		4.44		65	
820519		4.12		53	
820520		4.55		88	
820521		4.46		149	
820522		4.41		69	
820523		4.57		70	
820524		4.41		80	
820525		4.11		68	
820526		4.17		31	
820527		4.06		36	
820528		4.21		47	
820529		4.79		29	
820530		3.92		66	
820531		4.15		128	
820601		5.72		165	
820602		4.54		248	
820603		4.84		422	
820604		4.22		372	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820605		4.70		241	
820606		4.74		266	
820607		4.82		246	
820608		5.55		370	
820609		4.71		709	
820610		5.18		584	
820611		5.10		661	
820612		4.70			
820613		5.14			
820614	3	5.84		1,210	
820615		4.43		499	
820616		4.10		369	
820617		4.12		221	
820618		3.96		216	
820619		4.11			
820620		4.10			
820621	3	4.11		684	
820622		3.68		244	
820623		3.68		399	
820624		3.64		555	
820625		3.67		893	
820626		4.06			
820627		4.00			
820628	3	3.99		2,103	
820629		4.00		261	
820630		4.11		280	
820701		3.37		427	
820702		3.37		236	
820703		3.41		235	
820704		3.47			
820705		3.55			
820706	3	3.98		581	
820707		4.37		386	
820708		4.24		227	
820709		4.50		270	
820710		5.25			
820711		4.87			
820712	3	4.44		1,391	
820713		5.20		282	
820714		5.09		61	
820715		5.04		99	
820716		4.86		83	
820717		5.45			
820718		5.55			
820719	3	6.65		2,651	
820720		6.33		423	
820721		7.03		2,283	
820722		5.69		2,663	
820723		5.62		5,204	
820724		8.36			
820725		7.36			
820726	3	7.12		2,910	
820727		7.64		770	
820728		7.63		2,827	
820729		9.78		1,680	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820730		8.99		1,340	
820731		9.52			
820801		10.63			
820802	3	11.12		1,683	
820803		11.01		1,367	
820804		9.90		847	
820805		9.57		351	
820806		6.65		1,037	
820807		7.14			
820808		7.14			
820809	3	7.44		1,368	
820810		9.68		147	
820811		10.47		237	
820812		10.98		332	
820813		11.39		617	
820814		8.04			
820815		12.68			
820816	3	15.00		1,214	
820817		10.59		293	
820818		10.47		166	
820819		8.82		405	
820820		9.09		815	
820821		9.51			
820822		9.89			
820823	3	11.84		1,958	
820824		12.00		227	
820825		11.11		309	
820826		13.24		198	
820827		13.85		489	
820828		16.67			
820829		15.52			
820830	3	15.52		2,758	
820831		16.98		302	
820901		11.84		106	
820902		13.04		47	
820903		13.85		32	
820904		13.64			
820905		14.29			
820906		15.79			
820907	4	14.75		193	
820908		11.39		40	
820909		9.38		77	
820910		9.89		75	
820911		12.33			
820912		13.64			
820913	3	13.64		246	
820914		11.54		88	
820915		10.84		76	
820916		12.86		14	
820917		15.25		54	
820918		15.25			
820919		15.79			
820920	3	14.52		140	
820921		15.00			
820922	2	16.67		88	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820923		15.79		324	
820924		15.25		540	
820925		16.67			
820926		20.93			
820927	3	18.75		755	
820928		13.24		374	
820929		14.75		909	
820930		18.00		323	
821001		15.52		142	
821002		15.52			
821003		16.36			
821004	3	16.98		509	
821005		14.29		112	
821006		12.50		170	
821007		12.33		173	
821008		13.43		224	
821009		14.75			
821010		14.75			
821011	3	15.52		423	
821012		12.16		218	
821013					
821014		12.16		68	
821015		11.84		87	
821016		11.39			
821017		12.50			
821018	3	13.24		130	
821019		9.09		55	
821020		10.00		98	
821021		10.34		120	
821022		12.16		172	
821023		15.25			
821024		15.52			
821025	3	15.52		536	
821026		12.86		262	
821027		12.00		84	
821028		10.84		60	
821029		11.69		107	
821030		9.78			
821031		10.00			
821101	3	11.69		374	
821102		9.47		53	
821103		8.57		56	
821104		11.54		82	
821105		11.11		138	
821106		11.39			
821107		12.50			
821108	3	11.54		345	
821109		12.50		129	
821110		10.71		192	
821111		12.68		71	
821112		12.00		102	
821113		10.84			
821114		11.69			
821115	3	12.50		237	
821116		13.04		70	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
821117		11.69		296	
821118		13.43		116	
821119		13.43		88	
821120		12.00			
821121		13.04			
821122	3	13.64		206	
821123		13.85			
821124		12.33			
821125	3	13.24		137	
821126		10.00			
821127		10.00			
821128		10.71			
821129	4	13.24		517	
821130		13.85			
821201	2	8.33		152	
821202		11.25			
821203	2	10.34		198	
821204		12.33			
821205		13.43			
821206	3	13.43		247	
821207		11.25			
821208	2	9.38		88	
821209		10.34			
821210	2	9.47		156	
821211		9.09			
821212		12.50			
821213	3	12.50		113	
821214		13.24			
821215	2	13.24		64	
821216		14.29			
821217	2	14.06		44	
			TOTALS	100,124	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820726	3	7.12	1.15 %	0	0
820727		7.64	1.15	0	0
820728		7.63	1.15	0	0
820729		9.78	1.48	0	0
820730		8.99	1.36	3	221
820731		9.52			
820801		10.63			
820802	3	11.12	1.57	3	191
820803		11.01	1.66	7	421
820804		9.90	1.49	5	334
820805		9.57	1.45	5	346
820806		6.65	1.00	1	100
820807		7.14			
820808		7.14			
820809	3	7.44	1.09	1	91
820810		9.68	1.46	0	0
820811		10.47	1.58	0	0
820812		10.98	1.66	1	60
820813		11.39	1.72	0	0
820814		8.04			
820815		12.68			
820816	3	15.00	1.80	0	0
820817		10.59	1.60	0	0
820818		10.47	1.58	2	127
		TOTALS		12,520	1,760,948

DAILY SAMPLE CATCH AND PASSAGE ESTIMATE SUMMARY 1982

SOCKEYE JOHN DAY DAM DATE OF REPORT: 2/24/83

EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW <= 45.0%
EFFICIENCY = 0.000 + 0.000(FLOW) WHEN FLOW > 45.0%

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820415		4.87		5	
820416		4.93		13	
820417		5.56			
820418		6.20			
820419	3	5.12		3	
820420		5.25			
820421		4.99			
820422	3	5.55		10	
820423		5.20			
820424		6.51			
820425		5.10			
820426	4	5.87		71	
820427		5.95		34	
820428		4.72		32	
820429		5.53		28	
820430		5.52		11	
820501		5.70		27	
820502		5.41		31	
820503		5.47		31	
820504		5.57		53	
820505		4.60		69	
820506		4.46		67	
820507		4.54		178	
820508		5.05		188	
820509		5.78		98	
820510		5.22		200	
820511		4.70		152	
820512		4.98		156	
820513		5.25		85	
820514		4.65		81	
820515		4.23		118	
820516		4.26		58	
820517		4.70		97	
820518		4.44		74	
820519		4.12		67	
820520		4.55		69	
820521		4.46		149	
820522		4.41		74	
820523		4.57		96	
820524		4.41		58	
820525		4.11		66	
820526		4.17		71	
820527		4.06		217	
820528		4.21		371	
820529		4.79		141	
820530		3.92		90	
820531		4.15		38	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820601		5.72		72	
820602		4.54		92	
820603		4.84		100	
820604		4.22		59	
820605		4.70		40	
820606		4.74		36	
820607		4.82		18	
820608		5.55		41	
820609		4.71		37	
820610		5.18		26	
820611		5.10		43	
820612		4.70			
820613		5.14			
820614	3	5.84		37	
820615		4.43		9	
820616		4.10		4	
820617		4.12		6	
820618		3.96		2	
820619		4.11			
820620		4.10			
820621	3	4.11		3	
820622		3.68		4	
820623		3.68		3	
820624		3.64		4	
820625		3.67		1	
820626		4.06			
820627		4.00			
820628	3	3.99		8	
820629		4.00		2	
820630		4.11		0	
820701		3.37		0	
820702		3.37		0	
820703		3.41		2	
820704		3.47			
820705		3.55			
820706	3	3.98		5	
820707		4.37		63	
820708		4.24		50	
820709		4.50		15	
820710		5.25			
820711		4.87			
820712	3	4.44		28	
820713		5.20		7	
820714		5.09		20	
820715		5.04		15	
820716		4.86		8	
820717		5.45			
820718		5.55			
820719	3	6.65		21	
820720		6.33		119	
820721		7.03		130	
820722		5.69		43	
820723		5.62		17	
820724		8.36			
820725		7.36			

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820726	3	7.12		17	
820727		7.64		0	
820728		7.63		20	
820729		9.78		3	
820730		8.99		0	
820731		9.52			
820801		10.63			
820802	3	11.12		7	
820803		11.01		3	
820804		9.90		1	
820805		9.57		1	
820806		6.65		0	
820807		7.14			
820808		7.14			
820809	3	7.44		1	
820810		9.68		0	
820811		10.47		1	
820812		10.98		4	
820813		11.39		0	
820814		8.04			
820815		12.68			
820816	3	15.00		3	
820817		10.59		2	
820818		10.47		2	
820819		8.32		0	
820820		9.09		1	
820821		9.51			
820822		9.89			
820823	3	11.84		0	
820824		12.00		0	
820825		11.11		0	
820826		13.24		0	
820827		13.85		0	
820828		16.67			
820829		15.52			
820830	3	15.52		3	
820831		16.98		0	
820901		11.84		0	
820902		13.04		2	
820903		13.85		0	
820904		13.64			
820905		14.29			
820906		15.79			
820907	4	14.75		1	
820908		11.39		0	
820909		9.38		0	
820910		9.89		0	
820911		12.33			
820912		13.64			
820913	3	13.64		2	
820914		11.54		0	
820915		10.84		0	
820916		12.86		0	
820917		15.25		1	
820918		15.25			

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
820919		15.79			
820920	3	14.52		1	
820921		15.00			
820922	2	16.67		0	
820923		15.79		0	
820924		15.25		0	
820925		16.67			
820926		20.93			
820927	3	18.75		1	
820928		13.24		1	
820929		14.75		1	
820930		18.00		1	
821001		15.52		0	
821002		15.52			
821003		16.36			
821004	3	16.98		0	
821005		14.29		1	
821006		12.50		0	
821007		12.33		0	
821008		13.43		1	
821009		14.75			
821010		14.75			
821011	3	15.52		0	
821012		12.16		1	
821013					
821014		12.16		0	
821015		11.84		1	
821016		11.39			
821017		12.50			
821018	3	13.24		2	
821019		9.09		0	
821020		10.00		0	
821021		10.34		0	
821022		12.16		0	
821023		15.25			
821024		15.52			
821025	3	15.52		3	
821026		12.86		0	
821027		12.00		0	
821028		10.34		0	
821029		11.69		0	
821030		9.78			
821031		10.00			
821101	3	11.69		0	
821102		9.47		0	
821103		8.57		0	
821104		11.54		0	
821105		11.11		1	
821106		11.39			
821107		12.50			
821108	3	11.54		0	
821109		12.50		0	
821110		10.71		0	
821111		12.68		0	
821112		12.00		0	

DATE		% FLOW UNIT 3	SAMPLING EFFICIENCY	NUMBER COLLECTED	ESTIMATED PASSAGE
821113		10.84			
821114		11.69			
821115	3	12.50		0	
821116		13.04		0	
821117		11.69		0	
821118		13.43		0	
821119		13.43		0	
821120		12.00			
821121		13.04			
821122	3	13.64		0	
821123		13.85			
821124		12.33			
821125	3	13.24		1	
821126		10.00			
821127		10.00			
821128		10.71			
821129	4	13.24		0	
821130		13.85			
821201	2	8.33		0	
821202		11.25			
821203	2	10.34		0	
821204		12.33			
821205		13.43			
821206	3	13.43		0	
821207		11.25			
821208	2	9.38		0	
821209		10.34			
821210	2	9.47		1	
			TOTALS	4,759	

APPENDIX D

Mark Recapture Summary, Lower Granite Dam

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LA IJ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820614	1	10	51
820615	1	10	57
TOTALS	2	20	108

LD IJ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820612	1	10	41
TOTALS	1	10	41

RA IJ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820428	1	7	39
TOTALS	1	7	39

RD IJ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820614	1	10	51
820616	1	18	120
TOTALS	2	28	171

RD IU 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820420	2	18	100
820421	1	10	57
820422	3	32	173
820423	4	38	202

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RD IU 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820425	3	31	162
	820426	4	20	104
	820428	1	7	39
	820429	2	33	180
	820505	1	11	71
	820506	2	24	157
	820507	1	21	136
	820510	2	40	247
	820512	2	41	243
	820517	1	20	132
	820518	4	67	393
	820519	1	19	114
	820520	1	21	123
	820522	1	20	89
	820524	4	77	446
	820602	1	10	43
	820603	1	9	39
	820607	1	10	50
	820621	1	18	123
TOTALS		44	597	3,423

RD IU 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820420	3	27	150
820421	10	103	575
820422	13	140	750
820423	15	144	758
820424	14	139	698
820425	6	62	324
820426	11	55	287
820427	6	71	457
820428	5	36	193
820429	4	66	361
820501	4	81	570
820503	4	83	604
820505	4	42	285
820506	2	24	157
820508	1	20	126
820512	1	20	122
820517	1	20	132
TOTALS	104	1,133	6,549

EFFECTIVE DATES: 4/13/32 THRU 7/29/82

RD SU 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	11	71
820506	1	12	78
820507	2	42	272
820508	1	20	126
820510	3	60	371
820511	2	39	220
820512	4	81	487
820515	1	21	130
820517	7	141	921
820518	4	67	393
820519	7	135	799
820520	2	43	246
820521	1	20	107
820524	1	19	112
820525	1	20	112
820527	1	19	109
820528	2	42	261
820529	1	17	103
820601	1	19	81
820602	1	10	43
820603	2	19	79
820607	1	10	50
820609	1	10	47
820612	2	19	81
820614	1	10	51
820615	1	10	57
TOTALS	52	916	5,407

RD SU 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	3	32	213
820506	4	48	314
820508	1	20	126
820510	4	80	494
820511	3	59	330
820512	3	61	365
820514	3	44	264
820517	3	60	395
820518	3	50	295
820519	1	19	114
820520	1	21	123

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RD SU 4 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820524	3	57	335
	820602	1	10	43
	820604	1	11	52
	820607	1	10	50
TOTALS		35	582	3,513

LD X 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820602	2	21	87
820603	32	299	1,261
820604	23	256	1,188
820605	17	179	941
820607	4	40	200
820608	3	26	128
820609	1	10	47
820610	1	11	45
820611	1	11	50
820618	1	21	149
820620	1	19	132
TOTALS	86	893	4,228

RD X 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820607	1	10	50
820608	1	9	43
820609	2	20	95
820611	3	32	149
820612	1	10	41
820614	2	21	102
820615	1	10	57
820619	1	19	140
820620	2	38	265
820621	1	18	123
TOTALS	15	187	1,065

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RD 2T 1 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820608	1	9	43
TOTALS		1	9	43

RD 4 1 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820413	4	12	50
	820414	11	139	587
	820415	8	270	1,141
	820416	13	172	726
	820417	5	51	267
	820418	7	62	363
	820419	7	94	631
	820420	6	54	299
	820421	5	51	287
	820422	12	129	692
	820423	11	106	556
	820424	12	119	598
	820425	7	72	378
	820426	25	126	651
	820427	5	59	381
	820428	7	50	270
	820429	2	33	180
	820501	4	81	570
	820503	2	41	302
	820506	1	12	78
	820507	1	21	136
	820508	1	20	126
	820510	2	40	247
	820511	1	20	110
TOTALS		159	1,834	9,626

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LA IJ 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820515	3	62	207
820517	20	403	1,413
820518	34	572	1,726
820519	17	328	1,007
820520	41	879	2,584
820521	72	1,422	3,890
820522	58	1,159	2,474
820524	58	1,303	3,915
820525	19	379	1,081
820526	16	333	1,009
820527	16	296	907
820528	9	188	622
820529	7	118	378
820531	4	81	170
820601	1	19	39
820603	1	9	19
820604	1	11	25
TOTALS	387	7,562	21,466

LA IJ 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820528	1	21	69
820614	2	21	50
TOTALS	3	42	119

LA IJ 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820608	1	9	21
820610	1	11	21
820612	1	10	19
TOTALS	3	30	61

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LD IJ 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820528	1	21	69
TOTALS		1	21	69

LD IJ 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820527	1	19	57
TOTALS		1	19	57

RA IJ 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820525	1	20	57
TOTALS		1	20	57

RA IJ 2 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820503	1	21	85
	820515	1	21	69
TOTALS		2	42	154

RA IJ 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820428	1	7	19
TOTALS		1	7	19

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RD IJ 2 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820503	1	21	85
	820607	1	10	25
TOTALS		2	31	110

RD IJ 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820517	1	20	71
TOTALS		1	20	71

RD IJ 4 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820611	1	11	24
	820614	1	10	25
TOTALS		2	21	49

RD IU 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820506	38	454	1,604
	820507	11	229	805
	820508	10	198	669
	820510	5	100	325
	820511	6	118	336
	820512	3	61	190
	820513	7	129	432
	820514	1	15	46
	820515	1	21	69
	820517	1	20	71
	820518	3	50	152
	820519	2	39	118
	820526	1	21	63
	820601	1	19	39

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RD IU 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820603	1	9	19
TOTALS		91	1,483	4,938

RD IU 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	27	322	1,140
820507	15	312	1,098
820508	9	179	602
820510	12	240	781
820511	14	276	784
820512	4	81	253
820513	4	73	247
820514	6	88	275
820517	2	40	141
820518	2	34	102
820519	3	58	178
820520	2	43	126
820521	1	20	54
820522	2	40	85
820525	1	20	57
820528	1	21	69
820529	1	17	54
TOTALS	106	1,864	6,046

LA K 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820521	13	257	702
820522	149	2,978	6,356
820524	218	4,176	12,549
820525	54	1,077	3,071
820526	63	1,312	3,972
820527	31	574	1,758
820528	33	688	2,280
820529	22	371	1,189
820531	11	221	468
820601	6	116	231

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LAK 1 MARKED STEELHEAD

(CONTINUED) DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820603	5	47	93
820604	2	22	50
820607	5	49	124
820610	1	11	21
TOTALS	613	11,899	32,864

LAK 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820503	35	725	2,969
820504	124	1,175	4,423
820505	86	908	3,327
820506	138	1,647	5,824
820507	35	727	2,561
820508	20	397	1,339
820510	18	360	1,172
820511	20	395	1,120
820512	5	102	317
820513	2	37	123
820514	3	44	137
820515	4	82	276
820517	1	20	71
820518	5	84	254
820519	3	58	178
820520	2	43	126
820521	3	59	162
820522	1	20	43
820524	3	57	173
820525	2	40	114
820528	1	21	69
820529	1	17	54
820618	1	21	83
TOTALS	513	7,039	24,915

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LA K 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820422	208	2,241	6,030
820423	116	1,113	2,930
820424	227	2,252	5,589
820425	93	963	2,507
820426	89	448	1,154
820427	82	970	3,334
820428	26	186	504
820429	22	361	1,004
820430	23	478	1,402
820501	23	464	1,815
820503	67	1,387	5,684
820504	6	57	214
820505	6	63	232
820506	12	143	506
820507	1	21	73
820513	1	18	62
820514	2	29	92
820517	2	40	141
820518	1	17	51
820519	1	19	59
820524	1	19	58
820525	1	20	57
820529	1	17	54
TOTALS	1,011	11,326	33,552

LD SU 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	6	63	232
820506	250	2,984	10,552
820507	86	1,787	6,293
820508	39	774	2,610
820510	27	540	1,757
820511	28	553	1,568
820512	9	183	570
820513	7	129	432
820514	10	146	458
820515	5	103	345
820517	17	343	1,201
820518	8	134	406
820519	2	39	118
820520	3	64	189

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LD SU 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820521	2	40	108
	820522	2	40	85
	820524	4	77	230
	820526	2	42	126
	820531	1	20	43
TOTALS		508	8,061	27,323

RD SU 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	12	42
820510	5	100	325
820511	22	434	1,232
820512	9	183	570
820513	6	110	370
820514	5	73	229
820515	5	103	345
820517	4	81	283
820518	1	17	51
820519	2	39	118
820520	2	43	126
820521	1	20	54
820522	1	20	43
820524	1	19	58
820525	3	60	171
820529	2	34	108
820531	1	20	43
820605	1	11	28
TOTALS	72	1,379	4,196

RD 2T 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820611	1	11	24
820612	1	10	19
820614	1	10	25
TOTALS	3	31	68

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RD 4 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820519	1	19	59
	820521	3	59	162
	820522	1	20	43
	820527	1	19	57
	820528	1	21	69
	820529	1	17	54
	820531	1	20	43
	820602	1	10	21
	320603	1	9	19
	820604	2	22	50
	820605	1	11	28
	820609	1	10	23
	820610	2	21	43
	820611	2	21	48
	820612	2	19	38
	820614	3	31	75
	820616	2	37	129
	820621	1	18	67
	820625	3	31	121
	820627	1	10	64
	820629	3	35	165
	820704	1	9	24
	820713	1	10	20
	820717	1	10	19
TOTALS		37	489	1,441

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LA F 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820428	13	93
820429	66	1,084
820430	39	810
820501	27	545
820503	31	642
820504	7	66
820505	6	63
820506	14	167
820507	2	42
820508	1	20
820510	1	20
820511	1	20
820512	2	41
820514	3	44
820515	1	21
820517	1	20
820518	1	17
820519	1	19
TOTALS	217	3,734

LA F 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820503	1	21
820505	17	179
820506	54	644
820507	11	229
820508	4	79
820510	7	140
820511	4	79
820512	2	41
820513	1	18
820514	1	15
820515	1	21
820517	2	40
820518	1	17
820520	1	21
820521	1	20
TOTALS	108	1,564

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

LA F 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820512	2	41
820513	24	441
820514	7	102
820515	8	164
820517	10	202
820518	6	101
820519	1	19
820524	1	19
TOTALS	59	1,089

LA F 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820520	20	429
820521	9	178
820522	6	120
820524	11	211
820525	4	80
820526	3	62
820527	2	37
820528	1	21
820529	4	67
820531	1	20
TOTALS	61	1,225

RA F 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820429	9	148
820430	22	457
820501	4	81
820503	13	269
820504	5	47
820505	6	63
820506	6	72
820507	1	21
820510	1	20
TOTALS	67	1,178

EFFECTIVE DATES: 4/13/82 THRU 7/29/82

RA F 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820506	12	143
820507	13	270
820508	3	60
820510	7	140
820511	3	59
820513	1	18
820515	1	21
820522	1	20
TOTALS	41	731

RA F 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820513	1	18
820514	18	263
820515	9	185
820517	7	141
820518	9	151
820519	1	19
820520	2	43
820522	3	60
820524	1	19
820525	1	20
820526	2	42
820527	1	19
820529	1	17
820531	1	20
TOTALS	57	1,017

APPENDIX E

Mark Recapture Summary, McNary Dam

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 5 1 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820429	1	5	0
820501	1	6	0
820502	2	11	0
820503	1	6	0
820504	2	11	0
820505	2	16	0
820506	1	7	0
820507	1	6	0
820508	1	6	0
820509	3	24	0
820510	2	18	0
820511	1	9	0
820512	3	28	0
820513	1	8	0
820515	4	33	0
820516	4	19	0
820517	1	6	0
820518	3	19	0
820520	5	25	0
820521	1	5	0
820522	4	20	0
820523	2	10	0
820524	3	15	0
820525	1	5	0
820527	1	5	0
820528	1	5	0
TOTALS	52	328	0

LA 5 2 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820507	1	6	0
820524	13	65	0
820525	16	80	0
820526	20	109	0
820527	12	60	0
820528	7	35	0
820529	1	6	0
820530	1	6	0
820531	2	12	0
820602	1	9	0
TOTALS	74	388	0

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 5 3 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820429	1	5	0
820430	1	5	0
820501	2	11	0
820502	4	23	0
820503	1	6	0
820505	3	24	0
820506	1	7	0
820509	5	40	0
820510	2	18	0
820511	1	9	0
820512	3	28	0
820513	1	8	0
820514	2	17	0
820515	2	17	0
820516	1	5	0
820517	4	24	0
820518	1	6	0
820519	1	5	0
820520	3	15	0
820522	3	15	0
820524	1	5	0
820525	1	5	0
820526	1	5	0
820527	1	5	0
820601	1	7	0
TOTALS	47	315	0

LA 5 4 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820502	2	11	0
820505	1	8	0
820506	1	7	0
820509	4	32	0
820510	1	9	0
820511	1	9	0
820512	2	19	0
820513	3	25	0
820514	2	17	0
820515	2	17	0
820516	6	29	0
820517	3	18	0

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 5 4 MARKED CCHO

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820518	4	25	0
	820519	4	20	0
	820522	1	5	0
	820523	1	5	0
	820524	1	5	0
	820525	9	45	0
	820526	1	5	0
	820603	1	8	0
TOTALS		50	319	0

RA 5 1 MARKED CCHO

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820524	1	5	0
	820525	12	60	0
	820526	8	44	0
	820527	4	20	0
	820528	2	10	0
	820531	1	6	0
TOTALS		28	145	0

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IJ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820523	1	5	28
TOTALS	1	5	28

RA IJ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	8	32
TOTALS	1	8	32

RD IJ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	1	9	53
TOTALS	1	9	53

LD IK 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	4	36	157
820511	18	168	817
820512	30	279	1,582
820513	41	339	1,717
820514	26	215	985
820515	23	190	887
820516	34	162	911
820517	19	116	639
820518	19	121	720
820519	21	105	609
820520	7	35	283
820521	17	85	582
820522	14	70	370
820523	21	105	588
820524	16	80	436
820525	5	25	157

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IK 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820526	1	5	33
	820527	3	15	94
	820528	2	10	61
	820602	1	9	45
TOTALS		322	2,170	11,673

LD IK 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	4	37	211
820513	18	149	754
820514	32	265	1,212
820515	32	265	1,234
820516	40	191	1,072
820517	24	146	808
820518	12	76	455
820519	25	125	724
820520	19	95	768
820521	10	50	342
820522	14	70	370
820523	12	60	336
820524	12	60	327
820525	3	15	94
820526	4	22	131
820527	3	15	94
820528	7	35	215
820529	1	6	31
820530	1	6	35
820601	2	13	64
TOTALS	275	1,701	9,277

RD IK 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	11	99	433
820511	15	140	681
820512	7	65	369
820513	19	157	796

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD IK 1 MARKED CHINOOK 1'S

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	6	50	227
820515	2	17	77
820516	3	14	80
820517	1	6	34
820518	1	6	38
820519	2	10	58
820523	1	5	28
820525	2	10	63
TOTALS	70	579	2,884

RD IK 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	22	105	590
820517	2	12	67
820518	2	13	76
820519	3	15	87
820520	3	15	121
820521	3	15	103
820523	1	5	28
820528	1	5	31
TOTALS	37	185	1,103

LD IL 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820502	2	11	39
820503	2	11	49
820504	17	97	394
820505	20	160	641
820506	12	88	450
820507	14	80	360
820508	40	229	820
820509	85	680	3,170
820510	36	324	1,416
820511	37	345	1,680
820512	52	484	2,741
820513	56	464	2,345

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IL 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820514	39	323	1,477
	820515	39	323	1,503
	820516	24	115	643
	820517	24	146	808
	820518	23	146	872
	820519	38	190	1,101
	820520	30	150	1,213
	820521	24	120	821
	820522	38	190	1,003
	820523	27	135	756
	820524	17	85	463
	820525	8	40	251
	820526	12	65	393
	820527	8	40	252
	820528	13	65	399
	820529	4	23	124
	820530	2	12	70
	820531	4	25	128
	820601	3	20	96
	820602	2	18	90
	820603	1	8	52
	820604	1	7	37
TOTALS		754	5,219	26,657

LD IL 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	8	32
820506	4	29	150
820507	15	86	385
820508	20	114	410
820509	68	544	2,536
820510	27	243	1,062
820511	33	308	1,498
820512	41	382	2,162
820513	53	439	2,219
820514	40	331	1,515
820515	35	290	1,349
820516	31	148	831
820517	22	134	740
820518	13	83	493
820519	53	265	1,536

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IL 3 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820520	37	185	1,496
	820521	21	105	718
	820522	35	175	924
	820523	44	220	1,232
	820524	20	100	545
	820525	13	65	408
	820526	16	87	524
	820527	13	65	409
	820528	11	55	338
	820529	4	23	124
	820530	2	12	70
	820531	5	31	160
	820601	2	13	64
	820603	3	25	155
	820604	3	20	111
	820606	1	7	39
	820607	1	7	39
TOTALS		687	4,599	24,274

RD IL 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	1	9	39
820528	15	75	460
820529	2	11	62
820530	3	18	105
820531	1	6	32
820601	2	13	64
TOTALS	24	132	762

LD IN 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	7	37
820507	7	40	180
820508	10	57	205
820509	43	344	1,603
820510	21	189	826

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IN 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820511	12	112	545
	820512	20	186	1,054
	820513	37	306	1,549
	820514	11	91	417
	820515	22	182	848
	820516	32	153	858
	820517	11	67	370
	820518	16	102	607
	820519	16	80	464
	820520	9	45	364
	820521	12	60	411
	820522	9	45	238
	820523	15	75	420
	820524	10	50	273
	820526	4	22	131
	820528	1	5	31
	820601	1	7	32
	820602	1	9	45
TOTALS		321	2,234	11,508

LD IN 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	13	104	485
820510	2	18	79
820511	18	168	817
820512	20	186	1,054
820513	25	207	1,047
820514	16	132	606
820515	20	166	771
820516	30	143	804
820517	19	116	639
820518	10	64	379
820519	19	95	551
820520	13	65	525
820521	12	60	411
820522	12	60	317
820523	17	85	476
820524	9	45	245
820525	9	45	282
820526	3	16	98
820527	7	35	220

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IN 3 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820528	5	25	153
	820530	1	6	35
	820531	1	6	32
	820601	1	7	32
	820613	1	8	36
TOTALS		283	1,862	10,094

RD IN 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	14	80	287
820509	41	328	1,529
820510	7	63	275
820511	9	84	409
820512	5	47	264
820513	9	75	377
820514	1	8	38
820516	1	5	27
820520	1	5	40
820521	4	20	137
820524	1	5	27
TOTALS	93	720	3,410

LD IR 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	3	14	80
820517	14	85	471
820518	13	83	493
820519	31	155	898
820520	24	120	970
820521	21	105	718
820522	21	105	554
820523	28	140	784
820524	21	105	572
820525	12	60	376
820526	3	16	98
820527	12	60	378

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IR 1 MARKED CHINOOK 1'S

(CONTINUED) DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820528	5	25	153
820529	2	11	62
820530	3	18	105
820531	2	12	64
820601	1	7	32
820602	1	9	45
820605	1	6	34
TOTALS	218	1,136	6,887

LD IR 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820519	1	5	29
820520	7	35	283
820521	11	55	376
820522	31	155	818
820523	39	195	1,092
820524	41	205	1,118
820525	25	125	784
820526	17	93	557
820527	11	55	346
820528	8	40	246
820529	9	51	278
820530	6	37	211
820531	2	12	64
820601	3	20	96
820603	2	17	103
820604	2	13	74
820611	1	8	36
TOTALS	216	1,121	6,511

RD IR 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	11	102	580
820513	24	199	1,005
820514	9	75	341
820515	5	41	193

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD IR 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820516	3	14	80
	820517	2	12	67
	820518	1	6	38
	820519	1	5	29
	820520	1	5	40
	820521	4	20	137
	820522	1	5	26
	820523	4	20	112
	820524	1	5	27
	820525	2	10	63
	820527	1	5	31
TOTALS		70	524	2,769

RD IU 1 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820509	1	8	37
	820510	1	9	39
	820511	1	9	45
	820513	2	17	84
	820514	2	17	76
	820517	1	6	34
	820519	1	5	29
	820521	3	15	103
	820522	1	5	26
	820523	1	5	28
	820524	2	10	55
	820525	1	5	31
	820526	1	5	33
	820528	2	10	61
	820529	1	6	31
	820601	1	7	32
	820603	1	8	52
	820604	2	13	74
	820608	1	7	39
	820613	1	8	36
TOTALS		27	175	945

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD IU 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	1	19	56
820428	1	13	43
820429	8	43	147
820430	2	11	37
820501	4	23	79
820502	14	80	271
820503	5	29	122
820504	4	23	93
820505	8	64	256
820506	2	15	75
820507	5	29	128
820508	8	46	164
820509	4	32	149
820510	1	9	39
820511	2	19	91
820512	1	9	53
820513	2	17	84
820514	5	41	189
820515	1	8	39
820521	1	5	34
TOTALS	79	535	2,149

LD IV 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	5	47	264
820513	31	257	1,298
820514	42	348	1,591
820515	38	315	1,465
820516	40	191	1,072
820517	28	170	942
820518	21	134	796
820519	53	265	1,536
820520	37	185	1,496
820521	32	160	1,095
820522	26	130	686
820523	41	205	1,148
820524	29	145	791
820525	16	80	502
820526	8	44	262
820527	10	50	315
820528	11	55	338

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IV 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820529	4	23	124
	820530	1	6	35
	820531	3	18	96
	820602	2	18	90
	820603	1	8	52
	820604	1	7	37
	820605	2	11	69
	820607	2	14	78
	820609	1	6	31
TOTALS		485	2,892	16,209

LD IV 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	7	65	369
820513	4	33	167
820514	15	124	568
820515	27	224	1,041
820516	26	124	697
820517	22	134	740
820518	27	172	1,024
820519	66	330	1,913
820520	47	235	1,900
820521	27	135	924
820522	40	200	1,056
820523	52	260	1,456
820524	29	145	791
820525	20	100	627
820526	13	71	426
820527	15	75	472
820528	7	35	215
820529	3	17	93
820531	3	18	96
820601	1	7	32
820602	3	26	135
820603	2	17	103
820604	2	13	74
820605	1	6	34
820606	2	14	78
820607	3	21	117
820610	1	7	34
TOTALS	465	2,608	15,182

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD IV 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	6	34
820519	5	25	145
820520	17	85	687
820521	10	50	342
820522	8	40	211
820523	3	15	84
820524	4	20	109
820525	1	5	31
820526	1	5	33
820529	1	6	31
TOTALS	51	257	1,707

LD IX 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	3	25	114
820515	8	66	308
820516	25	119	670
820517	15	91	505
820518	14	89	531
820519	22	110	638
820520	24	120	970
820521	15	75	513
820522	19	95	502
820523	23	115	644
820524	24	120	654
820525	8	40	251
820526	9	49	295
820527	14	70	440
820528	5	25	153
820529	3	17	93
820530	1	6	35
820601	2	13	64
820602	1	9	45
TOTALS	235	1,254	7,425

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IX 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820518	2	13	76
820519	19	95	551
820520	23	115	930
820521	17	85	582
820522	28	140	739
820523	25	125	700
820524	28	140	763
820525	18	90	565
820526	12	65	393
820527	12	60	378
820528	13	65	399
820529	1	6	31
820530	2	12	70
820531	1	6	32
820601	2	13	64
820602	1	9	45
TOTALS	204	1,039	6,318

RD IX 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	7	52	262
820507	11	63	283
820508	19	109	390
820509	8	64	298
820510	1	9	39
820511	2	19	91
820512	4	37	211
820513	2	17	84
820516	2	10	54
820517	1	6	34
820518	1	6	38
820519	3	15	87
820524	1	5	27
820527	1	5	31
TOTALS	63	417	1,929

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IY 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	6	23
820505	6	48	192
820506	2	15	75
820507	5	29	128
820508	33	189	677
820509	62	496	2,312
820510	37	333	1,456
820511	35	327	1,589
820512	54	503	2,847
820513	59	488	2,470
820514	29	240	1,098
820515	28	232	1,079
820516	30	143	804
820517	26	158	875
820518	18	115	682
820519	37	185	1,072
820520	14	70	566
820521	12	60	411
820522	14	70	370
820523	20	100	560
820524	10	50	273
820525	4	20	125
820526	5	27	164
820527	5	25	157
820528	4	20	123
820529	1	6	31
820530	4	25	140
820601	1	7	32
820603	1	8	52
820610	1	7	34
TOTALS	558	4,002	20,417

LD IY 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820507	1	6	26
820508	3	17	62
820509	28	224	1,044
820510	18	162	708
820511	25	233	1,135
820512	34	317	1,792
820513	29	240	1,214

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD TY 3 MARKED CHINOOK 1'S

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	36	298	1,364
820515	38	315	1,465
820516	51	244	1,367
820517	30	183	1,010
820518	11	70	417
820519	28	140	811
820520	23	115	930
820521	17	85	582
820522	17	85	449
820523	25	125	700
820524	26	130	709
820525	7	35	220
820526	5	27	164
820527	7	35	220
820528	3	15	92
820530	3	18	105
820531	2	12	64
820601	1	7	32
820602	2	18	90
820603	4	33	206
820604	2	13	74
820607	1	7	39
TOTALS	477	3,209	17,091

RD TY 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820522	19	95	502
820523	33	165	924
820524	16	80	436
820525	3	15	94
820526	2	11	66
820527	3	15	94
820529	1	6	31
820530	1	6	35
820531	1	6	32
820601	1	7	32
TOTALS	80	406	2,246

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD IY 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	14	116	530
820515	26	215	1,002
820516	9	43	241
820517	3	18	101
820518	6	38	227
820521	1	5	34
820529	1	6	31
TOTALS	60	441	2,166

LD IZ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	5	29	103
820509	17	136	634
820510	13	117	511
820511	23	215	1,044
820512	25	233	1,318
820513	47	389	1,968
820514	30	248	1,136
820515	27	224	1,041
820516	43	205	1,153
820517	35	213	1,178
820518	22	140	834
820519	74	370	2,144
820520	44	220	1,778
820521	28	140	958
820522	47	235	1,241
820523	54	270	1,512
820524	32	160	872
820525	13	65	408
820526	19	104	623
820527	21	105	661
820528	12	60	368
820529	7	40	216
820530	5	31	175
820531	1	6	32
820601	5	33	160
820602	3	26	135
820603	2	17	103
820604	2	13	74
820607	3	21	117
TOTALS	659	4,065	22,497

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD IZ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	9	84	474
820513	18	149	754
820514	26	215	985
820515	19	157	732
820516	43	205	1,153
820517	30	183	1,010
820518	27	172	1,024
820519	54	270	1,565
820520	47	235	1,900
820521	27	135	924
820522	39	195	1,030
820523	53	265	1,484
820524	30	150	818
820525	17	85	533
820526	23	125	754
820527	18	90	566
820528	14	70	430
820529	4	23	124
820530	4	25	140
820531	4	25	128
820601	6	40	192
820602	3	26	135
820603	2	17	103
820604	1	7	37
820605	1	6	34
820607	1	7	39
820614	1	8	35
TOTALS	521	2,969	17,103

RD IZ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820525	8	40	251
820526	9	49	295
820527	3	15	94
820528	3	15	92
820530	1	6	35
820531	1	6	32
820601	1	7	32
TOTALS	26	138	831

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD SU 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	6	23
820508	1	6	21
820510	2	18	79
820512	1	9	53
820513	3	25	126
820514	1	8	38
820515	1	8	39
820516	1	5	27
820517	2	12	67
820518	4	25	152
820519	6	30	174
820520	2	10	81
820521	6	30	205
820522	2	10	53
820523	4	20	112
820524	1	5	27
820525	2	10	63
820527	3	15	94
820528	1	5	31
820531	1	6	32
820602	2	18	90
820607	1	7	39
TOTALS	48	288	1,626

RD SU 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	1	8	37
820512	1	9	53
820513	1	8	42
820514	3	25	114
820515	3	25	116
820516	4	19	107
820517	1	6	34
820520	4	20	162
820521	6	30	205
820522	2	10	53
820523	2	10	56
820524	2	10	55
820525	3	15	94
820526	3	16	98
820528	2	10	61

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD SU 4 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820530	2	12	70
	820601	4	27	128
	820602	1	9	45
TOTALS		45	269	1,530

RD 4 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	3	56	167
820427	2	53	168
820428	4	51	171
820429	11	59	202
820430	15	81	275
820501	26	149	515
820502	12	69	232
820503	16	91	390
820504	16	91	371
820505	12	96	385
820506	4	29	150
820507	3	17	77
820508	2	11	41
820509	7	56	261
820510	3	27	118
820511	2	19	91
820513	2	17	84
820515	1	8	39
820519	1	5	29
820520	2	10	81
TOTALS	144	995	3,847

RA 5 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	11	204	614
820427	3	79	253
820428	4	51	171
820429	1	5	18
820430	8	43	146

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 5 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820501	5	29	99
	820502	10	57	194
	820503	10	57	244
	820504	7	40	162
	820505	9	72	288
	820506	5	37	187
	820507	8	46	206
	820508	9	51	185
	820509	7	56	261
	820510	7	63	275
	820511	4	37	182
	820512	7	65	369
	820513	6	50	251
	820514	6	50	227
	820515	2	17	77
	820516	1	5	27
	820518	2	13	76
	820519	4	20	116
	820520	3	15	121
	820523	1	5	28
	820524	1	5	27
TOTALS		141	1,172	4,804

RA 5 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820428	1	13	43
820523	1	5	28
820524	1	5	27
820525	2	10	63
820526	5	27	164
820527	8	40	252
820528	5	25	153
820530	1	6	35
820531	1	6	32
820603	1	8	52
TOTALS	26	145	849

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 5 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	10	186	558
820427	3	79	253
820428	7	89	300
820429	1	5	18
820430	8	43	146
820501	9	51	178
820502	7	40	136
820503	9	51	219
820504	6	34	139
820505	11	88	352
820506	1	7	37
820507	1	6	26
820508	2	11	41
820509	5	40	186
820510	2	18	79
820511	4	37	182
820512	3	28	158
820513	9	75	377
820514	4	33	152
820515	4	33	154
820516	3	14	80
820517	2	12	67
820520	1	5	40
TOTALS	112	985	3,878

RA 5 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	15	279	837
820427	1	26	84
820428	1	13	43
820429	4	22	74
820430	8	43	146
820501	8	46	159
820502	15	86	291
820503	4	23	97
820504	6	34	139
820505	5	40	160
820506	5	37	187
820507	6	34	154
820508	3	17	62
820509	6	48	224

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 5 4 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820510	4	36	157
	820511	6	56	272
	820512	3	28	158
	820513	3	25	126
	820514	1	8	38
	820515	3	25	116
	820516	5	24	134
	820517	1	6	34
	820519	1	5	29
	820520	2	10	81
	820524	1	5	27
	820525	1	5	31
TOTALS		118	981	3,860

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA F 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820502	1	6	9
820503	2	11	25
820504	13	74	150
820505	12	96	190
820506	3	22	71
820507	3	17	42
820508	10	57	93
820509	5	40	106
820510	4	36	84
820511	2	19	54
820512	1	9	39
820513	4	33	104
820514	2	17	42
820515	1	8	22
820516	2	10	39
820517	2	12	48
820519	1	5	22
TOTALS	68	472	1,140

LA F 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	1	8	21
820510	7	63	147
820511	7	65	189
820512	6	56	233
820513	9	75	235
820514	6	50	126
820515	6	50	131
820517	1	6	24
820519	1	5	22
820520	1	5	46
820525	1	5	28
TOTALS	46	388	1,202

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA F 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	5	30	119
820518	9	57	276
820519	10	50	222
820520	5	25	232
820521	3	15	117
820522	2	10	35
820524	1	5	19
TOTALS	35	192	1,020

LA F 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820523	2	10	40
820525	1	5	28
820526	3	16	81
820527	4	20	114
820528	1	5	26
820529	1	6	21
TOTALS	12	62	310

RA F 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	6	12
820505	6	48	95
820506	2	15	47
820507	1	6	14
820508	7	40	65
820509	1	8	21
820511	2	19	54
820513	5	41	131
820515	1	8	22
820516	1	5	19
820520	1	5	46
TOTALS	28	201	526

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA F 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820511	2	19	54
820512	13	121	504
820513	17	141	444
820514	7	58	147
820515	7	58	153
820516	4	19	78
820517	2	12	48
820518	1	6	31
820519	1	5	22
820520	1	5	46
820522	2	10	35
820525	1	5	28
TOTALS	58	459	1,590

RA F 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820518	13	83	398
820519	20	100	444
820520	14	70	650
820521	4	20	155
820522	4	20	70
820523	1	5	20
820524	2	10	38
820525	2	10	56
820527	1	5	28
820601	1	7	19
TOTALS	62	330	1,878

LA IH 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	1	9	39
820513	7	58	183
820514	4	33	84
820515	2	17	44
820516	2	10	39
820517	1	6	24

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA IH 3 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820518	1	6	31
	820519	5	25	111
	820520	1	5	46
	820521	3	15	117
	820522	10	50	174
	820523	8	40	162
	820524	9	45	170
	820525	4	20	113
	820526	5	27	135
	820527	4	20	114
	820528	8	40	211
	820529	6	34	127
	820530	2	12	52
	820531	2	12	41
	820601	5	33	94
	820602	2	18	57
	820603	2	17	91
	820604	1	7	27
	820608	1	7	27
	820623	1	10	93
TOTALS		97	576	2,406

LA IJ 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820519	1	5	22
820520	7	35	325
820521	16	80	621
820522	7	35	122
820523	3	15	61
820524	10	50	189
820525	12	60	339
820526	12	65	323
820527	17	85	484
820528	6	30	158
820529	7	40	148
820530	4	25	105
820531	3	18	62
820601	3	20	56
820604	2	13	53
820605	1	6	28
820608	2	14	54

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA IJ 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820610	1	7	20
	820611	1	8	21
TOTALS		115	611	3,191

LA IJ 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820516	3	14	58
	820517	16	97	381
	820518	25	159	766
	820519	86	430	1,910
	820520	80	400	3,713
	820521	53	265	2,058
	820522	51	255	890
	820523	43	215	870
	820524	42	210	793
	820525	32	160	903
	820526	16	87	431
	820527	15	75	427
	820528	18	90	474
	820529	16	91	339
	820530	6	37	157
	820531	3	18	62
	820601	5	33	94
	820602	1	9	28
	820603	4	33	182
	820604	2	13	53
	820606	1	7	28
	820607	2	14	56
	820608	3	21	82
	820609	5	31	94
	820610	1	7	20
	820611	1	8	21
	820612	1	8	20
	820613	1	8	21
	820615	1	8	54
TOTALS		533	2,803	14,985

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA IJ 4 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820527	1	5	28
TOTALS		1	5	28

LD IJ 2 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820509	1	8	21
TOTALS		1	8	21

LD IJ 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820518	3	19	92
	820519	1	5	22
TOTALS		4	24	114

RA IJ 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820524	1	5	19
TOTALS		1	5	19

RA IJ 2 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820503	1	6	13
TOTALS		1	6	13

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA IJ 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820513	1	8	26
	820517	1	6	24
TOTALS		2	14	50

RA IR 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820426	20	372	459
	820427	12	317	429
	820428	22	280	411
	820429	50	270	406
	820430	101	548	810
	820501	52	297	459
	820502	54	309	459
	820503	72	411	912
	820504	57	326	659
	820505	66	528	1,042
	820506	29	214	683
	820507	62	354	870
	820508	83	474	775
	820509	88	704	1,860
	820510	50	450	1,046
	820511	34	317	918
	820512	18	168	698
	820513	61	505	1,593
	820514	20	166	421
	820515	20	166	437
	820516	10	48	194
	820517	6	37	143
	820518	3	19	92
	820519	7	35	155
	820520	8	40	371
	820521	5	25	194
	820522	4	20	70
	820523	4	20	81
	820524	4	20	76
	820526	1	5	27
	820527	1	5	28
	820528	1	5	26
	820607	1	7	28
TOTALS		1,026	7,462	16,832

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD IU 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	1	8	21
820511	1	9	27
820512	1	9	39
820513	15	124	392
820514	8	66	169
820515	15	124	328
820516	5	24	97
820519	2	10	44
820520	5	25	232
820521	3	15	117
820522	2	10	35
820523	4	20	81
820524	3	15	57
820526	1	5	27
820527	1	5	28
TOTALS	67	469	1,694

RD IU 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820513	11	91	287
820514	12	99	253
820515	8	66	175
820516	9	43	175
820517	3	18	72
820519	2	10	44
820520	2	10	93
820521	1	5	39
820522	1	5	17
820523	1	5	20
820524	1	5	19
820529	1	6	21
TOTALS	52	363	1,215

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA IV 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820501	1	6	9
820503	3	17	38
820504	8	46	93
820505	30	240	474
820506	9	66	212
820507	22	126	309
820508	45	257	420
820509	42	336	888
820510	21	189	440
820511	24	224	648
820512	21	196	815
820513	43	356	1,123
820514	30	248	632
820515	14	116	306
820516	18	86	350
820517	10	61	238
820518	6	38	184
820519	5	25	111
820520	10	50	464
820521	2	10	78
820522	16	80	279
820523	15	75	304
820524	17	85	321
820525	4	20	113
820526	5	27	135
820527	4	20	114
820528	4	20	105
820529	1	6	21
820530	1	6	26
820531	2	12	41
820601	3	20	56
820602	1	9	28
820603	1	8	46
TOTALS	438	3,081	9,421

LA K 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820525	1	5	28
820526	10	55	269
820527	15	75	427
820528	10	50	263

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA K 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820529	10	57	212
	820530	2	12	52
	820531	2	12	41
	820601	2	13	38
	820605	3	17	84
	820607	2	14	56
	820608	3	21	82
	820609	2	12	38
	820612	1	8	20
TOTALS		63	351	1,610

LA K 2 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820505	1	8	16
	820507	1	6	14
	820508	13	74	121
	820509	51	408	1,078
	820510	14	126	293
	820511	11	103	297
	820512	3	28	116
	820513	18	149	470
	820514	22	182	463
	820515	15	124	328
	820516	12	57	233
	820517	5	30	119
	820518	3	19	92
	820519	8	40	178
	820520	4	20	186
	820521	3	15	117
	820522	2	10	35
	820524	2	10	38
	820525	1	5	28
	820608	2	14	54
TOTALS		191	1,428	4,276

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA K 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820427	1	26	36
820428	2	25	37
820429	25	135	203
820430	59	320	473
820501	28	160	247
820502	14	80	119
820503	10	57	127
820504	13	74	150
820505	22	176	347
820506	3	22	71
820507	9	51	126
820508	20	114	187
820509	21	168	444
820510	6	54	126
820511	3	28	81
820512	6	56	233
820513	11	91	287
820514	5	41	105
820516	2	10	39
820518	1	6	31
820520	2	10	93
820521	1	5	39
820522	2	10	35
820523	1	5	20
820527	1	5	28
TOTALS	268	1,729	3,684

LD SU 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	8	72	167
820511	6	56	162
820512	14	130	543
820513	50	414	1,306
820514	35	290	737
820515	31	257	677
820516	25	119	486
820517	11	67	262
820518	5	32	153
820519	17	85	378
820520	12	60	557
820521	4	20	155

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD SU 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820522	10	50	174
	820523	3	15	61
	820524	5	25	94
	820525	3	15	85
	820526	4	22	108
	820528	2	10	53
	820531	1	6	21
	820604	1	7	27
TOTALS		247	1,752	6,206

RD SU 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	2	17	42
820515	2	17	44
820516	17	81	331
820517	11	67	262
820518	4	25	122
820519	9	45	200
820520	2	10	93
820521	2	10	78
820522	1	5	17
820523	2	10	40
820524	1	5	19
820527	1	5	28
820528	2	10	53
820529	1	6	21
820605	1	6	28
820611	1	8	21
TOTALS	59	327	1,399

LA 2 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820503	18	103	228
820504	31	177	358
820505	28	224	442
820506	8	59	188

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 2 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820507	5	29	70
	820508	7	40	65
	820509	15	120	317
	820510	4	36	84
	820513	7	58	183
	820514	2	17	42
	820515	1	8	22
	820516	1	5	19
	820521	1	5	39
	820522	1	5	17
TOTALS		129	886	2,074

LA 2 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	28	224	592
820510	54	486	1,130
820511	36	336	972
820512	26	242	1,009
820513	20	166	522
820514	8	66	169
820515	4	33	87
820516	2	10	39
820517	2	12	48
820518	1	6	31
820519	1	5	22
820520	1	5	46
820521	1	5	39
820523	1	5	20
820524	1	5	19
820605	2	11	56
TOTALS	188	1,617	4,801

LA 2 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	20	96	389
820517	23	140	548

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 2 3 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820518	18	115	551
820519	13	65	289
820520	3	15	139
820521	3	15	117
820522	3	15	52
820523	1	5	20
820525	1	5	28
820529	1	6	21
TOTALS	86	477	2,154

LA 2 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820523	58	290	1,174
820524	54	270	1,020
820525	21	105	592
820526	8	44	216
820527	1	5	28
820528	4	20	105
820529	2	11	42
820602	2	18	57
820603	1	8	46
820607	3	21	84
820623	1	10	93
TOTALS	155	802	3,457

RA 2 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820503	5	29	63
820504	66	377	763
820505	74	592	1,169
820506	8	59	188
820507	12	69	168
820508	22	126	205
820509	20	160	423
820510	13	117	272
820511	4	37	108

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 2 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820512	5	47	194
	820513	12	99	313
	820514	3	25	63
	820515	1	8	22
	820516	4	19	78
	820517	3	18	72
	820518	2	13	61
	820519	1	5	22
	820521	1	5	39
	820522	1	5	17
	820524	1	5	19
	820603	1	8	46
TOTALS		259	1,823	4,305

RA 2 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	2	16	42
820510	22	198	460
820511	22	205	594
820512	15	140	582
820513	35	290	914
820514	8	66	169
820515	5	41	109
820516	5	24	97
820518	3	19	92
820519	3	15	67
820520	3	15	139
820526	2	11	54
820527	1	5	28
820530	1	6	26
TOTALS	127	1,051	3,373

RA 2 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	19	116	453
820518	28	178	857

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 2 3 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
	820519	22	110	489
	820520	11	55	511
	820521	2	10	78
	820522	2	10	35
	820523	1	5	20
	820524	2	10	38
	820527	1	5	28
	820528	1	5	26
	820529	1	6	21
	820530	1	6	26
	820601	1	7	19
	820602	1	9	28
TOTALS		93	532	2,629

RA 2 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820529	3	17	64
820530	9	55	235
820531	4	25	82
820601	2	13	38
820602	6	53	170
820603	1	8	46
820604	2	13	53
820607	1	7	28
TOTALS	28	191	716

LA 5 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820427	1	26	36
820428	1	13	19
820501	6	34	53
820502	2	11	17
820503	3	17	38
820504	4	23	46
820505	4	32	63
820506	2	15	47

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 5 1 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820507	2	11	28
820508	1	6	9
820509	2	16	42
820510	2	18	42
820513	7	58	183
820514	2	17	42
820515	1	8	22
820516	1	5	19
820521	1	5	39
820522	1	5	17
820524	2	10	38
TOTALS	45	330	800

LA 5 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820525	6	30	169
820526	1	5	27
820527	1	5	28
820528	1	5	26
820529	2	11	42
820530	1	6	26
820531	1	6	21
TOTALS	13	68	339

LA 5 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820428	1	13	19
820501	2	11	18
820503	3	17	38
820504	3	17	35
820505	4	32	63
820507	3	17	42
820508	5	29	47
820509	2	16	42
820510	4	36	84
820511	1	9	27

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 5 3 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	2	19	78
820513	2	17	52
820514	2	17	42
820517	1	6	24
820519	2	10	44
820521	1	5	39
820523	2	10	40
820524	2	10	38
TOTALS	42	291	772

LA 5 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED	ESTIMATED PASSAGE
820427	1	26	36
820429	1	5	8
820430	3	16	24
820501	1	6	9
820502	3	17	26
820503	1	6	13
820504	5	29	58
820505	4	32	63
820506	3	22	71
820507	2	11	28
820508	1	6	9
820509	4	32	85
820510	5	45	105
820511	3	28	81
820512	2	19	78
820513	4	33	104
820515	2	17	44
820516	1	5	19
820518	1	6	31
820519	1	5	22
820521	1	5	39
820522	1	5	17
820525	1	5	28
820526	1	5	27
TOTALS	52	386	1,025

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD AN 1 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820524	1	5
820525	5	25
820526	3	16
TOTALS	9	46

RD AN 2 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820525	1	5
820526	4	22
820527	2	10
820528	1	5
820529	1	6
820531	1	6
TOTALS	10	54

RD AN 3 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820526	1	5
820527	9	45
820528	2	10
820529	1	6
TOTALS	13	66

RD AN 4 MARKED COHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820528	4	20
820529	1	6
TOTALS	5	26

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD 3 1 MARKED CCHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820525	8	40
820526	2	11
820527	1	5
TOTALS	11	56

RD 3 2 MARKED CCHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820526	8	44
820527	2	10
820528	1	5
TOTALS	11	59

RD 3 3 MARKED CCHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820527	5	25
820528	4	20
TOTALS	9	45

RD 3 4 MARKED CCHO

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820528	4	20
TOTALS	4	20

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA AN 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820501	5	29
820502	5	29
820503	2	11
820504	2	11
820505	1	8
820509	1	8
TOTALS	16	96

LA AN 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820502	9	51
820503	12	69
820504	7	40
820505	15	120
820506	1	7
820508	1	6
TOTALS	45	293

LA AN 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820503	32	183
820504	20	114
820505	7	56
820506	1	7
820508	1	6
820515	1	8
TOTALS	62	374

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA AN 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820504	30	171
820505	12	96
820506	4	29
820507	6	34
820508	4	23
820509	1	8
820510	1	9
820516	1	5
820520	1	5
TOTALS	60	380

LD AN 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820518	8	51
820519	6	30
820520	1	5
820522	1	5
TOTALS	16	91

LD AN 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820519	2	10
820520	1	5
820521	1	5
820524	1	5
820527	1	5
TOTALS	6	30

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LD AN 4 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820521	2	10
TOTALS		2	10

RA AN 1 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820507	15	86
	820508	11	63
	820509	2	16
	820510	1	9
	820512	2	19
	820514	1	8
	820516	1	5
TOTALS		33	206

RA AN 2 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820513	1	8
	820515	2	17
	820516	2	10
	820517	3	18
TOTALS		8	53

RA AN 3 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820511	28	261
	820512	6	56
	820513	3	25
	820514	1	8
	820519	2	10
TOTALS		40	360

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA AN 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820512	7	65
820513	6	50
820514	2	17
820515	2	17
820516	1	5
TOTALS	18	154

RD AN 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820524	2	10
820525	4	20
820526	2	11
820527	3	15
TOTALS	11	56

RD AN 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820526	2	11
TOTALS	2	11

RD AN 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820527	2	10
820528	3	15
TOTALS	5	25

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD AN 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820528	2	10
TOTALS	2	10

LA ID 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820505	14	112
820506	6	44
820507	2	11
820508	5	29
820509	1	8
820519	1	5
TOTALS	29	209

LA ID 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820506	5	37
820507	9	51
820508	6	34
820509	1	8
820510	1	9
820516	1	5
820517	1	6
TOTALS	24	150

LD ID 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820520	1	5
820521	7	35
820523	1	5
820524	1	5
TOTALS	10	50

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA ID 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820513	15	124
820514	10	83
820515	4	33
820517	1	6
820518	1	6
TOTALS	31	252

RA ID 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820514	10	83
820515	2	17
820516	2	10
820517	1	6
820513	1	6
TOTALS	16	122

LA I+ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820505	9	72
820506	5	37
820507	9	51
820508	3	17
820509	2	16
820512	2	19
TOTALS	30	212

LA I+ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820506	6	44
820507	2	11
820508	3	17

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA I+ 3 MARKED CHINOOK 1'S

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820512	1	9
TOTALS	12	81

LD I+ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820521	5	25
820522	2	10
820524	1	5
820526	1	5
TOTALS	9	45

RA I+ 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820513	14	116
820514	7	58
820515	2	17
820516	1	5
TOTALS	24	196

RA I+ 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820514	9	75
820515	3	25
820516	1	5
TOTALS	13	105

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 3 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820501	1	6
820502	3	17
820503	5	29
820504	3	17
820505	1	8
820509	1	8
820511	2	19
TOTALS	16	104

LA 3 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820502	21	120
820503	11	63
820504	8	46
820505	1	8
820506	2	15
820508	1	6
820511	1	9
820513	1	8
TOTALS	46	275

LA 3 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820503	30	171
820504	18	103
820505	16	128
820506	4	29
820508	6	34
820511	1	9
820512	1	9
TOTALS	76	483

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 3 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820504	37	211
820505	17	136
820506	5	37
820507	3	17
820508	1	6
820512	1	9
820513	1	8
TOTALS	65	424

LD 3 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820518	7	45
820519	3	15
820610	1	7
TOTALS	11	67

LD 3 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820519	2	10
820520	1	5
820521	1	5
820522	1	5
820523	1	5
TOTALS	6	30

LD 3 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820520	8	40
TOTALS	8	40

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 3 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820507	13	74
820508	17	97
820509	6	48
820510	4	36
820511	1	9
820512	1	9
820516	2	10
820523	1	5
TOTALS	45	288

RA 3 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820513	4	33
820515	7	58
820516	3	14
820518	2	13
TOTALS	16	118

RA 3 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820510	1	9
820511	19	177
820512	9	84
820513	4	33
820514	3	25
820516	1	5
TOTALS	37	333

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 3 4 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820512	8	74
820513	13	108
820514	4	33
820515	1	8
820516	1	5
TOTALS	27	228

RD 3 1 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820524	2	10
820525	9	45
820526	2	11
820527	1	5
TOTALS	14	71

RD 3 2 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820526	5	27
820529	1	6
TOTALS	6	33

RD 3 3 MARKED CHINOOK 1'S

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820527	3	15
TOTALS	3	15

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD 3 4 MARKED CHINOOK 1'S

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820528	1	5
TOTALS		1	5

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA AN 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820501	6	34
820502	9	51
820503	4	23
820504	2	11
820505	6	48
820511	1	9
TOTALS	28	176

LA AN 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820502	18	103
820503	15	86
820504	7	40
820505	16	128
820507	1	6
820509	1	8
820513	1	8
820515	1	8
TOTALS	60	387

LA AN 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820503	12	69
820504	7	40
820505	9	72
TOTALS	28	181

LA AN 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820504	9	51
820505	8	64

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA AN 4 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820506	4	29
820507	4	23
820508	5	29
TOTALS	30	196

LD AN 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820518	10	64
820519	7	35
820521	1	5
TOTALS	18	104

LD AN 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820520	4	20
820521	2	10
TOTALS	6	30

RA AN 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820507	5	29
820508	4	23
820509	5	40
820510	5	45
820511	3	28
820512	3	28
820513	1	8
820514	1	8
TOTALS	27	209

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA AN 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820515	14	116
820516	5	24
820517	4	24
820518	2	13
820519	1	5
820521	1	5
820526	1	5
TOTALS	28	192

RA AN 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820511	13	121
820512	4	37
820513	11	91
820519	1	5
TOTALS	29	254

RA AN 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820512	9	84
820513	11	91
820514	1	8
TOTALS	21	183

RD AN 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820524	3	15
820525	7	35
820527	1	5
820529	1	6
TOTALS	12	61

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD AN 2 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820526	7	38
TOTALS		7	38

RD AN 3 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820525	1	5
	820526	2	11
	820527	2	10
	820528	5	25
TOTALS		10	51

RD AN 4 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820528	6	30
	820530	1	6
TOTALS		7	36

LA ID 1 MARKED STEELHEAD

	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820505	17	136
	820506	1	7
	820507	7	40
	820508	1	6
	820509	1	8
TOTALS		27	197

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA ID 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820506	2	15
820507	6	34
820508	4	23
820509	2	16
TOTALS	14	88

LD ID 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820520	1	5
820521	5	25
TOTALS	6	30

RA ID 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820513	20	166
820514	5	41
820515	1	8
820516	2	10
820517	1	6
TOTALS	29	231

RA ID 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820514	8	66
820515	1	8
820516	1	5
820517	1	6
820521	1	5
TOTALS	12	90

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA IS 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820502	38	217
820503	17	97
820504	11	63
820505	15	120
820506	4	29
820507	1	6
820508	1	6
820509	6	48
820510	2	18
820511	1	9
820512	2	19
820513	5	41
820514	1	8
TOTALS	104	681

LA IS 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820509	75	600
820510	18	162
820511	6	56
820512	2	19
820513	14	116
820515	1	8
820516	1	5
820518	1	6
820519	1	5
820523	1	5
TOTALS	120	982

LA IS 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820516	43	205
820517	9	55
820518	2	13
820519	1	5
820522	1	5

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA IS 3 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER SAMPLED	NUMBER COLLECTED
	820602	1	9
TOTALS		57	292

LA IS 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820523	52	260
820524	23	115
820525	7	35
820526	1	5
820527	5	25
820528	2	10
820529	3	17
820602	1	9
820603	1	8
TOTALS	95	484

LP IS 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820529	13	74
820530	4	25
820601	1	7
820602	2	18
TOTALS	20	124

RA IS 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820502	30	171
820503	28	160
820504	15	86
820505	9	72
820507	6	34

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA IS 1 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820509	3	24
820510	3	27
820511	2	19
820513	2	17
820514	2	17
820516	2	10
TOTALS	102	637

RA IS 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820509	97	776
820510	19	171
820511	9	84
820512	4	37
820513	10	83
820514	1	8
820515	2	17
820516	1	5
820518	1	6
820521	1	5
TOTALS	145	1,192

RA IS 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820516	42	201
820517	6	37
820518	4	25
820519	3	15
820522	1	5
820526	1	5
TOTALS	57	288

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA IS 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820523	51	255
820524	22	110
820525	7	35
820526	2	11
820527	2	10
820528	3	15
TOTALS	87	436

RP IS 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820529	16	91
820530	10	62
820531	2	12
820601	2	13
820605	1	6
820610	1	7
TOTALS	32	191

LA I+ 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820505	7	56
820506	7	52
820507	6	34
820508	6	34
820509	1	8
820511	1	9
820512	1	9
820513	2	17
820516	1	5
TOTALS	32	224

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA I+ 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820506	3	22
820507	3	17
820508	4	23
820509	2	16
820510	1	9
820514	1	8
820517	1	6
TOTALS	15	101

LD I+ 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820521	2	10
820522	2	10
TOTALS	4	20

RA I+ 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820513	13	108
820514	4	33
820515	2	17
TOTALS	19	158

RA I+ 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820514	7	58
820515	2	17
820516	3	14
820517	1	6
TOTALS	13	95

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 3 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820501	3	17
820502	3	17
820503	8	46
820504	3	17
820505	5	40
820507	1	6
820510	1	9
TOTALS	24	152

LA 3 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820501	1	6
820502	11	63
820503	11	63
820504	12	69
820505	7	56
820507	1	6
820508	2	11
820510	1	9
820511	1	9
820516	1	5
TOTALS	48	297

LA 3 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820503	7	40
820504	12	69
820505	9	72
820506	1	7
820508	2	11
820514	1	8
820614	1	8
TOTALS	33	215

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

LA 3 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820504	10	57
820505	11	88
820506	3	22
820507	2	11
820509	5	40
820510	1	9
820513	1	8
TOTALS	33	235

LD 3 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820518	2	13
820519	1	5
TOTALS	3	18

LD 3 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820519	4	20
820520	1	5
TOTALS	5	25

LD 3 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820519	1	5
820520	2	10
TOTALS	3	15

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RA 3 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820507	8	46
820508	9	51
820509	3	24
820510	2	18
820511	1	9
820513	1	8
TOTALS	24	156

RA 3 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820515	20	166
820516	2	10
820517	3	18
TOTALS	25	194

RA 3 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820511	8	75
820512	4	37
820513	16	132
820514	1	8
820516	1	5
TOTALS	30	257

RA 3 4 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820512	10	93
820513	10	83
820515	3	25
TOTALS	23	201

EFFECTIVE DATES: 4/26/82 THRU 9/22/82

RD 3 1 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820525	4	20
820526	2	11
820611	1	8
TOTALS	7	39

RD 3 2 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820526	3	16
820527	2	10
820528	3	15
820530	1	6
820531	2	12
820601	1	7
TOTALS	12	66

RD 3 3 MARKED STEELHEAD

DATE	NUMBER SAMPLED	NUMBER COLLECTED
820526	1	5
820527	8	40
820528	4	20
820529	1	6
820530	1	6
TOTALS	15	77

APPENDIX F

Mark Recapture Summary, John Day Dam

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD AN 1 MARKED CCHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820526	1	0
820527	4	0
820531	1	0
TOTALS	6	0

RD AN 4 MARKED CCHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820528	1	0
TOTALS	1	0

RD 3 1 MARKED CCHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820527	2	0
TOTALS	2	0

LA 5 1 MARKED CCHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	0
820514	1	0
820515	1	0
820518	1	0
820527	1	0
820529	1	0
TOTALS	6	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 5 2 MARKED COHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	0
820514	1	0
820526	4	0
820528	4	0
820529	2	0
TOTALS	12	0

LA 5 3 MARKED COHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	0
820515	1	0
TOTALS	2	0

LA 5 4 MARKED COHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	1	0
820512	1	0
820519	1	0
TOTALS	3	0

RA 5 1 MARKED COHO

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	0
TOTALS	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA AN 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	2	288
820506	1	148
820507	1	146
TOTALS	4	582

LA AN 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	144
820507	1	146
TOTALS	2	290

LA AN 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	144
820507	1	146
820511	1	141
TOTALS	3	431

LA AN 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	1	131
820511	1	141
TOTALS	2	272

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD AN 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820521	1	148
TOTALS	1	148

RA AN 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	1	127
820512	1	133
820515	1	157
TOTALS	3	417

RA AN 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820515	1	157
820521	1	148
TOTALS	2	305

RA AN 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	1	155
820517	1	141
TOTALS	2	296

RD AN 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820529	1	138
TOTALS	1	138

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD GL 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820510	1	127
TOTALS		1	127

LA ID 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820508	2	262
	820509	1	115
	820511	1	141
	820513	1	126
TOTALS		5	644

LA ID 3 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820510	1	127
	820511	5	705
	820512	1	133
TOTALS		7	965

LD ID 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820525	1	161
TOTALS		1	161

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA ID 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820515	1	157
820517	3	423
820518	1	149
TOTALS	5	729

RA ID 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
820518	1	149
TOTALS	2	290

LD IK 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820513	1	126
820515	1	157
820516	2	311
820517	2	282
820518	2	298
820519	1	161
820520	1	146
820521	2	297
820523	1	145
820526	3	476
820527	1	163
820528	1	157
820529	1	138
TOTALS	19	2,857

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD IK 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
820519	2	321
820521	1	148
820522	3	451
820523	1	145
820524	1	150
820526	1	159
820527	3	489
820529	1	138
TOTALS	14	2,142

RD IK 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	1	131
820516	2	311
820517	1	141
820521	2	297
820523	2	290
820524	1	150
820526	1	159
TOTALS	10	1,479

RD IK 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820522	1	150
TOTALS	1	150

LD IL 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820507	1	146
820510	2	254

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD IL 1 MARKED CHINOOK 1'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820511	1	141
820512	4	532
820514	2	285
820515	4	626
820516	1	155
820517	4	564
820518	3	447
820519	1	161
820520	1	146
820521	2	297
820522	1	150
820524	2	300
820525	2	322
820526	3	476
820527	1	163
820528	2	315
820529	2	277
820605	1	141
TOTALS	40	5,898

LD IL 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	1	127
820512	3	399
820513	1	126
820514	2	285
820515	5	783
820517	2	282
820519	2	321
820520	5	728
820521	1	148
820522	4	601
820524	5	751
820525	2	322
820528	1	157
820529	2	277
820530	1	169
820604	2	314
820605	1	141
820616	1	162
TOTALS	41	6,093

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD IL 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820531	1	160
	820604	1	157
	820608	1	119
TOTALS		3	436

LD IN 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820511	2	282
	820515	4	626
	820517	2	282
	820518	1	149
	820519	1	161
	820521	1	148
	820522	1	150
	820529	1	138
TOTALS		13	1,936

LD IN 3 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820515	2	313
	820516	1	155
	820517	3	423
	820518	1	149
	820520	1	146
	820522	3	451
	820524	1	150
	820526	3	476
	820527	1	163
	820528	1	157
	820531	1	160
TOTALS		18	2,743

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD IN 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820515	1	157
820519	1	161
820525	1	161
TOTALS	3	479

LD IR 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
820520	1	146
820528	2	315
820601	3	347
820608	2	239
TOTALS	9	1,188

LD IR 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820524	1	150
820528	1	157
820529	1	138
820530	1	169
820531	1	160
820601	2	232
820604	1	157
TOTALS	8	1,163

RD IR 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
820519	1	161
820520	1	146
820528	1	157
TOTALS	4	605

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD IU 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	1	127
820515	1	157
820516	1	155
820523	1	145
TOTALS	4	584

RD IU 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	119
820505	1	144
820509	1	115
820512	1	133
820516	1	155
820517	1	141
TOTALS	6	807

LD IV 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	3	423
820518	2	298
820519	1	161
820520	2	291
820521	1	148
820523	3	435
820524	4	601
820525	1	161
820526	1	159
820527	4	652
820528	4	629
820601	1	11[illegible]
820602	2	292
820609	1	141
TOTALS	30	4,507

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD IV 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
820519	1	161
820520	1	146
820523	5	725
820524	7	1,051
820525	4	645
820526	1	159
820528	3	472
820529	1	138
820530	1	169
820601	5	579
820606	1	140
TOTALS	31	4,526

RD IV 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820527	2	326
TOTALS	2	326

LD IX 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
820523	3	435
820524	1	150
820525	3	483
820526	2	318
820527	1	163
820529	3	415
TOTALS	14	2,105

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD IX 3 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820521	1	148
	820524	4	601
	820526	2	318
	820527	1	163
	820529	2	277
	820605	2	282
TOTALS		12	1,789

RD IX 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820511	1	141
	820512	1	133
	820513	3	378
	820516	1	155
	820523	2	290
	820604	1	157
TOTALS		9	1,254

LD IY 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820510	1	127
	820513	2	252
	820514	1	142
	820515	3	470
	820516	2	311
	820517	2	282
	820518	4	597
	820519	6	964
	820521	2	297
	820522	3	451
	820523	2	290
	820524	2	300
	820525	3	483
	820526	4	635
	820527	1	163
	820528	2	315

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD IY 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820529	1	138
	820531	1	160
	820605	1	141
TOTALS		43	6,518

LD IY 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820511	1	141
820514	1	142
820515	1	157
820516	2	311
820517	1	141
820518	2	298
820519	1	161
820520	2	291
820521	1	148
820522	2	300
820523	2	290
820524	4	601
820525	1	161
820526	3	476
820527	1	163
820528	1	157
820603	1	137
820605	1	141
820606	1	140
820608	2	239
820611	1	130
TOTALS	32	4,725

RD IY 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820510	1	127
820511	1	141
820517	2	282
820519	1	161

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD IY 1 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820521	1	148
	820526	2	318
	820528	1	157
	820601	2	232
	820608	2	239
TOTALS		13	1,805

RD IY 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820519	2	321
820522	1	150
TOTALS	3	471

LD IZ 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	2	285
820516	1	155
820517	4	564
820519	3	482
820520	1	146
820521	2	297
820522	4	601
820523	1	145
820524	4	601
820525	4	645
820526	3	476
820527	2	326
820528	2	315
820529	1	138
820531	1	160
820602	1	146
820604	1	157
820605	1	141
820609	1	141
TOTALS	39	5,921

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD IZ 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	1	155
820517	2	282
820519	1	161
820521	3	445
820522	1	150
820523	11	1,594
820524	6	901
820525	5	806
820526	3	476
820527	5	816
820528	2	315
820530	2	338
820531	3	479
820601	3	347
820604	3	471
820605	1	141
820606	1	140
820608	1	119
820609	1	141
TOTALS	55	8,277

RD IZ 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820527	2	326
TOTALS	2	326

LA I+ 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	2	229
820512	2	266
TOTALS	4	495

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA I+ 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820509	1	115
820510	3	381
820511	1	141
820512	2	266
TOTALS	7	903

LD I+ 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820523	1	145
820524	1	150
TOTALS	2	295

RA I+ 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	1	155
820517	5	705
TOTALS	6	860

RA I+ 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	2	282
820519	1	161
TOTALS	3	443

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD SU 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820515	1	157
820528	1	157
820530	1	169
TOTALS	3	483

RD SU 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820531	1	160
820611	1	130
TOTALS	2	290

LA TI 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820416	1	134
TOTALS	1	134

LA 13 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820419	1	129
820428	1	140
TOTALS	2	269

RA 13 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820415	1	136
820419	3	388

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA 13 2 MARKED CHINOOK 1'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820427	1	111
820429	1	120
820503	1	121
TOTALS	7	876

LA 3 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	2	288
820511	1	141
TOTALS	3	429

LA 3 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	144
820507	3	438
TOTALS	4	582

LA 3 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820507	2	292
820511	1	141
TOTALS	3	433

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 3 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	3	393
820509	2	229
820510	1	127
TOTALS	6	749

LD 3 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820520	1	146
TOTALS	1	146

RA 3 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820511	3	423
820512	2	266
820513	1	126
TOTALS	6	815

RA 3 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	141
TOTALS	1	141

RA 3 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	2	285
820515	2	313

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA 3 3 MARKED CHINOOK 1'S

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820516	1	155
TOTALS		5	753

RD 3 1 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820527	1	163
TOTALS		1	163

RD 3 2 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820528	1	157
TOTALS		1	157

RD 3 3 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820531	1	160
TOTALS		1	160

RD 3 4 MARKED CHINOOK 1'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820529	1	138
	820530	1	169
TOTALS		2	307

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD 4 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820501	1	116
820502	2	245
820505	4	576
820507	2	292
820508	1	131
820515	1	157
TOTALS	11	1,517

RA 5 1 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820422	1	119
820429	1	120
820502	1	122
820503	2	242
820504	1	119
820505	4	576
820507	4	583
820508	1	131
820509	2	229
820517	2	282
820519	1	161
TOTALS	20	2,684

RA 5 2 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820429	1	120
820505	4	576
820507	2	292
820519	1	161
TOTALS	8	1,149

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA 5 3 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820428	1	140
820429	1	120
820501	1	116
820504	3	357
820505	1	144
820506	1	148
820507	2	292
820508	2	262
820509	2	229
820512	1	133
TOTALS	15	1,941

RA 5 4 MARKED CHINOOK 1'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820501	1	116
820502	1	122
820503	1	121
820516	1	155
820519	1	161
TOTALS	5	675

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA AN 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820504	2	52
	820506	3	97
	820507	1	32
TOTALS		6	181

LA AN 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820505	3	95
	820506	6	195
	820507	6	192
TOTALS		15	482

LA AN 3 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820514	1	31
TOTALS		1	31

LA AN 4 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820508	1	29
	820509	1	25
	820510	1	28
TOTALS		3	82

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LD AN 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820520	1	32
TOTALS		1	32

LD AN 3 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820521	1	32
TOTALS		1	32

LD AN 4 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820521	1	32
	820522	2	66
	820523	1	32
TOTALS		4	130

RA AN 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820510	1	28
	820511	2	62
	820512	1	29
	820513	2	55
TOTALS		6	174

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA AN 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820515	4	137
	820517	6	185
TOTALS		10	322

RA AN 3 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820509	2	50
	820510	2	56
	820512	1	29
	820514	1	31
	820515	1	34
TOTALS		7	200

RA AN 4 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820515	4	137
	820517	2	62
TOTALS		6	199

RD AN 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820527	4	143
TOTALS		4	143

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD AN 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820528	1	34
TOTALS		1	34

RD AN 4 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820527	2	71
TOTALS		2	71

LA F 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820505	2	63
	820506	5	162
	820507	6	192
	820508	1	29
	820509	4	100
	820510	3	83
	820512	1	29
	820515	1	34
	820518	1	33
TOTALS		24	725

LA F 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820512	7	204
	820513	3	83
	820514	3	94
	820515	2	69
	820516	6	204
	820517	1	31
	820518	2	65
	820522	1	33

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA F 2 MARKED STEELHEAD

(CCNTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820527	1	36
TOTALS	26	819

LA F 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820519	1	35
820520	4	127
820521	6	195
820522	4	131
820523	2	63
TOTALS	17	551

LA F 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820526	4	139
820527	1	36
820529	1	30
820601	1	25
TOTALS	7	230

RA F 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	32
820507	3	96
820508	1	29
820509	2	50
820517	2	62
TOTALS	9	269

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA F 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820515	4	137
820516	4	136
820517	1	31
820519	2	70
820522	2	66
820523	1	32
820527	1	36
TOTALS	15	508

RA F 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820520	4	127
820521	8	260
820522	4	131
820523	1	32
820524	4	131
820528	2	69
TOTALS	23	750

LA ID 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820507	5	160
820508	3	86
820512	1	29
TOTALS	9	275

LA ID 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	1	29
820509	3	75
820510	2	56

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA ID 3 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820512	1	29
TOTALS	7	189

LD ID 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820523	4	127
TOTALS	4	127

RA ID 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	32
820515	5	171
820516	5	170
820523	1	32
TOTALS	12	405

RA ID 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	4	136
820517	1	31
TOTALS	5	167

LA IH 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	32
820507	1	32

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IH 3 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820508	1	29
	820516	3	102
	820517	2	62
	820518	1	33
	820519	1	35
	820520	5	159
	820521	2	65
	820522	3	99
	820523	8	254
	820525	1	35
	820526	4	139
	820527	3	107
	820530	2	74
	820531	1	35
	820603	2	60
	820604	2	69
	820606	1	31
	820610	1	28
TOTALS		45	1,480

LA IJ 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820519	1	35
	820521	1	32
	820522	10	329
	820523	12	381
	820524	3	99
	820525	3	106
	820527	2	71
	820528	4	138
	820529	4	121
	820531	1	35
	820601	1	25
	820608	1	26
TOTALS		43	1,398

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IJ 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820518	1	33
820519	10	352
820520	18	573
820521	30	975
820522	20	657
820523	22	698
820524	3	99
820525	3	106
820526	5	174
820527	5	178
820528	1	34
820529	1	30
820530	2	74
820531	1	35
820602	2	64
820603	1	30
820604	3	103
820606	1	31
TOTALS	129	4,246

LA IJ 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820621	1	35
TOTALS	1	35

LD IJ 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820522	1	33
TOTALS	1	33

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA IJ 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820523	1	32
	820527	1	36
TOTALS		2	68

RA IR 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820427	4	97
	820428	24	737
	820429	48	1,258
	820430	32	840
	820501	70	1,780
	820502	72	1,929
	820503	20	530
	820504	30	781
	820505	33	1,040
	820506	19	617
	820507	9	287
	820508	4	115
	820509	8	201
	820510	4	111
	820511	2	62
	820512	5	146
	820513	4	110
	820514	8	249
	820515	16	548
	820516	12	408
	820517	9	278
	820519	4	141
	820520	3	96
	820521	2	65
	820522	1	33
	820523	5	159
	820524	1	33
	820525	2	71
	820526	1	35
TOTALS		452	12,757

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IS 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	2	52
820505	33	1,040
820506	15	487
820507	5	160
820508	1	29
820526	1	35
820604	1	34
TOTALS	58	1,837

LA IS 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820511	7	216
820512	24	698
820513	2	55
820515	1	34
TOTALS	34	1,003

LA IS 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820518	13	424
820519	13	457
820520	1	32
820521	1	32
TOTALS	28	945

LA IS 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820525	31	1,093
820526	15	521
820527	1	36
820529	1	30
TOTALS	48	1,680

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LP IS 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820531	10	349
	820601	4	101
	820602	1	32
TOTALS		15	482

RA IS 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820505	18	567
	820506	10	325
	820507	7	223
	820528	1	34
	820530	1	37
TOTALS		37	1,186

RA IS 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820511	9	278
	820512	27	786
	820513	1	28
	820515	1	34
	820527	1	36
	820528	1	34
TOTALS		40	1,196

RA IS 3 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820518	14	457
	820519	15	528
	820520	1	32
	820525	3	106
TOTALS		33	1,123

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA IS 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820525	23	811
820526	8	278
820527	3	107
820528	1	34
820611	1	28
TOTALS	36	1,258

RP IS 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820531	7	244
820601	5	127
820602	1	32
820605	1	31
TOTALS	14	434

RD IU 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	1	32
820512	2	58
820513	3	83
820514	2	62
820515	1	34
820516	1	34
820517	4	123
820518	1	33
820519	2	70
820521	3	97
820523	1	32
TOTALS	21	658

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD TU 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820516	6	204
820517	3	93
820519	4	141
820524	1	33
820525	1	35
TOTALS	15	506

RA IV 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820503	1	26
820504	1	26
820505	7	221
820506	9	292
820507	18	575
820508	27	775
820509	11	276
820510	9	250
820511	8	247
820512	10	291
820513	5	138
820514	5	156
820515	11	377
820516	9	306
820517	9	278
820518	2	65
820519	3	106
820520	3	96
820521	6	195
820522	8	263
820523	15	476
820524	6	197
820525	15	529
820526	10	348
820527	5	178
820528	4	138
820531	1	35
820601	1	25
820603	1	30
TOTALS	220	6,915

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA I+ 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820507	4	128
	820508	7	201
	820509	1	25
	820510	1	28
TOTALS		13	382

LA I+ 3 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820508	4	115
	820509	2	50
TOTALS		6	165

LD I+ 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820522	1	33
	820523	8	254
	820524	1	33
TOTALS		10	320

RA I+ 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820508	1	29
	820515	3	103
	820516	3	102
TOTALS		7	234

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA I+ 3 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820509	3	75
	820516	5	170
TOTALS		8	245

LA K 1 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820527	3	107
	820528	12	413
	820529	2	61
	820530	2	74
	820601	3	76
	820603	1	30
	820604	1	34
TOTALS		24	795

LA K 2 MARKED STEELHEAD

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820510	2	56
	820511	1	31
	820512	2	58
	820513	1	28
	820514	2	62
	820515	3	103
	820516	1	34
	820517	4	123
	820520	1	32
	820521	1	32
	820527	1	36
TOTALS		19	595

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA K 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820430	1	26
820501	1	25
820502	3	80
820503	4	106
820504	5	130
820505	3	95
820507	3	96
820508	7	201
820509	1	25
820511	2	62
820512	2	58
820513	1	28
820515	1	34
820516	1	34
TOTALS	35	1,000

LD SU 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	2	62
820515	5	171
820516	5	170
820517	2	62
820519	1	35
820520	4	127
820521	1	32
820522	2	66
820526	1	35
820528	1	34
TOTALS	24	794

RD SU 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820521	1	32
820522	2	66
820523	2	63
TOTALS	5	161

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 2 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	10	315
820506	20	650
820507	9	287
820508	5	143
820509	1	25
820510	1	28
820511	6	185
820515	1	34
820516	1	34
820518	1	33
820519	1	35
TOTALS	56	1,769

LA 2 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	32
820511	1	31
820512	33	960
820513	10	276
820514	4	125
820515	2	69
820516	5	170
820517	2	62
820518	1	33
820519	4	141
820521	3	97
820522	3	99
820528	1	34
820601	1	25
820603	1	30
TOTALS	72	2,184

LA 2 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820518	5	163
820519	35	1,231

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 2 3 MARKED STEELHEAD

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820520	10	319
820521	2	65
820522	1	33
820523	1	32
820525	2	71
820526	2	70
TOTALS	58	1,984

LA 2 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820520	2	64
820524	3	99
820525	27	952
820526	28	973
820527	7	250
820528	1	34
820529	3	91
820530	1	37
820531	2	70
820601	6	152
820611	1	28
820614	1	25
TOTALS	82	2,775

RA 2 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820505	2	63
820506	31	1,007
820507	28	894
820508	26	746
820509	7	176
820510	2	56
820512	3	87
820513	3	83
820514	1	31
820515	2	69

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA 2 1 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820516	1	34
	820517	1	31
	820518	1	33
	820521	1	32
TOTALS		109	3,342

RA 2 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820511	2	62
820512	6	175
820513	8	221
820514	4	125
820515	5	171
820516	3	102
820517	1	31
820519	1	35
820521	2	65
820523	1	32
TOTALS	33	1,019

RA 2 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820519	33	1,161
820520	15	478
820521	5	162
820523	4	127
820524	1	33
820525	1	35
820527	1	36
820530	1	37
TOTALS	61	2,069

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA 2 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820531	4	140
820601	19	481
820602	3	96
820603	2	60
820604	5	172
TOTALS	33	949

LA 3 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	26
820505	3	95
820506	1	32
TOTALS	5	153

LA 3 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820504	1	26
820505	4	126
820506	3	97
820507	4	128
820508	1	29
820510	1	28
820520	1	32
TOTALS	15	466

LA 3 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	32
820507	2	64
TOTALS	3	96

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 3 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820506	1	32
820507	2	64
820512	1	29
820520	1	32
TOTALS	5	157

LD 3 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820520	1	32
820521	1	32
820522	5	164
TOTALS	7	228

RA 3 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820508	1	29
820510	5	139
820512	1	29
820517	3	93
820520	1	32
TOTALS	11	322

RA 3 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	1	31
820517	7	216
820518	1	33
820523	1	32
820528	1	34
TOTALS	11	346

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA 3 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820513	2	55
820514	5	156
820515	1	34
820516	1	34
TOTALS	9	279

RA 3 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820514	1	31
820515	1	34
820516	1	34
820517	1	31
TOTALS	4	130

RD 3 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820517	1	31
820526	1	35
820527	6	214
TOTALS	8	280

RD 3 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820527	5	178
820528	2	69
820529	1	30
TOTALS	8	277

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD 3 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820529	1	30
TOTALS	1	30

RD 3 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820529	1	30
TOTALS	1	30

LA 5 1 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820426	2	49
820428	3	92
820429	2	52
820502	1	27
820504	3	78
820505	2	63
820506	1	32
820508	2	57
820509	1	25
820511	1	31
820512	1	29
820515	2	69
820517	2	62
820520	1	32
820521	1	32
820522	1	33
820526	1	35
820528	2	69
TOTALS	29	867

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 5 2 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820430	2	53
820505	1	32
820506	1	32
820507	1	32
820511	1	31
820512	2	58
820517	2	62
820523	1	32
820527	2	71
820528	1	34
820530	3	111
820601	2	51
820602	1	32
820604	1	34
TOTALS	21	665

LA 5 3 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820427	2	49
820428	1	31
820429	2	52
820502	2	54
820505	1	32
820508	2	57
820511	1	31
820516	2	68
820517	1	31
820521	1	32
820523	2	63
TOTALS	17	500

LA 5 4 MARKED STEELHEAD

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820422	1	26
820501	2	51
820507	1	32

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA 5 4 MARKED STEELHEAD

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820509	1	25
	820510	1	28
	820515	1	34
	820516	2	68
	820517	1	31
	820518	1	33
	820519	1	35
TOTALS		12	363

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA C 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820811	1	0
TOTALS	1	0

LA C 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820805	1	0
TOTALS	1	0

LD D 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820830	1	0
TOTALS	1	0

RD D 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820909	1	0
TOTALS	1	0

LA H 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820630	1	0
820701	1	0
820703	1	0
820712	1	0
820719	1	0
820810	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA H 1 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820823	1	0
TOTALS	7	0

LA H 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820701	1	0
820702	2	0
820703	1	0
820706	2	0
820709	1	0
820712	1	0
820715	1	0
820719	2	0
820721	1	0
820723	2	0
820726	1	0
820816	1	0
820830	1	0
TOTALS	17	0

LA HE 3 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
821122	1	0
TOTALS	1	0

RA HE 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820929	1	0
TOTALS	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RA HE 2 MARKED CHINOOK O'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	821026	1	0
	821109	1	0
TOTALS		2	0

RA HE 4 MARKED CHINOOK O'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	821022	1	0
	821025	2	0
	821104	1	0
TOTALS		4	0

RD HE 1 MARKED CHINOOK O'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	821101	1	0
TOTALS		1	0

RD HE 2 MARKED CHINOOK O'S

	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	821022	1	0
	821026	1	0
	821028	1	0
TOTALS		3	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

RD HE 3 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
821027	1	0
TOTALS	1	0

RD HE 4 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
821025	1	0
TOTALS	1	0

RP HE 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
821025	1	0
821101	1	0
TOTALS	2	0

LA IC 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820927	1	0
TOTALS	1	0

LA IC 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820303	1	0
820804	3	0
820806	2	0
820809	1	0
820813	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IC 2 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820816	3	0
820817	1	0
820823	5	0
820827	1	0
820830	2	0
820913	2	0
820923	1	0
820924	2	0
820929	1	0
821001	1	0
821125	1	0
821129	1	0
TOTALS	29	0

LA IC 3 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820716	1	0
820719	2	0
820723	1	0
820728	1	0
820729	1	0
820730	1	0
820806	1	0
820812	1	0
820813	1	0
820816	1	0
821008	1	0
821025	1	0
821026	1	0
TOTALS	14	0

LA IC 4 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820805	1	0
820806	1	0
820811	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IC 4 MARKED CHINOOK O'S

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	820816	4	0
	820819	3	0
	820820	2	0
	820823	6	0
	820824	1	0
	820825	1	0
	820827	4	0
	820830	7	0
	820910	1	0
	820917	1	0
	821004	2	0
	821008	2	0
	821013	2	0
	821105	1	0
	821108	1	0
	821122	1	0
TOTALS		42	0

LA IF 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820712	1	0
820713	1	0
820719	1	0
820721	1	0
820723	1	0
820726	1	0
820309	1	0
820929	1	0
TOTALS	8	0

LA IF 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820726	1	0
820727	1	0
820728	1	0
820730	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IF 2 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820806	2	0
820811	1	0
820813	1	0
820816	1	0
820820	1	0
820830	1	0
820929	2	0
821125	1	0
TOTALS	14	0

LA IF 4 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820728	1	0
820806	1	0
820813	1	0
820816	1	0
820823	3	0
820824	1	0
820830	2	0
820927	2	0
820929	1	0
821004	1	0
821008	1	0
821108	1	0
821115	1	0
TOTALS	17	0

LA IM 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820722	1	0
820723	1	0
820726	1	0
820728	1	0
820802	1	0
820805	1	0
820813	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IM 1 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820813	1	0
820823	1	0
820929	1	0
821001	1	0
821117	1	0
TOTALS	12	0

LA IM 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820809	1	0
820820	1	0
820907	1	0
820913	1	0
820929	1	0
821014	1	0
821101	1	0
TOTALS	7	0

LA IM 3 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820723	2	0
820726	3	0
820728	1	0
820729	1	0
820730	2	0
820802	1	0
820806	2	0
820809	1	0
820811	1	0
820820	1	0
820830	1	0
TOTALS	16	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA IM 4 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820809	1	0
820812	2	0
820813	1	0
820816	2	0
820818	1	0
820823	4	0
820827	1	0
820830	1	0
820831	1	0
820924	1	0
820929	1	0
820930	1	0
821001	1	0
821004	2	0
821008	1	0
821018	1	0
821019	1	0
821021	1	0
821022	1	0
821028	1	0
821110	1	0
821119	1	0
TOTALS	28	0

LA +U 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820823	2	0
820825	1	0
820830	4	0
820831	1	0
820901	1	0
820907	1	0
820913	1	0
820915	1	0
820922	1	0
820923	3	0
820924	3	0
820927	6	0
820929	5	0
821004	3	0
821006	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA +U 1 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
821011	1	0
821015	1	0
821021	1	0
821025	4	0
821026	1	0
821101	1	0
821101	1	0
821125	1	0
821129	1	0
TOTALS	46	0

LA +U 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820909	2	0
820910	1	0
820913	3	0
820922	1	0
820923	1	0
820927	1	0
820928	2	0
821006	1	0
821008	1	0
821018	1	0
821025	1	0
821129	1	0
TOTALS	16	0

LA +U 3 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820830	3	0
820831	1	0
820902	1	0
820907	1	0
820909	1	0
820913	1	0
820922	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA +U 3 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820924	1	0
820927	1	0
820928	1	0
820929	4	0
821006	1	0
821007	1	0
821012	1	0
821022	2	0
821029	1	0
TOTALS	22	0

LA +U 4 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820910	1	0
820913	1	0
820923	1	0
820924	1	0
820927	1	0
820929	1	0
821007	1	0
821008	1	0
821018	1	0
821025	1	0
821029	1	0
821101	1	0
821105	1	0
821122	1	0
821210	1	0
821213	1	0
TOTALS	16	0

LA +Y 1 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820816	6	0
820819	3	0
820820	2	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA +Y 1 MARKED CHINOOK O'S

(CONTINUED)

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820823	4	0
820826	1	0
820827	1	0
820830	1	0
820901	1	0
820902	1	0
820924	1	0
820927	1	0
820928	2	0
820929	2	0
821011	1	0
821018	1	0
821025	1	0
821026	1	0
821129	1	0
821213	1	0
TOTALS	32	0

LA +Y 2 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820825	1	0
820827	3	0
820830	3	0
820901	1	0
820909	1	0
820910	1	0
820914	2	0
820924	1	0
820927	2	0
820928	1	0
820929	5	0
820930	3	0
821004	1	0
821011	1	0
821018	1	0
821020	1	0
821022	1	0
821110	1	0
821129	1	0
TOTALS	31	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA +Y 3 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820818	1	0
820820	1	0
820823	3	0
820824	1	0
820825	1	0
820827	1	0
820830	2	0
820913	1	0
820914	1	0
820924	1	0
820927	1	0
820929	7	0
821004	1	0
821006	1	0
821007	1	0
821008	1	0
821011	1	0
821021	2	0
821025	1	0
821027	1	0
821103	1	0
TOTALS	31	0

LA +Y 4 MARKED CHINOOK O'S

DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
820908	1	0
820909	3	0
820913	1	0
820914	1	0
820922	2	0
820923	4	0
820924	2	0
820927	4	0
820928	2	0
820929	3	0
821004	1	0
821005	1	0
821006	3	0
821011	1	0
821012	3	0
821013	1	0

EFFECTIVE DATES: 4/15/82 THRU 12/17/82

LA +Y 4 MARKED CHINOOK O'S

(CONTINUED)	DATE	NUMBER COLLECTED	ESTIMATED PASSAGE
	821021	1	0
	821109	1	0
TOTALS		35	0