

# **The 1995 Fishwheel Project on the Nass River, BC**

M. R. Link and A. C. Gurak

Department of Fisheries and Oceans  
Room 202, 417-2nd Street  
Prince Rupert, BC  
V8J 1G8

1997

**Canadian Manuscript Report of  
Fisheries and Aquatic Sciences No. 2422**



Fisheries  
and Oceans

Pêches  
et Océans

**Canada**

Canadian Manuscript Report of  
Fisheries and Aquatic Sciences 2422

1997

THE 1995 FISHWHEEL PROJECT ON THE NASS RIVER, BC

prepared by

M. R. Link and A. C. Gurak

LGL Limited  
environmental research associates<sup>1</sup>

for the

Nisga'a Tribal Council<sup>2</sup>

---

<sup>1</sup> 9768 Second St., Sidney, BC V8L 3Y8

<sup>2</sup> P.O. Box 231 New Aiyansh, BC V0J 1A0

© Minister of Supply and Services Canada 1997  
Cat. No. Fs 97-4/2422E ISSN 0706-6473

Correct Citation for this publication:

Link, M. R., and A. C. Gurak. 1997. The 1995 fishwheel project on the Nass River, BC.  
Can. Manuscr. Rep. Fish. Aquat. Sci. 2422: xi + 99 p.

## TABLE OF CONTENTS

LIST OF TABLES .....	v
LIST OF FIGURES .....	vi
LIST OF APPENDICES .....	viii
ABSTRACT .....	x
RÉSUMÉ .....	xi
INTRODUCTION.....	1
STUDY AREA.....	1
METHODS .....	1
FISHWHEEL OPERATION.....	1
FISHWHEEL EFFORT AND CATCH.....	2
TAGGING.....	2
Spaghetti and Operculum Tagging .....	2
Radio Tagging .....	3
GENETIC STOCK IDENTIFICATION .....	3
HARVESTING .....	3
TAG RECOVERY .....	4
Spaghetti and Operculum Tags .....	4
Radio Tags.....	4
POPULATION ESTIMATES .....	5
Inseason Escapement Estimates.....	5
Postseason Escapement Estimates .....	5
Tag Recoveries in the Nisga'a Fishery .....	5
RUN RECONSTRUCTION .....	6
AGE AND LENGTH SAMPLING .....	6
RESULTS.....	6
FISHWHEEL OPERATION.....	6
FISHWHEEL EFFORT .....	7
CATCHES AND CATCH PER UNIT EFFORT.....	7
TAGGING.....	8
Spaghetti and Operculum Tagging .....	8
HARVESTING .....	10
TAG RECOVERY .....	10
GENETIC STOCK IDENTIFICATION .....	11
POPULATION ESTIMATES .....	11
Inseason Escapement Estimates.....	11
Postseason Escapement Estimates .....	11
Tag Recoveries in the Nisga'a Fishery .....	12

TABLE OF CONTENTS - Cont'd

RUN RECONSTRUCTION .....13  
AGE AND LENGTH SAMPLING .....13  
DISCUSSION AND RECOMMENDATIONS .....14  
    OPERATIONAL EVALUATION .....14  
    STOCK COMPOSITION ESTIMATES .....14  
    POPULATION ESTIMATES .....15  
        Summary of Final Escapement Estimates .....16  
    FISHWHEELS AS A TEST FISHERY .....16  
ACKNOWLEDGMENTS .....16  
REFERENCES.....18  
TABLES .....20  
FIGURES.....32  
APPENDICES .....48

## LIST OF TABLES

Table 1.	Numbers of each species of salmon caught and tagged at 4 fishwheels on the Nass River in 1995. ....	21
Table 2.	A summary of the number of tag recoveries by location for the tags applied at the Nass River fishwheels in 1995. ....	22
Table 3.	Stock composition estimates from biological marker method for sockeye captured in the Nass River fishwheels, 1995.....	23
Table 4.	Population estimates derived from tagging of adult sockeye and coho salmon at the Nass River fishwheels and recovery of tags at the Meziadin fishway, 1995.....	24
Table 5.	Summary of escapement survey data and estimated escapement for chinook salmon upstream of Gitwinksihlkw, 1995.....	25
Table 6.	The estimated percentages of adult chinook, sockeye, and coho captured with 4 fishwheels on the Nass River, 1995.....	26
Table 7.	Means, standard errors and 95% confidence intervals for sockeye travel times from the fishwheels to the Meziadin fishway for 3-day release periods, 1995. ....	27
Table 8.	Summary of age composition of chinook, sockeye, and coho salmon sampled at the Nass River fishwheels, 1995. ....	28
Table 9.	Mean nose-fork length (cm) of salmon (by age) sampled at the Nass River fishwheels, 1995.....	29
Table 10.	Comparison of stock composition estimates for Nass River sockeye salmon (percent Meziadin) from scale, GSI and tagging methods, 1986-1995.....	30
Table 11.	Summary of the estimates of catch, escapement, and total return to the Nass River for chinook, sockeye, and coho salmon, 1995.....	31

## LIST OF FIGURES

Figure 1.	The Nass watershed showing locations of the fishwheels and fixed-station telemetry receivers. ....	33
Figure 2.	Fishwheel effort (h) and speed (RPM) for 4 fishwheels on the Nass River, 1995. ....	34
Figure 3.	Fishwheel CPUE (catch per wheel hour) for adult chinook salmon captured with 4 fishwheels on the Nass River, 1995. ....	35
Figure 4.	Fishwheel CPUE (catch per wheel hour) for adult sockeye salmon captured with 4 fishwheels on the Nass River, 1995. ....	36
Figure 5.	Fishwheel CPUE (catch per wheel hour) for adult coho salmon captured with 4 fishwheels on the Nass River, 1995.....	37
Figure 6.	Fishwheel CPUE (catch per wheel hour) for adult steelhead captured with 4 fishwheels on the Nass River, 1995.....	38
Figure 7.	Fishwheel CPUE (catch per wheel hour) for adult pink salmon captured with 4 fishwheels on the Nass River, 1995.....	39
Figure 8.	Fishwheel CPUE (catch per wheel hour) for adult chum salmon captured with 4 fishwheels on the Nass River, 1995.....	40
Figure 9.	Time between release and recapture for chinook salmon tagged at the fishwheels 1 and 2 and subsequently recaptured in each of the 4 fishwheels, 1995. ....	41
Figure 10.	Time between release and recapture for sockeye salmon tagged at fishwheels 1 and 2 and subsequently recaptured in each of the 4 fishwheels, 1995. ....	42
Figure 11.	Daily counts and percent of fish with tags for sockeye and coho salmon passing through the Meziadin fishway in 1995. ....	43
Figure 12.	The distribution of travel times (d) to the Meziadin fishway for sockeye salmon tagged at the Nass River fishwheels and recovered at the Meziadin fishway, and mean travel time (with 95% confidence intervals) for 3-day release periods, 1995. ....	44

## LIST OF FIGURES - Cont'd

- Figure 13. Percent of the sockeye run captured by fishwheels 1 and 2 versus estimated daily escapement, 1995. ....45
- Figure 14. Percent of the sockeye run captured by fishwheels 1 and 2 versus level of the Nass River at Gitwinksihlkw, 1995.....46
- Figure 15. Weekly age composition of successfully aged sockeye salmon sampled from the Nass River fishwheel catch, 1995. ....47

## LIST OF APPENDICES

## Appendix A: Water temperature/level data and fishwheel effort

Table A-1.	Minimum and maximum water depth and temperature data collected in the Nass River near Gitwinksihlkw, 30 June to 28 September, 1995. ....	49
Figure A-1.	Daily maximum water temperature and level data collected in the Nass River near Gitwinksihlkw, 1995. ....	50
Table A-2.	Summary of daily fishwheel effort (h), effort used to calculate CPUE and fishwheel speed (RPM) for 4 fishwheels used on the Nass River in 1995. ....	51

## Appendix B: Daily catches at the Nass River fishwheels

Table B-1.	Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for chinook salmon captured in the Nass River fishwheels, 1995. ....	54
Table B-2.	Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for sockeye salmon captured in the Nass River fishwheels, 1995. ....	57
Table B-3.	Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for coho salmon captured in the Nass River fishwheels, 1995. ....	60
Table B-4.	Daily catches of pink salmon, chum salmon, and steelhead in the Nass River fishwheels, 1995. ....	62
Table B-5.	Catches of other species (other than salmon and steelhead) in the Nass River fishwheels, 1995. ....	65

## Appendix C: Radio-telemetry summaries

Table C-1.	Summary of radio-tag tracking effort during the 1995 Nass River telemetry program. ....	68
Table C-2.	Numbers of sockeye and coho salmon radio tagged on the Nass River, 1995. ....	69
Table C-3.	Last known locations or fates of sockeye and coho salmon that were radio tagged from the Nass River fishwheels 1995. ....	70
Table C-4.	Information regarding sockeye and coho salmon radio tagged from the Nass River fishwheels, 1995. ....	71
Table C-5.	Telemetry surveys conducted on the Nass River, 1995. ....	76

## LIST OF APPENDICES - Cont'd

## Appendix D: Travel time information

Table D-1.	Summary statistics of travel time (d) data for chinook, sockeye, and coho salmon recaptures, 1995.....	77
Table D-2.	Travel time information for recoveries of tagged chinook salmon by location tagged and location recovered, 1995.....	78
Table D-3.	Travel time information for recoveries of tagged sockeye salmon by location tagged and location recovered, 1995.....	79
Table D-4.	Travel time information for recoveries of tagged coho salmon by location tagged and location recovered, 1995.....	81

## Appendix E: Escapement data

Table E-1.	Daily counts of sockeye and tagged sockeye through the Meziadin fishway, 1995.....	83
Table E-2.	Daily counts of chinook, coho, steelhead, and pink salmon through the Meziadin fishway, 1995.....	86
Table E-3.	The data used to calculate the inseason sockeye salmon escapement estimates in 1995.....	89
Table E-4.	Observations from chinook salmon escapement surveys, Nass River, 1995.....	92

## Appendix F: Age and length data

Table F-1.	Numbers of fish, by age and length, from chinook salmon sampled at the Nass River fishwheels, 1995. ....	94
Table F-2.	Numbers of fish, by age and length, from sockeye salmon sampled at the Nass River fishwheels, 1995. ....	96
Table F-3.	Summary of weekly age composition of sockeye sampled at the Nass River fishwheels, 1995.....	97
Table F-4.	Summary of the numbers and mean lengths of successfully aged sockeye salmon from the Nass River fishwheel catch, 1995.....	98
Table F-5.	Summary of length data for both aged and unaged coho salmon sampled at the Nass River fishwheels, 1995.....	99

## ABSTRACT

Link, M. R., and A. C. Gurak. 1997. The 1995 fishwheel project on the Nass River, BC. Can. Manuscr. Rep. Fish. Aquat. Sci. 2422: xi + 99 p.

Four fishwheels were operated on the lower Nass River from 8 June to 4 September 1995. The fishwheels operated for a total 6,762 h and captured 34,642 salmon. Exclusive of jacks, the catch comprised 21,090 sockeye, 8,881 pink, 1,837 coho, 920 chinook, 224 chum, and 111 steelhead. Of these, 9,031 sockeye, 842 coho, and 719 chinook salmon were tagged.

A total of 6,445 tagged fish were later recovered in fisheries and on tributaries of the Nass River. From 28 July to 20 August, a total of 2,044 sockeye were selectively harvested from 2 of the fishwheels. We used counts of marked and unmarked fish from the Meziadin fishway and inriver harvests to compute mark-recapture escapement estimates for sockeye (264,685) and coho salmon (25,253). The coho estimate represents a portion of the total coho escapement because the fishwheels did not operate through the entire coho run and recovery efforts were confined to an early run stock (Meziadin River). The net chinook escapement (7,844) was estimated using carcass and tag recoveries from several spawning grounds in the watershed. The 4 fishwheels caught an estimated 7.5% of the sockeye run, 9.2% of the chinook run and 7.5% of the portion of the coho run that had similar run timing as the Meziadin River stock. We used daily tag release (at the fishwheels) and recovery data (at the Meziadin fishway) to reconstruct the sockeye abundance in the lower river and assess the within-season variation in the portion of the sockeye run caught by the fishwheels. As in previous years, fishwheel efficiency varied significantly within the season. The peaks in fishwheel efficiency on sockeye in 1995 appeared to be related to the absolute level of the Nass River.

## RÉSUMÉ

Link, M.R. et A.C. Gurak. 1997. The 1995 fishwheel project on the Nass River, BC.  
Can. Manusc. Rep. Fish. Aquat. Sci. 2422: xi + 99 p.

Quatre filets rotatifs ont été installés du 8 juin au 4 septembre 1995 dans le bassin inférieur de la rivière Nass. Les filets étaient en service pendant 6 762 h en tout et ont permis de capturer 34 642 saumons. À l'exclusion des saumons mâles, les prises comprenaient 21 090 saumons rouges, 8 881 saumons roses, 1 837 saumons coho, 920 saumons quinnat, 224 saumons kéta et 111 truites arc-en-ciel. Là dessus, 9 031 saumons rouges, 842 saumons coho et 719 saumons quinnat ont été marqués. Plus tard, on a récupéré en tout 6 445 poissons marqués dans les pêcheries et les tributaires de la rivière Nass. Du 28 juillet au 20 août, 2 044 saumons rouges ont été récoltés sélectivement dans 2 des filets rotatifs. Nous avons utilisé les comptages de poissons marqués et non marqués de la passe Meziadin et des récoltes à l'intérieur de la rivière pour déterminer par marquage-recapture l'échappée de saumons rouges (264 685) et de saumons coho (25 253). L'estimation pour les saumons coho ne représente qu'une partie de l'échappée totale de ces saumons, du fait que les filets rotatifs n'étaient pas en service pendant toute la remontée desdits saumons et que la récupération se limitait à un stock de remontée précoce (rivière Meziadin). L'échappée nette de saumons quinnat (7 844) a été évaluée grâce à des carcasses et à la récupération de marques provenant de plusieurs sites dans le bassin. Les 4 filets ont permis de capturer selon les estimations 7,5 % de la remontée de saumons rouges, 9,2 % de la remontée de saumons quinnat et 7,5 % de la fraction de remontée de saumons coho, qui présentait la même chronologie de remontée que le stock de la rivière Meziadin. Nous avons utilisé les données quotidiennes de marquage et de remise à l'eau (aux filets rotatifs) et les données de récupération (à la passe Meziadin) pour évaluer l'abondance des saumons rouges dans le bassin inférieur de la rivière et déterminer la variation intra-saisonnière dans la portion de la remontée prise par les filets rotatifs. Comme dans les années précédentes, l'efficacité des filets variait sensiblement au cours de la saison. En 1995, les pics des rendements des filets pour les saumons rouges semblaient liés au niveau absolu de la rivière Nass.

## INTRODUCTION

This report documents the results of the fourth consecutive year of a fishwheel project on the Nass River (Link et al. 1996; Link and English 1996, 1997). The report documents methods, fishwheel catches and effort, tagging and mark-recapture data, population estimates, and biological and age information from the 1995 season.

The objectives of the 1995 Nass River fishwheel project were:

1. use the fishwheels to capture, tag, and recapture sockeye salmon for use in the inseason estimation of the sockeye escapement;
2. use the fishwheels to conduct a harvest of sockeye in excess of the target escapement;
3. generate postseason estimates of the escapement of chinook, sockeye, and coho salmon returning to the Nass River and document the migration timing of each species; and
4. collect and summarize biological information from fish captured in the fishwheels.

## STUDY AREA

The Nass River drains 20,500 km<sup>2</sup> and is the third largest watershed that lies entirely within British Columbia. It has an average annual discharge of 28,700 cfs and a range of 860 to 192,000 cfs (Holland 1976). The river originates in the Skeena Mountains and flows south and southwest for approximately 400 km, entering the Pacific Ocean at Portland Inlet on the north coast of British Columbia (Fig. 1).

## METHODS

### FISHWHEEL OPERATION

Four fishwheels (Meehan 1961; Donaldson and Cramer 1971) similar to those described by Link and English (1996) were operated on the Nass River in 1995. Two of the fishwheels had been constructed in 1993 and were operated near the village of Gitwinksihlkw; one fishwheel had been constructed in 1994 and operated upstream of Grease Harbour; and a fourth fishwheel was constructed in 1995 and fished upstream of Grease Harbour (Fig. 1).

Daily maximum and minimum water temperatures ( $^{\circ}\text{C}$ ) and levels (m) at Gitwinksihlkw were recorded using an electronic data logger<sup>3</sup>.

## FISHWHEEL EFFORT AND CATCH

Daily fishing effort of the fishwheels was measured in 2 ways. First, total effort was measured as the total time each fishwheel was fishing from midnight to midnight each day. This effort value gave an indication of the amount of down time (non-operational time) associated with each date. Second, the effort used to calculate catch per unit effort (CPUE, fish per hour) was measured as the number of hours fishing that went into obtaining each day's catch. These two effort values were different on most days because the time of the last sampling session on each day varied; this effected how much effort went into a given day's catch. For example, if the last tagging session on day  $t$  finished at 2200 h, and on day  $t+1$  the last tagging session ended at 2000 h (all fish were removed after each session and the fishwheel fished continuously through day  $t$  and  $t+1$ ), only 22 h of fishing effort went into obtaining the catch on day  $t+1$ , whereas the total effort for day  $t+1$  would be 24 hours.

The speed of the fishwheel (RPM) was recorded at the end of each tagging session to the nearest 0.1 revolutions in a 1 minute period. If RPM was measured more than once in a day, the arithmetic mean of the measurements was used as the value for that day.

## TAGGING

As in previous years, spaghetti tags and operculum tags were the primary tags used for the mark-recapture population estimates (Link et al. 1996; Link and English 1996, 1997). All healthy chinook, sockeye and coho captured in the Gitwinksihlkw fishwheels were tagged. No tagging was conducted at the Grease Harbour fishwheels. In 1995, a subsample of the sockeye and coho captured at the fishwheels were tagged with radio transmitters in order to assess the mortality rate associated with the capturing and handling at the fishwheels (see Koski, Link and English 1996, and Koski, Alexander and English 1996, for the radio-tagging procedures).

The radio tags were made by LOTEK, model CFRT-3B digitally coded transmitter. This tag had a 260-d life and was 14.5 mm in diameter, 43 mm long, and weighed 4.2 g in water. The frequency range of the tags was 149.32-149.42 MHz.

### Spaghetti and Operculum Tagging

Numbered spaghetti tags (Floy Model FT-4)<sup>4</sup> for were applied to sockeye and coho and numbered operculum tags (Ketchum kurl-lock tag)<sup>5</sup> to chinook. Sockeye salmon were tagged

<sup>3</sup> Unidata America, Lake Oswego, OR, USA

<sup>4</sup> Floy Tag and Manufacturing Co. Inc., 4616 Union Place N.E., Seattle, WA 98105 USA

with blue spaghetti tags from 8 June to 25 June; they were then tagged with yellow spaghetti tags from the 26 June until the end of the season. The blue tags were used to improve the recognition of early-run, tagged sockeye (tagged in early June) moving through the Meziadin fishway in early July when recovery of tag numbers is often difficult. Coho salmon were tagged with blue spaghetti tags. All tagged sockeye salmon were given a secondary mark in the left operculum using a single-hole paper punch. The operculum punch was applied in an attempt to determine the degree of tag loss between the fishwheels and the Meziadin fishway.

The spaghetti tags were applied through the dorsal musculature near the posterior end of the dorsal fin. The operculum tags were attached to the left operculum plate. The handling and tagging procedures used in 1995 were the same as those used in previous years (Link et al. 1996).

### Radio Tagging

A total of 100 radio tags were used in this study. Tags were initially applied to sockeye salmon based on a fixed sample size per time period (2 tags per day for June and 4 tags per day for July). Toward the end of the season, additional radio tags were applied as upstream recoveries were made (e.g., from the Nisga'a fishery and the Meziadin fishway). The fixed sample size was used in order to distribute the tags across as much of the run as possible to examine for period- or abundance-specific mortality. Coho salmon were tagged opportunistically in August with "extra" inseason-recovered radio tags once the sample size for sockeye appeared sufficient.

### GENETIC STOCK IDENTIFICATION

To derive an independent estimate of the portion of the sockeye salmon run bound for Meziadin Lake, we collected electrophoretic samples from a portion of the fishwheel catches (Rutherford et al. 1994). Difficulties obtaining a scientific sampling permit precluded obtaining a full season's sample coverage. Electrophoretic sampling was conducted during 5 weeks from mid July to late August. Eye, heart, liver, brain and muscle tissue, as well as scales, length and sex were determined from these fish; tissue samples were immediately frozen in a standard freezer. At the completion of sampling, the samples were shipped to DFO's Pacific Biological Station (PBS) in Nanaimo for analysis (Dennis Rutherford, Fisheries and Oceans Canada, Nanaimo, BC).

### HARVESTING

A portion of the sockeye catch in the fishwheels was harvested in 1995 under an Excess to Spawning Escapement Requirement (ESSR) license granted to the Nisga'a Tribal Council

---

<sup>5</sup> Ketchum Manufacturing Sales Ltd., 396 Berkley Ave., Ottawa, Ont., K2A 2G6, Canada

for the period 28 July to 20 August 1995. Fish to be harvested were dipnetted from the holding pens in the fishwheel pontoons, bled by breaking the base of the gill arch, and placed in totes of flake ice. Harvested sockeye were shipped to New Aiyansh for processing (headed and gutted).

## TAG RECOVERY

### Spaghetti and Operculum Tags

Fish tagged at the fishwheels were recovered throughout the Nass River watershed using a variety of techniques. The majority of tagged sockeye and coho salmon were counted and/or recovered at the Meziadin fishway (Haugan et al. 1989; Fig. 1). Tagged chinook salmon were recovered primarily during the spawning grounds surveys. Recoveries of tagged salmon were also obtained from the fishwheels, inriver net and sport fisheries, and the commercial fishery in the ocean.

The field crew working at the Meziadin fishway were instructed to count every tagged fish that passed through the fishway, and capture and record numbers from as many fish as possible, without excessively delaying the migration of fish. A portion of each day's tagged fish were captured by diverting the fish into a pen adjacent to the counting chute. The fish were then dipnetted out of this holding pen, the tag was removed and the fish was released upstream of the fishway. Up to 25 untagged sockeye were dipnetted out of the fishway each day and sampled for scales, pectoral fin (for age determination), length and sex. These fish were also examined for the presence of an operculum hole (i.e., the secondary mark applied to sockeye tagged at the fishwheels).

### Radio Tags

A total of 4 fixed-station receivers (Koski, Alexander and English 1996) were set up at locations along the Nass River, and 3 on the Meziadin River (Fig. 1). The mainstem stations were fitted with 2 antennae and the junction stations fitted with 3 antennae (Koski, Alexander and English 1996). The coverage provided by the mainstem receiver sites was intended to determine the extent of upstream migration of tagged fish and hence, mortality.

The Meziadin fishway and Meziadin bridge sites were used to test the assumption that all sockeye migrating up the Meziadin River use the fishway (i.e., do not jump the falls adjacent to the base of the fishway). The fishway receiver was set up at a "resting" (low velocity) cell 3/4 the way up the fishway. This cell was immediately below the final steep section of the fishway that the fish must ascend. The fishway station consisted of two, 20 m long, underwater antennas made from coaxial cable. The coaxial cable antennas lined the entire length of the fishway cell (Koski, Alexander and English 1996). To have passed without being detected, a tagged fish would have had to swim 40 m through the fishway cell in less

than 20 to 24 s (four frequencies were monitored). The Meziadin Bridge station provided coverage of all fish in the Meziadin River upstream of the fishway. Fish that did not use the fishway would have been detected on the Meziadin Bridge station and not the fishway station.

## POPULATION ESTIMATES

### Inseason Escapement Estimates

Inseason population estimates for sockeye salmon were derived using 2 methods. The first method provided two escapement estimates using pre-season estimates of the catchability coefficient of fishwheel 1 (1/50 per fishwheel day) and fishwheel 2 (1/20 per fishwheel day). These factor-based estimates were used in June and were based on catch rates of the two fishwheels in June 1994. The second method used tag recovery data from the Grease Harbour fishwheels once sufficient numbers of tagged and untagged fish were recovered to develop a reliable mark-recapture estimate (Link and English 1996). The mark-recapture estimate was considered to be the best estimate by early July.

### Postseason Escapement Estimates

Postseason population estimates were calculated for sockeye, coho, and chinook salmon using the tag information from the fishwheels, the Meziadin fishway, and spawning ground surveys. These data were pooled to include fish tagged and examined over the entire run. The postseason escapement estimates were made using the adjusted Petersen formula (Ricker 1975). For the sockeye and coho estimates, the fish examined at the Meziadin fishway were used as the recapture sample (C in the Petersen formula; Ricker 1975). For chinook, the catch from the Grease Harbour fishwheels and carcasses from spawning ground surveys were pooled and used as the recapture sample. Confidence limits for the mark-recapture estimates were determined using Pearson's formulae (Appendix II of Ricker 1975).

### Tag Recoveries in the Nisga'a Fishery

A reward program was implemented in 1995 to determine the approximate magnitude of the removal of tagged fish by the Nisga'a fishery. This was done instead of attempting to randomly sample the Nisga'a harvest for tagged and untagged fish as in 1994 (Link and English 1997). Each returned tag gave the returnee 1 chance in each of 3 separate draws of \$100. Posters were distributed around the Nass Valley describing the reward program and fishers were encouraged by catch monitoring interviewers to turn in any tags that they captured.

## RUN RECONSTRUCTION

To assess the suitability of the fishwheels as an inseason index of the sockeye salmon escapement to the lower river, we reconstructed the daily sockeye salmon abundance at the fishwheel site (Link and English 1996), compared fishwheel catches with the reconstructed run, and examined the variation in the estimated portion of the run the fishwheels caught across time. The run reconstruction was possible because daily catch and tag totals from the fishwheels were known, as were the daily counts of tagged and untagged sockeye at the Meziadin fishway.

## AGE AND LENGTH SAMPLING

A portion of each day's catch in the Gitwinksihlkw fishwheels (up to a maximum of 25 sockeye, 20 coho, and 20 chinook) was sampled for scales, length, and sex. The nose-fork length was measured (to the nearest cm) using a fabric measuring tape affixed to the inside of the tagging tray. Jacks were defined as chinook salmon less than 72 cm, sockeye salmon less than 45 cm and coho salmon less than 40 cm. Two scales were taken from the preferred area for sockeye, and 5 scales were collected from coho, chinook, and steelhead. Scales were mounted on numbered, gummed scale cards. All scale samples were sent to the Department of Fisheries and Oceans Scale Lab in Vancouver. Fish ages are presented using Gilbert-Rich notation where the first digit represents total age and the second digit denotes the number of winters the fish resided in fresh water since egg deposition. The daily catch of adult fish of each species at Gitwinksihlkw was used to derive species-specific daily CPUE (catch per unit effort) and these were used to weight the age composition data for chinook and coho. The age data for sockeye salmon were weighted with the reconstructed abundance from tag recovery data. Sex was determined from visual inspection of the fish. However because the fish were ocean-bright, it was difficult to differentiate between males and females. Therefore the sex data is considered not reliable and is not summarized here.

## RESULTS

### FISHWHEEL OPERATION

The level of the Nass River at Gitwinksihlkw varied by 2.7 m between 30 June and 28 September (Table A-1). The water levels showed significant day-to-day variability throughout the season with a steady declining trend beginning in late June (Fig. A-1). Water temperature ranged from 7.1 °C to 12.6 °C over the same period (Table A-1, Fig. A-1).

Fishwheel 1 was operated in the same location as it was from 1992-94; fishwheel 2 was operated at the site it was in 1994. Fishwheel 3 fished in the same location as it was fished for most of 1994. Fishwheel 4 fished in several locations; the first location was on the river's north bank approximately 2 km downstream of the outlet of Grease Harbour canyon (where fishwheel 3 started the 1994 season). Shortly after, fishwheel 4 was moved to a site on the river's left bank, about 2 km upstream of the outlet of Grease Harbour canyon. Some of the day-to-day changes in fishwheel operation are documented in the comments section of Table A-2; small changes in the position of fishwheels relative to the bank were common.

## FISHWHEEL EFFORT

The fishwheels were operated from 8 June to 4 September and fished for an estimated total of 6,762 h (Table A-2). Combined, the 4 fishwheels fished a total of 94% of the time they were in place. Fishwheel 1 was the least affected by breakdowns or water level, fishing 98% of the time it was in place, while fishwheel 2 was the most affected by water levels and fished 87% of the time it was in place. Fishwheel speed ranged from 1.0 to 3.1 RPM, and ranged from 1.8 to 2.5 RPM for most of the season (Fig. 2).

## CATCHES AND CATCH PER UNIT EFFORT

A total of 34,642 salmon (33,063 adults, 1,579 jacks) were captured in the fishwheels in 1995 (Table 1). The sockeye catch was the largest (22,408), followed by pink (*O. gorbuscha*, 8,881), coho (1,987), chinook (1,031), chum (224), and steelhead (111). Fishwheel 1 captured the most fish (11,488) followed by fishwheel 2 (9,800), fishwheel 4 (6,908) and fishwheel 3 (6,478).

The CPUE for chinook salmon in fishwheels 1 and 2 showed the majority of the run passing by Gitwinksihlkw in the third week in June (Fig. 3). The peak catch of adult chinook in fishwheel 1 and 2 occurred on 20 June with a total catch of 71 fish and a CPUE of 3.0 fish per hour (Table B-1). The first chinook was caught in fishwheel 2 on 8 June, the day the fishwheel began fishing. The 50% point of the cumulative CPUE occurred on 26 June for fishwheel 1 and on 23 June for fishwheel 2. Catches in fishwheel 3 and 4 (Grease Harbour) were substantially lower than the catches in fishwheels 1 and 2 (Fig 3, Table B-1). Catches in fishwheel 3 peaked on 6 July when 16 chinook were caught.

The pattern of CPUE for sockeye salmon versus time was similar for each of the 4 fishwheels (Fig. 4). The CPUE peaked at the Gitwinksihlkw and the Grease Harbour fishwheels in early July. The peak catch of adult sockeye occurred in fishwheel 2 on 5 July with a catch of 648 fish and a CPUE of 22.3 fish per hour (Table B-2, Fig. 4). The 50% point in the cumulative CPUE occurred on 7 July for fishwheel 1, on 6 July for fishwheel 2. The first sockeye salmon was caught on 8 June (the first day of operation) in fishwheel 2 (Table B-2).

The CPUE for coho salmon showed several peaks in August in fishwheels 1 (Gitwinksihlkw) and 4 (Grease Harbour; Table B-3, Fig. 5). Fishwheel 2 fished poorly during this period and the coho CPUE showed no distinct peak (Fig. 5). We assumed that the fishwheels did not operate through the entire coho run so the fishwheel catches are only indicative of the early-run and, presumably, upper-river stocks. The first adult coho was caught on 15 July in fishwheel 1. The 50% cumulative CPUE point occurred on 17 August for fishwheel 1, on 3 August for fishwheel 2, and on 16 August for fishwheel 3.

Steelhead catches were low relative to other species, and precise run timing was more difficult to determine from daily catches and CPUE (Table B-4, Fig. 6). A peak catch of 7 steelhead in both fishwheel 3 and fishwheel 4 occurred 24 August. Fishwheel 4 captured a total of 54 steelhead, most of which were captured in late August (Fig. 6). As with the coho run, we assumed that the fishwheels did not operate through the entire steelhead run.

The CPUE for pink salmon peaked in mid- to late August for all 4 fishwheels (Fig. 7). The largest catches occurred on 31 August for fishwheel 1 (229), on 21 August for fishwheel 2 (90), on 22 August for fishwheel 3 (100), and on 29 August for fishwheel 4 (238; Table B-4). The first pink salmon were caught on 30 June in fishwheels 1 and 2.

The CPUE for chum salmon showed a run timing pattern very similar to that for pink salmon, with the exception that few chum appear to migrate above Grease Harbour (Fig. 8). The first chum salmon was caught in fishwheel 3 on 13 July. The majority of the chum salmon (66%) were caught in fishwheel 1 after 1 August.

Catches of non-salmon species (Table B-5) included 101 Dolly Varden (*Salvelinus malma*), 81 Pacific lamprey (*Lampetra tridentata*), 42 whitefish (species not determined), 8 cutthroat trout (*O. clarki*), 6 rainbow trout (*O. mykiss*, less than 25 cm), 5 harbour seals (*Phoca vitulina*), and 1 beaver (*Castor canadensis*).

## TAGGING

### Spaghetti and Operculum Tagging

A total of 9,031 sockeye, 842 coho, and 719 chinook were tagged at the fishwheels (see Table 1 for a breakdown by fishwheel). These totals represented 69% (sockeye), 84% (coho), and 90% (chinook) of the total adult catch for each species from the Gitwinksihlkw fishwheels. A total of 1,678 sockeye were tagged with blue spaghetti tags prior to 26 June.

### Radio Tagging

Seven fixed stations and limited mobile tracking provided a total of 481 days of monitoring effort in 1995 (Table C-1). A total of 118 sockeye salmon and 14 coho salmon

were radio tagged at the fishwheels from 14 June to 28 August (Table C-2). The majority of these fish (102 sockeye and 5 coho) were tagged at fishwheel 2. The peak application rate occurred on the week ending 8 July when 26 sockeye were radio tagged (Table C-2).

We were able to determine destinations for 83 of the 118 radio-tagged sockeye (70%) that moved upstream of their tagging site; 63 were tracked to tributary spawning locations and 20 were last located in mainstem locations (Table C-3). An additional 15 radio-tagged sockeye (13%) were removed in the Nisga'a food fishery. Of the tributary spawners, 57 were tracked to the Meziadin River and 6 to Gingit Creek. The Upper, Middle and Lower Nass mainstem were last known locations for 1, 2, and 17 radio-tagged sockeye, respectively. The fate of these tagged fish are unknown, but some of the Middle and Lower fish may have been removed in an unmonitored First Nation fishery that is conducted between the Cranberry and Meziadin rivers. Some of these fish may have spawned in mainstem of the Nass River or small tributaries adjacent to the mainstem.

Twenty (17%) of the radio-tagged sockeye appeared to have died (17) or were never tracked (3). The status of tagged fish that were never tracked is uncertain due to lost tracking opportunity after fish were tagged (i.e., fixed-station receiver sites were non-operational for 8 d (Gwinaha) and 10 d (Old Aiyansh) from 9 to 29 July; Table C-1). Depending on the fate of the 3 tagged fish that were never tracked, mortality accounted for a maximum of 14 to 17% of the 118 radio-tagged sockeye.

We were able to determine destinations for 12 of the 14 radio-tagged coho (86%) that moved upstream of their tagging site; 5 were tracked to tributary spawning locations and 7 were last located in mainstem locations (Table C-3). At least 2 radio-tagged coho died; one due to the tagging and capture procedure and one in the lower river Nisga'a fishery. The Bell-Irving (1), Meziadin (1) and Cranberry (3) rivers were the locations of the tributary spawners. The Middle and Lower Nass mainstem were last known locations for 1 (upstream of Cranberry River) and 6 (upstream of the Old Aiyansh receiver site) radio-tagged coho, respectively. The fates of these tagged fish are unknown due to limited tracking effort after September.

Information regarding individual radio-tagged sockeye or coho and their final destination as determined from fixed-station receivers and mobile tracks are summarized in Table C-4. Mobile survey effort is presented in Table C-5.

Data from the Meziadin River station suggest that no sockeye bypassed the fishway in 1995. No radio-tagged sockeye were detected upstream of the falls that had not used the fishway. A total of 57 radio-tagged sockeye entered the Meziadin River; 4 fish were removed by a First Nation fishery below the Meziadin fishway and 53 fish used the fishway. Of the 53 fish that used the fishway, 19 had their tags removed at the fishway exit, 31 moved upstream and were detected at the Meziadin Bridge site, and 3 were last located below the fishway.

## HARVESTING

A total of 2,044 sockeye were selectively harvested from the fishwheels in an ESSR fishery from 28 July to 20 August 1995.

## TAG RECOVERY

A total of 6,445 spaghetti- and operculum-tagged fish were recovered at various locations in the Nass watershed (Table 2). Most of the recoveries were at the Meziadin fishway (5,204), followed by the fishwheels (809), the Nisga'a fishery (356), spawning ground surveys (72), and the sport (3) and ocean fisheries (1).

Recaptures of tagged fish in the fishwheels indicate that chinook salmon exhibit the greatest time between tagging and subsequent recapture among the three tagged species. Operculum-tagged chinook salmon averaged 9.5 d at large and ranged from 0 to 24 d ( $n = 43$ ) between tagging and subsequent recapture in the Gitwinksihlkw fishwheels (Table D-1, D-2 and Fig. 9). Travel times for tagged chinook salmon recovered at the Meziadin fishway ranged from 32 to 82 d and averaged 61 d ( $n = 9$ , Table D-1, D-2).

Recaptures of tagged sockeye at the fishwheels indicated that sockeye spend considerably less time at large than do tagged chinook (Table D-1, D-3, Fig. 10). Sixty-three percent of recaptured sockeye recovered in fishwheels 1 and 2 were recovered within 1 d of tagging, and 65 percent of recoveries in fishwheel 3 were within 4 d (Table D-3). Recoveries of fish tagged in fishwheel 1 showed a very similar distribution of time at large to those fish tagged in fishwheel 2 (Fig. 10).

Recaptures of tagged coho at the fishwheels indicate that coho spent slightly more time at large than did tagged sockeye, but considerably less time than tagged chinook (Table D-4). These fish had an average 2.9 d and ranged from 0 to 22 d ( $n = 75$ ) between tagging and subsequent recapture the fishwheels (Table D-4, D-1). Travel times for tagged coho recovered at the Meziadin fishway ranged from 18 d to 54 d and averaged 31.8 d ( $n = 42$ ; Table D-1).

A total of 205,853 adult sockeye, 1,792 adult coho, and 174 adult chinook were counted at the Meziadin fishway (Tables E-1 and E-2) from 5 July to 1 October, 1995. Sockeye counts at the fishway showed a distinct peak on 16 July with a count of 17,340 adult sockeye (Fig. 11). The daily proportion of the sockeye count that was tagged ranged from 0.3% (27 September) to 4.7% (27 July) and averaged 2.0%. The portion of sockeye with tags dropped from approximately 3% in July to less than 2% for the remainder of the season (Fig. 11).

A total of 823 sockeye with blue spaghetti tags were observed at the fishway; this represented 49% of the total number of blue tags applied to sockeye at the fishwheels. A total of 4,316 yellow tags were observed at the fishway; this represented 59% of the total number of yellow tags applied at the fishwheels.

The peak coho count at the Meziadin fishway was 125 fish on 1 September (Table E-2). A total of 52 tagged coho were counted at the fishway representing 2.9 % of the total count. The peak chinook count of 13 fish at the fishway was on 10 September (Table E-2). A total of 14 tagged chinook (8% of total) were counted at the fishway.

Of the 5,139 tagged sockeye observed at the Meziadin fishway, 2,618 (51%) were dipnetted out and their tag numbers were recorded (Table E-1). The remainder were simply counted as they passed through the viewing chute. Further description and analysis of the tagged sockeye recoveries at the Meziadin fishway is discussed below (see RUN RECONSTRUCTION).

A total of 1,363 untagged sockeye were dipnetted from the Meziadin fishway and examined for the presence of an operculum punch (secondary mark); 1 of these fish had a secondary mark but no tag.

## GENETIC STOCK IDENTIFICATION

A total of 527 sockeye were sampled from the fishwheels from 24 July to 19 August 1995. Stock composition estimates derived from the methods of Rutherford et al. (1994) indicated that the Meziadin stock comprised only 62% of the first week's samples but dominated the samples in the later weeks (Table 3). When weighted by abundance for the period, the composition estimates indicate that the Meziadin stock comprised 83% of this portion of the run.

## POPULATION ESTIMATES

### Inseason Escapement Estimates

From late June to late August, sockeye escapement estimates were generated daily and provided to the Department of Fisheries and Oceans in Prince Rupert at least 3 times per week (Table E-3).

### Postseason Escapement Estimates

For sockeye and coho, a range of postseason Petersen population estimates were calculated assuming that tagged fish may be selectively removed from the population at the

rate of 0% to 50% (Table 4). The sockeye escapement estimates ranged from 180,883 (50% differential removal of tagged fish) to 361,726 (0% removal of tagged fish).

The pooled Petersen coho estimate ranged from 14,276 (50% removal of tagged fish) to 28,519 (0% removal, Table 4). These estimates are based on 1,792 fish examined and 52 tags recovered from coho at the Meziadin fishway. The tagging of the Nass coho run was incomplete because coho are caught in the Nass River from July to December (i.e., well beyond the period that the fishwheels operated at Gitwinksihlkw in 1995). Therefore, these are considered minimum estimates of the Nass coho escapement.

A total of 27 surveys were conducted on 8 spawning grounds to obtain information to estimate the chinook escapement (Tables 5 and E-4). Aerial surveys were used to determine the distribution and timing of spawning fish; however, the aerial counts were not specifically used to derive the population estimates. A total of 594 chinook were examined and 33 tags were recovered. Using a total differential tag removal rate of 20%, the estimated the chinook escapement above Gitwinksihlkw was 10,042 (Table 5).

The proportions of the chinook, sockeye, and coho run captured in all the fishwheels based on the fishwheel catches and mark-recapture derived population estimates above Gitwinksihlkw were 9.2%, 7.5%, and 7.3%, respectively (Table 6). Fishwheel 2 captured the greatest proportion of the run for all species combined (2.7%), followed by fishwheel 1 (2.0%), fishwheel 3 (1.6%) and fishwheel 4 (1.2%).

#### Tag Recoveries in the Nisga'a Fishery

There were 281 sockeye tags, 67 chinook tags and 8 coho tags turned into Nisga'a Fisheries as part of the reward-for-tag-return program. These returns were from 35 fishers, representing approximately 81% of the active fishers from New Aiyansh and Gitwinksihlkw. These fishers' harvests represented approximately 75% of the sockeye and 70% of the chinook catches from this area (B. Nass, LGL Limited, Sidney, BC, pers. comm.). Unfortunately, we did not estimate the participation rate of the fishers that turned in tags (i.e., portion of their catch of tags that they turned in) so it was impossible to calculate a differential rate of removal of tagged fish by the fishery.

We could, however, estimate what the tag return rate of fishers would have had to have been in 1995 in order to have resulted in similar differential tag removal rates to those estimated by Link and English (1997) for the 1994 season (5.2% for sockeye and 12% for chinook). By back calculating from their total estimated catch and the mark rate in the escapement, we estimated the return rate of tags by fishers would have been 49% (sockeye) and 52% (chinook). Based on our experience working in the area, these estimates appear reasonable and therefore we cannot rule out differential removal rates in the range estimated for 1995.

## RUN RECONSTRUCTION

Analysis of the 2,617 spaghetti tags recovered from sockeye at the Meziadin fishway revealed a positively skewed distribution of travel times with a mode of 17 d and a mean of 18.8 d (Fig. 12, Table 7). The tag recovery data indicate an average speed of approximately 8.0 km per day with a maximum speed of 18.8 km per day (i.e., fish with an 8-d travel time). The mean travel times from the fishwheels to the Meziadin fishway by tagging period revealed a pattern of shorter travel times in mid July and late August than other times (Fig. 12, Table 7).

The reconstructed sockeye abundance indicated that the efficiency of the fishwheels peaked in mid July for both Gitwinksihlkw fishwheels (Fig. 13). In contrast to some previous years on the Nass River, the fishwheel efficiency did not appear to be correlated with the abundance, suggesting density-independent catchability. The efficiency of both fishwheels appear to have been more affected by the absolute water level of the Nass River (Fig. 14). At very high (June) and low (August) water levels, the fishwheels were less efficient than at moderate (July) levels. Even during higher water events in July, the efficiency of fishwheel 1 fell. Although the logger was not installed prior to 30 June, the water level during June was higher than on 30 June.

## AGE AND LENGTH SAMPLING

Chinook salmon that returned to the Nass River in 1995 were predominantly 4-year-old fish (51.2%, brood year 1991) that left freshwater during their second year of life ( $4_2$ ) based on chinook sampled at the fishwheels and weighting based on CPUE in the Gitwinksihlkw fishwheels (Table 8). The other dominant age classes were  $5_2$  (22.5%) and  $6_2$  (21.4%). Similar to the 1994, these data show that approximately 1% of the chinook that returned in 1995 had no fresh water annulus (i.e., "sub-one" fish). The chinook age and length data are presented in Table F-1 and summarized in Tables 8 and 9. Ages could not be determined for 19% of the chinook sampled.

Sockeye salmon that returned to the Nass River in 1995 were predominantly 4-year-old fish (48.3%; brood year 1991, Table 8). Weighting by the weekly reconstructed abundance, the dominant age classes were  $4_2$  (46.1%) and  $5_3$  (36.1%, Table F-3). The sockeye age and length data are presented in Table F-2 and summarized in Tables F-3, F-4, and 9. Ages could not be determined for 12% of the sockeye sampled (Table F-2). The weekly age composition of sockeye showed very few  $5_2$  fish at any point in the run. The proportion of the run composed of 4-year-old sockeye peaked in week 27 (Fig. 15). As in previous years, the  $5_3$  fish dominated the run late in the year (Fig. 15).

The age composition of coho salmon that returned to the Nass in 1995 was 56.8% age-3 and 42.2% age-4 fish and 1% age-5 fish (Tables F-5, 8 and 9). Age  $4_3$  coho were only slightly

larger, on average, than age 3<sub>2</sub> coho (Table 9). Ages could not be determined for 19% of the coho salmon sampled (Table F-5).

## DISCUSSION AND RECOMMENDATIONS

### OPERATIONAL EVALUATION

As in previous years, fishwheel 1 continued to provide the most consistent fishing through the entire season, fishing well from mid June to early September (Fig. 2). Although fishwheel 2 captured a greater number of sockeye and chinook than fishwheel 1 (Table 1), it stopped fishing effectively in late July and provided very little information on the relative fish abundance beyond this point (compare CPUE at fishwheels 1 and 3 in Figures 3 to 8). Results from the 1995 season support maintaining fishwheel 1 site as a long-term monitoring site. This, despite the fact that fishwheel 1 requires considerably more inseason adjustments and is more prone to collisions with debris than the other fishwheels. The fishwheel 2 site offers an alternative to fishwheel 1, at least early in the season. However, too few years data are available to conclude that the current fishwheel 2 site will always become inefficient as early in the season as we observed in 1995. Fishwheel 2 did operate consistently through 100% of the chinook run and about 80% of the sockeye run.

### STOCK COMPOSITION ESTIMATES

For the 4th consecutive year, the tagging program indicated that the Meziadin component (76.4%) of the Nass River sockeye return was smaller than an estimate derived from the scale method (86.2%, Table 10). A partial estimate of the portion based on the GSI method indicated 83.0% Meziadin (Tables 3 and 10). The results from 1995 are similar to all but 1 (1986) of 9 years of data, namely the GSI method estimates a smaller portion Meziadin than the scale method (average of 11.1% smaller for 1986-93, 1995). Based on only 4 years data, the tagging method also estimates a smaller portion Meziadin than the scale method (average 16.9%). The average difference between the tagging-based estimate and the GSI-based estimates is smaller than the difference between the scale and GSI method (5.1%, GSI > Tagging) for 3 years (Table 10).

The GSI estimate of the portion Meziadin in 1995 is likely biased high because the data indicate that the portion Meziadin was increasing through time and we sampled only the latter half of the run. Unfortunately, bureaucratic-induced delays in obtaining a sampling permit to collect GSI tissue samples resulted in a lost opportunity to help resolve this ongoing discrepancy. We recommend that in the future, all such permitting procedures be initiated well before the beginning of the season.

Each stock composition method has merit, yet at least 2 and possibly all three are inaccurate. A standard choice among methods or a 4th estimate based on the 3 provided by each technique is required (assuming it is cost effective to continue all three programs). A thorough review of the Nass sockeye salmon stock composition data is needed. The mandate of such a review would be to assemble creative hypotheses to explain the differences among methods, derive tests to determine which hypothesis is true and which method, if any should be used in the future.

## POPULATION ESTIMATES

The inseason escapement estimation method for sockeye worked remarkably well for only its second year of implementation. Relatively good mark-recapture escapement estimates were obtained by early July (Table E-3). The switch from the pre-season catchability-based estimates to an inseason mark-recapture-based estimate in early July 1995 was a smooth transition, requiring less of an adjustment in the escapement-to-date than in 1994 (Link and English 1997). Biases in Petersen estimates can occur when the principal assumptions of the estimation procedure are violated (Ricker 1975).

Whether the assumptions of the Petersen estimation procedure are valid for the mark-recapture estimates derived from the fishwheel program has been discussed extensively in previous reports (Link et al. 1996; Link and English 1996, 1997). These authors concluded that potential violation of assumptions would lead to a differential loss of tagged fish primarily due to handling effects and selective removal from the Nisga'a Fishery. The bias from this loss would result in an overestimate of the escapement.

The results from the sockeye salmon radio tagging in 1995 are consistent with previous studies and suggest that the mortality for tagged sockeye salmon from the fishwheels may be as high as 17%. Link and English (1997) estimated differential removal rates from the Nisga'a fishery were 5.2% for sockeye and 12.2% for chinook. These estimates are based on extensive sampling of the Nisga'a fishery in 1994. Combining the mortality estimate (17%) with a differential loss due to selective removal by the Nisga'a fishery of 4.8%, we estimated the sockeye differential removal to be 21.8% for 1995. This estimate is likely biased a little high because the radio tagging procedure is commonly believed to be more stressful than applying a spaghetti tag which is a less invasive procedure and requires less handling time.

The sample size from the coho radio tagging (1 dead fish in 14 tagged fish) was insufficient to derive a reliable estimate of the mortality associated with handling and tagging. However, we derived an approximation based on the estimated differential removal of tagged sockeye. We expected the removal rate for coho would be lower than for sockeye for two reasons. The Nisga'a fishery is considerable less active during the coho fishery than during the sockeye fishery and therefore, we assumed that any differential removal of tagged fish would have been at a rate lower than for sockeye (i.e., <4.8%). The spaghetti-tagged coho have always recovered considerably faster from the tagging procedure than sockeye based on

recaptures of tagged fish in the fishwheels (M. Link, unpublished data). Therefore, we used a value of 10% removal (8% mortality, 2% differential removal from Nisga'a fishery) for deriving our coho estimates.

### Summary of Final Escapement Estimates

We estimated the net chinook escapement in 1995 to be 7,844 (Table 11). Nass (1996) estimated the chinook harvest in the Nisga'a fishery in 1995 to be 6,716. Therefore, the total return of chinook to the Nass River in 1995 (after ocean fishery harvests) was 15,255 (Table 11). We determined the net sockeye escapement to be 264,685 (Table 11). A less-than-complete estimate of the Nass River coho escapement is 25,253 (Table 11). The total return to the Nass River for sockeye (303,739) and coho (26,655) salmon were determined by adding inriver harvests to the mark-recapture population estimates (Table 11).

### FISHWHEELS AS A TEST FISHERY

The inter-annual variability of the catchability ( $q$ ) of the Nass River fishwheels still appears low compared with the historical variability in the catchability of the Monkley Dump test fishery (Link et al. 1996; Link and English 1996, 1997). However, the fishwheel catchability still varies significantly within and between years. In 1995, the catchability of the Gitwinksihlkw fishwheels varied with the absolute water level of the Nass River and not the abundance of sockeye (Fig. 13 and 14). This result is in contrast to previous years when it was difficult to separate the effects of abundance and water level on the inseason variability in the fishwheel catchability. In the future, greater emphasis should be put on quantifying the influence of water level on the efficiency of the fishwheels. It may be possible to improve inseason estimates of  $q$  in a more timely manner using water level and tag recovery data, than waiting for tag recapture data from Grease Harbour alone.

The 1995 data showed that there is still considerable variability of  $q$  within and between seasons. Until this variation can be predicted for a given season, we recommend that tagging and mark-recapture estimates remain a component of the inseason assessment of sockeye escapement to the Nass River.

### ACKNOWLEDGMENTS

We thank the fishwheel crew that made the 1995 project a success; Barry Stevens and Tim Angus were the senior technicians and field supervisors; other technicians that participated in the project were: Gerry Clayton, Todd Duscharme, Terry Morven, Kevin Small, Curtis Stevens, Lawrence Stephens, Stuart Stevens, Max Wright. Jeannie Morgan proficiently handled the inseason data entry, compilation and presentation. Jim Hansen, Tyler Munroe,

Cindy Barwell, Courtney Fleek and Anita Gurak staffed the Meziadin fishway and their dedicated tag recovery efforts are appreciated.

Richard Alexander provided technical support for the radio-telemetry component of the study and prepared the data summaries found in the radio-telemetry appendix. Bryan Nass helped enormously with field logistics. Karl English, Bryan Nass and Dr. Blair Holtby reviewed the report. Karl English provided technical support during the field season and during the preparation of the report. Funding for this project was provided by the Canadian government as a part of the Nisga'a-Canada (Aboriginal Fisheries Strategy) Contribution Agreement (CA95-137).

## REFERENCES

- Donaldson, I. J., and F. K. Cramer. 1971. Fishwheels of the Columbia. Binford and Mort, Publishers, Portland, Oregon. 124 p.
- Haugan, D., A.L. Jantz, and B. Spilsted. 1989. Historical Review of the Meziadin River Fishway Biological Program from 1964 to 1986. Can. Data Rep. Fish. Aquat. Sci. 765: iii + 112p.
- Holland, S.S. 1976. Landforms of British Columbia, A physiographic outline. British Columbia Department of Mines and Petroleum Resources. Bulletin 48. 138 p.
- Koski, W.R., M.R. Link, and K.K. English. 1996. Distribution, timing, fate and numbers of chinook salmon returning to the Nass River watershed in 1992. Can. Tech. Rep. Fish. Aquat. Sci. 2129: xi +141 p.
- Koski, W.R., R. Alexander, and K.K. English. 1996. Distribution, timing, fate and numbers of chinook salmon returning to the Nass River watershed in 1993. Can. Manusc. Rep. Fish. Aquatic Sci. 2371: xi +143 p.
- Link, M.R., K.K. English, and R.C. Bocking. 1996. The 1992 Fishwheel Project on the Nass River and an Evaluation of Fishwheels as an Inseason Management and Stock Assessment Tool for the Nass River. Can. Manusc. Rep. Fish. Aquat. Sci. 2372: x + 82 p.
- Link, M.R. and K.K. English. 1996. The 1993 Fishwheel Project on the Nass River and an Evaluation of Fishwheels as an Inseason Management and Stock Assessment Tool for the Nass River. Can. Tech. Rep. Fish. Aquat. Sci. 2130: xi + 103 p.
- Link, M.R. and K.K. English. 1997. The 1994 Fishwheel Project on the Nass River, B.C. Can. Manusc. Rep. Fish. Aquat. Sci. 2421: xi +93 p.
- Meehan, W.R. 1961. The use of a fishwheel in salmon research and management. Trans. Amer. Fish. Soc. 90:490-494 p.
- Nass, B.N. 1996. Nisga'a catch monitoring program: 1995 Nisga'a fishery. Report NF 95-01 prepared by LGL Limited, Sidney, B.C., for Nisga'a Tribal Council, New Aiyansh, B.C.
- Ricker, W.E. 1975. Computation and interpretation of biological statistics of fish populations. Bull. Fish. Res. Bd. Can. 191:382 p.

Rutherford, D. T., C. C. Wood, A. L. Jantz and D. R. Southgate. 1994. Biological characteristics of Nass River sockeye salmon (*Oncorhynchus nerka*) and their utility for stock composition analysis of test fishery samples. Can. Tech. Rep. Fish. Aquat. Sci. No. 1988:65 p.

TABLES

Table 1. Numbers of each species of salmon caught and tagged at 4 fishwheels on the Nass River in 1995.

Species	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Total		
	Catch			Catch			Catch			Catch			Catch		
	Adults	Jacks	Tagged	Adults	Jacks	Tagged	Adults	Jacks	Tagged	Adults	Jacks	Tagged	Adults	Jacks	Tagged
Chinook	319	63	284	480	0	435	121	32	0	32	16	0	920	111	719
Sockeye	5171	410	3442	7864	246	5589	4773	295	0	3282	367	0	21090	1318	9031
Coho	880	79	731	126	8	111	259	23	0	572	40	0	1837	150	842
Steelhead	22	0	0	11	0	0	24	0	0	54	0	0	111	0	0
Pink	4397	0	0	1040	0	0	938	0	0	2506	0	0	8881	0	0
Chum	147	0	0	25	0	0	13	0	0	39	0	0	224	0	0
<b>Total</b>	<b>10936</b>	<b>552</b>	<b>4457</b>	<b>9546</b>	<b>254</b>	<b>6135</b>	<b>6128</b>	<b>350</b>	<b>0</b>	<b>6485</b>	<b>423</b>	<b>0</b>	<b>33063</b>	<b>1579</b>	<b>10592</b>

Table 2. A summary of the number of tag recoveries by location for the tags applied at the Nass fishwheels in 1995.

Species	Number of fish tagged	Tag recoveries						Total	Percent recovered
		Meziadin fishway <sup>a</sup>	Spawning grounds	Nisga'a fisheries	Sport fisheries	Fishwheel recaptures <sup>b</sup>	Ocean fishery <sup>c</sup>		
Chinook	719	14	19	67	2	68	0	170	23.6
Sockeye	9031	5138	53	281	0	666	0	6138	68.0
Coho	842	52	0	8	1	75	1	137	16.3
<b>Totals</b>	<b>10592</b>	<b>5204</b>	<b>72</b>	<b>356</b>	<b>3</b>	<b>809</b>	<b>1</b>	<b>6445</b>	<b>60.8</b>

<sup>a</sup> - Includes all tagged fish observed but not necessarily recovered.

<sup>b</sup> - These fish were released back to the river so they may have been subsequently counted or recovered.

<sup>c</sup> - Recovered in the Area 4 commercial fishery (off the mouth of the Skeena R.) .

Table 3. Stock composition estimates from biological marker method for sockeye captured in the Nass River fishwheels, 1995. Estimates are based on allozyme loci PGM-1, PGM-2, LDH-C, PEPC, ALAT, the parasite *Myxobolus arcticus*, and freshwater age (Rutherford et al. 1994).

Week ending	Statistical week	No. of samples	Week's escapement	Proportion (std. dev.)				
				Bowser	Damdochax	Fred Wright	Meziadin	Gingit
22-Jul	29	24	12154	0.01 (0.090)	0.00 (0.000)	0.37 (0.188)	0.62 (0.171)	0.00 (0.000)
29-Jul	30	158	31020	0.16 (0.076)	0.02 (0.013)	0.14 (0.070)	0.68 (0.074)	0.01 (0.006)
5-Aug	31	195	13712	0.02 (0.027)	0.01 (0.010)	0.07 (0.035)	0.90 (0.035)	0.00 (0.000)
12-Aug	32	100	19072	0.05 (0.046)	0.02 (0.014)	0.00 (0.012)	0.93 (0.049)	0.00 (0.000)
19-Aug	33	50	27158	0.00 (0.032)	0.00 (0.000)	0.00 (0.001)	1.00 (0.032)	0.00 (0.000)
Weighted proportion				0.06	0.01	0.10	0.83	0.00

Table 4. Population estimates derived from tagging of adult sockeye and coho salmon at the Nass River fishwheels and recovery of tags at the Meziadin fishway, 1995.

	Sockeye	Coho
Number tagged	9,031	842
Number fish examined for tags	205,853	1,792
Number of tagged fish recovered	5,139	52
<u>Pooled Petersen Population estimates</u>		
Assumed rate of differential tag removal		
0%	361,726	28,519
10%	325,558	<b>25,670</b>
20%	289,389	22,822
22.1%	<b>281,616</b>	22,210
50%	180,883	14,276
Bounds for Petersen estimate - No differential tag loss		
Lower 95 % CL	351,972	21,846
Upper 95 % CL	371,751	37,182
Bounds for Petersen estimate - 10% differential tag removal		
Lower 95 % CL	316,779	<b>19,664</b>
Upper 95 % CL	334,580	<b>33,469</b>
Bounds for Petersen estimate - 22.1% differential tag removal		
Lower 95 % CL	<b>274,195</b>	17,024
Upper 95 % CL	<b>289,603</b>	28,975

Table 5. Summary of escapement survey data and estimated escapement for chinook salmon upstream of Gitwinksihlkw, 1995.

System	No. of surveys		Maximum live count	Maximum dead count	Maximum on a single survey	Fish examined	Tags
	aerial	foot					
Bell-Irving							
Snow./Teigen	1	1	104	14	104	14	1
Oweege	0	2	240	2	240	66	4
Cranberry	2	1	68	4	68	3	0
Ishkeennickh	1	0	74	0	74	0	0
Kwinageese	1	3	678	43	694	94	5
Damdochax	1	4	1,311	143	1,328	205	7
Meziadin	0	1	162	2	162	164	14
Seaskinnish	0	4	75	8	75	48	2
Tseax	0	5	50	0	50	0	0
<b>Totals</b>			<b>2,762</b>		<b>2,795</b>	<b>594</b>	<b>33</b>

Total tags applied at Gitwinksihlkw:	716
<sup>a</sup> Corrected tag total:	573
Total fish examined:	594
Total tags recovered:	33
Adjusted Petersen escapement estimate past the Gitwinksihlkw fishwheels:	10,042
Lower 95% C.I.:	7,211
Upper 95% C.I.:	13,940
"Gross" escapement above Gitwinksihlkw:	<b>10,042</b>
Nisga'a chinook harvest above Gitwinksihlkw:	1,503
<b>Estimated escapement prior to terminal sport fishery harvests:</b>	<b>8,539</b>
Total Nisga'a chinook harvest:	6,716
<b>Total chinook return to the Nass:</b>	<b>15,255</b>

<sup>a</sup> Adjusted for tag loss, selective removal in food fisheries and differential mortality of tagged fish (20% of total released).

Table 6. The estimated percentages of adult chinook, sockeye, and coho captured with 4 fishwheels on the Nass River, 1995. The percentages were derived using the Petersen escapement estimates and 95% confidence intervals (Tables 4 & 5).

Species	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			All fishwheels		
	Percent	Range		Percent	Range		Percent	Range		Percent	Range		Percent	Range	
		Lower	Upper		Lower	Upper		Lower	Upper		Lower	Upper		Lower	Upper
Sockeye	1.8	1.8	1.9	2.8	2.7	2.9	1.7	1.6	1.7	1.2	1.1	1.2	7.5	7.3	7.7
Chinook	3.2	2.3	4.4	4.8	3.4	6.7	1.2	0.9	1.7	0.3	0.2	0.4	9.2	6.6	12.8
Coho	3.4	2.6	4.5	0.5	0.4	0.6	1.0	0.8	1.3	2.2	1.7	2.9	7.3	5.6	9.5
Total, all spp.	2.0	1.9	2.1	2.7	2.5	2.8	1.6	1.5	1.7	1.2	1.2	1.3	7.5	7.1	7.9

Table 7. Means, standard errors and 95% confidence intervals for sockeye travel times from the fishwheels to the Meziadin fishway for 3-day release periods, 1995.

Period ending date	Number of recoveries	Mean travel time (d)	Standard error	95 % Confidence Interval	
				Lower	Upper
<b>Release periods</b>					
14-Jun	3	23.3	0.9	21.6	25.1
17-Jun	25	24.9	1.1	22.8	27.0
20-Jun	46	21.5	0.6	20.2	22.8
23-Jun	177	20.2	0.4	19.4	21.0
26-Jun	84	21.1	0.7	19.7	22.6
29-Jun	181	20.2	0.5	19.2	21.2
2-Jul	123	20.6	0.7	19.2	22.0
5-Jul	283	17.8	0.4	17.0	18.6
8-Jul	233	18.4	0.5	17.3	19.4
11-Jul	124	20.0	0.5	19.1	21.0
14-Jul	170	17.8	0.4	17.0	18.5
17-Jul	120	17.8	0.4	16.9	18.6
20-Jul	128	18.7	0.6	17.5	19.9
23-Jul	98	18.2	0.7	16.8	19.6
26-Jul	95	17.6	0.9	15.9	19.3
29-Jul	100	18.9	0.9	17.2	20.6
1-Aug	2	20.0	3.8	12.4	27.6
4-Aug	18	21.4	1.4	18.7	24.2
7-Aug	113	18.9	0.5	18.0	19.8
10-Aug	83	19.6	0.6	18.4	20.9
13-Aug	57	17.5	0.8	15.9	19.1
16-Aug	147	16.5	0.4	15.7	17.2
19-Aug	65	17.3	0.7	15.9	18.7
22-Aug	44	16.4	0.7	15.0	17.7
25-Aug	46	16.6	0.9	14.9	18.3
28-Aug	24	18.0	1.3	15.4	20.6
31-Aug	16	21.9	1.4	19.0	24.7
3-Sep	12	19.7	1.4	16.8	22.5
All periods	2617	18.8	0.1	18.5	19.0

Table 8. Summary of age composition of chinook, sockeye, and coho salmon sampled at the Nass River fishwheels, 1995. Chinook and coho portions are weighted by weekly Gitwinksihlkw fishwheel CPUE; sockeye by the weekly escapement estimates generated by the mark-recapture data. A dash denotes no fish were sampled from that age class.

Species	Estimated percent of total run										
	Brood year / Age class										
	1992		1991			1990				1989	
	31	32	41	42	43	51	52	53	54	62	63
Chinook	1.1	1.5	1.2	51.2	-	0.7	22.5	0.5	-	21.4	-
Sockeye	0.4	-	2.2	46.1	0.04	-	0.8	36.1	-	-	7.4
Coho	-	56.8	-	-	42.2	-	-	-	1.0	-	-

Table 9. Mean-fork length (cm) of salmon (by age) sampled at the Nass River fishwheels, 1995.

Species	Age class	Number of fish	Mean length (cm)	Standard deviation (cm)
Sockeye	31	10	52.0	4.5
	41	75	60.2	3.9
	42	713	57.7	3.4
	43	1	45.0	-
	52	153	63.4	4.1
	53	634	60.4	3.6
	63	125	65.9	4.5
Chinook	31	4	64.5	7.7
	32	5	45.8	2.5
	41	5	91.2	8.2
	42	194	69.0	6.7
	51	2	99.5	4.9
	52	79	85.9	6.5
	53	1	66.0	-
	62	70	95.7	8.6
Coho	32	203	63.0	4.5
	43	163	64.9	5.6
	54	3	66.3	3.8

Table 10. Comparison of stock composition estimates for Nass River sockeye salmon (percent Meziadin) from scale, GSI and tagging methods, 1986-95.

Year	Percent Meziadin			Differences		
	Scale	GSI	<sup>a</sup> Tag	Scale-GSI	Scale-Tag	GSI-tag
1986	61.6	63.5		-1.9		
1987	78.2	57.1		21.0		
1988	85.5	58.5		27.0		
1989	44.5	41.2		3.3		
1990	77.8	71.5		6.3		
1991	92.6	79.9		12.8		
1992	93.3	86.3	81.0	7.0	12.3	5.3
1993	86.5	76.6	73.1	9.9	13.4	3.5
1994	91.2	na	59.0	na	32.2	
<sup>b</sup> 1995	86.2	83.0	76.4	3.2	9.8	6.6
Average	79.8	68.6		11.1	16.9	5.1

<sup>a</sup> Tagging method assumes initial 20% differential removal of tagged fish due to net fisheries and handling-induced mortality.

<sup>b</sup> GSI method includes only 5 late weeks of the run (50% of escapement), the estimate is likely biased high from the season-total percent Meziadin because first sampling week (adjacent to the bulk of the escapement) was only 68% Meziadin whereas late run weeks were composed of 95-100% Meziadin. This pattern suggests that the early-run component was less than the late-run average of 83%.

Table 11. Summary of the estimates of catch, escapement, and total return to the Nass River for chinook, sockeye, and coho salmon, 1995.

Species	Escapement above Gitwinksihlkw	Nisga'a harvest <sup>a</sup>		Gitanyow harvest <sup>b</sup>	Sport fishery harvest <sup>c</sup>	Net spawning escapement	Total return to the Nass River
		Above Git.	Below Git.				
Chinook	10,042	1,503	5,213		695	7,844	15,255
Sockeye	281,616	11,931	22,123	5,000	-	264,685	303,739
<sup>d</sup> Coho	25,670	417	985	0	NA	25,253	26,655

<sup>a</sup> Nass et al. (1996) and B. Nass, LGL Limited, pers. comm.

<sup>b</sup> Les Jantz, Department of Fisheries and Oceans, Prince Rupert, pers. comm.

<sup>c</sup> Nass (1996), no sport fishery catch estimates were made for coho.

<sup>d</sup> This represents a partial estimate of the coho escapement.

FIGURES

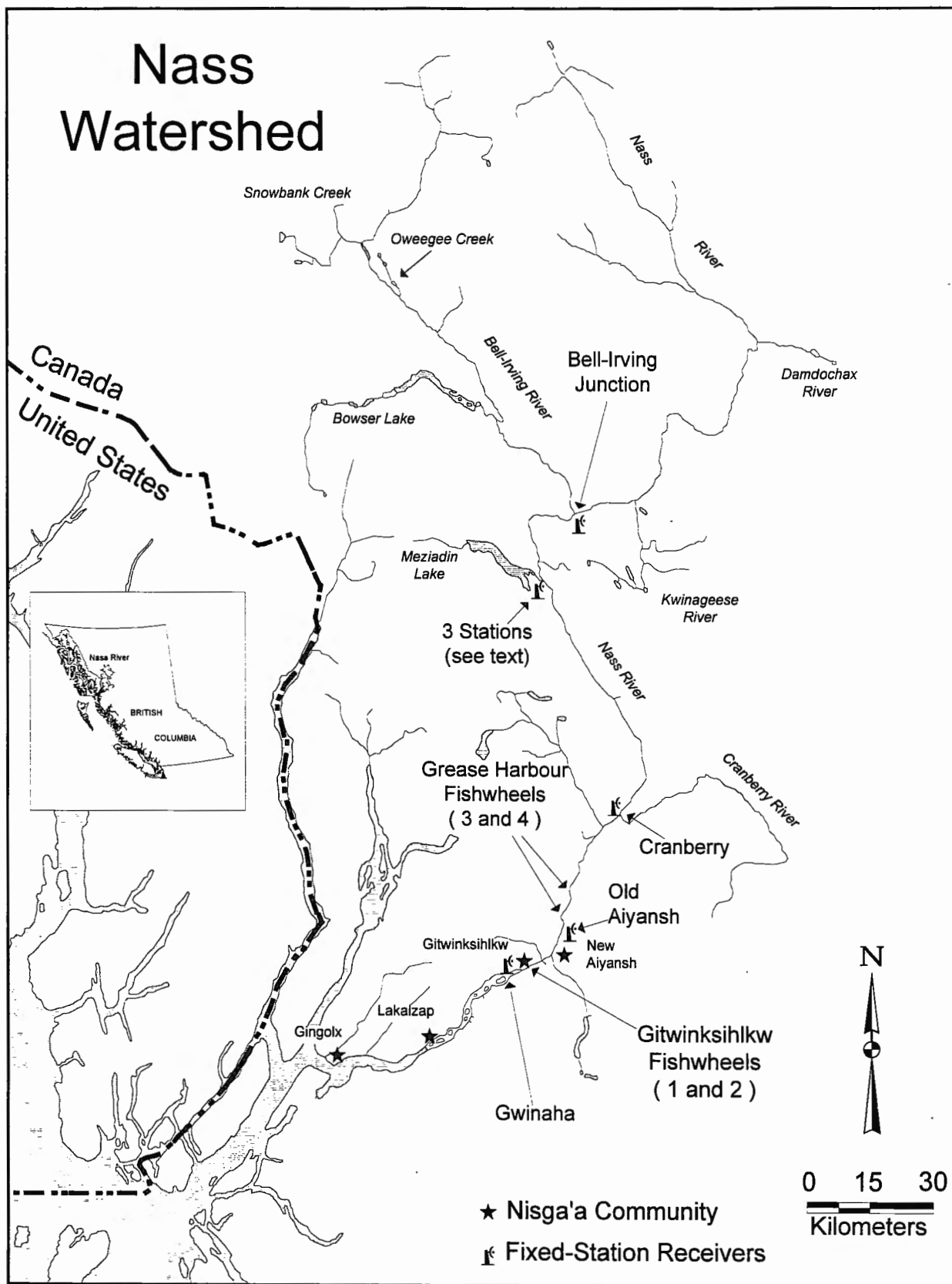
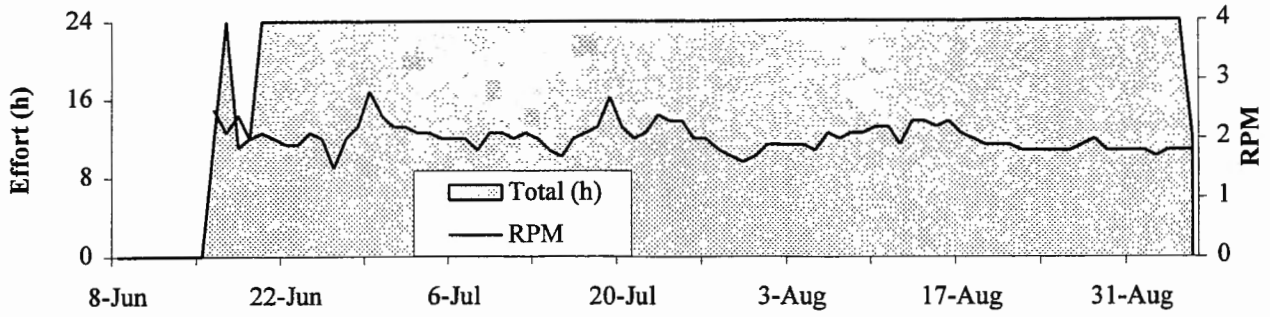
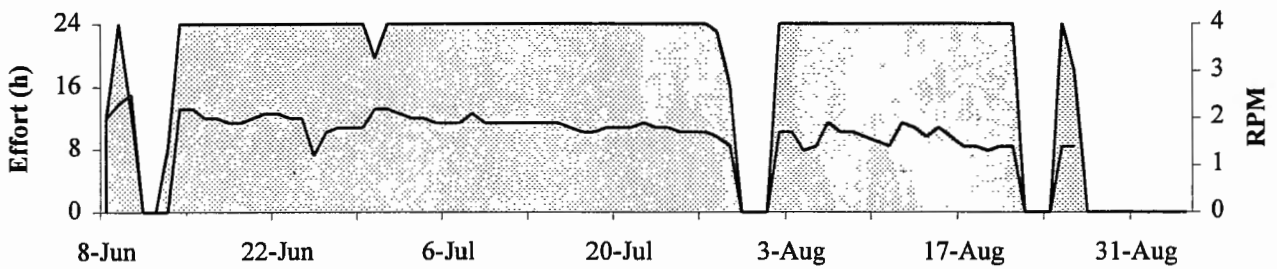


Figure 1. The Nass watershed showing locations of the fishwheels and fixed-station telemetry receivers.

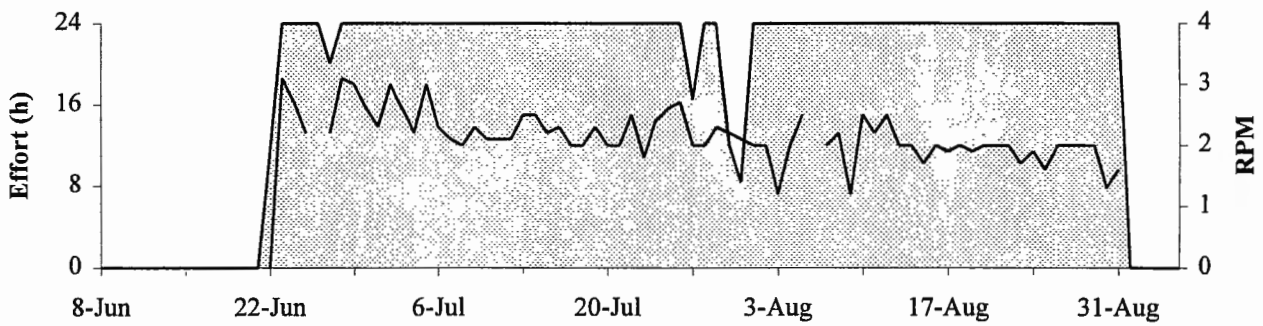
## Fishwheel 1



## Fishwheel 2



## Fishwheel 3



## Fishwheel 4

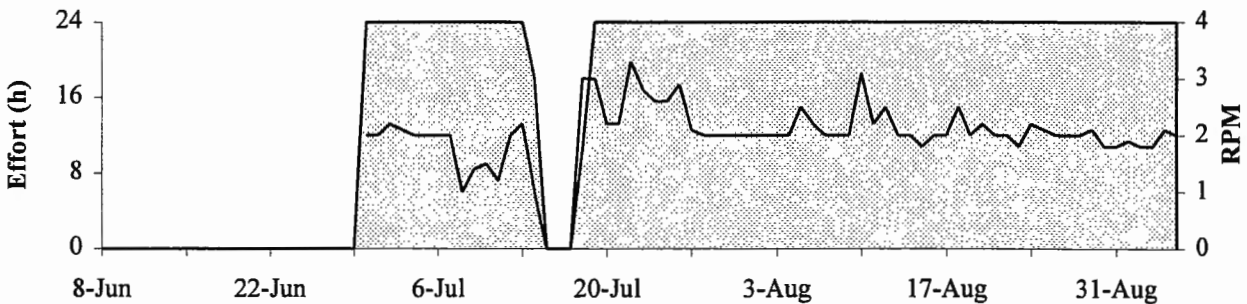


Figure 2. Fishwheel effort (h) and speed (RPM) for 4 fishwheels on the Nass River, 1995.

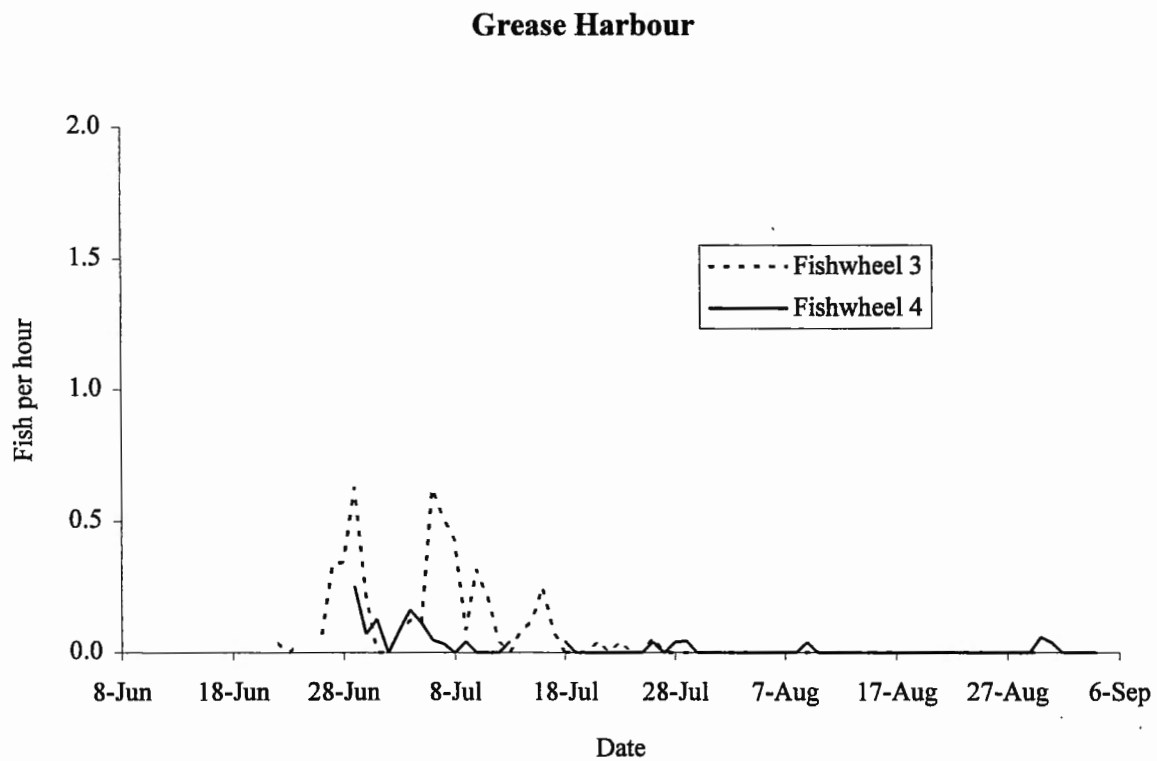
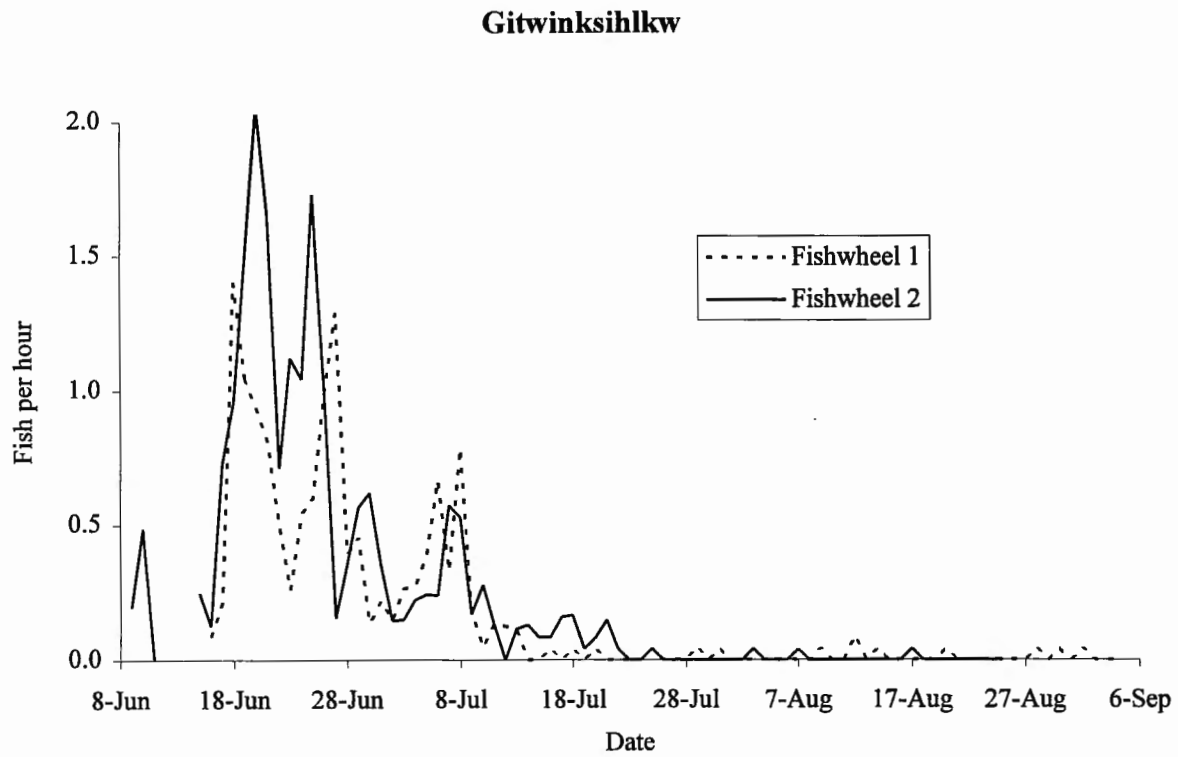


Figure 3. Fishwheel CPUE (catch per wheel hour) for adult chinook captured with 4 fishwheel on the Nass River, 1995.

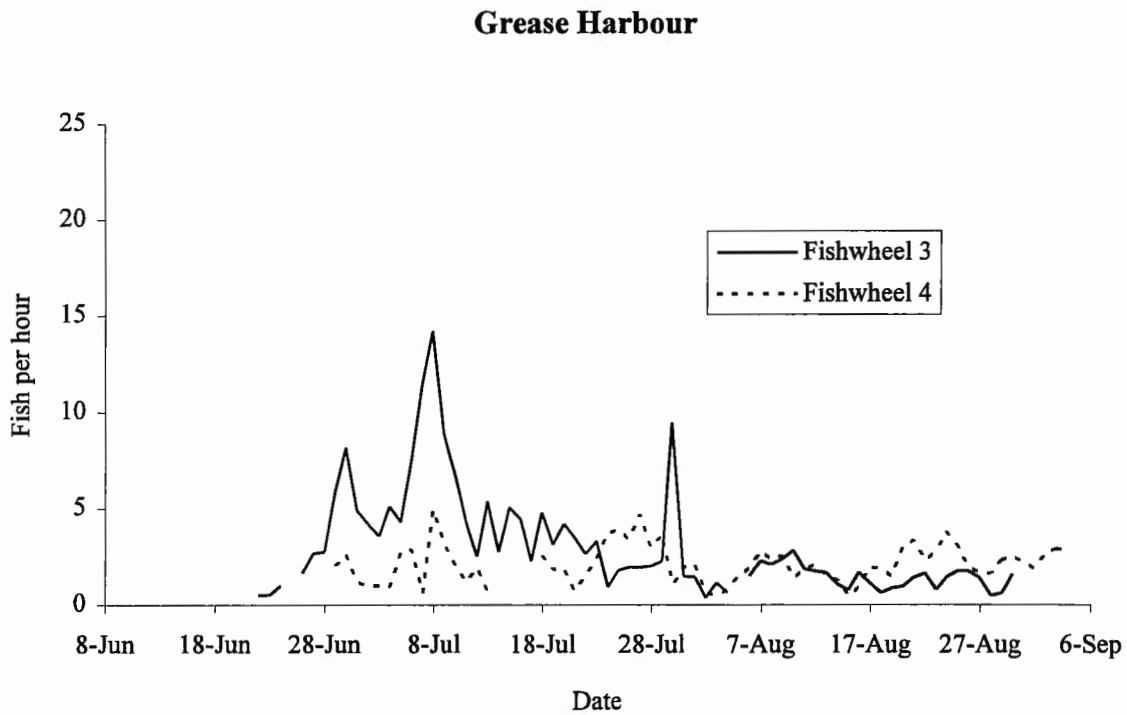
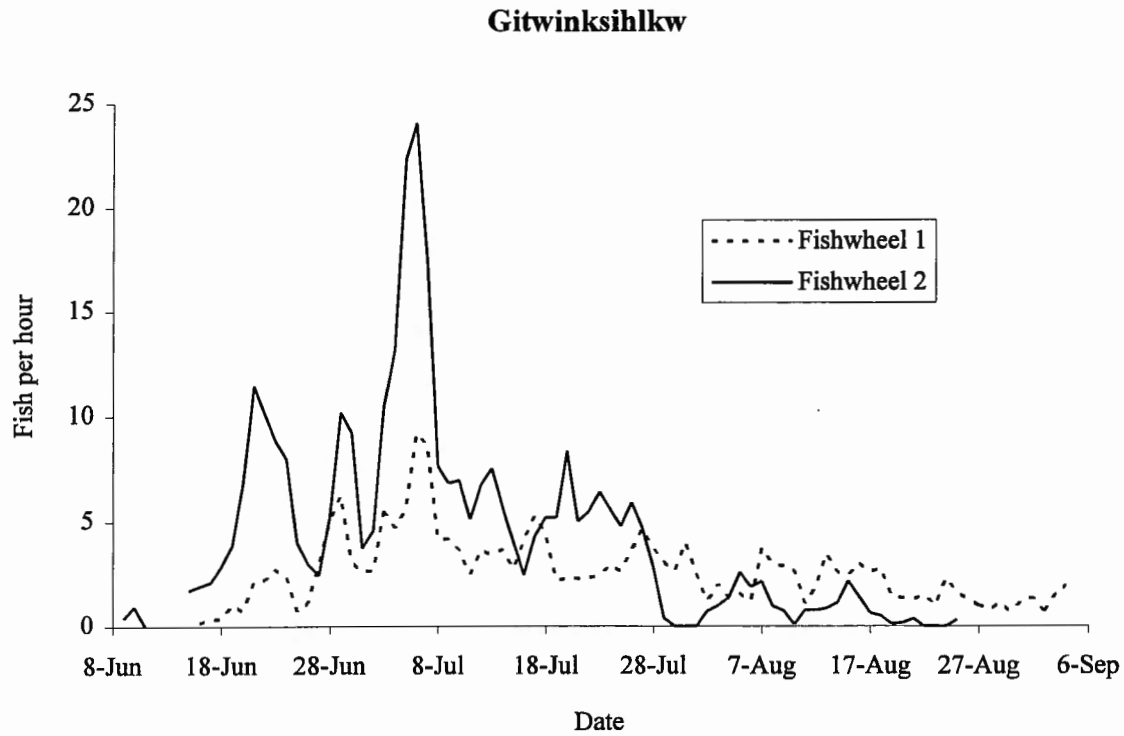


Figure 4. Fishwheel CPUE (catch per wheel hour) for adult sockeye salmon captured with 4 fishwheels on the Nass River, 1995.

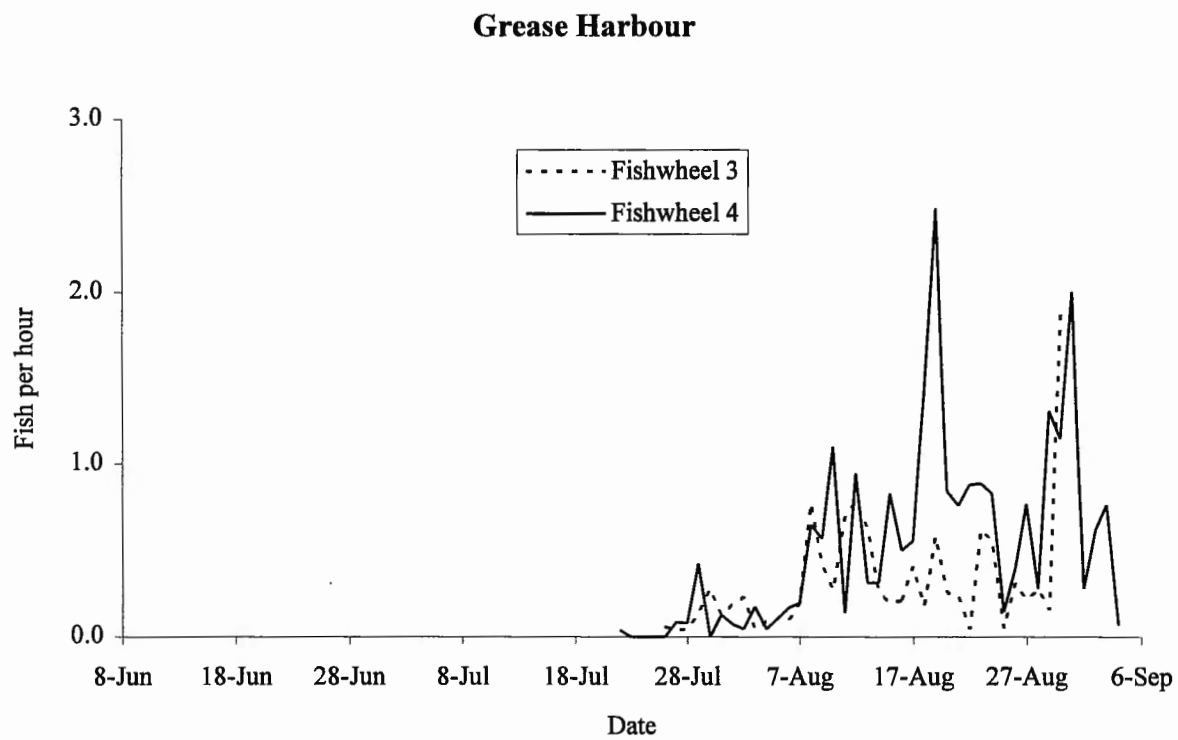
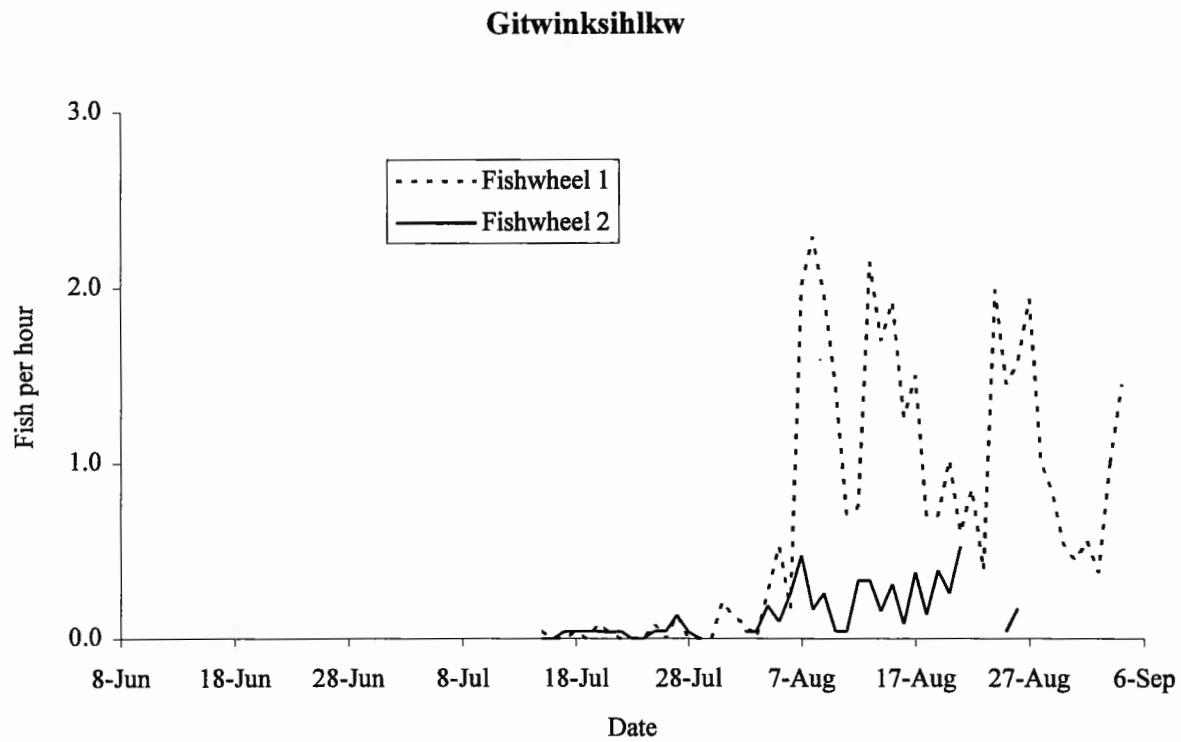
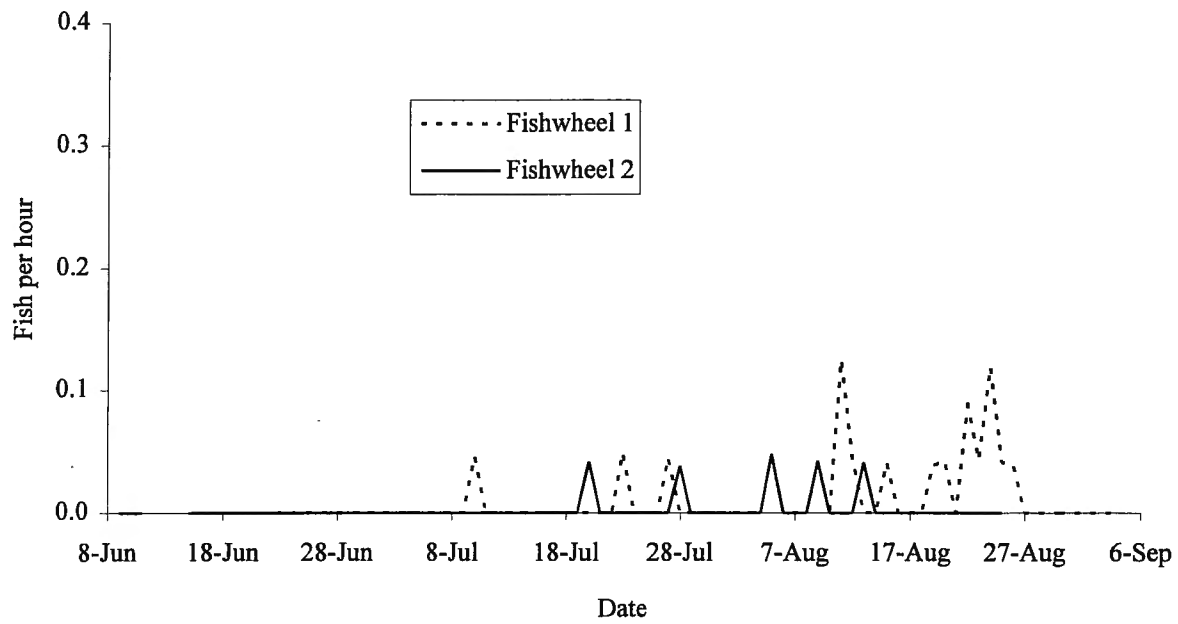


Figure 5. Fishwheel CPUE (catch per wheel hour) for adult coho salmon captured with 4 fishwheels on the Nass River, 1995.

### Gitwinksihlkw



### Grease Harbour

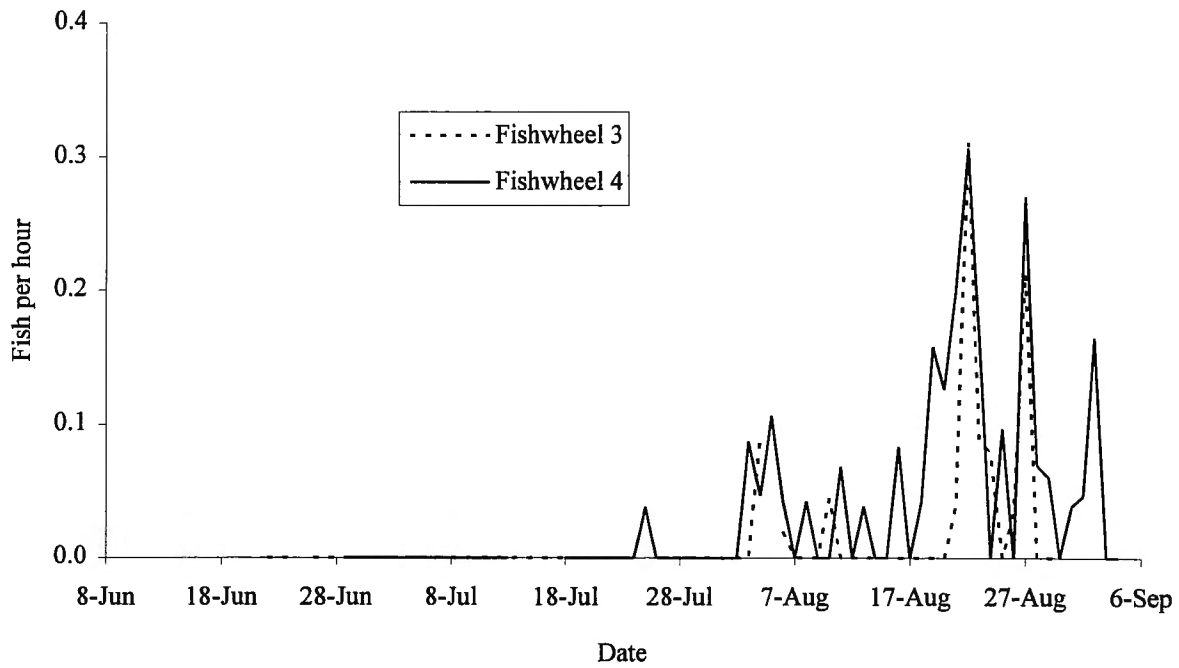
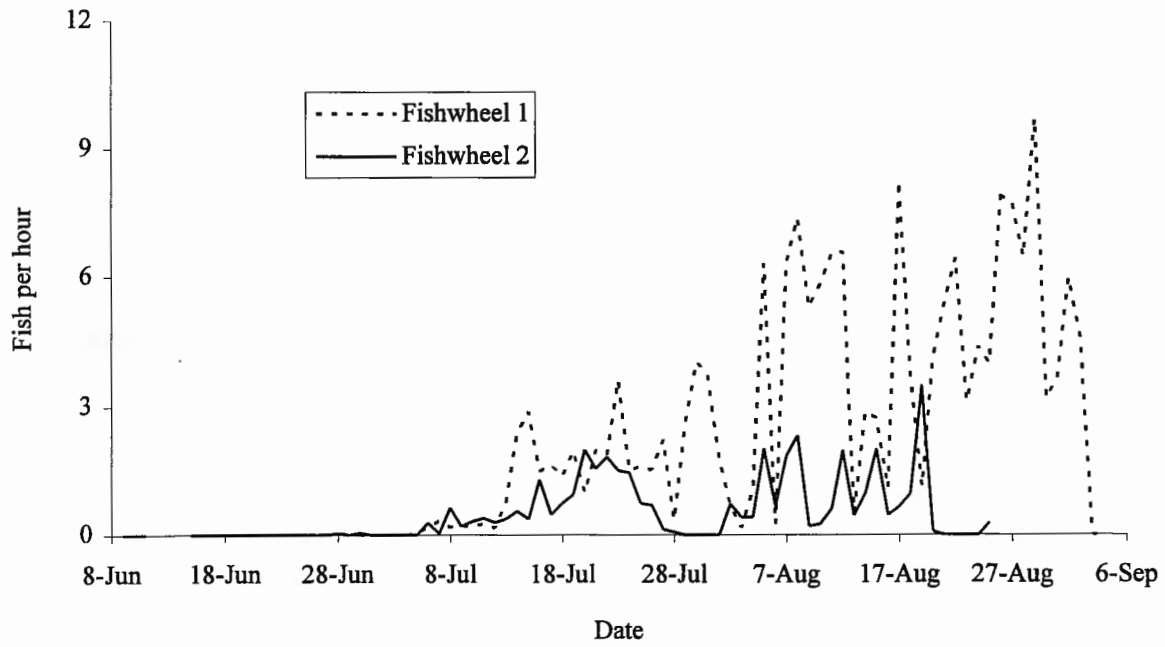


Figure 6. Fishwheel CPUE (catch per wheel hour) for adult steelhead captured with 4 fishwheels on the Nass River, 1995.

### Gitwinksihkw



### Grease Harbour

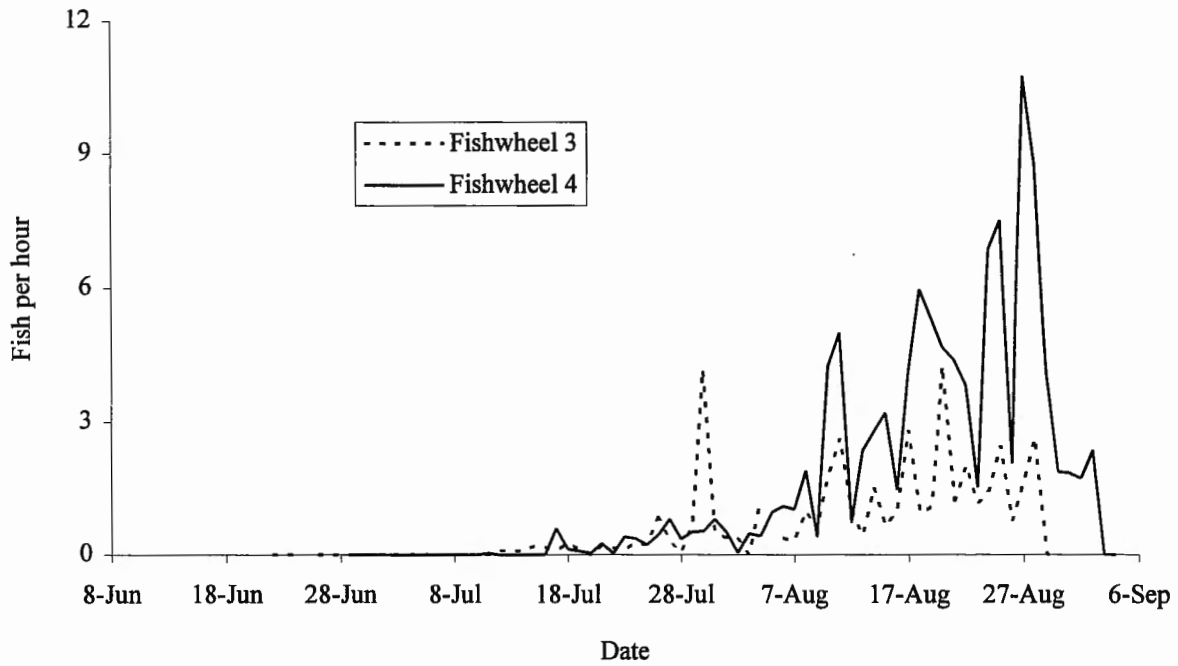
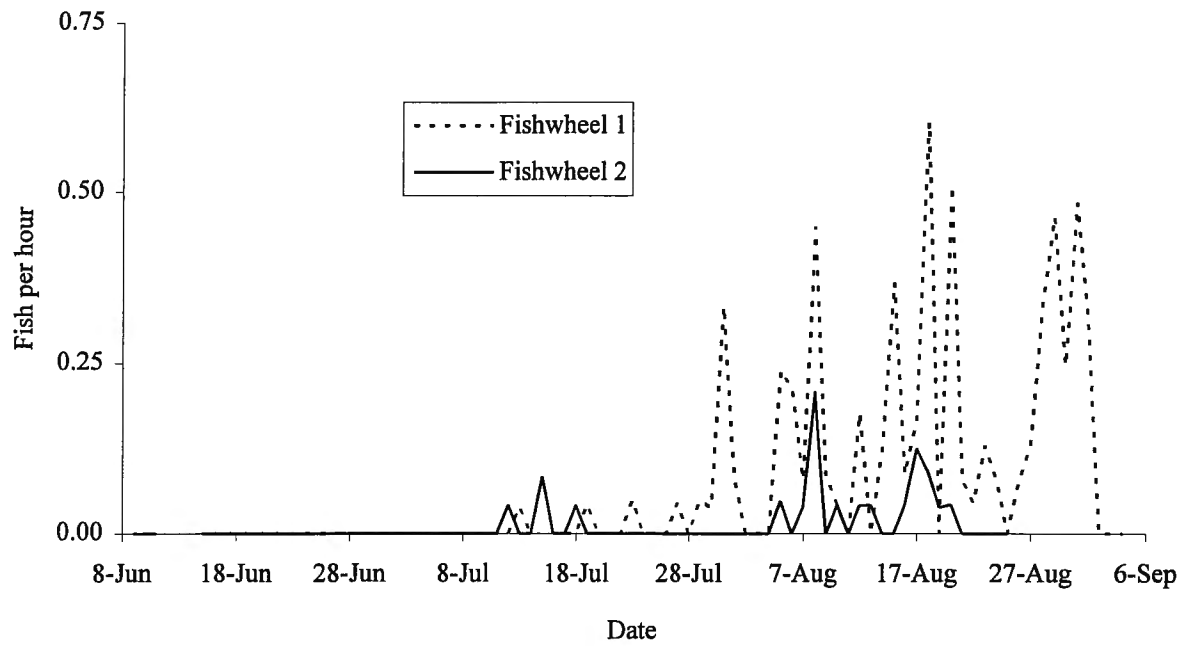


Figure 7. Fishwheel CPUE (catch per wheel hour) for adult pink salmon captured with 4 fishwheels on the Nass River, 1995.

### Gitwinksihlkw



### Grease Harbour

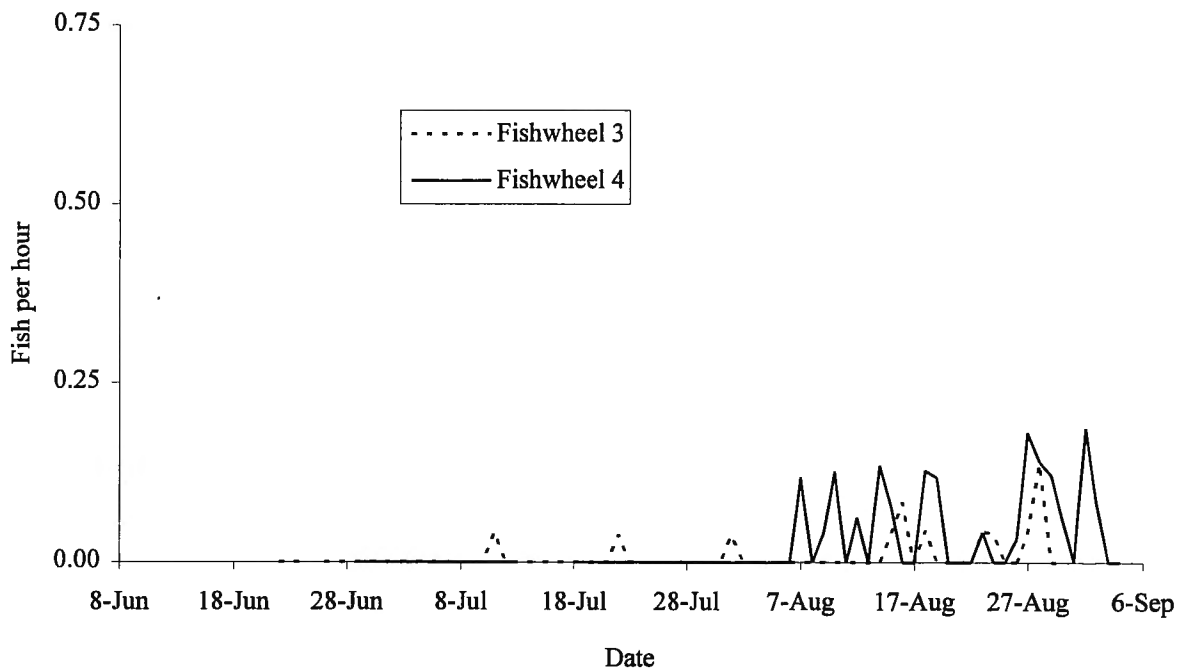


Figure 8. Fishwheel CPUE (catch per wheel hour) for adult chum salmon captured with 4 fishwheels on the Nass River, 1995.

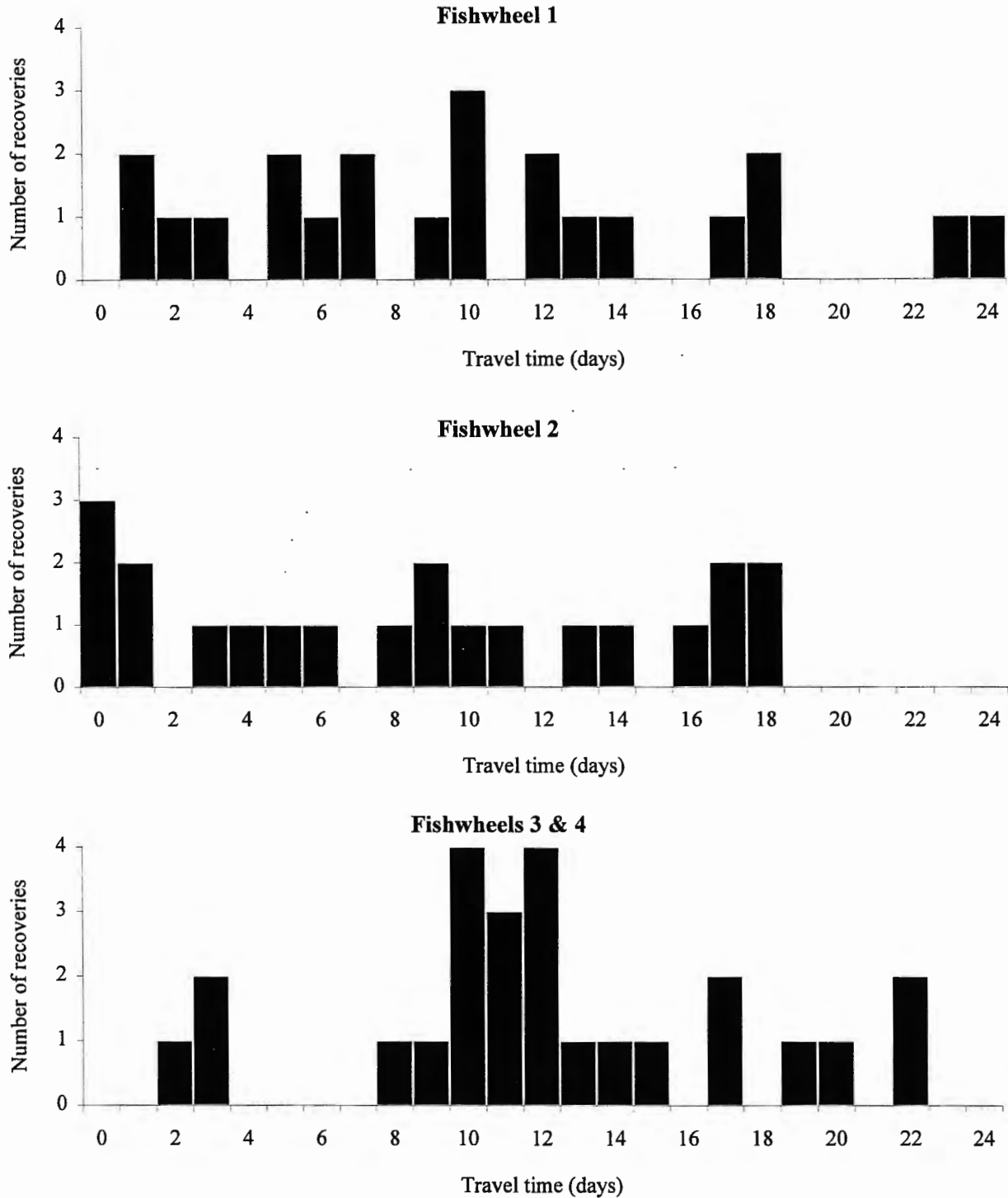


Figure 9. Time between release and recapture for chinook salmon tagged at fishwheels 1 and 2 and subsequently recaptured in each of the 4 fishwheels, 1995.

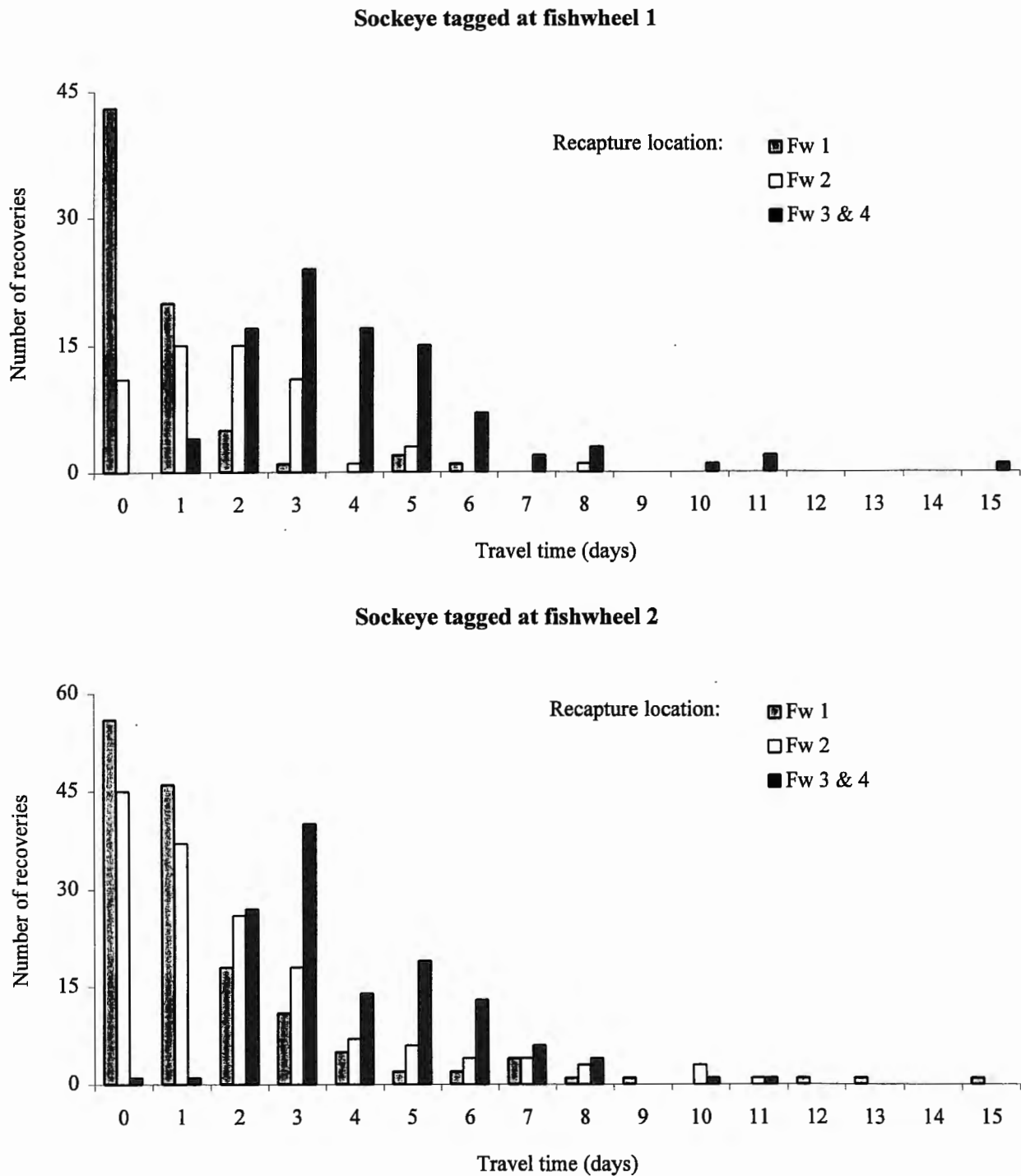
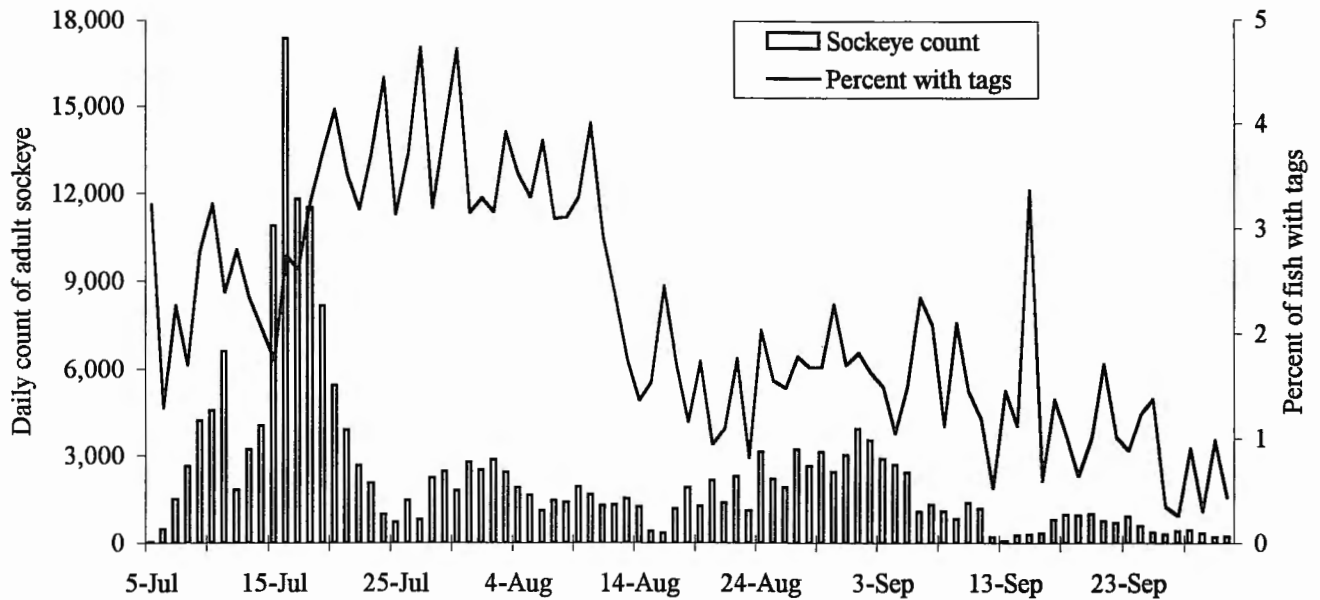


Figure 10. Time between release and recapture for sockeye salmon tagged at fishwheels 1 and 2 and subsequently recaptured in each of the 4 fishwheels, 1995. Fishwheel 3 and 4 were pooled for clarity.

## Sockeye



## Coho

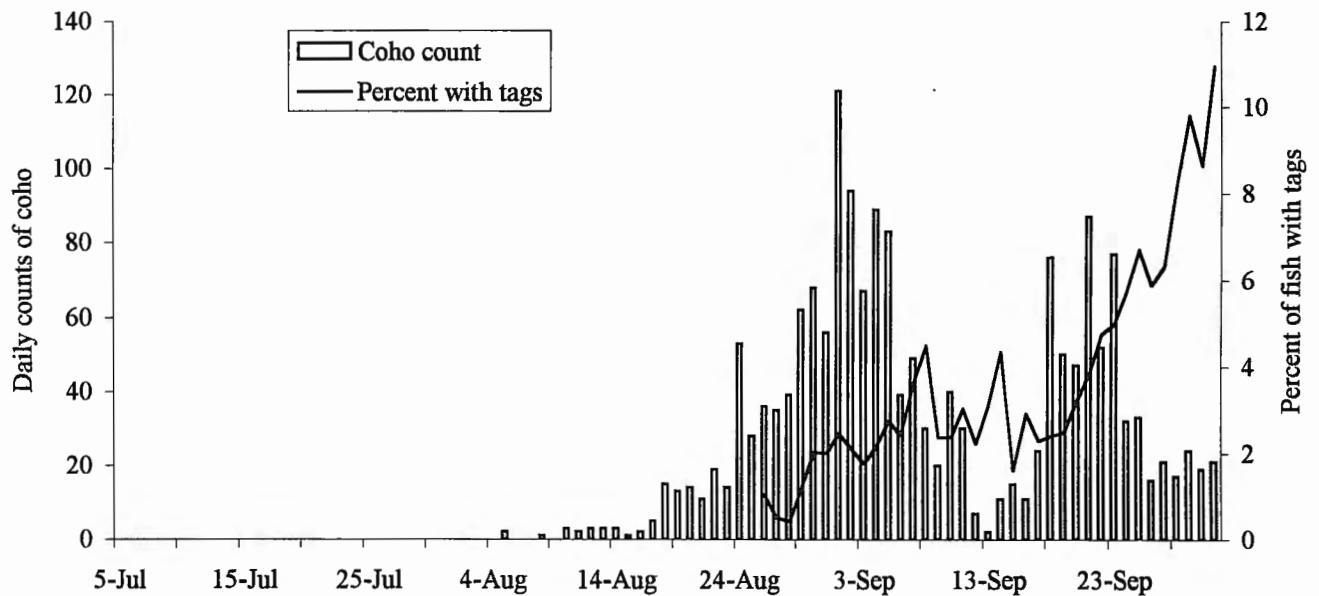


Figure 11. Daily counts and percent of fish with tags for sockeye and coho salmon passing through the Meziadin fishway in 1995. A running 5 day average was used for the percent of coho with tags.

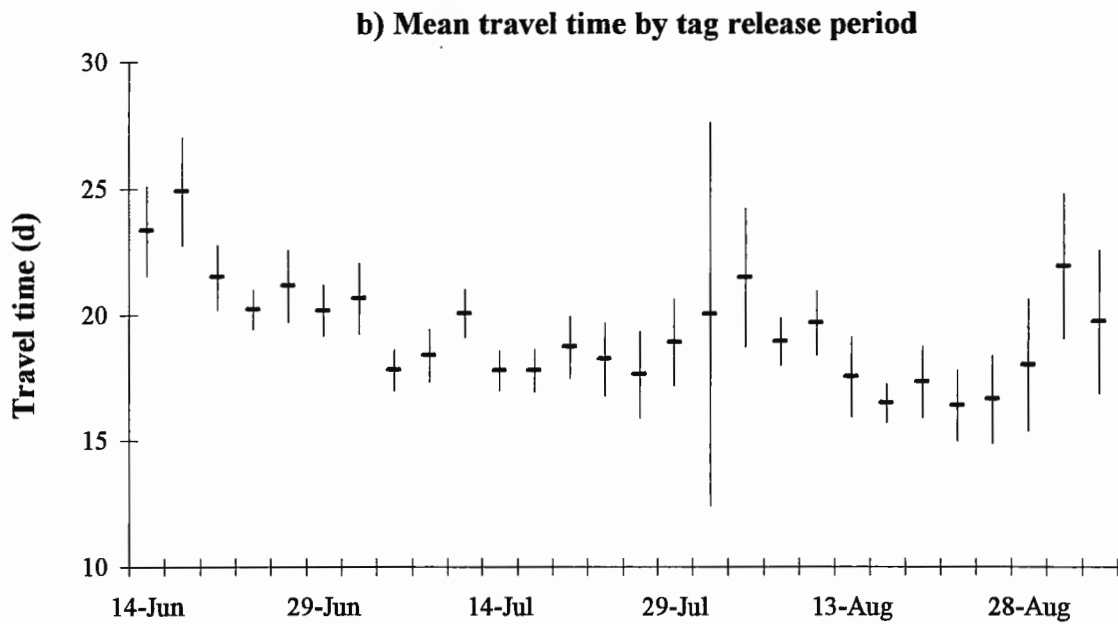
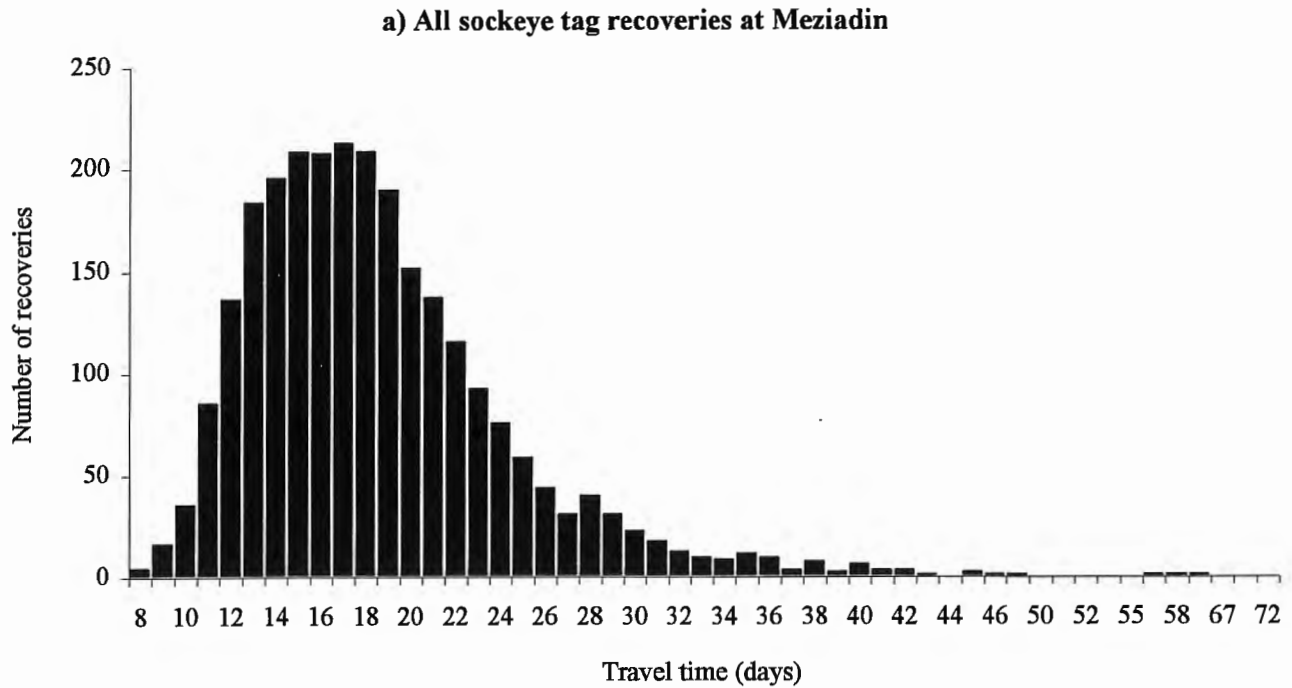


Figure 12. a) The distribution of travel times (days) to the Meziadin fishway for sockeye salmon tagged at the Nass River fishwheels and recovered at the Meziadin fishway, 1995. b) Mean travel time (with 95% confidence intervals) for 3-day release periods.

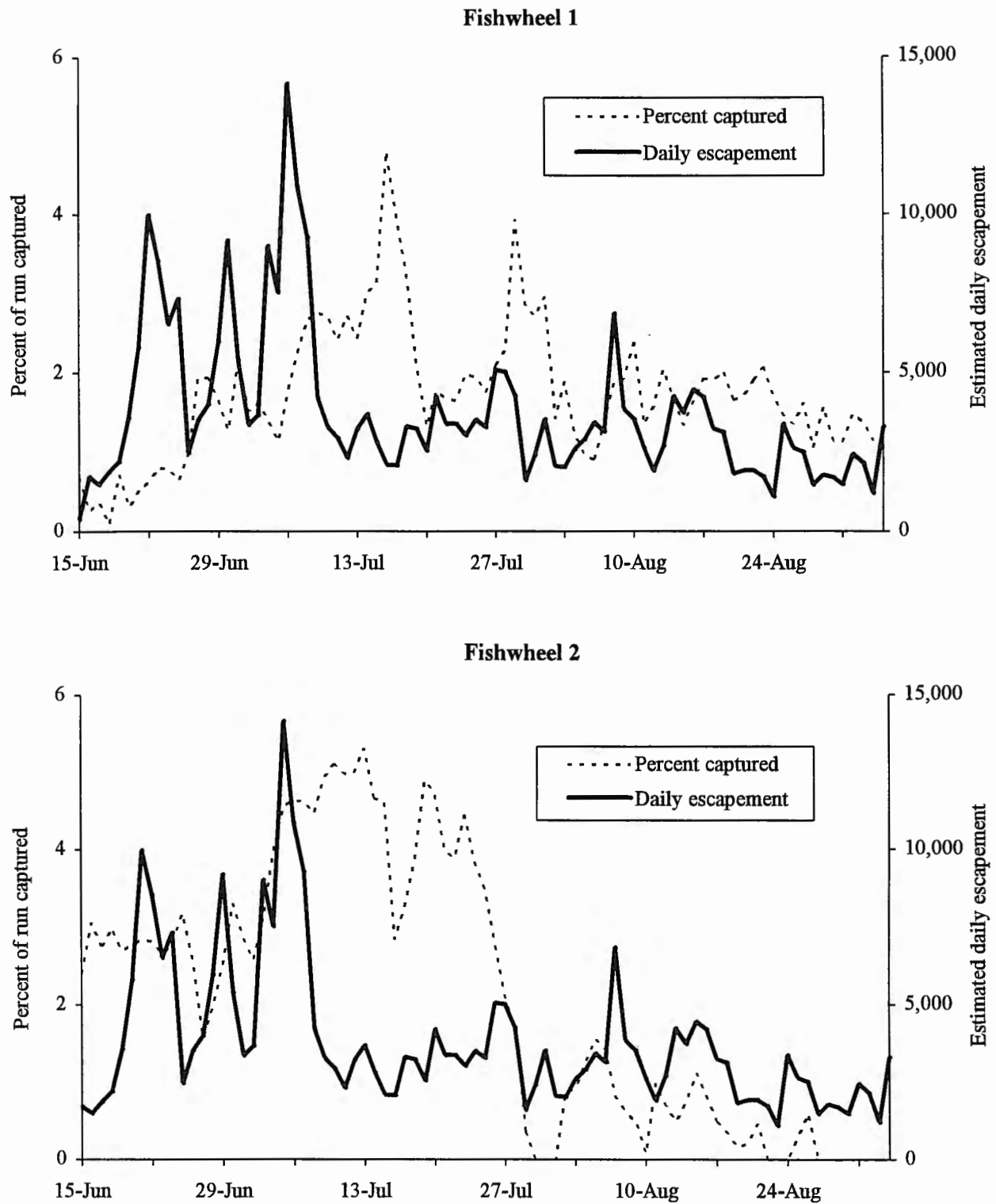


Figure 13. Percent of the sockeye run captured by fishwheels 1 and 2 versus estimated daily escapement, 1995.

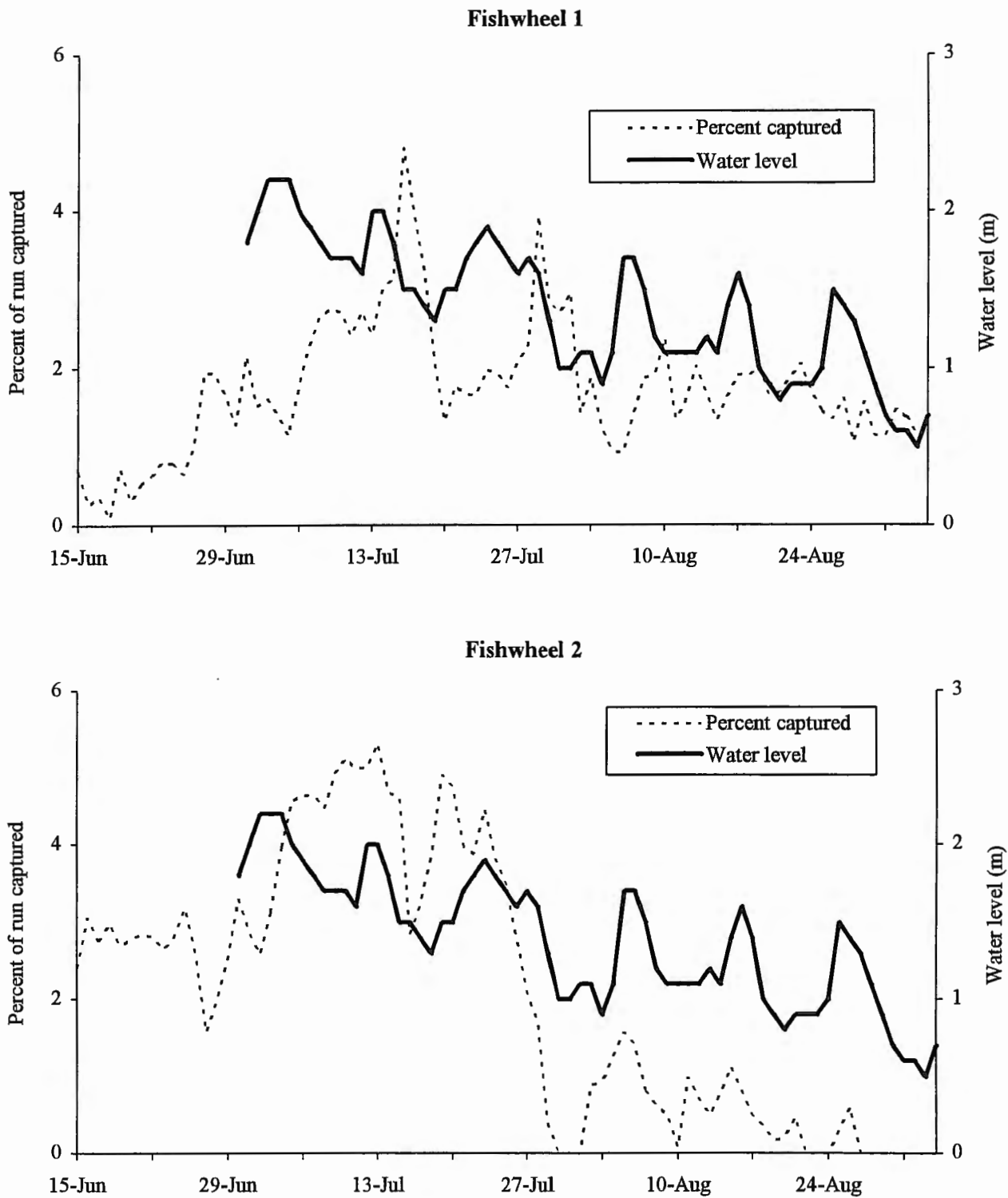


Figure 14. Percent of the sockeye run captured by fishwheels 1 and 2 versus level of the Nass River at Gitwinksihlkw, 1995.

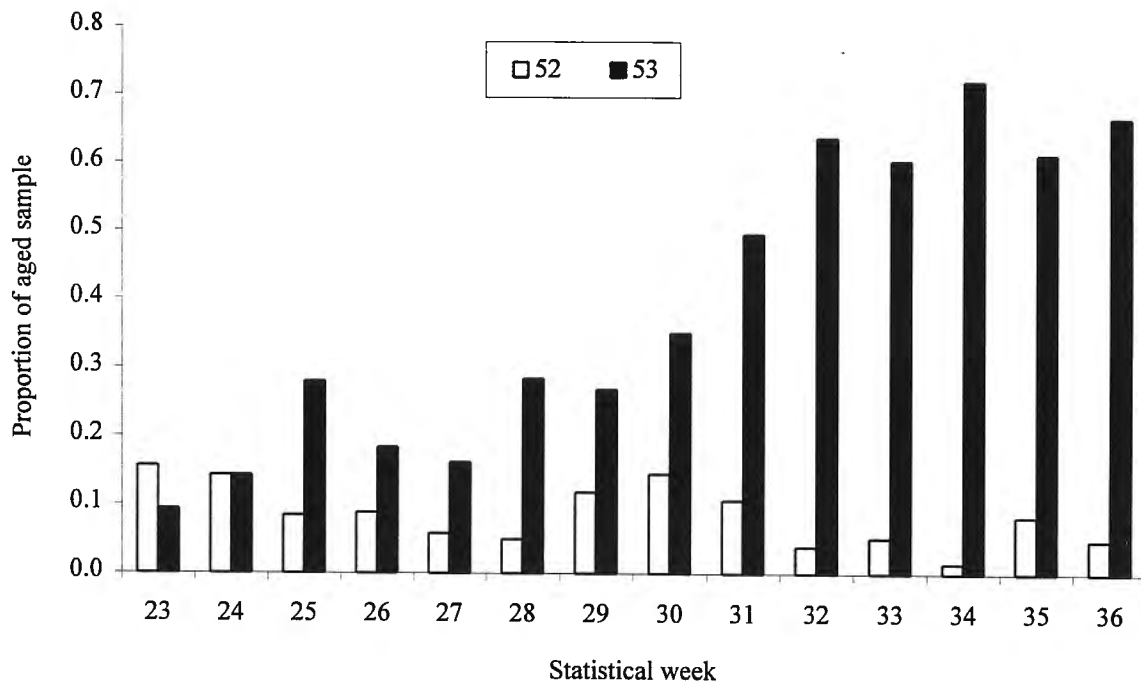
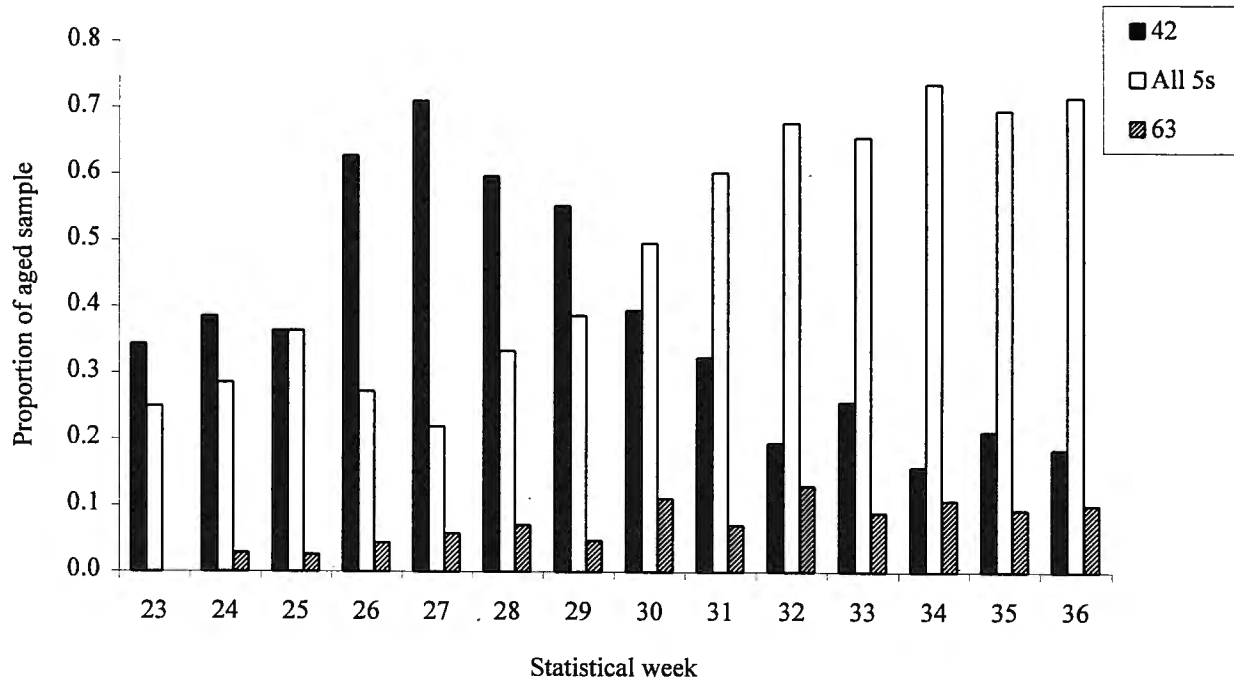


Figure 15. Weekly age composition of successfully aged sockeye salmon sampled from the Nass River fishwheel catch, 1995 (top: the aged-five fish were pooled for clarity).

APPENDICES

Table A-1 Minimum and maximum water depth and temperature data collected in the Nass River near Gitwinksihlkw, 30 June to 28 September, 1995.

Date	Depth (m)		Temperature (C)		Date	Depth (m)		Temperature (C)	
	Max.	Min.	Max.	Min.		Max.	Min.	Max.	Min.
30 Jun	1.8	1.6	12.4	12.0	17 Aug	1.4	0.9	9.0	8.6
01 Jul	2.0	1.7	12.6	11.9	18 Aug	1.0	0.8	9.0	8.6
02 Jul	2.2	1.9	12.4	11.5	19 Aug	0.9	0.7	9.6	8.8
03 Jul	2.2	2.0	11.7	10.9	20 Aug	0.8	0.7	10.0	9.2
04 Jul	2.2	2.0	11.1	10.4	21 Aug	0.9	0.7	10.4	9.6
05 Jul	2.0	1.8	10.9	10.2	22 Aug	0.9	0.8	10.4	9.8
06 Jul	1.9	1.7	10.9	10.2	23 Aug	0.9	0.8	10.2	9.4
07 Jul	1.8	1.6	11.1	10.2	24 Aug	1.0	0.9	10.2	9.4
08 Jul	1.7	1.6	11.5	10.4	25 Aug	1.5	1.0	10.2	9.6
09 Jul	1.7	1.6	11.9	11.1	26 Aug	1.4	1.3	10.4	9.8
10 Jul	1.7	1.6	11.7	11.1	27 Aug	1.3	1.1	10.2	9.4
11 Jul	1.6	1.6	12.4	11.5	28 Aug	1.1	0.9	9.8	9.0
12 Jul	2.0	1.6	11.5	11.1	29 Aug	0.9	0.7	9.6	8.6
13 Jul	2.0	1.7	11.3	10.7	30 Aug	0.7	0.6	10.0	8.8
14 Jul	1.8	1.5	10.7	10.0	31 Aug	0.6	0.5	10.0	8.8
15 Jul	1.5	1.4	10.9	9.8	01 Sep	0.6	0.5	9.4	8.8
16 Jul	1.5	1.3	11.1	10.4	02 Sep	0.5	0.5	9.2	8.6
17 Jul	1.4	1.2	11.1	10.4	03 Sep	0.7	0.5	9.2	8.8
18 Jul	1.3	1.2	11.3	10.4	04 Sep	0.7	0.6	9.6	8.6
19 Jul	1.5	1.3	11.9	10.7	05 Sep	0.6	0.5	10.0	9.0
20 Jul	1.5	1.4	12.4	11.3	06 Sep	0.6	0.5	10.0	9.0
21 Jul	1.7	1.5	12.4	11.7	07 Sep	0.7	0.5	9.8	8.8
22 Jul	1.8	1.6	12.4	11.7	08 Sep	0.9	0.7	10.0	9.2
23 Jul	1.9	1.6	12.1	11.1	09 Sep	1.0	0.8	10.2	9.2
24 Jul	1.8	1.6	11.1	10.4	10 Sep	1.0	0.9	9.6	9.2
25 Jul	1.7	1.4	10.4	9.8	11 Sep	1.3	0.9	9.2	9.0
26 Jul	1.6	1.4	10.0	9.4	12 Sep	2.8	1.3	9.0	8.6
27 Jul	1.7	1.5	10.0	9.4	13 Sep	2.8	2.3	9.0	8.2
28 Jul	1.6	1.2	10.0	9.4	14 Sep	2.3	1.6	8.2	7.7
29 Jul	1.3	0.9	10.2	9.2	15 Sep	1.7	1.3	8.2	7.5
30 Jul	1.0	0.8	11.1	9.6	16 Sep	1.4	1.1	8.4	7.7
31 Jul	1.0	0.8	10.7	10.0	17 Sep	1.1	0.8	8.6	7.8
01 Aug	1.1	0.9	10.2	9.8	18 Sep	0.8	0.7	8.8	8.0
02 Aug	1.1	0.8	10.7	9.6	19 Sep	0.7	0.6	8.6	8.2
03 Aug	0.9	0.7	10.0	9.4	20 Sep	0.6	0.4	8.8	8.0
04 Aug	1.1	0.8	9.6	9.2	21 Sep	0.4	0.2	8.2	7.5
05 Aug	1.7	1.1	10.0	9.2	22 Sep	0.2	0.1	8.2	7.3
06 Aug	1.7	1.4	10.0	9.4	23 Sep	0.2	0.1	8.0	7.1
07 Aug	1.5	1.2	10.2	9.4	24 Sep	0.3	0.2	8.0	7.1
08 Aug	1.2	1.1	10.4	9.4	25 Sep	0.3	0.2	8.0	7.1
09 Aug	1.1	1.0	10.9	9.8	26 Sep	0.4	0.3	8.0	7.3
10 Aug	1.1	1.0	10.7	9.8	27 Sep	0.4	0.3	8.0	7.5
11 Aug	1.1	0.9	10.7	10.2	28 Sep	0.4	0.3	8.0	7.7
12 Aug	1.1	0.9	10.4	10.2					
13 Aug	1.2	1.1	10.9	10.0					
14 Aug	1.1	1.0	10.7	9.8					
15 Aug	1.4	1.0	9.8	9.2					
16 Aug	1.6	1.3	9.6	9.0					

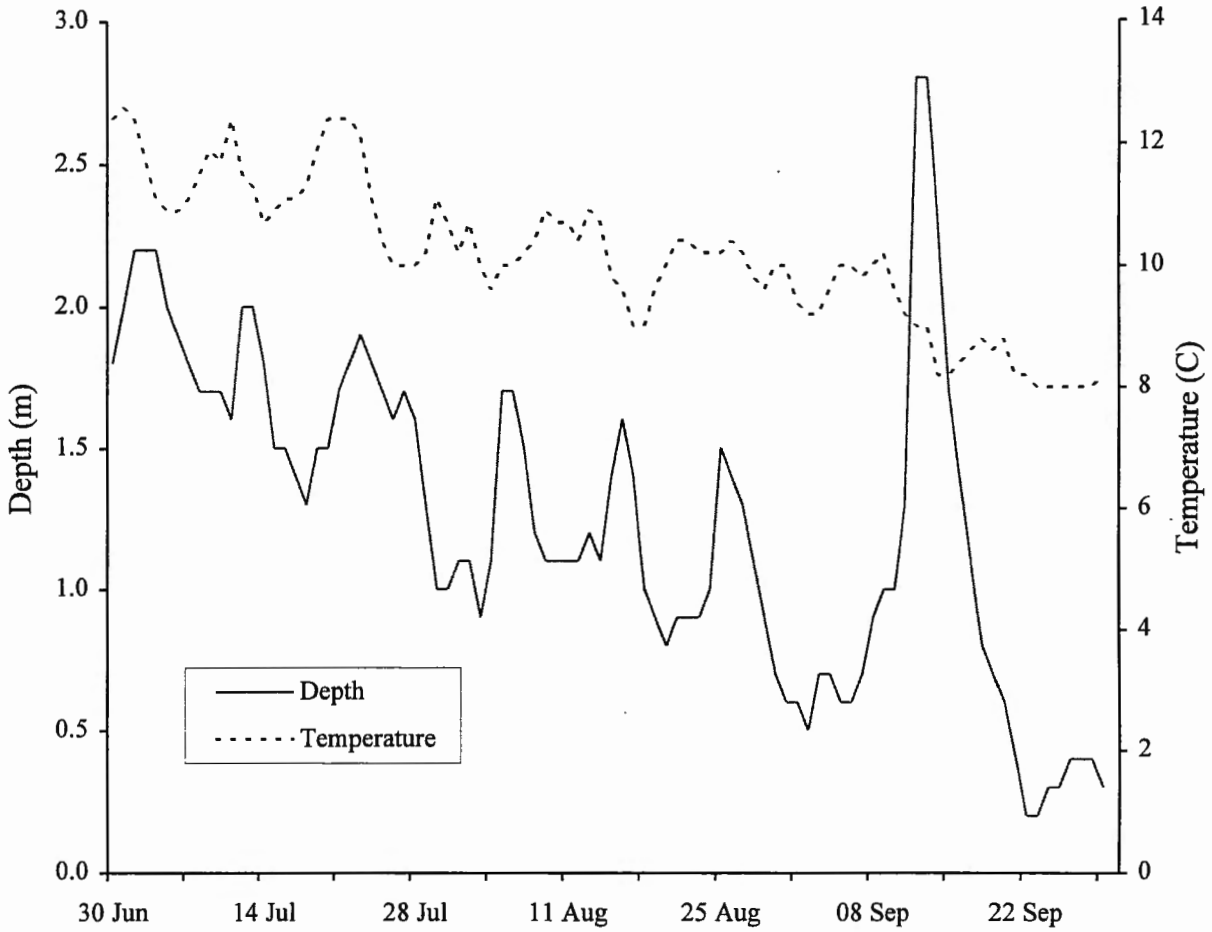


Figure A-1. Daily maximum water temperature and level data collected in the Nass River near Gitwinksihlkw, 1995.

Table A-2. Summary of daily fishwheel effort (h), effort used to calculate CPUE (h) and fishwheel speed (RPM) for 4 fishwheels used on the Nass River in 1995.

Date	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Comments
	Total (h)	CPUE	RPM	Total (h)	CPUE	RPM	Total (h)	CPUE	RPM	Total (h)	CPUE	RPM	
08-Jun				12.0	6.7	2.0							
09-Jun				24.0	15.3	2.3							
10-Jun				12.8	26.8	2.5							
11-Jun				0.0	0.0	0.0							
12-Jun				0.0	0.0	0.0							
13-Jun				8.0	0.0	0.0							
14-Jun				24.0	24.6	2.2							
15-Jun	12.0	10.0	2.5	24.0	24.2	2.2							
16-Jun	24.0	23.2	2.1	24.0	23.8	2.0							
17-Jun	11.1	18.8	2.4	24.0	24.7	2.0							
18-Jun	12.0	5.7	2.0	24.0	23.0	1.9							
19-Jun	24.0	24.9	2.1	24.0	24.9	1.9							
20-Jun	24.0	23.6	2.0	24.0	23.8	2.0							
21-Jun	24.0	24.7	1.9	24.0	24.8	2.1	11.4	0.0	0.0				FW 3 started in 1994
22-Jun	24.0	24.2	1.9	24.0	23.9	2.1	24.0	26.4	3.1				location
23-Jun	24.0	19.3	2.1	24.0	19.6	2.0	24.0	17.0	2.7				
24-Jun	24.0	23.9	2.0	24.0	25.9	2.0	24.0	28.1	2.2				
25-Jun	24.0	21.7	1.5	24.0	19.7	1.2	24.0	0.0					
26-Jun	24.0	30.3	2.0	24.0	30.2	1.7	20.1	42.7	2.2				
27-Jun	24.0	25.6	2.2	24.0	25.8	1.8	24.0	29.6	3.1				
28-Jun	24.0	23.0	2.8	24.0	22.9	1.8	24.0	23.2	3.0				
29-Jun	24.0	24.3	2.4	24.0	23.0	1.8	24.0	22.3	2.6	24.0	23.6	2.0	river rising
30-Jun	24.0	22.2	2.2	19.6	19.4	2.2	24.0	27.6	2.3	24.0	27.7	2.0	moved FW 1 ahead 10 ft
01-Jul	24.0	27.5	2.2	24.0	25.8	2.2	24.0	23.6	3.0	24.0	23.4	2.2	
02-Jul	24.0	20.9	2.1	24.0	20.7	2.1	24.0	22.4	2.6	24.0	22.4	2.1	
03-Jul	24.0	26.6	2.1	24.0	26.8	2.0	24.0	23.4	2.2	24.0	23.3	2.0	
04-Jul	24.0	22.3	2.0	24.0	22.6	2.0	24.0	24.2	3.0	24.0	24.3	2.0	
05-Jul	24.0	28.7	2.0	24.0	29.0	1.9	24.0	26.0	2.3	24.0	26.1	2.0	
06-Jul	24.0	21.1	2.0	24.0	21.0	1.9	24.0	25.7	2.1	24.0	20.6	2.0	
07-Jul	24.0	24.5	1.8	24.0	24.5	1.9	24.0	25.4	2.0	24.0	29.2	1.0	
08-Jul	24.0	26.8	2.1	24.0	24.7	2.1	24.0	23.3	2.3	24.0	24.3	1.4	
09-Jul	24.0	21.8	2.1	24.0	23.8	1.9	24.0	23.3	2.1	24.0	23.3	1.5	

Table A-2. Summary of daily fishwheel effort (h), effort used to calculate CPUE (h) and fishwheel speed (RPM) for 4 fishwheels used on the Nass River in 1995.

Date	Fishwheel 1			Fishwheel 2			Fishwheel 3			Fishwheel 4			Comments
	Total (h)	CPUE	RPM	Total (h)	CPUE	RPM	Total (h)	CPUE	RPM	Total (h)	CPUE	RPM	
10-Jul	24.0	21.9	2.0	24.0	21.7	1.9	24.0	22.2	2.1	24.0	21.6	1.2	
11-Jul	24.0	22.4	2.1	24.0	22.6	1.9	24.0	23.7	2.1	24.0	23.8	2.0	
12-Jul	24.0	24.2	2.0	24.0	24.0	1.9	24.0	23.8	2.5	24.0	24.6	2.2	
13-Jul	24.0	26.0	1.8	24.0	26.2	1.9	24.0	23.6	2.5	18.0	23.3	1.0	
14-Jul	24.0	23.0	1.7	24.0	23.0	1.9	24.0	23.1	2.2	0.0	0.0	0.0	FW4 turning too slow
15-Jul	24.0	24.0	2.0	24.0	23.9	1.9	24.0	25.3	2.3	0.0	0.0	0.0	
16-Jul	24.0	24.1	2.1	24.0	23.9	1.8	24.0	24.1	2.0	0.0	0.0	0.0	
17-Jul	24.0	25.1	2.2	24.0	25.1	1.7	24.0	25.6	2.0	10.4	6.7	3.0	FW 4 moved 3 km upstream
18-Jul	24.0	24.0	2.7	24.0	24.0	1.7	24.0	22.8	2.3	24.0	22.8	3.0	
19-Jul	24.0	24.1	2.2	24.0	24.1	1.8	24.0	23.7	2.0	24.0	23.0	2.2	
20-Jul	24.0	24.2	2.0	24.0	24.1	1.8	24.0	24.1	2.0	24.0	24.1	2.2	FW 1 moved up 10 ft
21-Jul	24.0	26.3	2.1	24.0	26.9	1.8	24.0	22.3	2.5	24.0	22.8	3.3	
22-Jul	24.0	24.5	2.4	24.0	24.1	1.9	24.0	26.0	1.8	24.0	25.4	2.8	FW 1 moved ahead 4 ft
23-Jul	24.0	20.6	2.3	24.0	21.1	1.8	24.0	23.5	2.4	24.0	24.3	2.6	FW 1 moved ahead 5 ft
24-Jul	24.0	23.8	2.3	24.0	24.0	1.8	24.0	22.6	2.6	24.0	21.9	2.6	
25-Jul	24.0	24.2	2.0	24.0	24.0	1.7	24.0	25.9	2.7	24.0	25.9	2.9	
26-Jul	24.0	24.2	2.0	24.0	24.2	1.7	16.5	17.3	2.0	24.0	24.3	2.1	
27-Jul	24.0	22.5	1.8	24.0	22.4	1.7	24.0	22.5	2.0	24.0	23.5	2.0	
28-Jul	24.0	26.3	1.7	23.0	26.1	1.6	24.0	24.8	2.3	24.0	24.8	2.0	
29-Jul	24.0	20.8	1.6	16.0	14.8	1.4	12.0	14.4	2.2	24.0	21.3	2.0	low water - fishing poor
30-Jul	24.0	25.9	1.7	0.0	0.0	0.0	8.4	3.6	2.1	24.0	26.3	2.0	
31-Jul	24.0	24.1	1.9	0.0	0.0	0.0	24.0	23.6	2.0	24.0	23.5	2.0	
1-Aug	24.0	24.5	1.9	0.0	0.0	0.0	24.0	26.2	2.0	24.0	27.1	2.0	
2-Aug	24.0	23.6	1.9	24.0	24.4	1.7	24.0	21.6	1.2	24.0	21.3	2.0	
3-Aug	24.0	24.3	1.9	24.0	23.9	1.7	24.0	22.7	2.0	24.0	22.8	2.0	
4-Aug	24.0	26.4	1.8	24.0	26.7	1.3	24.0	21.9	2.5	24.0	21.2	2.5	
5-Aug	24.0	21.0	2.1	24.0	20.8	1.4	24.0	0.0		24.0	28.2	2.2	
6-Aug	24.0	23.6	2.0	24.0	23.6	1.9	24.0	50.7	2.0	24.0	23.7	2.0	
7-Aug	24.0	25.4	2.1	24.0	25.4	1.7	24.0	25.4	2.2	24.0	25.3	2.0	
8-Aug	24.0	24.5	2.1	24.0	24.1	1.7	24.0	23.4	1.2	24.0	23.3	2.0	FW 2 fishing poorly
9-Aug	24.0	23.5	2.2	24.0	23.5	1.6	24.0	26.2	2.5	24.0	24.7	3.1	FW 2 moved out 10 ft
10-Aug	24.0	23.8	2.2	24.0	23.4	1.5	24.0	22.2	2.2	24.0	23.7	2.2	



Table B-1. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for chinook salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
08-Jun	0	0	0	0	0		3	3	3	0	0	0.45							0	0	0	0	0	
09-Jun	0	0	0	0	0		3	6	3	0	0	0.20							0	0	0	0	0	
10-Jun	0	0	0	0	0		13	19	13	1	1	0.49							0	0	0	0	0	
11-Jun	0	0	0	0	0		0	19	0	0	1								0	0	0	0	0	
12-Jun	0	0	0	0	0		0	19	0	0	1								0	0	0	0	0	
13-Jun	0	0	0	0	0		0	19	0	0	1								0	0	0	0	0	
14-Jun	0	0	0	0	0		3	22	3	0	1	0.12							0	0	0	0	0	
15-Jun	2	2	2	0	0	0.20	6	28	6	0	1	0.25							0	0	0	0	0	
16-Jun	2	4	2	0	0	0.09	14	42	14	0	1	0.59							0	0	0	0	0	
17-Jun	4	8	4	0	0	0.21	18	60	13	0	1	0.73							0	0	0	0	0	
18-Jun	8	16	8	0	0	1.40	22	82	19	0	1	0.96							0	0	0	0	0	
19-Jun	26	42	26	2	2	1.04	37	119	32	4	5	1.49							0	0	0	0	0	
20-Jun	22	64	21	0	2	0.93	49	168	46	0	5	2.06							0	0	0	0	0	
21-Jun	20	84	19	0	2	0.81	41	209	39	2	7	1.65							0	0	0	0	0	
22-Jun	12	96	12	0	2	0.50	17	226	17	2	9	0.71	1	1	0	0	0	0.04	0	0	0	0	0	
23-Jun	5	101	5	0	2	0.26	22	248	22	1	10	1.12	0	1	0	0	0	0.00	0	0	0	0	0	
24-Jun	13	114	13	6	8	0.54	27	275	25	1	11	1.04	1	2	0	2	2	0.04	0	0	0	0	0	
25-Jun	13	127	11	3	11	0.60	34	309	33	3	14	1.73	0	2	0	0	2		0	0	0	0	0	
26-Jun	30	157	29	0	11	0.99	30	339	29	2	16	0.99	3	5	0	0	2	0.07	0	0	0	0	0	
27-Jun	33	190	32	2	13	1.29	4	343	3	0	16	0.16	10	15	0	0	2	0.34	0	0	0	0	0	
28-Jun	9	199	9	3	16	0.39	8	351	6	1	17	0.35	8	23	0	0	2	0.34	0	0	0	0	0	
29-Jun	11	210	11	0	16	0.45	13	364	13	1	18	0.57	14	37	0	4	6	0.63	6	6	0	0	0	0.25
30-Jun	3	213	3	0	16	0.14	12	376	12	0	18	0.62	6	43	0	0	6	0.22	2	8	0	0	0	0.07
01-Jul	6	219	5	2	18	0.22	9	385	8	2	20	0.35	0	43	0	0	6	0.00	3	11	0	0	0	0.13
02-Jul	3	222	2	2	20	0.14	3	388	3	2	22	0.14	0	43	0	0	6	0.00	0	11	0	0	0	0.00
03-Jul	7	229	3	1	21	0.26	4	392	4	1	23	0.15	2	45	0	1	7	0.09	2	13	0	0	0	0.09
04-Jul	6	235	4	2	23	0.27	5	397	5	1	24	0.22	3	48	0	1	8	0.12	4	17	0	1	1	0.16
05-Jul	11	246	8	4	27	0.38	7	404	5	2	26	0.24	3	51	0	0	8	0.12	3	20	0	1	2	0.12
06-Jul	14	260	13	6	33	0.66	5	409	5	4	30	0.24	16	67	0	3	11	0.62	1	21	0	1	3	0.05
07-Jul	8	268	7	6	39	0.33	14	423	12	5	35	0.57	13	80	0	3	14	0.51	1	22	0	0	3	0.03
08-Jul	21	289	17	2	41	0.78	13	436	13	0	35	0.53	10	90	0	1	15	0.43	0	22	0	3	6	0.00
09-Jul	4	293	4	1	42	0.18	4	440	3	0	35	0.17	2	92	0	0	15	0.09	1	23	0	0	6	0.04
10-Jul	1	294	0	6	48	0.05	6	446	4	1	36	0.28	7	99	0	0	15	0.32	0	23	0	3	9	0.00
11-Jul	3	297	3	5	53	0.13	3	449	3	1	37	0.13	5	104	0	2	17	0.21	0	23	0	0	9	0.00
12-Jul	3	300	3	2	55	0.12	0	449	0	3	40	0.00	1	105	0	0	17	0.04	0	23	0	1	10	0.00

Table B-1. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for chinook salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
13-Jul	3	303	2	0	55	0.12	3	452	3	3	43	0.11	0	105	0	0	17	0.00	1	24	0	0	10	0.04
14-Jul	0	303	0	1	56	0.00	3	455	2	0	43	0.13	2	107	0	0	17	0.09	0	24	0	0	10	
15-Jul	0	303	0	0	56	0.00	2	457	2	1	44	0.08	3	110	0	3	20	0.12	0	24	0	0	10	
16-Jul	1	304	1	1	57	0.04	2	459	0	0	44	0.08	6	116	0	3	23	0.25	0	24	0	0	10	
17-Jul	0	304	0	0	57	0.00	4	463	3	0	44	0.16	2	118	0	4	27	0.08	0	24	0	0	10	0.00
18-Jul	1	305	0	0	57	0.04	4	467	1	0	44	0.17	0	118	0	2	29	0.00	1	25	0	0	10	0.04
19-Jul	2	307	2	0	57	0.08	1	468	1	0	44	0.04	0	118	0	0	29	0.00	1	26	0	0	10	0.04
20-Jul	1	308	1	0	57	0.04	2	470	2	2	46	0.08	0	118	0	2	31	0.00	0	26	0	3	13	0.00
21-Jul	0	308	0	0	57	0.00	4	474	3	0	46	0.15	1	119	0	1	32	0.04	0	26	0	0	13	0.00
22-Jul	0	308	0	0	57	0.00	1	475	1	0	46	0.04	0	119	0	0	32	0.00	0	26	0	0	13	0.00
23-Jul	0	308	0	0	57	0.00	0	475	0	0	46	0.00	1	120	0	0	32	0.04	0	26	0	0	13	0.00
24-Jul	0	308	0	0	57	0.00	0	475	0	0	46	0.00	0	120	0	0	32	0.00	0	26	0	0	13	0.00
25-Jul	1	309	0	1	58	0.04	1	476	0	0	46	0.04	0	120	0	0	32	0.00	0	26	0	0	13	0.00
26-Jul	0	309	0	0	58	0.00	0	476	0	1	47	0.00	1	121	0	0	32	0.06	1	27	0	1	14	0.04
27-Jul	0	309	0	0	58	0.00	0	476	0	0	47	0.00	0	121	0	0	32	0.00	0	27	0	0	14	0.00
28-Jul	0	309	0	0	58	0.00	0	476	0	0	47	0.00	0	121	0	0	32	0.00	1	28	0	0	14	0.04
29-Jul	1	310	0	0	58	0.05	0	476	0	0	47	0.00	0	121	0	0	32	0.00	1	29	0	0	14	0.05
30-Jul	0	310	0	0	58	0.00	0	476	0	0	47		0	121	0	0	32	0.00	0	29	0	0	14	0.00
31-Jul	1	311	0	0	58	0.04	0	476	0	0	47		0	121	0	0	32	0.00	0	29	0	0	14	0.00
01-Aug	0	311	0	1	59	0.00	0	476	0	0	47		0	121	0	0	32	0.00	0	29	0	1	15	0.00
02-Aug	0	311	0	0	59	0.00	0	476	0	0	47	0.00	0	121	0	0	32	0.00	0	29	0	0	15	0.00
03-Aug	0	311	0	0	59	0.00	1	477	0	0	47	0.04	0	121	0	0	32	0.00	0	29	0	0	15	0.00
04-Aug	0	311	0	0	59	0.00	0	477	0	0	47	0.00	0	121	0	0	32	0.00	0	29	0	0	15	0.00
05-Aug	0	311	0	0	59	0.00	0	477	0	0	47	0.00	0	121	0	0	32		0	29	0	0	15	0.00
06-Aug	0	311	0	0	59	0.00	0	477	0	0	47	0.00	0	121	0	0	32	0.00	0	29	0	1	16	0.00
07-Aug	0	311	0	1	60	0.00	1	478	0	0	47	0.04	0	121	0	0	32	0.00	0	29	0	0	16	0.00
08-Aug	0	311	0	0	60	0.00	0	478	0	0	47	0.00	0	121	0	0	32	0.00	0	29	0	0	16	0.00
09-Aug	1	312	0	1	61	0.04	0	478	0	0	47	0.00	0	121	0	0	32	0.00	1	30	0	0	16	0.04
10-Aug	0	312	0	0	61	0.00	0	478	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
11-Aug	0	312	0	0	61	0.00	1	479	1	0	47	0.04	0	121	0	0	32	0.00	0	30	0	0	16	0.00
12-Aug	2	314	0	0	61	0.09	0	479	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
13-Aug	0	314	0	0	61	0.00	0	479	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
14-Aug	1	315	1	1	62	0.04	0	479	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
15-Aug	0	315	0	0	62	0.00	0	479	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
16-Aug	0	315	0	0	62	0.00	0	479	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00

55

Table B-1. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for chinook salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
17-Aug	0	315	0	1	63	0.00	1	480	0	0	47	0.04	0	121	0	0	32	0.00	0	30	0	0	16	0.00
18-Aug	0	315	0	0	63	0.00	0	480	0	0	47	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
19-Aug	0	315	0	0	63	0.00	0	480	0	1	48	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
20-Aug	1	316	0	0	63	0.04	0	480	0	0	48	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
21-Aug	0	316	0	0	63	0.00	0	480	0	0	48	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
22-Aug	0	316	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32	0.00	0	30	0	0	16	0.00
23-Aug	0	316	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32	0.00	0	30	0	0	16	0.00
24-Aug	0	316	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32	0.00	0	30	0	0	16	0.00
25-Aug	0	316	0	0	63	0.00	0	480	0	0	48	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
26-Aug	0	316	0	0	63	0.00	0	480	0	0	48	0.00	0	121	0	0	32	0.00	0	30	0	0	16	0.00
27-Aug	0	316	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32	0.00	0	30	0	0	16	0.00
28-Aug	1	317	0	0	63	0.04	0	480	0	0	48		0	121	0	0	32	0.00	0	30	0	0	16	0.00
29-Aug	0	317	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32	0.00	0	30	0	0	16	0.00
30-Aug	1	318	1	0	63	0.04	0	480	0	0	48		0	121	0	0	32	0.00	1	31	0	0	16	0.06
31-Aug	0	318	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32		1	32	0	0	16	0.04
01-Sep	1	319	0	0	63	0.04	0	480	0	0	48		0	121	0	0	32		0	32	0	0	16	0.00
02-Sep	0	319	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32		0	32	0	0	16	0.00
03-Sep	0	319	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32		0	32	0	0	16	0.00
04-Sep	0	319	0	0	63	0.00	0	480	0	0	48		0	121	0	0	32		0	32	0	0	16	0.00
Totals		284			14.18			435			20.53			0			4.89			0			1.34	

56

Table B-2. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for sockeye salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
08-Jun	0	0	0	0	0		9	9	9	0	0	1.34	0	0	0	0	0		0	0	0	0	0	
09-Jun	0	0	0	0	0		6	15	6	0	0	0.39	0	0	0	0	0		0	0	0	0	0	
10-Jun	0	0	0	0	0		26	41	21	0	0	0.97	0	0	0	0	0		0	0	0	0	0	
11-Jun	0	0	0	0	0		0	41	0	0	0		0	0	0	0	0		0	0	0	0	0	
12-Jun	0	0	0	0	0		0	41	0	0	0		0	0	0	0	0		0	0	0	0	0	
13-Jun	0	0	0	0	0		0	41	0	0	0		0	0	0	0	0		0	0	0	0	0	
14-Jun	0	0	0	0	0		12	53	9	0	0	0.49	0	0	0	0	0		0	0	0	0	0	
15-Jun	12	12	11	0	0	1.20	42	95	41	0	0	1.74	0	0	0	0	0		0	0	0	0	0	
16-Jun	4	16	4	0	0	0.17	46	141	43	0	0	1.93	0	0	0	0	0		0	0	0	0	0	
17-Jun	7	23	7	0	0	0.37	52	193	47	1	1	2.11	0	0	0	0	0		0	0	0	0	0	
18-Jun	2	25	1	0	0	0.35	66	259	59	0	1	2.87	0	0	0	0	0		0	0	0	0	0	
19-Jun	26	51	25	0	0	1.04	97	356	91	1	2	3.90	0	0	0	0	0		0	0	0	0	0	
20-Jun	18	69	15	0	0	0.76	162	518	147	2	4	6.81	0	0	0	0	0		0	0	0	0	0	
21-Jun	53	122	48	1	1	2.15	284	802	258	3	7	11.45	0	0	0	0	0		0	0	0	0	0	
22-Jun	54	176	52	0	1	2.23	241	1043	231	3	10	10.08	13	13	0	0	0	0.49	0	0	0	0	0	
23-Jun	53	229	50	1	2	2.75	173	1216	164	1	11	8.83	9	22	0	0	0	0.53	0	0	0	0	0	
24-Jun	58	287	54	0	2	2.43	206	1422	195	6	17	7.95	28	50	0	0	0	1.00	0	0	0	0	0	
25-Jun	16	303	14	0	2	0.74	79	1501	76	1	18	4.01	0	50	0	0	0		0	0	0	0	0	
26-Jun	35	338	33	0	2	1.16	91	1592	88	0	18	3.01	71	121	0	0	0	1.66	0	0	0	0	0	
27-Jun	78	416	73	0	2	3.05	63	1655	58	1	19	2.44	79	200	0	0	0	2.67	0	0	0	0	0	
28-Jun	116	532	111	1	3	5.04	120	1775	116	1	20	5.24	64	264	0	0	0	2.76	0	0	0	0	0	
29-Jun	152	684	141	1	4	6.26	234	2009	219	0	20	10.17	131	395	0	0	0	5.87	48	48	0	0	0	2.03
30-Jun	69	753	61	0	4	3.11	179	2188	166	5	25	9.23	226	621	0	0	0	8.19	72	120	0	0	0	2.60
01-Jul	73	826	69	2	6	2.65	97	2285	89	1	26	3.76	116	737	0	0	0	4.92	28	148	0	0	0	1.20
02-Jul	56	882	53	1	7	2.68	95	2380	83	2	28	4.59	94	831	0	0	0	4.20	22	170	0	0	0	0.98
03-Jul	146	1028	135	0	7	5.49	282	2662	259	6	34	10.52	84	915	0	1	1	3.59	23	193	0	0	0	0.99
04-Jul	105	1133	102	0	7	4.71	299	2961	284	2	36	13.23	124	1039	0	1	2	5.12	23	216	0	0	0	0.95
05-Jul	161	1294	54	2	9	5.61	648	3609	309	5	41	22.34	112	1151	0	0	2	4.30	71	287	0	0	0	2.72
06-Jul	193	1487	138	2	11	9.16	505	4114	262	4	45	24.05	193	1344	0	1	3	7.51	59	346	0	0	0	2.86
07-Jul	212	1699	97	1	12	8.65	430	4544	239	2	47	17.55	290	1634	0	0	3	11.42	18	364	0	0	0	0.62
08-Jul	113	1812	71	5	17	4.22	189	4733	99	7	54	7.65	331	1965	0	0	3	14.21	120	484	0	1	1	4.94
09-Jul	91	1903	21	4	21	4.17	163	4896	91	8	62	6.85	209	2174	0	0	3	8.97	74	558	0	0	1	3.18
10-Jul	80	1983	21	3	24	3.65	151	5047	111	6	68	6.96	152	2326	0	1	4	6.85	45	603	0	1	2	2.08
11-Jul	56	2039	29	1	25	2.50	116	5163	60	7	75	5.13	103	2429	0	4	8	4.35	28	631	0	1	3	1.18
12-Jul	88	2127	45	7	32	3.64	162	5325	87	4	79	6.75	60	2489	0	1	9	2.52	47	678	0	0	3	1.91

Table B-2. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for sockeye salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum. Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum. Tagged	Jacks	Cum.	CPUE	Adults	Cum. Tagged	Jacks	Cum.	CPUE			
13-Jul	90	2217	41	7	39	3.46	197	5522	106	8	87	7.52	127	2616	0	0	9	5.38	15	693	0	0	3	0.64
14-Jul	85	2302	0	5	44	3.70	132	5654	120	5	92	5.74	64	2680	0	1	10	2.77	0	693	0	0	3	
15-Jul	66	2368	24	9	53	2.75	97	5751	54	6	98	4.06	128	2808	0	2	12	5.06	0	693	0	0	3	
16-Jul	100	2468	66	7	60	4.15	59	5810	23	5	103	2.47	107	2915	0	12	24	4.44	0	693	0	0	3	
17-Jul	132	2600	76	10	70	5.26	108	5918	63	5	108	4.31	58	2973	0	2	26	2.27	13	706	0	0	3	1.94
18-Jul	106	2706	44	3	73	4.41	125	6043	56	5	113	5.20	109	3082	0	2	28	4.78	58	764	0	3	6	2.54
19-Jul	53	2759	30	11	84	2.20	125	6168	75	5	118	5.19	74	3156	0	3	31	3.12	42	806	0	2	8	1.83
20-Jul	56	2815	34	9	93	2.31	201	6369	99	5	123	8.35	101	3257	0	7	38	4.19	45	851	0	6	14	1.87
21-Jul	60	2875	34	2	95	2.28	135	6504	68	8	131	5.02	78	3335	0	2	40	3.50	16	867	0	1	15	0.70
22-Jul	57	2932	20	4	99	2.33	132	6636	71	10	141	5.48	69	3404	0	4	44	2.65	40	907	0	1	16	1.57
23-Jul	50	2982	0	3	102	2.43	135	6771	92	0	141	6.40	78	3482	0	2	46	3.32	59	966	0	3	19	2.43
24-Jul	70	3052	24	8	110	2.94	135	6906	72	4	145	5.63	21	3503	0	0	46	0.93	81	1047	0	1	20	3.70
25-Jul	64	3116	21	7	117	2.64	115	7021	63	7	152	4.79	46	3549	0	5	51	1.78	101	1148	0	11	31	3.90
26-Jul	89	3205	24	7	124	3.68	143	7164	80	12	164	5.91	34	3583	0	5	56	1.97	83	1231	0	8	39	3.42
27-Jul	105	3310	58	16	140	4.67	106	7270	59	10	174	4.73	44	3627	0	6	62	1.96	110	1341	0	10	49	4.68
28-Jul	98	3408	81	10	150	3.73	73	7343	14	3	177	2.80	50	3677	0	8	70	2.02	73	1414	0	6	55	2.94
29-Jul	64	3472	35	8	158	3.08	6	7349	6	1	178	0.41	33	3710	0	5	75	2.29	78	1492	0	4	59	3.66
30-Jul	69	3541	47	5	163	2.66	0	7349	0	0	178		34	3744	0	0	75	9.44	28	1520	0	3	62	1.06
31-Jul	96	3637	71	14	177	3.99	0	7349	0	0	178		35	3779	0	4	79	1.48	46	1566	0	9	71	1.96
01-Aug	61	3698	20	8	185	2.49	0	7349	0	0	178		38	3817	0	15	94	1.45	57	1623	0	5	76	2.10
02-Aug	29	3727	3	13	198	1.23	18	7367	11	6	184	0.74	8	3825	0	2	96	0.37	14	1637	0	7	83	0.66
03-Aug	49	3776	16	5	203	2.02	24	7391	10	1	185	1.00	26	3851	0	7	103	1.15	11	1648	0	9	92	0.48
04-Aug	36	3812	30	6	209	1.36	37	7428	28	5	190	1.39	14	3865	0	4	107	0.64	17	1665	0	4	96	0.80
05-Aug	33	3845	18	12	221	1.57	54	7482	50	6	196	2.60	0	3865	0	0	107		43	1708	0	5	101	1.52
06-Aug	29	3874	29	11	232	1.23	45	7527	45	8	204	1.91	77	3942	0	5	112	1.52	46	1754	0	11	112	1.94
07-Aug	95	3969	89	5	237	3.74	55	7582	52	8	212	2.17	58	4000	0	10	122	2.28	70	1824	0	17	129	2.77
08-Aug	73	4042	73	3	240	2.98	24	7606	20	4	216	1.00	49	4049	0	20	142	2.09	56	1880	0	19	148	2.40
09-Aug	68	4110	53	11	251	2.89	18	7624	16	2	218	0.77	62	4111	0	12	154	2.37	63	1943	0	14	162	2.55
10-Aug	63	4173	56	11	262	2.65	2	7626	1	10	228	0.09	63	4174	0	15	169	2.83	33	1976	0	22	184	1.39
11-Aug	26	4199	26	0	262	1.08	19	7645	19	0	228	0.79	27	4201	0	7	176	1.86	27	2003	0	9	193	1.85
12-Aug	43	4242	35	0	262	1.89	19	7664	17	0	228	0.78	56	4257	0	19	195	1.75	66	2069	0	23	216	2.08
13-Aug	87	4329	59	19	281	3.45	21	7685	17	4	232	0.87	43	4300	0	12	207	1.68	38	2107	0	0	216	1.48
14-Aug	63	4392	54	13	294	2.60	29	7714	29	1	233	1.14	25	4325	0	12	219	1.08	29	2136	0	9	225	1.30
15-Aug	60	4452	54	7	301	2.45	50	7764	48	5	238	2.19	19	4344	0	11	230	0.76	12	2148	0	19	244	0.47
16-Aug	70	4522	57	10	311	3.04	34	7798	30	2	240	1.44	40	4384	0	12	242	1.68	22	2170	0	12	256	0.92
17-Aug	63	4585	62	5	316	2.62	16	7814	15	1	241	0.67	28	4412	0	5	247	1.14	46	2216	0	19	275	1.95

58

Table B-2. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for sockeye salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
18-Aug	60	4645	54	9	325	2.78	11	7825	11	0	241	0.50	14	4426	0	8	255	0.63	44	2260	0	8	283	1.87
19-Aug	37	4682	29	10	335	1.43	3	7828	3	1	242	0.12	23	4449	0	8	263	0.89	38	2298	0	13	296	1.50
20-Aug	32	4714	30	1	336	1.36	4	7832	2	0	242	0.17	23	4472	0	6	269	0.97	71	2369	0	11	307	2.98
21-Aug	33	4747	30	0	336	1.32	9	7841	8	0	242	0.36	36	4508	0	5	274	1.42	84	2453	0	5	312	3.35
22-Aug	33	4780	31	4	340	1.48	0	7841	0	0	242		37	4545	0	0	274	1.64	53	2506	0	0	312	2.32
23-Aug	23	4803	22	4	344	0.99	0	7841	0	0	242		18	4563	0	0	274	0.79	65	2571	0	0	312	2.74
24-Aug	58	4861	47	2	346	2.30	0	7841	0	0	242		37	4600	0	8	282	1.46	96	2667	0	7	319	3.78
25-Aug	39	4900	31	11	357	1.61	8	7849	7	3	245	0.33	36	4636	0	5	287	1.76	63	2730	0	2	321	3.04
26-Aug	34	4934	25	6	363	1.34	15	7864	12	1	246	0.64	51	4687	0	0	287	1.76	59	2789	0	6	327	1.95
27-Aug	24	4958	23	6	369	1.03	0	7864	0	0	246		33	4720	0	3	290	1.40	37	2826	0	3	330	1.67
28-Aug	19	4977	14	2	371	0.79	0	7864	0	0	246		7	4727	0	1	291	0.48	23	2849	0	4	334	1.61
29-Aug	27	5004	17	4	375	1.14	0	7864	0	0	246		20	4747	0	2	293	0.62	76	2925	0	5	339	2.31
30-Aug	17	5021	14	1	376	0.70	0	7864	0	0	246		26	4773	0	2	295	1.58	42	2967	0	0	339	2.53
31-Aug	28	5049	18	7	383	1.23	0	7864	0	0	246		0	4773	0	0	295		57	3024	0	11	350	2.24
01-Sep	32	5081	16	4	387	1.37	0	7864	0	0	246		0	4773	0	0	295		41	3065	0	3	353	1.91
02-Sep	17	5098	14	2	389	0.70	0	7864	0	0	246		0	4773	0	0	295		65	3130	0	7	360	2.67
03-Sep	38	5136	28	10	399	1.52	0	7864	0	0	246		0	4773	0	0	295		69	3199	0	5	365	2.91
04-Sep	35	5171	0	11	410	1.94	0	7864	0	0	246		0	4773	0	0	295		83	3282	0	2	367	2.84
Totals		3442				216.92		5589			329.98		0				204.53		0					137.97

Table B-3. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for coho salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
15-Jul	1	1	0	0	0	0.04	0	0	0	1	1	0.00												
16-Jul	0	1	0	1	1	0.00	0	0	0	0	1	0.00												
17-Jul	0	1	0	2	3	0.00	1	1	0	0	1	0.04												
18-Jul	1	2	1	0	3	0.04	1	2	1	0	1	0.04												
19-Jul	0	2	0	2	5	0.00	1	3	1	0	1	0.04												
20-Jul	2	4	1	0	5	0.08	1	4	1	0	1	0.04												
21-Jul	1	5	1	1	6	0.04	1	5	1	0	1	0.04												
22-Jul	0	5	0	2	8	0.00	1	6	1	0	1	0.04							1	1	0	0	0	0.04
23-Jul	0	5	0	0	8	0.00	0	6	0	0	1	0.00							0	1	0	0	0	0.00
24-Jul	0	5	0	0	8	0.00	0	6	0	0	1	0.00							0	1	0	0	0	0.00
25-Jul	2	7	0	3	11	0.08	1	7	0	0	1	0.04							0	1	0	0	0	0.00
26-Jul	0	7	0	0	11	0.00	1	8	1	1	2	0.04	1	1	0	0	0	0.06	0	1	0	0	0	0.00
27-Jul	3	10	3	1	12	0.13	3	11	3	0	2	0.13	1	2	0	2	2	0.04	2	3	0	1	1	0.09
28-Jul	0	10	0	1	13	0.00	1	12	0	0	2	0.04	1	3	0	1	3	0.04	2	5	0	2	3	0.08
29-Jul	0	10	0	4	17	0.00	0	12	0	0	2	0.00	2	5	0	1	4	0.14	9	14	0	1	4	0.42
30-Jul	0	10	0	0	17	0.00	0	12	0	0	2		1	6	0	0	4	0.28	0	14	0	0	4	0.00
31-Jul	5	15	5	0	17	0.21	0	12	0	0	2		3	9	0	0	4	0.13	3	17	0	0	4	0.13
01-Aug	3	18	0	2	19	0.12	0	12	0	0	2		5	14	0	2	6	0.19	2	19	0	0	4	0.07
02-Aug	2	20	1	3	22	0.08	1	13	1	0	2	0.04	5	19	0	2	8	0.23	1	20	0	2	6	0.05
03-Aug	0	20	0	0	22	0.00	1	14	0	0	2	0.04	1	20	0	0	8	0.04	4	24	0	0	6	0.18
04-Aug	7	27	2	6	28	0.27	5	19	5	3	5	0.19	2	22	0	0	8	0.09	1	25	0	1	7	0.05
05-Aug	11	38	10	2	30	0.52	2	21	2	0	5	0.10	0	22	0	0	8		3	28	0	1	8	0.11
06-Aug	4	42	4	3	33	0.17	6	27	6	0	5	0.25	5	27	0	0	8	0.10	4	32	0	0	8	0.17
07-Aug	51	93	44	3	36	2.01	12	39	10	0	5	0.47	5	32	0	0	8	0.20	5	37	0	0	8	0.20
08-Aug	56	149	55	0	36	2.29	4	43	4	0	5	0.17	18	50	0	2	10	0.77	15	52	0	0	8	0.64
09-Aug	46	195	39	5	41	1.96	6	49	6	0	5	0.26	11	61	0	0	10	0.42	14	66	0	9	17	0.57
10-Aug	34	229	32	0	41	1.43	1	50	1	0	5	0.04	6	67	0	1	11	0.27	26	92	0	0	17	1.10
11-Aug	17	246	17	3	44	0.71	1	51	1	0	5	0.04	10	77	0	0	11	0.69	2	94	0	0	17	0.14
12-Aug	17	263	17	0	44	0.75	8	59	8	0	5	0.33	25	102	0	4	15	0.78	30	124	0	0	17	0.94
13-Aug	54	317	41	2	46	2.14	8	67	6	1	6	0.33	16	118	0	0	15	0.63	8	132	0	0	17	0.31
14-Aug	41	358	35	4	50	1.69	4	71	3	0	6	0.16	6	124	0	0	15	0.26	7	139	0	0	17	0.31
15-Aug	47	405	42	3	53	1.92	7	78	7	0	6	0.31	5	129	0	0	15	0.20	21	160	0	0	17	0.83
16-Aug	29	434	24	1	54	1.26	2	80	2	0	6	0.08	5	134	0	0	15	0.21	12	172	0	1	18	0.50
17-Aug	36	470	34	0	54	1.50	9	89	8	0	6	0.37	10	144	0	0	15	0.41	13	185	0	3	21	0.55
18-Aug	15	485	14	0	54	0.69	3	92	3	0	6	0.14	4	148	0	0	15	0.18	33	218	0	0	21	1.40

Table B-3. Daily catches, numbers of fish tagged, and CPUE (adult catch per wheel hour) for coho salmon captured in the Nass River fishwheels, 1995.

Date	Fishwheel 1						Fishwheel 2						Fishwheel 3						Fishwheel 4					
	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE	Adults	Cum.	Tagged	Jacks	Cum.	CPUE
19-Aug	18	503	9	1	55	0.70	10	102	8	1	7	0.39	15	163	0	0	15	0.58	63	281	0	0	21	2.48
20-Aug	24	527	24	0	55	1.02	6	108	6	0	7	0.26	6	169	0	0	15	0.25	20	301	0	0	21	0.84
21-Aug	15	542	13	0	55	0.60	13	121	11	0	7	0.52	6	175	0	0	15	0.24	19	320	0	0	21	0.76
22-Aug	19	561	18	1	56	0.85	0	121	0	0	7		1	176	0	0	15	0.04	20	340	0	0	21	0.88
23-Aug	9	570	9	4	60	0.39	0	121	0	0	7		14	190	0	0	15	0.62	21	361	0	0	21	0.89
24-Aug	50	620	42	3	63	1.98	0	121	0	0	7		14	204	0	4	19	0.55	21	382	0	5	26	0.83
25-Aug	35	655	31	4	67	1.45	1	122	1	1	8	0.04	1	205	0	1	20	0.05	3	385	0	1	27	0.14
26-Aug	40	695	35	2	69	1.57	4	126	3	0	8	0.17	9	214	0	1	21	0.31	12	397	0	4	31	0.40
27-Aug	45	740	37	2	71	1.93	0	126	0	0	8		5	219	0	0	21	0.21	17	414	0	2	33	0.77
28-Aug	24	764	20	1	72	1.00	0	126	0	0	8		4	223	0	0	21	0.28	4	418	0	0	33	0.28
29-Aug	20	784	18	0	72	0.84	0	126	0	0	8		5	228	0	2	23	0.15	43	461	0	4	37	1.31
30-Aug	13	797	11	0	72	0.53	0	126	0	0	8		31	259	0	0	23	1.88	19	480	0	0	37	1.14
31-Aug	10	807	7	2	74	0.44	0	126	0	0	8		0	259	0	0	23		51	531	0	0	37	2.00
01-Sep	13	820	8	1	75	0.56	0	126	0	0	8		0	259	0	0	23		6	537	0	1	38	0.28
02-Sep	9	829	8	1	76	0.37	0	126	0	0	8		0	259	0	0	23		15	552	0	0	38	0.62
03-Sep	25	854	19	3	79	1.00	0	126	0	0	8		0	259	0	0	23		18	570	0	2	40	0.76
04-Sep	26	880	0	0	79	1.44	0	126	0	0	8		0	259	0	0	23		2	572	0	0	40	0.07
Totals			731			36.82			111			5.19			0			11.51			0			23.30

Table B-4. Daily catches of pink salmon, chum salmon, and steelhead in the Nass River fishwheels, 1995.

Date	Pink								Chum								Steelhead							
	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.
10-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
12-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
13-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
14-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
15-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
16-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
27-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
30-Jun	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
01-Jul	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
02-Jul	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
03-Jul	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
04-Jul	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
05-Jul	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
06-Jul	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
07-Jul	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
08-Jul	4	6	6	8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
09-Jul	8	14	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
10-Jul	5	19	16	25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
11-Jul	5	24	5	30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
12-Jul	4	28	7	37	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0

Table B-4. Daily catches of pink salmon, chum salmon, and steelhead in the Nass River fishwheels, 1995.

Date	Pink								Chum								Steelhead							
	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.
13-Jul	6	34	9	46	0	0	1	1	0	0	0	0	1	1	0	0	0	2	0	1	0	0	0	0
14-Jul	4	38	7	53	2	2	0	1	0	0	1	1	0	1	0	0	0	2	0	1	0	0	0	0
15-Jul	20	58	10	63	2	4	0	1	1	1	0	1	0	1	0	0	0	2	0	1	0	0	0	0
16-Jul	55	113	13	76	2	6	0	1	0	1	0	1	0	1	0	0	0	2	0	1	0	0	0	0
17-Jul	69	182	9	85	5	11	1	2	2	3	2	3	0	1	0	0	0	2	0	1	0	0	0	0
18-Jul	36	218	31	116	4	15	0	2	0	3	0	3	0	1	0	0	0	2	0	1	0	0	0	0
19-Jul	41	259	12	128	3	18	4	6	0	3	0	3	0	1	0	0	0	2	0	1	0	0	0	0
20-Jul	33	292	18	146	6	24	3	9	0	3	1	4	0	1	0	0	0	2	0	1	0	0	0	0
21-Jul	47	339	23	169	3	27	2	11	1	4	0	4	0	1	0	0	0	2	0	1	0	0	0	0
22-Jul	24	363	48	217	0	27	1	12	0	4	0	4	0	1	0	0	0	2	1	2	0	0	0	0
23-Jul	52	415	42	259	5	32	6	18	0	4	0	4	0	1	0	0	0	2	0	2	0	0	0	0
24-Jul	46	461	44	303	4	36	1	19	0	4	0	4	1	2	0	0	0	2	0	2	0	0	0	0
25-Jul	74	535	32	335	3	39	10	29	1	5	0	4	0	2	0	0	1	3	0	2	0	0	0	0
26-Jul	36	571	35	370	6	45	8	37	0	5	0	4	0	2	0	0	0	3	0	2	0	0	0	0
27-Jul	39	610	18	388	6	51	6	43	0	5	0	4	0	2	0	0	1	4	0	2	1	1	1	1
28-Jul	37	647	17	405	15	66	11	54	0	5	0	4	0	2	0	0	0	4	0	2	0	1	0	1
29-Jul	50	697	3	408	7	73	19	73	1	6	0	4	0	2	0	0	1	5	0	2	0	1	0	1
30-Jul	9	706	2	410	1	74	9	82	0	6	0	4	0	2	0	0	0	5	1	3	0	1	0	1
31-Jul	54	760	0	410	10	84	11	93	1	7	0	4	0	2	0	0	0	5	0	3	0	1	0	1
01-Aug	104	864	0	410	15	99	14	107	1	8	0	4	0	2	0	0	0	5	0	3	0	1	0	1
02-Aug	90	954	32	442	12	111	19	126	8	16	0	4	0	2	0	0	0	5	1	4	0	1	0	1
03-Aug	44	998	38	480	10	121	14	140	2	18	0	4	1	3	0	0	0	5	2	6	0	1	0	1
04-Aug	16	1014	18	498	8	129	1	141	0	18	0	4	0	3	0	0	0	5	0	6	0	1	0	1
05-Aug	4	1018	10	508	0	129	11	152	0	18	0	4	0	3	0	0	0	5	0	6	0	1	2	3
06-Aug	28	1046	11	519	27	156	9	161	0	18	0	4	0	3	0	0	0	5	0	6	2	3	1	4
07-Aug	132	1178	42	561	17	173	27	188	5	23	1	5	1	4	0	0	1	6	1	7	1	4	3	7
08-Aug	6	1184	16	577	19	192	26	214	5	28	0	5	0	4	0	0	0	6	0	7	1	5	1	8
09-Aug	160	1344	47	624	8	200	26	240	2	30	1	6	0	4	3	3	0	6	0	7	0	5	0	8
10-Aug	180	1524	56	680	23	223	44	284	11	41	5	11	0	4	0	3	0	6	0	7	0	5	1	9
11-Aug	124	1648	5	685	15	238	10	294	2	43	0	11	0	4	1	4	1	7	1	8	0	5	0	9
12-Aug	138	1786	6	691	40	278	101	395	1	44	1	12	0	4	3	7	0	7	0	8	1	6	0	9
13-Aug	157	1943	15	706	38	316	73	468	0	44	0	12	0	4	0	7	3	10	0	8	0	6	1	10
14-Aug	149	2092	48	754	32	348	23	491	4	48	1	13	0	4	2	9	1	11	0	8	0	6	0	10

Table B-4. Daily catches of pink salmon, chum salmon, and steelhead in the Nass River fishwheels, 1995.

Date	Pink								Chum								Steelhead							
	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.	FW1	Cum.	FW2	Cum.	FW3	Cum.	FW4	Cum.
15-Aug	13	2105	11	765	11	359	60	551	0	48	1	14	0	4	0	9	0	11	1	9	0	6	1	11
16-Aug	69	2174	25	790	35	394	62	613	3	51	0	14	0	4	3	12	0	11	0	9	0	6	0	11
17-Aug	67	2241	46	836	16	410	81	694	9	60	0	14	1	5	2	14	1	12	0	9	0	6	0	11
18-Aug	25	2266	11	847	24	434	35	729	2	62	1	15	2	7	0	14	0	12	0	9	0	6	2	13
19-Aug	197	2463	16	863	69	503	97	826	4	66	3	18	0	7	0	14	0	12	0	9	0	6	0	13
20-Aug	81	2544	21	884	21	524	140	966	13	79	2	20	1	8	3	17	0	12	0	9	0	6	1	14
21-Aug	29	2573	90	974	28	552	135	1101	0	79	1	21	0	8	3	20	1	13	0	9	0	6	4	18
22-Aug	97	2670	2	976	100	652	111	1212	12	91	1	22	0	8	0	20	1	14	0	9	0	6	3	21
23-Aug	134	2804	0	976	30	682	110	1322	2	93	0	22	0	8	0	20	0	14	0	9	1	7	5	26
24-Aug	143	2947	0	976	45	727	87	1409	1	94	0	22	0	8	0	20	2	16	0	9	7	14	7	33
25-Aug	72	3019	29	1005	26	753	36	1445	3	97	3	25	1	9	1	21	1	17	1	10	2	16	4	37
26-Aug	110	3129	28	1033	37	790	174	1619	2	99	0	25	1	10	0	21	3	20	1	11	2	18	0	37
27-Aug	96	3225	7	1040	50	840	155	1774	0	99	0	25	0	10	0	21	1	21	0	11	0	18	2	39
28-Aug	200	3425	0	1040	22	862	62	1836	2	101	0	25	0	10	1	22	1	22	0	11	1	19	0	39
29-Aug	180	3605	0	1040	38	900	238	2074	3	104	0	25	1	11	4	26	0	22	0	11	5	24	6	45
30-Aug	154	3759	0	1040	38	938	125	2199	8	112	0	25	2	13	2	28	0	22	0	11	0	24	1	46
31-Aug	229	3988	0	1040	0	938	135	2334	11	123	0	25	0	13	4	32	0	22	0	11	0	24	2	48
01-Sep	77	4065	0	1040	0	938	31	2365	6	129	0	25	0	13	1	33	0	22	0	11	0	24	0	48
02-Sep	83	4148	0	1040	0	938	47	2412	11	140	0	25	0	13	0	33	0	22	0	11	0	24	1	49
03-Sep	139	4287	0	1040	0	938	37	2449	7	147	0	25	0	13	4	37	0	22	0	11	0	24	1	50
04-Sep	110	4397	0	1040	0	938	57	2506	0	147	0	25	0	13	2	39	0	22	0	11	0	24	4	54

64

Table B-5. Catches of other species (other than salmon and steelhead) in the Nass River fishwheels, 1995.

Date	Dolly Varden				Cutthroat trout				Rainbow trout				Whitefish				Pacific Lamprey				Seal				Beaver			
	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4
8-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
9-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17-Jun	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
19-Jun	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
21-Jun	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
27-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28-Jun	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
29-Jun	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	
1-Jul	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6-Jul	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7-Jul	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8-Jul	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
9-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
10-Jul	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
11-Jul	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
12-Jul	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	
13-Jul	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	
14-Jul	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
15-Jul	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16-Jul	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	
17-Jul	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	

Table B-5. Catches of other species (other than salmon and steelhead) in the Nass River fishwheels, 1995.

Date	Dolly Varden				Cutthroat trout				Rainbow trout				Whitefish				Pacific Lamprey				Seal				Beaver			
	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4
18-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
19-Jul	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
20-Jul	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
21-Jul	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jul	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
23-Jul	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
24-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
25-Jul	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
26-Jul	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-Jul	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Jul	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jul	7	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-Aug	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-Aug	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0
7-Aug	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8-Aug	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	4	0	0	0	0	0	0	0	0
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Aug	6	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	1	0	0	0	0	0	0	0	0	0
11-Aug	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Aug	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
15-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Aug	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Aug	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19-Aug	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Aug	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
21-Aug	1	1	0	0	0	0	0	0	0	0	0	0	2	1	0	2	0	0	0	6	0	0	0	0	0	0	0	0
22-Aug	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
26-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14	0	0	0	0	0	0	0	0	0

Table B-5. Catches of other species (other than salmon and steelhead) in the Nass River fishwheels, 1995.

Date	Dolly Varden				Cutthroat trout				Rainbow trout				Whitefish				Pacific Lamprey				Seal				Beaver			
	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4	FW1	FW2	FW3	FW4
27-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
28-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
29-Aug	3	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Aug	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
1-Sep	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
2-Sep	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-Sep	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4-Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>78</b>	<b>12</b>	<b>2</b>	<b>9</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>20</b>	<b>3</b>	<b>5</b>	<b>14</b>	<b>1</b>	<b>7</b>	<b>15</b>	<b>58</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>

Table C-1. Summary of radio-tag tracking effort during the 1995 Nass River telemetry program. Effort is presented as the number of days or part days that tracking was conducted using each method.

Week ending	Days										
	Mobile tracking			Nass R. mainstem/junction stations <sup>a</sup>					Meziadin R. stations <sup>a</sup>		Total
	Aerial	Boat	Foot	Gwinaha	O.Aiyansh	Cranberry	Meziadin	Bell-Irving	Fishway	Bridge	
17 Jun				3	3						6
24 Jun				7	7						14
01 Jul				7	7			2			16
08 Jul				7	7			7	3	3	27
15 Jul		1		6	6			7	7	7	34
22 Jul		2		3	0			7	7	7	26
29 Jul		1		4	5			7	7	7	31
05 Aug			1	7	7			7	7	7	36
12 Aug	1			7	7		4	7	7	7	40
19 Aug			1	7	7			7	7	7	43
26 Aug			3	7	2			7	7	7	40
02 Sep	1			2	7	5		7	7	7	43
09 Sep		1		0	5	7	7	7	7	7	41
16 Sep			1	0		7	7	7	7	7	36
23 Sep	1		2			7	7	5	7	7	36
30 Sep	1					2			7	1	11
07 Oct									1		1
<b>Total</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>67</b>	<b>70</b>	<b>28</b>	<b>46</b>	<b>84</b>	<b>88</b>	<b>78</b>	<b>481</b>

<sup>a</sup> Refer to Fig. 1 for locations of fixed-station receiver sites.

<sup>b</sup> Shading indicates periods when stations were not operating due to either battery or electronic failure resulting in the loss of potential data.

Table C-2. Numbers of sockeye and coho salmon radio tagged on the Nass River, 1995.

Week ending	Sockeye			Coho			Total fish tagged
	FW1	FW2	Total	FW1	FW2	Total	
17 Jun	1	3	4	0	0	0	4
24 Jun	0	13	13	0	0	0	13
01 Jul	2	8	10	0	0	0	10
08 Jul	5	21	26	0	0	0	26
15 Jul	4	19	23	0	0	0	23
22 Jul	0	14	14	0	0	0	14
29 Jul	0	3	3	0	0	0	3
05 Aug	0	5	5	0	0	0	5
12 Aug	3	12	15	2	0	2	17
19 Aug	0	4	4	0	5	5	9
26 Aug	1	0	1	6	0	6	7
02 Sep	0	0	0	1	0	1	1
<b>Total</b>	<b>16</b>	<b>102</b>	<b>118</b>	<b>9</b>	<b>5</b>	<b>14</b>	<b>132</b>

Table C-3. Last known locations or fates of sockeye and coho salmon that were radio tagged from the Nass River fishwheels, 1995.

Stratum Reach/tributary	Sockeye		Coho	
	No. tracked	tracked	No. tracked	% tracked
<b>Upper Nass</b>				
Bell-Irving R.	0	0	1	8
Mainstem: above Bell-Irving	1	1	0	0
Mainstem: above Meziadin	0	0	0	0
<b>Upper Nass total</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>8</b>
<b>Middle Nass</b>				
Meziadin R.	57 <sup>a</sup>	69	1	8
Cranberry R.	0	0	3	25
Mainstem: Cranberry - Meziadin	2	2	1	8
<b>Middle Nass total</b>	<b>59</b>	<b>71</b>	<b>5</b>	<b>42</b>
<b>Lower Nass</b>				
Gingit Cr. (near New Aiyansh)	6	7	0	0
Mainstem: Old Aiyansh and above	16	19	6	50
Mainstem: Tagsite - Old Aiyansh	1	1	0	0
<b>Lower Nass total</b>	<b>23</b>	<b>28</b>	<b>6</b>	<b>50</b>
<b>Total tracked to a destination</b>	<b>83</b>	<b>100</b>	<b>12</b>	<b>100</b>
Recaptures in the Nisga'a fishery				
Tags returned	15		1	
Tags captured but not returned	13		1	
	2		0	
Mortality				
Tagging related <sup>b</sup>	17		1	
Possibly fishing related <sup>c</sup>	11		1	
Left the system <sup>d</sup>	2		0	
	4			
Fish never tracked <sup>e</sup>				
	3		0	
<b>Total number radio-tagged</b>	<b>118</b>		<b>14</b>	

<sup>a</sup> Four radio-tagged sockeye were removed by a First Nation fishery on the Meziadin River.

<sup>b</sup> Downstream migration or stationary detection below the tagging site within 14 d of tagging.

<sup>c</sup> These fish were detected stationary above Grease Harbour and below Cranberry.

<sup>d</sup> Four radio-tagged fish initially travelled upstream but returned downstream after being detected at large for more than 14 d. It is possible that these fish were strays.

<sup>e</sup> One radio-tagged fish was detected initially after tagging, two others were never detected. Fate of these 3 fish is uncertain because fixed-station receivers were not operational during the period of their active migration.

Table C-4. Information regarding sockeye and coho salmon radio tagged from the Nass River fishwheels, 1995.

Spaghetti tag no.	Radio tag <sup>a</sup>		Nose-fork length (cm)	Sex	Tagging date	Release		Scale <sup>b</sup>			Last detection		
	Chan.	Code				Time	Site	Book	Scale	Age	Date	Fate <sup>c</sup>	Location
<b>Sockeye salmon</b>													
10042	1	81	62.0	F	14-Jun	08:40	FW2	77403	-	RG	21-Sep	MEZ	Meziadin (Hanna Cr.)
10070	1	67	57.0	F	15-Jun	09:12	FW2	77404	25	53	25-Sep	NM4	NM4-above Cottonwood
10132	1	52	62.0	F	16-Jun	16:04	FW1	NS	-	NS	25-Sep	MEZ	Meziadin (Hanna Cr.)
10189	1	65	65.0	F	17-Jun	16:36	FW2	NS	-	NS	25-Sep	MEZ	Meziadin (Hanna Cr.)
10199	6	51	64.0	M	18-Jun	09:23	FW2	77407	1	41	28-Aug	TMORT	NM1-Gwinaha
10283	1	51	69.0	M	19-Jun	10:05	FW2	77408	25	52	25-Sep	MEZ	Meziadin (Tintina Cr.)
10276	6	52	64.0	F	19-Jun	09:53	FW2	77408	18	52	25-Sep	MEZ	Meziadin Lake
10400	2	21	56.0	M	20-Jun	10:40	FW2	77409	24	41	05-Aug	GIN	Gingit
10401	5	21	57.0	M	20-Jun	10:42	FW2	77409	25	42	25-Sep	MEZ	Meziadin (Hanna Cr.)
10542	1	22	59.0	F	21-Jun	09:02	FW2	77410	6	RG	11-Aug	GIN	Gingit
10537	2	65	60.0	F	21-Jun	08:30	FW2	77410	1	53	01-Aug	TMORT	NM2-near Gish
10858	1	21	62.0	M	22-Jun	09:23	FW2	77411	15	RG	11-Aug	GIN	Gingit
10868	2	22	61.0	F	22-Jun	09:29	FW2	77411	25	42	11-Aug	NM3	NM3- < Nass Br.
11153	2	41	60.0	M	23-Jun	08:05	FW2	77412	24	41	11-Aug	GIN	Gingit
11154	2	52	57.0	M	23-Jun	08:07	FW2	77412	25	42	25-Jun	FF	NM1-Gwinaha
11362	1	2	67.0	M	24-Jun	09:58	FW2	77413	22	3M	28-Aug	TMORT	NM1-Gwinaha
11341	2	2	61.0	F	24-Jun	09:23	FW2	NS	-	NS	12-Jul	MEZ	Meziadin
11614	2	51	62.0	F	25-Jun	09:35	FW2	77414	25	41	21-Sep	MEZ	Meziadin (Tintina Cr.)
11615	6	41	68.0	M	25-Jun	09:40	FW2	NS	-	NS	22-Aug	GIN	Gingit
30026	2	67	61.0	F	26-Jun	08:45	FW2	77415	25	3M	26-Jul	NM3	NM3-Old Aiyansh
30023	6	21	61.0	F	26-Jun	08:45	FW2	77415	3	52	11-Aug	FMORT	NM3-Grease Harbour
30162	2	52	61.0	F	27-Jun	11:39	FW1	NS	-	NS	16-Aug	TMORT	NM1-Gwinaha
30128	5	2	59.0	F	27-Jun	09:08	FW2	77416	7	42	25-Sep	MEZ	Meziadin (Hanna Cr.)
31068	1	97	64.0	F	1-Jul	10:10	FW2	77420	2	42	25-Sep	MEZ	Meziadin (Hanna Cr.)
31069	2	95	60.0	F	1-Jul	10:11	FW2	77420	3	RG	01-Aug	TMORT	NM2-Old Aiyansh
31070	5	93	52.0	F	1-Jul	10:12	FW2	77420	4	NS	25-Sep	MEZ	Meziadin (Hanna Cr.)
31129	6	85	50.0	M	1-Jul	11:24	FW1	NS	-	NS	25-Sep	MEZ	Meziadin Lake
31225	1	96	55.0	F	2-Jul	08:58	FW2	77421	1	2M	18-Jul	MEZ	Meziadin

Table C-4. Information regarding sockeye and coho salmon radio tagged from the Nass River fishwheels, 1995.

Spaghetti tag no.	Radio tag <sup>a</sup>		Nose-fork length (cm)	Sex	Tagging date	Release		Scale <sup>b</sup>			Last detection		
	Chan.	Code				Time	Site	Book	Scale	Age	Date	Fate <sup>c</sup>	Location
31226	2	86	62.0	F	2-Jul	08:59	FW2	77421	2	42	06-Jul	NM3	NM3-Old Aiyansh
31281	5	67	59.0	F	2-Jul	09:54	FW1	NS	-	NS	24-Aug	TMORT	NM1-Gwinaha
31227	6	84	55.0	F	2-Jul	09:00	FW2	77421	3	53	25-Sep	MEZ	Meziadin (Hanna Cr.)
31532	2	82	61.0	M	3-Jul	12:31	FW1	NS	-	NS	25-Sep	MEZ	Meziadin (Hanna Cr.)
31363	2	85	62.0	M	3-Jul	09:41	FW2	77422	3	53	03-Jul	FF	NM1-Gitwinksihlkw
31362	2	87	59.0	F	3-Jul	09:40	FW2	77422	2	42	21-Sep	MEZ	Meziadin (Hanna Cr.)
31361	5	41	61.0	M	3-Jul	09:39	FW2	77422	1	42	20-Jul	NM3	NM3-Old Aiyansh
31756	1	95	68.0	M	4-Jul	09:03	FW2	77423	2	52	01-Aug	MEZ	Meziadin
31768	2	83	60.0	F	4-Jul	09:13	FW2	77423	14	52	25-Sep	MEZ	Meziadin (Hanna Cr.)
31755	2	88	59.0	F	4-Jul	09:00	FW2	77423	1	42	21-Sep	MEZ	Meziadin (Hanna Cr.)
32142	2	81	57.0	F	5-Jul	09:07	FW2	77424	2	42	25-Sep	MEZ	Meziadin (Tintina Cr.)
32214	2	84	60.0	M	5-Jul	10:12	FW1	NS	-	NS	21-Sep	MEZ	Meziadin (Tintina Cr.)
32141	2	89	60.0	M	5-Jul	09:06	FW2	77424	1	42	25-Sep	MEZ	Meziadin (Hanna Cr.)
32143	2	90	58.0	F	5-Jul	09:08	FW2	77424	3	42	25-Sep	MEZ	Meziadin (Hanna Cr.)
32506	1	83	56.0	F	6-Jul	09:17	FW2	77425	3	42	08-Jul	NM3	NM3-Old Aiyansh
32505	1	85	61.0	F	6-Jul	09:16	FW2	77425	2	53	16-Jul	MEZ	Meziadin
32664	1	90	54.0	F	6-Jul	11:15	FW1	NS	-	NS	07-Sep	TMORT	NM3-Old Aiyansh
32504	2	85	61.0	M	6-Jul	09:14	FW2	77425	1	42	25-Sep	MEZ	Meziadin (Hanna Cr.)
32904	1	82	58.0	F	7-Jul	08:15	FW2	77426	1	42	11-Aug	MEZ	Meziadin
32906	1	84	51.0	F	7-Jul	08:17	FW2	77426	3	42	22-Jul	MEZ	Meziadin
33164	1	86	58.0	F	7-Jul	11:31	FW1	NS	-	NS	26-Aug	GIN	Gingit
32905	6	65	61.0	F	7-Jul	08:16	FW2	77426	1	42	20-Jul	MEZ	Meziadin
33240	1	87	57.0	F	8-Jul	09:02	FW2	77201	1	42	10-Jul	FF	NM2-Gitwinksihlkw
33242	1	88	58.0	F	8-Jul	09:02	FW2	77201	3	42	01-Aug	MEZ	Meziadin
33241	1	91	54.0	F	8-Jul	09:02	FW2	77201	2	42	16-Jul	FF	NM3-Grease Harbour
33471	1	89	58.0	M	9-Jul	09:19	FW1	NS	-	NS	21-Sep	MEZ	Meziadin (Hanna Cr.)
33410	1	92	57.0	F	9-Jul	08:38	FW2	77427	1	42	01-Aug	TMORT	NM1- < Gwinaha
33412	1	98	56.0	F	9-Jul	08:40	FW2	77427	3	42	15-Jul	FF	NM2-Beaver Cr.
33411	1	99	55.0	F	9-Jul	08:39	FW2	77427	2	62	13-Jul	FF	NM2-Gitwinksihlkw
33523	1	93			10-Jul	08:47	FW2	77428	1	53	14-Jul	NT	NT (NM1-Gwinaha)

72

Table C-4. Information regarding sockeye and coho salmon radio tagged from the Nass River fishwheels, 1995.

Spaghetti tag no.	Radio tag <sup>a</sup>		Nose-fork length (cm)	Sex	Tagging date	Release		Scale <sup>b</sup>			Last detection		
	Chan.	Code				Time	Site	Book	Scale	Age	Date	Fate <sup>c</sup>	Location
33524	1	94			10-Jul	08:48	FW2	77428	2	42	14-Jul	NM3	NM3-Old Aiyansh
33655	6	92	59.0	F	11-Jul	08:30	FW2	77429	1	53	01-Aug	FMORT	NM3-Grease Harbour
33657	6	93	60.0	M	11-Jul	08:32	FW2	77429	3	63	01-Aug	FF	NM1-Gwinaha
33692	6	94	61.0	F	11-Jul	09:02	FW1	NS	-	NS	31-Jul	MEZ	Meziadin
33656	6	96	61.0	F	11-Jul	08:31	FW2	77429	2	42	29-Jul	MEZ	Meziadin
33859	5	84	61.0	M	12-Jul	08:00	FW1	NS	-	NS	30-Jul	MEZ	Meziadin
33745	6	95	53.0	F	12-Jul	08:00	FW2	77430	1	42	11-Aug	NM3	NM3-near Tchitin
33746	6	97	57.0	M	12-Jul	08:00	FW2	77430	2	42	06-Aug	EXIT	last detect at Gwinaha
33747	6	98	56.0	M	12-Jul	08:00	FW2	77430	3	42	21-Sep	MEZ	Meziadin (Hanna Cr.)
33897	2	92	55.0	M	13-Jul	08:00	FW2	77431	21	63	15-Jul	FF	NM2-Beaver Cr.
33900	2	93	62.0	M	13-Jul	08:00	FW2	77431	24	42	31-Jul	MEZ	Meziadin
33939	5	85	57.0	M	13-Jul	10:30	FW1	NS		NS	29-Jul	MEZ	Meziadin
33889	6	99	74.0	F	13-Jul	08:00	FW2	77431	13	63	11-Aug	MEZ	Meziadin
34025	2	91	62.0	M	14-Jul	08:39	FW2	77433	2	2M	30-Jul	MEZ	Meziadin
34026	2	96	60.0	M	14-Jul	08:40	FW2	77433	3	53	25-Sep	NM4	NM4-near Ellsworth
34024	2	97	61.0	F	14-Jul	08:38	FW2	77433	1	2M	19-Aug	MEZ	Meziadin
34144	2	98	54.0	F	15-Jul	08:42	FW2	77432	1	42	25-Jul	FF	NM2-Shumal
34145	5	82	67.0	F	15-Jul	08:43	FW2	77432	2	63	22-Jul	FF	NM2-Shumal
34233	5	89	58.0	F	16-Jul	08:44	FW2	77434	1	42	20-Jul	NM3	NM3-Grease Harbour
34234	5	98	57.0	F	16-Jul	08:45	FW2	77434	2	53	25-Sep	MEZ	Meziadin (Hanna Cr.)
34313	2	94	60.0	M	17-Jul	08:35	FW2	77435	2	42	04-Aug	MEZ	Meziadin
34312	2	99	56.0	F	17-Jul	08:35	FW2	77435	1	2M	11-Aug	MEZ	Meziadin
34451	5	81	62.0	M	18-Jul	09:22	FW2	77436	1	2M	<25july	FF	NM3-Grease Harbour
34452	5	87	68.0	M	18-Jul	09:23	FW2	77436	2	52	21-Aug	FF	NM2-Aiyansh
34551	5	83	70.0	F	19-Jul	08:00	FW2	77203	1	52	03-Aug	MEZ	Meziadin
34552	5	92	69.0	F	19-Jul	08:05	FW2	77203	2	42	03-Aug	MEZ	Meziadin
34656	5	88	57.0	M	20-Jul	08:00	FW2	NS		NS	01-Aug	MEZ	Meziadin
34657	5	91	56.0	M	20-Jul	08:00	FW2	NS		NS	17-Aug	MEZ	Meziadin
34789	5	97	53.0	F	21-Jul	08:45	FW2	77437	1	42	26-Jul	NM3	NM3-Grease Harbour
34790	6	83	57.0	F	21-Jul	08:46	FW2	77437	2	42	26-Jul	NM3	NM3-Old Aiyansh

Table C-4. Information regarding sockeye and coho salmon radio tagged from the Nass River fishwheels, 1995.

Spaghetti tag no.	Radio tag <sup>a</sup>		Nose-fork length (cm)	Sex	Tagging date	Release		Scale <sup>b</sup>			Last detection		
	Chan.	Code				Time	Site	Book	Scale	Age	Date	Fate <sup>c</sup>	Location
34891	5	96			22-Jul	08:00	FW2	77202	1	52	27-Aug	NM6	NM6-upper Nass
34892	5	99			22-Jul	08:00	FW2	77202	2	3M	01-Aug	NM3	NM3-Old Aiyansh
34982	5	95	62.0	F	23-Jul	09:00	FW2	77438	1	42	25-Jul	FF	NM2-Gitwinksihlkw
35573	1	84	56.0	F	29-Jul	08:00	FW2	77443	4	42	14-Aug	MEZ	Meziadin
35570	2	98	64.0	F	29-Jul	08:00	FW2	77443	1	53	16-Aug	FF	NM3-Grease Harbour
35763	2	91	47.0	M	3-Aug	08:00	FW2	77450	1	NS	19-Aug	EXIT	last detect at Old Aiyansh
35789	6	99	61.0	F	4-Aug	08:00	FW2	77215	1	53	24-Aug	EXIT	last detected at Gwinaha
35847	5	81	60.0	F	5-Aug	09:00	FW2	77208	1	53	21-Aug	MEZ	Meziadin
35882	5	82	64.0	F	5-Aug	17:30	FW2	NS	-	NS	24-Aug	TMORT	last located at Gwinaha
35883	5	95	67.0	M	5-Aug	17:30	FW2	NS	-	NS	03-Sep	MEZ	Meziadin Lake
35916	1	96	57.0	F	6-Aug	08:00	FW2	77206	2	LB	19-Sep	MEZ	Meziadin
35917	5	94	64.0	F	6-Aug	08:00	FW2	77206	3	LB	19-Aug	MEZ	Meziadin
35915	6	86	62.0	F	6-Aug	08:00	FW2	77206	4	LB	11-Aug	NM2	NM2- <Old Aiyansh
35989	1	85	69.0	M	7-Aug	08:30	FW2	77209	1	53	17-Aug	TMORT	NM1- <Gwinaha
36108	6	82	46.0	M	7-Aug	18:01	FW2	77209	2	53	25-Sep	MEZ	Meziadin
36109	6	88	53.0	M	7-Aug	18:29	FW2	77209	3	53	07-Aug	NT	Never tracked
36110	6	91	54.0	F	7-Aug	18:40	FW2	77209	4	42	29-Aug	MEZ	Meziadin
36130	6	67	58.0	F	8-Aug	08:01	FW2	77210	1	53	19-Aug	NM3	NM3-Old Aiyansh
36131	6	81	59.0	M	8-Aug	08:02	FW2	77210	2	53	08-Aug	NT	never tracked
36132	6	89	58.0	M	8-Aug	08:03	FW2	77210	3	42	23-Aug	MEZ	Meziadin
36223	6	65	62.0	F	9-Aug	08:00	FW2	77211	1	53	11-Aug	NM3	NM3-Old Aiyansh
36349	1	87	59.0	F	11-Aug	08:00	FW2	77216	1	W	27-Aug	EXIT	last located at Gwinaha
36411	1	91	62.0	M	12-Aug	08:30	FW1	77217	19	63	28-Aug	MEZ	Meziadin
36410	1	98	63.0	F	12-Aug	08:30	FW1	77217	18	63	16-Sep	MEZ	Meziadin Lake
36409	2	21	63.0	F	12-Aug	08:30	FW1	77217	17	63	22-Aug	NM3	NM3-Old Aiyansh
36500	2	97	65.0	M	13-Aug	18:32	FW2	NS	-	NS	19-Aug	FF	NM3
36521	1	88	57.0	F	14-Aug	08:00	FW2	77219	1	53	20-Aug	NM3	NM3-Old Aiyansh
36604	6	90	61.0	F	15-Aug	08:47	FW2	77220	1	53	03-Sep	MEZ	Meziadin Lake
36706	2	94	52.0	F	16-Aug	08:49	FW2	77221	1	42	26-Aug	TMORT	NM1- <Gwinaha
37067	1	84	61.0	M	23-Aug	08:30	FW1	77228	1	S3	28-Aug	NM3	NM3-Old Aiyansh

Table C-4. Information regarding sockeye and coho salmon radio tagged from the Nass River fishwheels, 1995.

Spaghetti tag no.	Radio tag <sup>a</sup>		Nose-fork length (cm)	Sex	Tagging date	Release		Scale <sup>b</sup>			Last detection		
	Chan.	Code				Time	Site	Book	Scale	Age	Date	Fate <sup>c</sup>	Location
<b>Coho Salmon</b>													
178	6	87	67.0	F	9-Aug	09:40	FW1	46970	1	32	16-Aug	NM3	NM3-Old Aiyansh
179	6	90	68.0	F	9-Aug	09:52	FW1	46970	2	43	12-Aug	FF	NM3->Old Aiyansh
330	1	95	63.0	F	13-Aug	18:32	FW2	NS	-	NS	07-Sep	NM3	NM3->Old Aiyansh
331	5	85	67.0	F	13-Aug	18:32	FW2	NS	-	NS	29-Aug	NM4	NM4-above Cranberry
351	6	94	58.0	M	14-Aug	08:00	FW2	46981	1	43	22-Aug	NM3	NM3->Old Aiyansh
389	2	92	65.0	M	15-Aug	08:59	FW2	46984	1	1M	02-Sep	BELL	Bell-Irving
438	5	92	41.0	M	16-Aug	09:08	FW2	46986	1	43	19-Aug	NM3	NM3->Old Aiyansh
608	5	91	63.0	F	23-Aug	08:35	FW1	46994	1	32	29-Aug	NM3	NM3->Old Aiyansh
620	2	97	67.0	M	24-Aug	09:00	FW1	47112	4	32	18-Sep	MEZ	Meziadin
660	5	83	56.0	F	25-Aug	08:30	FW1	47114	2	32	01-Sep	CRAN	Cranberry
661	5	88	67.0	M	25-Aug	08:30	FW1	47114	3	32	26-Aug	TMORT	NM1-<Gwinaha
698	1	86	65.0	F	26-Aug	10:00	FW1	47116	9	43	03-Sep	NM3	NM3->Old Aiyansh
696	5	81	68.0	F	26-Aug	10:00	FW1	47116	7	32	06-Sep	CRAN	Cranberry
766	5	94	71.0	M	28-Aug	08:39	FW1	46995	1	32	19-Sep	CRAN	Cranberry

<sup>a</sup> Four frequencies (MHz) were used: Channels 1=149.32, 2=149.34, 5=149.40, and 6=149.42.

<sup>b</sup> Age classification is Gilbert Rich notation. NS=no scale; RG=regenerated scale; M=marine year only; W=Wet scale (not readable).

<sup>c</sup> Fate categories: NM1=below tagsite; NM2=tagsite to old Aiyansh; NM3= Old Aiyansh to Cran; NM4=Cran to Meziadin; NM5=mez to Bell; NM6=Bell to Upper Nass; BELL=Bell-Irving; MEZ=Meziadin; MEZFF=food fish; CRAN=Cranberry; EXIT=left system; TMORT=tagging mor FMORT=fishing mor; FF=Nisga'a fishery; NT=never tracked; and GIN=Gingit Creek.

Table C-5. Telemetry surveys conducted on the Nass River, 1995.

System	Reach <sup>a</sup>	Survey type	Date	Start time	End time
Gingit Cr.	GIN	Ground	04 Aug	18:00	19:30
Gingit Cr.	GIN	Helicopter	11 Aug	12:57	13:05
Hanna Cr.	HANN	Helicopter	21 Sep	11:27	11:36
Meziadin L.	LAKE	Boat	03 Sep	16:00	18:00
Meziadin R.	MEZ	Ground	16 Sep	16:43	17:19
Meziadin R.	MEZ	Ground	19 Sep	14:43	17:15
Meziadin R.	MEZ	Ground	22 Sep	16:32	16:52
Nass Mainstem	NM1	Boat	14 Jul	12:25	12:40
Nass Mainstem	NM1	Boat	14 Jul	16:35	17:00
Nass Mainstem	NM1	Ground	18 Jul	09:55	11:15
Nass Mainstem	NM1	Boat	20 Jul	13:46	14:30
Nass Mainstem	NM1	Boat	26 Jul	13:31	13:45
Nass Mainstem	NM1	Boat	01 Aug	13:24	13:50
Nass Mainstem	NM1	Ground	04 Aug	09:10	11:00
Nass Mainstem	NM1	Helicopter	11 Aug	13:11	13:28
Nass Mainstem	NM2	Boat	14 Jul	15:25	16:34
Nass Mainstem	NM2	Boat	20 Jul	13:11	13:45
Nass Mainstem	NM2	Boat	26 Jul	12:56	13:30
Nass Mainstem	NM2	Boat	01 Aug	12:18	13:23
Nass Mainstem	NM2	Helicopter	11 Aug	13:07	13:10
Nass Mainstem	NM3	Boat	14 Jul	13:55	15:24
Nass Mainstem	NM3	Boat	20 Jul	11:30	13:10
Nass Mainstem	NM3	Boat	26 Jul	11:55	12:55
Nass Mainstem	NM3	Boat	01 Aug	11:20	12:17
Nass Mainstem	NM3	Helicopter	11 Aug	10:59	12:56
Nass Mainstem	NM3	Helicopter	29 Aug	14:00	15:00
Nass Mainstem	NM4	Helicopter	25 Sep	17:40	19:35
Nass Mainstem	NM5	Helicopter	21 Sep	11:37	11:48
Tintina Cr.	TINT	Helicopter	21 Sep	11:00	11:26
Tseax R.	TSEA	Ground	18 Jul	11:45	12:00

<sup>a</sup> NM1 = below tagsite; NM2 = tagsite to old Aiyansh; NM3 = Old Aiyansh to Cran; NM4 = Cran to Meziadin; NM5 = Mez to Bell; NM6 = Bell to Upper Nass; GIN = Gingit Cr.; MEZ = Meziadin; TSEA = Tseax R.; HANN = Hanna Cr.; TINT = Tintina Cr.; and LAKE = Meziadin Lake.

Table D-1. Summary statistics of travel time (d) data for chinook, sockeye and coho recaptures, 1995.

Recapture location	Fish tagged at Fishwheel 1									Fish tagged at Fishwheel 2									Both fishwheels combined								
	Chinook			Sockeye			Coho			Chinook			Sockeye			Coho			Chinook			Sockeye			Coho		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Fishweel 1	4	13.5	7.9	73	1.0	2.7	25	2.1	2.1	18	9.6	6.4	150	1.8	2.9	8	5.1	5.2	22	10.3	6.7	223	1.5	2.9	33	2.8	3.3
Fishweel 2	8	10.6	6.9	57	1.8	1.6	7	1.9	1.7	13	7.3	6.1	155	2.2	2.8	1	4.0		21	8.6	6.5	212	2.1	2.5	8	2.1	1.7
Fishweel 3	7	13.6	4.4	52	3.7	1.7	4	8.0	4.1	14	10.3	5.6	81	5.3	5.4	1	15.0		21	11.4	5.4	133	4.7	4.4	5	9.4	4.7
Fishweel 4	1	15.0	-	42	4.9	3.4	25	8.6	4.9	3	17.0	3.0	56	7.0	11.6	4	7.3	6.2	4	16.5	2.6	98	6.1	9.1	29	8.4	5.0
Meziadin	5	62.4	17.6	1080	18.8	6.5	26	31.1	9.4	4	60.3	21.2	1538	18.7	6.5	16	33.1	10.4	9	61.4	18.0	2618	18.8	6.5	42	31.8	9.7
Totals	25			1304			87			52			1980			30			77			3284			117		

Table D-2. Travel time information for recoveries of tagged chinook salmon by location tagged and location recovered, 1995.

Travel time (d)	Location tagged												Grand Total
	Fishwheel 1						Fishwheel 2						
	Location recovered												
	Fw1	Fw2	Fw3	Fw4	Mez	Total	Fw1	Fw2	Fw3	Fw4	Mez	Total	
0	0	1	0	0	0	1	0	2	0	0	0	2	3
1	0	1	0	0	0	1	2	1	0	0	0	3	4
2	0	0	0	0	0	0	1	0	1	0	0	2	2
3	0	0	0	0	0	0	1	1	2	0	0	4	4
4	0	0	0	0	0	0	0	1	0	0	0	1	1
5	1	0	0	0	0	1	1	1	0	0	0	2	3
6	0	0	0	0	0	0	1	1	0	0	0	2	2
7	0	0	0	0	0	0	2	0	0	0	0	2	2
8	0	0	0	0	0	0	0	1	1	0	0	2	2
9	0	0	0	0	0	0	1	2	1	0	0	4	4
10	0	1	2	0	0	3	3	0	2	0	0	5	8
11	0	1	1	0	0	2	0	0	2	0	0	2	4
12	1	0	1	0	0	2	1	0	3	0	0	4	6
13	1	1	1	0	0	3	0	0	0	0	0	0	3
14	0	1	0	0	0	1	1	0	0	1	0	2	3
15	0	0	0	1	0	1	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	1	0	0	0	1	1
17	0	0	1	0	0	1	1	2	0	1	0	4	5
18	0	2	0	0	0	2	2	0	0	0	0	2	4
19	0	0	0	0	0	0	0	0	1	0	0	1	1
20	0	0	0	0	0	0	0	0	0	1	0	1	1
22	0	0	1	0	0	1	0	0	1	0	0	1	2
23	0	0	0	0	0	0	1	0	0	0	0	1	1
24	1	0	0	0	0	1	0	0	0	0	0	0	1
32	0	0	0	0	0	0	0	0	0	0	1	1	1
38	0	0	0	0	1	1	0	0	0	0	0	0	1
56	0	0	0	0	1	1	0	0	0	0	1	1	2
59	0	0	0	0	1	1	0	0	0	0	0	0	1
76	0	0	0	0	0	0	0	0	0	0	1	1	1
77	0	0	0	0	1	1	0	0	0	0	1	1	2
82	0	0	0	0	1	1	0	0	0	0	0	0	1
<b>Totals</b>	4	8	7	1	5	25	18	13	14	3	4	52	77

Table D-3. Travel time information for recoveries of tagged sockeye salmon location tagged and location recovered, 1995.

Travel time (d)	Location tagged												Grand Total
	Fishwheel 1						Fishwheel 2						
	Location recovered												
	Fw1	Fw2	Fw3	Fw4	Mez	Total	Fw1	Fw2	Fw3	Fw4	Mez	Total	
0	43	11	0	0	0	54	56	45	0	1	0	102	156
1	20	15	2	2	0	39	46	37	1	0	0	84	123
2	5	15	12	5	0	37	18	26	17	10	0	71	108
3	1	11	14	10	0	36	11	18	23	17	0	69	105
4	0	1	9	8	0	18	5	7	9	5	0	26	44
5	2	3	7	8	0	20	2	6	9	10	0	27	47
6	1	0	5	2	0	8	2	4	7	6	0	19	27
7	0	0	1	1	0	2	4	4	4	2	0	14	16
8	0	1	2	1	3	7	1	3	4	0	2	10	17
9	0	0	0	0	8	8	1	0	0	0	9	10	18
10	0	0	0	1	10	11	0	3	1	0	26	30	41
11	0	0	0	2	41	43	0	1	1	0	45	47	90
12	0	0	0	0	50	50	1	0	0	0	87	88	138
13	0	0	0	0	79	79	1	0	0	0	105	106	185
14	0	0	0	0	74	74	0	0	0	0	122	122	196
15	0	0	0	1	88	89	1	0	0	0	121	122	211
16	0	0	0	0	83	83	0	0	0	0	125	125	208
17	0	0	0	1	85	86	0	0	1	0	128	129	215
18	0	0	0	0	88	88	0	0	1	0	121	122	210
19	0	0	0	0	85	85	0	0	0	1	105	106	191
20	0	0	0	0	59	59	0	0	0	0	93	93	152
21	1	0	0	0	63	64	1	1	0	0	75	77	141
22	0	0	0	0	49	49	0	0	0	0	67	67	116
23	0	0	0	0	39	39	0	0	1	0	54	55	94
24	0	0	0	0	28	28	0	0	0	0	48	48	76
25	0	0	0	0	28	28	0	0	0	0	31	31	59
26	0	0	0	0	13	13	0	0	0	0	31	31	44
27	0	0	0	0	16	16	0	0	1	0	15	16	32
28	0	0	0	0	18	18	0	0	0	0	22	22	40
29	0	0	0	0	13	13	0	0	0	0	18	18	31
30	0	0	0	0	10	10	0	0	0	1	13	14	24
31	0	0	0	0	4	4	0	0	0	0	14	14	18
32	0	0	0	0	3	3	0	0	0	0	10	10	13
33	0	0	0	0	6	6	0	0	0	0	4	4	10
34	0	0	0	0	5	5	0	0	1	0	4	5	10
35	0	0	0	0	6	6	0	0	0	0	6	6	12
36	0	0	0	0	5	5	0	0	0	0	5	5	10
37	0	0	0	0	1	1	0	0	0	0	3	3	4
38	0	0	0	0	2	2	0	0	0	1	6	7	9
39	0	0	0	0	1	1	0	0	0	0	2	2	3
40	0	0	0	0	3	3	0	0	0	0	4	4	7
41	0	0	0	0	1	1	0	0	0	0	3	3	4
42	0	0	0	0	2	2	0	0	0	0	2	2	4

Table D-3. Travel time information for recoveries of tagged sockeye salmon location tagged and location recovered, 1995.

Travel time (d)	Location tagged												Grand Total
	Fishwheel 1						Fishwheel 2						
	Location recovered												
	Fw1	Fw2	Fw3	Fw4	Mez	Total	Fw1	Fw2	Fw3	Fw4	Mez	Total	
43	0	0	0	0	2	2	0	0	0	0	0	0	2
44	0	0	0	0	0	0	0	0	0	0	1	1	1
45	0	0	0	0	2	2	0	0	0	0	1	1	3
46	0	0	0	0	0	0	0	0	0	1	2	3	3
49	0	0	0	0	1	1	0	0	0	0	1	1	2
50	0	0	0	0	1	1	0	0	0	0	0	0	1
51	0	0	0	0	1	1	0	0	0	0	0	0	1
52	0	0	0	0	1	1	0	0	0	0	0	0	1
53	0	0	0	0	0	0	0	0	0	0	1	1	1
55	0	0	0	0	0	0	0	0	0	0	1	1	1
57	0	0	0	0	1	1	0	0	0	0	1	1	2
58	0	0	0	0	1	1	0	0	0	0	1	1	2
62	0	0	0	0	1	1	0	0	0	0	1	1	2
67	0	0	0	0	0	0	0	0	0	1	0	1	1
71	0	0	0	0	0	0	0	0	0	0	1	1	1
72	0	0	0	0	0	0	0	0	0	0	1	1	1
Totals	73	57	52	42	1080	1304	150	155	81	56	1538	1980	3284

Table D-4. Travel time information for recoveries of tagged coho salmon by location tagged and location recovered, 1995.

Travel time (d)	Location tagged													Grand Total
	Fishwheel 1						Fishwheel 2							
	Location recovered													
	Fw1	Fw2	Fw3	Fw4	Mez	Total	Fw1	Fw2	Fw3	Fw4	Mez	Total		
0	6	2	0	0	0	8	2	0	0	0	0	2	10	
1	7	1	0	0	0	8	1	0	0	1	0	2	10	
2	4	2	0	1	0	7	0	0	0	0	0	0	7	
3	1	0	1	1	0	3	1	0	0	1	0	2	5	
4	5	2	0	2	0	9	1	1	0	0	0	2	11	
5	0	0	0	3	0	3	0	0	0	0	0	0	3	
6	1	0	0	3	0	4	0	0	0	0	0	0	4	
7	0	0	0	3	0	3	0	0	0	0	0	0	3	
8	1	0	2	2	0	5	0	0	0	0	0	0	5	
9	0	0	0	2	0	2	1	0	0	0	0	1	3	
10	0	0	0	2	0	2	1	0	0	0	0	1	3	
11	0	0	0	1	0	1	0	0	0	1	0	1	2	
12	0	0	0	1	0	1	0	0	0	0	0	0	1	
13	0	0	1	0	0	1	0	0	0	0	0	0	1	
14	0	0	0	1	0	1	1	0	0	1	0	2	3	
15	0	0	0	1	0	1	0	0	1	0	0	1	2	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	0	0	2	2	2	
18	0	0	0	0	3	3	0	0	0	0	0	0	3	
19	0	0	0	0	0	0	0	0	0	0	1	1	1	
20	0	0	0	1	1	2	0	0	0	0	0	0	2	
21	0	0	0	0	1	1	0	0	0	0	0	0	1	
22	0	0	0	1	1	2	0	0	0	0	1	1	3	
23	0	0	0	0	0	0	0	0	0	0	0	0	0	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	0	0	0	0	1	1	0	0	0	0	1	1	2	
26	0	0	0	0	0	0	0	0	0	0	0	0	0	
27	0	0	0	0	1	1	0	0	0	0	0	0	1	
28	0	0	0	0	3	3	0	0	0	0	0	0	3	
29	0	0	0	0	3	3	0	0	0	0	0	0	3	
30	0	0	0	0	1	1	0	0	0	0	0	0	1	
31	0	0	0	0	0	0	0	0	0	0	1	1	1	
32	0	0	0	0	2	2	0	0	0	0	0	0	2	
33	0	0	0	0	0	0	0	0	0	0	1	1	1	
34	0	0	0	0	0	0	0	0	0	0	2	2	2	
35	0	0	0	0	1	1	0	0	0	0	0	0	1	
36	0	0	0	0	1	1	0	0	0	0	0	0	1	
37	0	0	0	0	1	1	0	0	0	0	0	0	1	
38	0	0	0	0	0	0	0	0	0	0	1	1	1	
39	0	0	0	0	2	2	0	0	0	0	1	1	3	
40	0	0	0	0	0	0	0	0	0	0	1	1	1	
41	0	0	0	0	0	0	0	0	0	0	1	1	1	
44	0	0	0	0	1	1	0	0	0	0	1	1	2	

Table D-4. Travel time information for recoveries of tagged coho salmon by location tagged and location recovered, 1995.

Travel time (d)	Location tagged												Grand Total	
	Fishwheel 1						Fishwheel 2							
	Location recovered													
	Fw1	Fw2	Fw3	Fw4	Mez	Total	Fw1	Fw2	Fw3	Fw4	Mez	Total		
45	0	0	0	0	2	2	0	0	0	0	0	0	0	2
46	0	0	0	0	0	0	0	0	0	0	1	1	1	1
49	0	0	0	0	0	0	0	0	0	0	1	1	1	1
54	0	0	0	0	1	1	0	0	0	0	0	0	0	1
<b>Totals</b>	<b>25</b>	<b>7</b>	<b>4</b>	<b>25</b>	<b>26</b>	<b>87</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>16</b>	<b>30</b>	<b>117</b>	

Table E-1. Daily counts of sockeye and tagged sockeye through the Meziadin fishway, 1995.

Date	Adults		Jacks		All sockeye		Number of tags counted				Recovered <sup>a</sup>		Portion	Portion of adults tagged	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Blue	Yellow	Total	Cum.	tags	recovered	Daily	Cum.	
5-Jul	31	31	0	0	31	31	1	0	1	1	1	1.00	0.032	0.032	
6-Jul	465	496	0	0	465	496	6	0	6	7	3	0.50	0.013	0.014	
7-Jul	1500	1996	0	0	1500	1996	34	0	34	41	14	0.41	0.023	0.021	
8-Jul	2641	4637	0	0	2641	4637	44	1	45	86	24	0.53	0.017	0.019	
9-Jul	4209	8846	0	0	4209	8846	114	3	117	203	43	0.37	0.028	0.023	
10-Jul	4549	13395	2	2	4551	13397	142	5	147	350	67	0.46	0.032	0.026	
11-Jul	6579	19974	10	12	6589	19986	127	30	157	507	60	0.38	0.024	0.025	
12-Jul	1824	21798	1	13	1825	21811	40	11	51	558	16	0.31	0.028	0.026	
13-Jul	3198	24996	1	14	3199	25010	46	29	75	633	31	0.41	0.023	0.025	
14-Jul	4031	29027	1	15	4032	29042	40	43	83	716	29	0.35	0.021	0.025	
15-Jul	10877	39904	14	29	10891	39933	47	143	190	906	67	0.35	0.017	0.023	
16-Jul	17340	57244	23	52	17363	57296	76	398	474	1380	137	0.29	0.027	0.024	
17-Jul	11783	69027	25	77	11808	69104	29	278	307	1687	83	0.27	0.026	0.024	
18-Jul	11493	80520	31	108	11524	80628	20	354	374	2061	71	0.19	0.033	0.026	
19-Jul	8140	88660	31	139	8171	88799	12	290	302	2363	66	0.22	0.037	0.027	
20-Jul	5423	94083	34	173	5457	94256	9	215	224	2587	80	0.36	0.041	0.027	
21-Jul	3900	97983	34	207	3934	98190	13	124	137	2724	30	0.22	0.035	0.028	
22-Jul	2644	100627	25	232	2669	100859	2	82	84	2808	25	0.30	0.032	0.028	
23-Jul	2049	102676	11	243	2060	102919	1	75	76	2884	55	0.72	0.037	0.028	
24-Jul	970	103646	11	254	981	103900	4	39	43	2927	36	0.84	0.044	0.028	
25-Jul	703	104349	4	258	707	104607	0	22	22	2949	20	0.91	0.031	0.028	
26-Jul	1455	105804	19	277	1474	106081	0	54	54	3003	40	0.74	0.037	0.028	
27-Jul	803	106607	6	283	809	106890	2	36	38	3041	31	0.82	0.047	0.029	
28-Jul	2227	108834	19	302	2246	109136	3	68	71	3112	62	0.87	0.032	0.029	
29-Jul	2448	111282	34	336	2482	111618	3	94	97	3209	82	0.85	0.040	0.029	
30-Jul	1783	113065	34	370	1817	113435	3	81	84	3293	70	0.83	0.047	0.029	
31-Jul	2767	115832	58	428	2825	116260	2	85	87	3380	63	0.72	0.031	0.029	
1-Aug	2497	118329	46	474	2543	118803	1	81	82	3462	70	0.85	0.033	0.029	
2-Aug	2856	121185	58	532	2914	121717	1	89	90	3552	58	0.64	0.032	0.029	
3-Aug	2427	123612	57	589	2484	124201	0	95	95	3647	85	0.89	0.039	0.030	
4-Aug	1903	125515	41	630	1944	126145	1	66	67	3714	60	0.90	0.035	0.030	
5-Aug	1639	127154	49	679	1688	127833	0	54	54	3768	51	0.94	0.033	0.030	

Table E-1. Daily counts of sockeye and tagged sockeye through the Meziadin fishway, 1995.

Date	Adults		Jacks		All sockeye		Number of tags counted				Recovered <sup>a</sup>	Portion	Portion of adults tagged	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Blue	Yellow	Total	Cum.	tags recovered		Daily	Cum.
6-Aug	1095	128249	38	717	1133	128966	0	42	42	3810	37	0.88	0.038	0.030
7-Aug	1458	129707	43	760	1501	130467	0	45	45	3855	27	0.60	0.031	0.030
8-Aug	1387	131094	51	811	1438	131905	0	43	43	3898	32	0.74	0.031	0.030
9-Aug	1915	133009	98	909	2013	133918	0	63	63	3961	37	0.59	0.033	0.030
10-Aug	1650	134659	124	1033	1774	135692	0	66	66	4027	46	0.70	0.040	0.030
11-Aug	1272	135931	125	1158	1397	137089	0	37	37	4064	17	0.46	0.029	0.030
12-Aug	1315	137246	117	1275	1432	138521	0	31	31	4095	13	0.42	0.024	0.030
13-Aug	1535	138781	139	1414	1674	140195	0	27	27	4122	22	0.81	0.018	0.030
14-Aug	1246	140027	80	1494	1326	141521	0	17	17	4139	12	0.71	0.014	0.030
15-Aug	391	140418	32	1526	423	141944	0	6	6	4145	6	1.00	0.015	0.030
16-Aug	327	140745	19	1545	346	142290	0	8	8	4153	7	0.88	0.024	0.030
17-Aug	1164	141909	70	1615	1234	143524	0	20	20	4173	15	0.75	0.017	0.029
18-Aug	1904	143813	173	1788	2077	145601	0	22	22	4195	19	0.86	0.012	0.029
19-Aug	1270	145083	141	1929	1411	147012	0	22	22	4217	22	1.00	0.017	0.029
20-Aug	2135	147218	216	2145	2351	149363	0	20	20	4237	16	0.80	0.009	0.029
21-Aug	1371	148589	197	2342	1568	150931	0	15	15	4252	15	1.00	0.011	0.029
22-Aug	2275	150864	251	2593	2526	153457	0	40	40	4292	33	0.83	0.018	0.028
23-Aug	1110	151974	109	2702	1219	154676	0	9	9	4301	9	1.00	0.008	0.028
24-Aug	3110	155084	257	2959	3367	158043	0	63	63	4364	55	0.87	0.020	0.028
25-Aug	2200	157284	216	3175	2416	160459	0	34	34	4398	30	0.88	0.015	0.028
26-Aug	1898	159182	155	3330	2053	162512	0	28	28	4426	18	0.64	0.015	0.028
27-Aug	3208	162390	225	3555	3433	165945	0	57	57	4483	39	0.68	0.018	0.028
28-Aug	2629	165019	247	3802	2876	168821	0	44	44	4527	32	0.73	0.017	0.027
29-Aug	3109	168128	272	4074	3381	172202	0	52	52	4579	31	0.60	0.017	0.027
30-Aug	2422	170550	231	4305	2653	174855	0	55	55	4634	30	0.55	0.023	0.027
31-Aug	3013	173563	264	4569	3277	178132	0	51	51	4685	46	0.90	0.017	0.027
1-Sep	3913	177476	233	4802	4146	182278	0	71	71	4756	44	0.62	0.018	0.027
2-Sep	3520	180996	248	5050	3768	186046	0	57	57	4813	48	0.84	0.016	0.027
3-Sep	2875	183871	212	5262	3087	189133	0	43	43	4856	23	0.53	0.015	0.026
4-Sep	2675	186546	157	5419	2832	191965	0	28	28	4884	27	0.96	0.010	0.026
5-Sep	2417	188963	135	5554	2552	194517	0	36	36	4920	20	0.56	0.015	0.026
6-Sep	1072	190035	97	5651	1169	195686	0	25	25	4945	22	0.88	0.023	0.026

Table E-1. Daily counts of sockeye and tagged sockeye through the Meziadin fishway, 1995.

Date	Adults		Jacks		All sockeye		Number of tags counted				Recovered <sup>a</sup>	Portion	Portion of adults tagged	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Blue	Yellow	Total	Cum.	tags recovered		Daily	Cum.
7-Sep	1299	191334	83	5734	1382	197068	0	27	27	4972	18	0.67	0.021	0.026
8-Sep	1081	192415	78	5812	1159	198227	0	12	12	4984	8	0.67	0.011	0.026
9-Sep	811	193226	59	5871	870	199097	0	17	17	5001	12	0.71	0.021	0.026
10-Sep	1381	194607	76	5947	1457	200554	0	20	20	5021	16	0.80	0.014	0.026
11-Sep	1181	195788	59	6006	1240	201794	0	14	14	5035	10	0.71	0.012	0.026
12-Sep	192	195980	6	6012	198	201992	0	1	1	5036	1	1.00	0.005	0.026
13-Sep	69	196049	1	6013	70	202062	0	1	1	5037	1	1.00	0.014	0.026
14-Sep	268	196317	8	6021	276	202338	0	3	3	5040	2	0.67	0.011	0.026
15-Sep	298	196615	22	6043	320	202658	0	10	10	5050	5	0.50	0.034	0.026
16-Sep	339	196954	14	6057	353	203011	0	2	2	5052	2	1.00	0.006	0.026
17-Sep	802	197756	16	6073	818	203829	0	11	11	5063	6	0.55	0.014	0.026
18-Sep	974	198730	28	6101	1002	204831	0	10	10	5073	9	0.90	0.010	0.026
19-Sep	942	199672	26	6127	968	205799	0	6	6	5079	6	1.00	0.006	0.025
20-Sep	1003	200675	26	6153	1029	206828	0	10	10	5089	8	0.80	0.010	0.025
21-Sep	762	201437	22	6175	784	207612	0	13	13	5102	11	0.85	0.017	0.025
22-Sep	693	202130	23	6198	716	208328	0	7	7	5109	7	1.00	0.010	0.025
23-Sep	904	203034	29	6227	933	209261	0	8	8	5117	6	0.75	0.009	0.025
24-Sep	571	203605	15	6242	586	209847	0	7	7	5124	0	0.00	0.012	0.025
25-Sep	364	203969	14	6256	378	210225	0	5	5	5129	0	0.00	0.014	0.025
26-Sep	284	204253	14	6270	298	210523	0	1	1	5130	0	0.00	0.004	0.025
27-Sep	392	204645	19	6289	411	210934	0	1	1	5131	1	1.00	0.003	0.025
28-Sep	444	205089	18	6307	462	211396	0	4	4	5135	4	1.00	0.009	0.025
29-Sep	333	205422	11	6318	344	211740	0	1	1	5136	1	1.00	0.003	0.025
30-Sep	203	205625	12	6330	215	211955	0	2	2	5138	2	1.00	0.010	0.025
1-Oct	228	205853	9	6339	237	212192	0	1	1	5139	1	1.00	0.004	0.025
<b>Totals</b>							<b>823</b>	<b>4316</b>	<b>5139</b>		<b>2617</b>	<b>0.51</b>		

a - These are tagged fish that were dipnetted out and the tag number was read.

Table E-2. Daily counts of chinook, coho, steelhead and pink through the Meziadin fishway, 1995.

Date	Chinook							Coho							Steelhead		Pink			
	Adult		Tags		Cumulative portion tagged	Jacks		Adults		Tags		Portion tagged		Jacks		Daily	Cum.	Daily	Cum.	
	Daily	Cum.	Daily	Cum.		Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.					
5-Jul	0	0	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6-Jul	0	0	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7-Jul	0	0	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8-Jul	2	2	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9-Jul	3	5	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10-Jul	1	6	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11-Jul	3	9	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12-Jul	3	12	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13-Jul	1	13	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14-Jul	4	17	0	0	0.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15-Jul	5	22	1	1	0.045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16-Jul	10	32	0	1	0.031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17-Jul	3	35	0	1	0.029	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Jul	6	41	0	1	0.024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19-Jul	5	46	0	1	0.022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Jul	2	48	0	1	0.021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Jul	2	50	0	1	0.020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jul	3	53	0	1	0.019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23-Jul	2	55	0	1	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24-Jul	1	56	0	1	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25-Jul	0	56	0	1	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26-Jul	0	56	0	1	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27-Jul	2	58	0	1	0.017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28-Jul	2	60	1	2	0.033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29-Jul	1	61	0	2	0.033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30-Jul	2	63	0	2	0.032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31-Jul	3	66	0	2	0.030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-Aug	0	66	0	2	0.030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-Aug	1	67	0	2	0.030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-Aug	1	68	2	4	0.059	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
4-Aug	0	68	0	4	0.059	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5-Aug	0	68	0	4	0.059	2	4	2	2	0	0	0	0	0	0	0	0	0	0	0
6-Aug	0	68	0	4	0.059	1	5	0	2	0	0	0	0	0	0	0	0	0	0	0
7-Aug	3	71	0	4	0.056	2	7	0	2	0	0	0	0	0	0	0	0	0	0	0
8-Aug	4	75	0	4	0.053	0	7	1	3	0	0	0	0	0	0	0	0	0	0	0
9-Aug	2	77	0	4	0.052	0	7	0	3	0	0	0	0	0	0	0	0	0	0	0

Table E-2. Daily counts of chinook, coho, steelhead and pink through the Meziadin fishway, 1995.

Date	Chinook						Coho						Steelhead		Pink					
	Adult		Tags		Cumulative portion tagged	Jacks		Adults		Tags		Portion tagged		Jacks		Daily	Cum.	Daily	Cum.	
	Daily	Cum.	Daily	Cum.		Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.					
10-Aug	6	83	0	4	0.048	0	7	3	6	0	0	0	0	0	0	0	0	0	0	0
11-Aug	0	83	0	4	0.048	0	7	2	8	0	0	0	0	0	0	0	0	0	0	0
12-Aug	2	85	1	5	0.059	0	7	3	11	0	0	0	0	0	0	0	0	0	0	0
13-Aug	3	88	0	5	0.057	0	7	3	14	0	0	0	0	0	0	0	0	0	0	0
14-Aug	6	94	0	5	0.053	0	7	3	17	0	0	0	0	0	0	0	0	0	0	0
15-Aug	1	95	1	6	0.063	0	7	1	18	0	0	0	0	0	0	0	0	0	0	0
16-Aug	0	95	0	6	0.063	0	7	2	20	0	0	0	0	0	0	0	0	0	0	0
17-Aug	1	96	0	6	0.063	0	7	5	25	0	0	0	0	0	0	0	0	0	0	0
18-Aug	2	98	2	8	0.082	0	7	15	40	0	0	0	0	0	0	0	0	0	0	0
19-Aug	0	98	0	8	0.082	0	7	13	53	0	0	0	0	0	0	0	0	0	0	0
20-Aug	1	99	0	8	0.081	1	8	14	67	0	0	0	0	0	0	0	0	0	0	0
21-Aug	2	101	0	8	0.079	0	8	11	78	0	0	0	0	0	0	0	0	0	0	0
22-Aug	2	103	0	8	0.078	0	8	19	97	0	0	0	0	0	0	0	0	0	0	0
23-Aug	1	104	0	8	0.077	0	8	14	111	0	0	0	0	0	0	0	0	0	0	0
24-Aug	0	104	0	8	0.077	0	8	53	164	1	1	0.019	0.006	0	0	0	0	0	0	0
25-Aug	4	108	0	8	0.074	0	8	28	192	1	2	0.036	0.010	0	0	0	0	0	0	0
26-Aug	1	109	0	8	0.073	0	8	36	228	0	2	0.000	0.009	0	0	0	0	0	0	0
27-Aug	3	112	0	8	0.071	0	8	35	263	0	2	0.000	0.008	0	0	0	0	0	0	0
28-Aug	0	112	0	8	0.071	0	8	39	302	0	2	0.000	0.007	0	0	0	0	0	0	0
29-Aug	1	113	0	8	0.071	0	8	62	364	0	2	0.000	0.005	0	0	0	0	0	0	0
30-Aug	0	113	0	8	0.071	0	8	68	432	1	3	0.015	0.007	0	0	0	0	0	0	0
31-Aug	0	113	0	8	0.071	1	9	56	488	2	5	0.036	0.010	0	0	0	0	1	1	1
1-Sep	1	114	0	8	0.070	0	9	121	609	4	9	0.033	0.015	0	0	0	0	7	8	8
2-Sep	1	115	0	8	0.070	0	9	94	703	1	10	0.011	0.014	0	0	0	0	20	28	28
3-Sep	1	116	0	8	0.069	0	9	67	770	2	12	0.030	0.016	0	0	0	0	6	34	34
4-Sep	1	117	0	8	0.068	0	9	89	859	0	12	0.000	0.014	0	0	0	0	11	45	45
5-Sep	4	121	0	8	0.066	0	9	83	942	1	13	0.012	0.014	0	0	0	0	4	49	49
6-Sep	0	121	0	8	0.066	0	9	39	981	4	17	0.103	0.017	0	0	0	0	0	49	49
7-Sep	2	123	0	8	0.065	0	9	49	1030	2	19	0.041	0.018	0	0	0	0	0	49	49
8-Sep	4	127	0	8	0.063	0	9	30	1060	0	19	0.000	0.018	0	0	0	0	5	54	54
9-Sep	4	131	3	11	0.084	0	9	20	1080	1	20	0.050	0.019	0	0	0	0	2	56	56
10-Sep	13	144	1	12	0.083	0	9	40	1120	1	21	0.025	0.019	0	0	0	0	1	57	57
11-Sep	12	156	1	13	0.083	0	9	30	1150	0	21	0.000	0.018	0	0	0	0	2	59	59
12-Sep	3	159	0	13	0.082	0	9	7	1157	1	22	0.143	0.019	0	0	0	0	2	61	61
13-Sep	1	160	1	14	0.088	0	9	2	1159	0	22	0.000	0.019	0	0	0	0	1	62	62
14-Sep	3	163	0	14	0.086	0	9	11	1170	0	22	0.000	0.019	0	0	0	0	0	62	62

Table E-2. Daily counts of chinook, coho, steelhead and pink through the Meziadin fishway, 1995.

Date	Chinook								Coho								Steelhead		Pink	
	Adult		Tags		Cumulative portion tagged	Jacks		Adults		Tags		Portion tagged		Jacks		Daily	Cum.	Daily	Cum.	
	Daily	Cum.	Daily	Cum.		Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.					
15-Sep	1	164	0	14	0.085	0	9	15	1185	1	23	0.067	0.019	0	0	0	0	1	63	
16-Sep	1	165	0	14	0.085	0	9	11	1196	0	23	0.000	0.019	0	0	0	0	2	65	
17-Sep	0	165	0	14	0.085	0	9	24	1220	0	23	0.000	0.019	0	0	0	0	0	65	
18-Sep	0	165	0	14	0.085	0	9	76	1296	3	26	0.039	0.020	0	0	0	0	0	65	
19-Sep	0	165	0	14	0.085	0	9	50	1346	0	26	0.000	0.019	1	1	1	1	0	65	
20-Sep	2	167	0	14	0.084	0	9	47	1393	2	28	0.043	0.020	0	1	0	1	0	65	
21-Sep	1	168	0	14	0.083	0	9	87	1480	2	30	0.023	0.020	3	4	0	1	0	65	
22-Sep	2	170	0	14	0.082	0	9	52	1532	3	33	0.058	0.022	1	5	1	2	2	67	
23-Sep	1	171	0	14	0.082	0	9	77	1609	5	38	0.065	0.024	2	7	1	3	0	67	
24-Sep	3	174	0	14	0.080	0	9	32	1641	2	40	0.063	0.024	1	8	3	6	0	67	
25-Sep	0	174	0	14	0.080	0	9	33	1674	2	42	0.061	0.025	2	10	2	8	0	67	
26-Sep	0	174	0	14	0.080	0	9	16	1690	0	42	0.000	0.025	0	10	1	9	0	67	
27-Sep	0	174	0	14	0.080	0	9	21	1711	3	45	0.143	0.026	2	12	0	9	0	67	
28-Sep	0	174	0	14	0.080	0	9	17	1728	0	45	0.000	0.026	3	15	0	9	0	67	
29-Sep	0	174	0	14	0.080	0	9	24	1752	2	47	0.083	0.027	1	16	2	11	0	67	
30-Sep	0	174	0	14	0.080	0	9	19	1771	3	50	0.158	0.028	0	16	0	11	0	67	
1-Oct	0	174	0	14	0.080	0	9	21	1792	2	52	0.095	0.029	0	16	0	11	0	67	

88

Table E-3. The data used to calculate the inseason sockeye salmon escapement estimates in 1995.

Date	Fishwheel Catch				Fishwheel Tags					Grease Harbour (FW3&4)					Estimated escapement			
	Daily FW1	Daily FW2	Total	Cum. catch	Daily FW1	Daily FW2	Total	Cum. tagged	Prop. tagged	Catch	Cum. catch	Raw Recaps	Cum. recaps	Adj. Recaps	Exp. Factor	Mark-Recap.	prior fw1 factor-50	prior fw2 factor-20
8-Jun	0	9	9	9	0	9	9	9	100%	0		0					0	180
9-Jun	0	6	6	15	0	6	6	15	100%	0		0					0	300
10-Jun	0	26	26	41	0	21	21	36	81%	0		0					0	820
11-Jun	0	0	0	41	0	0	0	36	0%	0		0					0	820
12-Jun	0	0	0	41	0	0	0	36	0%	0		0					0	820
13-Jun	0	0	0	41	0	0	0	36	0%	0		0					0	820
14-Jun	0	12	12	53	0	9	9	45	75%	0		0					660	1060
15-Jun	12	42	54	107	11	41	52	97	96%	0		0					1260	1900
16-Jun	4	46	50	157	4	43	47	144	94%	0		0					1460	2820
17-Jun	7	52	59	216	7	47	54	198	92%	0		0					1810	3860
18-Jun	2	66	68	284	1	59	60	258	88%	0		0					1910	5180
19-Jun	26	97	123	407	25	91	116	374	94%	0		0					3210	7120
20-Jun	18	162	180	587	15	147	162	536	90%	0		0					4110	10360
21-Jun	53	284	337	924	48	258	306	842	91%	0		0					6760	16040
22-Jun	54	241	295	1219	52	231	283	1125	96%	13	13	0	0				9460	20860
23-Jun	53	173	226	1445	50	164	214	1339	95%	9	22	0	0				12110	24320
24-Jun	58	206	264	1709	54	195	249	1588	94%	28	50	4	4	4	23		15010	28440
25-Jun	16	79	95	1804	14	76	90	1678	95%	0	50	0	4	0	25		15810	30020
26-Jun	35	91	126	1930	33	88	121	1799	96%	71	121	0	4	0	21		17560	31840
27-Jun	78	63	141	2071	73	58	131	1930	93%	79	200	3	7	3	21		21460	33100
28-Jun	116	120	236	2307	111	116	227	2157	96%	64	264	4	11	4	23		27260	35500
29-Jun	152	234	386	2693	141	219	360	2517	93%	179	443	6	17	6	21	50,340	34860	40180
30-Jun	69	179	248	2941	61	166	227	2744	92%	298	741	8	25	9	18	54,361	38310	43760
1-Jul	73	97	170	3111	69	89	158	2902	93%	144	885	6	31	6	19	56,768	41960	45700
2-Jul	56	95	151	3262	53	83	136	3038	90%	116	1001	4	35	4	19	58,743	44760	47600
3-Jul	146	282	428	3690	135	259	394	3432	92%	107	1108	4	39	4	17	63,742	52060	53240
4-Jul	105	299	404	4094	102	284	386	3818	96%	147	1255	7	46	8	16	68,276	57310	59220
5-Jul	161	648	809	4903	54	309	363	4181	45%	183	1438	8	54	9	14	77,641	65360	72180
6-Jul	193	505	698	5601	138	262	400	4581	57%	252	1690	8	62	10	13	86,068	75010	82280
7-Jul	212	430	642	6243	97	239	336	4917	52%	308	1998	9	71	12	12	93,516	85610	90880
8-Jul	113	189	302	6545	71	99	170	5087	56%	451	2449	17	88	24	11	97,434	91260	94660
9-Jul	91	163	254	6799	21	91	112	5199	44%	283	2732	13	101	19	12	100,820	95810	97920
10-Jul	80	151	231	7030	21	111	132	5331	57%	197	2929	13	114	20	12	103,993	99810	100940

68

Table E-3. The data used to calculate the inseason sockeye salmon escapement estimates in 1995.

Date	Fishwheel Catch				Fishwheel Tags				Grease Harbour (FW3&4)						Estimated escapement			
	Daily FW1	Daily FW2	Total	Cum. catch	Daily FW1	Daily FW2	Total	Cum. tagged	Prop. tagged	Catch	Cum. catch	Raw Recaps	Cum. recaps	Adj. Recaps	Exp. Factor	Mark-Recap.	prior fw1 factor-50	prior fw2 factor-20
11-Jul	56	116	172	7202	29	60	89	5420	52%	131	3060	6	120	9	12	106,942	102610	103260
12-Jul	88	162	250	7452	45	87	132	5552	53%	107	3167	5	125	8	13	111,758	107010	106500
13-Jul	90	197	287	7739	41	106	147	5699	51%	142	3309	3	128	5	13	116,537	111510	110440
14-Jul	85	132	217	7956	0	120	120	5819	55%	64	3373	1	129	2	14	120,198	115760	113080
15-Jul	66	97	163	8119	24	54	78	5897	48%	128	3501	7	136	14	17	122,436	119060	115020
16-Jul	100	59	159	8278	66	23	89	5986	56%	107	3608	5	141	9	19	124,604	124060	116200
17-Jul	132	108	240	8518	76	63	139	6125	58%	71	3679	1	142	2	17	127,365	130660	118360
18-Jul	106	125	231	8749	44	56	100	6225	43%	167	3846	3	145	6	17	129,748	135960	120860
19-Jul	53	125	178	8927	30	75	105	6330	59%	116	3962	2	147	4	14	131,110	138610	123360
20-Jul	56	201	257	9184	34	99	133	6463	52%	146	4108	4	151	8	14	133,287	141410	127380
21-Jul	60	135	195	9379	34	68	102	6565	52%	94	4202	3	154	6	12	134,933	144410	130080
22-Jul	57	132	189	9568	20	71	91	6656	48%	109	4311	4	158	8	10	136,758	147260	132720
23-Jul	50	135	185	9753	0	92	92	6748	50%	137	4448	2	160	4	8	138,953	149760	135420
24-Jul	70	135	205	9958	24	72	96	6844	47%	102	4550	5	165	10	8	143,420	153260	138120
25-Jul	64	115	179	10137	21	63	84	6928	47%	147	4697	4	169	8	8	147,809	156460	140420
26-Jul	89	143	232	10369	24	80	104	7032	45%	117	4814	7	176	14	10	152,904	160910	143280
27-Jul	105	106	211	10580	58	59	117	7149	55%	154	4968	8	184	16	12	157,953	166160	145400
28-Jul	98	73	171	10751	81	14	95	7244	56%	123	5091	10	194	20	22	164,310	171060	146860
29-Jul	64	6	70	10821	35	6	41	7285	59%	111	5202	2	196	4	25	169,973	174260	146980
30-Jul	69	0	69	10890	47	0	47	7332	68%	62	5264	0	196	0	22	172,527	177710	146980
31-Jul	96	0	96	10986	71	0	71	7403	74%	81	5345	2	198	4	24	175,034	182510	146980
1-Aug	61	0	61	11047	20	0	20	7423	33%	95	5440	2	200	4	37	176,848	185560	146980
2-Aug	29	18	47	11094	3	11	14	7437	30%	22	5462	1	201	2	81	178,232	187010	147340
3-Aug	49	24	73	11167	16	10	26	7463	36%	37	5499	0	201	0	37	180,356	189460	147820
4-Aug	36	37	73	11240	30	28	58	7521	79%	31	5530	0	201	0	26	182,346	191260	148560
5-Aug	33	54	87	11327	18	50	68	7589	78%	43	5573	1	202	2	30	186,239	192910	149640
6-Aug	29	45	74	11401	29	45	74	7663	100%	123	5696	1	203	2	29	189,645	194360	150540
7-Aug	95	55	150	11551	89	52	141	7804	94%	128	5824	0	203	0	29	196,710	199110	151640
8-Aug	73	24	97	11648	73	20	93	7897	96%	105	5929	4	207	6	27	198,940	202760	152120
9-Aug	68	18	86	11734	53	16	69	7966	80%	125	6054	5	212	7	45	203,144	206160	152480
10-Aug	63	2	65	11799	56	1	57	8023	88%	96	6150	1	213	1	46	205,744	209310	152520
11-Aug	26	19	45	11844	26	19	45	8068	100%	54	6204	0	213	0	47	207,115	210610	152900
12-Aug	43	19	62	11906	35	17	52	8120	84%	122	6326	0	213	0	23	208,717	212760	153280

06

Table E-3. The data used to calculate the inseason sockeye salmon escapement estimates in 1995.

Date	Fishwheel Catch				Fishwheel Tags					Grease Harbour (FW3&4)					Estimated escapement			
	Daily FW1	Daily FW2	Total	Cum. catch	Daily FW1	Daily FW2	Total	Cum. tagged	Prop. tagged	Catch	Cum. catch	Raw Recaps	Cum. recaps	Adj. Recaps	Exp. Factor	Mark-Recap.	prior fw1 factor-50	prior fw2 factor-20
13-Aug	87	21	108	12014	59	17	76	8196	70%	81	6407	5	218	6	49	212,248	217110	153700
14-Aug	63	29	92	12106	54	29	83	8279	90%	54	6461	0	218	0	40	215,434	220260	154280
15-Aug	60	50	110	12216	54	48	102	8381	93%	31	6492	0	218	0	30	219,875	223260	155280
16-Aug	70	34	104	12320	57	30	87	8468	84%	62	6554	0	218	0	26	225,350	226760	155960
17-Aug	63	16	79	12399	62	15	77	8545	97%	74	6628	4	222	5	33	231,087	229910	156280
18-Aug	60	11	71	12470	54	11	65	8610	92%	58	6686	0	222	0	35	237,332	232910	156500
19-Aug	37	3	40	12510	29	3	32	8642	80%	61	6747	1	223	1	40	239,405	234760	156560
20-Aug	32	4	36	12546	30	2	32	8674	89%	94	6841	3	226	3	53	241,097	236360	156640
21-Aug	33	9	42	12588	30	8	38	8712	90%	120	6961	3	229	3	73	242,635	238010	156820
22-Aug	33	0	33	12621	31	0	31	8743	94%	90	7051	2	231	2	88	243,840	239660	156820
23-Aug	23	0	23	12644	22	0	22	8765	96%	83	7134	0	231	0	52	244,592	240810	156820
24-Aug	58	0	58	12702	47	0	47	8812	81%	133	7267	1	232	1	47	247,064	243710	156820
25-Aug	39	8	47	12749	31	7	38	8850	81%	99	7366	1	233	1	37	248,857	245660	156980
26-Aug	34	15	49	12798	25	12	37	8887	76%	110	7476	1	234	1	37	250,722	247360	157280
27-Aug	24	0	24	12822	23	0	23	8910	96%	70	7546	1	235	1	33	251,635	248560	157280
28-Aug	19	0	19	12841	14	0	14	8924	74%	30	7576	2	237	2	43	252,359	249510	157280
29-Aug	27	0	27	12868	17	0	17	8941	63%	96	7672	1	238	1	38	253,386	250860	157280
30-Aug	17	0	17	12885	14	0	14	8955	82%	68	7740	2	240	2	38	254,034	251710	157280
31-Aug	28	0	28	12913	18	0	18	8973	64%	57	7797	0	240	0	38	255,100	253110	157280
1-Sep	32	0	32	12945	16	0	16	8989	50%	41	7838	1	241	1	38	256,318	254710	157280
2-Sep	17	0	17	12962	14	0	14	9003	82%	65	7903	1	242	1	38	256,965	255560	157280
3-Sep	38	0	38	13000	28	0	28	9031	74%	69	7972	1	243	1	38	258,411	257460	157280
4-Sep	35	0	35	13035	0	0	0	9031	0%	83	8055	2	245	3	38	259,744	259210	157280
<b>Total</b>	<b>5171</b>	<b>7864</b>	<b>13035</b>		<b>3442</b>	<b>5589</b>	<b>9031</b>			<b>8055</b>		<b>245</b>						

Table E-4. Observations from chinook salmon escapement surveys, Nass River, 1995.

Stream Name	Survey Date	Survey Method	Survey Location		Light Cond	Channel % full	Direct travel (c)	Distance surveyed km	Water Cond (d)	Water Level (e)	Aerial Surveys			Count			Observer Eff.(%)		Fish examin.		No. Tags			
			Start	Finish							Airspd mph	Elev. ft	Wind	Hold	Spawn	H/S	Dead	Total	Live	Dead	Live	Dead	Live	Dead
<b>Teigen</b>																								
6-Aug	heli		Teigen Lk.	to South Teigen jnct	OC	20	down		clear	n	40	150	head		46	0	46	20	10	0	0	0	0	
6-Aug	heli		South Teigen	to Snowbank	OC	20	down		sl. turb	n	40	150	head		58	0	58	20	10	0	0	0	0	
													Total		104		104							
31-Aug	carcass		snowbank	1.1 km upstream	OC	40	Up	1.1	lac. slt	n	-	-	-	0	7		14	21	90	80	0	14	0	1
<b>Oweegee</b>																								
23-Aug	walk		Bell Irving	edge of timber	OC	30	Up	0.4	sl. turb	n	-	-	-		182	1	183	90	100	46	1	1	1	
31-Aug	carcass		Bell Irving	edge of timber	OC	10		0.2			-	-	-		2	2		100	17	2	2	0		
<b>Cranberry</b>																								
11-Aug	heli		Nass River	Kiteen River							40-50	-	-	0	0		0	10		0	0	0	0	
11-Aug	heli		Kiteen	powerlines							40-50	-	-	0	0		0	10		0	0	0	0	
11-Aug	heli		powerlines	falls							40-50	-	-	0	0		0	10		0	0	0	0	
11-Aug	heli		falls	Hwy. bridge							40-50	-	-	14	15		29	10		0	0	0	0	
11-Aug	heli		Hwy.	2 nd Hwy.							40-50	-	-	26	10		36	10		0	0	0	0	
11-Aug	heli		2 nd Hwy	3 km above							40-50	-	-	3	0		3	10		0	0	0	0	
														Total	43	25		68						
5-Sep	heli		2 nd bridge	13 miles up	sun		up	21.1	clear	b/n	20	1500		56		4	60	85	90	0	0	0	0	
12-Sep	walk/carca		log bridge	5km down	sun		down	5.0	clear	n	-	-	-	0	0		0	0	10	5	3	0	0	
<b>Ishkinnish</b>																								
15-Aug	heli		Nass	bridge crossing	OC		up				40-70	150	0-5	8	12		20	60	10	0	0	0	0	
15-Aug	heli		bridge cross	up to main fork	OC		up				40-70	150	0-5	30	9		39	60	10	0	0	0	0	
15-Aug	heli		main fork	Arnoth Lake	OC		up				40-70	150	0-5	0	15		15	60	10	0	0	0	0	
														Total	38	36		74						
<b>Kwinageese</b>																								
24-Aug	walk/carca		500 m below	1/2 way lk to weir	OC	90	down		clear	a/n	-	-	-	50	102		0	152	60	50	6	0	0	0
6-Sep	heli/carc.		1/2 km above	1/2 way lake	sun		down				-	1500	-	438		4	442	65	65	6	4	0	1	
6-Sep	heli/carc.		1/2 way lake	Old Weir Camp	sun		down		clear	a/n	-	1500	-	240		12	252	75	95	23	12	3	0	
														Total	678		16	694						
18-Sep	walk/carca		1/2 way lake	Old Weir Camp	OC		down		clear	n	-	-	-	0	14		43	57	90	75	0	43	0	1
<b>Damdochax</b>																								
24-Aug	walk/carca		Dx Lake	Sansixmor	OC	90	down		clear	a/n					465	1	466	< 70		5	1	0	0	
1-Sep	walk		Dx Lake	edge of meadow			down				-	-	-	420		12	432	95		27	12	2	0	
1-Sep	walk		meadow to	100m below Sansixmor							-	-	-	891		5	896	90		0	5	0	0	
														Total	1311	0	0	17	1328					
1-Sep	heli		Nass River	Tabacco Creek			down				-	-	-	40		40	70			0	0	0	0	
1-Sep	heli		Tabacco Crk	Slowmaldo			down				-	-	-	24		24				0	0	0	0	
1-Sep	heli		Slowmaldo	Dx Lake			down				-	-	-		825	825	80			0	0	0	0	
														Total	0	64	825	0	889					

Table E-4. Observations from chinook salmon escapement surveys, Nass River, 1995.

Stream Name	Survey Date	Survey Method	Survey Location		Light Cond	Channel % full	Direct travel (c)	Distance surveyed km	Water Cond (d)	Water Level (e)	Aerial Surveys			Count (f)			Observer Eff.(%)		Fish examin.		No. Tags		
			Start	Finish							Hold	Spawn	H/S	Dead	Total	Live	Dead	Live	Dead	Live	Dead		
	9-Sep	walk/carca	Dx Lake	Sansixmor	OC	75	down		clear	n	-	-	-	0	671	112	783	90	95	0	112	0	4
	9-Sep	walk/carca	Sansixmor	Slowmaldo	OC	75	down		clear	n	-	-	-	47	0	28	75	80	95	0	28	0	1
	9-Sep	walk/carca	Slowmaldo to 0.5 km abv. Taba		OC	75	down		clear	n	-	-	-	2	0	3	5	10	40	0	3	0	0
														Total	49	671	143	863					
	19-Sep	walk/carca	Dx Lake	Sanxsimor	sun		down		clear	b/n	-	-	-	0	60	8	68	95	95	0	8	0	0
	19-Sep	walk/carca	Sanxsimor	Slowmaldo	sun		down		clear	b/n	-	-	-	0	2	4	6	95	90	0	4	0	0
														Total	0	62	12	74					
<b>Seaskinnish</b>																							
	16-Aug	DNA sampling at south/north junction												60	0	0	60	95	0	19	0	1	0
	18-Aug	DNA sampling at south/north junction												75	0	0	75	95	0	21	0	0	0
	30-Aug	walk/carca	2200 m	1700 m	sun		down	0.5	muddy	n	-	-	-	0	0	0	0	0	0	0	0	0	0
	30-Aug	walk/carca	1700 m	1000 m	sun		down	0.7	muddy	n	-	-	-	0	0	0	0	0	0	0	0	0	0
	30-Aug	walk/carca	1000 metres	bridge	sun		down		muddy	n	-	-	-	4	1	1	6	90	95	0	1	0	0
	30-Aug	walk/carca	bridge	500 m	sun		down		muddy	n	-	-	-	15	4	4	23	90	95	0	4	0	0
	30-Aug	walk/carca	500 m	1100 m	sun		down	0.6	muddy	n	-	-	-	8	2	0	10	85	85	0	0	1	0
	30-Aug	walk/carca	1100 m	1700 m	sun		down	0.6	muddy	n	-	-	-	31	4	3	38	85	85	0	3	0	0
														Total	58	11	8	77					
	21-Sep	walk/ carc	bridge	500 m	sun		down		muddy	b/n	-	-	-	0	0	0	0	5	5	0	0	0	0
	21-Sep	walk/ carc	500 m	1000 m	sun		down	0.5	muddy	b/n	-	-	-	0	0	0	0	3	5	0	0	0	0
	21-Sep	walk/ carc	1000 m	1700 m	sun		down	0.7	muddy	b/n	-	-	-	27	3	0	30	10	5	0	0	0	0
														Total	27	3	0	30					
<b>Tseax</b>																							
	8-Sep	walk	Lake	2nd bridge	sun		down		sl. turb	b/n	-	-	-	1	0	0	1	80	85	0	0	0	0
	8-Sep	walk	Tseax Lake	mouth	sun		down		sl. turb	b/n	-	-	-	2	0	0	2	80	90	0	0	0	0
														Total	3	0	0	3					
	22-Sep	walk/carca	2.5 km abv. m mouth of Nass		sun		down	2.5	sl. turb	b/n	-	-	-	0	0	0	0	0	0	0	0	0	0
<b>Meziadin</b>																							
		fishway	5 July to 1 October												2	162			162	2	14	0	
<b>Total</b>											2448	995	1576	263	5442			335	259	24	9		

(a) survey method (carcass = carcass survey; walk = stream walk; heli = helicopter)  
 (b) light conditions (OC = overcast; sun = sunny; p. sun = partially sunny)  
 (c) direction traveled (up = upstream; down = downstream)

(d) water condition (glac. slt = glacial silt; sl. turb = slightly turbid)  
 (e) water level (n = normal; a/n = above normal; b/n = below normal)  
 (f) H/S (= holding and spawning; not counted seperately)

Table F-1. Numbers of fish, by age and length, for chinook salmon sampled at the Nass River fishwheels, 1995.

Nose-fork length (cm)	Numbers of fish by age class								Total aged	Fish sampled but not aged <sup>a</sup>					Total not aged	Portion not aged
	31	32	41	42	51	52	53	62		1M	2M	3M	4M	RG		
39	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1.00
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
42	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0.0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
47	0	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0.0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
53	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.00
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
55	0	0	0	1	0	0	0	0	1	0	0	0	0	2	2	0.67
56	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0.00
57	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0.00
58	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0.00
59	0	0	0	5	0	0	0	0	5	0	0	0	0	0	0	0.00
60	0	0	0	4	0	0	0	0	4	0	1	0	0	0	1	0.20
61	0	0	0	5	0	0	0	0	5	0	2	0	0	1	3	0.38
62	0	0	0	6	0	0	0	0	6	0	1	0	0	1	2	0.25
63	0	0	0	5	0	0	0	0	5	0	1	0	0	2	3	0.38
64	0	0	0	5	0	0	0	0	5	0	1	0	0	2	3	0.38
65	0	0	0	10	0	0	0	1	11	0	0	0	0	1	1	0.08
66	0	0	0	11	0	0	1	0	12	0	2	0	0	1	3	0.20
67	1	0	0	16	0	0	0	0	17	0	1	0	0	2	3	0.15
68	0	0	0	16	0	0	0	0	16	0	4	0	0	1	5	0.24
69	2	0	0	10	0	0	0	0	12	0	1	0	0	0	1	0.08
70	0	0	0	18	0	2	0	1	21	0	4	0	0	0	4	0.16
71	0	0	0	15	0	1	0	0	16	0	3	0	0	0	3	0.16
72	0	0	0	13	0	1	0	0	14	0	2	0	0	0	2	0.13
73	0	0	0	8	0	1	0	0	9	0	1	0	0	0	1	0.10
74	0	0	0	11	0	0	0	0	11	0	2	1	0	0	3	0.21
75	0	0	0	7	0	2	0	0	9	0	0	0	0	0	0	0.00
76	0	0	0	5	0	3	0	1	9	0	0	0	0	0	0	0.00
77	0	0	0	2	0	2	0	0	4	0	0	0	0	1	1	0.20
78	0	0	0	4	0	1	0	0	5	0	0	1	0	0	1	0.17
79	0	0	0	1	0	2	0	0	3	0	0	0	0	0	0	0.00
80	0	0	0	1	0	3	0	0	4	0	0	0	0	0	0	0.00
81	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	0.33

Table F-1. Numbers of fish, by age and length, for chinook salmon sampled at the Nass River fishwheels, 1995.

Nose-fork length (cm)	Numbers of fish by age class								Total aged	Fish sampled but not aged <sup>a</sup>					Total Portion not	
	31	32	41	42	51	52	53	62		1M	2M	3M	4M	RG	not aged	aged
82	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0.00
83	0	0	0	0	0	1	0	2	3	0	0	2	0	0	2	0.40
84	0	0	2	0	0	4	0	1	7	0	0	1	0	0	1	0.13
85	0	0	0	1	0	4	0	0	5	0	0	0	0	0	0	0.00
86	0	0	0	0	0	2	0	0	2	0	0	0	0	1	1	0.33
87	0	0	0	0	0	10	0	2	12	0	0	1	0	1	2	0.14
88	0	0	0	0	0	5	0	1	6	0	0	0	0	2	2	0.25
89	0	0	1	0	0	4	0	3	8	0	0	1	1	1	3	0.27
90	0	0	0	1	0	10	0	4	15	0	0	2	0	0	2	0.12
91	0	0	0	0	0	2	0	2	4	0	0	0	1	0	1	0.20
92	0	0	0	0	0	10	0	4	14	0	1	0	2	0	3	0.18
93	0	0	0	1	0	4	0	1	6	0	0	0	1	2	3	0.33
94	0	0	0	0	0	0	0	4	4	0	0	0	1	1	2	0.33
95	0	0	0	0	0	1	0	5	6	0	0	0	2	4	6	0.50
96	0	0	1	0	1	0	0	3	5	0	0	0	0	1	1	0.17
97	0	0	0	0	0	2	0	4	6	0	0	0	0	2	2	0.25
98	0	0	0	1	0	0	0	6	7	0	0	0	3	0	3	0.30
99	0	0	0	0	0	0	0	6	6	0	0	0	3	0	3	0.33
100	0	0	0	0	0	0	0	4	4	0	0	0	0	2	2	0.33
101	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0.00
102	0	0	0	1	0	0	0	1	2	0	0	0	0	0	0	0.00
103	0	0	1	0	1	0	0	0	2	0	0	0	0	1	1	0.33
104	0	0	0	0	0	0	0	2	2	0	0	0	0	1	1	0.33
105	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0.00
106	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0.00
107	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.00
109	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.00
110	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0.00
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
112	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.00
113	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0.00
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Total	4	4	5	193	2	79	1	70	358	1	27	10	14	33	85	0.19
Percent	1.1	1.1	1.4	53.9	0.6	22.1	0.3	19.6		1.176	31.8	11.8	16.5	38.8		

<sup>a</sup> Age error codes: M refers to marine annuli, the numbers refer to the number of marine annuli and RG is regenerated scale.

Table F-2. Numbers of fish, by age and length, from sockeye salmon sampled at the Nass River fishwheels, 1995.

Nose-fork length (cm)	Numbers of fish by age class								Number of fish sampled but could not be aged <sup>a</sup>					Portion not aged	
	31	41	42	43	52	53	63	Total	2M	3M	RG	S2	S3		Total
45	1	0	0	1	0	1	0	3	0	0	0	0	0	0	0.00
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
47	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1.00
48	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0.50
49	1	0	2	0	0	1	0	4	0	0	0	0	0	0	0.00
50	2	0	1	0	1	2	0	6	1	0	0	0	0	1	0.14
51	1	0	13	0	0	2	0	16	2	0	0	0	0	2	0.11
52	0	1	23	0	2	6	0	32	2	0	1	1	0	4	0.11
53	0	2	38	0	1	8	1	50	4	0	2	1	0	7	0.12
54	0	1	52	0	1	16	0	70	5	1	2	2	0	10	0.13
55	0	3	52	0	1	22	0	78	6	0	4	1	0	11	0.12
56	3	6	74	0	2	24	3	112	3	1	4	0	0	8	0.07
57	0	6	94	0	1	30	2	133	8	0	8	0	1	17	0.11
58	0	11	86	0	3	63	4	167	5	1	9	1	3	19	0.10
59	1	4	71	0	9	55	2	142	6	2	6	0	2	16	0.10
60	0	10	65	0	15	80	3	173	6	0	15	1	2	24	0.12
61	0	5	53	0	11	79	7	155	7	2	7	0	5	21	0.12
62	0	5	40	0	16	86	5	152	10	4	10	3	3	30	0.16
63	0	3	18	0	15	54	8	98	4	6	6	0	4	20	0.17
64	0	5	13	0	14	41	12	85	1	2	3	3	1	10	0.11
65	0	3	6	0	11	22	6	48	2	1	2	1	2	8	0.14
66	0	3	4	0	12	12	8	39	3	2	3	1	0	9	0.19
67	0	6	3	0	12	10	16	47	1	6	2	1	0	10	0.18
68	0	1	2	0	7	4	12	26	1	0	4	0	0	5	0.16
69	0	0	2	0	12	10	6	30	0	2	1	0	0	3	0.09
70	0	0	0	0	4	1	13	18	0	2	0	0	0	2	0.10
71	0	0	1	0	1	1	6	9	0	0	0	0	2	2	0.18
72	0	0	0	0	1	3	6	10	0	0	1	0	0	1	0.09
73	0	0	0	0	0	0	2	2	0	0	1	0	0	1	0.33
74	0	0	0	0	0	0	2	2	0	0	1	0	0	1	0.33
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
79	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0.00
Totals	10	75	713	1	153	633	124	1709	78	32	93	16	25	244	0.12

<sup>a</sup> Age error codes: 2M, 3M, refers to 2 or 3 marine annuli; RG, regenerated; S2, sub-two (1 fresh water annulus); S3, sub-three (2 fresh water annuli).

Table F-3. Summary of weekly age composition of sockeye sampled at the Nass River fishwheels, 1995.

Week ending	Stat. week	Weekly abundance	Numbers of fish by age class								Proportions by week						
			31	41	42	43	52	53	63	Totals	31	41	42	43	52	53	63
10-Jun	23	540	0	13	11	0	5	3	0	32	0.00	0.41	0.34	0.00	0.16	0.09	0.00
17-Jun	24	3240	1	20	27	0	10	10	2	70	0.01	0.29	0.39	0.00	0.14	0.14	0.03
24-Jun	25	27920	7	31	56	0	13	43	4	154	0.05	0.20	0.36	0.00	0.08	0.28	0.03
1-Jul	26	26973	1	8	99	0	14	29	7	158	0.01	0.05	0.63	0.00	0.09	0.18	0.04
8-Jul	27	61858	0	2	110	0	9	25	9	155	0.00	0.01	0.71	0.00	0.06	0.16	0.06
15-Jul	28	21382	0	0	84	0	7	40	10	141	0.00	0.00	0.60	0.00	0.05	0.28	0.07
22-Jul	29	22675	1	1	70	0	15	34	6	127	0.01	0.01	0.55	0.00	0.12	0.27	0.05
29-Jul	30	12791	0	0	117	0	43	104	33	297	0.00	0.00	0.39	0.00	0.14	0.35	0.11
5-Aug	31	16447	0	0	64	1	21	98	14	198	0.00	0.00	0.32	0.01	0.11	0.49	0.07
12-Aug	32	16605	0	0	15	0	3	49	10	77	0.00	0.00	0.19	0.00	0.04	0.64	0.13
19-Aug	33	20158	0	0	20	0	4	47	7	78	0.00	0.00	0.26	0.00	0.05	0.60	0.09
26-Aug	34	15155	0	0	22	0	2	100	15	139	0.00	0.00	0.16	0.00	0.01	0.72	0.11
2-Sep	35	6606	0	0	18	0	7	52	8	85	0.00	0.00	0.21	0.00	0.08	0.61	0.09
9-Sep	36 <sup>a</sup>	2996	0	0	0	0	0	0	0	0	0.00	0.00	0.19	0.00	0.05	0.67	0.10
Totals		255346	10	75	713	1	153	634	125	1711	0.01	0.04	0.42	0.00	0.09	0.37	0.07
Proportions weighted by abundance for each age group:											0.01	0.04	0.47	0.00	0.07	0.34	0.07

a - Week 36 proportions were estimated using an average of the weeks 34 and 35.

Table F-4. Summary of the numbers and mean lengths (nose-fork, cm) of successfully aged sockeye salmon from the Nass River fishwheel catch, 1995.

Age class	June			July			August			September			Total		
	N	Mean	SD <sup>a</sup>	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
31	9	52.2	4.7	1	50.0	-	0	-	-	0	-	-	10	52.0	4.5
41	71	60.4	3.9	4	56.5	1.7	0	-	-	0	-	-	75	60.2	3.9
42	183	58.3	3.3	405	57.5	3.1	121	57.7	4.1	4	57.8	0.5	713	57.7	3.4
43	0	-	-	0	-	-	1	45.0	-	0	-	-	1	45.0	-
52	42	63.3	3.8	77	63.4	4.1	31	63.7	4.4	3	60.3	5.7	153	63.4	4.1
53	77	59.3	3.1	238	60.1	3.6	302	60.9	3.7	16	60.5	3.0	633	60.4	3.6
63	13	63.8	4.2	62	65.8	4.7	49	66.5	4.3	1	67.0	-	125	65.9	4.5
Totals	395	59.5	4.0	787	59.5	4.3	504	60.8	4.6	24	60.3	3.4	1710	59.9	4.4

<sup>a</sup> Standard deviation

Table F-5. Summary of length data for both aged and unaged coho salmon sampled at the Nass River fishwheels, 1995.

Nose-fork length (cm)	Numbers of fish by age class			Total aged	Fish sampled but not aged <sup>a</sup>		Total not aged	Portion not aged
	32	43	54		1M	RG		
48	0	0	0	0	0	2	2	1.00
49	1	1	0	2	0	0	0	0.00
50	2	0	0	2	0	0	0	0.00
51	0	2	0	2	1	0	1	0.33
52	4	1	0	5	1	1	2	0.29
53	1	0	0	1	0	0	0	0.00
54	1	2	0	3	0	0	0	0.00
55	4	0	0	4	0	0	0	0.00
56	4	2	0	6	0	0	0	0.00
57	2	0	0	2	0	0	0	0.00
58	15	6	0	21	1	1	2	0.09
59	14	3	0	17	3	1	4	0.19
60	9	6	0	15	4	1	5	0.25
61	8	7	0	15	4	1	5	0.25
62	16	10	1	27	4	3	7	0.21
63	16	11	0	27	9	0	9	0.25
64	22	14	0	36	11	1	12	0.25
65	20	14	0	34	4	1	5	0.13
66	15	18	0	33	9	1	10	0.23
67	22	12	0	34	6	3	9	0.21
68	11	18	1	30	2	0	2	0.06
69	8	12	1	21	4	1	5	0.19
70	2	3	0	5	2	0	2	0.29
71	1	4	0	5	1	0	1	0.17
72	2	6	0	8	1	0	1	0.11
73	1	3	0	4	0	0	0	0.00
74	1	4	0	5	1	0	1	0.17
75	0	1	0	1	1	0	1	0.50
76	0	0	0	0	0	0	0	0.00
77	0	1	0	1	0	0	0	0.00
Total	202	161	3	366	69	17	86	
Percent	55.2	44.0	0.8					19.0

<sup>a</sup> Age error codes: M refers to marine annuli, the numbers refer to the number of marine annuli and RG is regenerated scale.