# Mark-Recapture Studies of Taku River Adult Sockeye Salmon Stocks in 2012 and 2013

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November 2014


**Pacific Salmon Commission**
**Technical Report No. 32**

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# Mark-Recapture Studies of Taku River Adult Sockeye Salmon Stocks in 2012 and 2013

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Transboundary Technical Committee

November 2014

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## ABSTRACT

Mark-recapture studies of adult Taku River salmon *Oncorhynchus* stocks were conducted by the Department of Fisheries and Oceans Canada, the Alaska Department of Fish and Game, and the Taku River Tlingit First Nation in 2012 and 2013. The objectives of the studies were to provide inseason estimates of the inriver abundance of sockeye *O. nerka* and to document biological characteristics (migratory timing, migratory rates and age, sex, and size composition) of Taku River sockeye stocks. Tagged-to-untagged ratios of salmon harvested in the Canadian inriver gillnet fisheries were used to develop the estimates of the inriver abundance of sockeye.

In 2012, a total of 4,441 sockeye salmon were captured in fish wheels located at Canyon Island, Alaska, of which 4,161 were tagged and 1,674 (40.2%) were subsequently recovered or observed in fisheries or on the spawning grounds. The inriver run of sockeye salmon past Canyon Island from June 10 to September 9 was estimated to be 155,590 fish (95% confidence interval 142,119 to 169,060). An expansion factor based on fish wheel CPUE estimated 1,287 additional sockeye salmon migrated past Canyon Island prior to June 10 and after September 9, for a total above border escapement of 156,877. Canadian commercial and Aboriginal fisheries harvested 30,062, and 169 sockeye respectively, resulting in a spawning escapement estimate of 126,646 sockeye salmon. Based on mean date and standard deviation of migration timing the sockeye salmon run was slightly late and more compressed than the 2002-2011 average. The Canyon Island catches of 5,826 pink salmon, 232 chum salmon and 24 steelhead salmon were 51.5%, 19.6%, and 80.4% below average, respectively. The pink salmon run was two days later and slightly more compressed than average.

In 2013, a total of 4,240 sockeye salmon were captured in fish wheels located at Canyon Island, Alaska, of which 4,011 were tagged and 1,411 (35.2%) were subsequently recovered or observed in fisheries or on the spawning grounds. The inriver run of sockeye salmon past Canyon Island from June 10 to September 11 was estimated to be 96,928 fish (95% confidence interval 90,835 to 103,020). An expansion factor based on fish wheel CPUE estimated 9,092 additional sockeye salmon migrated past Canyon Island prior to June 16 and after September 9, for a total above border escapement of 106,020. Canadian commercial, test, and aboriginal fisheries harvested 25,125, and 99 sockeye, respectively, resulting in a spawning escapement estimate of 80,796 sockeye salmon. Based on mean date and standard deviation of migration timing the sockeye salmon run was slightly late and less compressed than the 2003-2012 average. The Canyon Island catches of 4,666 pink salmon, 269 chum salmon and 11 steelhead salmon were 61.2%, 7.6%, and 90.5% below average, respectively. The pink salmon run was four days earlier and slightly more compressed than average.



KEY WORDS: mark-recapture, stratified population estimations, escapement estimation, migratory timing, Taku River, transboundary river, salmon, fish wheel, age, length and sex composition, Pacific Salmon Treaty

# INTRODUCTION

Inseason estimates of the spawning escapement of Taku River sockeye *Oncorhynchus nerka* are needed to fulfill the escapement goal and international harvest sharing requirements for stocks specified by the U.S./Canada Pacific Salmon Treaty. The Taku River mark-recapture project has been conducted annually since 1984 (Clark et al. 1986; McGregor and Clark 1987, 1988, 1989; McGregor et al. 1991; Kelley and Milligan 1999; Boyce and Andel 2012) as a joint U.S./Canada program involving the Alaska Department of Fish and Game (ADF&G) and the Department of Fisheries and Oceans Canada (DFO) to provide weekly estimates of the Taku River salmon escapement past Canyon Island, Alaska (Figure 1). The Taku River Tlingit First Nation (TRTFN) began providing a technician to assist with operations in 1994. U.S. and Canadian fishery managers use CPUE and stock composition data from the U.S. District 111 and Canadian Taku River commercial gillnet fisheries and escapement estimates from this project to adjust fishing times, catches, and escapements.

The Taku River is a transboundary river which originates in northern British Columbia and flows southwest through the Coastal Mountain Range and Southeast Alaska to the Pacific Ocean (Figure 1). The Taku River supports numerous stocks of salmon that are harvested by Canadian and U.S. gillnet fisheries. The Canadian fishery, which occurs inriver, targets Taku River chinook[1], sockeye and coho salmon and incidentally harvests chinook and pink salmon. The U.S. drift gillnet fishery which occurs in Taku Inlet and approach waters, primarily targets Taku River chinook and sockeye salmon stocks as well as summer chum salmon from local Alaskan enhancement programs during the summer months and mixed stocks of coho in fall. The U.S. fishery also incidentally harvests chinook and pink salmon. The Canada/U.S. Pacific Salmon Treaty (PST) of 1985, and subsequent additions to the original treaty, established conservation (71,000 to 80,000 escapement goal) and harvest sharing (percentage sharing of the allowable catch) objectives for the Taku River sockeye salmon run. The PST mandates cooperative international management of transboundary river stocks. The most intensive cooperative management is directed at sockeye, coho, and chinook salmon.

Mark-recapture methods were used in 2012 and 2013 to estimate sockeye, chinook and coho salmon escapements. Chinook and coho studies are described in separate reports published by the ADF&G Division of Sport Fish and/or the Pacific Salmon Commission (in prep.) Fish wheels located at Canyon Island were used to capture sockeye, chinook, and coho for tagging. Tagging data coupled with ratios of tagged to untagged fish in the Canadian fisheries upstream were used to develop escapement estimates inseason.

The fish wheels also catch pink, chum and steelhead salmon. Although abundance is not estimated, the catches do provide an index of interannual variation. This is especially valuable if the entire migration period is bracketed by the period of fish wheel operation (for example, as with pink salmon).

Age, length, and sex data were collected from sockeye, pink, and chum salmon caught in the fish wheels.

[1] Directed chinook fisheries were implemented as a result of an agreement reached between the U.S. and Canada in February 2005.

## OBJECTIVES

The primary goals of the Taku River sockeye salmon tagging program in 2012 and 2013 were to obtain information on the above-border run size, distribution, migratory timing, and age-sex-size composition of sockeye salmon stocks in the Taku River drainage.

Specific objectives of this study were:

1. Estimate the total spawning abundance of sockeye salmon returning to Canadian portions of the Taku River with an estimated coefficient of variation no greater than 10% of the estimate. Estimate weekly inriver abundance with a coefficient of variation no greater than 20% of the estimate;

2. Estimate the age, length, and sex composition of sockeye salmon migrating past the fish wheel site on a weekly basis;

3. Forecast total abundance of sockeye salmon on a weekly basis based on tag-recovery data and historical migration-timing data;

4. Quantitatively describe the migratory timing (mean and variance) of the sockeye, pink, and chum salmon migrations past Canyon Island; and

5. Estimate the annual age and sex composition of pink and chum salmon migrating past the fish wheel site.

Objectives for the Taku River coho and chinook salmon mark-recapture studies are outlined in reports published by the Pacific Salmon Commission and/or the ADF&G Division of Sport Fish.

## METHODS

### *Study Area Description*

The Taku River originates in the Stikine plateau of northwestern British Columbia, and drains an area of approximately 17,000 square kilometres (Figure 1). The merging of two principal tributaries, the Inklin and Nakina Rivers, approximately 50 km upstream from the international border forms the Taku River. The river flows southwest from this point though the Coast Mountain Range and empties into Taku Inlet about 30 km east of Juneau, Alaska. Approximately 95% of the Taku River watershed lies within Canada.

The Taku River is turbid, with much of its discharge originating in glacial fields on the eastern slopes of the Coast Range Mountains. This turbidity precludes complete enumeration of salmon escapements in many areas by aerial or foot surveys. Water discharge in the summer generally increases in proportion to the amount of sunshine received in the interior on coastal mountain ranges (ADF&G 1955). Winter (February) flows range from approximately 40-104 $m^3/s$ at the U.S. Geological Survey water gauging station located on the lower Taku River near Canyon Island (Schellekens et al. 1996). Discharge increases in April and May and reaches a maximum average flow of 700-1,400 $m^3/s$ during June. Flow usually remains high in July and drops in late August. The efficiency of fish wheels used to capture fish for

tagging and the effectiveness of the Canadian commercial fishery are affected by the magnitude of river discharge. Sudden increases in discharge in the lower river result from the release of the glacially impounded waters of Tulsequah Lake (Kerr 1948; Marcus 1960). These floods usually occur once or twice a year between May and August. During water years 1988 to 1995 the instantaneous peak flow due to a Tulsequah event was 2,889 $m^3/s$ (August 17, 1989; Shellekens et al. 1996). During the floods, water levels fluctuate dramatically and the river carries a tremendous load of debris.

### *Fish Wheel Operation*

Migrating adult salmon were captured with two fish wheels at Canyon Island, located approximately 4 km downstream from the international border (Figure 1). Each fish wheel consisted of two aluminum pontoons in a framework, measuring approximately 12 m in length and 6 m in width and filled with closed-cell styrofoam for flotation, supporting an axle, paddle, and basket assembly. Two fish-catching baskets were rotated about the axle by the force of the water current against the baskets and/or paddles. As the fish wheel baskets rotated, they scooped up salmon. V-shaped slides attached to the rib structure of each basket directed fish to aluminum liveboxes bolted to the outer sides of the pontoons.

The fish wheels were positioned in the vicinity of Canyon Island on opposite riverbanks, approximately 200 m apart, and have been operated in identical locations since 1984. They were secured in position by anchoring to large trees with 0.95 cm steel cable and were held out from, and parallel to, the shoreline by log booms. The Taku River channel at this location is ideal for fish wheel operation. The river is fully channelized through a relatively narrow canyon that has very steep walls.

The fish wheels rotated at 0-4 r.p.m., depending on the water velocity and the number of attached paddles. When water levels subsided, more paddles were attached and the fish wheels were moved farther out from shore into faster water currents to maintain a speed of basket rotation adequate to catch fish.

Over time it has become clear that Tulsequah River floods are preceded by a sudden decline in river temperature and a corresponding rapid increase in river level. It is standard operating procedure to stop the fish wheels when river levels near 290 cm (114 inches, standardized gauge measure). By doing so, damage to the fish wheels is minimized and significant labour and material costs avoided.

Baskets and liveboxes are removed from the pontoons and stored on high ground during the off season. The pontoons are towed upstream to a backwater slough and securely moored during the off season.

### *Tagging and Sampling Procedures*

All sockeye captured in the fish wheels were sampled for sex and mid-eye to fork of tail length (MEF). In addition, a sub-sample of 260 sockeye salmon per week were sampled for scales. Cliethral arch to fork of tail (CAF) length measurements were taken from 200 sockeye salmon throughout the season, and paired with MEF measurements. Canadian fish buyers prefer a headless, gutted product; because of this, the only length measurement available from the commercial fishery was CAF. The paired MEF and CAF measurements from the fish wheels allow conversion of CAF measurements to MEF.

All chum salmon were sampled for sex, scales, and MEF length. The daily sampling goal for pink salmon was 25 fish; these fish were sampled for sex and MEF length.

All uninjured sockeye greater than 350 mm (MEF length) were tagged with numbered spaghetti tags. Sockeye less than 350 mm (MEF) were not tagged because fish in this size range are virtually

unsusceptible to capture in the upriver gillnet fishery from which tagged to untagged ratios are used to develop population estimates for these species. Sockeye salmon with serious wounds (most often thought to be seal inflicted) were not tagged. Pink, chum and steelhead salmon were not tagged.
Salmon were dipnetted from the fish wheel liveboxes into a tagging trough partially filled with river water. Spaghetti tags (Floy Tag and Manufacturing Inc., Seattle, WA)[2] were applied to sockeye salmon as follows: one person held the fish in the tagging trough while a second person inserted a 15 cm applicator needle and attached spaghetti tag through the dorsal musculature immediately below the dorsal fin. The ends of the spaghetti tag were then knotted together with a single overhand hitch. Biological sampling was also conducted during application of the spaghetti tags. Sex and length measurements were recorded, and scale samples taken from all chum salmon, and sub-samples of the sockeye salmon caught. Sex and length data were also collected daily from a sub-sample of 25 pink salmon, but scales were not taken from this species. The tagging and sampling procedures took from 40 to 60 seconds per fish to complete. The fish were then immediately and gently released back into the river.

The spaghetti tags used for sockeye salmon were made of hollow fluorescent orange PVC tubing (approximately 2.0 mm in diameter and 30 cm in length) and were consecutively numbered and labeled with project description information.

In general, fish wheel catches were sampled in the morning, afternoon, and evening. Less frequent checks, morning and evening, were made during lulls in the migration to minimize crew overtime. During peak migration times catches were sampled more frequently, early in the morning and late at night.

### *Tag Recovery*

Sockeye were inspected for tags in Canadian commercial and test fisheries, which occurred in Canadian portions of the Taku River within 20 km of the international border. Catches that were not available by statistical week were censored, for example the aboriginal ("food fish") catch. All sockeye salmon caught in the commercial and test fisheries were considered to have been examined for tags and all of the captured tags were considered to have been recovered.

The commercial fishery was open from one to seven days per week from April 29 to October 7 in 2012 and from June 16 to October 6 in 2013 . Chinook salmon were targeted until mid-June (2012 only); sockeye salmon from mid-June until mid-August; and finally coho salmon for the remainder of the season. In 2012, a coho salmon test fishery took place from September 9 to October 3. Drift and set gillnets were the gear types used; maximum allowable mesh sizes ranged from 14 cm (5 1/2 inches) to 20.4 cm (8 inches); most fishers used mesh sizes of 13-14 cm (5 1/4 - 5 ½ inches) during the sockeye season.

Daily tag return was a condition of the Canadian commercial licence. As an additional incentive, a cash reward of $5.00 (Canadian) was offered by DFO for each sockeye tag returned from any fishery (i.e. commercial, aboriginal, or test fishery). Canadian catch statistics and tags were collected daily during fishery openings by DFO personnel stationed at Ericksen Slough, just upstream of the Tulsequah River. Catch statistics were communicated to the DFO office in Whitehorse via satellite telephone or email and then relayed to the ADF&G office in Juneau. ADF&G offered a $2.00 (U.S.) reward for each tag returned from the District 111 and the inriver personal use fisheries. Tag observations and recoveries were also made at enumeration weirs located at Kuthai, King Salmon, Little Trapper, and Tatsamenie lakes. In 2012 recoveries were also made on a sampling excursion to the Nahlin River spawning grounds.

[2] Mention of trade names does not constitute endorsement by DFO or ADF&G.

Sex, length, and scale data were obtained from these locations as well as the commercial and test fisheries.

Tagging and tag recovery data were organized by statistical week for analysis. Statistical weeks begin at 00:01 AM Sunday and end the following Saturday at midnight, with weeks being numbered sequentially beginning with the week encompassing the first Saturday in January. Inclusive dates for 2006 statistical weeks are shown in Appendix A.

### *Statistical Methods*

Sockeye salmon tagging data, tag recovery data and catch data were entered into an abundance estimation program which is referred to as the Stratified Population Analysis System (SPAS) (Arnason et al. 1996). This model provides stratified population estimates using maximum likelihood techniques (Plante 1990) and associated variances when $s$ (the number of tagging stratum) and $t$ (number of recovery stratum) are not equal. For cases in which $s=t$, the model provides stratified population estimates based on Chapman and Junge (1956) and Darroch (1961). This stratified method was used because it allows the probabilities of capture in tagging and recovery strata to vary across the strata.

Assumptions necessary to form consistent (i.e., approaching unbiased as sample size increases) stratified mark-recapture estimates in this study include (Arnason, et al. 1996):

1. All fish that pass Canyon Island during the period of interest have a non-zero probability of recovery in the commercial fishery and all fish caught by the fishery have a non-zero probability of being tagged (i.e., the population is closed);

2. There is no tag loss, tag induced mortality, tag mis-identification or non-reporting. Should any of these occur, they are to be estimated and adjusted for;

3. All fish, tagged or not, are independently caught with the same probability in any given recovery stratum;

4. All fish, tagged or not, move from a given release stratum to the recovery strata independently with the same probability distribution; and

5. There are no release strata or recovery strata where no tags are released or found respectively, and there are no rows or columns of the release-recovery matrix which are linear combinations of other rows or columns respectively.

The first assumption is addressed by the fact that two fish wheels are used in a consistent manner throughout the season and that the inriver fishery is conducted weekly. For the second assumption, tag-induced mortality was shown to be insignificant in a holding study conducted by McGregor and Milligan (1991, unpublished data). The extent of tag loss by shedding, misidentification, or non-reporting, was also found to be negligible in that study and several subsequent ones (e.g. Kelley et al., 1997). The third and fourth assumptions have not been assessed, while the fifth assumption is met by pooling of various recovery or release strata.

Inriver sockeye salmon run estimates were generated on an inseason basis each year. Mark-recapture data was forwarded to the Whitehorse DFO and Juneau ADF&G offices after each day of the commercial fishery. Data was analyzed and inriver abundance estimates were developed. Historical migratory timing data was then used each week to project the total inriver run size for the season. Due to the estimated three

to four days travel time for fish between the Taku Inlet gillnet fishery and Canyon Island (Clark et al. 1986), as well as between Canyon Island and the Canadian fishery (based on current year tag recovery data), our estimates of inriver abundance corresponds with the movement of Taku River sockeye salmon through District 111 approximately one to two weeks earlier.

Fishery management decisions that affect the magnitude and distribution of harvests and escapements are based in principle on the measured or perceived abundance of fish through time. Mundy (1982) described a set of statistics, termed migratory timing statistics, useful for characterizing the annual timing of fish migrations and for comparing the timing of migrations between years. Abundance per unit of time is divided by the total abundance throughout the migration to generate a time series of proportions, or time density. The shape of the time density characterizes the timing and temporal distribution of the migration. Two simple features of the time density are the mean date and variance or dispersion of the migration through time. We used fish wheel CPUE as an index of the abundance of fish migrating past Canyon Island, and calculated migratory timing statistics following the procedures of Mundy (1982). The mean date of passage in a migration of *m* days was estimated by:

$$\bar{t} = \sum_{t=1}^{m} t * P_t \quad , \tag{1}$$

where $\bar{t}$ was the mean day of the migration (t=1 was the first day of the migration and m was the last day), and $P_t$ is the proportion of the total cumulative fish wheel CPUE that occurred on day t. The calculated mean date is reported as the corresponding calendar date.

The variance of the migrations was estimated by:

$$s_t^2 = \sum_{t=1}^{m} (t - \bar{t})^2 * P_t \quad , \tag{2}$$

The timing of individual sockeye salmon stocks past Canyon Island was derived from recoveries of tagged fish on the spawning grounds and was weighted by fish wheel CPUE to permit the escapement of a particular stock to be apportioned to week of passage past Canyon Island. The formula we used for determining the proportion of the run occurring each week for each stock was:

$$\frac{\frac{C_k * T_{ks}}{T_k - T_{kc}}}{\sum_{j=22}^{38} \frac{C_k * T_k}{T_K - T_{kc}}} \quad , \tag{3}$$

where: *k* is the statistical week of interest; $C_k$ is the weekly proportion of the total season's fish wheel CPUE, $T_{ks}$ is the number of spawning ground recoveries of stock s that were tagged in week *k*, $T_k$ is the number of fish tagged at Canyon Island in statistical week *k*, and $T_{kc}$ is the number of fish tagged at Canyon Island in statistical week *k* and caught in the Canadian fishery.

An assumption implicit in this calculation is that the removal of fish by the Canadian inriver fishery does not alter the migratory timing distribution of individual stocks. This assumption may be violated because the Canadian fishery harvest rate of the inriver run varied between fishing periods.

## RESULTS

### *Fish Wheel Operation*

Fish wheels were operated on the Taku River from May 21 through September 15 in 2012, and from May 15 through September 9 in 2013. Demobilization dates were earlier than average due to funding constraints. In 2012, Fish wheel I (located furthest upriver) was installed on May 22; Fish wheel II was installed on May 21. In 2013 both fish wheels were installed on May 15. Additional details regarding operations are presented in Appendix B.1

The aluminum two-basket configuration first used in 1996 has proven to be effective at very low river levels (as measured on a permanent staff gauge).[3]

### *Fish Wheel Catches*

Daily catches of sockeye, pink, and chum salmon in the Canyon Island fish wheels are listed in Appendices B.1. Dates of operation and the total fish wheel catch by species for the 1984 to 2013 period are presented in Table 1. Graphs of the fish wheel CPUE for sockeye, pink, and chum salmon are included in Figure 3.

In 2012 a total of 4,441 sockeye salmon were captured in the Canyon Island fish wheels. This was 9.2% below the 2002 to 2011 average (Table 1; Appendix B.1a). An additional 12 fish were captured in gillnets in early September but were not tagged. Fish wheel catches occurred from June 1 through September 9, and peaked during statistical week 30 (July 22 through 28), when 957 sockeye salmon were captured. Prior to the first Canadian directed sockeye commercial fishery opening on June 17 (statistical week 25), 107 sockeye salmon had been captured in the fish wheels (Appendix B.1a).

In 2013 the fish wheel catch of sockeye salmon was 4,240 fish. This was 10.8% below the 2003 to 2012 average (Table 1; Appendix B.1b). An additional 107 sockeye were caught in gillnets in late August. Although 90 of these fish were tagged they are not included in the study. Fish wheel catches occurred from June 4 through September 9, and peaked during statistical week 29 (July 14 through 20), when 681 sockeye salmon were captured. Prior to the first Canadian directed sockeye commercial fishery opening on June 16 (statistical week 25), 363 sockeye salmon had been captured in the fish wheels (Appendix B.1b).

As in previous years, daily catches fluctuated dramatically. The effects of the U.S. commercial fishery in Taku Inlet were observable as fish wheel catches were typically lower between Thursday and Saturday weekly, suggesting that the average travel time between Taku Inlet and Canyon Island was three to four days.

In 2012, the total pink salmon catch in the fish wheels at Canyon Island was 5,826 (Table 1; Appendix B.1a), 51.5% below the 2002 to 2011 average. The peak daily catch (590 fish) occurred on July 25. The fish wheel catch of chum salmon was 232. The total catch was 19.6% below the 2002 to 2011 average. The peak daily catch of chum salmon (18 fish) occurred on August 23 (Appendix B.1a). The

[3] The aluminum baskets were experimentally used in 1996. Previous programs were constrained by low water conditions, particularly in the fall, which would not effectively turn the fish wheels.

total fish wheel catches of steelhead and Dolly Varden were 24 and 257 fish respectively. The catch of steelhead was 80.4% below the 2002 to 2011 average and the catch of Dolly Varden was 20.3% below average.

In 2013, the total pink salmon catch in the fish wheels at Canyon Island was 4,666 (Table 1; Appendix B.1b), 61.2% below the 2003 to 2012 average. The peak daily catch of pink salmon (497 fish) occurred on July 16. The fish wheel catch of chum salmon was 269 fish, 7.6% below the 2003 to 2012 average. The peak daily catch of chum salmon (33 fish) occurred on August 30 (Appendix B.1b). The total fish wheel catches of steelhead and Dolly Varden in 2013 were 11 and 188 fish respectively. The catch of steelhead was 90.5% below the 2003 to 2012 average of 112. The catch of Dolly Varden was 38.6% above the 2003 to 2012 average.

Catches of chum, steelhead and, to a minor extent Dolly Varden, were reduced due to the early fish wheel demobilization in both 2012 and 2013.

### *Tagging and Recovery Data*

*2012*

Of the 4,441 sockeye salmon caught in the Taku fish wheels in 2012, 4,161 were tagged (93.7%). Only jack sockeye salmon (fish smaller than approximately 350 mm MEF that have spent only one year at sea) or sockeye with noticeable injuries were not tagged. Daily numbers of sockeye caught and tagged are listed in Appendix B.1a. Recoveries downstream (U.S. personal use and D-111 fishery) of Canyon Island numbered 12 (0.003**%** of tags applied), leaving 4,149 available for recapture in Canadian fisheries. The Canadian commercial fishery recaptured 873 tagged sockeye and accounted for 99.5% of the total sockeye tags recovered or observed in upstream fisheries (Table 2a). Four tags were recaptured in the Canadian aboriginal fishery. Tags were also observed in terminal areas, principally Little Trapper, Tatsamenie, and King Salmon lakes. These numbered 248, 461, and 81 respectively. No tags were observed at Kuthai Lake in 2012. The weir counts at these locations were 10,015, 15,605, 5,413 and 2,977 sockeye respectively.

*2013*

Of the 4,240 sockeye salmon caught in the Taku fish wheels in 2013, 4,011 were tagged (94.6**%**). Only jack sockeye salmon (fish smaller than approximately 350 mm MEF that have spent only one year at sea) or sockeye with noticeable injuries were not tagged. Daily numbers of sockeye caught and tagged are listed in Appendix B.1b. Recoveries downstream (U.S. personal use and D-111 fishery) of Canyon Island numbered 6 (0.012**%** of tags applied), leaving 3,664 available for recapture in Canadian fisheries. The Canadian commercial fishery recaptured 862 tagged sockeye and accounted for all of the sockeye tags recovered or observed in upstream fisheries (Table 2b). There was no test fishery in 2013, and the Aboriginal fishery did not recover any sockeye tags. Tags were also observed in terminal areas, principally Little Trapper, Tatsamenie, Kuthai, and King Salmon lakes. These numbered 94, 262, 33 and 14 respectively. The escapements to these locations numbered 4,840, 10,166, 1,195 and 493 sockeye respectively.

### *Escapement Estimates*

*2012*

Ratios of tagged to untagged sockeye salmon in the Canadian commercial, test and catch-and-release gillnet fisheries were used to estimate the magnitude of the inriver run of sockeye salmon that passed Canyon Island during the period of June 10 to September 9, 2012. Fish wheel CPUE for sockeye was used to expand the inriver run estimate for periods of low tag recovery and effort (statistical weeks 22-23 and 35-37).

A total of 877 tags with corresponding recovery date information were returned from 30,208 sockeye salmon examined in the Canadian fisheries (Table 3a). Recovery data from statistical weeks 25 and 26, (June 17 through June 30), 27 and 28 (July 1 through July 14), and 34 through 38 (August 19 through September 22) were pooled due to statistically similar tagging ratios or low fishery/tagging effort. Tagging and recovery data were grouped into 9 and 8 strata, respectively (Table 4a).

Using a maximum likelihood Darroch estimator, we estimated that 155,590 sockeye salmon passed Canyon Island between June 10 and September 9. The approximate 95% confidence interval associated with this estimate is 142,119 to 169,060 fish. To estimate the total run of sockeye salmon that passed before the period of the mark-recapture estimate, the estimate was expanded by using fish wheel CPUE. Since CPUE data was not available after September 9, the 2002-2011 median CPUE was used to expand for this period. Using these methods, it was estimated that an additional 539 and 748 sockeye passed Canyon Island prior to June 10 and after September 9, respectively. Downriver of the U.S./Canadian border, the U.S. inriver personal use fishery catch was estimated at 1,287 sockeye using a tag return expansion method based on the current inriver commercial marked fraction, and personal survey returns logged into the ADFG ALEX database. The total estimate of sockeye salmon run migrating past Canyon Island was 156,877. This estimate is 21.3% above the 2002 to 2011 average of 129,313 sockeye salmon (Table 5; Figure 4).

The Taku River sockeye salmon run above Canyon Island was exploited by the Canadian fisheries at an estimated rate of 19.3%, compared to a 2002-2011 average of 17.3% (range 12.8% to 23.0%; Table 5). After removal of 30,062, and 169 sockeye salmon by the Canadian commercial, and Aboriginal fisheries respectively from the estimated escapement to the Canada/U.S. border, the spawning escapement totaled an estimated 126,646 fish (Table 4a). This is 18.7% above the 2002-2011 average of 106,987 sockeye salmon.

The escapement estimate does not include two groups of sockeye salmon that spawn in the drainage: (1) fish that spawn in streams located downriver from Canyon Island, and (2) jack sockeye salmon. The number of sockeye salmon spawning downstream from Canyon Island is unknown but presumed to be small; spawning has been observed annually in lower tributaries of the lower Taku River (i.e. Fish Creek, Sockeye Creek, and Yehring Creek) during annual aerial and foot surveys (McGregor, personal communication; Figure 1). The contribution of jacks can represent a sizable portion of the Taku River run; the contribution of jack (one ocean) sockeye salmon to the Canyon Island fish wheel catches from 2002 to 2011 averaged 3.3% (range 0.3% to 9.1%; Table 6). However, in 2012 the contribution of jacks was 1.7%.

*2013*

Ratios of tagged to untagged sockeye salmon in the Canadian commercial and Aboriginal gillnet fisheries were used to estimate the magnitude of the inriver run of sockeye salmon that passed Canyon Island during the period of June 16 to September 9, 2013. Fish wheel CPUE for sockeye was used to expand the inriver run estimate for the periods prior to statistical week 25, when there was no tag recovery, and after statistical week 37, when tag application had ceased.

A total of 862 tags with corresponding recovery date information were returned from 25,204 sockeye salmon examined in the Canadian fisheries (Table 3b). Recovery data from statistical weeks 25- 26 (June 16 to June 29), 29 - 31 (July 14 to August 3), 32 – 33 (August 4 to August 17), and 36 – 37 (September 1 to September 14) were pooled due to statistically similar tagging ratios or low fishery/tagging effort. Tagging and recovery data were grouped into 12 rows and 8 columns, (Table 4b).

Using a maximum likelihood Darroch estimator, we estimated that 96,928 sockeye salmon passed Canyon Island between June 16 and September 9. The approximate 95% confidence interval associated with this estimate is 90,835 to 103,020 fish. To estimate the total run of sockeye salmon that passed before the period of the mark-recapture estimate, the estimate was expanded by using fish wheel CPUE. Since CPUE data was not available after September 9, as in 2012 the 2002 - 2011 median CPUE was used to expand for this period. Using these methods, it was estimated that an additional 8,622 and 469 sockeye passed Canyon Island prior to June 16 and after September 9, respectively. Downriver of the U.S./Canadian border, the U.S. inriver personal use fishery catch was estimated at 1,371 sockeye using a tag return expansion method based on the current inriver commercial marked fraction, and personal survey returns logged into the ADFG ALEX database. The total estimate of sockeye salmon run migrating past Canyon Island was 106,020. This estimate is 19.1% below the 2003 to 2012 average of 131,157 sockeye salmon (Table 5; Figure 4).

The Taku River sockeye salmon run above Canyon Island was exploited by the Canadian fisheries at an estimated rate of 23.7%, compared to a 2003-2012 average of 16.9% (range 12.8% to 22.3%; Table 5). After removal of 25,125, and 99 sockeye salmon by the Canadian commercial, and Aboriginal fisheries, respectively, from the estimated escapement to the Canada/U.S. border, the spawning escapement amounted to an estimated 80,796 fish (Table 4b). This is 24.5% below the 2003-2012 average of 109,318 sockeye salmon.

The escapement estimate does not include two groups of sockeye salmon that spawn in the drainage: (1) fish that spawn in streams located downriver from Canyon Island, and (2) jack sockeye salmon. The number of sockeye salmon spawning downstream from Canyon Island is unknown but presumed to be small; spawning has been observed annually in lower tributaries of the lower Taku River (i.e. Fish Creek, Sockeye Creek, and Yehring Creek) during annual aerial and foot surveys (McGregor, personal communication; Figure 1). The contribution of jacks can represent a sizable portion of the Taku River run; the contribution of jack (one ocean) sockeye salmon to the Canyon Island fish wheel catches from 2003 to 2012 averaged 3.2% (range 0.3% to 9.1%; Table 6). In 2013 the contribution of jacks was 6.6%.

A necessary assumption of the population estimation technique used is that all fish in a particular recovery stratum, whether tagged or untagged, have the same capture probability. A factor that could violate this assumption is that tagging and recapture gear are selective for different sized fish. Based on length frequency distributions of sockeye salmon tagged at the fish wheels and of tagged sockeye recovered in the commercial fishery it is apparent that the fish wheels tend to capture a higher proportion of smaller fish or the fishery captures a higher percentage of large fish.

In past years (Kelley et al. 1996, McGregor et al. 1991) the possible effects of size selectivity on the sockeye salmon population estimate were assessed by stratifying tagging and recovery data by size class. Results for those years demonstrate that the mark-recapture estimates are robust in respect to fish length differences between the tagging and recapture events. The summed abundance estimates obtained for large and small sockeye salmon separately were not significantly different than the pooled estimates. Based on those results the 2012 mark-recapture data was not examined by fish size.

### *Migratory Timing*

*2012*

The mean date (July 25) of the sockeye salmon migration in 2012 was 4 days later than the 2002-2011 average (Table 7). The standard deviation was slightly less (16.5 days in 2012 versus an average of 18.9 days); meaning the run was more compressed than average. Migratory timing statistics (mean date July 24; standard deviation 7.9 days) showed the pink salmon run timing was two days later than average and slightly more compressed. The migratory timing relative to average for chum salmon is more difficult to assess because the duration of fish wheel operations has varied between years and has failed to cover the complete migration of this species. Assuming fish wheel CPUE in 2012 was reflective of the run, the mean date of migration was August 27 (standard deviation 11.2 days). However, it is likely that this assumption is less valid than usual due to the earlier than average fish wheel demobilization in 2012.

*2013*

The mean date (July 14) of the sockeye salmon migration in 2013 was 9 days earlier than the 2003-2012 average (Table 7). The standard deviation was slightly more (20.6 days in 2013 versus an average of 18.7 days); meaning the run was less compressed than average. Migratory timing statistics (mean date July 18; standard deviation 7.6 days) showed the pink salmon run timing was 4 days earlier than average and slightly more compressed. The migratory timing relative to average for chum salmon is more difficult to assess because the duration of fish wheel operations has varied between years and has failed to cover the complete migration of this species. Assuming fish wheel CPUE in 2013 was reflective of the run, the mean date of migration was August 28 (standard deviation 10.0 days). However, as in 2012, it is likely that this assumption is less valid than usual due to the earlier than average fish wheel demobilization.

### *Sockeye Salmon Stock Timing*

*2012*

The timing of three individual stock groups of sockeye salmon past Canyon Island in 2012 was determined using recoveries of tagged fish from enumeration weirs (Table 8a; Figure 5a). These were weirs on the outlet streams of Little Trapper Lake (248 tags)**,** Tatsamenie Lake (461 tags), King Salmon Lake (81 tags). No tags were recovered from Kuthai Lake in 2012.

The King Salmon Lake stock migrated past Canyon Island the earliest of these four stocks examined. These fish were passing Canyon Island from statistical weeks 24 to 30 (June 10 to July 28). The peak of the King Salmon Lake migration took place during statistical week 27 (July 1 to July 7).

Little Trapper Lake sockeye salmon peaked during statistical week 29 (July 15 to July 21). They had the most protracted run timing, being present at Canyon Island from statistical weeks 26 to 34 (June 24 to August 25).

The Tatsamenie Lake stock exhibited the latest return timing; tagged fish bound for this system were present at Canyon Island between statistical weeks 27 to 34 (July 1 to August 25). The peak migration for Tatsamenie Lake sockeye occurred during statistical week 31 (July 29 to August 4).

*2013*

The timing of four individual stock groups of sockeye salmon past Canyon Island in 2013 was determined using recoveries of tagged fish from enumeration weirs (Table 8b; Figure 5b). These were

weirs on the outlet streams of Kuthai Lake (33 tags), King Salmon Lake (14 tags), Little Trapper Lake (93 tags), and Tatsamenie Lake (264 tags).

The Kuthai Lake stock migrated past Canyon Island the earliest of these four stocks examined. These fish were passing Canyon Island from statistical weeks 23 to 28 (June 9 to July 13). The peak of the King Salmon Lake migration took place during statistical week 26 (June 23 to June 29).

King Salmon Lake sockeye salmon also peaked during statistical week 26. They were present at Canyon Island from statistical weeks 24 to 28 (June 24 to July 13).

Little Trapper Lake sockeye salmon peaked during statistical week 29 (July 14 to July 20). They were present at Canyon Island from statistical weeks 25 to 32 (June 16 to August 10).

The Tatsamenie Lake stock had both the latest and most protracted return timing; tagged fish bound for this system were present at Canyon Island between statistical weeks 27 to 36 (June 30 to September 7). The peak migration for Tatsamenie Lake sockeye occurred during statistical week 31 (July 28 to August 3).

### *Inriver Sockeye Salmon Migration Rates*

*2012*

Inriver travel times of four lake stocks could be determined from the recovery of tagged fish at enumeration weirs as described in the previous section (Table 9a). Inriver travel times from Canyon Island for the King Salmon Lake, Little Trapper Lake and Tatsamenie Lake stocks are shown in Figure 6a. Travel times averaged 31.2 days for both the King Salmon and Tatsamenie stocks, and 29.0 days for the Little Trapper stock.

Migration rates generally increased over the course of the run. Little Trapper Lake fish tagged in statistical week 27 averaged 36.0 days in transit while those tagged in statistical week 31 averaged 27.2 days. For the Tatsamenie stock, fish tagged in statistical week 29 averaged 33.1 days in transit while fish tagged in statistical week 34 averaged 26.9 days. King Salmon Lake fish tagged in statistical week 26 averaged 30.0 in transit while those tagged in statistical week 29 averaged 24.88 days. Kuthai Lake fish tagged in statistical week 26 averaged 36.4 days in transit, while those tagged in statistical week 29 averaged 22.5 days.

*2013*

Inriver travel times of four lake stocks could be determined from the recovery of tagged fish at enumeration weirs as described in the previous section (Table 9b). Inriver travel times from Canyon Island for the Kuthai, King Salmon Lake, Little Trapper Lake and Tatsamenie Lake stocks are shown in Figure 6b. Travel times averaged 38.9, 31.2, 32.6 and 37.3 days for each of these respective stocks.

Migration rates generally increased over the course of the run. Little Trapper Lake fish tagged in statistical week 27 averaged 35.3 days in transit while those tagged in statistical week 31 averaged 28.0 days. For the Tatsamenie stock, fish tagged in statistical week 28 averaged 45.0 days in transit while fish tagged in statistical week 33 averaged 30.9 days. King Salmon Lake fish tagged in statistical week 25 averaged 34.8 days in transit while those tagged in statistical week 26 averaged 22.0 days. Kuthai Lake fish tagged in statistical week 24 averaged 41.7 days in transit, while those tagged in statistical week 27 averaged 38.5 days.

### *Age, Length, and Sex Composition*

*2012*

The age and sex compositions, by sex and time period, of the Canyon Island fish wheel catches of sockeye and chum salmon in 2012 are summarized in Appendices C.1a and C.2b. Lengths at age are presented in Tables 10 and 12.

For sockeye salmon, age-1.2 fish were most prevalent (49.0%) with age-1.3 fish comprising 46.7%, age-2.2 9.7%, age-0.2 4.4%, age-2.3 1.6%, age-0.3 9.4%, and very small numbers of age-0.1, 1.1, 0.4, and 1.4 fish (Table 6). The lengths of age 1.2 and 1.3 sockeye salmon exceeded the 2002 to 2011 averages (Table 10). Females comprised 56.3% of the fish wheel catch of sockeye salmon (Appendix C.1a).

Fish wheel catches of chum salmon were primarily comprised of age-0.4 (52.7%) fish, which is higher than the 2002-2011 average of 36.3% (Table 11). Age-0.3 fish constituted 46.3% of the fish wheel catch, lower than the 59.7% average. Female chum salmon were more prevalent (57.6%) than males (Appendix C.2a). The average lengths at age for chum salmon passing Canyon Island were 595, 646, and 678 mm (MEF) for age 0.2, 0.3, and 0.4 fish respectively; these were all greater than the 2002 to 2011 averages (Table 12).

*2013*

The age and sex compositions, by sex and time period, of the Canyon Island fish wheel catches of sockeye and chum salmon in 2013 are summarized in Appendices C.1b and C.2b. Lengths at age are presented in Tables 10 and 12.

For sockeye salmon, age-1.3 fish were most prevalent (53.8%) with age-1.2 fish comprising 22.7%, age-1.1 5.1%, age-0.2 3.5%, age-2.3 5.6%, age-0.3 5.9%, and very small numbers of age-0.1, 2.2, 0.4, and 1.4 fish (Table 6). The lengths of age 1.2 and 1.3 sockeye salmon exceeded the 2003 to 2012 averages (Table 10). Females comprised 49.9% of the fish wheel catch of sockeye salmon (Appendix C.1b).

Fish wheel catches of chum salmon were primarily comprised of age-0.4 (50.0%) fish, which is higher than the 2003-2012 average of 36.2% (Table 11). Age-0.3 fish constituted 44.7% of the fish wheel catch, lower than the 59.8% average. Male chum salmon were more prevalent (54.5%) than females (Appendix C.2b). The average lengths at age for chum salmon passing Canyon Island were 640, 670, and 680 mm (MEF) for age 0.3, 0.4, and 0.5 fish respectively; these were all greater than the 2003 to 2012 averages (Table 12).

## DISCUSSION

The accuracy of mark-recapture studies in providing estimates of abundance is dependent on the degree to which the underlying assumptions of the analytical methods used are satisfied. We have chosen to use a stratified Darroch type estimator for our Taku River sockeye abundance estimates because we have different capture probabilities in the tagging and recovery strata due, primarily, to fluctuations in river level. In estimating the abundance of adult sockeye salmon in the Taku River we assumed: (a) tagging of adult sockeye salmon was in proportion to their numbers immigrating over time; (b) no

sockeye salmon entered or left the system between the tagging and recovery events or sockeye salmon that made up the population of the capture strata have a non-zero probability of recapture during the recovery event; (c) no tag-induced mortality occurred; (d) the probability of recovering sockeye salmon is independent of its tagged/untagged status. Assumptions underlying this model, outlined above, have been examined at various times during the course of this project (Kelley et al. 1997, McGregor et al. 1991).

With respect to assumption (a), tagging efforts at the Taku River fish wheels and recovery efforts at the Canadian commercial and test fisheries were conducted on a frequent basis through the season. Both of the fish wheels were strictly maintained and adjusted throughout the entire sockeye salmon run. The wheels operated 24-hours per day except during equipment breakdowns; however it is known that river conditions affect the fishing efficiencies of both wheels. Recovery efforts were conducted a minimum of twice per week throughout the season, but water conditions can also affect the efficiency of commercial and test fishery set and drift nets. We are able to work around these variations in gear efficiency by using the Darroch stratified estimator for generating abundance estimates; this allows the probabilities of capture in tagging and recovery strata to vary across time but not within these strata.
It was likely that assumption (b) was violated in recent years of the Taku sockeye mark–recapture program because typically there are significant differences in the cumulative distribution function of length between fish sampled at the fish wheels and at the recovery location. Smaller fish were more prevalent in fish wheel samples than among the recovery samples. Stratification of mark–recapture data by size would remove possible bias in population estimates caused by differences in capture probabilities due to fish size (Bernard and Hansen 1992). In past studies, summed abundance estimates obtained for large and small sockeye salmon were not significantly different than the pooled estimates (Andel and Boyce, 2012). Based on those results the mark-recapture data for 2012 and 2013 was not examined by fish size. We were able to make some correction for this possible bias by completely removing smaller "jack" salmon (less than or equal to 360 mm MEF length) from tag and recovery data.

We were able to assess the short-term loss of tags caused by physical breakage or shedding. Fish that lose their spaghetti tags are readily identifiable by the presence of entrance and exit holes just below the dorsal fin created during tag application. Those holes serve as a secondary mark. In the fish wheels, no sockeye or coho salmon were found throughout the season that had the needle hole "secondary mark" and no spaghetti tag. These results are consistent with those observed in previous years. In addition, in 2012 and 2013, 2,310 and 2,219 fish respectively were examined for tagging needle marks in the Canadian commercial and test fisheries after tags had been removed by fishers. The number of tagging needle marks was compared with tag recovery rates, and found to be close (in 2012, 3.2% versus 2.9%, and in 2013, 4.9% versus 3.4%) (Appendix D). We therefore believe that significant breakage or shedding of tags among sockeye subjected to the inriver fishery is minimal. The close proximity of the fishery to the tagging site (4 km) results in a very short travel time between the two locations.

Fish wheels were not modified in 2012 or 2013 and functioned effectively. As in recent years, a 2-basket configuration was used for the entire season.

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Table 1. Canyon Island fish wheel dates of operation and catches of sockeye, pink, chum, steelhead, and Dolly Varden, 1984 to 2013.

| Year | Dates of Operation | Sockeye | Pink | Chum | Steelhead | Dolly Varden |
|---|---|---|---|---|---|---|
| 1984 | 6/15-9/18 | 2,334 | 20,751 | 316 | NA | NA |
| 1985 | 6/16-9/21 | 3,601 | 27,670 | 1,376 | NA | NA |
| 1986 | 6/14-8/25 | 5,808 | 7,256 | 80 | 14 | 2,716 |
| 1987 | 6/15-9/20 | 4,307 | 42,786 | 1,533 | 38 | 868 |
| 1988 | 5/12-9/19 | 3,292 | 3,982 | 1,089 | 37 | 701 |
| 1989 | 5/5-10/1 | 5,650 | 31,189 | 645 | 34 | 1,308 |
| 1990 | 5/3-9/23 | 6,091 | 13,358 | 748 | 33 | 1,433 |
| 1991 | 6/8-10/15 | 5,102 | 23,553 | 1,063 | 135 | 326 |
| 1992 | 6/20-9/24 | 6,279 | 9,252 | 189 | 22 | 241 |
| 1993 | 6/12-9/29 | 8,975 | 1,625 | 345 | 30 | 375 |
| 1994 | 6/10-9/21 | 6,485 | 27,100 | 367 | 107 | 584 |
| 1995 | 5/4-9/27 | 6,228 | 1,712 | 218 | 65 | 509 |
| 1996 | 5/3-9/20 | 5,919 | 21,583 | 388 | 65 | 681 |
| 1997 | 5/3-10/1 | 5,708 | 4,962 | 485 | 102 | 454 |
| 1998 | 5/2-9/15 | 4,230 | 23,347 | 179 | 120 | 323 |
| 1999 | 5/14-9/28 | 4,639 | 23,503 | 164 | 76 | 330 |
| 2000 | 5/14-10/3 | 5,865 | 6,529 | 423 | 159 | 244 |
| 2001 | 5/27-9/27 | 6,201 | 9,134 | 250 | 125 | 196 |
| 2002 | 5/19-9/14 | 5,812 | 5,672 | 205 | 90 | 419 |
| 2003 | 5/20-10/4 | 5,970 | 15,491 | 262 | 49 | 285 |
| 2004 | 5/12-10/4 | 6,255 | 8,464 | 414 | 313 | 63 |
| 2005 | 5/5-10/4 | 3,953 | 15,839 | 258 | 79 | 293 |
| 2006 | 5/20-9/30 | 5,296 | 21,726 | 466 | 47 | 341 |
| 2007 | 5/18-9/30 | 7,664 | 12,405 | 462 | 63 | 425 |
| 2008 | 5/16-9/23 | 3,804 | 4,704 | 350 | 124 | 423 |
| 2009 | 5/12-9/27 | 3,388 | 9,225 | 214 | 249 | 19 |
| 2010 | 5/9-8/31 | 3,160 | 8,868 | 94 | 176 | 452 |
| 2011 | 5/22-9/25 | 3,584 | 17,774 | 160 | 34 | 503 |
| 2012 | 5/21-9/15 | 4,441 | 5,826 | 232 | 24 | 257 |
| 2013 | 5/15-9/9 | 4,240 | 4,666 | 269 | 11 | 188 |
| Average(02-11) | | 4,889 | 12,017 | 289 | 122 | 322 |
| Average(03-12) | | 4,752 | 12,032 | 291 | 116 | 306 |

Table 2a. Summary of Taku River sockeye tag recoveries by location and species, 2012.

| | Tags Recovered | Tags Observed Only | Total | Fish Inspected | Tag Ratio | Percent Tags Observed |
|---|---|---|---|---|---|---|
| Commercial Fishery | 873 | | 873 | 30,056 | 0.029 | 0.518 |
| Aboriginal Fishery | 4 | | 4 | 146 | 0.027 | 0.002 |
| Food Fish | 4 | | 4 | 169 | 0.024 | 0.002 |
| King Salmon Lake[a] | 72 | 9 | 81 | 5,413 | 0.015 | 0.048 |
| Kuthai Lake | | | | 182 | 0.000 | 0.000 |
| Little Trapper Lake | 149 | 99 | 248 | 10,015 | 0.025 | 0.147 |
| Tatsamenie Lake | 266 | 195 | 461 | 15,605 | 0.030 | 0.273 |
| Nahlin River | 3 | | 3 | 178 | 0.017 | 0.002 |
| Fish Creek (U.S.) | | | | | | |
| Yehring Creek (U.S.) | | | | | | |
| U.S. downstream | 12 | | 12 | | | |
| Total | 1,383 | 303 | 1,686 | 61,764 | | |

[a] Incomplete count.

Table 2b. Summary of Taku River sockeye tag recoveries by location and species, 2013.

| | Tags Recovered | Tags Observed Only | Total | Fish Inspected | Tag Ratio | Percent Tags Observed |
|---|---|---|---|---|---|---|
| Commercial Fishery | 862 | | 862 | 25,125 | 0.034 | 0.608 |
| Aboriginal Fishery | | | | 79 | 0.000 | 0.000 |
| King Salmon Lake | 13 | 1 | 14 | 493 | 0.028 | 0.010 |
| Kuthai Lake | 33 | | 33 | 1,195 | 0.028 | 0.023 |
| Little Trapper Lake | 94 | 36 | 130 | 4,840 | 0.027 | 0.092 |
| Tatsamenie Lake | 264 | 108 | 372 | 10,166 | 0.037 | 0.263 |
| Taku River mainstem | | | | | | |
| Nahlin River | | | | | | |
| Tulsequah River | | | | | | |
| Fish Creek (U.S.) | | | | | | |
| Yehring Creek (U.S.) | | | | | | |
| U.S. downstream | 6 | | 6 | | | |
| Total | 1,272 | 145 | 1,417 | 41,898 | | |

Table 3a. Tagging and recovery data from the 2012 Taku River sockeye salmon mark-recapture program. Data includes number of sockeye salmon tagged and recovered in the Canadian in-river fisheries by statistical week (downstream recoveries excluded).

| Statistical Week of Tagging | Statistical Week of Recovery | | | | | | | | | | | | | | | | Total Tags Recovered | Total Tags Applied | Tag Ratio Recovered/ Applied |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | | | |
| 22 | | | | | | | | | | | | | | | | | 0 | 10 | 0.000 |
| 23 | | | | | | | | | | | | | | | | | 0 | 6 | 0.000 |
| 24 | | | 10 | 4 | | | | | | | | | | | | | 14 | 88 | 0.159 |
| 25 | | | | 3 | 2 | | | | | | | | | | | | 5 | 67 | 0.075 |
| 26 | | | | 2 | 25 | | | | | | | | | | | | 27 | 182 | 0.148 |
| 27 | | | | | 12 | 13 | 1 | | | | | | | | | | 26 | 355 | 0.073 |
| 28 | | | | | | 30 | 20 | 3 | | 1 | | | | | | | 54 | 351 | 0.154 |
| 29 | | | | | | | 51 | 44 | 1 | 1 | 1 | | | | | | 98 | 548 | 0.179 |
| 30 | | | | | | | | 113 | 75 | 11 | 1 | | | | | | 200 | 888 | 0.225 |
| 31 | | | | | | | | | 16 | 81 | 16 | 5 | 3 | | | | 121 | 615 | 0.197 |
| 32 | | | | | | | | | | 84 | 34 | 5 | 2 | 2 | | | 127 | 439 | 0.289 |
| 33 | | | | | | | | | | | 73 | 39 | 6 | 2 | | | 120 | 314 | 0.382 |
| 34 | | | | | | | | | | | | 53 | 6 | 4 | 2 | | 65 | 225 | 0.289 |
| 35 | | | | | | | | | | | | | 14 | 2 | | | 16 | 53 | 0.302 |
| 36 | | | | | | | | | | | | | | 4 | | | 4 | 18 | 0.222 |
| 37 | | | | | | | | | | | | | | | | | 0 | 2 | 0.000 |
| Total | 0 | 0 | 10 | 9 | 39 | 43 | 72 | 160 | 92 | 178 | 125 | 102 | 31 | 14 | 2 | 0 | 877 | 4,161 | 0.211 |
| Sockeye Examined[a]: | | | | | | | | | | | | | | | | | Total | | |
| Test Fishery | | | | | | | | | | | | | | | | | 0 | | |
| Can. Comm. Catch | 3 | 3 | 373 | 608 | 1672 | 2079 | 2571 | 7012 | 4633 | 5427 | 3419 | 1526 | 547 | 187 | 2 | | 30,062 | | |
| Aboriginal Fishery | 0 | 0 | 0 | 6 | 3 | 2 | 6 | 7 | 24 | 12 | 9 | 11 | 34 | 13 | 13 | 6 | 146 | | |
| Total | 3 | 3 | 373 | 614 | 1,675 | 2,081 | 2,577 | 7,019 | 4,657 | 5,439 | 3,428 | 1,537 | 581 | 200 | 15 | 6 | 30,208 | | |

[a] Equals the number examined for Canyon Island tags.

Table 3b. Tagging and recovery data from the 2013 Taku River sockeye salmon mark-recapture program. Data includes number of sockeye salmon tagged and recovered in the Canadian in-river fisheries by statistical week (downstream recoveries excluded).

| Statistical Week of Tagging | Statistical Week of Recovery | | | | | | | | | | | | | Total Tags Recovered | Total Tags Applied | Tag Ratio Recovered/ Applied |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | | | |
| 25 | 6 | 58 | 15 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 80 | 570 | 0.140 |
| 26 | 0 | 11 | 42 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 346 | 0.165 |
| 27 | 0 | 0 | 14 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 230 | 0.096 |
| 28 | 0 | 0 | 0 | 18 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 298 | 0.208 |
| 29 | 0 | 0 | 0 | 0 | 130 | 74 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 211 | 647 | 0.326 |
| 30 | 0 | 0 | 0 | 0 | 0 | 75 | 69 | 6 | 3 | 0 | 0 | 0 | 0 | 153 | 501 | 0.305 |
| 31 | 0 | 0 | 0 | 0 | 0 | 0 | 101 | 40 | 9 | 2 | 2 | 1 | 0 | 155 | 522 | 0.297 |
| 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 21 | 6 | 3 | 0 | 0 | 52 | 214 | 0.243 |
| 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 12 | 0 | 0 | 1 | 22 | 162 | 0.136 |
| 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 6 | 0 | 1 | 18 | 66 | 0.273 |
| 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 64 | 0.391 |
| 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 4 | 34 | 0.118 |
| 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 4 | 0.250 |
| Total | 6 | 69 | 71 | 29 | 176 | 149 | 174 | 70 | 43 | 31 | 36 | 4 | 4 | 862 | 3,658 | 0.236 |

| Sockeye Examined[a]: | Total |
|---|---|
| Test Fishery | 0 |
| Can. Comm. Catch | 25,125 |
| Aboriginal Fishery | 79 |
| Total | 25,204 |

[a] Equals the number examined for Canyon Island tags.

Table 4a. Pooled-strata tagging and recovery data used to calculate mark-recapture estimates of the inriver sockeye salmon run past Canyon Island, 2012.

| Statistical Week of Tagging | Statistical Week of Recovery | | | | | | | | Total Tags Recovered | Total Tags Applied | Tag Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25-26 | 27-28 | 29 | 30 | 31 | 32 | 33 | 34-38 | | | |
| 24-26 | 19 | 27 | | | | | | | 46 | 337 | 0.136 |
| 27 | | 25 | 1 | | | | | | 26 | 355 | 0.073 |
| 28 | | 30 | 20 | 3 | | 1 | | | 54 | 351 | 0.154 |
| 29 | | | 51 | 44 | 1 | 1 | 1 | | 98 | 548 | 0.179 |
| 30 | | | | 113 | 75 | 11 | 1 | | 200 | 888 | 0.225 |
| 31 | | | | | 16 | 81 | 16 | 8 | 121 | 615 | 0.197 |
| 32 | | | | | | 84 | 34 | 9 | 127 | 439 | 0.289 |
| 33 | | | | | | | 73 | 47 | 120 | 314 | 0.382 |
| 34-36 | | | | | | | | 85 | 85 | 296 | 0.287 |
| Total | 19 | 82 | 72 | 160 | 92 | 178 | 125 | 149 | 877 | 4,143 | 0.212 |
| Harvest Examined For Tags[a] | 987 | 3,756 | 2,577 | 7,019 | 4,657 | 5,439 | 3,428 | 2,339 | 30,202 | | |
| Marked Fraction | 0.020 | 0.022 | 0.029 | 0.023 | 0.020 | 0.034 | 0.038 | 0.068 | 0.030 | | |
| Above Border Run Estimate | 3,186 | 38,348 | 21,747 | 9,413 | 43,957 | 23,837 | 6,909 | 8,192 | 155,590 | | |
| Fish Wheel CPUE Expansion [b] | | | | | | | | | 1,287 | | |
| Total Above Border Run | | | | | | | | | 156,877 | | |
| U.S. Personal Use Harvest[d] | | | | | | | | | 1,287 | | |
| 95% Lower C.I. | - | 27,586 | 11,484 | - | 11,620 | 18,730 | 4,316 | 6,716 | 142,119 | | |
| 95% Upper C.I. | 9,811 | 49,109 | 32,009 | 41,704 | 76,295 | 28,945 | 9,502 | 9,668 | 169,060 | | |
| Above Border Catch [c] | | | | | | | | | 30,231 | | |
| Spawning Escapment | 2,199 | 34,592 | 19,170 | 2,394 | 39,300 | 18,398 | 3,481 | 5,853 | 126,646 | | |

[a] Includes Canadian commercial and Aboriginal fishery catches

[b] Expansion based on fish wheel CPUE

[c] Includes commercial fish havested prior to SW25 and Aboriginal fish harvested near headwaters.

[d] Not subtracted from above border run estimate.

Table 4b. Pooled-strata tagging and recovery data used to calculate mark-recapture estimates of the inriver sockeye salmon run past Canyon Island, 2013.

| Statistical Week of Tagging | Statistical Week of Recovery | | | | | | | | Total Tags Recovered | Total Tags Applied | Tag Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25-26 | 27 | 28 | 29-31 | 32-33 | 34 | 35 | 36-37 | | | |
| 25 | 64 | 15 | 0 | 1 | 0 | 0 | 0 | 0 | 80 | 94 | 0.851 |
| 26 | 11 | 42 | 4 | 0 | 0 | 0 | 0 | 0 | 57 | 164 | 0.348 |
| 27 | 0 | 14 | 7 | 1 | 0 | 0 | 0 | 0 | 22 | 209 | 0.105 |
| 28 | 0 | 0 | 18 | 44 | 0 | 0 | 0 | 0 | 62 | 151 | 0.411 |
| 29-30 | 0 | 0 | 0 | 352 | 8 | 4 | 0 | 0 | 364 | 212 | 1.717 |
| 31 | 0 | 0 | 0 | 101 | 49 | 2 | 2 | 1 | 155 | 565 | 0.274 |
| 32 | 0 | 0 | 0 | 0 | 43 | 6 | 3 | 0 | 52 | 461 | 0.113 |
| 33 | 0 | 0 | 0 | 0 | 9 | 12 | 0 | 1 | 22 | 579 | 0.038 |
| 34 | 0 | 0 | 0 | 0 | 0 | 11 | 6 | 1 | 18 | 292 | 0.062 |
| 35 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 25 | 173 | 0.145 |
| 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 71 | 0.056 |
| 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 135 | 0.007 |
| Total | 75 | 71 | 29 | 499 | 109 | 35 | 36 | 8 | 862 | 3,106 | 0.278 |
| Harvest Examined For Tags[a] | 1,262 | 897 | 766 | 18,460 | 2,600 | 539 | 517 | 163 | 25,204 | | |
| Marked Fraction | 0.063 | 0.086 | 0.039 | 0.028 | 0.044 | 0.069 | 0.075 | 0.052 | 0.035 | | |
| Above Border Run Estimate | 9,210 | 5,438 | 8,697 | 57,182 | 10,190 | 3,694 | 1,284 | 1,233 | 96,928 | | |
| Fish Wheel CPUE Expansion [c] | | | | | | | | | 9,092 | | |
| Total Above Border Run | | | | | | | | | 106,020 | | |
| Aboriginal Fishery[c] | 0 | 0 | 0 | 66 | 9 | 4 | 0 | 0 | 99 | | |
| U.S. Personal Use Harvest[d] | | | | | | | | | 1,371 | | |
| 95% Lower C.I. | 6,746 | 3,227 | 4,753 | 52,154 | 7,343 | 2,038 | 905 | 234 | 90,835 | | |
| 95% Upper C.I. | 11,674 | 7,649 | 12,642 | 62,210 | 13,036 | 5,350 | 1,663 | 2,231 | 103,020 | | |
| Spawning Escapment | 7,948 | 4,541 | 7,931 | 38,656 | 7,581 | 3,151 | 767 | 1,070 | 80,796 | | |

[a] Includes Canadian commercial and Aboriginal fishery catches.

[b] Expansion based on fish wheel CPUE.

[c] Includes sockeye harvested near headwaters.

[d] Not subtracted from above border run estimate.

Table 5. Historical sockeye salmon above border abundance, above border harvests, and escapement for the Taku River, 1984 to 2013[a].

| Year | Border Escapement | Canadian Commercial and Test Harvest | Canadian Commercial and Test Harvest Rate | Spawning Escapement[b] | Terminal | U.S. Harvest |
|---|---|---|---|---|---|---|
| 1984 | 141,254 | 27,292 | 0.193 | 113,962 | 198,873 | 57,619 |
| 1985 | 123,974 | 14,411 | 0.116 | 109,563 | 198,261 | 74,287 |
| 1986 | 115,045 | 14,939 | 0.130 | 100,106 | 175,689 | 60,644 |
| 1987 | 96,023 | 13,887 | 0.145 | 82,136 | 150,986 | 54,963 |
| 1988 | 92,641 | 12,967 | 0.140 | 79,674 | 118,427 | 25,785 |
| 1989 | 114,068 | 18,805 | 0.165 | 95,263 | 177,434 | 63,366 |
| 1990 | 117,573 | 21,474 | 0.183 | 96,099 | 226,858 | 109,285 |
| 1991 | 154,873 | 25,380 | 0.164 | 129,493 | 260,143 | 105,271 |
| 1992 | 167,376 | 29,862 | 0.178 | 137,514 | 288,551 | 121,176 |
| 1993 | 142,148 | 33,523 | 0.236 | 108,625 | 284,236 | 142,089 |
| 1994 | 131,580 | 29,001 | 0.220 | 102,579 | 229,642 | 98,063 |
| 1995 | 146,450 | 32,711 | 0.223 | 113,739 | 238,434 | 91,984 |
| 1996 | 134,651 | 42,025 | 0.312 | 92,626 | 322,379 | 187,727 |
| 1997 | 95,438 | 24,352 | 0.255 | 71,086 | 174,565 | 79,127 |
| 1998 | 91,548 | 19,038 | 0.208 | 70,715 | 139,824 | 49,832 |
| 1999 | 113,705 | 20,681 | 0.182 | 92,562 | 176,764 | 63,058 |
| 2000 | 115,693 | 27,942 | 0.242 | 87,298 | 246,954 | 131,262 |
| 2001 | 192,269 | 47,988 | 0.250 | 144,071 | 396,678 | 204,433 |
| 2002 | 135,233 | 31,053 | 0.230 | 103,343 | 251,634 | 116,401 |
| 2003 | 200,918 | 32,933 | 0.171 | 167,691 | 328,884 | 135,494 |
| 2004 | 127,949 | 20,346 | 0.159 | 106,691 | 204,059 | 77,012 |
| 2005 | 134,841 | 21,697 | 0.161 | 112,739 | 188,245 | 46,090 |
| 2006 | 167,053 | 21,361 | 0.128 | 145,572 | 233,425 | 65,828 |
| 2007 | 105,012 | 17,090 | 0.163 | 87,763 | 170,141 | 65,129 |
| 2008 | 87,568 | 19,509 | 0.223 | 68,059 | 163,260 | 75,692 |
| 2009 | 85,599 | 11,154 | 0.130 | 74,339 | 119,477 | 36,380 |
| 2010 | 109,028 | 20,508 | 0.188 | 88,428 | 154,769 | 46,818 |
| 2011 | 139,926 | 24,553 | 0.175 | 115,249 | 208,665 | 71,804 |
| 2012 | 156,877 | 30,062 | 0.192 | 126,646 | 181,901 | 55,255 |
| 2013 | 106,020 | 25,125 | 0.237 | 80,796 | 180,460 | 99,664 |
| Average(02-11) | 129,313 | 22,020 | 0.173 | 106,987 | 202,256 | 73,665 |
| Maximum(02-11) | 200,918 | 32,933 | 0.230 | 167,691 | 328,884 | 135,494 |
| Minimum(02-11) | 85,599 | 11,154 | 0.128 | 68,059 | 119,477 | 36,380 |
| S.D.(02-11) | 35,570 | 6,337 | 0.034 | 30,883 | 59,015 | 31,044 |
| C.V.(02-11) | 27.5% | 28.8% | 19.5% | 28.9% | 29.2% | 42.1% |
| Average(03-12) | 131,477 | 21,921 | 0.169 | 109,318 | 195,283 | 67,550 |
| Maximum(03-12) | 200,918 | 32,933 | 0.223 | 167,691 | 328,884 | 135,494 |
| Minimum(03-12) | 85,599 | 11,154 | 0.128 | 68,059 | 119,477 | 36,380 |
| S.D.(03-12) | 36,614 | 6,186 | 0.028 | 31,451 | 56,602 | 27,512 |
| C.V.(03-12) | 27.8% | 28.2% | 16.7% | 28.8% | 29.0% | 40.7% |

[a] U.S. catch and run size are preliminary.

[b] Spawning escapement includes removals for Canadian Aboriginal.

Table 6. Historical age composition of sockeye salmon passing Canyon Island, Taku River, 1983 to 2013.

| | Sample | Percent By Age Class | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Size | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | 3.2 | 2.4 | 3.3 |
| 1983 | 1,574 | 0.0 | 0.4 | 0.0 | 5.7 | 16.6 | 0.0 | 0.0 | 62.5 | 7.6 | 0.2 | 7.4 | 0.0 | 0.0 | 0.1 |
| 1984 | 1,583 | 0.3 | 2.1 | 1.8 | 11.5 | 15.4 | 0.2 | 0.2 | 57.0 | 9.2 | 0.3 | 2.8 | 0.0 | 0.0 | 0.0 |
| 1985 | 2,437 | 0.3 | 6.0 | 4.1 | 4.0 | 17.2 | 0.4 | 0.4 | 53.8 | 8.7 | 0.7 | 4.8 | 0.0 | 0.1 | 0.0 |
| 1986 | 3,468 | 0.0 | 2.9 | 0.4 | 6.3 | 29.7 | 0.1 | 0.0 | 50.2 | 2.4 | 0.3 | 8.0 | 0.0 | 0.0 | 0.0 |
| 1987 | 2,987 | 0.8 | 1.0 | 5.0 | 12.7 | 17.3 | 2.0 | 0.2 | 54.2 | 2.3 | 0.2 | 4.6 | 0.0 | 0.1 | 0.0 |
| 1988 | 2,450 | 0.3 | 6.5 | 6.2 | 8.0 | 29.8 | 0.3 | 0.0 | 38.7 | 5.6 | 0.2 | 4.6 | 0.1 | 0.0 | 0.0 |
| 1989 | 4,272 | 0.3 | 3.0 | 4.2 | 7.0 | 19.5 | 0.4 | 0.0 | 58.3 | 3.3 | 0.2 | 4.0 | 0.0 | 0.0 | 0.0 |
| 1990 | 4,489 | 0.4 | 4.9 | 3.6 | 4.7 | 26.3 | 0.2 | 0.1 | 48.5 | 6.4 | 0.3 | 4.8 | 0.0 | 0.0 | 0.0 |
| 1991 | 3,594 | 0.1 | 7.9 | 3.3 | 9.5 | 31.4 | 0.8 | 0.1 | 37.7 | 4.9 | 0.3 | 4.4 | 0.0 | 0.0 | 0.0 |
| 1992 | 1,678 | 0.3 | 7.1 | 3.0 | 12.3 | 26.7 | 0.7 | 0.1 | 41.2 | 3.8 | 0.0 | 5.4 | 0.0 | 0.0 | 0.0 |
| 1993 | 2,593 | 0.2 | 4.3 | 3.2 | 11.0 | 15.6 | 0.7 | 0.0 | 55.5 | 4.9 | 0.2 | 4.9 | 0.0 | 0.0 | 0.0 |
| 1994 | 2,789 | 1.0 | 5.1 | 5.2 | 9.4 | 17.3 | 0.1 | 0.0 | 55.2 | 4.0 | 0.1 | 3.0 | 0.0 | 0.0 | 0.0 |
| 1995 | 3,461 | 0.3 | 14.6 | 3.0 | 4.0 | 32.9 | 0.1 | 0.1 | 36.3 | 5.8 | 0.1 | 3.0 | 0.0 | 0.0 | 0.0 |
| 1996 | 2,659 | 0.1 | 3.8 | 1.3 | 18.3 | 17.1 | 0.1 | 0.0 | 51.1 | 5.9 | 0.2 | 2.1 | 0.0 | 0.0 | 0.0 |
| 1997 | 2,787 | 0.1 | 1.4 | 1.8 | 9.4 | 27.4 | 0.2 | 0.2 | 44.5 | 7.3 | 0.1 | 7.6 | 0.1 | 0.0 | 0.0 |
| 1998 | 2,429 | 0.1 | 2.4 | 5.2 | 0.8 | 19.7 | 0.3 | 0.0 | 60.4 | 6.9 | 0.2 | 4.0 | 0.0 | 0.0 | 0.1 |
| 1999 | 2,261 | 0.9 | 4.8 | 6.5 | 2.5 | 39.9 | 1.1 | 0.0 | 30.3 | 12.1 | 0.1 | 1.7 | 0.0 | 0.0 | 0.0 |
| 2000 | 2,305 | 0.0 | 6.3 | 1.2 | 8.6 | 34.5 | 0.2 | 0.0 | 42.3 | 4.6 | 0.1 | 2.0 | 0.0 | 0.0 | 0.0 |
| 2001 | 2,145 | 0.5 | 2.2 | 8.3 | 9.7 | 21.4 | 0.3 | 0.0 | 53.8 | 2.1 | 0.1 | 1.4 | 0.0 | 0.0 | 0.0 |
| 2002 | 2,460 | 0.3 | 8.9 | 2.8 | 2.6 | 37.1 | 0.0 | 0.2 | 43.9 | 2.0 | 0.4 | 1.7 | 0.0 | 0.0 | 0.0 |
| 2003 | 1,982 | 0.4 | 6.8 | 3.5 | 7.6 | 24.9 | 0.1 | 0.1 | 54.4 | 1.1 | 0.2 | 1.2 | 0.0 | 0.0 | 0.0 |
| 2004 | 2,232 | 0.3 | 7.5 | 0.7 | 16.2 | 30.8 | 0.0 | 0.0 | 39.1 | 3.4 | 0.2 | 1.8 | 0.0 | 0.0 | 0.0 |
| 2005 | 1,724 | 0.1 | 4.9 | 0.2 | 15.0 | 24.7 | 0.0 | 0.1 | 50.2 | 2.7 | 0.1 | 2.1 | 0.0 | 0.0 | 0.0 |
| 2006 | 1,862 | 0.2 | 8.2 | 1.4 | 5.5 | 27.2 | 0.1 | 0.0 | 47.3 | 7.5 | 0.4 | 2.3 | 0.0 | 0.0 | 0.0 |
| 2007 | 1,767 | 0.1 | 7.7 | 0.7 | 8.3 | 39.2 | 0.1 | 0.0 | 36.6 | 3.2 | 0.3 | 3.9 | 0.0 | 0.0 | 0.0 |
| 2008 | 1,578 | 0.5 | 7.4 | 1.8 | 11.0 | 20.1 | 0.1 | 0.1 | 54.1 | 2.6 | 0.3 | 2.1 | 0.0 | 0.0 | 0.0 |
| 2009 | 1,333 | 0.4 | 8.4 | 9.5 | 10.8 | 20.6 | 0.4 | 0.2 | 44.0 | 1.4 | 0.0 | 4.4 | 0.0 | 0.0 | 0.0 |
| 2010 | 1,356 | 0.8 | 8.9 | 3.8 | 16.7 | 22.2 | 0.1 | 0.1 | 40.9 | 6.3 | 0.1 | 0.5 | 0.0 | 0.0 | 0.0 |
| 2011 | 1,779 | 0.5 | 7.3 | 3.5 | 6.1 | 15.4 | 0.4 | 0.1 | 56.7 | 4.2 | 0.1 | 5.6 | 0.0 | 0.0 | 0.0 |
| 2012 | 1,526 | 0.3 | 4.4 | 1.3 | 9.4 | 49.0 | 0.1 | 0.1 | 23.9 | 9.7 | 0.3 | 1.6 | 0.0 | 0.0 | 0.0 |
| 2013 | 1,997 | 1.3 | 3.5 | 5.1 | 5.9 | 22.7 | 0.3 | 0.2 | 53.8 | 1.4 | 0.4 | 5.6 | 0.0 | 0.0 | 0.0 |
| Average (02-11) | 1,714 | 0.4 | 7.6 | 2.8 | 10.0 | 26.2 | 0.1 | 0.1 | 46.7 | 3.4 | 0.2 | 2.6 | 0.0 | 0.0 | 0.0 |
| SD (02-11) | | 0.2 | 1.2 | 2.7 | 4.8 | 7.6 | 0.2 | 0.1 | 6.9 | 2.1 | 0.1 | 1.6 | 0.0 | 0.0 | 0.0 |
| CV (02-11) | | 58.3% | 15.5% | 96.6% | 48.3% | 28.9% | 117.6% | 86.9% | 14.9% | 60.0% | 63.6% | 61.3% | - | - | - |
| Average (03-12) | 1,714 | 0.4 | 7.1 | 2.6 | 10.7 | 27.4 | 0.1 | 0.1 | 44.7 | 4.2 | 0.2 | 2.5 | 0.0 | 0.0 | 0.0 |
| SD (03-12) | | 0.2 | 1.5 | 2.7 | 4.1 | 10.0 | 0.2 | 0.1 | 10.1 | 2.8 | 0.1 | 1.6 | 0.0 | 0.0 | 0.0 |
| CV (03-12) | | 57.6% | 20.3% | 103.9% | 38.3% | 36.5% | 102.5% | 86.3% | 22.5% | 66.0% | 61.0% | 62.0% | - | - | - |

Table 7. Migratory timing statistics of sockeye, pink , and chum salmon past the Canyon Island fish wheels, 1984 to 2013. Timing statistics in 1984 were based on catch, all other years were based on fish wheel CPUE.

| | Species | | | | | |
|---|---|---|---|---|---|---|
| | Sockeye | | Pink | | Chum | |
| Year | Mean Date | S.D. | Mean Date | S.D. | Mean Date | S.D. |
| 1984 | 7-23 | 17.6 | 7-19 | 9.3 | 8-14 | 12.8 |
| 1985 | 7-24 | 18.1 | 7-19 | 8.5 | 9-8 | 11.8 |
| 1986 | 7-16 | 14.2 | 7-27 | 5.5 | 8-7 | 11.3 |
| 1987 | 7-24 | 15.8 | 7-19 | 9.3 | 9-8 | 10.5 |
| 1988 | 7-19 | 19.5 | 7-21 | 9.6 | 8-31 | 12.5 |
| 1989 | 7-14 | 20.1 | 7-18 | 7.8 | 9-13 | 15.9 |
| 1990 | 7-20 | 18.8 | 7-23 | 8.9 | 8-30 | 15.1 |
| 1991 | 7-24 | 20.6 | 7-23 | 6.6 | 9-11 | 13.0 |
| 1992 | 7-25 | 14.4 | 7-24 | 7.2 | 8-28 | 13.5 |
| 1993 | 7-21 | 16.9 | 7-15 | 8.9 | 9-7 | 14.4 |
| 1994 | 7-23 | 20.2 | 7-24 | 10.1 | 9-2 | 15.6 |
| 1995 | 7-22 | 22.0 | 7-14 | 7.8 | 9-3 | 9.8 |
| 1996 | 7-21 | 18.9 | 7-23 | 6.5 | 8-27 | 14.0 |
| 1997 | 7-26 | 23.9 | 7-14 | 10.0 | 9-5 | 11.6 |
| 1998 | 7-18 | 21.1 | 7-24 | 7.9 | 9-4 | 8.7 |
| 1999 | 7-18 | 19.5 | 7-24 | 7.9 | 9-3 | 14.5 |
| 2000 | 7-17 | 20.8 | 7-25 | 8.7 | 8-30 | 16.9 |
| 2001 | 7-20 | 18.1 | 7-18 | 8.4 | 9-2 | 13.4 |
| 2002 | 7-9 | 18.6 | 7-20 | 7.6 | 8-31 | 12.3 |
| 2003 | 7-19 | 16.5 | 7-15 | 7.8 | 9-3 | 12.2 |
| 2004 | 7-18 | 19.5 | 7-24 | 8.3 | 9-4 | 19.2 |
| 2005 | 7-20 | 20.5 | 7-15 | 7.7 | 9-5 | 16.4 |
| 2006 | 8-4 | 18.6 | 7-26 | 7.8 | 9-4 | 13.2 |
| 2007 | 7-29 | 16.6 | 7-26 | 8.4 | 9-7 | 10.7 |
| 2008 | 7-22 | 20.6 | 7-25 | 10.0 | 8-28 | 14.7 |
| 2009 | 7-20 | 15.9 | 7-24 | 9.9 | 9-6 | 17.5 |
| 2010 | 7-24 | 21.8 | 7-25 | 9.4 | 9-5 | 11.0 |
| 2011 | 7-23 | 20.3 | 7-24 | 7.8 | 9-9 | 12.1 |
| 2012 | 7-25 | 16.5 | 7-24 | 7.9 | 8-27 | 11.2 |
| 2013 | 7-14 | 20.6 | 7-18 | 7.6 | 9-28 | 10.0 |
| Average(02-11) | 7-21 | 18.9 | 7-22 | 8.5 | 9-4 | 13.9 |
| Average(03-12) | 7-23 | 18.7 | 7-22 | 8.5 | 9-3 | 13.8 |

Table 8a. Weekly and cumulative proportions of three individual sockeye salmon stocks passing Canyon Island in 2012, based on spawning ground tag recoveries expanded by fish wheel indices (fish wheel CPUE).

| | | | Little Trapper Lake | | Tatsamenie Lake | | King Salmon Lake | |
|---|---|---|---|---|---|---|---|---|
| Statistical Week | Week Starting | Week Ending | Weekly Proportion | Cumul. Proportion | Weekly Proportion | Cumul. Proportion | Weekly Proportion | Cumul. Proportion |
| 22 | 27-May | 02-Jun | | | | | | |
| 23 | 03-Jun | 09-Jun | | | | | | |
| 24 | 10-Jun | 16-Jun | | | | | 0.009 | 0.009 |
| 25 | 17-Jun | 23-Jun | | | | | 0.000 | 0.009 |
| 26 | 24-Jun | 30-Jun | 0.032 | 0.032 | | | 0.224 | 0.232 |
| 27 | 01-Jul | 07-Jul | 0.145 | 0.177 | 0.004 | 0.004 | 0.371 | 0.604 |
| 28 | 08-Jul | 14-Jul | 0.199 | 0.376 | 0.007 | 0.011 | 0.213 | 0.817 |
| 29 | 15-Jul | 21-Jul | 0.298 | 0.674 | 0.046 | 0.057 | 0.161 | 0.978 |
| 30 | 22-Jul | 28-Jul | 0.080 | 0.754 | 0.149 | 0.206 | 0.022 | 1.000 |
| 31 | 29-Jul | 04-Aug | 0.008 | 0.762 | 0.296 | 0.502 | | |
| 32 | 05-Aug | 11-Aug | 0.000 | 0.762 | 0.281 | 0.783 | | |
| 33 | 12-Aug | 18-Aug | 0.204 | 0.966 | 0.142 | 0.926 | | |
| 34 | 19-Aug | 25-Aug | 0.034 | 1.000 | 0.074 | 1.000 | | |
| 35 | 26-Aug | 01-Sep | | | | | | |
| 36 | 02-Sep | 08-Sep | | | | | | |
| 37 | 09-Sep | 15-Sep | | | | | | |

Table 8b. Weekly and cumulative proportions of four individual sockeye salmon stocks passing Canyon Island in 2013, based on spawning ground tag recoveries expanded by fish wheel indices (fish wheel CPUE).

| | | | Little Trapper Lake | | Tatsamenie Lake | | Kuthai Lake | | King Salmon Lake | |
|---|---|---|---|---|---|---|---|---|---|---|
| Statistical Week | Week Starting | Week Ending | Weekly Proportion | Cumul. Proportion | Weekly Proportion | Cumul. Proportion | Weekly Proportion | Cumul. Proportion | Weekly Proportion | Cumul. Proportion |
| 22 | 26-May | 01-Jun | | | | | | | | |
| 23 | 02-Jun | 08-Jun | | | | | 0.082 | 0.082 | | |
| 24 | 09-Jun | 15-Jun | | | | | 0.157 | 0.238 | 0.064 | 0.064 |
| 25 | 16-Jun | 22-Jun | 0.009 | 0.009 | | | 0.221 | 0.459 | 0.273 | 0.337 |
| 26 | 23-Jun | 29-Jun | 0.021 | 0.030 | | | 0.365 | 0.824 | 0.410 | 0.747 |
| 27 | 30-Jun | 06-Jul | 0.141 | 0.171 | 0.007 | 0.007 | 0.148 | 0.971 | 0.182 | 0.929 |
| 28 | 07-Jul | 13-Jul | 0.303 | 0.475 | 0.014 | 0.022 | 0.029 | 1.000 | 0.071 | 1.000 |
| 29 | 14-Jul | 20-Jul | 0.376 | 0.851 | 0.195 | 0.216 | | | | |
| 30 | 21-Jul | 27-Jul | 0.072 | 0.922 | 0.234 | 0.450 | | | | |
| 31 | 28-Jul | 03-Aug | 0.064 | 0.987 | 0.360 | 0.810 | | | | |
| 32 | 04-Aug | 10-Aug | 0.013 | 1.000 | 0.075 | 0.885 | | | | |
| 33 | 11-Aug | 17-Aug | | | 0.086 | 0.971 | | | | |
| 34 | 18-Aug | 24-Aug | | | 0.007 | 0.978 | | | | |
| 35 | 25-Aug | 31-Aug | | | 0.009 | 0.987 | | | | |
| 36 | 01-Sep | 07-Sep | | | 0.013 | 1.000 | | | | |
| 37 | 08-Sep | 14-Sep | | | | | | | | |

Table 9a. Inriver migration timing for three Taku River sockeye salmon stocks, 2012 [a].

| Stock | Week | Travel Time | SD | SE | N | 95% C.I. |
|---|---|---|---|---|---|---|
| L. Trapper | 26 | 39.33 | 5.03 | 2.91 | 3 | 5.70 |
| | 27 | 36.00 | 2.97 | 0.66 | 20 | 1.30 |
| | 28 | 31.39 | 4.14 | 0.67 | 38 | 1.32 |
| | 29 | 26.52 | 4.81 | 0.71 | 46 | 1.39 |
| | 30 | 23.26 | 4.22 | 0.71 | 35 | 1.40 |
| | 31 | 27.20 | 3.83 | 1.71 | 5 | 3.36 |
| | 32 | 19.00 | 4.24 | 3.00 | 2 | 5.88 |
| | Average | 28.96 | 4.2 | | 21 | |
| Tatsamenie | 27 | 42.50 | 0.71 | 0.50 | 2 | 0.98 |
| | 28 | 38.00 | 2.83 | 2.00 | 2 | 3.92 |
| | 29 | 33.06 | 5.81 | 1.45 | 16 | 2.85 |
| | 30 | 28.66 | 3.74 | 0.51 | 53 | 1.01 |
| | 31 | 26.77 | 4.66 | 0.51 | 82 | 1.01 |
| | 32 | 27.23 | 6.24 | 0.86 | 52 | 1.69 |
| | 33 | 26.19 | 4.60 | 0.83 | 31 | 1.62 |
| | 34 | 26.85 | 4.88 | 0.94 | 27 | 1.84 |
| | Average | 31.16 | 4.2 | | 33 | |
| King Salmon | 24 | 47.00 | | | 1 | |
| | 25 | | | | | |
| | 26 | 36.36 | 7.89 | 2.38 | 11 | 4.66 |
| | 27 | 33.31 | 5.45 | 1.07 | 26 | 2.10 |
| | 28 | 27.75 | 6.58 | 1.47 | 20 | 2.88 |
| | 29 | 20.17 | 5.20 | 1.50 | 12 | 2.94 |
| | 30 | 22.50 | 2.12 | 1.50 | 2 | 2.94 |
| | Average | 31.18 | 5.4 | | 12 | |

[a] The average travel time for each weekly period was derived from the number of days the tagged fish took to travel between the tagging site (Canyon Island) and the recovery location (weir site).

Table 9b. Inriver migration timing for four Taku River sockeye salmon stocks, 2013[a].

| Stock | Week | Travel Time | SD | SE | N | 95% C.I. |
|---|---|---|---|---|---|---|
| L. Trapper | 25 | 46.00 | | | 1 | |
| | 26 | 39.50 | 2.12 | 1.50 | 2 | 2.94 |
| | 27 | 35.33 | 3.68 | 1.06 | 12 | 2.08 |
| | 28 | 31.09 | 4.39 | 0.76 | 33 | 1.50 |
| | 29 | 32.52 | 6.17 | 1.07 | 33 | 2.10 |
| | 30 | 27.33 | 7.42 | 3.03 | 6 | 5.94 |
| | 31 | 28.00 | 5.79 | 2.59 | 5 | 5.07 |
| | 32 | 21.00 | | | 1 | |
| | Average | 32.60 | 4.9 | | 93 | |
| Tatsamenie | 27 | 70.50 | 19.09 | 13.50 | 2 | 26.46 |
| | 28 | 45.00 | 2.12 | 0.95 | 5 | 1.86 |
| | 29 | 41.53 | 4.24 | 0.57 | 55 | 1.12 |
| | 30 | 38.13 | 6.91 | 0.87 | 63 | 1.71 |
| | 31 | 32.27 | 4.07 | 0.43 | 90 | 0.84 |
| | 32 | 31.83 | 7.88 | 1.86 | 18 | 3.64 |
| | 33 | 30.91 | 8.69 | 1.81 | 23 | 3.55 |
| | 34 | 34.50 | 2.12 | 1.50 | 2 | 2.94 |
| | 35 | 26.33 | 1.15 | 0.67 | 3 | 1.31 |
| | 36 | 21.67 | 3.51 | 2.03 | 3 | 3.97 |
| | Average | 37.27 | 6.0 | | 264 | |
| King Salmon | 24 | 40.00 | | | 1 | |
| | 25 | 34.75 | 8.42 | 4.21 | 4 | 8.25 |
| | 26 | 32.00 | 4.58 | 2.05 | 5 | 4.02 |
| | 26 | 22.00 | 4.24 | 3.00 | 2 | 5.88 |
| | 27 | 31.00 | | | 1 | |
| | Average | 31.95 | 5.7 | | 13 | |
| Kuthai | 23 | 49.00 | 3.61 | 2.08 | 3 | 4.08 |
| | 24 | 41.67 | 3.67 | 1.50 | 6 | 2.94 |
| | 25 | 40.63 | 6.32 | 2.24 | 8 | 4.38 |
| | 26 | 38.55 | 7.90 | 2.38 | 11 | 4.67 |
| | 27 | 38.50 | 4.65 | 2.33 | 4 | 4.56 |
| | 28 | 25.00 | | | 1 | |
| | Average | 38.89 | 5.2 | | 33 | |

[a] The average travel time for each weekly period was derived from the number of days the tagged fish took to travel between the tagging site (Canyon Island) and the recovery location (weir site).

Table 10. Historical length (MEF) at age composition of sockeye salmon passing Canyon Island, Taku River, 1983 to 2013.

| | Sample | Length At Age Class | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Size | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | 2.4 | 3.2 | 3.3 |
| 1983 | 1,573 | | 447 | | 577 | 469 | | | 578 | 522 | 618 | 582 | | | |
| 1984 | 1,572 | 297 | 445 | 315 | 575 | 476 | 320 | 610 | 576 | 511 | 580 | 589 | | | |
| 1985 | 2,422 | 309 | 457 | 337 | 572 | 486 | 372 | 609 | 579 | 510 | 597 | 590 | 625 | | |
| 1986 | 3,362 | | 449 | 305 | 584 | 493 | 310 | | 582 | 491 | 598 | 581 | | | |
| 1987 | 2,923 | 316 | 460 | 319 | 587 | 463 | 329 | 610 | 592 | 494 | 565 | 592 | 650 | | |
| 1988 | 2,422 | 313 | 443 | 319 | 576 | 482 | 324 | | 578 | 480 | 600 | 578 | | | |
| 1989 | 4,254 | 315 | 442 | 340 | 578 | 468 | 334 | | 591 | 488 | 619 | 589 | | | |
| 1990 | 4,432 | 316 | 427 | 326 | 570 | 470 | 322 | 612 | 574 | 485 | 578 | 576 | 555 | | |
| 1991 | 3,581 | 313 | 442 | 322 | 561 | 463 | 321 | 610 | 569 | 482 | 602 | 572 | | | |
| 1992 | 1,667 | 351 | 431 | 328 | 564 | 467 | 345 | 585 | 568 | 482 | | 569 | | | |
| 1993 | 2,582 | 316 | 440 | 327 | 555 | 470 | 333 | | 558 | 507 | 573 | 556 | | | |
| 1994 | 2,784 | 329 | 431 | 327 | 559 | 455 | 325 | | 557 | 497 | 585 | 561 | | | |
| 1995 | 3,435 | 324 | 455 | 329 | 563 | 481 | 357 | 625 | 562 | 509 | 630 | 569 | | | |
| 1996 | 2,649 | 300 | 472 | 323 | 581 | 489 | 338 | | 583 | 524 | 607 | 587 | | | |
| 1997 | 2,770 | 310 | 461 | 332 | 579 | 503 | 339 | 581 | 580 | 514 | 585 | 574 | | 490 | |
| 1998 | 2,427 | 313 | 445 | 327 | 578 | 483 | 346 | | 569 | 510 | 579 | 575 | | | 555 |
| 1999 | 2,251 | 328 | 446 | 317 | 565 | 485 | 326 | 555 | 568 | 515 | 612 | 575 | | 540 | |
| 2000 | 2,300 | 310 | 460 | 324 | 583 | 503 | 329 | | 582 | 508 | 610 | 581 | | | |
| 2001 | 2,140 | 308 | 449 | 324 | 581 | 498 | 340 | 600 | 586 | 519 | 572 | 567 | | | |
| 2002 | 2,453 | 299 | 437 | 334 | 583 | 473 | 320 | 614 | 589 | 522 | 609 | 595 | | | |
| 2003 | 1,966 | 336 | 458 | 340 | 570 | 475 | 340 | 570 | 578 | 492 | 582 | 593 | | | |
| 2004 | 2,231 | 338 | 463 | 332 | 580 | 500 | | 585 | 570 | 505 | 588 | 591 | | | |
| 2005 | 1,842 | 345 | 457 | 331 | 564 | 472 | | 600 | 563 | 490 | 585 | 563 | | | |
| 2006 | 1,858 | 325 | 450 | 334 | 564 | 484 | | | 570 | 515 | 574 | 565 | | | |
| 2007 | 1,834 | 326 | 465 | 337 | 585 | 499 | 353 | | 585 | 523 | 602 | 589 | | | |
| 2008 | 1,574 | 309 | 445 | 326 | 586 | 487 | 345 | | 583 | 506 | 600 | 592 | | | |
| 2009 | 3,610 | 326 | 448 | 336 | 592 | 467 | 345 | 662 | 577 | 517 | 595 | 582 | | 525 | |
| 2010 | 1,766 | 319 | 437 | 335 | 565 | 477 | 340 | 560 | 563 | 494 | 580 | 556 | | | |
| 2011 | 1,779 | 320 | 447 | 338 | 568 | 466 | 336 | 610 | 576 | 508 | 603 | 573 | | | |
| 2012 | 1,521 | 323 | 453 | 335 | 578 | 499 | 330 | 600 | 580 | 521 | 591 | 590 | | | |
| 2013 | 1,971 | 327 | 442 | 348 | 571 | 502 | 335 | 611 | 581 | 515 | 583 | 580 | | | |
| Average(02-11) | 2,091 | 324 | 451 | 334 | 576 | 480 | 340 | 600 | 575 | 507 | 592 | 580 | | 525 | |
| SD(02-11) | | 13.7 | 9.9 | 4.0 | 10.6 | 12.2 | 10.3 | 33.8 | 8.9 | 12.2 | 11.6 | 14.5 | | | |
| CV(02-11) | | 4.2% | 2.2% | 1.2% | 1.8% | 2.5% | 3.0% | 5.6% | 1.5% | 2.4% | 2.0% | 2.5% | | | |
| Average(03-12) | 1,998 | 327 | 452 | 334 | 575 | 483 | 341 | 598 | 575 | 507 | 590 | 579 | | 525 | |
| SD(03-12) | | 15.1 | 8.8 | 5.6 | 9.6 | 13.5 | 11.0 | 31.6 | 8.4 | 11.7 | 13.6 | 12.5 | | | |
| CV(03-12) | | 4.6% | 2.0% | 1.7% | 1.7% | 2.8% | 3.2% | 5.3% | 1.5% | 2.3% | 2.3% | 2.1% | | | |

Table 11. Historical age composition of chum salmon passing Canyon Island fish wheels, Taku River, 1983 to 2013

| | Sample | Percent by Age Class | | | | |
|---|---|---|---|---|---|---|
| Year | Size | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 |
| 1983 | 24 | 8.3 | 45.8 | 54.2 | 8.3 | 0.0 |
| 1984 | 280 | 2.5 | 85.0 | 13.6 | 0.0 | 0.0 |
| 1985 | 728 | 0.4 | 68.1 | 31.9 | 0.0 | 0.0 |
| 1986 | 64 | 0.0 | 51.6 | 51.6 | 0.0 | 0.0 |
| 1987 | 1075 | 1.0 | 48.6 | 48.8 | 2.0 | 0.0 |
| 1988 | 853 | 0.0 | 30.4 | 68.5 | 1.5 | 0.0 |
| 1989 | 574 | 0.5 | 77.4 | 19.5 | 3.1 | 0.3 |
| 1990 | 636 | 0.3 | 23.0 | 76.7 | 0.5 | 0.3 |
| 1991 | missing data | | | | | |
| 1992 | 163 | 0.0 | 56.4 | 37.4 | 8.0 | 0.0 |
| 1993 | 278 | 0.7 | 22.3 | 75.9 | 2.5 | 0.0 |
| 1994 | 310 | 0.6 | 32.6 | 63.2 | 4.8 | 0.0 |
| 1995 | 192 | 2.1 | 19.8 | 75.5 | 4.7 | 0.0 |
| 1996 | 351 | 1.1 | 68.4 | 23.4 | 7.1 | 0.0 |
| 1997 | 425 | 0.9 | 56.2 | 42.4 | 0.5 | 0.0 |
| 1998 | 152 | 0.7 | 27.6 | 67.8 | 3.9 | 0.0 |
| 1999 | 151 | 2.0 | 84.1 | 13.9 | 0.0 | 0.0 |
| 2000 | 273 | 0.0 | 75.5 | 24.5 | 0.0 | 0.0 |
| 2001 | 207 | 1.0 | 44.9 | 54.1 | 0.0 | 0.0 |
| 2002 | 144 | 0.7 | 45.8 | 53.5 | 0.0 | 0.0 |
| 2003 | 230 | 2.7 | 72.9 | 23.1 | 1.3 | 0.0 |
| 2004 | 305 | 0.2 | 67.8 | 31.9 | 0.1 | 0.0 |
| 2005 | 198 | 1.0 | 54.0 | 44.9 | 0.0 | 0.0 |
| 2006 | 375 | 1.1 | 66.7 | 31.2 | 1.1 | 0.0 |
| 2007 | 377 | 1.6 | 54.1 | 42.4 | 1.9 | 0.0 |
| 2008 | 283 | 0.4 | 77.4 | 20.5 | 1.8 | 0.0 |
| 2009 | 188 | 0.5 | 49.5 | 49.5 | 0.5 | 0.0 |
| 2010 | 95 | 3.2 | 36.8 | 47.4 | 0.0 | 0.0 |
| 2011 | 172 | 1.2 | 72.1 | 18.6 | 0.6 | 0.0 |
| 2012 | 203 | 0.5 | 46.3 | 52.7 | 0.5 | 0.0 |
| 2013 | 246 | 0.0 | 44.7 | 50.0 | 5.3 | 0.0 |
| Average(02-11) | 237 | 1.3 | 59.7 | 36.3 | 0.7 | |
| SD(02-11) | | 1.0 | 13.5 | 12.9 | 0.7 | |
| CV(02-11) | | 0.8 | 0.2 | 0.4 | 1.0 | |
| Average(03-12) | 243 | 1.2 | 59.8 | 36.2 | 0.8 | |
| SD(03-12) | | 1.0 | 13.4 | 12.7 | 0.7 | |
| CV(03-12) | | 0.8 | 0.2 | 0.4 | 0.9 | |

Table 12. Historical length (MEF) at age composition of chum salmon passing Canyon Island, Taku River, 1983 to 2013.

| | Sample | Length at Age Class | | | | |
|---|---|---|---|---|---|---|
| Year | Size | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 |
| 1983 | 24 | 599 | 651 | 658 | 714 | |
| 1984 | 279 | 615 | 630 | 683 | | |
| 1985 | 727 | 592 | 658 | 680 | | |
| 1986 | 63 | | 640 | 666 | | |
| 1987 | 1,061 | 579 | 642 | 668 | 668 | |
| 1988 | 845 | | 642 | 675 | 690 | |
| 1989 | 571 | 587 | 628 | 669 | 678 | 680 |
| 1990 | 634 | 655 | 629 | 666 | 690 | 600 |
| 1991 | missing data | | | | | |
| 1992 | 163 | | 614 | 656 | 667 | |
| 1993 | 277 | 510 | 598 | 638 | 616 | |
| 1994 | 310 | 660 | 610 | 645 | 660 | |
| 1995 | 192 | 556 | 632 | 652 | 663 | |
| 1996 | 350 | 595 | 642 | 662 | 684 | |
| 1997 | 424 | 651 | 640 | 673 | 693 | |
| 1998 | 151 | 600 | 634 | 662 | 703 | |
| 1999 | 149 | 615 | 644 | 664 | | |
| 2000 | 273 | | 650 | 680 | | |
| 2001 | 207 | 528 | 623 | 665 | | |
| 2002 | 144 | 610 | 649 | 669 | | |
| 2003 | 227 | 564 | 612 | 644 | 650 | |
| 2004 | 634 | 633 | 623 | 657 | 660 | |
| 2005 | 250 | 605 | 646 | 665 | | |
| 2006 | 374 | 615 | 647 | 681 | 692 | |
| 2007 | 377 | 581 | 633 | 669 | 663 | |
| 2008 | 283 | 545 | 649 | 689 | 665 | |
| 2009 | 188 | 545 | 621 | 662 | 695 | |
| 2010 | 95 | 505 | 626 | 655 | | |
| 2011 | 172 | 582 | 615 | 649 | 640 | |
| 2012 | 203 | 595 | 646 | 678 | 635 | |
| 2013 | 246 | | 640 | 670 | 680 | |
| Average(02-11) | 274 | 579 | 632 | 664 | 666 | |
| SD(02-11) | | 39.3 | 14.6 | 13.8 | 20.4 | |
| CV(02-11) | | 6.8% | 2.3% | 2.1% | 3.1% | |
| Average(03-12) | 280 | 577 | 632 | 665 | 663 | |
| SD(03-12) | | 38.2 | 14.3 | 14.5 | 21.9 | |
| CV(03-12) | | 6.6% | 2.3% | 2.2% | 3.3% | |

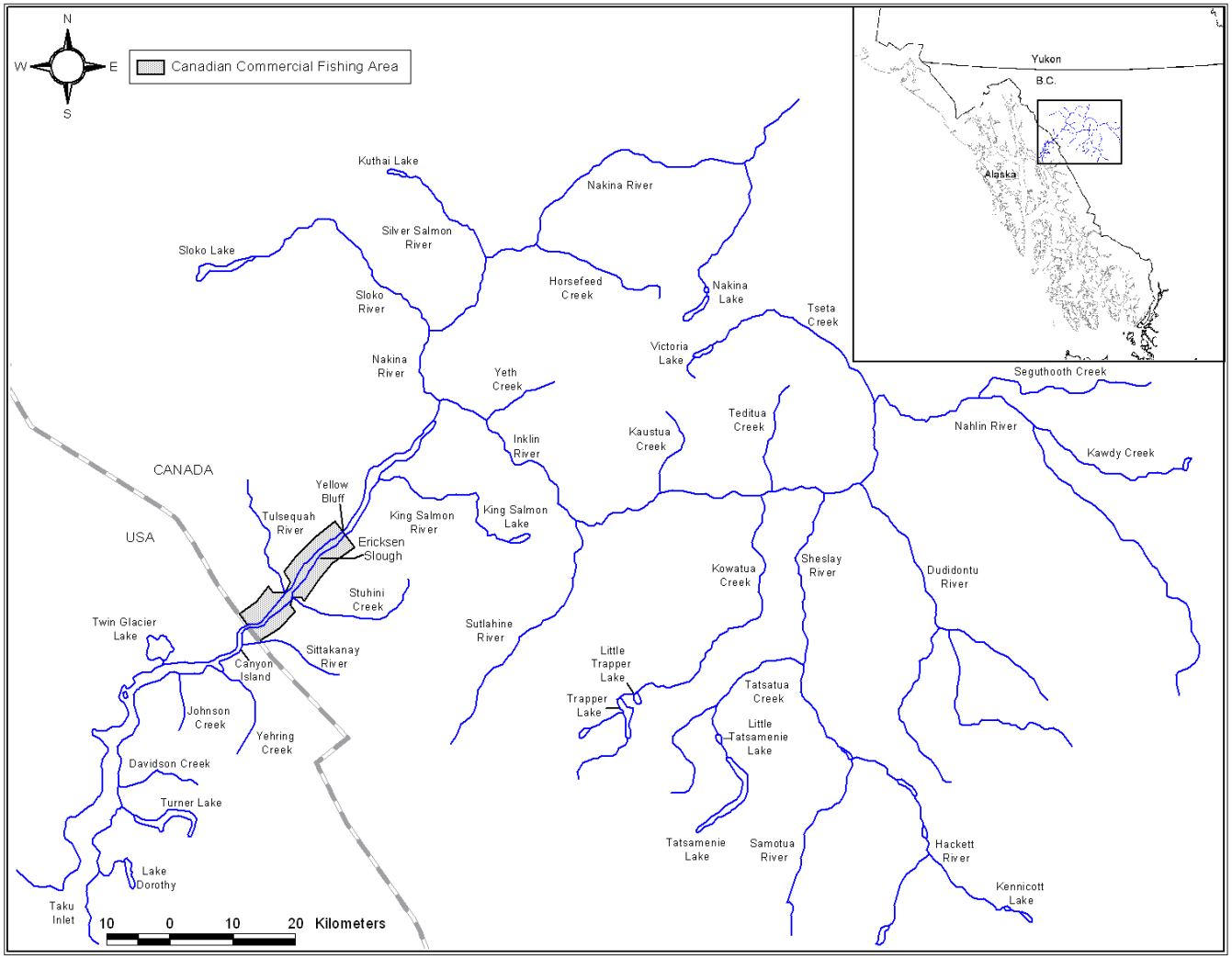



Figure 1. Taku River drainage, with location of tagging and recovery sites.

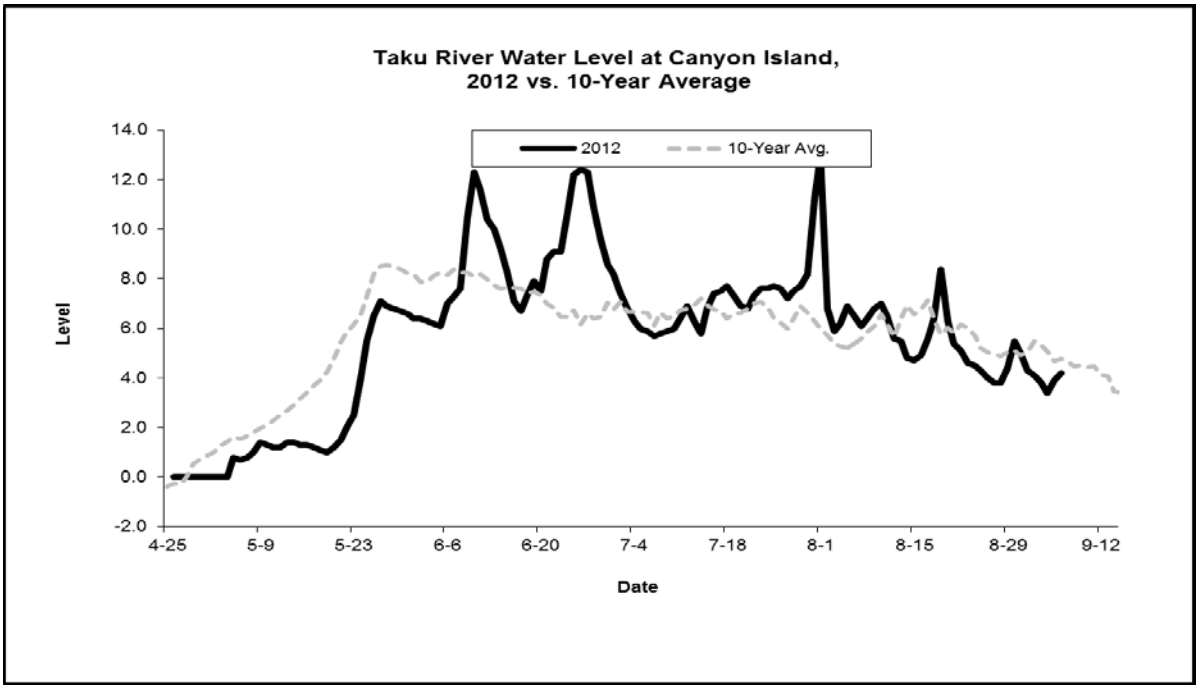



Figure 2a. Water levels at Canyon Island, Taku River, 2012 vs. 2002-2011 average.

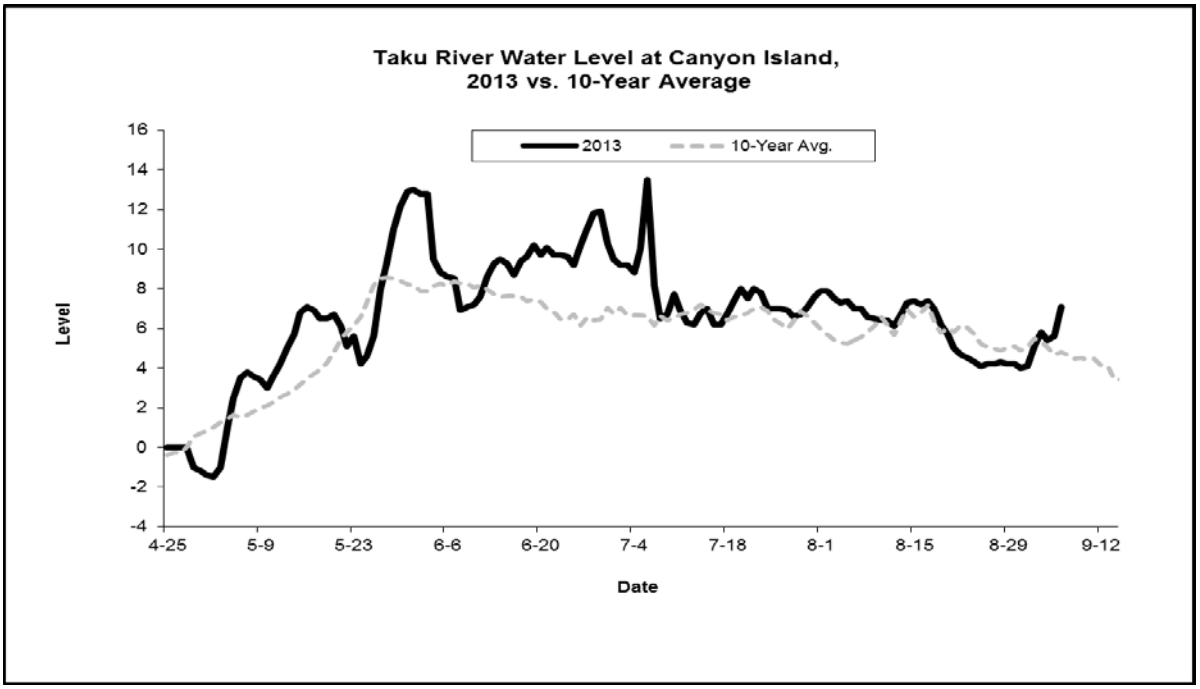
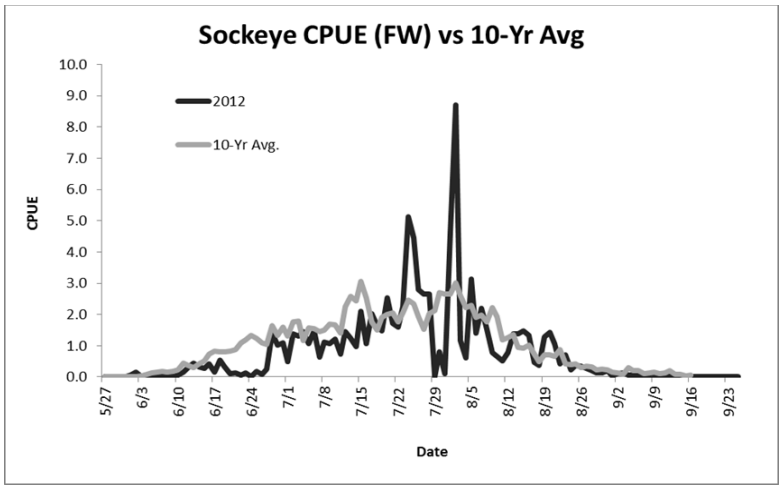
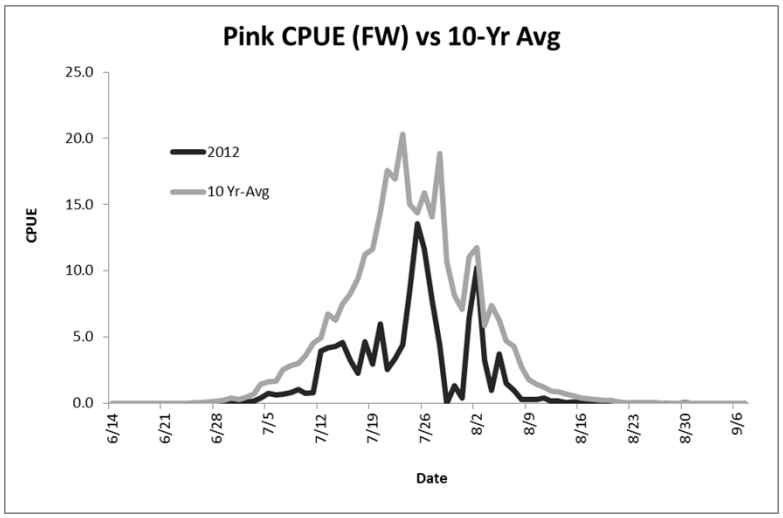



Figure 2b. Water levels at Canyon Island, Taku River, 2013 vs. 2003-2012 average.



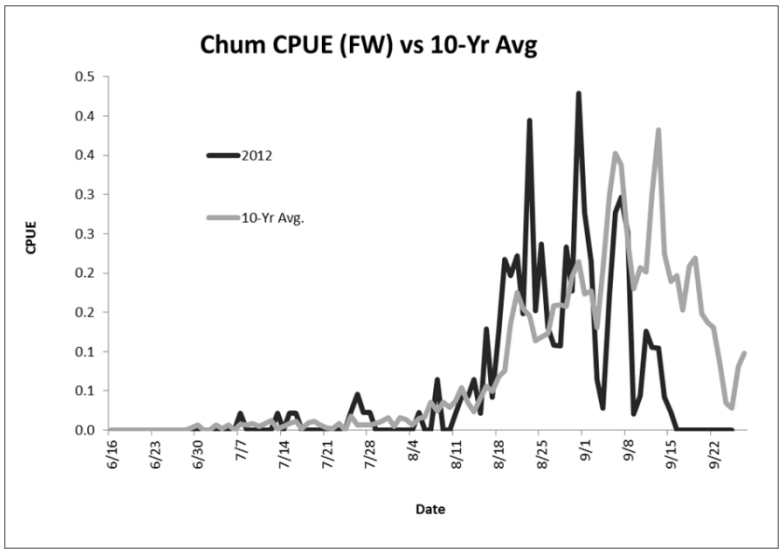
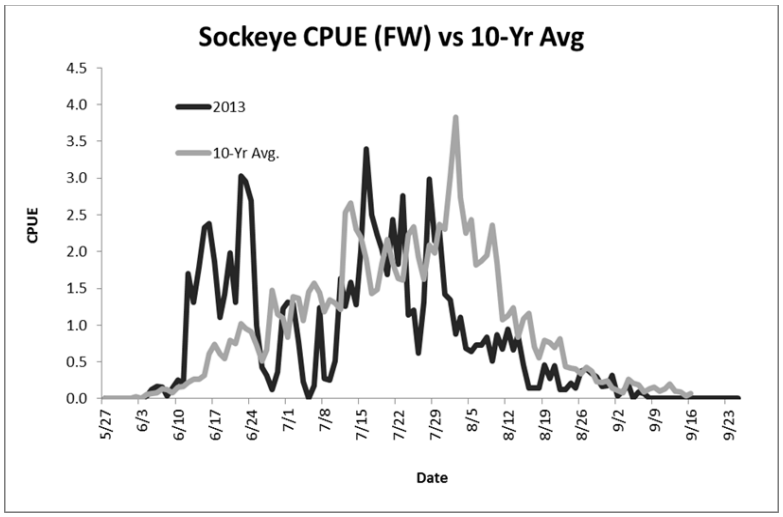
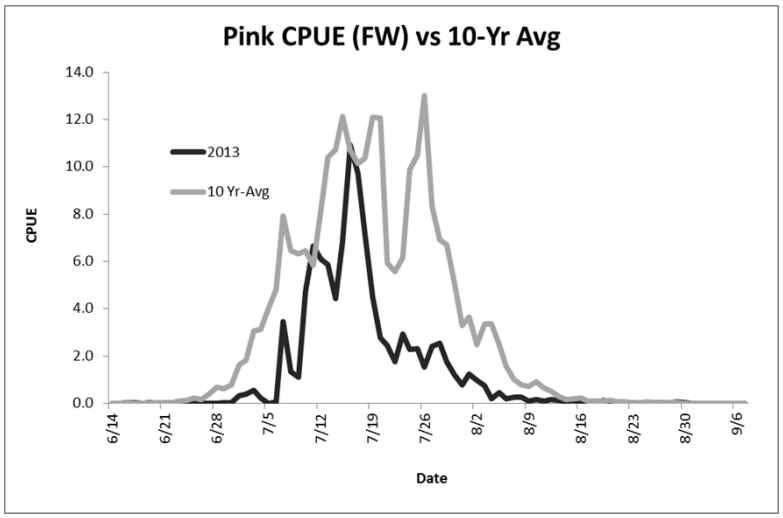




Figure 3a. Fish wheel CPUE for sockeye, pink, and chum salmon at Canyon Island, 2012.



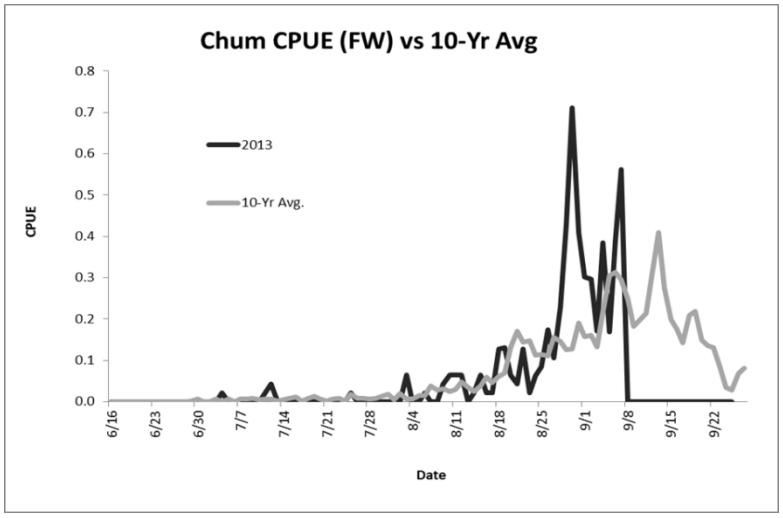




Figure 3b. Fish wheel CPUE for sockeye, pink, and chum salmon at Canyon Island, 2013.

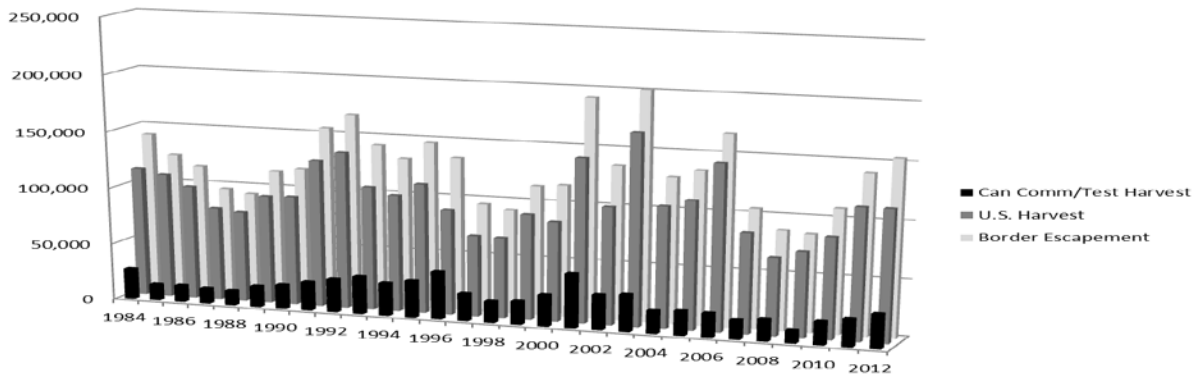



Figure 4a. Historical sockeye mark-recapture abundance estimates above the U.S./Canada border including Canadian inriver harvests and escapements for Taku River sockeye, 1984-2012.

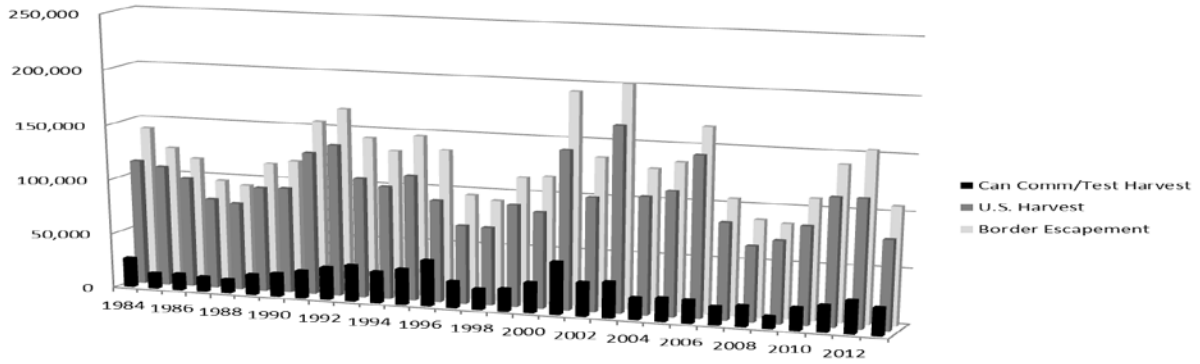



Figure 4b. Historical sockeye mark-recapture abundance estimates above the U.S./Canada border including Canadian inriver harvests and escapements for Taku River sockeye, 1984-2013.

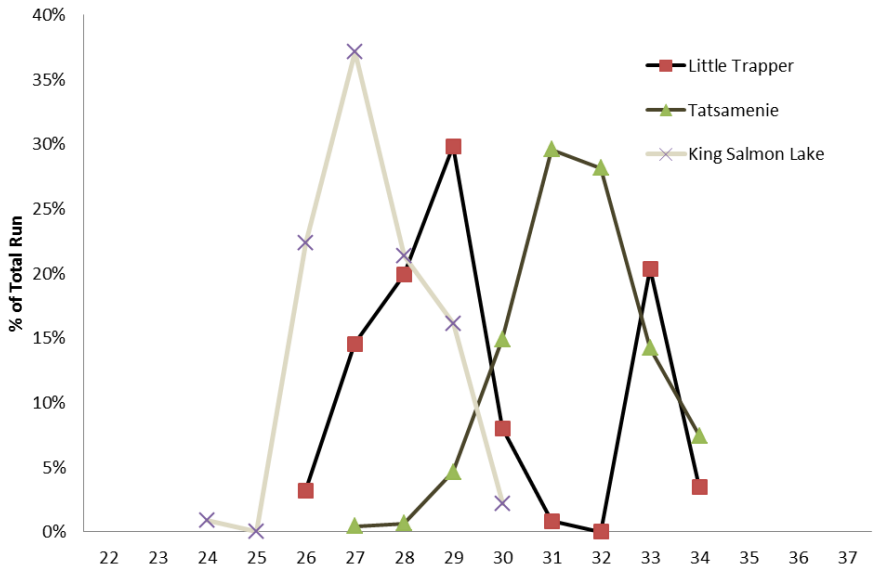



Figure 5a. Run timing of three sockeye salmon stock groups passing Canyon Island, 2012.

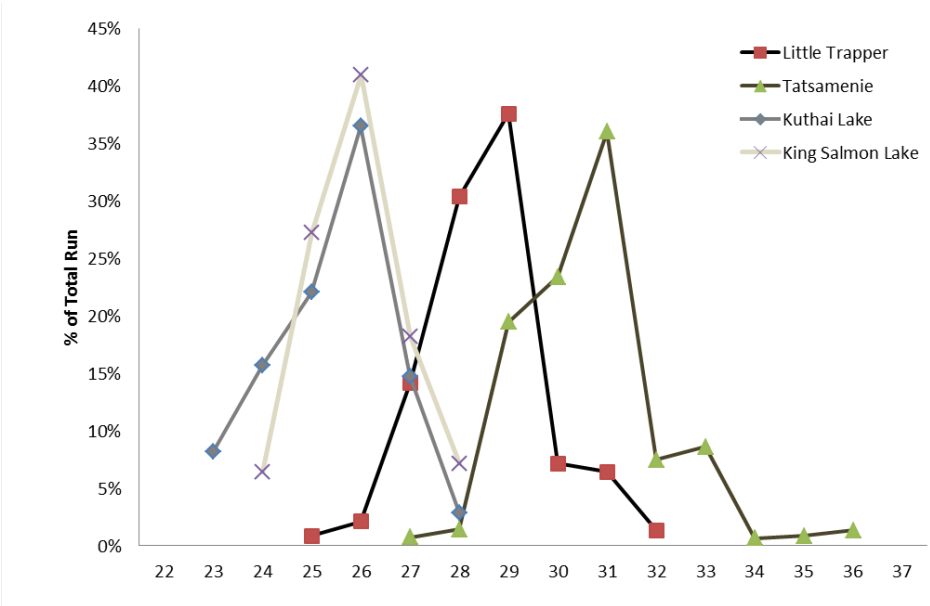
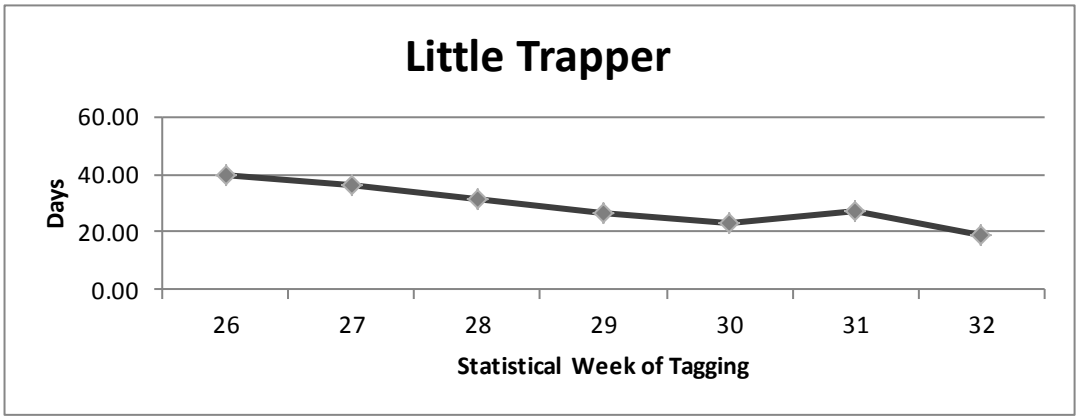
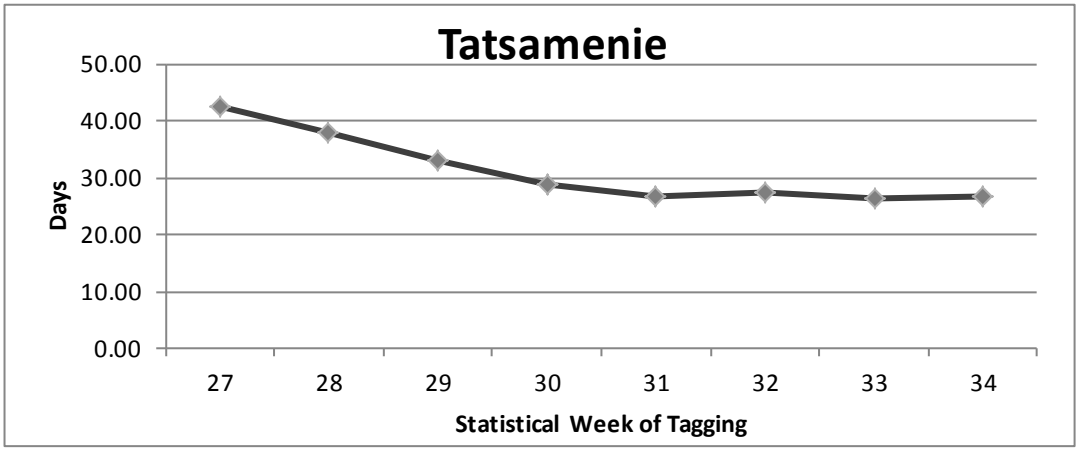



Figure 5b. Run timing of four sockeye salmon stock groups passing Canyon Island, 2013.



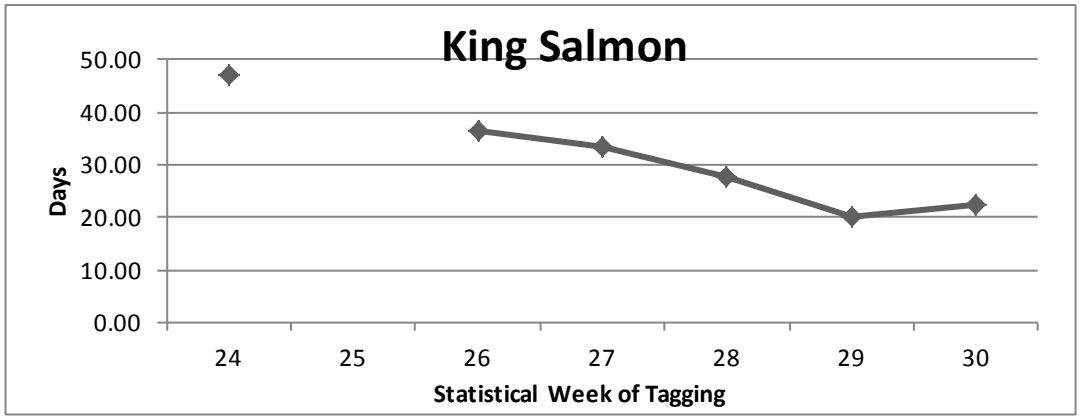




Figure 6a. Mean travel times for tagged sockeye salmon between Canyon Island and three upriver locations, 2012.

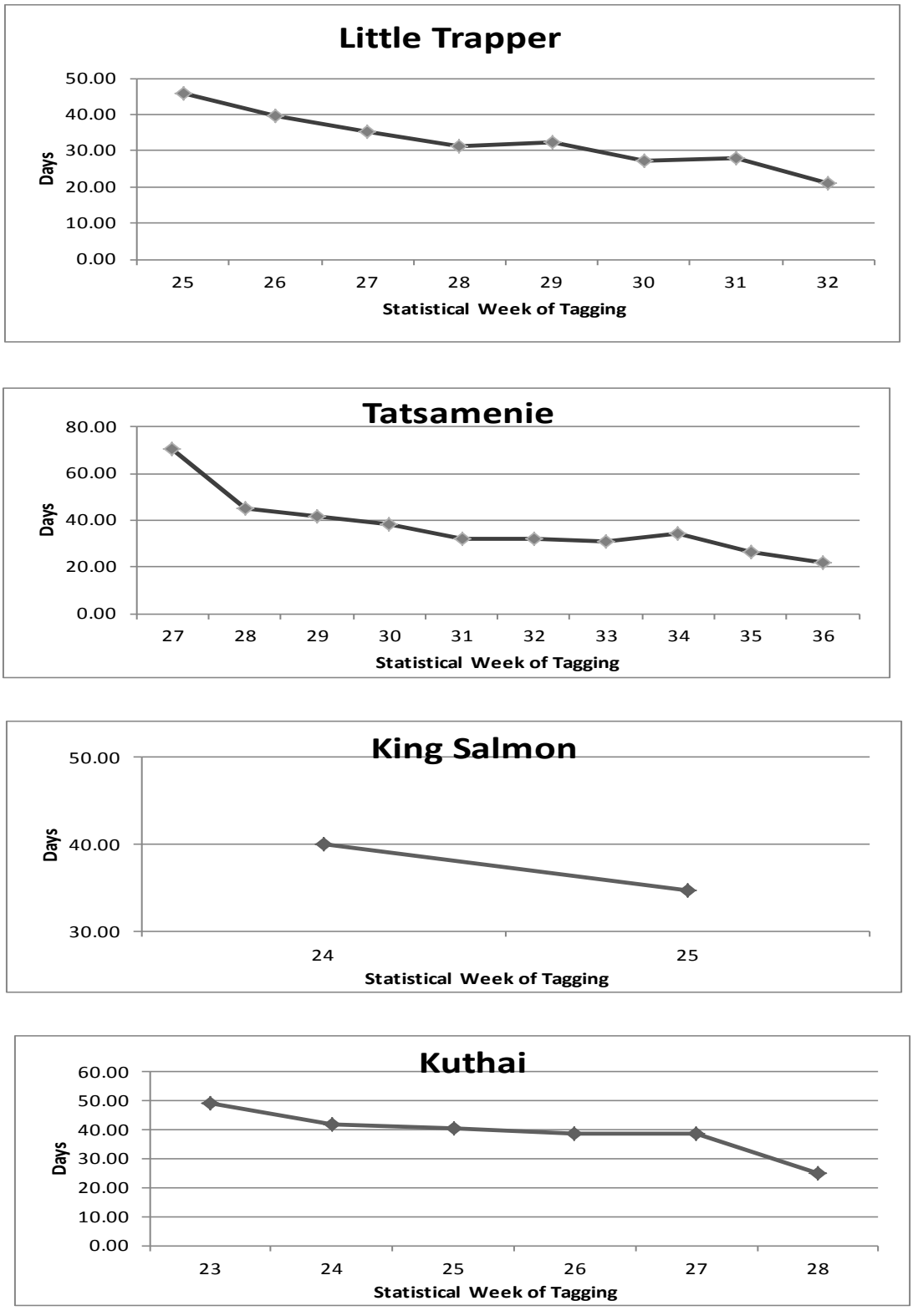



Figure 6b. Mean travel times for tagged sockeye salmon between Canyon Island and four upriver locations, 2013.

Appendix A1a. Inclusive dates for statistical weeks, 2012.

| 2012 Statistical Week Calendar | | | | | | |
|---|---|---|---|---|---|---|
| **Stat Week** | **From** | **Through** | | **Stat Week** | **From** | **Through** |
| 1 | 01-Jan | 07-Jan | | 28 | 08-Jul | 14-Jul |
| 2 | 08-Jan | 14-Jan | | 29 | 15-Jul | 21-Jul |
| 3 | 15-Jan | 21-Jan | | 30 | 22-Jul | 28-Jul |
| 4 | 22-Jan | 28-Jan | | 31 | 29-Jul | 04-Aug |
| 5 | 29-Jan | 04-Feb | | 32 | 05-Aug | 11-Aug |
| 6 | 05-Feb | 11-Feb | | 33 | 12-Aug | 18-Aug |
| 7 | 12-Feb | 18-Feb | | 34 | 19-Aug | 25-Aug |
| 8 | 19-Feb | 25-Feb | | 35 | 26-Aug | 01-Sep |
| 9 | 26-Feb | 03-Mar | | 36 | 02-Sep | 08-Sep |
| 10 | 04-Mar | 10-Mar | | 37 | 09-Sep | 15-Sep |
| 11 | 11-Mar | 17-Mar | | 38 | 16-Sep | 22-Sep |
| 12 | 18-Mar | 24-Mar | | 39 | 23-Sep | 29-Sep |
| 13 | 25-Mar | 31-Mar | | 40 | 30-Sep | 06-Oct |
| 14 | 01-Apr | 07-Apr | | 41 | 07-Oct | 13-Oct |
| 15 | 08-Apr | 14-Apr | | 42 | 14-Oct | 20-Oct |
| 16 | 15-Apr | 21-Apr | | 43 | 21-Oct | 27-Oct |
| 17 | 22-Apr | 28-Apr | | 44 | 28-Oct | 03-Nov |
| 18 | 29-Apr | 05-May | | 45 | 04-Nov | 10-Nov |
| 19 | 06-May | 12-May | | 46 | 11-Nov | 17-Nov |
| 20 | 13-May | 19-May | | 47 | 18-Nov | 24-Nov |
| 21 | 20-May | 26-May | | 48 | 25-Nov | 01-Dec |
| 22 | 27-May | 02-Jun | | 49 | 02-Dec | 08-Dec |
| 23 | 03-Jun | 09-Jun | | 50 | 09-Dec | 15-Dec |
| 24 | 10-Jun | 16-Jun | | 51 | 16-Dec | 22-Dec |
| 25 | 17-Jun | 23-Jun | | 52 | 23-Dec | 29-Dec |
| 26 | 24-Jun | 30-Jun | | 53 | 30-Dec | 05-Jan |
| 27 | 01-Jul | 07-Jul | | | | |

Appendix A1b. Inclusive dates for statistical weeks, 2013.

| 2013 Statistical Week Calendar | | | | | | |
|---|---|---|---|---|---|---|
| **Stat Week** | **From** | **Through** | | **Stat Week** | **From** | **Through** |
| 1 | 01-Jan | 05-Jan | | 28 | 07-Jul | 13-Jul |
| 2 | 06-Jan | 12-Jan | | 29 | 14-Jul | 20-Jul |
| 3 | 13-Jan | 19-Jan | | 30 | 21-Jul | 27-Jul |
| 4 | 20-Jan | 26-Jan | | 31 | 28-Jul | 03-Aug |
| 5 | 27-Jan | 02-Feb | | 32 | 04-Aug | 10-Aug |
| 6 | 03-Feb | 09-Feb | | 33 | 11-Aug | 17-Aug |
| 7 | 10-Feb | 16-Feb | | 34 | 18-Aug | 24-Aug |
| 8 | 17-Feb | 23-Feb | | 35 | 25-Aug | 31-Aug |
| 9 | 24-Feb | 02-Mar | | 36 | 01-Sep | 07-Sep |
| 10 | 03-Mar | 09-Mar | | 37 | 08-Sep | 14-Sep |
| 11 | 10-Mar | 16-Mar | | 38 | 15-Sep | 21-Sep |
| 12 | 17-Mar | 23-Mar | | 39 | 22-Sep | 28-Sep |
| 13 | 24-Mar | 30-Mar | | 40 | 29-Sep | 05-Oct |
| 14 | 31-Mar | 06-Apr | | 41 | 06-Oct | 12-Oct |
| 15 | 07-Apr | 13-Apr | | 42 | 13-Oct | 19-Oct |
| 16 | 14-Apr | 20-Apr | | 43 | 20-Oct | 26-Oct |
| 17 | 21-Apr | 27-Apr | | 44 | 27-Oct | 02-Nov |
| 18 | 28-Apr | 04-May | | 45 | 03-Nov | 09-Nov |
| 19 | 05-May | 11-May | | 46 | 10-Nov | 16-Nov |
| 20 | 12-May | 18-May | | 47 | 17-Nov | 23-Nov |
| 21 | 19-May | 25-May | | 48 | 24-Nov | 30-Nov |
| 22 | 26-May | 01-Jun | | 49 | 01-Dec | 07-Dec |
| 23 | 02-Jun | 08-Jun | | 50 | 08-Dec | 14-Dec |
| 24 | 09-Jun | 15-Jun | | 51 | 15-Dec | 21-Dec |
| 25 | 16-Jun | 22-Jun | | 52 | 22-Dec | 28-Dec |
| 26 | 23-Jun | 29-Jun | | 53 | 29-Dec | 04-Jan |
| 27 | 30-Jun | 06-Jul | | | | |

Appendix B.1a. Catches and number tagged of salmon in the fish wheels at Canyon Island, 2012.

| | | FISHING EFFORT | | | | SOCKEYE | | | | | PINK | | | CHUM | | | DV | | Steelhead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stat | | FWI | FWI | FWII | FWII | FW Catches | | FW Tagged | | CPUE | Total Catches | | CPUE | Total Catches | | CPUE | Total Catches | | Total Catches | |
| Week | Date | Effort | RPM | Effort | RPM | Daily | Cum. | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Cum. |
| 21 | 21-May | | | 23.50 | 2.3 | | | | | | | | | | | | | | | |
| 21 | 22-May | 23.25 | 2.2 | 23.25 | 2.4 | | | | | | | | | | | | | | | |
| 21 | 23-May | 23.67 | 2.3 | 23.42 | 2.3 | | | | | | | | | | | | 1 | 1 | | |
| 21 | 24-May | 23.75 | 2.7 | 23.25 | 2.6 | | | | | | | | | | | | 1 | 2 | | |
| 21 | 25-May | 23.92 | 2.7 | 23.92 | 2.7 | | | | | | | | | | | | 0 | 2 | | |
| 21 | 26-May | 22.83 | 2.8 | 23.75 | 2.8 | | | | | | | | | | | | 0 | 2 | | |
| 22 | 27-May | 23.92 | 2.5 | 23.92 | 2.5 | | | | | | | | | | | | 0 | 2 | | |
| 22 | 28-May | 23.92 | 2.5 | 23.92 | 2.5 | | | | | | | | | | | | 0 | 2 | | |
| 22 | 29-May | 23.00 | 2.3 | 23.83 | 2.5 | | | | | | | | | | | | 0 | 2 | | |
| 22 | 30-May | 21.00 | 2.4 | 23.92 | 2.5 | | | | | | | | | | | | 0 | 2 | | |
| 22 | 31-May | 23.83 | 2.3 | 23.83 | 2.6 | | | | | | | | | | | | 0 | 2 | | |
| 22 | 01-Jun | 23.33 | 2.4 | 23.58 | 2.2 | 3 | 3 | 3 | 3 | 0.064 | | | | | | | 0 | 2 | | |
| 22 | 02-Jun | 23.67 | 2.7 | 23.25 | 2.8 | 7 | 10 | 7 | 10 | 0.149 | | | | | | | 0 | 2 | | |
| 23 | 03-Jun | 23.67 | 2.6 | 23.83 | 2.7 | 1 | 11 | 1 | 11 | 0.021 | | | | | | | 0 | 2 | | |
| 23 | 04-Jun | 23.58 | 2.7 | 23.50 | 2.8 | 2 | 13 | 2 | 13 | 0.042 | | | | | | | 0 | 2 | | |
| 23 | 05-Jun | 23.75 | 2.6 | 23.83 | 2.7 | 2 | 15 | 2 | 15 | 0.042 | | | | | | | 0 | 2 | | |
| 23 | 06-Jun | 23.83 | 2.5 | 23.92 | 2.6 | 0 | 15 | 0 | 15 | 0.000 | | | | | | | 0 | 2 | | |
| 23 | 07-Jun | 23.83 | 2.6 | 23.92 | 2.6 | 1 | 16 | 1 | 16 | 0.021 | | | | | | | 0 | 2 | | |
| 23 | 08-Jun | 23.75 | 2.8 | 23.83 | 2.7 | 0 | 16 | 0 | 16 | 0.000 | | | | | | | 0 | 2 | | |
| 23 | 09-Jun | 23.92 | 2.9 | 23.92 | 2.9 | 0 | 16 | 0 | 16 | 0.000 | | | | | | | 0 | 2 | | |
| 24 | 10-Jun | 21.00 | 3.0 | 22.83 | 2.9 | 3 | 19 | 1 | 17 | 0.068 | | | | | | | 0 | 2 | | |
| 24 | 11-Jun | 23.67 | 2.7 | 23.83 | 2.6 | 7 | 26 | 7 | 24 | 0.147 | | | | | | | 0 | 2 | | |
| 24 | 12-Jun | 23.75 | 2.9 | 23.58 | 2.6 | 14 | 40 | 14 | 38 | 0.296 | | | | | | | 0 | 2 | | |
| 24 | 13-Jun | 23.75 | 2.8 | 23.00 | 2.4 | 21 | 61 | 20 | 58 | 0.449 | | | | | | | 1 | 3 | | |
| 24 | 14-Jun | 23.58 | 2.6 | 23.50 | 2.7 | 15 | 76 | 15 | 73 | 0.319 | | | | | | | 0 | 3 | | |
| 24 | 15-Jun | 23.67 | 2.5 | 23.50 | 2.8 | 13 | 89 | 13 | 86 | 0.276 | | | | | | | 1 | 4 | | |
| 24 | 16-Jun | 22.50 | 2.7 | 20.83 | 2.7 | 18 | 107 | 18 | 104 | 0.415 | | | | | | | 0 | 4 | | |
| 25 | 17-Jun | 23.67 | 2.8 | 23.33 | 2.8 | 7 | 114 | 7 | 111 | 0.149 | | | | | | | 0 | 4 | | |
| 25 | 18-Jun | 23.33 | 2.5 | 22.83 | 2.5 | 25 | 139 | 25 | 136 | 0.542 | | | | | | | 0 | 4 | 1 | 1 |
| 25 | 19-Jun | 23.75 | 2.6 | 23.42 | 2.5 | 15 | 154 | 15 | 151 | 0.318 | | | | | | | 0 | 4 | 0 | 1 |
| 25 | 20-Jun | 23.92 | 2.8 | 23.83 | 2.7 | 5 | 159 | 5 | 156 | 0.105 | | | | | | | 0 | 4 | 0 | 1 |
| 25 | 21-Jun | 22.75 | 2.6 | 22.83 | 2.7 | 6 | 165 | 6 | 162 | 0.132 | | | | | | | 0 | 4 | 0 | 1 |
| 25 | 22-Jun | 22.50 | 2.7 | 23.92 | 2.8 | 3 | 168 | 3 | 165 | 0.065 | | | | | | | 0 | 4 | 0 | 1 |
| 25 | 23-Jun | 23.83 | 2.9 | 23.75 | 2.9 | 6 | 174 | 6 | 171 | 0.126 | | | | | | | 0 | 4 | 0 | 1 |
| 26 | 24-Jun | 23.92 | 3.0 | 23.92 | 3.0 | 0 | 174 | 0 | 171 | 0.000 | | | | | | | 1 | 5 | 0 | 1 |
| 26 | 25-Jun | 23.75 | 3.1 | 23.75 | 2.9 | 9 | 183 | 9 | 180 | 0.189 | | | | | | | 1 | 6 | 0 | 1 |
| 26 | 26-Jun | 23.67 | 2.9 | 23.83 | 2.5 | 4 | 187 | 4 | 184 | 0.084 | | | | | | | 0 | 6 | 0 | 1 |
| 26 | 27-Jun | 23.67 | 2.7 | 23.75 | 2.4 | 12 | 199 | 12 | 196 | 0.253 | | | | | | | 0 | 6 | 0 | 1 |
| 26 | 28-Jun | 23.25 | 2.7 | 20.17 | 2.3 | 61 | 260 | 61 | 257 | 1.405 | | | | | | | 0 | 6 | 0 | 1 |
| 26 | 29-Jun | 23.25 | 2.8 | 23.33 | 2.1 | 47 | 307 | 47 | 304 | 1.009 | | | | | | | 1 | 7 | 0 | 1 |
| 26 | 30-Jun | 23.00 | 2.3 | 23.42 | 2.4 | 51 | 358 | 49 | 353 | 1.099 | | | | | | | 0 | 7 | 0 | 1 |
| 27 | 01-Jul | 23.58 | 2.4 | 23.50 | 2.6 | 23 | 381 | 22 | 375 | 0.489 | | | | | | | 1 | 8 | 0 | 1 |
| 27 | 02-Jul | 23.42 | 2.6 | 22.58 | 2.4 | 64 | 445 | 61 | 436 | 1.391 | 6 | 6 | 0.130 | | | | 2 | 10 | 0 | 1 |
| 27 | 03-Jul | 23.08 | 2.4 | 23.12 | 2.2 | 60 | 505 | 60 | 496 | 1.299 | 9 | 15 | 0.195 | | | | 1 | 11 | 0 | 1 |
| 27 | 04-Jul | 23.33 | 2.2 | 23.00 | 2.0 | 67 | 572 | 67 | 563 | 1.446 | 20 | 35 | 0.432 | | | | 4 | 15 | 0 | 1 |
| 27 | 05-Jul | 23.83 | 2.0 | 23.58 | 2.0 | 51 | 623 | 50 | 613 | 1.076 | 36 | 71 | 0.759 | | | | 5 | 20 | 0 | 1 |
| 27 | 06-Jul | 23.08 | 2.0 | 23.58 | 2.2 | 69 | 692 | 67 | 680 | 1.479 | 29 | 100 | 0.622 | | | | 4 | 24 | 0 | 1 |
| 27 | 07-Jul | 23.58 | 2.3 | 23.67 | 2.2 | 30 | 722 | 28 | 708 | 0.635 | 32 | 132 | 0.677 | 1 | 1 | 0.021 | 4 | 28 | 0 | 1 |
| 28 | 08-Jul | 23.08 | 2.5 | 23.58 | 2.4 | 52 | 774 | 48 | 756 | 1.114 | 39 | 171 | 0.836 | 0 | 1 | 0.000 | 2 | 30 | 1 | 2 |
| 28 | 09-Jul | 23.00 | 2.4 | 23.50 | 2.4 | 50 | 824 | 50 | 806 | 1.075 | 48 | 219 | 1.032 | 0 | 1 | 0.000 | 7 | 37 | 0 | 2 |
| 28 | 10-Jul | 23.08 | 2.5 | 23.33 | 2.3 | 56 | 880 | 54 | 860 | 1.207 | 34 | 253 | 0.733 | 0 | 1 | 0.000 | 4 | 41 | 0 | 2 |
| 28 | 11-Jul | 23.42 | 2.5 | 23.42 | 2.5 | 34 | 914 | 34 | 894 | 0.726 | 39 | 292 | 0.833 | 0 | 1 | 0.000 | 4 | 45 | 0 | 2 |

Appendix B.1a (Cont'd). Catches and number tagged of salmon in the fish wheels at Canyon Island, 2012.

| | | FISHING EFFORT | | | | SOCKEYE | | | | | PINK | | | CHUM | | | DV | | Steelhead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stat | | FWI | FWI | FWII | FWII | FW Catches | | FW Tagged | | CPUE | Total Catches | | CPUE | Total Catches | | CPUE | Total Catches | | Total Catches | |
| Week | Date | Effort | RPM | Effort | RPM | Daily | Cum. | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Cum. |
| 28 | 12-Jul | 23.25 | 2.5 | 23.12 | 2.3 | 67 | 981 | 66 | 960 | 1.445 | 184 | 476 | 3.968 | 0 | 1 | 0.000 | 12 | 57 | 0 | 2 |
| 28 | 13-Jul | 23.00 | 2.2 | 23.00 | 2.1 | 57 | 1038 | 54 | 1014 | 1.239 | 194 | 670 | 4.217 | 1 | 2 | 0.022 | 7 | 64 | 0 | 2 |
| 28 | 14-Jul | 22.92 | 3.0 | 23.00 | 2.5 | 45 | 1083 | 45 | 1059 | 0.980 | 199 | 869 | 4.334 | 0 | 2 | 0.000 | 8 | 72 | 0 | 2 |
| 29 | 15-Jul | 23.08 | 2.4 | 22.50 | 2.6 | 96 | 1179 | 93 | 1152 | 2.106 | 210 | 1079 | 4.607 | 1 | 3 | 0.022 | 0 | 72 | 1 | 3 |
| 29 | 16-Jul | 23.17 | 2.5 | 22.66 | 2.7 | 49 | 1228 | 47 | 1199 | 1.069 | 149 | 1228 | 3.251 | 1 | 4 | 0.022 | 5 | 77 | 0 | 3 |
| 29 | 17-Jul | 23.08 | 2.5 | 23.00 | 2.7 | 93 | 1321 | 90 | 1289 | 2.018 | 104 | 1332 | 2.257 | 0 | 4 | 0.000 | 0 | 77 | 0 | 3 |
| 29 | 18-Jul | 22.92 | 2.4 | 22.92 | 2.4 | 75 | 1396 | 69 | 1358 | 1.636 | 213 | 1545 | 4.647 | 0 | 4 | 0.000 | 2 | 79 | 1 | 4 |
| 29 | 19-Jul | 23.08 | 3.0 | 22.50 | 2.5 | 67 | 1463 | 64 | 1422 | 1.470 | 134 | 1679 | 2.940 | 0 | 4 | 0.000 | 5 | 84 | 0 | 4 |
| 29 | 20-Jul | 23.25 | 2.7 | 22.50 | 2.3 | 116 | 1579 | 112 | 1534 | 2.536 | 274 | 1953 | 5.989 | 0 | 4 | 0.000 | 8 | 92 | 0 | 4 |
| 29 | 21-Jul | 23.08 | 2.3 | 23.00 | 2.6 | 79 | 1658 | 73 | 1607 | 1.714 | 117 | 2070 | 2.539 | 0 | 4 | 0.000 | 4 | 96 | 0 | 4 |
| 30 | 22-Jul | 22.83 | 2.3 | 23.17 | 2.5 | 73 | 1731 | 71 | 1678 | 1.587 | 154 | 2224 | 3.348 | 0 | 4 | 0.000 | 2 | 98 | 0 | 4 |
| 30 | 23-Jul | 22.83 | 2.4 | 22.67 | 2.6 | 102 | 1833 | 97 | 1775 | 2.242 | 200 | 2424 | 4.396 | 0 | 4 | 0.000 | 2 | 100 | 0 | 4 |
| 30 | 24-Jul | 22.25 | 2.4 | 21.83 | 2.4 | 226 | 2059 | 211 | 1986 | 5.127 | 374 | 2798 | 8.485 | 0 | 4 | 0.000 | 5 | 105 | 0 | 4 |
| 30 | 25-Jul | 21.67 | 2.4 | 21.83 | 2.4 | 194 | 2253 | 181 | 2167 | 4.460 | 590 | 3388 | 13.563 | 1 | 5 | 0.023 | 3 | 108 | 0 | 4 |
| 30 | 26-Jul | 22.50 | 2.1 | 21.50 | 2.6 | 123 | 2376 | 111 | 2278 | 2.795 | 513 | 3901 | 11.659 | 2 | 7 | 0.045 | 3 | 111 | 0 | 4 |
| 30 | 27-Jul | 22.83 | 2.7 | 22.33 | 2.4 | 120 | 2496 | 108 | 2386 | 2.657 | 351 | 4252 | 7.772 | 1 | 8 | 0.022 | 1 | 112 | 0 | 4 |
| 30 | 28-Jul | 22.33 | 2.5 | 22.42 | 2.7 | 119 | 2615 | 109 | 2495 | 2.659 | 195 | 4447 | 4.358 | 1 | 9 | 0.022 | 1 | 113 | 0 | 4 |
| 31 | 29-Jul | 23.50 | 2.5 | 23.50 | 2.5 | 0 | 2615 | 0 | 2495 | 0.000 | 0 | 4447 | 0.000 | 0 | 9 | 0.000 | 0 | 113 | 0 | 4 |
| 31 | 30-Jul | 23.67 | 2.8 | 23.00 | 2.8 | 37 | 2652 | 32 | 2527 | 0.793 | 62 | 4509 | 1.328 | 0 | 9 | 0.000 | 1 | 114 | 0 | 4 |
| 31 | 31-Jul | 23.83 | 2.8 | 23.83 | 2.7 | 5 | 2657 | 5 | 2532 | 0.105 | 20 | 4529 | 0.420 | 0 | 9 | 0.000 | 0 | 114 | 0 | 4 |
| 31 | 01-Aug | 22.83 | 2.3 | 21.42 | 2.4 | 204 | 2861 | 187 | 2719 | 4.610 | 286 | 4815 | 6.463 | 0 | 9 | 0.000 | 1 | 115 | 0 | 4 |
| 31 | 02-Aug | 21.25 | 2.2 | 20.75 | 2.4 | 365 | 3226 | 311 | 3030 | 8.690 | 431 | 5246 | 10.262 | 0 | 9 | 0.000 | 17 | 132 | 0 | 4 |
| 31 | 03-Aug | 23.00 | 2.7 | 23.42 | 2.7 | 54 | 3280 | 52 | 3082 | 1.163 | 152 | 5398 | 3.274 | 0 | 9 | 0.000 | 2 | 134 | 0 | 4 |
| 31 | 04-Aug | 23.42 | 2.6 | 23.58 | 2.1 | 29 | 3309 | 28 | 3110 | 0.617 | 47 | 5445 | 1.000 | 0 | 9 | 0.000 | 3 | 137 | 0 | 4 |
| 32 | 05-Aug | 22.17 | 2.5 | 22.92 | 2.5 | 141 | 3450 | 130 | 3240 | 3.127 | 167 | 5612 | 3.704 | 1 | 10 | 0.022 | 6 | 143 | 0 | 4 |
| 32 | 06-Aug | 23.17 | 2.4 | 23.50 | 2.4 | 65 | 3515 | 64 | 3304 | 1.393 | 70 | 5682 | 1.500 | 0 | 10 | 0.000 | 1 | 144 | 0 | 4 |
| 32 | 07-Aug | 22.50 | 2.5 | 23.17 | 2.1 | 100 | 3615 | 96 | 3400 | 2.190 | 44 | 5726 | 0.963 | 0 | 10 | 0.000 | 1 | 145 | 0 | 4 |
| 32 | 08-Aug | 22.83 | 2.7 | 23.42 | 2.6 | 70 | 3685 | 67 | 3467 | 1.514 | 13 | 5739 | 0.281 | 3 | 13 | 0.065 | 1 | 146 | 0 | 4 |
| 32 | 09-Aug | 23.25 | 2.6 | 23.58 | 2.6 | 36 | 3721 | 34 | 3501 | 0.769 | 13 | 5752 | 0.278 | 0 | 13 | 0.000 | 2 | 148 | 0 | 4 |
| 32 | 10-Aug | 23.17 | 2.0 | 23.58 | 2.5 | 31 | 3752 | 25 | 3526 | 0.663 | 13 | 5765 | 0.278 | 0 | 13 | 0.000 | 1 | 149 | 0 | 4 |
| 32 | 11-Aug | 23.00 | 2.3 | 23.67 | 2.3 | 24 | 3776 | 23 | 3549 | 0.514 | 18 | 5783 | 0.386 | 1 | 14 | 0.021 | 1 | 150 | 0 | 4 |
| 33 | 12-Aug | 23.83 | 2.0 | 23.67 | 2.0 | 37 | 3813 | 34 | 3583 | 0.779 | 9 | 5792 | 0.189 | 2 | 16 | 0.042 | 0 | 150 | 0 | 4 |
| 33 | 13-Aug | 23.00 | 2.0 | 23.58 | 1.9 | 64 | 3877 | 62 | 3645 | 1.374 | 9 | 5801 | 0.193 | 2 | 18 | 0.043 | 4 | 154 | 0 | 4 |
| 33 | 14-Aug | 22.83 | 1.8 | 23.50 | 1.9 | 64 | 3941 | 57 | 3702 | 1.381 | 2 | 5803 | 0.043 | 3 | 21 | 0.065 | 6 | 160 | 1 | 5 |
| 33 | 15-Aug | 22.58 | 2.2 | 23.58 | 1.9 | 68 | 4009 | 66 | 3768 | 1.473 | 4 | 5807 | 0.087 | 1 | 22 | 0.022 | 3 | 163 | 0 | 5 |
| 33 | 16-Aug | 23.08 | 2.5 | 23.50 | 2.1 | 62 | 4071 | 58 | 3826 | 1.331 | 3 | 5810 | 0.064 | 6 | 28 | 0.129 | 2 | 165 | 0 | 5 |
| 33 | 17-Aug | 23.58 | 2.8 | 23.75 | 2.3 | 22 | 4093 | 20 | 3846 | 0.465 | 2 | 5812 | 0.042 | 2 | 30 | 0.042 | 2 | 167 | 0 | 5 |
| 33 | 18-Aug | 23.67 | 2.4 | 23.50 | 2.3 | 18 | 4111 | 17 | 3863 | 0.382 | 1 | 5813 | 0.021 | 6 | 36 | 0.127 | 0 | 167 | 0 | 5 |
| 34 | 19-Aug | 23.25 | 2.2 | 22.83 | 2.2 | 59 | 4170 | 55 | 3918 | 1.280 | 3 | 5816 | 0.065 | 10 | 46 | 0.217 | 1 | 168 | 0 | 5 |
| 34 | 20-Aug | 22.83 | 2.0 | 23.00 | 2.0 | 65 | 4235 | 59 | 3977 | 1.418 | 3 | 5819 | 0.065 | 9 | 55 | 0.196 | 3 | 171 | 0 | 5 |
| 34 | 21-Aug | 22.67 | 1.9 | 22.42 | 1.9 | 48 | 4283 | 39 | 4016 | 1.065 | 3 | 5822 | 0.067 | 10 | 65 | 0.222 | 3 | 174 | 1 | 6 |
| 34 | 22-Aug | 23.33 | 1.9 | 23.75 | 1.9 | 20 | 4303 | 19 | 4035 | 0.425 | 1 | 5823 | 0.021 | 7 | 72 | 0.149 | 1 | 175 | 0 | 6 |
| 34 | 23-Aug | 22.42 | 1.8 | 23.25 | 1.8 | 32 | 4335 | 29 | 4064 | 0.701 | 0 | 5823 | 0.000 | 18 | 90 | 0.394 | 2 | 177 | 1 | 7 |
| 34 | 24-Aug | 23.25 | 1.8 | 22.92 | 2.0 | 10 | 4345 | 10 | 4074 | 0.217 | 1 | 5824 | 0.022 | 7 | 97 | 0.152 | 3 | 180 | 1 | 8 |
| 34 | 25-Aug | 23.00 | 2.0 | 23.42 | 1.9 | 17 | 4362 | 14 | 4088 | 0.366 | 0 | 5824 | 0.000 | 11 | 108 | 0.237 | 5 | 185 | 0 | 8 |
| 35 | 26-Aug | 22.92 | 1.9 | 23.17 | 2.0 | 16 | 4378 | 15 | 4103 | 0.347 | 0 | 5824 | 0.000 | 6 | 114 | 0.130 | 9 | 194 | 1 | 9 |
| 35 | 27-Aug | 22.92 | 2.1 | 23.33 | 2.0 | 13 | 4391 | 10 | 4113 | 0.281 | 0 | 5824 | 0.000 | 5 | 119 | 0.108 | 5 | 199 | 0 | 9 |
| 35 | 28-Aug | 23.42 | 2.3 | 23.33 | 2.3 | 9 | 4400 | 9 | 4122 | 0.193 | 0 | 5824 | 0.000 | 5 | 124 | 0.107 | 5 | 204 | 1 | 10 |
| 35 | 29-Aug | 23.17 | 2.3 | 19.75 | 2.5 | 6 | 4406 | 5 | 4127 | 0.140 | 0 | 5824 | 0.000 | 10 | 134 | 0.233 | 1 | 205 | 0 | 10 |
| 35 | 30-Aug | 16.00 | 2.2 | 23.50 | 2.4 | 5 | 4411 | 5 | 4132 | 0.127 | 1 | 5825 | 0.025 | 7 | 141 | 0.177 | 2 | 207 | 2 | 12 |
| 35 | 31-Aug | 12.00 | 2.2 | 23.00 | 2.1 | 7 | 4418 | 7 | 4139 | 0.200 | 0 | 5825 | 0.000 | 15 | 156 | 0.429 | 5 | 212 | 0 | 12 |
| 35 | 01-Sep | 23.42 | 2.3 | 23.58 | 2.0 | 2 | 4420 | 2 | 4141 | 0.043 | 0 | 5825 | 0.000 | 13 | 169 | 0.277 | 2 | 214 | 0 | 12 |
| 36 | 02-Sep | 23.25 | 2.0 | 23.33 | 2.1 | 5 | 4425 | 5 | 4146 | 0.107 | 1 | 5826 | 0.021 | 10 | 179 | 0.215 | 5 | 219 | 1 | 13 |
| 36 | 03-Sep | 23.33 | 2.0 | 23.33 | 1.8 | 6 | 4431 | 6 | 4152 | 0.129 | | | | 3 | 182 | 0.064 | 1 | 220 | 0 | 13 |
| 36 | 04-Sep | 12.0 | 2.3 | 23.58 | 2.0 | 2 | 4433 | 1 | 4153 | 0.056 | | | | 1 | 183 | 0.028 | 1 | 221 | 0 | 13 |
| 36 | 05-Sep | 22.92 | 2.2 | 23.50 | 2.3 | 3 | 4436 | 3 | 4156 | 0.065 | | | | 6 | 189 | 0.129 | 6 | 227 | 1 | 14 |
| 36 | 06-Sep | 20.00 | 2.2 | 23.33 | 2.2 | 2 | 4438 | 2 | 4158 | 0.046 | | | | 10 | 199 | 0.231 | 5 | 232 | 2 | 16 |
| 36 | 07-Sep | 0.00 | 0.0 | 23.58 | 1.9 | 0 | 4438 | 0 | 4158 | 0.000 | | | | 5 | 204 | 0.212 | 6 | 238 | 2 | 18 |
| 36 | 08-Sep | 23.83 | 2.0 | 23.83 | 2.0 | 1 | 4439 | 1 | 4159 | 0.021 | | | | 11 | 215 | 0.231 | 4 | 242 | 2 | 20 |
| 37 | 09-Sep | 23.75 | 2.2 | 23.75 | 2.3 | 2 | 4441 | 2 | 4161 | 0.042 | | | | 1 | 216 | 0.021 | 2 | 244 | 2 | 22 |
| 37 | 10-Sep | 23.00 | 2.1 | 23.00 | 2.0 | | | | | | | | | 2 | 218 | 0.043 | 3 | 247 | 0 | 22 |
| 37 | 11-Sep | 23.67 | 2.2 | 23.83 | 2.2 | | | | | | | | | 3 | 221 | 0.063 | 1 | 248 | 1 | 23 |
| 37 | 12-Sep | 23.33 | 2.1 | 23.92 | 2.3 | | | | | | | | | 3 | 224 | 0.063 | 2 | 250 | 1 | 24 |
| 37 | 13-Sep | 23.83 | 2.0 | 23.92 | 2.0 | | | | | | | | | 5 | 229 | 0.105 | 2 | 252 | | |
| 37 | 14-Sep | 23.75 | 2.3 | 23.92 | 2.2 | | | | | | | | | 2 | 231 | 0.042 | 3 | 255 | | |
| 37 | 15-Sep | 23.75 | 2.0 | 21.0 | 2.0 | | | | | | | | | 1 | 232 | 0.022 | 2 | 257 | | |

Appendix B.1b. Catches and number tagged of salmon in the fish wheels at Canyon Island, 2013.

| | | FISHING EFFORT | | | | SOCKEYE | | | | | PINK | | | CHUM | | | DV | | Steelhead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stat | | FWI | FWI | FWII | FWII | FW Catches | | FW Tagged | | CPUE | Total Catches | | CPUE | Total Catches | | CPUE | Total Catches | | Total Catches | |
| Week | Date | Effort | RPM | Effort | RPM | Daily | Cum. | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Cum. |
| 20 | 15-May | 22.00 | 2.3 | 21.00 | 2.1 | | | | | | | | | | | | | | | |
| 20 | 16-May | 23.8 | 2.2 | 23.50 | 2.3 | | | | | | | | | | | | | | | |
| 20 | 17-May | 23.58 | 2.7 | 23.33 | 2.5 | | | | | | | | | | | | | | | |
| 20 | 18-May | 23.8 | 2.6 | 23.25 | 2.4 | | | | | | | | | | | | | | | |
| 21 | 19-May | 23.58 | 2.5 | 23.25 | 2.3 | | | | | | | | | | | | | | | |
| 21 | 20-May | 23.67 | 2.6 | 23.25 | 2.3 | | | | | | | | | | | | | | | |
| 21 | 21-May | 22.75 | 1.8 | 22.50 | 1.6 | | | | | | | | | | | | | | | |
| 21 | 22-May | 23.67 | 1.4 | 23.25 | 1.5 | | | | | | | | | | | | | | | |
| 21 | 23-May | 22.50 | 1.5 | 22.67 | 1.5 | | | | | | | | | | | | | | | |
| 21 | 24-May | 23.42 | 2.2 | 23.50 | 2.1 | | | | | | | | | | | | | | | |
| 21 | 25-May | 23.25 | 2.2 | 23.58 | 2.3 | | | | | | | | | | | | | | | |
| 22 | 26-May | 23.25 | 2.7 | 23.67 | 2.7 | | | | | | | | | | | | | | | |
| 22 | 27-May | 23.92 | 2.8 | 23.92 | 2.8 | | | | | | | | | | | | | | | |
| 22 | 28-May | 23.67 | 3.0 | 23.92 | 3.1 | | | | | | | | | | | | | | | |
| 22 | 29-May | 23.92 | 3.0 | 23.92 | 3.1 | | | | | | | | | | | | | | | |
| 22 | 30-May | 23.92 | 3.1 | 23.92 | 3.1 | | | | | | | | | | | | | | | |
| 22 | 31-May | 23.00 | 3.5 | 23.08 | 2.7 | | | | | | | | | | | | | | | |
| 22 | 01-Jun | 23.92 | 3.1 | 23.92 | 2.3 | | | | | | | | | | | | | | | |
| 23 | 02-Jun | 23.75 | 2.7 | 23.92 | 2.0 | | | | | | | | | | | | | | | |
| 23 | 03-Jun | 23.50 | 2.7 | 23.33 | 2.2 | | | | | | | | | | | | | | | |
| 23 | 04-Jun | 23.58 | 2.7 | 23.08 | 2.4 | 2 | 2 | 2 | 2 | 0.043 | | | | | | | | | | |
| 23 | 05-Jun | 23.25 | 2.4 | 23.33 | 2.0 | 6 | 8 | 6 | 8 | 0.129 | | | | | | | 1 | 1 | | |
| 23 | 06-Jun | 23.67 | 2.2 | 23.17 | 2.2 | 8 | 16 | 8 | 16 | 0.171 | | | | | | | 0 | 1 | | |
| 23 | 07-Jun | 23.08 | 2.0 | 22.50 | 2.3 | 7 | 23 | 5 | 21 | 0.154 | | | | | | | 0 | 1 | | |
| 23 | 08-Jun | 23.58 | 2.1 | 23.50 | 2.2 | 2 | 25 | 2 | 23 | 0.042 | | | | | | | 1 | 2 | | |
| 24 | 09-Jun | 23.25 | 2.5 | 23.67 | 2.0 | 7 | 32 | 7 | 30 | 0.149 | | | | | | | 0 | 2 | | |
| 24 | 10-Jun | 23.50 | 2.5 | 23.42 | 2.3 | 12 | 44 | 11 | 41 | 0.256 | | | | | | | 1 | 3 | | |
| 24 | 11-Jun | 23.25 | 3.0 | 23.50 | 2.7 | 10 | 54 | 10 | 51 | 0.214 | | | | | | | 0 | 3 | | |
| 24 | 12-Jun | 18.00 | 2.8 | 21.42 | 2.0 | 67 | 121 | 62 | 113 | 1.700 | | | | | | | 2 | 5 | | |
| 24 | 13-Jun | 23.00 | 2.7 | 21.92 | 2.0 | 59 | 180 | 59 | 172 | 1.313 | | | | | | | 0 | 5 | | |
| 24 | 14-Jun | 23.25 | 2.7 | 21.00 | 2.1 | 79 | 259 | 78 | 250 | 1.785 | | | | | | | 0 | 5 | | |
| 24 | 15-Jun | 23.25 | 2.6 | 21.33 | 1.9 | 104 | 363 | 97 | 347 | 2.333 | | | | | | | 1 | 6 | | |
| 25 | 16-Jun | 23.25 | 2.7 | 20.83 | 2.0 | 105 | 468 | 104 | 451 | 2.382 | 1 | 1 | 0.023 | | | | 1 | 7 | | |
| 25 | 17-Jun | 22.92 | 2.5 | 22.17 | 2.6 | 84 | 552 | 81 | 532 | 1.863 | 1 | 2 | 0.022 | | | | 0 | 7 | | |
| 25 | 18-Jun | 23.50 | 2.7 | 22.75 | 2.0 | 51 | 603 | 51 | 583 | 1.103 | 0 | 2 | 0.000 | | | | 1 | 8 | | |
| 25 | 19-Jun | 23.17 | 2.6 | 22.75 | 2.0 | 65 | 668 | 63 | 646 | 1.416 | 2 | 4 | 0.044 | | | | 0 | 8 | | |
| 25 | 20-Jun | 23.00 | 2.5 | 21.83 | 2.5 | 89 | 757 | 85 | 731 | 1.985 | 0 | 4 | 0.000 | | | | 0 | 8 | | |
| 25 | 21-Jun | 23.25 | 2.5 | 23.17 | 2.2 | 61 | 818 | 59 | 790 | 1.314 | 0 | 4 | 0.000 | | | | 2 | 10 | | |
| 25 | 22-Jun | 23.00 | 2.5 | 21.83 | 2.5 | 136 | 954 | 127 | 917 | 3.034 | 0 | 4 | 0.000 | | | | 3 | 13 | | |
| 26 | 23-Jun | 23.17 | 2.5 | 21.17 | 2.4 | 131 | 1085 | 127 | 1044 | 2.954 | 0 | 4 | 0.000 | | | | 3 | 16 | | |
| 26 | 24-Jun | 23.33 | 2.4 | 21.17 | 2.7 | 120 | 1205 | 117 | 1161 | 2.697 | 0 | 4 | 0.000 | | | | 3 | 19 | | |
| 26 | 25-Jun | 23.42 | 2.6 | 21.67 | 2.4 | 45 | 1250 | 44 | 1205 | 0.998 | 0 | 4 | 0.000 | | | | 0 | 19 | | |
| 26 | 26-Jun | 23.58 | 2.5 | 23.42 | 2.3 | 20 | 1270 | 20 | 1225 | 0.426 | 0 | 4 | 0.000 | | | | 1 | 20 | | |
| 26 | 27-Jun | 23.92 | 2.6 | 23.58 | 2.7 | 15 | 1285 | 15 | 1240 | 0.316 | 0 | 4 | 0.000 | | | | 1 | 21 | | |
| 26 | 28-Jun | 23.92 | 2.8 | 23.42 | 2.3 | 6 | 1291 | 6 | 1246 | 0.127 | 0 | 4 | 0.000 | | | | 4 | 25 | | |
| 26 | 29-Jun | 23.58 | 2.4 | 23.33 | 1.6 | 17 | 1308 | 17 | 1263 | 0.362 | 1 | 5 | 0.021 | | | | 2 | 27 | | |
| 27 | 30-Jun | 23.50 | 2.7 | 23.00 | 2.3 | 57 | 1365 | 57 | 1320 | 1.226 | 1 | 6 | 0.022 | | | | 0 | 27 | | |
| 27 | 01-Jul | 23.25 | 2.3 | 23.25 | 2.3 | 61 | 1426 | 59 | 1379 | 1.312 | 14 | 20 | 0.301 | | | | 5 | 32 | | |
| 27 | 02-Jul | 23.42 | 2.4 | 23.00 | 2.4 | 60 | 1486 | 59 | 1438 | 1.293 | 17 | 37 | 0.366 | | | | 1 | 33 | | |
| 27 | 03-Jul | 23.50 | 2.5 | 23.08 | 2.3 | 36 | 1522 | 36 | 1474 | 0.773 | 26 | 63 | 0.558 | | | | 4 | 37 | | |
| 27 | 04-Jul | 23.67 | 2.7 | 23.58 | 2.3 | 11 | 1533 | 11 | 1485 | 0.233 | 10 | 73 | 0.212 | 1 | 1 | 0.021 | 0 | 37 | | |
| 27 | 05-Jul | 23.92 | 3.0 | 23.92 | 3.0 | 0 | 1533 | 0 | 1485 | 0.000 | 0 | 73 | 0.000 | 0 | 1 | 0.000 | 0 | 37 | | |
| 27 | 06-Jul | 23.83 | 2.0 | 20.50 | 2.0 | 8 | 1541 | 8 | 1493 | 0.180 | 3 | 76 | 0.068 | 0 | 1 | 0.000 | 0 | 37 | | |
| 28 | 07-Jul | 22.33 | 2.3 | 23.00 | 1.9 | 56 | 1597 | 54 | 1547 | 1.235 | 142 | 218 | 3.133 | 0 | 1 | 0.000 | 12 | 49 | | |
| 28 | 08-Jul | 23.58 | 2.6 | 23.58 | 2.0 | 13 | 1610 | 13 | 1560 | 0.276 | 61 | 279 | 1.293 | 0 | 1 | 0.000 | 0 | 49 | | |
| 28 | 09-Jul | 23.58 | 2.3 | 23.67 | 2.2 | 12 | 1622 | 12 | 1572 | 0.254 | 51 | 330 | 1.079 | 0 | 1 | 0.000 | 2 | 51 | | |
| 28 | 10-Jul | 23.25 | 2.1 | 23.42 | 2.0 | 24 | 1646 | 24 | 1596 | 0.514 | 213 | 543 | 4.564 | 0 | 1 | 0.000 | 8 | 59 | | |
| 28 | 11-Jul | 22.83 | 2.3 | 22.42 | 1.9 | 74 | 1720 | 69 | 1665 | 1.635 | 307 | 850 | 6.785 | 1 | 2 | 0.022 | 9 | 68 | | |

Appendix B.1b (Cont'd). Catches and number tagged of salmon in the fish wheels at Canyon Island, 2013.

| | | FISHING EFFORT | | | | SOCKEYE | | | | | PINK | | | CHUM | | | DV | | Steelhead | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stat | | FWI | FWI | FWII | FWII | FW Catches | | FW Tagged | | CPUE | Total Catches | | CPUE | Total Catches | | CPUE | Total Catches | | Total Catches | |
| Week | Date | Effort | RPM | Effort | RPM | Daily | Cum. | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Daily | Cum. | Daily | Cum. |
| 28 | 12-Jul | 23.00 | 2.2 | 22.92 | 1.9 | 58 | 1778 | 54 | 1719 | 1.263 | 277 | 1127 | 6.032 | 2 | 4 | 0.044 | 4 | 72 | | |
| 28 | 13-Jul | 23.00 | 2.2 | 23.00 | 2.0 | 73 | 1851 | 72 | 1791 | 1.587 | 265 | 1392 | 5.761 | 0 | 4 | 0.000 | 6 | 78 | | |
| 29 | 14-Jul | 23.33 | 2.5 | 22.92 | 2.1 | 59 | 1910 | 54 | 1845 | 1.276 | 202 | 1594 | 4.368 | 0 | 4 | 0.000 | 3 | 81 | | |
| 29 | 15-Jul | 22.50 | 2.4 | 22.67 | 2.0 | 91 | 2001 | 87 | 1932 | 2.015 | 310 | 1904 | 6.863 | 0 | 4 | 0.000 | 4 | 85 | | |
| 29 | 16-Jul | 21.92 | 2.1 | 21.59 | 1.8 | 148 | 2149 | 142 | 2074 | 3.402 | 497 | 2401 | 11.423 | 0 | 4 | 0.000 | 8 | 93 | | |
| 29 | 17-Jul | 22.50 | 2.3 | 22.25 | 2.2 | 112 | 2261 | 107 | 2181 | 2.503 | 433 | 2834 | 9.676 | 0 | 4 | 0.000 | 5 | 98 | | |
| 29 | 18-Jul | 22.25 | 2.6 | 22.50 | 2.4 | 100 | 2361 | 95 | 2276 | 2.235 | 326 | 3160 | 7.285 | 0 | 4 | 0.000 | 0 | 98 | | |
| 29 | 19-Jul | 23.17 | 2.2 | 22.50 | 2.3 | 93 | 2454 | 90 | 2366 | 2.036 | 204 | 3364 | 4.467 | 0 | 4 | 0.000 | 2 | 100 | | |
| 29 | 20-Jul | 23.08 | 2.3 | 23.08 | 2.4 | 78 | 2532 | 77 | 2443 | 1.690 | 121 | 3485 | 2.621 | 0 | 4 | 0.000 | 2 | 102 | | |
| 30 | 21-Jul | 23.83 | 2.0 | 23.00 | 2.4 | 114 | 2646 | 113 | 2556 | 2.434 | 96 | 3581 | 2.050 | 0 | 4 | 0.000 | 2 | 104 | | |
| 30 | 22-Jul | 23.50 | 2.1 | 22.92 | 2.3 | 85 | 2731 | 83 | 2639 | 1.831 | 68 | 3649 | 1.465 | 0 | 4 | 0.000 | 4 | 108 | | |
| 30 | 23-Jul | 23.17 | 1.9 | 22.87 | 2.1 | 127 | 2858 | 122 | 2761 | 2.758 | 119 | 3768 | 2.585 | 0 | 4 | 0.000 | 4 | 112 | | |
| 30 | 24-Jul | 23.42 | 2.2 | 23.17 | 2.1 | 53 | 2911 | 49 | 2810 | 1.138 | 96 | 3864 | 2.061 | 0 | 4 | 0.000 | 1 | 113 | | |
| 30 | 25-Jul | 23.42 | 2.4 | 23.17 | 2.0 | 56 | 2967 | 50 | 2860 | 1.202 | 102 | 3966 | 2.189 | 1 | 5 | 0.021 | 0 | 113 | | |
| 30 | 26-Jul | 23.17 | 2.3 | 23.58 | 2.0 | 29 | 2996 | 27 | 2887 | 0.620 | 69 | 4035 | 1.476 | 0 | 5 | 0.000 | 2 | 115 | | |
| 30 | 27-Jul | 23.42 | 2.5 | 23.25 | 2.2 | 61 | 3057 | 57 | 2944 | 1.307 | 109 | 4144 | 2.336 | 0 | 5 | 0.000 | 0 | 115 | | |
| 31 | 28-Jul | 22.75 | 2.6 | 22.42 | 2.1 | 135 | 3192 | 133 | 3077 | 2.989 | 113 | 4257 | 2.502 | 0 | 5 | 0.000 | 4 | 119 | | |
| 31 | 29-Jul | 22.92 | 2.8 | 23.17 | 2.5 | 99 | 3291 | 96 | 3173 | 2.148 | 73 | 4330 | 1.584 | 0 | 5 | 0.000 | 0 | 119 | | |
| 31 | 30-Jul | 23.08 | 2.1 | 22.42 | 2.4 | 104 | 3395 | 98 | 3271 | 2.286 | 50 | 4380 | 1.099 | 0 | 5 | 0.000 | 0 | 119 | | |
| 31 | 31-Jul | 23.33 | 2.4 | 23.25 | 2.6 | 66 | 3461 | 60 | 3331 | 1.417 | 35 | 4415 | 0.751 | 0 | 5 | 0.000 | 2 | 121 | | |
| 31 | 01-Aug | 23.08 | 2.4 | 23.17 | 2.5 | 62 | 3523 | 54 | 3385 | 1.341 | 55 | 4470 | 1.189 | 0 | 5 | 0.000 | 0 | 121 | | |
| 31 | 02-Aug | 23.42 | 2.0 | 23.17 | 2.4 | 41 | 3564 | 34 | 3419 | 0.880 | 43 | 4513 | 0.923 | 0 | 5 | 0.000 | 4 | 125 | | |
| 31 | 03-Aug | 23.17 | 2.5 | 22.92 | 2.5 | 51 | 3615 | 47 | 3466 | 1.107 | 33 | 4546 | 0.716 | 3 | 8 | 0.065 | 0 | 125 | | |
| 32 | 04-Aug | 23.58 | 2.1 | 23.42 | 2.3 | 32 | 3647 | 29 | 3495 | 0.681 | 9 | 4555 | 0.191 | 0 | 8 | 0.000 | 0 | 125 | | |
| 32 | 05-Aug | 23.59 | 2.2 | 23.41 | 2.1 | 30 | 3677 | 26 | 3521 | 0.638 | 21 | 4576 | 0.447 | 0 | 8 | 0.000 | 0 | 125 | | |
| 32 | 06-Aug | 23.50 | 2.1 | 23.42 | 2.3 | 34 | 3711 | 31 | 3552 | 0.725 | 9 | 4585 | 0.192 | 1 | 9 | 0.021 | 1 | 126 | | |
| 32 | 07-Aug | 23.08 | 2.4 | 23.25 | 2.0 | 34 | 3745 | 32 | 3584 | 0.734 | 11 | 4596 | 0.237 | 0 | 9 | 0.000 | 4 | 130 | | |
| 32 | 08-Aug | 23.25 | 2.7 | 23.08 | 2.3 | 39 | 3784 | 38 | 3622 | 0.842 | 11 | 4607 | 0.237 | 0 | 9 | 0.000 | 2 | 132 | | |
| 32 | 09-Aug | 23.42 | 2.6 | 23.33 | 2.1 | 24 | 3808 | 21 | 3643 | 0.513 | 5 | 4612 | 0.107 | 2 | 11 | 0.043 | 2 | 134 | | |
| 32 | 10-Aug | 23.17 | 2.4 | 23.00 | 2.1 | 40 | 3848 | 37 | 3680 | 0.866 | 7 | 4619 | 0.152 | 3 | 14 | 0.065 | 0 | 134 | | |
| 33 | 11-Aug | 23.42 | 2.3 | 22.50 | 2.1 | 31 | 3879 | 27 | 3707 | 0.675 | 4 | 4623 | 0.087 | 3 | 17 | 0.065 | 4 | 138 | 1 | 1 |
| 33 | 12-Aug | 23.33 | 2.7 | 23.00 | 2.3 | 44 | 3923 | 40 | 3747 | 0.950 | 7 | 4630 | 0.151 | 3 | 20 | 0.065 | 3 | 141 | 0 | 1 |
| 33 | 13-Aug | 23.41 | 2.7 | 23.08 | 1.7 | 31 | 3954 | 27 | 3774 | 0.667 | 5 | 4635 | 0.108 | 0 | 20 | 0.000 | 0 | 141 | 0 | 1 |
| 33 | 14-Aug | 23.42 | 2.1 | 23.25 | 2.3 | 40 | 3994 | 36 | 3810 | 0.857 | 2 | 4637 | 0.043 | 1 | 21 | 0.021 | 1 | 142 | 0 | 1 |
| 33 | 15-Aug | 23.33 | 2.2 | 22.75 | 2.2 | 21 | 4015 | 20 | 3830 | 0.456 | 5 | 4642 | 0.109 | 3 | 24 | 0.065 | 2 | 144 | 0 | 1 |
| 33 | 16-Aug | 23.66 | 2.3 | 23.50 | 2.2 | 7 | 4022 | 5 | 3835 | 0.148 | 0 | 4642 | 0.000 | 1 | 25 | 0.021 | 1 | 145 | 0 | 1 |
| 33 | 17-Aug | 23.66 | 1.8 | 23.00 | 1.9 | 7 | 4029 | 7 | 3842 | 0.150 | 2 | 4644 | 0.043 | 1 | 26 | 0.021 | 2 | 147 | 0 | 1 |
| 34 | 18-Aug | 23.50 | 2.4 | 23.33 | 2.1 | 7 | 4036 | 4 | 3846 | 0.149 | 2 | 4646 | 0.043 | 6 | 32 | 0.128 | 1 | 148 | 0 | 1 |
| 34 | 19-Aug | 22.50 | 1.7 | 23.50 | 1.8 | 21 | 4057 | 20 | 3866 | 0.457 | 5 | 4651 | 0.109 | 6 | 38 | 0.130 | 2 | 150 | 0 | 1 |
| 34 | 20-Aug | 23.16 | 0.6 | 23.66 | 1.8 | 13 | 4070 | 13 | 3879 | 0.278 | 0 | 4651 | 0.000 | 3 | 41 | 0.064 | 1 | 151 | 1 | 2 |
| 34 | 21-Aug | 22.83 | 2.1 | 23.67 | 1.7 | 21 | 4091 | 12 | 3891 | 0.452 | 2 | 4653 | 0.043 | 2 | 43 | 0.043 | 1 | 152 | 0 | 2 |
| 34 | 22-Aug | 23.33 | 1.9 | 23.67 | 0.9 | 6 | 4097 | 4 | 3895 | 0.128 | 2 | 4655 | 0.043 | 6 | 49 | 0.128 | 5 | 157 | 2 | 4 |
| 34 | 23-Aug | 23.33 | 1.8 | 23.83 | 1.3 | 6 | 4103 | 5 | 3900 | 0.127 | 1 | 4656 | 0.021 | 1 | 50 | 0.021 | 1 | 158 | 0 | 4 |
| 34 | 24-Aug | 23.33 | 2.0 | 23.75 | 1.7 | 10 | 4113 | 8 | 3908 | 0.212 | 0 | 4656 | 0.000 | 3 | 53 | 0.064 | 3 | 161 | 0 | 4 |
| 35 | 25-Aug | 23.50 | 1.5 | 23.58 | 1.7 | 7 | 4120 | 5 | 3913 | 0.149 | 2 | 4658 | 0.042 | 4 | 57 | 0.085 | 3 | 164 | 0 | 4 |
| 35 | 26-Aug | 22.75 | 2.0 | 23.33 | 2.0 | 17 | 4137 | 16 | 3929 | 0.369 | 1 | 4659 | 0.022 | 8 | 65 | 0.174 | 3 | 167 | 0 | 4 |
| 35 | 27-Aug | 23.25 | 2.0 | 23.50 | 2.1 | 19 | 4156 | 15 | 3944 | 0.406 | 1 | 4660 | 0.021 | 5 | 70 | 0.107 | 4 | 171 | 1 | 5 |
| 35 | 28-Aug | 22.50 | 2.3 | 12.33 | 2.3 | 12 | 4168 | 10 | 3954 | 0.345 | 1 | 4661 | 0.029 | 8 | 78 | 0.230 | 3 | 174 | 0 | 5 |
| 35 | 29-Aug | 23.12 | 2.1 | 23.58 | 2.2 | 14 | 4182 | 8 | 3962 | 0.300 | 3 | 4664 | 0.064 | 20 | 98 | 0.428 | 0 | 174 | 0 | 5 |
| 35 | 30-Aug | 23.08 | 2.0 | 23.33 | 2.1 | 8 | 4190 | 5 | 3967 | 0.172 | 2 | 4666 | 0.043 | 33 | 131 | 0.711 | 3 | 177 | 1 | 6 |
| 35 | 31-Aug | 23.08 | 2.1 | 23.25 | 2.0 | 8 | 4198 | 6 | 3973 | 0.173 | 0 | 4666 | 0.000 | 19 | 150 | 0.410 | 1 | 178 | 1 | 7 |
| 36 | 01-Sep | 23.17 | 2.0 | 23.17 | 2.0 | 15 | 4213 | 12 | 3985 | 0.324 | 0 | 4666 | 0.000 | 14 | 164 | 0.302 | 4 | 182 | 1 | 8 |
| 36 | 02-Sep | 23.50 | 2.1 | 23.58 | 2.3 | 2 | 4215 | 1 | 3986 | 0.042 | 0 | 4666 | 0.000 | 14 | 178 | 0.297 | 4 | 186 | 0 | 8 |
| 36 | 03-Sep | 23.50 | 2.1 | 23.42 | 2.0 | 5 | 4220 | 5 | 3991 | 0.107 | 0 | 4666 | 0.000 | 8 | 186 | 0.171 | 1 | 187 | 1 | 9 |
| 36 | 04-Sep | 23.1 | 2.4 | 23.75 | 2.0 | 9 | 4229 | 9 | 4000 | 0.192 | 0 | 4666 | 0.000 | 18 | 204 | 0.384 | 0 | 187 | 1 | 10 |
| 36 | 05-Sep | 23.50 | 2.6 | 23.67 | 2.3 | 0 | 4229 | 0 | 4000 | 0.000 | 0 | 4666 | 0.000 | 8 | 212 | 0.170 | 0 | 187 | 0 | 10 |
| 36 | 06-Sep | 23.25 | 2.6 | 23.08 | 2.0 | 4 | 4233 | 4 | 4004 | 0.086 | 0 | 4666 | 0.000 | 18 | 230 | 0.389 | 0 | 187 | 0 | 10 |
| 36 | 07-Sep | 23.17 | 2.9 | 23.08 | 2.3 | 3 | 4236 | 3 | 4007 | 0.065 | 0 | 4666 | 0.000 | 26 | 256 | 0.562 | 0 | 187 | 0 | 10 |
| 37 | 08-Sep | 23.59 | 2.9 | 23.67 | 2.5 | 0 | 4236 | 0 | 4007 | 0.000 | 0 | 4666 | 0.000 | 4 | 260 | 0.085 | 1 | 188 | 1 | 11 |
| 37 | 09-Sep | 23.34 | 2.5 | 23.50 | 2.0 | 4 | 4240 | 4 | 4011 | 0.085 | 0 | 4666 | 0.000 | 9 | 269 | 0.192 | 0 | 188 | 0 | 11 |

Appendix C.1a. Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 22 (May 27 - June 2) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | | | | | 3 | | | | 3 |
| Percent | | | | | | | | 60.0 | | | | 60.0 |
| Std. Error | | | | | | | | 24.5 | | | | 24.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | | | | 1 | | | 1 | 2 |
| Percent | | | | | | | | 20.0 | | | 20.0 | 40.0 |
| Std. Error | | | | | | | | 20.0 | | | 20.0 | 24.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | | | | | 4 | | | 1 | 5 |
| Percent | | | | | | | | 80.0 | | | 20.0 | 100.0 |
| Std. Error | | | | | | | | 20.0 | | | 20.0 | |
| | | | | | | | | | | | | |
| Statistical Week 23 (June 3 - 9) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | | | | | 2 | | | | 2 |
| Percent | | | | | | | | 66.7 | | | | 66.7 |
| Std. Error | | | | | | | | 33.3 | | | | 33.3 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | | | | | | | 1 | 1 |
| Percent | | | | | | | | | | | 33.3 | 33.3 |
| Std. Error | | | | | | | | | | | 33.3 | 33.3 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | | | | | 2 | | | 1 | 3 |
| Percent | | | | | | | | 66.7 | | | 33.3 | 100.0 |
| Std. Error | | | | | | | | 33.3 | | | 33.3 | |
| | | | | | | | | | | | | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 24 (June 10 - June 16) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | 1 | 3 | | | 16 | | | 1 | 21 |
| Percent | | | | 1.8 | 5.3 | | | 28.1 | | | 1.8 | 36.8 |
| Std. Error | | | | 1.8 | 3.0 | | | 6.0 | | | 1.8 | 6.4 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | 2 | | | 27 | 1 | | 6 | 36 |
| Percent | | | | | 3.5 | | | 47.4 | 1.8 | | 10.5 | 63.2 |
| Std. Error | | | | | 2.5 | | | 6.7 | 1.8 | | 4.1 | 6.4 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | 1 | 5 | | | 43 | 1 | | 7 | 57 |
| Percent | | | | 1.8 | 8.8 | | | 75.4 | 1.8 | | 12.3 | 100.0 |
| Std. Error | | | | 1.8 | 3.8 | | | 5.8 | 1.8 | | 4.4 | |
| | | | | | | | | | | | | |
| Statistical Week 25 (June 17 - June 23) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | 1 | 3 | | | 7 | | | | 11 |
| Percent | | | | 2.3 | 6.8 | | | 15.9 | | | | 25.0 |
| Std. Error | | | | 2.3 | 3.8 | | | 5.6 | | | | 6.6 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | 17 | | | 11 | 2 | | 3 | 33 |
| Percent | | | | | 38.6 | | | 25.0 | 4.5 | | 6.8 | 75.0 |
| Std. Error | | | | | 7.4 | | | 6.6 | 3.2 | | 3.8 | 6.6 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | 1 | 20 | | | 18 | 2 | | 3 | 44 |
| Percent | | | | 2.3 | 45.5 | | | 40.9 | 4.5 | | 6.8 | 100.0 |
| Std. Error | | | | 2.3 | 7.6 | | | 7.5 | 3.2 | | 3.8 | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 26 (June 24 - June 30) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 1 | | 1 | 29 | | 1 | 15 | 1 | | 2 | 50 |
| Percent | | 0.7 | | 0.7 | 21.6 | | 0.7 | 11.2 | 0.7 | | 1.5 | 37.3 |
| Std. Error | | 0.7 | | 0.7 | 3.6 | | 0.7 | 2.7 | 0.7 | | 1.1 | 4.2 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 1 | 49 | | | 27 | 5 | | 2 | 84 |
| Percent | | | | 0.7 | 36.6 | | | 20.1 | 3.7 | | 1.5 | 62.7 |
| Std. Error | | | | 0.7 | 4.2 | | | 3.5 | 1.6 | | 1.1 | 4.2 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 1 | | 2 | 78 | | 1 | 42 | 6 | | 4 | 134 |
| Percent | | 0.7 | | 1.5 | 58.2 | | 0.7 | 31.3 | 4.5 | | 3.0 | 100.0 |
| Std. Error | | 0.7 | | 1.1 | 4.3 | | 0.7 | 4.0 | 1.8 | | 1.5 | |
| | | | | | | | | | | | | |
| Statistical Week 27 (July 1 - July 7) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 7 | | 2 | 53 | | | 20 | 4 | 1 | 1 | 88 |
| Percent | | 4.3 | | 1.2 | 32.5 | | | 12.3 | 2.5 | 0.6 | 0.6 | 54.0 |
| Std. Error | | 1.6 | | 0.9 | 3.7 | | | 2.6 | 1.2 | 0.6 | 0.6 | 3.9 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 4 | 44 | | | 21 | 3 | 1 | 2 | 75 |
| Percent | | | | 2.5 | 27.0 | | | 12.9 | 1.8 | 0.6 | 1.2 | 46.0 |
| Std. Error | | | | 1.2 | 3.5 | | | 2.6 | 1.1 | 0.6 | 0.9 | 3.9 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 7 | | 6 | 97 | | | 41 | 7 | 2 | 3 | 163 |
| Percent | | 4.3 | | 3.7 | 59.5 | | | 25.2 | 4.3 | 1.2 | 1.8 | 100.0 |
| Std. Error | | 1.6 | | 1.5 | 3.9 | | | 3.4 | 1.6 | 0.9 | 1.1 | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 28 (July 8 - July 14) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 14 | 1 | 6 | 57 | | | 8 | 4 | | | 90 |
| Percent | | 8.0 | 0.6 | 3.4 | 32.8 | | | 4.6 | 2.3 | | | 51.7 |
| Std. Error | | 2.1 | 0.6 | 1.4 | 3.6 | | | 1.6 | 1.1 | | | 3.8 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 12 | 35 | | | 27 | 10 | | | 84 |
| Percent | | | | 6.9 | 20.1 | | | 15.5 | 5.7 | | | 48.3 |
| Std. Error | | | | 1.9 | 3.0 | | | 2.8 | 1.8 | | | 3.8 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 14 | 1 | 18 | 92 | | | 35 | 14 | | | 174 |
| Percent | | 8.0 | 0.6 | 10.3 | 52.9 | | | 20.1 | 8.0 | | | 100.0 |
| Std. Error | | 2.1 | 0.6 | 2.3 | 3.8 | | | 3.0 | 2.1 | | | |
| | | | | | | | | | | | | |
| Statistical Week 29 (July 15 - July 21) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 17 | | 12 | 66 | | | 7 | 10 | | 2 | 114 |
| Percent | | 8.9 | | 6.3 | 34.7 | | | 3.7 | 5.3 | | 1.1 | 60.0 |
| Std. Error | | 2.1 | | 1.8 | 3.5 | | | 1.4 | 1.6 | | 0.7 | 3.6 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | 1 | | 13 | 28 | | | 23 | 9 | 2 | | 76 |
| Percent | | 0.5 | | 6.8 | 14.7 | | | 12.1 | 4.7 | 1.1 | | 40.0 |
| Std. Error | | 0.5 | | 1.8 | 2.6 | | | 2.4 | 1.5 | 0.7 | | 3.6 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 18 | | 25 | 94 | | | 30 | 19 | 2 | 2 | 190 |
| Percent | | 9.5 | | 13.2 | 49.5 | | | 15.8 | 10.0 | 1.1 | 1.1 | 100.0 |
| Std. Error | | 2.1 | | 2.5 | 3.6 | | | 2.7 | 2.2 | 0.7 | 0.7 | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 30 (July 22 - July 28) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 12 | 1 | 8 | 43 | 1 | | 12 | 5 | 1 | | 83 |
| Percent | | 6.8 | 0.6 | 4.5 | 24.4 | 0.6 | | 6.8 | 2.8 | 0.6 | | 47.2 |
| Std. Error | | 1.9 | 0.6 | 1.6 | 3.2 | 0.6 | | 1.9 | 1.3 | 0.6 | | 3.8 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | 2 | | 17 | 33 | | | 34 | 7 | | | 93 |
| Percent | | 1.1 | | 9.7 | 18.8 | | | 19.3 | 4.0 | | | 52.8 |
| Std. Error | | 0.8 | | 2.2 | 3.0 | | | 3.0 | 1.5 | | | 3.8 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 14 | 1 | 25 | 76 | 1 | | 46 | 12 | 1 | | 176 |
| Percent | | 8.0 | 0.6 | 14.2 | 43.2 | 0.6 | | 26.1 | 6.8 | 0.6 | | 100.0 |
| Std. Error | | 2.0 | 0.6 | 2.6 | 3.7 | 0.6 | | 3.3 | 1.9 | 0.6 | | |
| | | | | | | | | | | | | |
| Statistical Week 31 (July 29 - August 4) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 1 | 4 | | 5 | 29 | 1 | | 6 | 2 | | | 48 |
| Percent | 0.8 | 3.3 | | 4.1 | 24.0 | 0.8 | | 5.0 | 1.7 | | | 39.7 |
| Std. Error | 0.8 | 1.6 | | 1.8 | 3.9 | 0.8 | | 2.0 | 1.2 | | | 4.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 15 | 21 | | | 30 | 6 | | 1 | 73 |
| Percent | | | | 12.4 | 17.4 | | | 24.8 | 5.0 | | 0.8 | 60.3 |
| Std. Error | | | | 3.0 | 3.5 | | | 3.9 | 2.0 | | 0.8 | 4.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 1 | 4 | | 20 | 50 | 1 | | 36 | 8 | | 1 | 121 |
| Percent | 0.8 | 3.3 | | 16.5 | 41.3 | 0.8 | | 29.8 | 6.6 | | 0.8 | 100.0 |
| Std. Error | 0.8 | 1.6 | | 3.4 | 4.5 | 0.8 | | 4.2 | 2.3 | | 0.8 | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 32 (August 5 - August 11) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 1 | 4 | 3 | 3 | 27 | | | 4 | 9 | | | 51 |
| Percent | 0.7 | 3.0 | 2.2 | 2.2 | 20.1 | | | 3.0 | 6.7 | | | 38.1 |
| Std. Error | 0.7 | 1.5 | 1.3 | 1.3 | 3.5 | | | 1.5 | 2.2 | | | 4.2 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 11 | 43 | | | 16 | 13 | | | 83 |
| Percent | | | | 8.2 | 32.1 | | | 11.9 | 9.7 | | | 61.9 |
| Std. Error | | | | 2.4 | 4.0 | | | 2.8 | 2.6 | | | 4.2 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 1 | 4 | 3 | 14 | 70 | | | 20 | 22 | | | 134 |
| Percent | 0.7 | 3.0 | 2.2 | 10.4 | 52.2 | | | 14.9 | 16.4 | | | 100.0 |
| Std. Error | 0.7 | 1.5 | 1.3 | 2.7 | 4.3 | | | 3.1 | 3.2 | | | |
| | | | | | | | | | | | | |
| Statistical Week 33 (August 12 - August 18) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 2 | 3 | 5 | 34 | | | 2 | 7 | | 1 | 54 |
| Percent | | 1.3 | 1.9 | 3.2 | 22.1 | | | 1.3 | 4.5 | | 0.6 | 35.1 |
| Std. Error | | 0.9 | 1.1 | 1.4 | 3.4 | | | 0.9 | 1.7 | | 0.6 | 3.9 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 12 | 51 | | | 21 | 15 | | 1 | 100 |
| Percent | | | | 7.8 | 33.1 | | | 13.6 | 9.7 | | 0.6 | 64.9 |
| Std. Error | | | | 2.2 | 3.8 | | | 2.8 | 2.4 | | 0.6 | 3.9 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 2 | 3 | 17 | 85 | | | 23 | 22 | | 2 | 154 |
| Percent | | 1.3 | 1.9 | 11.0 | 55.2 | | | 14.9 | 14.3 | | 1.3 | 100.0 |
| Std. Error | | 0.9 | 1.1 | 2.5 | 4.0 | | | 2.9 | 2.8 | | 0.9 | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 34 (August 19 - August 25) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 3 | 3 | 7 | 2 | 16 | | | 1 | 7 | | 1 | 40 |
| Percent | 2.4 | 2.4 | 5.6 | 1.6 | 12.9 | | | 0.8 | 5.6 | | 0.8 | 32.3 |
| Std. Error | 1.4 | 1.4 | 2.1 | 1.1 | 3.0 | | | 0.8 | 2.1 | | 0.8 | 4.2 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 7 | 44 | | | 13 | 20 | | | 84 |
| Percent | | | | 5.6 | 35.5 | | | 10.5 | 16.1 | | | 67.7 |
| Std. Error | | | | 2.1 | 4.3 | | | 2.8 | 3.3 | | | 4.2 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 3 | 3 | 7 | 9 | 60 | | | 14 | 27 | | 1 | 124 |
| Percent | 2.4 | 2.4 | 5.6 | 7.3 | 48.4 | | | 11.3 | 21.8 | | 0.8 | 100.0 |
| Std. Error | 1.4 | 1.4 | 2.1 | 2.3 | 4.5 | | | 2.9 | 3.7 | | 0.8 | |
| | | | | | | | | | | | | |
| Statistical Week 35 (August 26 - September 1) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | 4 | 1 | 3 | | | | 2 | | | 10 |
| Percent | | | 12.1 | 3.0 | 9.1 | | | | 6.1 | | | 30.3 |
| Std. Error | | | 5.8 | 3.0 | 5.1 | | | | 4.2 | | | 8.1 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 3 | 9 | | | 5 | 6 | | | 23 |
| Percent | | | | 9.1 | 27.3 | | | 15.2 | 18.2 | | | 69.7 |
| Std. Error | | | | 5.1 | 7.9 | | | 6.3 | 6.8 | | | 8.1 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | 4 | 4 | 12 | | | 5 | 8 | | | 33 |
| Percent | | | 12.1 | 12.1 | 36.4 | | | 15.2 | 24.2 | | | 100.0 |
| Std. Error | | | 5.8 | 5.8 | 8.5 | | | 6.3 | 7.6 | | | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 36 (September 2 - September 8) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | | 1 | | | 1 | | | | 2 |
| Percent | | | | | 8.3 | | | 8.3 | | | | 16.7 |
| Std. Error | | | | | 8.3 | | | 8.3 | | | | 11.2 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 1 | 6 | | | 3 | | | | 10 |
| Percent | | | | 8.3 | 50.0 | | | 25.0 | | | | 83.3 |
| Std. Error | | | | 8.3 | 15.1 | | | 13.1 | | | | 11.2 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | 1 | 7 | | | 4 | | | | 12 |
| Percent | | | | 8.3 | 58.3 | | | 33.3 | | | | 100.0 |
| Std. Error | | | | 8.3 | 14.9 | | | 14.2 | | | | |
| | | | | | | | | | | | | |
| Statistical Week 37 (September 9 - September 15) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | | | | | | | | | 0 |
| Percent | | | | | | | | | | | | 0.0 |
| Std. Error | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | | | | 1 | | | | 1 |
| Percent | | | | | | | | 100.0 | | | | 100.0 |
| Std. Error | | | | | | | | - | | | | - |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | | | | | 1 | | | | 1 |
| Percent | | | | | | | | 100.0 | | | | 100.0 |
| Std. Error | | | | | | | | - | | | | |
| | | | | | | | | | | | | |

Appendix C.1a (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2010 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | 2007 | 2006 | 2006 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Combined Periods (May 27 - September 15) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 5 | 64 | 19 | 47 | 364 | 2 | 1 | 104 | 51 | 2 | 8 | 667 |
| Percent | 0.3 | 4.2 | 1.2 | 3.1 | 23.9 | 0.1 | 0.1 | 6.8 | 3.3 | 0.1 | 0.5 | 43.7 |
| Std. Error | 0.1 | 0.5 | 0.3 | 0.4 | 1.1 | 0.1 | 0.1 | 0.6 | 0.5 | 0.1 | 0.2 | 1.3 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | 0 | 3 | 0 | 96 | 382 | 0 | 0 | 260 | 97 | 3 | 17 | 858 |
| Percent | 0.0 | 0.2 | 0.0 | 6.3 | 25.0 | 0.0 | 0.0 | 17.0 | 6.4 | 0.2 | 1.1 | 56.3 |
| Std. Error | 0.0 | 0.1 | 0.0 | 0.6 | 1.1 | 0.0 | 0.0 | 1.0 | 0.6 | 0.1 | 0.3 | 1.3 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 5 | 67 | 19 | 143 | 746 | 2 | 1 | 364 | 148 | 5 | 25 | 1525 |
| Percent | 0.3 | 4.4 | 1.2 | 9.4 | 48.9 | 0.1 | 0.1 | 23.9 | 9.7 | 0.3 | 1.6 | 100.0 |
| Std. Error | 0.1 | 0.5 | 0.3 | 0.7 | 1.3 | 0.1 | 0.1 | 1.1 | 0.8 | 0.1 | 0.3 | |

Appendix C.1b. Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 23 (June 2 - 8) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | 1 | 1 | | | 6 | | | | 8 |
| Percent | | | | 6.3 | 6.3 | | | 37.5 | | | | 50.0 |
| Std. Error | | | | 6.3 | 6.3 | | | 12.5 | | | | 12.9 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | | | | 7 | | | 1 | 8 |
| Percent | | | | | | | | 43.8 | | | 6.3 | 50.0 |
| Std. Error | | | | | | | | 12.8 | | | 6.3 | 12.9 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | 1 | 1 | | | 13 | | | 1 | 16 |
| Percent | | | | 6.3 | 6.3 | | | 81.3 | | | 6.3 | 100.0 |
| Std. Error | | | | 6.3 | 6.3 | | | 10.1 | | | 6.3 | |
| | | | | | | | | | | | | |
| Statistical Week 24 (June 9 - June 15) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 1 | | 5 | 12 | | 1 | 64 | | | 3 | 86 |
| Percent | | 0.5 | | 2.3 | 5.6 | | 0.5 | 30.0 | | | 1.4 | 40.4 |
| Std. Error | | 0.5 | | 1.0 | 1.6 | | 0.5 | 3.1 | | | 0.8 | 3.4 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | 1 | | 28 | | | 97 | | 1 | | 127 |
| Percent | | | 0.5 | | 13.1 | | | 45.5 | | 0.5 | | 59.6 |
| Std. Error | | | 0.5 | | 2.3 | | | 3.4 | | 0.5 | | 3.4 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 1 | 1 | 5 | 40 | | 1 | 161 | | 1 | 3 | 213 |
| Percent | | 0.5 | 0.5 | 2.3 | 18.8 | | 0.5 | 75.6 | | 0.5 | 1.4 | 100.0 |
| Std. Error | | 0.5 | 0.5 | 1.0 | 2.7 | | 0.5 | 3.0 | | 0.5 | 0.8 | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 25 (June 16 - June 22) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | 3 | 35 | | | 60 | 1 | | 4 | 103 |
| Percent | | | | 1.5 | 17.0 | | | 29.1 | 0.5 | | 1.9 | 50.0 |
| Std. Error | | | | 0.8 | 2.6 | | | 3.2 | 0.5 | | 1.0 | 3.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 2 | 46 | | | 49 | | | 6 | 103 |
| Percent | | | | 1.0 | 22.3 | | | 23.8 | | | 2.9 | 50.0 |
| Std. Error | | | | 0.7 | 2.9 | | | 3.0 | | | 1.2 | 3.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | 5 | 81 | | | 109 | 1 | | 10 | 206 |
| Percent | | | | 2.4 | 39.3 | | | 52.9 | 0.5 | | 4.9 | 100.0 |
| Std. Error | | | | 1.1 | 3.4 | | | 3.5 | 0.5 | | 1.5 | |
| | | | | | | | | | | | | |
| Statistical Week 26 (June 23 - June 29) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 1 | | 1 | 39 | | | 17 | | | 1 | 59 |
| Percent | | 0.8 | | 0.8 | 31.7 | | | 13.8 | | | 0.8 | 48.0 |
| Std. Error | | 0.8 | | 0.8 | 4.2 | | | 3.1 | | | 0.8 | 4.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 1 | 42 | | | 17 | 2 | | 2 | 64 |
| Percent | | | | 0.8 | 34.1 | | | 13.8 | 1.6 | | 1.6 | 52.0 |
| Std. Error | | | | 0.8 | 4.3 | | | 3.1 | 1.1 | | 1.1 | 4.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 1 | | 2 | 81 | | | 34 | 2 | | 3 | 123 |
| Percent | | 0.8 | | 1.6 | 65.9 | | | 27.6 | 1.6 | | 2.4 | 100.0 |
| Std. Error | | 0.8 | | 1.1 | 4.3 | | | 4.0 | 1.1 | | 1.4 | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 27 (June 30 - July 6) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 2 | 1 | 5 | 40 | | | 9 | 2 | | | 59 |
| Percent | | 1.6 | 0.8 | 4.0 | 32.3 | | | 7.3 | 1.6 | | | 47.6 |
| Std. Error | | 1.1 | 0.8 | 1.8 | 4.2 | | | 2.3 | 1.1 | | | 4.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 1 | 45 | | | 16 | 1 | | 2 | 65 |
| Percent | | | | 0.8 | 36.3 | | | 12.9 | 0.8 | | 1.6 | 52.4 |
| Std. Error | | | | 0.8 | 4.3 | | | 3.0 | 0.8 | | 1.1 | 4.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 2 | 1 | 6 | 85 | | | 25 | 3 | | 2 | 124 |
| Percent | | 1.6 | 0.8 | 4.8 | 68.5 | | | 20.2 | 2.4 | | 1.6 | 100.0 |
| Std. Error | | 1.1 | 0.8 | 1.9 | 4.2 | | | 3.6 | 1.4 | | 1.1 | |
| | | | | | | | | | | | | |
| Statistical Week 28 (July 7 - July 13) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | 15 | 5 | 11 | 33 | 2 | | 27 | 3 | | 3 | 99 |
| Percent | | 9.8 | 3.3 | 7.2 | 21.6 | 1.3 | | 17.6 | 2.0 | | 2.0 | 64.7 |
| Std. Error | | 2.4 | 1.4 | 2.1 | 3.3 | 0.9 | | 3.1 | 1.1 | | 1.1 | 3.9 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 7 | 21 | | | 23 | 1 | 1 | 1 | 54 |
| Percent | | | | 4.6 | 13.7 | | | 15.0 | 0.7 | 0.7 | 0.7 | 35.3 |
| Std. Error | | | | 1.7 | 2.8 | | | 2.9 | 0.7 | 0.7 | 0.7 | 3.9 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | 15 | 5 | 18 | 54 | 2 | | 50 | 4 | 1 | 4 | 153 |
| Percent | | 9.8 | 3.3 | 11.8 | 35.3 | 1.3 | | 32.7 | 2.6 | 0.7 | 2.6 | 100.0 |
| Std. Error | | 2.4 | 1.4 | 2.6 | 3.9 | 0.9 | | 3.8 | 1.3 | 0.7 | 1.3 | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 29 (July 14 - July 20) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 1 | 11 | 3 | 9 | 25 | | 1 | 38 | 1 | | 6 | 95 |
| Percent | 0.5 | 5.3 | 1.4 | 4.3 | 12.1 | | 0.5 | 18.4 | 0.5 | | 2.9 | 45.9 |
| Std. Error | 0.5 | 1.6 | 0.8 | 1.4 | 2.3 | | 0.5 | 2.7 | 0.5 | | 1.2 | 3.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 16 | 5 | | | 85 | 1 | | 5 | 112 |
| Percent | | | | 7.7 | 2.4 | | | 41.1 | 0.5 | | 2.4 | 54.1 |
| Std. Error | | | | 1.9 | 1.1 | | | 3.4 | 0.5 | | 1.1 | 3.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 1 | 11 | 3 | 25 | 30 | | 1 | 123 | 2 | | 11 | 207 |
| Percent | 0.5 | 5.3 | 1.4 | 12.1 | 14.5 | | 0.5 | 59.4 | 1.0 | | 5.3 | 100.0 |
| Std. Error | 0.5 | 1.6 | 0.8 | 2.3 | 2.5 | | 0.5 | 3.4 | 0.7 | | 1.6 | |
| | | | | | | | | | | | | |
| Statistical Week 30 (July 21 - July 27) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 3 | 8 | 3 | 3 | 16 | | | 51 | | 1 | 5 | 90 |
| Percent | 1.6 | 4.2 | 1.6 | 1.6 | 8.4 | | | 26.7 | | 0.5 | 2.6 | 47.1 |
| Std. Error | 0.9 | 1.5 | 0.9 | 0.9 | 2.0 | | | 3.2 | | 0.5 | 1.2 | 3.6 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 16 | 2 | | 1 | 74 | | 1 | 7 | 101 |
| Percent | | | | 8.4 | 1.0 | | 0.5 | 38.7 | | 0.5 | 3.7 | 52.9 |
| Std. Error | | | | 2.0 | 0.7 | | 0.5 | 3.5 | | 0.5 | 1.4 | 3.6 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 3 | 8 | 3 | 19 | 18 | | 1 | 125 | | 2 | 12 | 191 |
| Percent | 1.6 | 4.2 | 1.6 | 9.9 | 9.4 | | 0.5 | 65.4 | | 1.0 | 6.3 | 100.0 |
| Std. Error | 0.9 | 1.5 | 0.9 | 2.2 | 2.1 | | 0.5 | 3.4 | | 0.7 | 1.8 | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 31 (July 28 - August 3) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 5 | 15 | 19 | 4 | 13 | 2 | | 65 | 2 | | 11 | 136 |
| Percent | 2.3 | 6.8 | 8.7 | 1.8 | 5.9 | 0.9 | | 29.7 | 0.9 | | 5.0 | 62.1 |
| Std. Error | 1.0 | 1.7 | 1.9 | 0.9 | 1.6 | 0.6 | | 3.1 | 0.6 | | 1.5 | 3.3 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 8 | 6 | | | 64 | 2 | 1 | 2 | 83 |
| Percent | | | | 3.7 | 2.7 | | | 29.2 | 0.9 | 0.5 | 0.9 | 37.9 |
| Std. Error | | | | 1.3 | 1.1 | | | 3.1 | 0.6 | 0.5 | 0.6 | 3.3 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 5 | 15 | 19 | 12 | 19 | 2 | | 129 | 4 | 1 | 13 | 219 |
| Percent | 2.3 | 6.8 | 8.7 | 5.5 | 8.7 | 0.9 | | 58.9 | 1.8 | 0.5 | 5.9 | 100.0 |
| Std. Error | 1.0 | 1.7 | 1.9 | 1.5 | 1.9 | 0.6 | | 3.3 | 0.9 | 0.5 | 1.6 | |
| | | | | | | | | | | | | |
| Statistical Week 32 (August 4 - August 10) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 5 | 10 | 24 | 4 | 15 | | | 25 | | | 4 | 87 |
| Percent | 3.0 | 6.1 | 14.5 | 2.4 | 9.1 | | | 15.2 | | | 2.4 | 52.7 |
| Std. Error | 1.3 | 1.9 | 2.8 | 1.2 | 2.2 | | | 2.8 | | | 1.2 | 3.9 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 7 | 3 | | | 54 | 1 | 1 | 12 | 78 |
| Percent | | | | 4.2 | 1.8 | | | 32.7 | 0.6 | 0.6 | 7.3 | 47.3 |
| Std. Error | | | | 1.6 | 1.0 | | | 3.7 | 0.6 | 0.6 | 2.0 | 3.9 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 5 | 10 | 24 | 11 | 18 | | | 79 | 1 | 1 | 16 | 165 |
| Percent | 3.0 | 6.1 | 14.5 | 6.7 | 10.9 | | | 47.9 | 0.6 | 0.6 | 9.7 | 100.0 |
| Std. Error | 1.3 | 1.9 | 2.8 | 1.9 | 2.4 | | | 3.9 | 0.6 | 0.6 | 2.3 | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 33 (August 11 - August 17) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 3 | 2 | 12 | 2 | 7 | 1 | | 26 | | | 3 | 56 |
| Percent | 2.4 | 1.6 | 9.4 | 1.6 | 5.5 | 0.8 | | 20.5 | | | 2.4 | 44.1 |
| Std. Error | 1.4 | 1.1 | 2.6 | 1.1 | 2.0 | 0.8 | | 3.6 | | | 1.4 | 4.4 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 3 | 5 | | | 50 | 3 | 1 | 9 | 71 |
| Percent | | | | 2.4 | 3.9 | | | 39.4 | 2.4 | 0.8 | 7.1 | 55.9 |
| Std. Error | | | | 1.4 | 1.7 | | | 4.4 | 1.4 | 0.8 | 2.3 | 4.4 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 3 | 2 | 12 | 5 | 12 | 1 | | 76 | 3 | 1 | 12 | 127 |
| Percent | 2.4 | 1.6 | 9.4 | 3.9 | 9.4 | 0.8 | | 59.8 | 2.4 | 0.8 | 9.4 | 100.0 |
| Std. Error | 1.4 | 1.1 | 2.6 | 1.7 | 2.6 | 0.8 | | 4.4 | 1.4 | 0.8 | 2.6 | |
| | | | | | | | | | | | | |
| Statistical Week 34 (August 18 - August 24) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 5 | 1 | 10 | | 5 | | | 18 | 1 | | 3 | 43 |
| Percent | 6.0 | 1.2 | 11.9 | | 6.0 | | | 21.4 | 1.2 | | 3.6 | 51.2 |
| Std. Error | 2.6 | 1.2 | 3.6 | | 2.6 | | | 4.5 | 1.2 | | 2.0 | 5.5 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 3 | 1 | | | 27 | 3 | | 7 | 41 |
| Percent | | | | 3.6 | 1.2 | | | 32.1 | 3.6 | | 8.3 | 48.8 |
| Std. Error | | | | 2.0 | 1.2 | | | 5.1 | 2.0 | | 3.0 | 5.5 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 5 | 1 | 10 | 3 | 6 | | | 45 | 4 | | 10 | 84 |
| Percent | 6.0 | 1.2 | 11.9 | 3.6 | 7.1 | | | 53.6 | 4.8 | | 11.9 | 100.0 |
| Std. Error | 2.6 | 1.2 | 3.6 | 2.0 | 2.8 | | | 5.5 | 2.3 | | 3.6 | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 35 (August 25 - August 31) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 3 | 3 | 18 | 1 | 3 | | 1 | 21 | 1 | | 6 | 57 |
| Percent | 2.5 | 2.5 | 15.0 | 0.8 | 2.5 | | 0.8 | 17.5 | 0.8 | | 5.0 | 47.5 |
| Std. Error | 1.4 | 1.4 | 3.3 | 0.8 | 1.4 | | 0.8 | 3.5 | 0.8 | | 2.0 | 4.6 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 2 | 2 | | | 49 | 2 | | 8 | 63 |
| Percent | | | | 1.7 | 1.7 | | | 40.8 | 1.7 | | 6.7 | 52.5 |
| Std. Error | | | | 1.2 | 1.2 | | | 4.5 | 1.2 | | 2.3 | 4.6 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 3 | 3 | 18 | 3 | 5 | | 1 | 70 | 3 | | 14 | 120 |
| Percent | 2.5 | 2.5 | 15.0 | 2.5 | 4.2 | | 0.8 | 58.3 | 2.5 | | 11.7 | 100.0 |
| Std. Error | 1.4 | 1.4 | 3.3 | 1.4 | 1.8 | | 0.8 | 4.5 | 1.4 | | 2.9 | |
| | | | | | | | | | | | | |
| Statistical Week 36 (September 1 - September 7) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | 5 | | 1 | | | 2 | | | | 8 |
| Percent | | | 23.8 | | 4.8 | | | 9.5 | | | | 38.1 |
| Std. Error | | | 9.5 | | 4.8 | | | 6.6 | | | | 10.9 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | 1 | 1 | | | 11 | | | | 13 |
| Percent | | | | 4.8 | 4.8 | | | 52.4 | | | | 61.9 |
| Std. Error | | | | 4.8 | 4.8 | | | 11.2 | | | | 10.9 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | 5 | 1 | 2 | | | 13 | | | | 21 |
| Percent | | | 23.8 | 4.8 | 9.5 | | | 61.9 | | | | 100.0 |
| Std. Error | | | 9.5 | 4.8 | 6.6 | | | 10.9 | | | | |

Appendix C.1b (Cont'd). Age composition of sockeye salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2010 | 2010 | 2009 | 2009 | 2009 | 2008 | 2008 | 2008 | 2007 | 2007 | |
| | 0.1 | 0.2 | 1.1 | 0.3 | 1.2 | 2.1 | 0.4 | 1.3 | 2.2 | 1.4 | 2.3 | Total |
| Statistical Week 37 (September 8 - September 14) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | | | | | | | | 1 | | | | 1 |
| Percent | | | | | | | | 33.3 | | | | 33.3 |
| Std. Error | | | | | | | | 33.3 | | | | 33.3 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | | | | | | | | 2 | | | | 2 |
| Percent | | | | | | | | 66.7 | | | | 66.7 |
| Std. Error | | | | | | | | 33.3 | | | | 33.3 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | | | | | | | | 3 | | | | 3 |
| Percent | | | | | | | | 100.0 | | | | 100.0 |
| Std. Error | | | | | | | | - | | | | |
| | | | | | | | | | | | | |
| Combined Periods (June 2 - September 14) | | | | | | | | | | | | |
| Male | | | | | | | | | | | | |
| Sample Size | 25 | 69 | 100 | 49 | 245 | 5 | 3 | 430 | 11 | 1 | 49 | 987 |
| Percent | 1.3 | 3.5 | 5.1 | 2.5 | 12.4 | 0.3 | 0.2 | 21.8 | 0.6 | 0.1 | 2.5 | 50.1 |
| Std. Error | 0.3 | 0.4 | 0.5 | 0.4 | 0.7 | 0.1 | 0.1 | 0.9 | 0.2 | 0.1 | 0.4 | 1.1 |
| | | | | | | | | | | | | |
| Female | | | | | | | | | | | | |
| Sample Size | 0 | 0 | 1 | 67 | 207 | 0 | 1 | 625 | 16 | 6 | 62 | 985 |
| Percent | 0.0 | 0.0 | 0.1 | 3.4 | 10.5 | 0.0 | 0.1 | 31.7 | 0.8 | 0.3 | 3.1 | 49.9 |
| Std. Error | 0.0 | 0.0 | 0.1 | 0.4 | 0.7 | 0.0 | 0.1 | 1.0 | 0.2 | 0.1 | 0.4 | 1.1 |
| | | | | | | | | | | | | |
| All Fish | | | | | | | | | | | | |
| Sample Size | 25 | 69 | 101 | 116 | 452 | 5 | 4 | 1055 | 27 | 7 | 111 | 1972 |
| Percent | 1.3 | 3.5 | 5.1 | 5.9 | 22.9 | 0.3 | 0.2 | 53.5 | 1.4 | 0.4 | 5.6 | 100.0 |
| Std. Error | 0.3 | 0.4 | 0.5 | 0.5 | 0.9 | 0.1 | 0.1 | 1.1 | 0.3 | 0.1 | 0.5 | |

Appendix C.2a. Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | | |
| | 0.2 | 0.3 | 0.4 | 0.5 | | Total |
| Statistical Week 27 (July 1 - July 7) | | | | | | |
| Male | | | | | | |
| Sample Size | | 1 | | | | 1 |
| Percent | | 100.0 | | | | 100.0 |
| Std. Error | | - | | | | - |
| | | | | | | |
| Female | | | | | | |
| Sample Size | | | | | | |
| Percent | | | | | | |
| Std. Error | | | | | | |
| | | | | | | |
| All Fish | | | | | | |
| Sample Size | | 1 | | | | 1 |
| Percent | | 100.0 | | | | 100.0 |
| Std. Error | | - | | | | - |
| | | | | | | |
| Statistical Week 28 (July 8 - July 14) | | | | | | |
| Male | | | | | | |
| Sample Size | | | | 1 | | 1 |
| Percent | | | | 100.0 | | 100.0 |
| Std. Error | | | | - | | - |
| | | | | | | |
| Female | | | | | | |
| Sample Size | | | | | | |
| Percent | | | | | | |
| Std. Error | | | | | | |
| | | | | | | |
| All Fish | | | | | | |
| Sample Size | | | | 1 | | 1 |
| Percent | | | | 100.0 | | 100.0 |
| Std. Error | | | | - | | - |

Appendix C.2a (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 29 (July 15 - July 21) | | | | | |
| Male | | | | | |
| Sample Size | | | 1 | | 1 |
| Percent | | | 50.0 | | 50.0 |
| Std. Error | | | 50.0 | | - |
| | | | | | |
| Female | | | | | |
| Sample Size | | 1 | | | 1 |
| Percent | | 50.0 | | | 50.0 |
| Std. Error | | 50.0 | | | - |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 1 | 1 | | 2 |
| Percent | | 50.0 | 50.0 | | 100.0 |
| Std. Error | | 50.0 | 50.0 | | - |
| | | | | | |
| Statistical Week 30 (July 22 - July 28) | | | | | |
| Male | | | | | |
| Sample Size | | | | | |
| Percent | | | | | |
| Std. Error | | | | | |
| | | | | | |
| Female | | | | | |
| Sample Size | | 3 | | | 3 |
| Percent | | 100.0 | | | 100.0 |
| Std. Error | | 0.0 | | | - |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 3 | | | 3 |
| Percent | | 100.0 | | | 100.0 |
| Std. Error | | 0.0 | | | - |
| | | | | | |

Appendix C.2a (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | | |
| | 0.2 | 0.3 | 0.4 | 0.5 | | Total |
| Statistical Week 31 (July 29 - August 4) | | | | | | |
| Male | | | | | | |
| Sample Size | | | | | | 0 |
| Percent | | | | | | 0.0 |
| Std. Error | | | | | | |
| Female | | | | | | |
| Sample Size | | | | | | 0 |
| Percent | | | | | | 0.0 |
| Std. Error | | | | | | |
| All Fish | | | | | | |
| Sample Size | | | | | | 0 |
| Percent | | | | | | 0.0 |
| Std. Error | | | | | | |
| Statistical Week 32 (August 5 - August 11) | | | | | | |
| Male | | | | | | |
| Sample Size | | 2 | | | | 2 |
| Percent | | 50.0 | | | | 50.0 |
| Std. Error | | 28.9 | | | | 28.9 |
| Female | | | | | | |
| Sample Size | | 2 | | | | 2 |
| Percent | | 50.0 | | | | 50.0 |
| Std. Error | | 28.9 | | | | 28.9 |
| All Fish | | | | | | |
| Sample Size | | 4 | | | | 4 |
| Percent | | 100.0 | | | | 100.0 |
| Std. Error | | 0.0 | | | | |

Appendix C.2a (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 33 (August 12 - August 18) | | | | | |
| Male | | | | | |
| Sample Size | | 5 | 6 | | 11 |
| Percent | | 23.8 | 28.6 | | 52.4 |
| Std. Error | | 9.5 | 10.1 | | 11.2 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 6 | 4 | | 10 |
| Percent | | 28.6 | 19.0 | | 47.6 |
| Std. Error | | 10.1 | 8.8 | | 11.2 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 11 | 10 | | 21 |
| Percent | | 52.4 | 47.6 | | 100.0 |
| Std. Error | | 11.2 | 11.2 | | |
| | | | | | |
| Statistical Week 34 (August 19 - August 25) | | | | | |
| Male | | | | | |
| Sample Size | | 12 | 15 | | 27 |
| Percent | | 19.0 | 23.8 | | 42.9 |
| Std. Error | | 5.0 | 5.4 | | 6.3 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 18 | 18 | | 36 |
| Percent | | 28.6 | 28.6 | | 57.1 |
| Std. Error | | 5.7 | 5.7 | | 6.3 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 30 | 33 | | 63 |
| Percent | | 47.6 | 52.4 | | 100.0 |
| Std. Error | | 6.3 | 6.3 | | |
| | | | | | |

Appendix C.2a (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | | |
| | 0.2 | 0.3 | 0.4 | 0.5 | | Total |
| Statistical Week 35 (August 26 - September 1) | | | | | | |
| Male | | | | | | |
| Sample Size | | 9 | 15 | | | 24 |
| Percent | | 15.5 | 25.9 | | | 41.4 |
| Std. Error | | 4.8 | 5.8 | | | 6.5 |
| | | | | | | |
| Female | | | | | | |
| Sample Size | 1 | 15 | 18 | | | 34 |
| Percent | 1.7 | 25.9 | 31.0 | | | 58.6 |
| Std. Error | 1.7 | 5.8 | 6.1 | | | 6.5 |
| | | | | | | |
| All Fish | | | | | | |
| Sample Size | 1 | 24 | 33 | | | 58 |
| Percent | 1.7 | 41.4 | 56.9 | | | 100.0 |
| Std. Error | 1.7 | 6.5 | 6.6 | | | |
| | | | | | | |
| Statistical Week 36 (September 2 - September 8) | | | | | | |
| Male | | | | | | |
| Sample Size | | 3 | 9 | | | 12 |
| Percent | | 8.8 | 26.5 | | | 35.3 |
| Std. Error | | 4.9 | 7.7 | | | 8.3 |
| | | | | | | |
| Female | | | | | | |
| Sample Size | | 8 | 14 | | | 22 |
| Percent | | 23.5 | 41.2 | | | 64.7 |
| Std. Error | | 7.4 | 8.6 | | | 8.3 |
| | | | | | | |
| All Fish | | | | | | |
| Sample Size | | 11 | 23 | | | 34 |
| Percent | | 32.4 | 67.6 | | | 100.0 |
| Std. Error | | 8.1 | 8.1 | | | |
| | | | | | | |

Appendix C.2a (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2012.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 37 (September 8 - September 14) | | | | | |
| Male | | | | | |
| Sample Size | | 2 | 5 | | 7 |
| Percent | | 12.5 | 31.3 | | 43.8 |
| Std. Error | | 8.5 | 12.0 | | 12.8 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 7 | 2 | | 9 |
| Percent | | 43.8 | 12.5 | | 56.3 |
| Std. Error | | 12.8 | 8.5 | | 12.8 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 9 | 7 | | 16 |
| Percent | | 56.3 | 43.8 | | 100.0 |
| Std. Error | | 12.8 | 12.8 | | |
| | | | | | |
| Combined Periods (July 1 - September 14) | | | | | |
| Male | | | | | |
| Sample Size | | 34 | 51 | 1 | 86 |
| Percent | | 16.7 | 25.1 | 0.5 | 42.4 |
| Std. Error | | 2.6 | 3.1 | 0.5 | 3.5 |
| | | | | | |
| Female | | | | | |
| Sample Size | 1 | 60 | 56 | | 117 |
| Percent | 0.5 | 29.6 | 27.6 | | 57.6 |
| Std. Error | 0.5 | 3.2 | 3.1 | | 3.5 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | 1 | 94 | 107 | 1 | 203 |
| Percent | 0.5 | 46.3 | 52.7 | 0.5 | 100.0 |
| Std. Error | 0.5 | 3.5 | 3.5 | 0.5 | |

Appendix C.2b. Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2010 | 2009 | 2008 | 2007 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 27 (June 30 - July 6) | | | | | |
| Male | | | | | |
| Sample Size | | | 1 | | 1 |
| Percent | | | 100.0 | | 100.0 |
| Std. Error | | | | | - |
| | | | | | |
| Female | | | | | |
| Sample Size | | | | | |
| Percent | | | | | |
| Std. Error | | | | | |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | | 1 | | 1 |
| Percent | | | 100.0 | | 100.0 |
| Std. Error | | | | | - |
| | | | | | |
| Statistical Week 28 (July 7 - July 13) | | | | | |
| Male | | | | | |
| Sample Size | | | 2 | | 2 |
| Percent | | | 100.0 | | 100.0 |
| Std. Error | | | | | - |
| | | | | | |
| Female | | | | | |
| Sample Size | | | | | |
| Percent | | | | | |
| Std. Error | | | | | |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | | | | 2 |
| Percent | | | | | 100.0 |
| Std. Error | | | | | - |
| | | | | | |

Appendix C.2b (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | | |
| | 0.2 | 0.3 | 0.4 | 0.5 | | Total |
| Statistical Week 29 (July 14 - July 20) | | | | | | |
| Male | | | | | | |
| Sample Size | | | | | | 0 |
| Percent | | | | | | 50.0 |
| Std. Error | | | | | | - |
| | | | | | | |
| Female | | | | | | |
| Sample Size | | | | | | 0 |
| Percent | | | | | | 0.0 |
| Std. Error | | | | | | - |
| | | | | | | |
| All Fish | | | | | | |
| Sample Size | | | | | | 0 |
| Percent | | | | | | 100.0 |
| Std. Error | | | | | | - |
| | | | | | | |
| Statistical Week 30 (July 21 - July 27) | | | | | | |
| Male | | | | | | |
| Sample Size | | | 1 | | | 1 |
| Percent | | | 100.0 | | | 100.0 |
| Std. Error | | | | | | - |
| | | | | | | |
| Female | | | | | | |
| Sample Size | | | | | | |
| Percent | | | | | | |
| Std. Error | | | | | | |
| | | | | | | |
| All Fish | | | | | | |
| Sample Size | | | 1 | | | 1 |
| Percent | | | 100.0 | | | 100.0 |
| Std. Error | | | | | | - |
| | | | | | | |

Appendix C.2b (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 31 (July 28 - August 3) | | | | | |
| Male | | | | | |
| Sample Size | | | | | |
| Percent | | | | | |
| Std. Error | | | | | |
| Female | | | | | |
| Sample Size | | 2 | | | 2 |
| Percent | | 100.0 | | | 100.0 |
| Std. Error | | 0.0 | | | 0.0 |
| All Fish | | | | | |
| Sample Size | | 2 | | | 2 |
| Percent | | 100.0 | | | 100.0 |
| Std. Error | | 0.0 | | | |
| Statistical Week 32 (August 4 - August 10) | | | | | |
| Male | | | | | |
| Sample Size | | 1 | 1 | 1 | 3 |
| Percent | | 16.7 | 16.7 | 16.7 | 50.0 |
| Std. Error | | 16.7 | 16.7 | 16.7 | 22.4 |
| Female | | | | | |
| Sample Size | | | 3 | | 3 |
| Percent | | | 50.0 | | 50.0 |
| Std. Error | | | 22.4 | | 22.4 |
| All Fish | | | | | |
| Sample Size | | 1 | 4 | 1 | 6 |
| Percent | | 16.7 | 66.7 | 16.7 | 100.0 |
| Std. Error | | 16.7 | 21.1 | 16.7 | |

Appendix C.2b (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 33 (August 11 - August 17) | | | | | |
| Male | | | | | |
| Sample Size | | 2 | 6 | | 8 |
| Percent | | 20.0 | 60.0 | | 80.0 |
| Std. Error | | 13.3 | 16.3 | | 13.3 |
| | | | | | |
| Female | | | | | |
| Sample Size | | | 2 | | 2 |
| Percent | | | 20.0 | | 20.0 |
| Std. Error | | | 13.3 | | 13.3 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 2 | 8 | | 10 |
| Percent | | 20.0 | 80.0 | | 100.0 |
| Std. Error | | 13.3 | 13.3 | | |
| | | | | | |
| Statistical Week 34 (August 18 - August 24) | | | | | |
| Male | | | | | |
| Sample Size | | 6 | 5 | 1 | 12 |
| Percent | | 23.1 | 19.2 | 3.8 | 46.2 |
| Std. Error | | 8.4 | 7.9 | 3.8 | 10.0 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 4 | 10 | | 14 |
| Percent | | 15.4 | 38.5 | | 53.8 |
| Std. Error | | 7.2 | 9.7 | | 10.0 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 10 | 15 | 1 | 26 |
| Percent | | 38.5 | 57.7 | 3.8 | 96.2 |
| Std. Error | | 9.7 | 9.9 | 3.8 | |
| | | | | | |

Appendix C.2b (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 35 (August 25 - August 31) | | | | | |
| Male | | | | | |
| Sample Size | | 25 | 28 | 5 | 58 |
| Percent | | 26.9 | 30.1 | 5.4 | 62.4 |
| Std. Error | | 4.6 | 4.8 | 2.4 | 5.1 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 17 | 17 | 1 | 35 |
| Percent | | 18.3 | 18.3 | | 36.6 |
| Std. Error | | 4.0 | 4.0 | | 5.0 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 42 | 45 | 6 | 93 |
| Percent | | 45.2 | 48.4 | 6.5 | 93.5 |
| Std. Error | | 5.2 | 5.2 | 2.6 | |
| | | | | | |
| Statistical Week 36 (September 1 - September 7) | | | | | |
| Male | | | | | |
| Sample Size | | 24 | 17 | 2 | 43 |
| Percent | | 25.8 | 18.3 | 2.2 | 46.2 |
| Std. Error | | 4.6 | 4.0 | 1.5 | 5.2 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 23 | 24 | 3 | 50 |
| Percent | | 24.7 | 25.8 | 3.2 | 53.8 |
| Std. Error | | 4.5 | 4.6 | 1.8 | 5.2 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 47 | 41 | 5 | 93 |
| Percent | | 50.5 | 44.1 | 5.4 | 94.6 |
| Std. Error | | 5.2 | 5.2 | 2.4 | |

Appendix C.2b (Cont'd). Age composition of chum salmon in the Canyon Island fish wheels by sex and fishing period, 2013.

| | Brood Year and Age Class | | | | |
|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | |
| | 0.2 | 0.3 | 0.4 | 0.5 | Total |
| Statistical Week 37 (September 7 - September 13) | | | | | |
| Male | | | | | |
| Sample Size | | 3 | 3 | | 6 |
| Percent | | 25.0 | 25.0 | | 50.0 |
| Std. Error | | 13.1 | 13.1 | | 15.1 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 3 | 3 | | 6 |
| Percent | | 25.0 | 25.0 | | 50.0 |
| Std. Error | | 13.1 | 13.1 | | 15.1 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 6 | 6 | | 12 |
| Percent | | 50.0 | 50.0 | | 100.0 |
| Std. Error | | 15.1 | 15.1 | | |
| | | | | | |
| Combined Periods (June 30 - September 13) | | | | | |
| Male | | | | | |
| Sample Size | | 61 | 64 | 9 | 134 |
| Percent | | 24.8 | 26.0 | 3.7 | 54.5 |
| Std. Error | | 2.8 | 2.8 | 1.2 | 3.2 |
| | | | | | |
| Female | | | | | |
| Sample Size | | 49 | 59 | 4 | 112 |
| Percent | | 19.9 | 24.0 | 1.6 | 45.5 |
| Std. Error | | 2.6 | 2.7 | 0.8 | 3.2 |
| | | | | | |
| All Fish | | | | | |
| Sample Size | | 110 | 123 | 13 | 246 |
| Percent | | 44.7 | 50.0 | 5.3 | 100.0 |
| Std. Error | | 3.2 | 3.2 | 1.4 | |
| | | | | | |

Appendix D1a. Results of secondary marking study to test for short term tag loss for sockeye captured at the Canyon Island fish wheels, 2012.

| Stat. Week | Canadian Catch | Tags Recovered | Fishery Ratio | Fish Examined for 2nd Marks | Number of 2nd | Sample Ratio | Fishery Ratio - Sampled Ratio |
|---|---|---|---|---|---|---|---|
| 25 | 373 | 10 | 2.7% | 200 | 7 | 3.5% | -0.8% |
| 26 | 608 | 9 | 1.5% | 200 | 3 | 1.5% | 0.0% |
| 27 | 1672 | 39 | 2.3% | 200 | 5 | 2.5% | -0.2% |
| 28 | 2079 | 43 | 2.1% | 200 | 2 | 1.0% | 1.1% |
| 29 | 2571 | 70 | 2.7% | 200 | 7 | 3.5% | -0.8% |
| 30 | 7012 | 160 | 2.3% | 200 | 4 | 2.0% | 0.3% |
| 31 | 4633 | 91 | 2.0% | 200 | 6 | 3.0% | -1.0% |
| 32 | 5427 | 176 | 3.2% | 200 | 8 | 4.0% | -0.8% |
| 33 | 3419 | 126 | 3.7% | 200 | 5 | 2.5% | 1.2% |
| 34 | 1526 | 100 | 6.6% | 200 | 15 | 7.5% | -0.9% |
| 35 | 547 | 31 | 5.7% | 200 | 6 | 3.0% | 2.7% |
| 36 | 187 | 16 | 8.6% | 110 | 5 | 4.5% | 4.0% |
| 37 | 2 | 2 | 100.0% | | | | |
| Total | 30,056 | 873 | 2.9% | 2,310 | 73 | 3.2% | -0.3% |

Appendix D1b. Results of secondary marking study to test for short term tag loss for sockeye captured at the Canyon Island fish wheels, 2013.

| Stat. Week | Canadian Catch | Tags Recovered | Fishery Ratio | Fish Examined for 2nd Marks | Number of 2nd | Sample Ratio | Fishery Ratio - Sampled Ratio |
|---|---|---|---|---|---|---|---|
| 25 | 651 | 6 | 0.9% | 193 | 7 | 3.6% | -2.7% |
| 26 | 611 | 69 | 11.3% | 177 | 23 | 13.0% | -1.7% |
| 27 | 897 | 71 | 7.9% | 188 | 12 | 6.4% | 1.5% |
| 28 | 766 | 29 | 3.8% | 191 | 9 | 4.7% | -0.9% |
| 29 | 7688 | 176 | 2.3% | 195 | 5 | 2.6% | -0.3% |
| 30 | 5366 | 149 | 2.8% | 195 | 5 | 2.6% | 0.2% |
| 31 | 5340 | 174 | 3.3% | 197 | 3 | 1.5% | 1.7% |
| 32 | 1721 | 70 | 4.1% | 186 | 14 | 7.5% | -3.5% |
| 33 | 870 | 43 | 4.9% | 195 | 5 | 2.6% | 2.4% |
| 34 | 535 | 31 | 5.8% | 193 | 7 | 3.6% | 2.2% |
| 35 | 517 | 36 | 7.0% | 189 | 11 | 5.8% | 1.1% |
| 36 | 108 | 4 | 3.7% | 92 | 7 | 7.6% | -3.9% |
| 37 | 55 | 4 | 7.3% | 28 | 0 | 0.0% | 7.3% |
| Total | 25,125 | 862 | 3.4% | 2,219 | 108 | 4.9% | -1.4% |