Enumeration of Adult Steelhead

in the

Upper Sustut River 1998

by

C.J. Williamson

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Abstract

The upper Sustut River steelhead (*Oncorhynchus mykiss*) population was enumerated from August 1, 1998 to September 30, 1998 for the seventh consecutive year. A floating PVC fence located approximately 500 m upstream of the confluence of the Sustut River with Moosevale Creek, was used for enumeration. One-thousand sixty-four (1064) adult steelhead were passed through the fence between August 3 and September 30. An additional 214 steelhead were counted downstream of the fence to the tail-out of the Moosevale Creek confluence pool. This estimate does not include tagged fish. The total estimated steelhead escapement to the upper Sustut River was 1252 individuals. The fall escapement was three times the number of adults required for maximum sustainable yield (418), and was 20.8% above the estimated carrying capacity (1036). The steelhead mortality rate due to handling at the fence was 0.8 percent. In 1998, 13.7 percent of steelhead had gillnet marks. The percentage of gillnet marked fish was steady for the duration of the migration. Between August 1 and September 30, a total of 570 chinook salmon (*O. tshawytscha*) 2777 sockeye salmon (*O. nerka*), 64 coho salmon (*O. kisutch*), 28 bull trout (*Salvelinus confluentus*), 3 resident rainbow trout (*O. mykiss*) and 8 Rocky Mountain whitefish (*Prosopium williamsoni*) were counted at the fence. The first steelhead arrived at the fence on August 3 and by September 7, 50 percent of steelhead had passed the fence. Steelhead of both sexes had very similar run timing (Student's t-test = -0.178, $P > 0.025$). Fifteen previously tagged steelhead were recaptured at the fence in 1998. Three were repeat spawners from 1995 and 1996 and three were tagged earlier in 1998 at the Tyee test fishery. Eight were tagged at Sustut Fence in 1998. Tagging data was unavailable for the remaining two fish. Male steelhead (mean = 82.7 cm) were significantly longer than female steelhead (mean = 74.9 cm; Student's t-test = 21.71, $P < 0.05$). In 1998, 13.4% of male steelhead and 13.8% of female steelhead passing the fence were gillnet marked. Gillnet marked males were smaller than unmarked males (Students t-test = 3.05, $P<0.025$). Gillnet marked and unmarked females were similar in size (Students t-test = 0.154, $P>0.025$).

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1.0 Introduction

In 1998, with a greatly reduced commercial fishing effort for sockeye salmon (*Oncorhynchus nerka*) due to conservation concerns over upper Skeena coho (*O. kisutch*) stocks, steelhead (*O. mykiss*) escapement to the Upper Sustut River was exceptional. For the 7th consecutive year, adult steelhead were enumerated on the upper Susut River in a continued effort to index early run steelhead population levels and trends for the upper Skeena watershed (Spence *et al*. 1990; Bustard 1993; Saimoto 1994; Saimoto 1995; Parken and Morten 1996; Parken *et al.* 1997; Williamson 1998). Early run Skeena River steelhead are of particular concern for fisheries managers because they migrate during and are caught incidentally by commercial and other food fisheries for more abundant sockeye and pink (*O. gorbuscha*) salmon (Ward *et al.* 1993; Cox-Rogers 1994).

The objectives of the 1998 enumeration program were:

1. to enumerate the Upper Sustut River steelhead population,
2. to examine the sex, number, growth, and size distribution of previously tagged steelhead that returned in 1998,
3. to examine the effect of water height and temperature on steelhead migration,
4. to examine the sex ratio, and size distribution of steelhead throughout the run,
5. to examine the number of gillnet marked steelhead and the distribution of gillnet marked fish throughout the run,
6. to examine the relative run timing of male and female steelhead and,
7. to explore methods of reducing stress and incidental mortality of fish (steelhead in particular) handled at the Sustut fence.

2.0 Study Area

The Sustut River is an upper Skeena River tributary in north central British Columbia (Figure 1). The Sustut River flows from Sustut and Johanson lakes southwest for approximately 100 km to its confluence with the Skeena River. The Sustut River drains approximately 3,574 km^2 and has seven main tributaries: Birdflat Creek, Bear River, Asitka River, Red Creek, Two Lake Creek, Moosevale Creek and Johanson Creek. The common fish species in the upper Sustut River are steelhead, chinook salmon (*O. tshawytscha*), sockeye salmon, coho salmon, bull trout (*Salvelinus confluentus*), Dolly Varden (*S. malma*), and Rocky Mountain whitefish (*Prosopium williamsoni*;; Bustard 1993; Saimoto 1994; Saimoto 1995). The physical boundary for the upper Sustut River steelhead population is the Sustut River upstream of the Moosevale Creek confluence, including Johanson Creek and Sustut and Johanson lakes (Spence *et al*. 1990; Figure 1). Whereas, the physical boundary for the lower Sustut River steelhead population is the Sustut River downstream of the Bear River confluence, including Bear River and Bear Lake (Spence *et al*. 1990; Figure 1).

3.0 Methods

3.1 Steelhead Enumeration

One 3.8 cm P.V.C. floating fish counting fence was placed in the Sustut River, 500 m upstream of the confluence with Moosevale Creek and 70 km upstream of the confluence with Bear River (Figures 2, 3). The fence was operated and considered fish-tight from the morning of August 1, 1998 until the evening of September 30, 1998. Fish holding between the fence and the Moosevale Creek confluence pool were counted in a visual survey on September 26. A streamside observer (using polarized sunglasses) and a snorkel observer were used to count the fish. The count was made on a sunny day between ten and twelve o'clock. Further attempts to count fish below the fence after this date were not possible because of turbid water conditions. The fence was inspected daily for debris accumulation and fence openings. Debris was removed and repairs made as necessary. The fence trap box was checked in the morning and evening during low levels of fish migration and was checked more frequently during higher migration. Structures were built to reduce both stress levels and mortality caused by the fence structure and handling during the period of enumeration.

All fish passing the fence were identified to species using visual characteristics described in Scott and Crossman (1973) and McPhail and Carveth (1994). All steelhead were tagged on the right side below the dorsal fin and measured for fork-length. Sex, gillnet marks, scars, wounds, as well as general condition and unusual observations were also recorded for all steelhead (Appendix Table 16). White, orange and bright orange uniquely numbered t-bar anchor tags were used for steelhead tagging. Adipose tissue was collected from 50 steelhead to aid in stock identification and molecular genetic comparisons between upper/lower Sustut steelhead and resident rainbow trout populations. A sample of 10 scales, taken mid-laterally between the dorsal and anal fins, was collected from the same 50 steelhead. Scales will be used for age estimates. All fish mortalities due to fence operation or handling by personnel were recorded (Appendix Tables 1, 7, 8, 10, 13, 14). Adipose tissue and scales were collected from four resident rainbow trout and seven bull trout (Appendix Tables 7, 8). Adipose tissue and scales were collected from 50 chinook, 200 sockeye and 64 coho salmon (Appendix Tables 9, 12, 14).

3.2 Steelhead Recaptures

Sex, fork length and the presence of gillnet marks or predator scars were recorded for previously tagged steelhead (identified by tag presence). Tag colour and number were recorded and compared to the Ministry of Environment, Lands and Parks Skeena Region TAGS database.

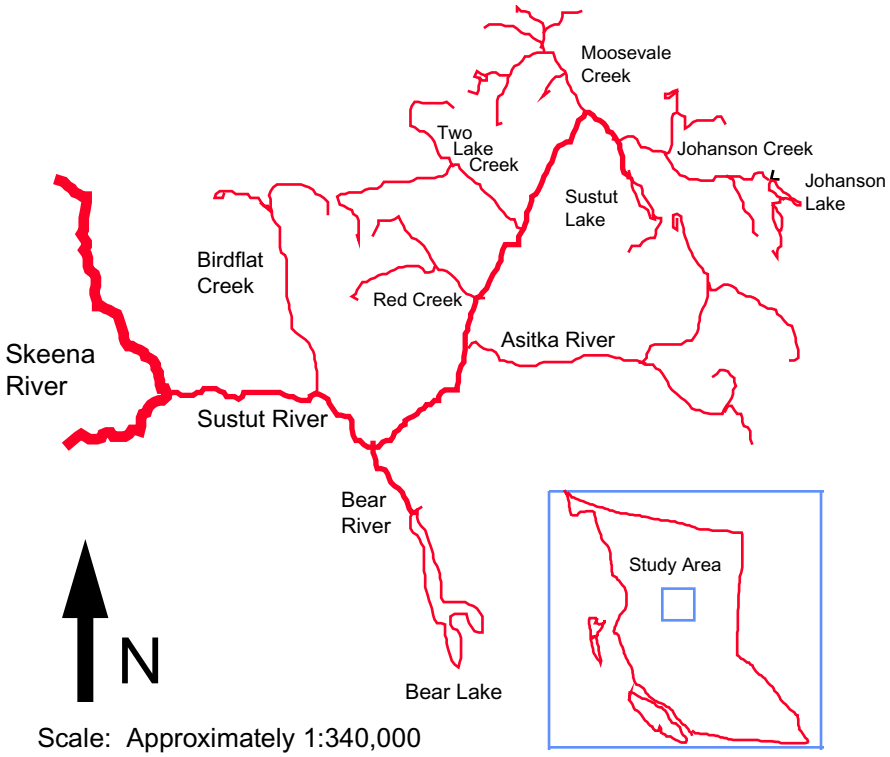

Figure 1. The Sustut River and major tributaries (from Saimoto 1995).

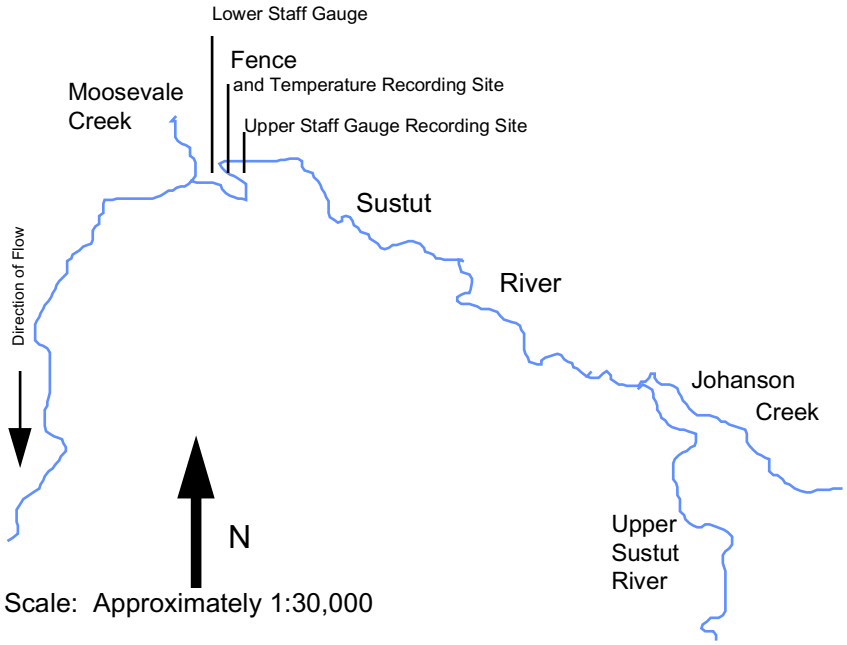

Figure 2. Detailed map of the study area (adapted from Saimoto 1995).

a

b

Figure 3. Aerial photograph of the steelhead enumeration fence looking downstream (a) and photograph of the fence from the trail on the right bank (b) of the Sustut River, 1998.

3.3 Steelhead Migration and Physical Data

Stream temperatures were recorded hourly at the fence by a (Onset Optic Stow Away Temp) temperature data logger and once daily by personnel at the fence using a Brannon minimum-maximum thermometer. Water levels were recorded twice daily at one site, using a staff gauge. The upper site was used in 1998 (Figure 2) because the lower site was destroyed during or before the spring freshet by a large tree that fell into the river. Air temperature was recorded daily using a Brannon minimum-maximum thermometer. Weather conditions were also recorded daily.

3.4 Steelhead Length Distributions

Steelhead fork-lengths were measured to the nearest 0.1 cm with an Evazote lined measuring tray. Fork-lengths were compared using length-frequency histograms and mean fork-lengths of male and female steelhead were compared with Student's t-test. A one tailed test was used because

3.5 Steelhead Gillnet Marks

The presence of gill net marks was recorded for all steelhead. The cumulative daily percentage of steelhead with gillnet marks was compared with the cumulative total number of steelhead for the duration of the run. The numbers of male and female gill net marked steelhead were compared to males and females without gill net marks using a chi-square analysis. The mean fork-lengths of gillnet marked and unmarked steelhead were compared with a Students t-test for each sex.

3.6 Male and Female Steelhead Run Timing

The run timing of male and female steelhead was compared using a time-series histogram. The mean migration date passed the fence for male and female steelhead was compared using a Mann-Whitney U-test.

3.7 Upper Sustut River and Tyee Test Fishery Indices

The cumulative steelhead index at the Tyee test fishery has been used to indicate the relative abundance of steelhead and salmon migrating into the Skeena River (Cox-Rogers and Jantz 1993; Ward *et al*. 1993; Cox-Rogers 1994; Koski *et al*. 1995; Labelle *et al*. 1995). The cumulative steelhead index on August 10 was used to indicate the relative abundance of early run Skeena River steelhead (upper Sustut River steelhead). For tagged upper Sustut River steelhead, August 10 was the last date to migrate past the Tyee test fishery (Parken *et al.* 1997).

In 1996, the relative abundance of upper Sustut River steelhead was standardized into a population index to reduce the variability resulting from the different enumeration methods (Parken *et al.* 1997). Parken *et al.* (1997) found that the August 10 cumulative Tyee steelhead index correlated positively with and was a significant predictor of the Upper Sustut steelhead index. However, with few data points, the predictive relationship was dependent on an outlying datum (1986 index). In 1997, the relation between the Tyee and Upper Sustut index was no longer significant due to what was thought to be an especially anomalous year for migration. For the 1998 data, correlation analysis was used to determine if the upper Sustut River steelhead population index was still positively correlated with the cumulative August 10 Tyee steelhead index. A simple linear regression model was then used *a posteriori* to determine if the August 10 index was a significant predictor of the Upper Sustut steelhead index.

4.0 Results

4.1 Steelhead Enumeration

After fence operations ceased on September 30, 1998, 1064 steelhead had passed upstream of the fence (Appendix Table 7). An additional 214 steelhead were observed between the fence and Moosevale Creek on September 26. Ninety-eight of those fish were observed in the pool immediately below the fence. No further attempts were made to count fish below the fence after September 26 due to turbid water conditions. Therefore, the September 26 visual count was used in calculating the final escapement estimate. At the time of the final streamside survey, two steelhead previously tagged at the fence were found among the fish holding downstream. Between the final visual survey and the last fence count on September 30, 30 steelhead had migrated upstream. Therefore, a conservative estimate (i.e. assuming no upstream migration from below the Moosevale Creek confluence pool after September 26) of the total steelhead escapement to the Upper Sustut for 1998 is 1252 individuals.

The first steelhead passed through the fence on August 3 and by September 7, 50% of the run had passed the fence (Figure 4; Table 1). The handling mortality at the fence was 0.8% (9 steelhead) (Appendix Table 1). Eight out of the nine mortalities had fungal infections or trauma. The last fish died after being stranded on the river left side of the fence. 13.7 percent of the steelhead passing the fence had gillnet marks.

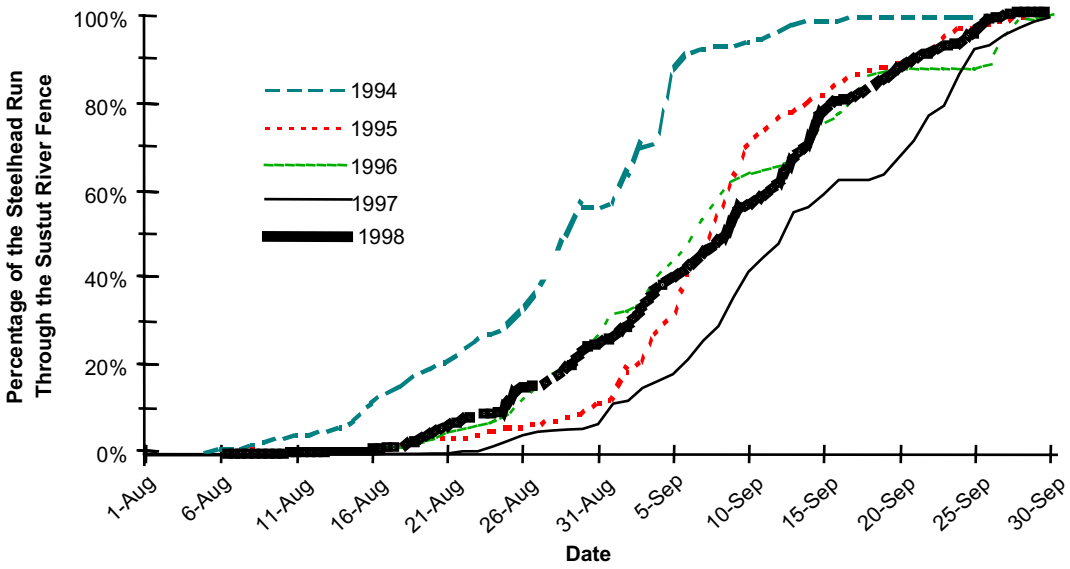

Figure 4. 1994-1998 daily cumulative percentages of the upper Sustut River steelhead index.

Table 1. Dates when 50 percent of steelhead migrated through the upper and/or lower fences on the upper Sustut River.

Between August 1 and September 30, 570 chinook, 2777 sockeye salmon, 64 coho salmon, 28 bull trout, 3 resident rainbow trout and 8 Rocky Mountain whitefish migrated through the fence (Appendix Tables 2, 3).

4.2 Steelhead Recaptures

Fifteen (15) previously tagged steelhead were captured at the fence. Seven fish were tagged at the fence in 1998, one was tagged at the lower fence in 1995 and two were tagged at the lower fence in 1996 and three were tagged in the Tyee test fishery in 1998 (Table 2). Data were unavailable for the remaining two fish. Four-hundred eighty-three (483) steelhead were tagged at the lower fence in 1995, thus, an estimated 0.2 percent of the 1995 upper Sustut River steelhead were repeat spawners in 1998. This estimate does not include steelhead that spawned for the first time in 1995 and returned to Sustut in 1997; Williamson, 1998 describes these fish in more detail. In 1996, 466 (40.3 percent were tagged) steelhead were counted past the lower Sustut fence, thus one percent of the 1996 run were repeat spawners in 1998. The three repeat spawners grew an average of 7.4 cm from the date of initial tagging to the date of recapture. The three fish tagged at the Tyee test fishery had a mean migration time of 51.7 days from the fishery to the fence. The remaining 7 (of 15) steelhead were released or swam downstream of the fence after initial tagging in 1998.

Table 2. Steelhead recaptures not tagged in 1998 at the fence.

Recapture Data			Tagging Data					
Date (yymmdd)	Sex	Fork Length (cm)	Tag Colour	Tag Number	Date (yymmdd)	Location	Sex	Fork Length (cm)
98/08/27	f	81.0	orange	C06448	96/08/30	Sustut Fence	f	72.0
98/09/01	m	81.0	orange	S3647 10969	98/07/21	Tyee Test Fishery	f	N/A
98/09/06	f	83.0	orange	N5512	96/09/15	Sustut Fence	f	74.6
98/09/09	m	86.0	orange	N05443	96/09/07	Sustut Fence	f	75.9
98/09/16	f	85.0	orange	N005443		Data Unavailable		
98/09/20	f	86.8	orange	CO6124	95/09/10	Sustut Fence	f	83.0
98/09/22	m	74.0	orange	S03354	98/08/01	Tyee Test Fishery	m	N/A
98/09/25	f	73.7	orange	S03309	98/07/26	Tyee Test Fishery	f	N/A

4.3 Steelhead Migration and Physical Data

Maximum daily water temperature (from data logger) and upper staff gauge height were plotted with steelhead migration at the fence for 1998 (Figures 6, 7). Temperature increases appeared to coincide with increased migration through the fence. For most increases in temperature, there was a corresponding increase in migration. One significant storm event occurred on August 15 before the main period of steelhead migration. Water levels remained relatively constant after August 17, ranging 0.25-0.35 m (Figure 7, Appendix Table 4). For physical data see Appendix Figure 1 and Appendix Table 4.

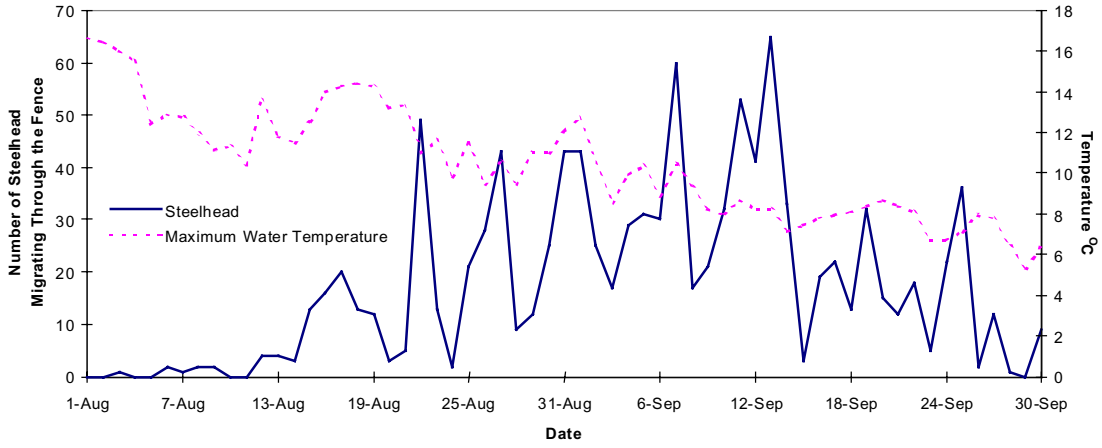

Figure 5. Daily maximum water temperatures and the number of steelhead migrating past the fence.

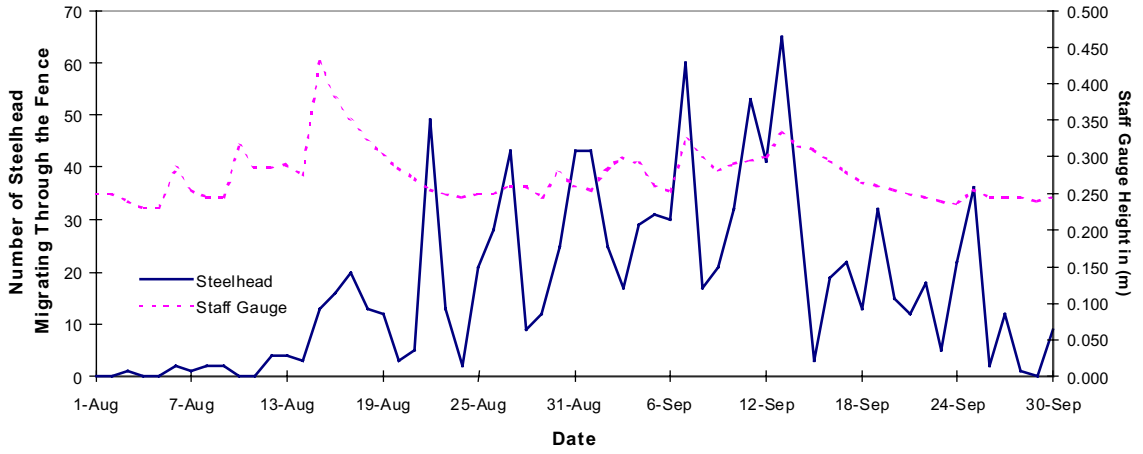

Figure 6. Daily lower staff gauge height and the number of steelhead migrating past the fence.

4.4 Steelhead Length Distributions

Of 1064 steelhead measured at the fence, 389 (36.6 percent) were males and 675 (63.4 percent) were females. Thus, the ratio of female to male steelhead was 1.74:1. The mean fork-length of female steelhead was 74.9 cm whereas the mean fork-length of male steelhead was 82.7 cm. The average male steelhead was larger than the average female steelhead (Students t-test = 21.71, $P < 0.05$; Figure 7).

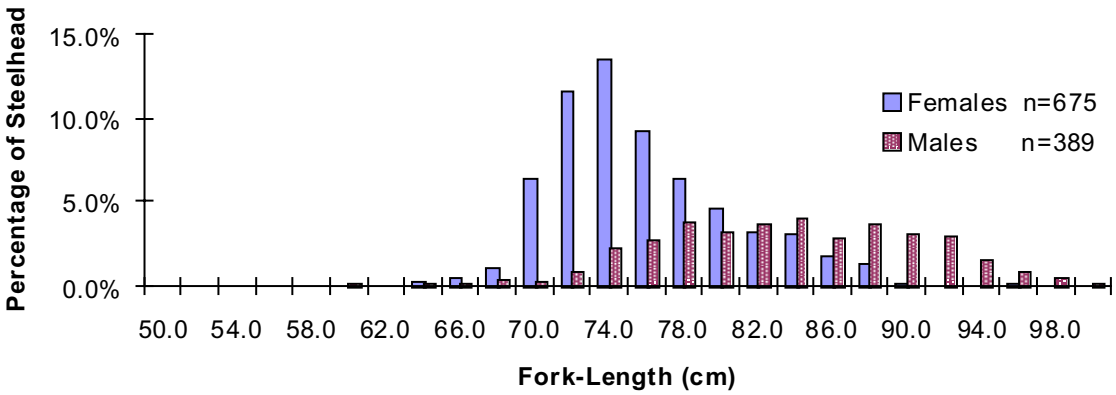

Figure 7. Percentage of male and female steelhead by 2 cm categories of fork-length.

4.5 Steelhead Gillnet Marks

Gillnet marks were present on 13.7 percent of the total steelhead tagged at the fence. The total percentages of gillnet marked steelhead remained steady for the duration of the enumeration period. The percentage of gillnet marked steelhead was pooled and plotted by statistical week (Figure 8). Statistical week definitions are outlined in Appendix Table 5. The percentage of gillnet marked fish remained relatively constant up until statistical week 9-4.

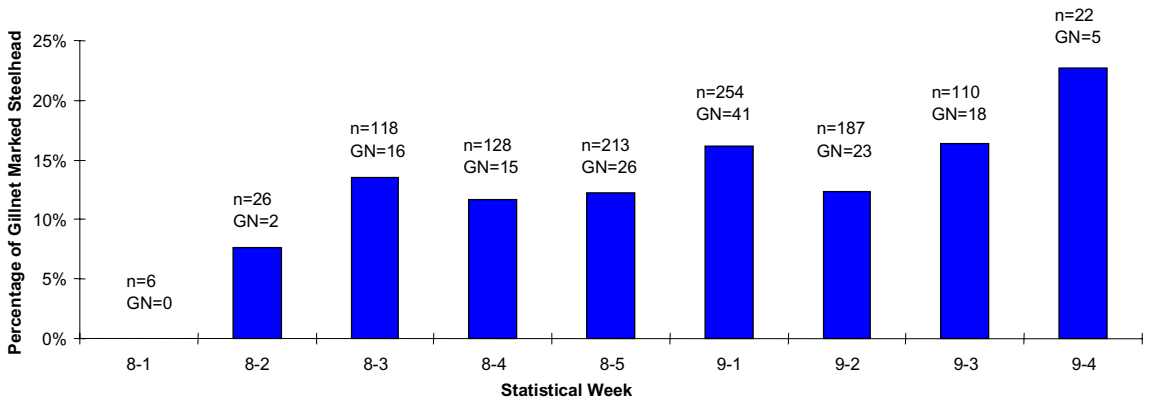

Figure 8. Proportion of gillnet marked steelhead by statistical week. "n" is the sample size and "GN" is the number of fish marked by a gill net during each statistical week.

The ratio of gillnet marked males to unmarked males in the 1998 upper Sustut population index was the same as the ratio of gillnet marked to unmarked females (chi-square, p=0.824). 13.4 percent of male steelhead observed at the fence were gillnet marked and 13.8 percent of females observed at the fence were gillnet marked. Gillnet marked males (mean = 79.6 cm) were smaller than unmarked males (mean = 83.1 cm; Students t-test = 3.50, $P<0.05$), whereas marked and unmarked females were the same size (unmarked mean= 75.0 and gillnet marked mean=74.1 (Students t-test = 1.76, $P>0.05$).

4.6 Male and Female Steelhead Run Timing

The first female steelhead passed through the fence on August 3 and the first male steelhead passed the fence on August 6. The cumulative total percentage of both sexes remained similar throughout the enumeration period and there was no significant difference in the mean date for migration past the fence (Figure 9; Mann-Whitney U-Test =0.9727, $P>0.05$).

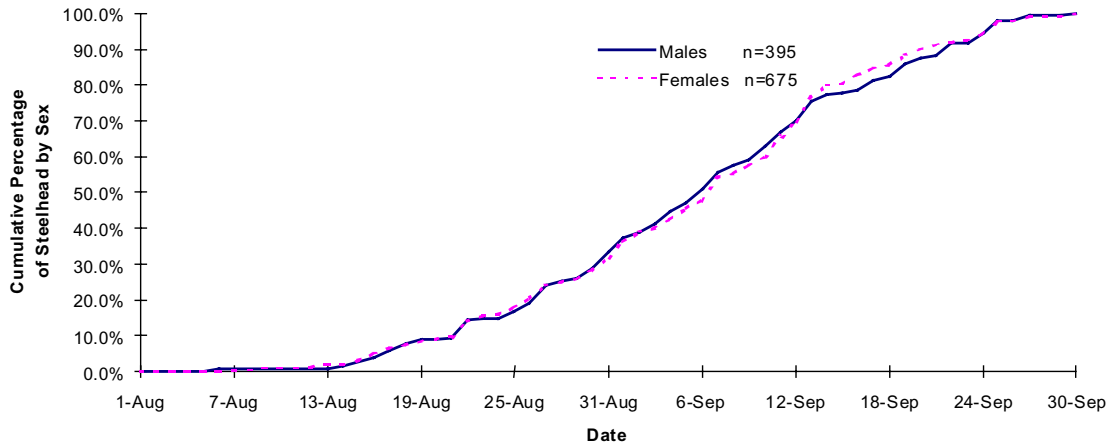

Figure 9. Cumulative percentages of total male and total female steelhead.

4.7 Upper Sustut River and Tyee Test Fishery Indices

After adding the 1998 datum, the Upper Sustut River steelhead index correlated with the August 10 cumulative Tyee steelhead index (Figure 10). Furthermore, the relationship between the two indices was significant (ANOVA F=13.21, P=0.0108; Pearson Correlation R^2=0.69).

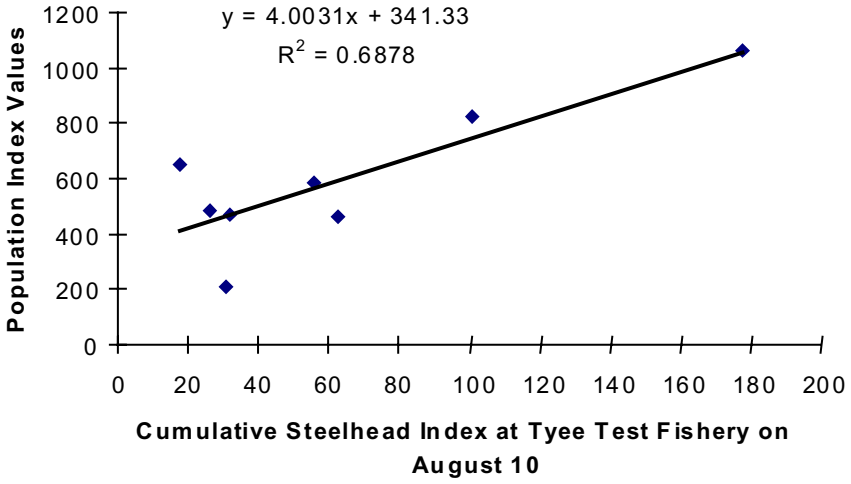

Figure 10. Linear relationship between the upper Sustut River steelhead population index and the cumulative steelhead index at Tyee test fishery on August 10.

5.0 Discussion

For 1998 the total estimated steelhead escapement was 1252 fish. This value was the highest recorded for all years of study. The 1998 upper Sustut River steelhead population index (1064) was also the highest recorded during the past seven years of fence operation. This year, fishing pressure was greatly reduced for all returning salmonid species because of conservation concerns for Upper Skeena basin coho stocks. Coincidentally, a larger than normal return of steelhead was observed at Sustut fence. Although, Parken *et al.* (1997) found that commercial fishing effort (measured by gillnet boat days) was not a significant predictor of the percentage of gillnet marked steelhead at Sustut fence, commercial fishing does influence upstream escapement of steelhead. Gillnet marks on steelhead observed this year remained low and there was little variation in the percentage of marked fish for the duration of the run. Gillnet marks on steelhead in the 1997 return were observed as a much larger percentage of earlier returning steelhead compared with later returning fish. Early returning, 1997, fish likely encountered nets more frequently during the height of the commercial sockeye fishery compared with later returning fish.

The median migration date (September 7) for steelhead passing Sustut fence in 1998 was within the range (August 29-September 13) observed for other years (Table 1). Migration passed Sustut fence appeared to coincide with increases in discharge and water temperature. However, the water temperature and discharge remained relatively stable for the duration of the run and likely did

not heavily influence the daily level of migration past the fence. Migration probably proceeded more as a function of the number of fish moving upstream under favorable conditions than from function of fish being held up at the fence waiting for favorable conditions.

One steelhead tagged in 1995 at the lower fence and two steelhead tagged at the lower fence in 1996 were recaptured in 1998. Assuming no tag loss and 100 percent survival this winter, 0.2 percent of the 1995 and one percent of the 1996 steelhead run will be repeat spawners. The number of repeat spawners from the 1996 run lies within the range of values reported by Parken and Morten (1996), Parken *et al.* (1997), and Williamson (1998).

Steelhead of both sexes were equally marked by gillnets in 1998 (males = 13.4 %; females = 13.8 %). In 1997, 9.2 percent of male steelhead and 17.8 percent of female steelhead that passed the fence were gillnet marked. For both years, gillnet marked males were smaller than unmarked males. In 1997 and 1998, males tagged at the fence were larger (mean = 82.7 and 81.4 cm) than females (mean = 74.9 and 73.3 cm). Male steelhead from Sustut fence were significantly larger than females in both years and gillnet marked males were smaller than unmarked males.

In 1998, 63.4 percent of the steelhead migrating past Sustut fence were female and 36.6 percent were male. Furthermore, male and female run timing past Sustut fence was statistically similar in 1997 and 1998. Parken *et al.* (1997) suggested that the strongly skewed sex ratios observed in previous years could be the result of insufficient sampling of earlier run timed male steelhead. 1997 and 1998 were the first two years that almost every steelhead that passed Sustut fence was sexed and tagged. The skewed sex ratios observed probably reflect the increased level of mortality experienced by male steelhead during a longer period of ocean residency. Saimoto (1995) determined that 95.3 percent of first time spawning female upper Sustut River steelhead that returned in 1994 were ocean age .2+, whereas 45.6 percent of first time males were age .2+, and 54.4 percent were ocean age .3+. A selective mortality of larger male steelhead migrating in the lower Skeena River may also in part be responsible for the skewed sex ratio.

The handling mortality (0.8 %) at the fence was within the low end of the range (0 - 4.3 %) reported for previous years (Bustard 1993; Saimoto 1994; Saimoto 1995; Parken and Morten 1996; Parken *et al.* 1997; Williamson 1998). Steps taken in 1998 to reduce stress and mortality of fish that were handled at or interacted with the Sustut fence may have contributed to this lower mortality. Maximum, daily water temperatures also remained relatively low for the duration of fence operations.

Several devices and structures were constructed and used to aid in reducing handling stress and mortality (Williamson 1999). Eight of the nine, 1998 steelhead mortalities were thought to be the result of physical trauma and disease. Only one healthy steelhead died as the direct result of being stranded on the fence in low water. In 1997, seven out of the ten steelhead mortalities were the result of steelhead being stranded overnight in low water on the river left side of the fence (Williamson 1998). For the 1998 field season, a low head baffle was installed on the leading edge of the river left side of the fence during low water (Williamson 1999 appendix report). After installation of the baffle there were no stranding mortalities observed. Additional modifications were used to aid recovery of handled steelhead. A large holding area was constructed in front of the trap box at the fence in 1998; fence personnel working 1997 and 1996 felt

that the holding area had been insufficient in size or acceptable to steelhead for use as cover after being handled. In 1997, 38 steelhead were observed to swim downstream over the fence or were placed downstream after repeatedly swimming onto the fence, after being handled. In 1998, after construction of a larger covered holding area (Figure 3, and Photo Figure 1 in Williamson 1999 appendix report), only seven fish were observed to swim or were placed downstream of the fence. Before construction of the new holding area a large number of handled fish did not attempt to use the area around the trap box or under the deck adjacent to the trap box. After construction of the new holding area, most fish were observed to hold under the deck or within the covered holding area.

6.0 Recommendations

1. The Upper Sustut River steelhead population should be enumerated in future years. Including the previous seven years, these data provide valuable measures for population trends and levels specifically for Upper Sustut River steelhead and generally for Skeena River steelhead.

2. Sampling methods at Sustut fence should continue as recommended by Parken and Morten 1996. A reduction in the variability of sampling methods used will reduce the level of error between comparisons made from different years.

3. Although the 1998 Upper Sustut River steelhead index datum improved the relationship between Sustut index and the August 10, Tyee index, run strength predictions taken from this relationship should be interpreted with caution. Run timing estimates for the Upper Sustut River steelhead population should be periodically updated and the catchability (q) of steelhead passing Tyee test fishery should be assessed before predictions taken from the index model can be used with more confidence.

4. The installation of a low-head baffle on the up-stream edge of the fence on river left in 1998 appeared to reduce the numbers of steelhead stranding mortalities. A large covered holding area was constructed in 1998 gave fish a better opportunity to recover from the stress of being handled. Both these structures reduced negative incidental impacts on fish that were handled at the fence. Technicians working at Sustut in the future should continue to evaluate how fish friendly their activities are in an effort to reduce negative impacts on fish being studied at the fence. Small changes in fence operation and structure appeared to have substantial benefits.

5. Streamside and snorkel surveys of steelhead holding below the fence to the pool immediately past the Moosevale Creek confluence should be conducted frequently during the later stages of enumeration. In 1998 and 1997, storm events prevented surveys on the last day of fence operation, however a streamside survey in 1997 and a combination streamside/snorkel survey in 1998 performed before the storms allowed for the calculation of an escapement estimate for both years.

7.0 Acknowledgments

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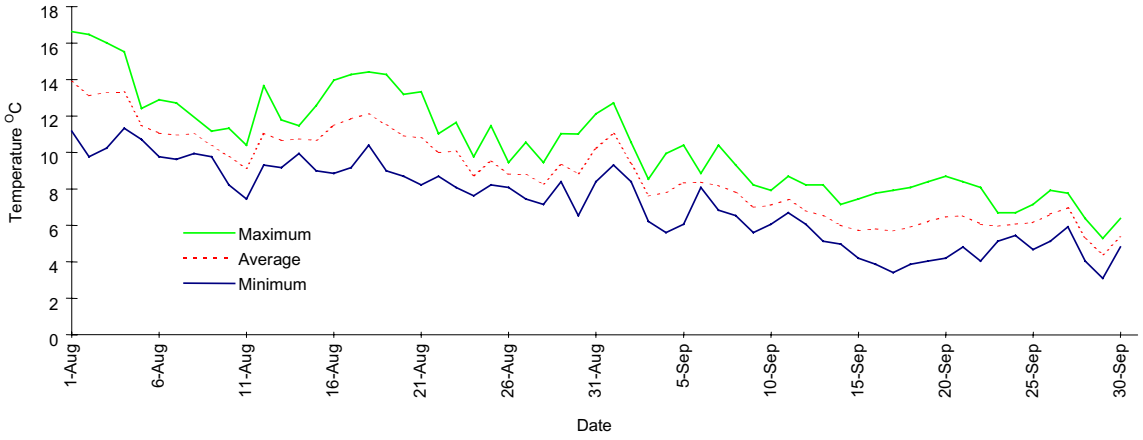
Appendix Figures



Appendix Figure 1. 1998 Daily minimum, average, and maximum temperatures at Sustut Fence.

Appendix Tables

Appendix Table 1. Steelhead handling mortalities 1998.

Date (yymmdd)	TAG	Date Tagged	Comments As Mortality
98/08/21	10574	98/08/16	died on fence panels overnight, lots of tail wear, minor fungus on adipose fin
98/08/23	10313	98/08/07	died on panels overnight, badly infected with fungus
98/08/23	10621	98/08/19	found on chicken wire panel (river left) @ 21:00 clean fish
98/08/29	10594	98/08/17	wt 4500 g, gillnet marks, scaled and otoliths taken
98/08/29	10611	98/08/18	wt. 4375 g. fungus on head, body and tail, gilled going downstream
98/08/29	10571	98/08/15	fungus on head but alive therefore released downstream,- but will likely die
98/09/01	10599	98/08/17	much fungus on fins, and fin-rot
98/09/19	10755	98/08/27	died on panels overnight, left eye gone, badly fungussed, wt 6250
98/09/25	10316	98/08/09	fence mort, fungus and tail erosion-(rot)

Appendix Table 2. Daily totals of steelhead, rainbow trout, bull trout, and Rocky Mountain Whitefish at Sustut Fence, 1998.

	Steelhead		Rainbow Trout		Bull Trout		Whitefish	
Date (yymmdd)	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
98/08/01	0	0	0	0	0	0	0	0
98/08/02	0	0	0	0	0	0	0	0
98/08/03	1	1	0	0	0	0	0	0
98/08/04	0	1	1	1	0	0	1	1
98/08/05	0	1	0	1	0	0	0	1
98/08/06	2	3	0	1	0	0	0	1
98/08/07	1	4	0	1	0	0	0	1
98/08/08	2	6	0	1	0	0	0	1
98/08/09	2	8	0	1	0	0	0	1
98/08/10	0	8	0	1	0	0	0	1
98/08/11	0	8	0	1	0	0	0	1
98/08/12	4	12	0	1	1	1	0	1
98/08/13	4	16	0	1	0	1	0	1
98/08/14	3	19	0	1	0	1	0	1
98/08/15	13	32	0	1	1	2	0	1
98/08/16	16	48	0	1	0	2	0	1
98/08/17	20	68	0	1	0	2	0	1
98/08/18	13	81	0	1	0	2	2	3
98/08/19	12	93	0	1	0	2	0	3
98/08/20	3	96	0	1	0	2	0	3
98/08/21	5	101	0	1	1	3	1	4
98/08/22	49	150	0	1	0	3	0	4
98/08/23	13	163	0	1	0	3	0	4
98/08/24	2	165	0	1	0	3	1	5
98/08/25	21	186	0	1	0	3	1	6
98/08/26	28	214	0	1	0	3	0	6

Date (yymmdd)	Steelhead		Rainbow Trout		Bull Trout		Whitefish	
	Daily	Cum.	Daily	Cum.	Daily	Cum.	Daily	Cum.
98/08/27	43	257	0	1	0	3	0	6
98/08/28	9	266	0	1	0	3	0	6
98/08/29	12	278	0	1	0	3	1	7
98/08/30	25	303	0	1	1	4	0	7
98/08/31	43	346	0	1	2	6	0	7
98/09/01	43	389	0	1	1	7	1	8
98/09/02	25	414	0	1	0	7	0	8
98/09/03	17	431	0	1	0	7	0	8
98/09/04	29	460	0	1	0	7	0	8
98/09/05	31	491	0	1	1	8	0	8
98/09/06	30	521	0	1	2	10	0	8
98/09/07	60	581	0	1	1	11	0	8
98/09/08	17	598	0	1	1	12	0	8
98/09/09	21	619	0	1	0	12	0	8
98/09/10	32	651	0	1	2	14	0	8
98/09/11	53	704	0	1	1	15	0	8
98/09/12	41	745	0	1	1	16	0	8
98/09/13	65	810	0	1	0	16	0	8
98/09/14	33	843	0	1	1	17	0	8
98/09/15	3	846	0	1	0	17	0	8
98/09/16	19	865	0	1	0	17	0	8
98/09/17	22	887	0	1	0	17	0	8
98/09/18	13	900	0	1	0	17	0	8
98/09/19	32	932	0	1	3	20	0	8
98/09/20	15	947	0	1	1	21	0	8
98/09/21	12	959	0	1	1	22	0	8
98/09/22	18	977	0	1	0	22	0	8
98/09/23	5	982	1	2	0	22	0	8
98/09/24	22	1004	0	2	0	22	0	8
98/09/25	36	1040	0	2	3	25	0	8
98/09/26	2	1042	0	2	2	27	0	8
98/09/27	12	1054	1	3	0	27	0	8
98/09/28	1	1055	0	3	0	27	0	8
98/09/29	0	1055	0	3	0	27	0	8
98/09/30	9	1064	0	3	1	28	0	8

Appendix Table 3. Daily totals of salmon at Sustut Fence, 1998.

Date (yymmdd)	Chinook		Sockeye		Coho	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
98/08/01	24	24	0	0	0	0
98/08/02	34	58	40	40	0	0
98/08/03	14	72	2	42	0	0
98/08/04	29	101	14	56	0	0
98/08/05	87	188	15	71	0	0
98/08/06	44	232	43	114	0	0
98/08/07	41	273	16	130	0	0
98/08/08	32	305	14	144	0	0

Date (yymmdd)	Chinook		Sockeye		Coho	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
98/08/09	78	383	154	298	0	0
98/08/10	26	409	39	337	0	0
98/08/11	23	432	160	497	0	0
98/08/12	32	464	206	703	0	0
98/08/13	31	495	59	762	0	0
98/08/14	22	517	16	778	0	0
98/08/15	23	540	62	840	0	0
98/08/16	12	552	71	911	0	0
98/08/17	6	558	70	981	1	1
98/08/18	2	560	65	1046	0	1
98/08/19	0	560	31	1077	0	1
98/08/20	1	561	42	1119	0	1
98/08/21	1	562	78	1197	1	2
98/08/22	0	562	203	1400	0	2
98/08/23	3	565	173	1573	1	3
98/08/24	1	566	69	1642	0	3
98/08/25	4	570	227	1869	0	3
98/08/26	0	570	145	2014	1	4
98/08/27	0	570	106	2120	0	4
98/08/28	0	570	21	2141	3	7
98/08/29	0	570	70	2211	2	9
98/08/30	0	570	26	2237	0	9
98/08/31	0	570	65	2302	3	12
98/09/01	0	570	41	2343	2	14
98/09/02	0	570	89	2432	6	20
98/09/03	0	570	19	2451	2	22
98/09/04	0	570	6	2457	1	23
98/09/05	0	570	13	2470	0	23
98/09/06	0	570	8	2478	0	23
98/09/07	0	570	59	2537	1	24
98/09/08	0	570	6	2543	1	25
98/09/09	0	570	14	2557	0	25
98/09/10	0	570	13	2570	0	25
98/09/11	0	570	46	2616	3	28
98/09/12	0	570	35	2651	1	29
98/09/13	0	570	17	2668	7	36
98/09/14	0	570	8	2676	1	37
98/09/15	0	570	19	2695	1	38
98/09/16	0	570	21	2716	5	43
98/09/17	0	570	9	2725	1	44
98/09/18	0	570	15	2740	0	44
98/09/19	0	570	3	2743	2	46
98/09/20	0	570	9	2752	2	48
98/09/21	0	570	3	2755	0	48
98/09/22	0	570	4	2759	1	49
98/09/23	0	570	4	2763	0	49
98/09/24	0	570	2	2765	2	51
98/09/25	0	570	5	2770	1	52
98/09/26	0	570	0	2770	2	54
98/09/27	0	570	1	2771	6	60

Date (yymmdd)	Chinook		Sockeye		Coho	
	Daily	Cum.	Daily	Cum.	Daily	Cum.
98/09/28	0	570	1	2772	2	62
98/09/29	0	570	0	2772	0	62
98/09/30	0	570	5	2777	2	64

Appendix Table 4. Upper staff gauge height, creek temperatures, and weather. Temperatures were recorded manually with a max-min thermometer.

Date (yymmdd)	Staff Gauge Height (m)		Water Temperature ^{O}C				Weather
	Time	Upper	Max	Min	Max	Min	
98/08/01	22:00	0.250	16	11	29	1	clear, sunny, windy
98/08/02	21:30	0.250	16	9	30	-3	sunny and hot
98/08/03	21:30	0.240	15.5	10	29	-1	sunny- clear in am, scattered clouds- wind in pm
98/08/04	21:15	0.230	15	11.5	20	5	overcast with light showers
98/08/05	9:30	0.230					heavy clouds with periodic showers in late am and afternoon. Heavy rains @ 1800 hrs
	21:15	0.240	13	11	17	16	
98/08/06	9:30	0.285	12	9	13	8	cloudy, showers, windy in am; clearing windy in pm
	21:45	0.275	12	9	13	8	
98/08/07							cloudy, showers, windy
	21:30	0.255	12	10	18.5	6.5	
98/08/08	9:30	0.245					cloudy, showers
	20:00	0.245	11.5	10	14	9	
98/08/09		0.245					light rain mixed with heavy showers
		0.265	11	10	15.5	7	
98/08/10	9:30	0.315					sunny with cloudy periods
	22:00	0.295	9.5	9	15	-3.5	
98/08/11	9:00	0.285					cloud and rain
	21:00	0.275	9.5	6.5	18	-3	
98/08/12	9:30	0.285					cloudy with sunny periods and showers
	21:30	0.290	13	9.5	20	8	
98/08/13	10:00	0.290					cloudy with sunny periods + showers
	21:30	0.280	12.5	10	18	4	
98/08/14	9:45	0.275					cloudy with sun in am; heavy rain in pm
	21:45	0.310	11.5	9.5	17	7	
98/08/15	8:30	0.430					sunny with thunder showers
	21:30	0.395	11	9.5	21.5	6.5	
98/08/16	9:45	0.380					scattered clouds with sunny periods
	20:30	0.365	13.5	10	21.5	1	
98/08/17	9:00	0.350					sunny, very windy
	21:00	0.335	13.5	10	14	0	
98/08/18	9:00	0.325					scattered clouds with sunny periods
	21:00	0.310	14	10	21	3	
98/08/19	9:00	0.305					mainly sunny, some clouds
	21:00	0.290	13.5	8	26	-2	
98/08/20	10:00	0.285					sunny and warm
	21:00	0.290	12	8	27	-2	
98/08/21	9:00	0.270					clear and sunny
	21:00	0.260	12.5	7.5	22.5	-3	
98/08/22	10:00	0.255					clouds all day showers @ 19:00
	21:15	0.255	12	8	14	-2	

Date (yymmdd)	Staff Gauge Height (m) Time	Upper	Water Temperature ^{O}C Max	Min	Max	Min	Weather
98/08/23	9:30	0.250					sunny am; scattered clouds in pm
	21:15	0.245	11	7.5	19.5	2	
98/08/24	9:45	0.245					clouds-showers @ 21:00
	21:00	0.245	11	7.5	11	-2.5	
98/08/25	9:45	0.250					mainly cloudy with sunny breaks, rain in pm
	21:30	0.250	10.5	8	17	1	
98/08/26	9:10	0.250					clouds and rain
	21:00	0.250	9.5	7.5	9.5	3.5	
98/08/27	9:54	0.260					cloudy, sun, cool
	21:00	0.260	10	7.5	12	3.5	
98/08/28	9:55	0.260					overcast, some sun
	20:15	0.250	9.5	6.5	19.5	3	
98/08/29	9:50	0.245					rainy and windy
	20:10	0.240	10.5	8.5	16	6.5	
98/08/30	9:20	0.280					sunny and warm
	20:45	0.270	10.5	6	19.5	-3	
98/08/31	9:35	0.260					sunny + warm, rain late
	21:10	0.255	11.5	6	22.5	-4	
98/09/01	8:10	0.255					cloudy with sunny periods, rain
	21:00	0.250	13.5	9	18.5	-4	
98/09/02	7:35	0.280					cloudy with sunny periods, wind
	17:44	0.320	11.5	8.5	10.5	1.5	
98/09/03	10:00	0.300					morning sun overcast pm
	17:50	0.300	8.5	5.5	12	-3.5	
98/09/04	7:15	0.290					sunny with cloudy periods
	19:45	0.260	9.5	5	11.5	-1.5	
98/09/05	8:45	0.260					sunny, cool in am, high overcast pm
	20:15	0.255	9.5	6.5	18	-5	
98/09/06	9:15	0.252				6.5	rainy
	17:10	0.260	9.5	7.5	13		
98/09/07	9:20	0.324					partly cloudy with showers
	19:15	0.322	10	6		3.5	
98/09/08	8:15	0.300					cloud and rain with am sunny breaks
	20:30	0.285	9	7		1	
98/09/09	10:00	0.280					sunny with cloudy periods
	19:45	0.290	7	5	10	-2	
98/09/10	9:30	0.290					clouds and rain
	20:00	0.290	7	5	8.5	1.5	
98/09/11	10:15	0.295					clouds, showers, few sunny periods
	20:30	0.300	8	6	10	5	
98/09/12	9:45	0.300					rain
	21:00	0.325	7.5	5	9.5	1	
98/09/13	9:50	0.335					clouds, sunny breaks, windy
	21:00	0.330	7	5.5	10	0	
98/09/14	10:45	0.315					snow in early am, scattered clouds with sunny periods
	20:00	0.320	7	4	10.5	-1	
98/09/15	10:40	0.310					mainly clear and sunny
	20:00	0.305	6.5	4.5	12.5	-6	
98/09/16	10:56	0.295					Sun- (All day!)
	19:20	0.290	7	4	14	-8.5	
98/09/17	11:15	0.280					Sun all day again
	20:10	0.270	7	2.5	14	-9	
98/09/18	10:15	0.265					sunny, clear skies

Date (yymmdd)	Staff Gauge Height (m) Time	Upper	Water Temperature ^{O}C Max	Min	Max	Min	Weather
	19:45	0.265	7	4.5	17	-8	
98/09/19	9:45	0.260					sunny and clear
	20:45	0.260	7	5	18	-7.5	
98/09/20	10:30	0.255					sunny clear skies, windy
	20:00	0.250	7.5	5.5	20	-7	
98/09/21	10:45	0.250					sunny, clear, cloudy periods in am
	19:30	0.245	7	4.5	17	-5	
98/09/22	10:30	0.245					sunny, clear, windy with high cloud in pm
	19:40	0.245	7	5.5	18	-5	
98/09/23	10:00	0.240					clouds and rain
	19:20	0.235	6.5	5	9	-5	
98/09/24	10:30	0.235					rain
	19:30	0.245	5.5	5	9	N/A	
98/09/25	10:20	0.255					clear am/ cloudy with sunny periods
	20:15	0.255	7	4	12	-1.5	
98/09/26	10:15	0.245					clear am, cloudy with sunny periods, very windy
	20:20	0.245	7	4.5	14	0	
98/09/27	10:30	0.245					heavy rain in am, scattered cloud and sunny periods
	19:50	0.255	7	6	14	4	
98/09/28	11:00	0.245					cloudy with sunny periods, snow flurries
	19:15	0.245	6.5	4	11	-4	
98/09/29	10:30	0.240					clouds, showers pm
	19:30	0.235	5	2.5	7	-6	
98/09/30	10:30	0.245					clouds and rain
	18:36	0.255	5	5	9	N/A	

Appendix Table 5. Definition of statistical weeks.

Statistical Week	Corresponding Dates
8-1	August 02 to August 08
8-2	August 09 to August 15
8-3	August 16 to August 22
8-4	August 23 to August 29
9-1	August 30 to September 5
9-2	September 6 to September 12
9-3	September 13 to September 19
9-4	September 20 to September 26
9-5	September 27- October 3

Appendix Table 6. Steelhead tagging data.

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980803	1200	f	75.0	orange		10310			bright, clean, no marks
980806	1000	m	77.4	orange		10311			hook scar left side, minor fungus left side
980806	1000	m	91.1	orange		10312	2		bright, marks on head
980807	1600	f	71.0	orange		10313			trap box scars
980808	1230	f	68.0	orange		10314			bright, minor abrasions
980808	2000	f	77.2	orange		10315			bright, minor abrasions

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980809	1000	f	80.5	orange		10316			bright, minor abrasions
980809	1830	f	86.1	orange		10317			old abrasion both sides
980812	1230	f	83.0	orange		10318	3		bright, clean
980812	1230	f	70.0	orange		13019	4		bright, clean
980812	1600	m	83.9	orange		10320			bright, clean
980812	1600	f	79.5	orange		10551			bright, minor abrasions
980813	1045	m	90.8	orange		10552			red, scar left side near anal fin
980813	1245	f	75.4	orange		10553			bright, clean
980813	1245	f	79.0	orange		10554	5		bright, clean
980813	1600	f	80.8	orange		10555			bright, clean, slight bleed from head area
980814	1230	f	77.9	orange		10556			bright, clean
980814	1510	m	86.9	orange		10557			red, clean
980814	1945	m	79.8	orange		10558			bright, clean
980815	830	f	78.6	orange		10559			bright, minor abrasions
980815	830	f	70.1	orange		10560			bright, minor abrasions
980815	830	f	73.4	orange		10561			bright, minor abrasions on dorsal fin
980815	830	m	75.9	orange		10562			bright, clean
980815	830	f	84.1	orange		10564			left side mark near adipose fin, small gash mid belly
980815	1245	f	78.4	orange		10563			bright, clean
980815	1245	m	86.3	orange		10565			red, clean
980815	1245	m	73.2	orange		10566			old scar mid left side
980815	1500	m	73.8	orange		10567			bright, clean
980815	1600	f	73.8	orange		10568		Y	bright, tag bleeder
980815	1600	m	88.3	orange		10569			bright, minor abrasions, tail split
980815	1600	f	71.9	orange		10570		Y	bright
980815	2130	f	75.8	orange		10571			bright, clean
980816	1000	m	84.6	orange		10572			bright, clean
980816	1000	f	72.7	orange		10573	6		bright, clean
980816	1400	f	75.4	orange		10574			old predator scar left side near anal fin, minor hear abrasions, split left pectoral fin
980816	1400	m	72.9	orange		10575		Y	dark
980816	1500	f	78.8	orange		10576			bright, healed gash left side
980816	1730	f	79.2	orange		10577			bright, clean, energetic
980816	1730	f	81.6	orange		10578			bright, minor abrasions
980816	1730	f	75.4	orange		10579			bright, minor abrasions
980816	1730	f	70.0	orange		10580			bright, clean
980816	1730	f	75.1	orange		10581			bright, minor cut left pectoral fin
980816	1730	f	70.8	orange		10582			bright, minor abrasions left side
980816	1730	m	78.8	orange		10583			bright, clean
980816	1730	f	75.2	orange		10584			old scars left side, dark
980816	1730	f	77.9	orange		10585			bright, minor abrasions left side
980816	1730	f	72.0	orange		10586			bright, clean
980816	2000	f	73.8	orange		10587			bright, 10 cm. Scar right side
980817	900	m	81.8	orange		10588			dark, hear abrasions, split dorsal fin
980817	900	m	87.2	orange		10589			dark, split anal fin, minor head abrasions
980817	900	m	84.5	orange		10590		Y	bright
980817	900	f	76.5	orange		10591			bright, minor abrasions both sides
980817	900	m	82.4	orange		10592		Y	dark
980817	900	f	73.6	orange		10593			bright, old 8 cm. Scar left side near anal fin

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980817	900	f	76.9	orange		10594		Y	bright
980817	900	f	71.9	orange		10595			bright, clean
980817	1300	m	84.9	orange		10596			clean
980817	1510	f	77.0	orange		10597			bright, clean
980817	1510	f	72.5	orange		10598			bright, split tail, minor abrasions right side
980817	1510	f	68.7	orange		10599			dorsal fin split, minor abrasions right side
980817	1510	m	67.8	orange		10600			bright, clean
980817	1800	f	68.9	orange		10601			bright clean
980817	1800	m	89.2	orange		10602			clean
980817	1800	m	75.4	orange		10603			dark, no marks
980817	1930	f	76.4	orange		10604			bright, minor abrasions both sides
980817	1930	m	88.8	orange		10605			clean
980817	1930	f	70.5	orange		10606			bright, clean
980817	1930	f	85.2	orange		10607			lower tail absent
980818	900	m	75.9	orange		10608			bright, clean
980818	900	f	73.3	orange		10609			bright, clean
980818	900	m	95.3	orange		10610			nice fish, PIC R2-#2
980818	1500	f	71.9	orange		10611			bright, clean
980818	1745	f	82.2	orange		10612			bright, clean
980818	1745	m	83.3	orange		10613			bright, clean
980818	1745	m	87.9	orange		10614			red, no marks, no spots
980818	1745	f	81.5	orange		10615			bright, cut on lower tail
980818	1745	m	92.1	orange		10616	7		clean
980818	1745	f	72.4	orange		10617	8		bright, minor abrasions
980818	1745	m	81.8	orange		10618			net marks from dip net
980818	1810	m	80.6	orange		10619			deformed top of tail
980818	2100	f	75.8	orange		10620			bright, dime-sized hole in operculum
980819	1400	f	70.9	orange		10621			bright, clean
980819	1900	f	72.1	orange		10622			bright, curly adipose fin
980819	1900	f	74.6	orange		10623			bright, minor abrasions
980819	1900	m	79.6	orange		10624			dark, no marks
980819	1900	m	78.1	orange		10625			dark, minor abrasions on head from trap box
980819	1900	f	71.5	orange		10626		Y	bright
980819	1900	f	68.4	orange		10627			bright
980819	1900	f	83.1	orange		10628			bright, clean
980819	1900	m	83.7	orange		10629			red, no marks
980819	1900	m	80.6	orange		10630			minor abrasions on head, old scar right side near anal fin
980819	1900	m	80.3	orange		10631			dark missing bottom of tail
980819	1900	f	73.2	orange		10632			bright, clean
980820	1600	f	74.1	orange		10633			bright, clean
980820	1600	f	76.3	orange		10634		Y	bright
980820	1800	f	72.1	orange		10635			bright, clean
980821	1530	f	70.5	orange		10636		Y	bright, top of tail gone
980821	1740	f	68.2	orange		10637			bright, clean
980821	1740	f	73.4	orange		10638			scar left side near anal fin, tag bleeder
980821	1800	m	89.5	orange		10639			dark, no marks
980821	2045	f	72.4	orange		10640			bright, clean
980822	1000	f	72.4	orange		10641			bright, minor abrasions both sides
980822	1000	m	83.8	orange		10642			bright, 5 cm. Scar left side
980822	1000	f	72.1	orange		10643			bright, minor abrasions both sides

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980822	1230	m	80.5	orange		10644			red minor abrasions right side
980822	1230	m	81.8	orange		10645			dark, no marks
980822	1415	f	72.8	orange		10646			dime-sized abrasion top of head., hook scar
980822	1415	f	77.4	orange		10647			1 x 10 cm. predator scar near dorsal fin (healing)
980822	1415	m	91.0	orange		10648			right operculum discolored
980822	1415	m	89.5	orange		10649			cut dorsal fin, minor abrasions left side
980822	1415	f	73.9	orange		10650		Y	bright, scale loss
980822	1415	f	83.8	orange		10651			bright, clean
980822	1415	f	74.4	orange		10652			bright, clean
980822	1415	m	74.6	orange		10653			bright, clean
980822	1415	f	72.8	orange		10654			bright, hook scar right side
980822	1415	m	70.0	orange		10655		Y	bright, scale loss
980822	1415	f	72.7	orange		10656			bright, minor abrasions both sides
980822	1415	f	71.2	orange		10657			bright, clean
980822	1645	m	89.5	orange		10658			dark, bleeding from head/ gill area
980822	1645	f	68.4	orange		10659			bright, minor abrasions both sides
980822	1645	m	96.1	orange		10660			dark, no marks
980822	1645	m	74.2	orange		10661		Y	bright
980822	1645	f	74.8	orange		10662			minor abrasions both sides
980822	1645	m	82.8	orange		10663			accidental finger in gills-bleeder
980822	1645	f	77.3	orange		10664			bright, marks on right operculum
980822	1645	m	79.7	orange		10665			dark, no marks
980822	1645	m	79.4	orange		10666			split lower tail
980822	1645	f	71.3	orange		10667			bright, clean
980822	1645	f	75.0	orange		10668			abrasions both sides
980822	1645	f	80.1	orange		10669		Y	quarter-sized chunk from head
980822	1645	f	70.3	orange		10670			bright, minor abrasions right side
980822	1645	f	70.9	orange		10671			bright, clean
980822	1645	m	88.7	orange		10672		Y	split left pectoral fin and tail
980822	1645	f	73.9	orange		10673		Y	bright
980822	1922	f	83.3	orange		10674			bright, clean
980822	1922	m	75.8	orange		10675	9	Y	
980822	1922	f	68.5	orange		10676	10		bright, clean
980822	1922	f	78.5	orange		10677	11		bright, clean
980822	1922	m	76.9	orange		10678		Y	split tail
980822	1922	f	74.5	orange		10679			bright, minor abrasions both sides
980822	1922	m	81.2	orange		10680			red, no marks
980822	1922	f	71.9	orange		10681			bright, clean
980822	2045	f	69.9	orange		10682			bright, clean
980822	2045	m	90.3	orange		10683			old predator scar left side, deformed adipose fin
980822	2045	m	91.9	orange		10684			dark, hook scar right side
980822	2045	f	71.5	orange		10685			clean, bright, frisky
980822	2045	f	72.6	orange		10686			bright, clean
980822	2045	m	88.8	orange		10687			red, hook scar right side
980822	2045	f	72.4	orange		10688		Y	top of tail split
980822	2045	f	72.1	orange		10689			beautiful one, no marks
980823	930	f	74.5	orange		10690			bright, deformed top of tail, old predator scar right side
980823	1318	f	73.7	orange		10691	12		bright, minor abrasions both sides
980823	1445	f	68.1	orange		10692			bright, clean
980823	1445	f	74.8	orange		10693			bright, clean

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980823	1800	f	84.7	orange		10694			bright, clean
980823	1800	f	72.2	orange		10695			bright, clean
980823	1800	f	77.2	orange		10696			bright, clean
980823	1800	f	71.8	orange		10697		Y	bright
980823	1800	f	71.1	orange		10698			bright, clean
980823	1800	m	73.4	orange		10699		Y	
980823	1800	f	70.0	orange		10700			bright, clean
980823	1800	f	71.6	orange		10701			bright, clean
980823	1800	f	75.3	orange		10702			bright, clean
980824	1545	f	75.2	orange		10703	13		bright, hook scar right side
980824	1935	m	80.0	orange		10704			bright, clean
980825	945	f	69.8	orange		10705		Y	lots of bad abrasions
980825	945	m	78.2	orange		10706			bright, clean
980825	945	f	71.9	orange		10707			bright, clean
980825	945	f	78.9	orange		10708	14		bright, clean
980825	1620	f	79.2	orange		10710			minor abrasions right operculum
980825	1810	f	74.0	orange		10711			bright, DNA, Scales for Ernest Keeley
980825	1810	f	76.5	orange		10712			bright, DNA, Scales for Ernest Keeley
980825	1810	f	70.6	orange		10713		Y	split tail, abrasions both sides
980825	1810	f	76.5	orange		10714			bright, clean
980825	1810	f	70.6	orange		10715			bright, clean
980825	1810	m	73.1	orange		10716			bright, clean
980825	2000	m	90.3	orange		10717			dark, thin
980825	2000	m	87.0	orange		10718			20 cm. Scar right side (healed)
980825	2000	m	76.8	orange		10719			minor abrasions
980825	2000	f	71.7	orange		10720			bright, clean
980825	2000	f	69.1	orange		10721		Y	split tail, left operculum damaged
980825	2000	f	68.1	orange		10722			bright, clean
980825	2000	f	78.6	orange		10723			split tail, hook scar
980825	2000	f	70.5	orange		10724			clean
980825	2100	m	86.9	orange		10725			dark, no marks
980825	2100	m	67.1	orange		10726			clean
980826	910	m	77.8	orange		10727			red, clean
980826	910	f	74.1	orange		10728			bright, clean
980826	910	m	87.6	orange		10729			bright, clean
980826	910	f	73.5	orange		10730	15		bright, clean
980826	910	f	71.9	orange		10731			bright, clean
980826	910	f	74.7	orange		10732			8 cm old scar left side near anal fin
980826	910	f	72.9	orange		10733			minor abrasions left side, hook scar right side
980826	910	f	75.9	orange		10734			bright, clean
980826	910	f	79.4	orange		10735			bright, multiple scars both sides
980826	910	f	69.4	orange		10736	16		bright, clean
980826	1115	m	79.3	orange		10737			top of tail abraded
980826	1200	f	74.0	orange		10738			bright, minor abrasions both sides
980826	1350	f	73.7	orange		10739			bright, minor abrasions both sides
980826	1350	f	70.0	orange		10740		Y	bright
980826	1350	f	85.6	orange		10741		Y	hook scar right side
980826	1350	f	73.4	orange		10742			bright, minor abrasions right side
980826	1350	m	84.1	orange		10743			bright, minor abrasions right side
980826	1350	f	69.6	orange		10744			old predator scar left side
980826	1540	m	86.0	orange		10745	17		dark, no marks
980826	1700	f	74.7	orange		10746			bright, clean

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980826	1700	f	72.5	orange		10747			bright, abrasions both sides
980826	1700	f	76.2	orange		10748			hook scar left side, abrasions both sides
980826	1700	f	70.6	orange		10749			dark, no marks
980826	1730	m	73.8	orange		10750			bright, clean
980826	1915	m	75.0	orange		10751	18	Y	broken dorsal fin rays
980826	1915	m	74.6	orange		10752	19		tail splits
980826	1930	f	77.5	orange		10753	20		bright, clean
980826	2050	m	97.3	orange		10754			red, cut top of tail
980827	954	m	87.0	orange		10755			dark, no marks
980827	954	m	82.5	orange		10756	21		dark, abrasions left side
980827	954	f	77.2	orange		10757	22		minor abrasions
980827	954	m	82.5	orange		10758		Y	damaged operculum
980827	1250	f	77.5	orange		10759			predator scar near anal fin right side
980827	1510	m	89.1	orange		10760			red, 20 cm. Scar right side (healed)
980827	1510	f	76.2	orange		10761			bright, minor abrasions
980827	1510	f	75.5	orange		10762			bright, clean
980827	1510	f	69.0	orange		10763			bright, clean
980827	1510	f	75.2	orange		10764			bright, healed predator scars
980827	1510	f	73.8	orange		10765			scaring, pectoral fins damaged
980827	1510	m	74.3	orange		10766			red, operculum split right side possible gill fungus
980827	1510	f	75.0	orange		10767			bright, lots scale loss right side
980827	1510	f	71.7	orange		10768			old predator scar right side
980827	1910	m	86.0	orange		10769			seal scar
980827	1910	f	75.0	orange		10770			clean
980827	1910	f	81.0	orange	C	6448			clean
980827	1910	m	78.0	orange		10771			clean
980827	1910	f	78.5	orange		10772			predator scar on side
980827	1910	f	72.5	orange		10773			clean
980827	1910	m	87.0	orange		10774			clean
980827	1910	f	73.0	orange		10775		Y	
980827	1910	f	75.0	orange		10776			clean
980827	1910	f	69.5	orange		10777			predator scar side
980827	1910	f	80.0	orange		10778			predator scar side
980827	1910	m	75.0	orange		10779			seal scar
980827	1910	m	75.5	orange		10780			seal scar
980827	1910	m	86.5	orange		10781			seal scar
980827	1910	m	86.5	orange		10783			seal scar
980827	1910	f	72.0	orange		10784			seal scar
980827	1910	m	70.0	orange		10785		Y	
980827	1910	m	77.5	orange		10786			clean
980827	1910	m	93.5	orange		10787			clean
980827	1910	m	81.0	orange		10788		Y	
980827	1910	m	75.5	orange		10789			clean
980827	1910	m	88.0	orange		10790			clean
980827	1910	m	76.5	orange		10791			seal scar
980827	1910	m	73.5	orange		10792			seal scar, split tail and anal fin
980827	1910	f	88.0	orange		10793			clean
980827	1910	f	71.0	orange		10795			dagger tooth
980827	1910	f	72.5	orange		10796			seal, dorsal fin scar
980827	1910	f	70.5	orange		10798			clean
980827	1910	f	~67					Not Handled	
980828	955	f	71.5	orange		10799			predator scar both sides

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980828	955	m	84.5	orange		10800			predator scar both sides
980828	1633	f	70.5	orange		10801 10802			clean, RADIO TAGGED
980828	1650	m	82.5	orange		10803 10804			clean, RADIO TAGGED
980828	1700	m	80.0	orange		10805 10806		Y	gill net marks well healed, one tag penetrated left side, RADIO TAGGED
980828	1715	f	72.0	orange		10807 10808			clean, RADIO TAGGED
980828	1735	f	79.5	orange		10809 10810			clean, RADIO TAGGED NEW Tag added on 980905 Tag 10809 lost--New=C7942, Very stressed
980828	1745	f	77.5	orange		10811 10812			predator scars, RADIO TAGGED
980828	2020	m	80.5	orange		10813			clean
980829	925	f	73.0	orange		10814			clean
980829	925	m	80.5	orange		10815			predator scar
980829	925	f	72.5	orange		10816			clean
980829	925	m	84.0	orange		10817			right pectoral fungus, dagger tooth
980829	925	f	67.5	orange		10818		Y	net marks
980829	925	m	92.0	orange		10819			old scars
980829	1630	f	85.0	orange		10820 10821			predator scars, RADIO TAGGED
980829	1630	f	69.0	orange		10822 10823		Y	adipose punch, scale loss, anchor tag scar, RADIO TAGGED
980829	1630	f	71.5	orange		10824 10825			small predator scar, lateral ???? (CHECK BOOK), RADIO TAGGED
980829	1936	m	83.0	orange		10826 10827			minor predator scars, RADIO TAGGED
980829	1936	f	76.0	orange		10828 10829			clean, two tail splits, RADIO TAGGED
980829	1936	f	73.5	orange		10830 10831			clean, RADIO TAGGED
980830	930	m	73.5	orange		10832 10833			minor operculum wound (possible fungus), minor predator scar, RADIO TAGGED
980830	935	m	74.0	orange		10834 10835		Y	minor tail, dorsal, pectoral abrasions, RADIO TAGGED
980830	945	m	78.0	orange		10836 10837			beginning to colour, RADIO TAGGED
980830	950	f	72.0	orange		10839 10840			predator scar, a little scale loss left side post dorsal fin, RADIO TAGGED
980830	1740	m	82.0	orange		10841			clean
980830	1740	f	71.0	orange		10843			no left pectoral fin
980830	1740	f	75.0	orange		10844			
980830	1740	m	74.0	orange		10845		Y	
980830	1740	f	74.5	orange		10847			predator scar
980830	1740	f	77.5	orange		10848			clean
980830	1740	f	70.5	orange		10850			predator scar
980830	1740	f	70.5	orange		10851			predator scar
980830	1740	f	77.5	orange		10852			predator scar
980830	1740	m	81.5	orange		10853			clean
980830	1740	m	78.0	orange		10854		Y	
980830	1740	f	75.0	orange		10855			predator scar
980830	1740	f	78.0	orange		10856			
980830	1740	m	89.0	orange		10857			

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980830	2030	f	83.5	orange		10858 10859			predator scar, RADIO TAGGED
980830	2040	m	91.0	orange		10860 10861			predator scar, RADIO TAGGED
980830	2045	f	77.0	orange		10862 10863			predator scar, RADIO TAGGED
980830	2050	f	76.5	orange		10864 10865			predator scar, RADIO TAGGED
980830	2050	f	68.0	orange		10866			clean
980830	2050	f	75.0	orange		10867		Y	
980830	2050	m	95.5	orange		10868			clean
980831	944	m	78.0	orange		10869 10870			predator scar right side, RADIO TAGGED
980831	944	f	73.5	orange		10871 10872			predator scar, RADIO TAGGED
980831	944	f	72.5	orange		10873 10874			predator scar, nose scar (minor), split tail, RADIO TAGGED
980831	944	m	88.0	orange		10875 10876			predator scar, split tail, RADIO TAGGED
980831	944	m	91.0	orange		10877 10878			rough netting, minor predator scar , RADIO TAGGED
980831	944	f	86.5	orange		10879 10880			minor predator scars, RADIO TAGGED
980831	944	f	80.0	orange		10881 10882			nasty scar on dorsal surface anterior to tail (flesh showing), predator scars could lead to fungus, RADIO TAGGED
980831	1345	m	87.0	orange		10883 10884			clean, RADIO TAGGED
980831	1345	f	81.0	orange		10885 10886			a little scale loss, RADIO TAGGED
980831	1345	m	93.0	orange		10887 10888			15 cm. Healed scar left side, predator scars (minor), RADIO TAGGED
980831	1345	f	70.5	orange		10889 10890			a little predator scarring, RADIO TAGGED
980831	1345	f	86.5	orange		10891 10892		Y	sloppy netting (2 attempts), fin rubs etc., RADIO TAGGED
980831	1345	f	77.0	orange		10893 10894			predator scar (seal), tail scar, RADIO TAGGED
980831	1345	m	77.5	orange		10895			clean
980831	1345	f	77.0	orange		10896			clean
980831	1615	m	66.5	orange		10897 10898			predator scar (may fungus), scale loss right side, split tail, RADIO TAGGED
980831	1615	f	76.0	orange		10899 10900			old scar healed, new scale loss, split tail, RADIO TAGGED
980831	1615	f	74.5	orange		10901 10902			predator scars (minor), RADIO TAGGED
980831	1615	m	76.5	orange		10903 10904			clean, RADIO TAGGED
980831	1615	f	76.5	orange		10905 10906			minor predator scars, RADIO TAGGED
980831	1615	f	83.0	orange		10907 10908			predator scar, RADIO TAGGED
980831	1615	m	74.5	orange		10909 10910			healed predator scar, RADIO TAGGED
980831	1615	f	80.5	orange		10911			predator scar
980831	1615	f	73.5	orange		10912			clean
980831	1745	m	72.5	orange		10913			clean

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980831	1745	f	71.0	orange		10914			clean
980831	1745	m	71.5	orange		10915			clean
980831	1745	m	81.5	orange		10916			split tail
980831	2000	f	68.5	orange		10917			predator scar
980831	2000	m	78.5	orange		10918			clean
980831	2000	f	74.0	orange		10919			predator scar
980831	2000	m	72.0	orange		10920		Y	
980831	2000	m	78.0	orange		10922			predator scar
980831	2000	f	74.0	orange		10923			clean
980831	2000	f	71.5	orange		10924			clean
980831	2000	f	71.5	orange		10925			predator scar
980831	2000	f	81.0	orange		10926			predator scar
980831	2000	f	73.5	orange		10927			clean
980831	2000	m	96.5	orange		10928		Y	
980831	2000	f	72.0	orange		10929			clean
980831	2000	m	87.5	orange		10930			clean
980831	2000	f	72.0	orange		10931			predator scar
980831	2000	m	80.0	orange		10932			predator scar
980901	745	m	76.5	orange		10933			predator scar, may fungus
980901	745	f	82.0	orange		10935		Y	
980901	745	f	79.0	orange		10936			predator scar, minor
980901	745	f	78.0	orange		10937			minor scar
980901	745	m	92.0	orange		10938		Y	
980901	745	m	83.5	orange		10939			clean
980901	745	f	74.5	orange		10940		Y	
980901	745	f	71.0	orange		10942			clean
980901	745	f	69.0	orange		10943			predator scar
980901	745	f	73.5	orange		10944			clean
980901	745	m	74.5	orange		10945			predator scar
980901	745	f	72.5	orange		10946			predator scar (big)
980901	745	m	84.5	orange		10947			predator scars
980901	1030	m	93.5	orange		10948 10949			predator scar, RADIO TAGGED
980901	1030	f	78.5	orange		10950 10951			predator scar, RADIO TAGGED
980901	1115	f	UNTAGGED-UNMEASURED						
980901	1115	f	UNTAGGED-UNMEASURED						
980901	1330	f	UNTAGGED-UNMEASURED						
980901	1330	m	85.5	orange		10952			predator scar, aborted radio tag
980901	1335	f	80.5	orange		10953 10954			split tail, dorsal fin rub, rough netting, RADIO TAGGED
980901	1350	m	91.5	orange		10955 10956			clean, RADIO TAGGED
980901	1355	f	71.0	orange		10957 10958		Y	split fins (tail and dorsal), RADIO TAGGED
980901	1400	f	81.5	orange		10959 10960			head banged in transfer, minor scale loss, RADIO TAGGED
980901	1410	f	73.5	orange		10961 10962			predator scar, some scale loss, RADIO TAGGED
980901	1630	m	80.0	orange		10963 10964			predator scar(minor), RADIO TAGGED
980901	1630	f	72.5	orange		10965 10966			predator scar(minor), RADIO TAGGED
980901	1630	f	77.0	orange		10967 10968			predator scar(minor), RADIO TAGGED

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980901	1630	m	81.0	orange	S (2nd tag)	10969/ S3647		Y	Recapture, adipose punch, split tail, RADIO TAGGED
980901	1630	f	73.5	orange		10970 10971			predator scars, energetic, RADIO TAGGED
980901	1630	f	69.5	orange		10972			predator scars
980901	1630	f	70.5	orange		10973		Y	
980901	1630	f	76.5	orange		10974			clean
980901	1630	m	78.0	orange		10975			tail splits
980901	1630	f	74.5	white		7601		Y	predator scar
980901	1630	f	72.5	white		7602			
980901	1630	f	81.0	white		7603			clean
980901	2000	f	74.0	white		7604			clean
980901	2000	m	93.5	white		7605			predator scar
980901	2000	m	74.0	white		7606			clean
980901	2000	f	71.0	white		7607			predator scar
980901	2000	m	81.5	white		7608			clean
980901	2030	m	83.0	white		7609			clean
980901	2030	f	71.5	white		7610			predator scar
980902	745	f	66.0	white		7611			clean
980902	745	f	69.0	white		7612			clean
980902	745	f	71.0	white		7613			clean
980902	745	f	70.0	white		7614			clean
980902	745	f	69.0	white		7615			clean
980902	745	f	69.0	white		7616			clean
980902	1010	m	83.0	white		7617			clean
980902	1010	m	88.0	white		7618			predator scar
980902	1155	f	69.0	white		7619		Y	predator scar
980902	1155	f	72.0	white		7620			predator scar
980902	1445	f	81.5	white		7621 7622			clean, RADIO TAGGED
980902	1445	f	74.0	white		7623 7624			predator scars, RADIO TAGGED
980902	1445	m	86.5	white		7625 7626		Y	potential for fungus on dorsal surface adipose clipped, predator mark, RADIO TAGGED
980902	1445	f	69.0	white		7627 7628		Y	predator scars, RADIO TAGGED
980902	1700	f	73.0	white		7629			clean
980902	1700	m	79.5	white		7630			clean
980902	1700	f	74.5	white		7631			predator scars
980902	1700	m	(90-95 Lost)	white		7632			unmeasured
980902	1700	f	84.0	white		7633			small scrape on nose
980902	1700	m	77.5	white		7635			clean
980902	1700	f	78.5	white		7634			predator scar
980902	1700	f	73.5	white		7636			clean
980902	1700	f	74.5	white		7637			predator scar
980902	1915	f	72.0	white		7638			predator scar
980902	2030	f	74.0	white		7639		Y	predator scar
980903	1030	m	84.0	white		7641 7642			predator scar, RADIO TAGGED
980903	1030	m	80.0	white		7643 7644			split dorsal, predator scar, slightly rough handling in transfer, RADIO TAGGED
980903	1030	m	71.5	white		7645 7646			predator scars, RADIO TAGGED

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980903	1030	m	80.0	white		7647 7648			floy tags right through, RADIO TAGGED
980903	1320	f	86.0	white		7650			predator scars
980903	1320	m	96.0	orange		10976			predator scars, large
980903	1320	m	88.0	orange		10977			clean
980903	1320	m	81.0	orange		10978		Y	predator scar
980903	1750	m	86.0	orange		10979			clean
980903	1750	f	86.5	orange		10981			scales 3(4?) 3+
980903	1750	f	82.0	orange		10982		Y	
980903	1750	m	87.0	orange		10983			predator scar
980903	1750	m	87.0	orange		10984			predator scar, anal and caudal
980903	2030	f	81.0	orange		10985			clean
980903	2030	f	72.0	orange		10986			clean
980903	2030	f	72.5	orange		10987			clean
980903	2030	f	NA	orange		10988			predator scar
980904	1215	m	83.0	orange		10990			predator scar
980904	1215	m	89.0	orange		10991			predator scar
980904	1600	m	89.5	orange		10992			predator scar
980904	1600	f	64.0	orange		10993			clean
980904	1600	m	82.0	orange		10994			predator scar
980904	1600	m	75.0	orange		10995			bad predator scar
980904	1945	f	73.5	orange		10996			clean
980904	1945	m	95.0	orange		10997			clean (or minor head wound)
980904	1945	m	88.0	orange		10998			clean
980904	1945	f	72.0	orange		10999			clean
980904	1945	m	92.0	orange		11000			scar on right operculum
980904	1945	f	69.5	bt. Orange	C	641			predator scar
980904	1945	f	78.0	bt. Orange	C	642			predator scar (bad near anus)
980904	1945	f	82.0	bt. Orange	C	643			red around anus, predator scar
980904	1945	m	91.0	bt. Orange	C	644			clean
980904	1945	m	90.5	bt. Orange	C	645			predator scar near head (minor bleeding)
980904	1945	f	82.5	bt. Orange	C	646			predator scar
980904	1945	m	91.0	bt. Orange	C	647		Y	Tyee test fishery
980904	1945	f	70.0	bt. Orange	C	648			predator scar
980904	1945	f	72.5	bt. Orange	C	649			predator scar, scale loss
980904	1945	f	82.5	bt. Orange	C	650			predator scar, very stressed fish
980904	1945	f	75.0	bt. Orange	C	2508			predator scar
980904	1945	m	93.5	bt. Orange	C	2509			damage to dorsal fish
980904	1945	f	70.0	bt. Orange	C	2510			predator scars
980904	1945	m	73.5	bt. Orange	C	2511			predator scars, fatigued, tired
980904	1945	f	73.0	bt. Orange	C	2512			part of tail missing, predator scars
980904	1945	f	68.5	bt. Orange	C	2513			predator scars
980904	1945	f	71.5	bt. Orange	C	2514			minor predator scar
980904	1945	f	73.0	bt. Orange	C	2516			predator scars
980905	1000	f	79.0	bt. Orange	C	2517			predator scars
980905	1000	f	71.0	bt. Orange	C	2518			predator scars
980905	1700	f	72.0	bt. Orange	C	2519			predator scars
980905	1700	f	69.0	bt. Orange	C	2520			predator scars
980905	1700	m	80.5	bt. Orange	C	2521			tail damage
980905	1700	f	83.0	bt. Orange	N	5512			recapture, operculum damage can see gills, tag through leading edge
980905	1700	m	89.0	bt. Orange	C	2522			predator scars
980905	1700	f	80.0	bt. Orange	C	2523			predator scars

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980905	1700	f	72.5	bt. Orange	C	2524		Y	tail damage
980905	1700	f	78.0	bt. Orange	C	2525			predator scars
980905	1700	f	73.5	bt. Orange	C	7936			predator scars
980905	1700	m	82.0	bt. Orange	C	7937			clean
980905	1700	f	75.0	bt. Orange	C	7939			predator scars
980905	1700	m	80.5	bt. Orange	C	7940			predator scars, dorsal fin split
980905	1700	f	73.0	bt. Orange	C	7941		Y	
980905	1700	f	74.5	bt. Orange	C	7943			predator scars
980905	1700	f	81.0	bt. Orange	C	7944			open wounds, damaged pectoral fin
980905	1700	f	75.0	bt. Orange	C	7945		Y	
980905	1700	f	79.0	bt. Orange	C	7946			predator scars
980905	1700	m	92.5	bt. Orange	C	7947			predator scars, split anal fin
980905	1700	f	81.5	bt. Orange	C	7948			predator scars
980905	1700	m	86.0	bt. Orange	C	7949			predator scars, split dorsal fin
980905	1700	f	69.0	bt. Orange	C	7950		Y	open wound, predator scars
980905	1700	f	66.5	bt. Orange	S	6384		Y	predator scars
980905	1700	f	70.0	bt. Orange	S	6385			clean
980905	2020	m	79.0	bt. Orange	S	6386			
980905	2020	m	NA						small untagged
980905	2020	m	89.0	bt. Orange	S	6387			clean
980905	2020	f	75.5	bt. Orange	S	6388			clean
980905	2020	f	72.0	bt. Orange	S	6389			clean
980905	2020	m	88.5	bt. Orange	S	6390			clean
980906	920	f	72.0	bt. Orange	S	6391			predator scars
980906	920	m	83.7	bt. Orange	S	6392			split tail, predator scars
980906	920	m	80.0	bt. Orange	S	6393			clean
980906	920	f	69.0	bt. Orange	S	6394		Y	predator scars, chewed pelvic fin
980906	920	f	74.5	bt. Orange	S	6395			predator scars
980906	920	f	85.0	bt. Orange	S	6396		Y	split anal fin
980906	920	f	74.0	bt. Orange	S	6397			clean
980906	920	f	74.0	bt. Orange	S	6398		Y	split dorsal, predator scars
980906	920	f	72.5	bt. Orange	S	6399			predator scars
980906	920	m	89.0	bt. Orange	C	7632			predator scars, split dorsal, healed wound
980906	920	m	73.0	bt. Orange	C	7633			clean
980906	920	f	81.0	bt. Orange	C	7634			split dorsal
980906	1630	m	73.0	bt. Orange	C	7635			clean
980906	1630	m	88.0	bt. Orange	C	7636			predator scar
980906	1630	m	86.5	bt. Orange	C	7637			predator scar
980906	1630	f	83.0	bt. Orange	C	7638			predator scar
980906	1630	m	89.0	bt. Orange	C	7639			predator scar, nose wound
980906	1630	m	90.0	bt. Orange	C	7640			clean
980906	1630	f	72.5	bt. Orange	C	7641			predator scars
980906	1630	m	89.5	bt. Orange	C	7642			clean
980906	1630	m	83.0	bt. Orange	C	7643			clean
980906	1630	m	87.5	bt. Orange	C	7644			ventral scar
980906	1630	f	80.0	bt. Orange	C	7645			predator scar
980906	1630	f	79.5	bt. Orange	C	7646			predator scar
980906	1845	f	73.0	bt. Orange	C	7647			predator scar
980906	1845	f	74.0	bt. Orange	C	7648		Y	
980906	1845	m	78.5	bt. Orange	C	7649			clean
980906	2020	f	73.5	bt. Orange	C	7650		Y	
980906	2020	f	74.0	bt. Orange	S	3786			predator scar

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980906	2020	m	78.5	bt. Orange	S	3787		Y	predator scar
980907	930	m	79.0	bt. Orange	S	3788			predator scars, fumble
980907	930	f	71.5	bt. Orange	S	3789			predator scars
980907	1320	f	80.0	bt. Orange	S	3790		Y	predator scars
980907	1320	f	73.5	bt. Orange	S	3791			predator scars
980907	1320	m	78.5	bt. Orange	S	3792			clean
980907	1320	m	78.0	bt. Orange	S	3793			predator scars
980907	1320	f	76.5	bt. Orange	S	3794			predator scars
980907	1320	f	83.0	bt. Orange	S	3795			predator scars
980907	1320	f	75.0	bt. Orange	S	3796			predator scars
980907	1915	f	72.0	bt. Orange	S	3797			predator scars
980907	1915	f	76.5	bt. Orange	S	3798			predator scars
980907	1915	f	85.5	bt. Orange	S	3799			predator scars
980907	1915	m	73.5	bt. Orange	S	3800			clean
980907	1915	m	93.0	bt. Orange	C	7608			predator scars
980907	1915	m	88.5	bt. Orange	C	7609			predator scars
980907	1915	f	74.5	bt. Orange	C	7610			predator scars
980907	1915	m	88.0	bt. Orange	C	7611		Y	
980907	1915	f	85.5	bt. Orange	C	7612			clean
980907	1915	m	71.5	bt. Orange	C	7613			clean
980907	1915	m	77.5	bt. Orange	C	7614		Y	predator scars
980907	1915	f	73.0	bt. Orange	C	7615			predator scars
980907	1915	f	70.5	bt. Orange	C	7616		Y	
980907	1915	f	87.0	bt. Orange	C	7617			predator scars
980907	1915	f	73.5	bt. Orange	C	7618			predator scars
980907	1915	f	76.0	bt. Orange	C	7619			predator scars
980907	1915	m	75.0	bt. Orange	C	7620			clean
980907	1915	f	75.0	bt. Orange	C	7621			predator scars
980907	1915	f	71.0	bt. Orange	C	7622			hook scar, troll scar
980907	1915	f	73.5	bt. Orange	C	7623			clean
980907	1915	m	76.5	bt. Orange	C	7624			clean
980907	1915	f	80.0	bt. Orange	C	7625			predator scars
980907	1915	m	77.0	bt. Orange	S	6362		Y	predator scar
980907	1915	f	71.5	bt. Orange	S	6361		Y	
980907	1915	f	75.0	bt. Orange	S	6360			predator scars
980907	1915	f	75.5	bt. Orange	S	6359			predator scars
980907	1915	m	83.5	bt. Orange	S	6358			clean
980907	1915	m	78.5	bt. Orange	S	6357		Y	
980907	1915	f	78.0	bt. Orange	S	6356			clean
980907	1915	f	83.0	bt. Orange	S	6355			clean
980907	1915	m	85.5	bt. Orange	S	6354			clean
980907	1915	f	95.0	bt. Orange	S	6353			clean
980907	1915	f	75.5	bt. Orange	S	6352			predator scar
980907	1915	m	82.5	bt. Orange	S	6351			clean
980907	1915	f	76.0	bt. Orange	S	3387			predator scars
980907	1915	f	75.0	bt. Orange	S	3388			predator scars
980907	1915	f	72.5	bt. Orange	S	3389			clean, fumble
980907	1915	f	69.0	bt. Orange	S	3390		Y	predator scars
980907	1915	f	75.0	bt. Orange	S	3391			predator scars
980907	1915	f	78.0	bt. Orange	S	3393			clean
980907	1915	f	77.5	bt. Orange	S	3394			clean
980907	1915	f	Untagged Unmeasured						clean
980907	1915	f	76.0	bt. Orange	S	3395			clean

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980907	1915	f	73.5	bt. Orange	S	3396		Y	predator scars
980907	1915	f	67.5	bt. Orange	S	3397			predator scars
980907	1915	m	82.5	bt. Orange	S	3398			clean
980907	1915	f	74.0	bt. Orange	S	3399			clean
980907	1915	f	81.0	bt. Orange	S	3400			predator scars
980907	1915	f	77.5	bt. Orange	C	7917			predator scars
980907	1915	f	80.0	bt. Orange	C	7916			predator scars
980907	1915	m	75.0	bt. Orange	C	7915			clean
980908	1000	m	87.5	bt. Orange	C	7914		Y	
980908	1000	m	94.0	bt. Orange	C	7913			clean
980908	1000	m	91.0	bt. Orange	C	7912			predator scar
980908	1000	f	74.0	bt. Orange	C	7911		Y	
980908	1000	f	75.5	bt. Orange	C	7910			predator scars
980908	1000	f	71.5	bt. Orange	C	7909			predator scars
980908	1000	m	87.0	bt. Orange	C	7908			predator scars
980908	1000	f	69.5	bt. Orange	C	7907			hook and line scar
980908	1000	f	69.5	bt. Orange	C	7906			clean
980908	1000	f	74.0	bt. Orange	C	7905			predator scars, torn up (nasty) anal fin
980908	1000	m	75.5	bt. Orange	C	7904			predator scars, skin swelling
980908	1000	f	73.0	bt. Orange	C	7903			old predator scars
980908	1300	m	88.5	bt. Orange	C	7902		Y	split tail, (low), lots of spots
980908	1530	m	80.9	bt. Orange	C	7901			dark, no marks
980908	1530	m	86.4	white		7651			hole in head left side
980908	1900	f	72.9	white		7652			clean
980908	1900	f	75.3	white		7653			bright, clean
980909	1000	m	82.7	white		7654			old predator scar right side
980909	1000	f	72.4	white		7655			bright, clean
980909	1630	f	70.4	white		7656			bright, clean
980909	1630	f	73.4	white		7657			minor abrasions both sides
980909	1900	f	74.7	white		7658			scale loss, left operculum damaged, hole right side of head
980909	1900	f	72.5	white		7659		Y	bright, bad gill net marks
980909	1900	m	86.5	white		7660			predator scar near adipose, jaw abrasion
980909	1900	f	70.8	white		7661 7662			abrasions both sides, hook scar left
980909	1900	m	79.3	white		7663			red, gouge above right eye
980909	1900	f	80.0	white		7664			abrasions both sides, deformed body
980909	1900	f	72.5	white		7665			clean
980909	1900	m	80.3	white		7666			red-dark, cut on dorsal fin
980909	1900	f	72.9	white		7667			bright, abrasion left side
980909	1900	m	86.0	orange	N	5443			RECAPTURE, clean
980909	1900	f	69.1	white		7668		Y	abrasions both sides
980909	1900	f	72.9	white		7669			bright, clean
980909	1900	m	77.4	white		7670			red, no marks
980909	1900	f	70.6	white		7671			abrasions left side
980909	1900	f	71.9	white		7672			nothing, no marks- bright
980909	1900	f	70.8	white		7673			minor abrasions left side behind operculum
980909	1900	f	80.2	white		7674			abrasions both sides, potential fungus
980910	1200	m	84.3	white		7675			bad h/s right side, abrasions top of head and operculum
980910	1200	f	71.0	white		7676			bright, minor abrasions both sides
980910	1839	m	87.8	white		7677			bulge mid-body

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980910	1839	f	86.5	white		7678			split tail (low) and dorsal fin, abrasions all over body, hook scar . . .
980910	1839	m	76.2	white		7679			dark abrasions both sides
980910	1839	m	91.4	white		7680			red
980910	1839	m	89.6	white		7681			red, split dorsal healed
980910	1839	m	83.6	white		7682			abrasions left side of dorsal, abrasions right side near adipose fin
980910	1839	m	79.3	white		7683			dark abrasions left side
980910	1839	f	75.8	white		7684			h/s right side, gouge on top of head
980910	1839	m	82.2	white		7685			tail splits, dime-sized gouge near adipose
980910	1839	f	68.8	white		7686			bright, minor abrasions right side
980910	1839	f	83.2	white		7687			bright, 10 cm scar near adipose left side
980910	1839	f	72.3	white		7688			minor abrasions both sides
980910	1839	m	87.2	white		7689			gaff scar left side near pectoral fin
980910	1839	m	75.6	white		7690			red/dark -weird
980910	1839	f	71.3	white		7691			bright, split dorsal
980910	1839	m	77.1	white		7692		Y	damaged right operculum, split dorsal
980910	1839	m	72.8	white		7693			bright
980910	1839	f	75.8	white		7694			bright, abrasions both sides, split dorsal fin
980910	1839	m	73.8	white		7695			dark, top of tail missing
980910	1839	f	73.5	white		7696			clean
980910	1839	f	69.4	white		7697			clean
980910	1839	f	71.0	white		7698		Y	bright
980910	1839	f	71.0	white		7699			abrasions both sides
980910	1839	f	76.6	white		7700		Y	right operculum damaged
980910	1839	f	76.0	white		7801			bright
980910	1839	f	75.9	white		7802			monofilament line marks
980910	1839	m	86.0	white		7803			red, tons of spots
980910	1839	f	72.8	white		7804		Y	split tail
980910	1839	m	90.1	white		7805			no marks
980910	1839	f	76.8	white		7806			bright, clean
980911	1015	m	82.2	white		7807			dark, no marks
980911	1015	f	74.6	white		7808			minor abrasions both sides, left operculum scrape
980911	1015	f	75.4	white		7809		Y	minor abrasions
980911	1015	f	84.1	white		7810		Y	old gillnet marks, healed
980911	1015	f	72.0	white		7811			bright, abrasions both sides
980911	1015	f	71.1	white		7812			abrasions on back between dorsal and adipose fins
980911	1015	m	83.9	white		7813			abrasions both sides
980911	1015	f	77.7	white		7814			bright, clean
980911	1645	f	72.3	white		7815		Y	abrasions both sides
980911	1645	m	83.4	white		7816			red, no marks
980911	1645	m	90.2	white		7817			dark-red round loonie-sized scar left side
980911	1645	m	72.2	white		7818			red, no marks
980911	1645	f	87.4	white		7819			bright clean
980911	1645	f	87.4	white		7820			bright, abrasions left side
980911	1645	f	72.5	white		7821			bright, top of tail gone
980911	1645	m	84.5	white		7822		Y	abrasions both sides
980911	1645	f	75.3	white		7823		Y	bright, abrasions left side
980911	1645	f	81.7	white		7824			bright, clean

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980911	1645	f	76.1	white		7825			bright, clean
980911	1645	m	71.8	white		7826			bright, scrapes and scale loss both sides
980911	1645	f	69.5	white		7827			bright, clean
980911	1645	m	75.8	white		7828			bright, no spots
980911	1645	f	74.6	white		7829			bright, abrasions left side
980911	1645	f	76.8	white		7830			bright, clean
980911	1940	m	93.2	white		7831			dark, no marks
980911	1940	m	77.0	white		7832			red, hook scar right side
980911	1940	m	86.9	white		7833			dark-red no marks
980911	1940	f	70.2	white		7834			bright, minor scrape on head
980911	1940	f	81.1	white		7835			bright
980911	1940	f	77.3	white		7836			bright, clean
980911	1940	f	71.7	white		7837		Y	bright
980911	1940	f	78.9	white		7838		Y	bright
980911	1940	m	80.2	white		7839			dark, no marks
980911	1940	m	85.8	white		7840			red, no marks
980911	1940	f	85.0	white		7841			dark, abrasions both sides
980911	1940	f	77.7	white		7842			abrasions left side
980911	1940	f	82.4	white		7843			bright, abrasions both sides
980911	1940	f	67.3	white		7844			abrasions both sides
980911	1940	f	72.7	white		7845			abrasions both sides
980911	1940	f	71.5	white		7846			bright, old predator scar left side
980911	1940	m	89.0	white		7847			dark-red no marks
980911	1940	f	80.0	white		7848			broken dorsal fin rays
980911	1940	f	73.7	white		7849		Y	minor damage to left operculum
980911	1940	f	70.4	white		7850			bright, clean
980911	1940	f	escaped upstream untagged-unmeasured						
980911	1940	f	83.4	white		7851			major bad hook scar right side, ripped maxilla
980911	1940	f	75.4	white		7852			hook scar right side
980911	1940	m	85.3	white		7853			red, no marks
980911	1940	f	75.1	white		7854			top of tail missing, 3 cm. cuts left side
980911	1940	f	74.9	white		7855			bright, clean
980911	1940	f	68.5	white		7856		Y	bright
980911	1940	f	74.8	white		7857			bright, clean
980911	1940	f	70.2	white		7858			abrasions both sides
980912	945	m	81.1	white		7859			dark(very)
980912	945	f	76.9	white		7860			bright, clean
980912	945	f	79.2	white		7861		Y	bright
980912	945	m	90.7	white		7862			left operculum ripped with fungus, left side has fungus spots
980912	945	f	88.2	white		7863			healed tail erosion, cut left of adipose
980912	1730	f	75.3	white		7864			bright, clean
980912	1730	f	80.7	white		7865			bright, scar low right side
980912	1730	f	65.3	white		7866			bright, clean
980912	1730	f	81.8	white		7867		Y	bright, abrasions on sides
980912	1730	f	69.6	white		7868			bright, adipose fin missing
980912	1730	f	73.8	white		7869			abrasions on operculum and both sides
980912	1730	f	72.4	white		7870			lower tail split, bright
980912	1730	f	70.8	white		7871			bright, clean
980912	1730	f	70.9	white		7872			bright, minor abrasions
980912	1730	f	65.8	white		7873			bright, 10 cm. scar near tail right side

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980912	1730	f	72.0	white		7874			minor abrasions both sides
980912	1730	f	72.1	white		7875			bright, clean
980912	1730	f	69.0	white		7876		Y	bad gill-net marks, split tail
980912	1730	f	N/A			7877			nose thing??
980912	1945	m	71.8	white		7878			bright, clean
980912	1945	m	82.0	white		7879		Y	bite out of dorsal fin, tail splits and erosion
980912	1945	m	75.8	white		7880			clean
980912	1945	f	79.1	white		7881			bright, clean
980912	1945	f	72.0	white		7882			bright, clean
980912	1945	m	85.9	white		7883			bright, minor abrasions right side
980912	1945	m	76.9	white		7884			lower tail gone, dime-sized gouge behind dorsal fin
980912	1945	f	75.2	white		7885		Y	bright
980912	1945	f	72.0	white		7886			bright, clean
980912	1945	f	69.9	white		7887			bright, minor abrasions right side
980912	1945	f	84.7	white		7888			bright, clean
980912	1945	f	74.6	white		7889			bright, abrasions left side, top of tail missing
980912	1945	f	70.8	white		7890		Y	bright
980912	1945	m	90.2	white		7891			red, puncture on left side with fungus
980912	1945	f	68.9	white		7892			bright, split dorsal
980912	1945	m	80.0	white		7893		Y	bright
980912	1945	m	76.7	white		7894		Y	bright
980912	1945	f	70.8	white		7895			operculum scrapes both sides
980912	1945	f	72.1	white		7896			bright, minor abrasions right side
980912	1945	m	77.8	white		7897			dark, no marks
980912	1945	f	73.2	white		7898			bright, abrasions left side
980912	1945	m	81.1	white		7899			dark, two scars right side
980913	950	m	83.8	white		7900			tag bleeder, no marks
980913	1630	f	77.2	white		7901			bright, clean
980913	1630	m	91.3	white		7902			red, no marks
980913	1630	f	71.5	white		7903		Y	tail splits, abrasions both sides
980913	1630	f	73.8	white		7904			bright, clean
980913	1630	f	74.5	white		7905			bright, clean
980913	1630	f	73.4	white		7906			bright, clean
980913	1630	m	72.9	white		7907		Y	red, split dorsal
980913	1630	f	69.2	white		7908			bright, clean
980913	1630	f	68.9	white		7909			bright, abrasions left side
980913	1630	f	74.9	white		7910			bright, clean
980913	1920	f	71.7	white		7911			bright, clean
980913	1920	f	83.9	white		7912			bright, clean
980913	1920	f	76.1	white		7913			bright, clean
980913	1920	f	72.0	white		7914			bright, abrasion left side
980913	1920	m	90.4	white		7915			dark, lower tail gone
980913	1920	f	74.4	white		7916		Y	top of tail split, abrasions both sides
980913	1920	f	76.2	white		7917			bright, clean
980913	1920	m	74.1	white		7918			red, no marks
980913	1920	m	80.4	white		7919			dark, no marks
980913	1920	f	66.5	white		7920			red, abrasions right side
980913	1920	m	90.0	white		7921			tag bleeder, dark, split dorsal
980913	1920	f	70.0	white		7922			bright, clean
980913	1920	f	76.4	white		7923			bright, clean
980913	1920	f	68.9	white		7924			bright, clean

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980913	1920	f	72.9	white		7925			bright, minor abrasions both sides
980913	1920	f	71.7	white		7926			bright, clean
980913	1920	m	84.8	white		7927			red, no marks
980913	1920	m	85.1	white		7928			predator scars both sides
980913	1920	f	73.8	white		7929			bright, clean
980913	1920	m	73.0	white		7930			dark, abrasions left side, monofilament line marks
980913	1920	f	68.8	white		7931			dark, abrasions left side
980913	1920	f	76.5	white		7932			bright, minor abrasions both sides
980913	1920	f	69.8	white		7933		Y	bright, thin
980913	1920	f	73.0	white		7934		Y	dark, abrasions both sides
980913	1920	f	78.6	white		7935			bright, clean
980913	1920	f	73.8	white		7936			bright, clean
980913	1920	f	75.2	white		7938			bright, clean
980913	1920	f	70.5	white		7939			abrasions left side
980913	1920	m	76.8	white		7940			red, no marks
980913	1920	f	71.8	white		7941			bright, clean
980913	1920	f	77.0	white		7942			bright, clean
980913	1920	m	80.2	white		7943			dark, no marks
980913	1920	f	83.4	white		7944			bright, minor abrasions left side
980913	1920	f	71.7	white		7945			bright, abrasions both sides
980913	1920	m	82.7	white		7946			red, no marks
980913	1920	f	77.1	white		7947			bright, abrasions right side
980913	1920	m	92.1	white		7948			red, no marks
980913	1920	f	85.1	white		7949			red, no marks
980913	1920	m	80.3	white		7950			dark, no marks
980913	1920	m	80.6	white		7951			red, no marks
980913	1920	f	85.9	white		7952			bright, predator bite on dorsal surface
980913	1920	f	77.8	white		7953			bright, clean
980913	1920	f	73.7	white		7954		Y	abrasions right side
980913	1920	f	74.9	white		7955			predator scar right side (healed)
980913	1920	m	84.8	white		7956			red, predator scars both sides
980913	1920	f	69.6	white		7957			bright, abrasions left side
980913	1920	f	75.8	white		7958			bright, clean
980913	1920	f	73.0	white		7959		Y	bright, tail split
980913	1920	m	76.2	white		7960			red, top of tail deformed
980913	1920	f	75.7	white		7961			bright, minor abrasions both sides
980913	1920	f	75.2	white		7962			bright, clean
980913	1920	m	70.6	white		7963			red, cut left side high on back
980913	1920	m	77.7	white		7964			hook scar right side
980913	1920	m	77.9	white		7965			red, no marks
980914	1045	f	77.9	white		7966			bright, scraped operculum right side
980914	1045	m	88.1	white		7967			red, gouge above right operculum
980914	1045	m	82.4	white		7968			red, minor abrasions right side, upper tail split
980914	1750	f	76.2	white		7969			bright, hook scar right side
980914	1750	f	78.5	white		7970			bright, abrasions left side
980914	1750	f	83.4	white		7971			bright, two punctures left side near anal fin
980914	1750	f	75.8	white		7972			bright, two splits on lower tail
980914	1750	m	83.8	white		7973			predator scar even with dorsal fin on right side, cut on nose
980914	1750	f	69.8	white		7974			bright, clean
980914	1750	f	83.1	white		7975			bright, abrasion left side

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980914	1750	f	73.0	white		7976			holes on top of head, right operculum and anterior edge of dorsal fin
980914	1750	f	83.7	white		7977			bright, clean
980914	1750	f	78.9	white		7978			bright, old healed predator scar behind dorsal fin, new growth on tail
980914	1750	f	70.9	white		7979			bright, clean
980914	1750	f	86.6	white		7980			bright, clean, curly adipose fin
980914	1750	f	76.5	white		7981			bright, abrasions on top of head and dorsal fin
980914	1750	f	73.9	white		7982			bright, minor abrasions both sides
980914	1750	f	74.0	white		7983			bright, abrasions right side
980914	1750	m	81.5	white		7984	23	Y	dark
980914	1750	f	75.1	white		7985	24		bright, clean
980914	1750	m	80.9	white		7986	25		no marks,
980914	1750	f	80.0	white		7987	26		bright, abrasions on dorsal fin
980914	1750	f	67.5	white		7988	27		dark, abrasions both sides
980914	1750	f	75.5	white		7989	28		bright, abrasions both sides
980914	1750	f	71.0	white		7990		Y	bright, multiple tail splits
980914	1750	f	73.1	white		7991			bright, abrasions right side
980914	1750	f	68.8	white		7992		Y	gillnet marks around dorsal fin area, scale loss
980914	1750	m	73.9	white		7993			bright, abrasion right side
980914	1750	m	79.1	white		7994			red, no marks
980914	1750	f	74.4	white		7995			bright, clean
980914	1950	f	83.8	white		7996		Y	bright, tail splits
980914	1950	m	90.6	white		7997			red, no marks
980914	1950	m	91.5	white		7998			dark, abrasions right side
980915	1945	f	78.2	white		7999			bright, abrasions left side
980915	1945	m	83.8	white		8000			red, no marks
980915	1945	f	72.6	bt. Orange	S	6926			bright, clean
980916	1056	f	83.6	bt. Orange	S	6927	29		bright, clean
980916	1056	m	75.0	bt. Orange	S	6928	30	Y	
980916	1630	f	77.0	bt. Orange	S	6929			bright, clean
980916	1630	f	76.8	bt. Orange	S	6930		Y	bright, minor abrasions both sides
980916	1630	f	83.6	bt. Orange	S	6931			bright, predator scar left side
980916	1630	f	74.5	bt. Orange	S	6932		Y	bright, gouge over left eye
980916	1630	f	67.0	bt. Orange	S	6933			predator scar left side (big)
980916	1920	m	91.6	bt. Orange	S	6934			dark
980916	1920	f	85.0	orange	N	5443			TAG RECAPTURE, (NOO5443) bright, clean
980916	1920	f	75.8	bt. Orange	S	6935			bright, predator scar right side near anal fin
980916	1920	f	74.2	bt. Orange	S	6936		Y	bright, bad (20 cm.) predator scar left side
980916	1920	f	73.2	bt. Orange	S	6937			bright, head scraped right side
980916	1920	f	79.2	bt. Orange	S	6938			bright, scrape across top of head
980916	1920	f	71.8	bt. Orange	S	6939			bright, clean
980916	1920	m	79.5	bt. Orange	S	6940			red, no marks
980916	1920	f	73.1	bt. Orange	S	6941			bright, clean
980916	1920	f	71.1	bt. Orange	S	6942			bright, minor abrasions left side, abrasions on jaw
980916	1920	f	74.7	bt. Orange	S	6943			bright, loonie sized predator scar left side behind dorsal fin
980916	1920	f	71.4	bt. Orange	S	6944			dark, deformed right operculum
980917	1115	f	70.8	bt. Orange	S	6945	31		minor fungus, scar left side

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980917	1115	f	78.8	bt. Orange	S	6946	32		healed tail split, predator scar left side
980917	1115	m	90.0	bt. Orange	S	6947	33		red, no marks
980917	1115	f	78.7	bt. Orange	S	6948			split dorsal and pectoral fins, lots of scars, etc.
980917	1115	f	82.9	bt. Orange	S	6949			bright, curly adipose, scrapes both sides
980917	1600	m	75.0	bt. Orange	S	6950		Y	red
980917	1930	m	93.9	bt. Orange	S	6951			red, no marks
980917	1930	m	80.7	bt. Orange	S	6952			red, scrapes left maxilla
980917	1930	m	84.3	bt. Orange	S	6953			red, no marks
980917	1930	f	71.2	bt. Orange	S	6954			bright, clean
980917	1930	m	82.5	bt. Orange	S	6955			red, cut on top of tail
980917	1930	m	94.4	bt. Orange	S	6956			red, no marks
980917	1930	f	68.2	bt. Orange	S	6957			bright, clean
980917	1930	f	73.7	bt. Orange	S	6958			bright, abrasions both sides
980917	1930	f	79.4	bt. Orange	S	6959			bright, abrasions both sides
980917	1930	f	69.2	bt. Orange	S	6960			bright, clean
980917	1930	m	87.8	bt. Orange	S	6961			dark, hook scar left side, nose abrasions
980917	1930	m	77.7	bt. Orange	S	6962		Y	dark, adipose clipped- healed
980917	1930	f	73.8	bt. Orange	S	6963			minor abrasions both sides
980917	1930	f	63.7	bt. Orange	S	6964			bright, clean
980917	1930	f	71.0	bt. Orange	S	6965			bright, clean
980917	1930	m	78.5	bt. Orange	S	6966			red, no marks
980918	1730	f	82.9	bt. Orange	S	6967			dark
980918	1730	m	97.5	bt. Orange	S	6968			red, split upper tail
980918	1730	f	72.9	bt. Orange	S	6969			bright, multiple nose abrasions
980918	1730	m	76.1	bt. Orange	S	6970		Y	dark
980918	1945	f	69.6	bt. Orange	S	6971		Y	split left pectoral
980918	1945	f	70.5	bt. Orange	S	6972			bright, tag bleeder , abrasions right side
980918	1945	m	78.1	bt. Orange	S	6973			gouge over left eye, split tail
980918	1945	f	83.0	bt. Orange	S	6974		Y	fungus on nose
980918	1945	m	76.8	bt. Orange	S	6975			dark, deformed top of tail
980918	1945	f	70.8	orange		11001			bright, abrasions top of head and left side
980918	1945	f	73.1	orange		11002			no marks
980918	1945	m	76.8	orange		11003			red, nasty hook scar left side
980918	1945	f	72.2	orange		11004			bright, clean
980919	945	f	80.8	orange		11005			bright, h/s right side, abrasions left side head
980919	945	m	69.7	orange		11006			bright, abrasions, tail splits
980919	945	m	83.7	orange		11007			red, developed kype, no marks
980919	1915	f	79.4	orange		11008	34		bright, clean
980919	1915	m	80.8	orange		11009	35		red, no marks
980919	1915	m	99.6	orange		11010	36		red, no marks
980919	1915	f	82.0	orange		11011			bright, clean
980919	1915	m	91.6	orange		11012			red, abrasion left side
980919	1915	m	87.8	orange		11013			red, hook scar left side
980919	1915	m	78.7	orange		11014			red, no marks
980919	1915	f	72.9	orange		11015			minor abrasions right side
980919	1915	f	70.9	orange		11016			bright, thin, abrasions right side
980919	1915	f	72.8	orange		11017		Y	bright
980919	1915	f	81.4	orange		11018			old predator scar right side

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980919	1915	f	N/A	orange		11019			red, no marks
980919	1915	m	66.5	orange		11020			red, abrasions right side, thin
980919	1915	f	76.2	orange		11021			bright, clean
980919	1915	f	73.2	orange		11022			bright, clean
980919	1915	m	75.7	orange		11023			red, no marks
980919	1915	f	72.3	orange		11024			bright, abrasions left side
980919	1915	f	71.4	orange		11025			bright, clean
980919	1915	m	76.8	orange		11026			upper tail and dorsal split
980919	1915	f	74.7	orange		11027			scale loss, scar with fungus right side
980919	1915	f	84.5	orange		11028			bright, old scar right side
980919	1915	m	77.7	orange		11029		Y	scar right side
980919	1915	f	83.4	orange		11030			red, no marks
980919	1915	f	72.8	orange		11031		Y	bright
980919	1915	m	80.7	orange		11032			red, no marks
980919	1915	m	77.0	orange		11033			dark, no marks
980919	1915	f	67.4	orange		11034			bright, clean
980919	1915	f	73.5	orange		11035			bright, clean, thick-fat
980919	1915	f	72.2	orange		11036			bright, clean, lots of spots
980920	1030	m	82.8	orange		11037			red, curly adipose, split tail and operculum
980920	1700	f	86.8	orange	C	6124			TAG RECAPTURE, bright, abrasions left side tail wear
980920	1700	m	86.8	orange		11038			red, 2 cm. missing off posterior edge of operculum
980920	1700	m	88.8	orange		11039			red, no marks
980920	1700	m	89.0	orange		11040			dark, no marks
980920	1700	f	71.6	orange		11041	37		bright, clean
980920	1700	f	74.5	orange		11042	38	Y	bright
980920	1700	f	77.3	orange		11043	39		abrasions right side, no spots
980920	1700	f	65.5	orange		11044			bright, clean
980920	1700	f	72.0	orange		11045		Y	left operculum damaged, bad scale loss, top of tail gone, bright
980920	1700	f	73.1	orange		11046			bright, multiple head scrapes
980920	1900	f	71.6	orange		11047			bright, operculum and head scrapes
980920	1900	f	81.7	orange		11048			bright, 25 cm. Predator scar from dorsal down side- fungus
980920	2015	m	87.9	orange		11049			dark, abrasions right side
980920	2015	m	85.2	orange		11050		Y	dark
980921	1045	f	75.5	orange		11051	40		bright, abrasions both sides and head
980921	1045	m	76.0	orange		11052	41	Y	dark
980921	1700	m	87.8	orange		11053	42		red, minor abrasions both sides
980921	1700	f	82.7	orange		11054			bright, clean
980921	1700	m	84.8	orange		11055			red, no marks
980921	1700	f	76.3	orange		11056			bright, clean
980921	1700	f	80.8	orange		11057			bright, clean
980921	1700	m	59.8	orange		11058			red, predator scars both sides
980921	1700	f	72.2	orange		11059			bright, fungus scars right side
980921	1700	f	78.1	orange		11060			bright, minor abrasions right side
980921	1930	f	80.0	orange		11061			bright, abrasions both sides
980921	1930	f	73.0	orange		11062			gouge over left eye, abrasions right side
980922	1030	m	74.0	orange	S	3354		Y	bad gillnet marks, tail splits dark, adipose puncture(well healed), dark

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980922	100	f	74.0	orange		11063	43		bright, minor abrasions head, healing split tail
980922	1715	m	84.1	orange		11064			dark, predator scar right side near pectoral fin
980922	1715	m	83.4	orange		11065			red, old predator scar left side
980922	1715	m	86.9	orange		11066			red, split dorsal fin
980922	1715	f	70.0	orange		11067			bright, clean
980922	1715	f	76.0	orange		11068			bright, clean
980922	1910	m	96.0	orange		11069			red, no marks
980922	1910	m	92.8	orange		11070			red, no marks
980922	1910	f	76.3	orange		11071		Y	bright, both opercula damaged
980922	1910	m	91.6	orange		11072			red, no marks
980922	1910	m	95.6	orange		11073			dark, no marks
980922	1910	m	82.9	orange		11074			dark, top of tail split
980922	1910	m	96.1	orange		11075			dark, right operculum damaged
980922	1910	m	77.2	orange		11076			bright, clean
980922	1910	m	72.0	orange		11077			dark, no marks
980922	1910	m	76.1	orange		11078			dark, predator scar right side
980922	1910	f	70.2	orange		11079		Y	bright
980923	1000	f	84.3	orange		11080	44		bright, piece missing from adipose, deformed bulge between head and dorsal fin
980923	1000	f	86.8	orange		11081			lots of cuts and abrasions on head and body- fungus starting
980923	1500	f	74.9	orange		11082			bright, minor abrasions right side
980923	1730	f	69.9	orange		11083		Y	bright, tag bleeder, cut on dorsal fin
980923	1920	m	88.1	orange		11084			red, nose abrasions
980924	1030	f	68.6	orange		11085			bright, bad scars on left jaw and right operculum with fungus
980924	1030	f	83.4	orange		11086			bright, minor scrapes on head
980924	1030	f	81.6	orange		11087	45	Y	red
980924	1530	m	77.4	orange		11088		Y	bright, bulging eyes
980924	1915	m	92.2	orange		11089			red, big kype
980924	1915	f	69.8	orange		11090			bright, minor abrasions left side
980924	1915	m	85.7	orange		11091			red, 20 cm predator scar right side
980924	1915	m	86.7	orange		11092			red, abrasions on dorsal fin
980924	1915	m	81.8	orange		11093			red, tons of spots, bruise on right side of dorsal fin
980924	1915	m	94.2	orange		11094			red, hook scar left side
980924	1915	f	72.9	orange		11095			bright, minor abrasions right side
980924	1915	m	82.4	orange		11096			dark, big kype
980924	1915	m	78.3	orange		11097			red, old predator scar left side of caudal peduncle
980924	1915	f	70.1	orange		11098			bright, scrapes left side
980924	1915	m	75.5	orange		11099			red, abrasions both sides, ripped right operculum (top)
980924	1915	f	70.7	orange		11100			bright, clean
980924	1915	f	68.8	orange		11101			bright, clean
980924	1915	f	77.2	orange		11102			bright, abrasions right operculum
980924	1915	f	71.6	orange		11103			bright, abrasions left side, minor abrasions head
980924	1915	f	80.8	orange		11104			bright, head scrapes
980924	1915	f	73.6	orange		11105		Y	left operculum torn apart
980924	1915	f	85.1	orange		11106			bright, left side bad scar with fungus on nose and head

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980925	1020	f	71.0	orange		11107	46		bright, clean
980925	1740	m	89.2	orange		11108			dark, no marks
980925	1740	m	85.6	orange		11109			red, no marks
980925	1740	f	77.8	orange		11110			bright, abrasions both sides
980925	1740	f	87.8	orange		11111		Y	abrasions both sides
980925	1740	f	78.7	orange		11112			bright, minor abrasions both sides
980925	1740	f	84.9	orange		11113			bright, clean
980925	1740	f	71.8	orange		11114			abrasions both sides, thin
980925	1740	f	73.2	orange		11115			clean, no marks
980925	1740	f	79.1	orange		11116			bright, clean
980925	1740	f	72.8	orange		11117			bright, clean
980925	1740	f	78.1	orange		11118		Y	red, dorsal fin abrasions
980925	1740	f	70.8	orange		11119			fungus spot right side, abrasions left side
980925	1740	m	85.5	orange		11120		Y	gillnet marks on head and dorsal fin, red
980925	1740	f	69.7	orange		11121			nose damaged, abrasions both sides
980925	1740	f	79.0	orange		11122			abrasions both sides, minor fungus
980925	1740	f	74.8	orange		11123			bright, minor abrasions right side
980925	1740	f	73.4	orange		11124			dark, no marks
980925	1740	m	91.6	orange		11125	47		red, no marks
980925	1740	m	92.4	orange		11126	48		red, no marks
980925	1740	f	82.2	orange		11127			lots of scrapes both sides and on fins
980925	1740	m	84.0	orange		11128			dark, old predator scar left side
980925	1740	m	62.8	orange		11129		Y	dark, abrasions both sides
980925	1740	f	81.0	orange		11130		Y	abrasions on dorsal and pelvic fins
980925	1740	m	89.0	orange		11131			red, no marks
980925	1740	f	87.5	orange		11132			deformed top of tail, fat and bright
980925	1740	m	78.6	orange		11133			red, old healed scar left side
980925	1740	f	71.2	orange		11134			bright, minor scrapes both sides
980925	1740	m	76.0	orange		11135			red, no marks
980925	1740	f	71.4	orange		11136			bright, minor abrasions both sides
980925	1740	f	63.5	orange		11137			bright, bulge-tumor between adipose and dorsal fins
980925	1950	m	92.0	orange		11138			red, hook scar right side
980925	1950	f	ESCAPED UNTAGGED UNMEASURED						
980925	1950	m	80.7	orange		11139		Y	red, two tail splits
980925	1950	m	83.5	orange		11140			abrasions both sides, fin abrasions, head scrapes
980925	1950	f	73.7	orange		11141		Y	RECAPTURE, Skeena test fishery, tail splits, adipose punch, tag lost in dark-found next day Orange S03309
980926	2020	m	84.3	orange		11142			red, no marks
980926	2020	f	74.9	orange		11143			bright, abrasions both sides
980927	1500	m	83.4	orange		11144	49		red, minor abrasions both sides
980927	1900	f	78.6	orange		11145			minor abrasions both sides, abrasions on top of tail
980927	1900	f	71.5	orange		11146			bright, minor abrasions both sides
980927	1900	m	80.8	orange		11147			dark, scrapes right side
980927	1900	f	75.0	orange		11148		Y	abrasions both sides
980927	1900	f	77.8	orange		11149			bright, minor abrasions left side
980927	1900	f	79.6	orange		11150			bright, clean
980927	1900	m	83.5	orange		11151		Y	tail damage, tons of scrapes
980927	1900	m	88.7	orange		11152			dark, scrapes on head an left eye

Date (yymmdd)	Time	Sex	Fork Length (cm)	Tag Colour	Tag Letter	Tag #	DNA/ Scale Sample	Gill Net Marks	Comments
980927	1900	m	93.7	orange		11153	50		dark, no marks
980927	1900	f	73.7	orange		11154			red, no marks
980927	1900	f	70.9	orange		11155		Y	bright
980928	1630	m	65.2	orange		11156			red, no marks
980930	1030	f	76.4	orange		11157			bright, abrasions both sides
980930	1030	m	75.2	orange		11158			red, old predator scar right side
980930	1030	f	73.7	orange		11159		Y	bright
980930	1630	m	90.9	orange		11160		Y	tail splits, tag bleeder
980930	1630	f	67.7	orange		11161			bright, predator scar near dorsal fin
980930	1630	f	72.1	orange		11162			bright, minor abrasions left side
980930	1630	f	74.0	orange		11163			bright, abrasions right side
980930	1630	f	65.0	orange		11164			bright, minor abrasions left side
980930	1836	f	74.5	orange		11165			clean

Appendix Table 7. Bull trout data.

Location	Sex	Fork Length (cm)	DNA Vial #	Fin Env. #	Picture	Branch.	Comments
Sustut Fence	m	392	1	1	R1-#12		upstream migrant
Sustut Fence	m	555	2	2	R1-#23-24		upstream migrant
Sustut Fence	m	440					upstream migrant, right side- pelvic fin clip from previous years
Sustut Fence		480					
Sustut Fence		410					
Sustut Fence		450					upstream migrant
Sustut Fence							passed downstream off fence
Sustut Fence		420					upstream migrant
Sustut Fence		475					upstream migrant
Sustut Fence		385					upstream migrant
Sustut Fence		525					upstream migrant
Sustut Fence	m	504					upstream migrant
Sustut Fence	m	549					upstream migrant
Sustut Fence							escaped upstream
Sustut Fence	f	454					upstream migrant, has bite marks(from a fish)
Sustut Fence	m	496		3			died in trap box entrance dowels, has lots of air bladder round worms
Sustut Fence		447					upstream migrant, prev. sampled adipose fin
Sustut Fence	m	585					upstream migrant, large kype and orange belly
Sustut Fence	m	580	4	4	R4-#19	25	mort (fence panel stranding), roundworms in swim bladder, intestinal tape worms, juvenile salmonid in stomach
Sustut Fence	m	480					upstream migrant, split tail, orange belly
Sustut Fence	f	487					upstream migrant, no marks
Sustut Fence	m	467					upstream migrant, kype, orange belly

Location	Sex	Fork Length (cm)	DNA Vial #	Fin Env. #	Picture	Branch.	Comments
Sustut Fence	f	470	5	5	R5-#5	27	trap box mort, intestinal tapeworms, spawned out with new gonads forming, 850 g
Sustut Fence	f	518					thin, spawned out
Sustut Fence	f	489					upstream migrant, thin- spawned out
Sustut Fence	f	495	6	6	R5-#6	26	trap box mort, air bladder roundworms, intestinal tapeworms, new gonads forming
Sustut Fence	f	516					upstream migrant, white patch near right side adipose
Sustut Fence		417					upstream migrant
Sustut Fence	f	560					upstream migrant
Sustut Fence	m	450	7	7	R5-#12-13	26	died in trap box dowels, air bladder roundworms, spent gonads, Mature Male Dolly Varden found in stomach, Dolly branchiostegals = 20
Sustut Fence	?	415					upstream migrant saved from trap dowels, released downstream
Sustut Fence	m	500					upstream migrant, kype, orange belly
Sustut Fence	m	522					upstream migrant, kype, orange belly, ripe

Appendix Table 8. Rainbow trout data

Date (yymmdd)	Location	Sex	Fork Length (cm)	DNA Vial #	Scale Env. #	Picture	Comments
98/08/04	Sustut Fence	n/a	390	1	1	R1-#4	loonie sized piece missing from left operculum
98/09/21	Sustut Fence	m	450		2	R5-#1	1000 g, bad fungus, fence mort, collected scales and otoliths
98/09/23	Sustut Fence	n/a	395	3	3		bright, left pectoral fin absent
98/09/27	Sustut Fence	m	402	4	4		u/s migrant, red, no marks

Appendix Table 9. Chinook salmon DNA and scale samples.

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/08/01	f	840	695	1-21R	40617	Aug 1-7	
98/08/01	f	940	770	1-21L	40617	Aug 1-7	
98/08/02	f	730	610	2-22R	40617	Aug 1-7	
98/08/02	m	1040	820	2-22L	40617	Aug 1-7	
98/08/03	m	740	605	3-23R	40617	Aug 1-7	
98/08/03	f	790	640	3-23L	40617	Aug 1-7	
98/08/04	m	433	371	4-24R	40617	Aug 1-7	
98/08/04	f	820	670	4-24L	40617	Aug 1-7	
98/08/04	f	866	715	5-25R	40617	Aug 1-7	
98/08/04	m	1011	789	5-25L	40617	Aug 1-7	
98/08/05	f	909	746	1-21R	40619	Aug 1-7	
98/08/05	f	905	762	1-21L	40619	Aug 1-7	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/08/05	f	937	773	2-22R	40619	Aug 1-7	
98/08/05	f	950	812	2-22L	40619	Aug 1-7	
98/08/06	m	1083	823	3-23R	40619	Aug 1-7	
98/08/06	f	946	754	3-23L	40619	Aug 1-7	
98/08/06	m	980	796	4-24R	40619	Aug 1-7	
98/08/06	m	943	739	4-24L	40619	Aug 1-7	
98/08/07	f	869	715	5-25R	40619	Aug 1-7	
98/08/07	m	1050	815	5-25L	40619	Aug 1-7	
98/08/07	f	908	749	1-21R	40621	Aug 1-7	
98/08/07	f	917	746	1-21L	40621	Aug 1-7	
98/08/07	m	886	722	2-22R	40621	Aug 1-7	
98/08/07	f	892	732	2-22L	40621	Aug 1-7	
98/08/09	f	953	787	3-23R	40621	Aug 8-14	
98/08/09	f	925	777	3-23L	40621	Aug 8-14	
98/08/09	m	916	714	4-24R	40621	Aug 8-14	
98/08/09	f	905	741	4-24L	40621	Aug 8-14	
98/08/09	f	900	748	5-25R	40621	Aug 8-14	
98/08/09	f	904	747	5-25L	40621	Aug 8-14	
98/08/09	m	917	719	1-21R	40623	Aug 8-14	
98/08/09	m	626	522	1-21L	40623	Aug 8-14	
98/08/09	f	939	762	2-22R	40623	Aug 8-14	
98/08/11	m	501	412	2-22L	40623	Aug 8-14	
98/08/12	f	878	718	3-23R	40623	Aug 8-14	
98/08/12	f	857	698	3-23L	40623	Aug 8-14	
98/08/12	f	900	740	4-24R	40623	Aug 8-14	
98/08/12	f	811	678	4-24L	40623	Aug 8-14	
98/08/12	f	824	672	5-25R	40623	Aug 8-14	
98/08/12	f	876	727	5-25L	40623	Aug 8-14	
98/08/14	f	850	685	1-21R	40627	Aug 8-14	
98/08/14	m	1023	794	1-21L	40627	Aug 8-14	
98/08/14	f	954	766	2-22R	40627	Aug 8-14	
98/08/15	m	696	551	2-22L	40627	Aug 15-21	
98/08/15	f	867	708	3-23R	40627	Aug 15-22	
98/08/15	f	839	680	3-23L	40627	Aug 15-23	
98/08/15	m	385	323	4-24R	40627	Aug 15-24	
98/08/15	f	863	720	4-24L	40627	Aug 15-25	
98/08/15	m	974	761	5-25R	40627	Aug 15-26	
98/08/16	f	884	732	5-25L	40627	Aug 15-27	

Appendix Table 10. Chinook salmon mortalities.

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/07/31	m	1000	760	
98/08/01	m	1045	825	
98/08/01	m	1080	860	
98/08/01	m	930	745	
98/08/01	f	945	790	
98/08/02	m	940	735	
98/08/02	m	955	750	
98/08/02	m	1060	840	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/02	m	915	730	
98/08/02	m	980	760	
98/08/03	m	1090	840	
98/08/03	m	1060	820	
98/08/03	m	1015	775	
98/08/03	m	1045	845	
98/08/03	m	945	755	
98/08/03	f	885	720	
98/08/03	f	935	760	
98/08/04	m	1063	844	
98/08/04	f	892	719	
98/08/04	m	1063	825	
98/08/04	f	938	762	pre-spawn mort
98/08/05	f	920	738	
98/08/05	m	1044	798	
98/08/05	m	978	771	
98/08/05	m	1026	792	
98/08/05	m	1020	786	
98/08/05	m	1144	874	
98/08/05	f	1016	826	pre-spawn mort
98/08/05	m	1026	977	
98/08/06	m	961	746	
98/08/06	m	991	756	
98/08/06	m	823	660	
98/08/06	m	1100	855	
98/08/06	m	1004	790	
98/08/06	m	853	685	
98/08/06	m	770	619	
98/08/06	m	961	750	
98/08/06	m	1111	880	
98/08/06	m	984	766	
98/08/07	m	1083	832	
98/08/07	m	880	691	
98/08/07	m	857	679	
98/08/07	m	1091	859	
98/08/07	m	1030	794	
98/08/07	m	1116	845	
98/08/07	f	970	780	
98/08/07	m	956	732	
98/08/07	m	885	685	
98/08/08	m	850	655	
98/08/08	m	1134	904	
98/08/08	m	941	744	
98/08/08	m	1022	809	
98/08/08	m	1079	856	
98/08/08	m	1061	816	
98/08/08	f	1013	827	
98/08/09	f	961	780	
98/08/09	m	917	699	
98/08/09	f	916	731	pre-spawn mort
98/08/09	f	902	725	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/09	m	710	564	
98/08/09	m	1060	805	
98/08/09	m	780	608	
98/08/10	m	1012	785	
98/08/10	f	969	776	
98/08/10	m	910	704	
98/08/10	f	881	715	
98/08/10	m	671	522	
98/08/10	f	853	671	
98/08/10	m	989	771	
98/08/10	m	976	743	
98/08/10	f	942	775	
98/08/10	m	990	751	
98/08/10	f	920	738	pre-spawn mort
98/08/10	f	960	768	pre-spawn mort
98/08/10	m	931	734	
98/08/10	m	740	582	
98/08/11	m	1060	815	
98/08/11	m	1102	862	
98/08/11	m	993	757	
98/08/11	m	982	751	
98/08/11	m	1059	805	
98/08/11	m	1006	776	
98/08/11	m	1035	780	
98/08/11	m	986	787	
98/08/12	m	1081	826	
98/08/12	m	749	590	
98/08/12	m	1163	884	34.5 pounds
98/08/12	m	434	353	
98/08/12	m	805	646	
98/08/12	m	736	580	
98/08/12	m	1038	805	
98/08/12	m	606	500	
98/08/13	m	1011	799	
98/08/13	m	894	696	
98/08/13	m	942	737	
98/08/13	m	943	754	
98/08/13	m	890	697	
98/08/13	f	894	710	
98/08/13	m	914	728	
98/08/13	m	1041	785	
98/08/13	m	983	753	
98/08/13	m	966	758	
98/08/13	m	962	746	
98/08/13	m	992	790	
98/08/13	m	940	735	
98/08/13	m	773	613	
98/08/13	m	1049	808	
98/08/14	m	1021	772	
98/08/14	m	905	689	
98/08/14	m	1023	796	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/14	m	1076	825	
98/08/14	m	1081	850	
98/08/14	m	749	590	
98/08/14	m	878	666	
98/08/14	m	1109	854	
98/08/14	m	1101	846	
98/08/14	m	1051	802	
98/08/14	m	900	690	
98/08/14	m	781	623	
98/08/14	m	1028	783	
98/08/15	m	976	744	
98/08/15	m	740	583	
98/08/15	m	762	595	
98/08/15	m	1060	820	
98/08/15	m	870	695	
98/08/15	m	1042	841	
98/08/15	m	914	714	
98/08/15	f	1004	820	
98/08/15	m	1062	819	
98/08/15	m	873	686	
98/08/15	m	938	732	
98/08/15	m	908	720	
98/08/15	m	947	731	
98/08/15	m	984	754	
98/08/15	m	982	783	
98/08/15	m	1055	813	
98/08/15	m	1012	806	
98/08/15	m	577	460	
98/08/15	m	878	684	
98/08/15	m	875	679	
98/08/15	f	819	678	
98/08/15	m	885	705	
98/08/15	m	911	690	
98/08/15	m	1113	873	
98/08/15	f	961	777	
98/08/15	m	976	790	
98/08/16	m	933	735	
98/08/16	m	945	732	
98/08/16	m	842	649	
98/08/16	m	980	758	
98/08/16	m	763	614	
98/08/16	m	857	674	
98/08/16	m	869	699	
98/08/16	m	1090	852	
98/08/16	f	971	803	
98/08/16	m	954	746	
98/08/16	m	934	71	
98/08/16	m	1021	820	
98/08/16	m	1071	822	
98/08/16	m	1009	799	
98/08/16	m	950	734	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/16	m	990	786	
98/08/16	f	926	740	
98/08/16	f	1016	799	pre-spawn mort
98/08/16	m	1048	790	
98/08/16	m	1062	891	
98/08/16	f	853	683	
98/08/16	m	1010	776	
98/08/17	m	1072	823	
98/08/17	m	703	582	
98/08/17	m	936	710	
98/08/17	m	808	662	
98/08/17	f	823	659	
98/08/17	m	956	742	
98/08/17	m	1075	854	
98/08/17	f	843	690	
98/08/17	f	881	734	
98/08/17	f	939	754	
98/08/17	f	955	792	
98/08/17	m	1124	871	
98/08/17	m	985	758	
98/08/17	m	843	651	
98/08/17	m	964	754	
98/08/17	f	876	723	
98/08/17	f	860	710	
98/08/17	f	875	708	
98/08/18	m	534	420	
98/08/18	m	853	666	
98/08/18	m	962	745	
98/08/18	m	894	690	
98/08/18	f	911	746	
98/08/18	m	891	711	
98/08/18	m	881	701	
98/08/18	m	900	710	
98/08/18	m	956	729	
98/08/18	m	772	616	
98/08/18	m	1100	851	
98/08/18	m	610	482	
98/08/18	m	1006	781	
98/08/18	m	950	720	
98/08/18	m	873	692	
98/08/18	m	954	746	
98/08/18	m	963	740	
98/08/18	m	1021	805	
98/08/18	m	752	606	
98/08/18	m	995	772	
98/08/18	f	909	745	
98/08/18	m	604	484	
98/08/18	f	942	764	
98/08/18	m	684	541	
98/08/18	m	1094	863	
98/08/18	m	1038	784	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/19	m	836	666	
98/08/19	m	914	717	
98/08/19	f	911	732	
98/08/19	f	891	702	pre-spawn mort
98/08/19	m	1013	808	
98/08/19	m	931	734	
98/08/19	f	893	739	
98/08/19	m	838	661	
98/08/19	m	652	498	
98/08/19	m	790	649	
98/08/19	m	871	682	
98/08/19	m	771	598	
98/08/19	m	961	757	
98/08/19	m	942	741	
98/08/19	m	913	724	
98/08/19	m	840	662	
98/08/19	m	903	710	
98/08/19	m	991	783	
98/08/19	m	819	645	
98/08/19	m	742	609	
98/08/19	m	1058	812	
98/08/19	m	901	709	
98/08/19	m	1053	792	
98/08/19	m	1045	809	
98/08/19	m	989	741	
98/08/20	f	1020	821	
98/08/20	m	1123	870	
98/08/20	m	901	716	
98/08/20	m	912	705	
98/08/20	m	735	588	
98/08/20	m	691	534	
98/08/20	m	713	562	
98/08/20	f	966	782	
98/08/20	m	846	664	
98/08/20	f	886	716	
98/08/20	m	886	705	
98/08/20	m	904	710	
98/08/20	m	620	488	
98/08/20	f	895	726	
98/08/20	m	886	686	
98/08/20	m	786	622	
98/08/20	f	890	720	
98/08/20	m	930	726	
98/08/20	m	780	620	
98/08/20	m	945	730	
98/08/20	f	980	784	
98/08/20	m	930	733	
98/08/21	m	884	700	
98/08/21	m	731	575	
98/08/21	m	882	702	
98/08/21	m	1014	786	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/21	m	851	661	
98/08/21	m	960	745	
98/08/21	f	882	705	
98/08/21	m	721	555	
98/08/21	m	936	723	
98/08/21	m	701	546	
98/08/21	f	850	684	
98/08/21	m	796	616	
98/08/21	m	780	614	
98/08/21	m	850	653	
98/08/21	m	896	694	
98/08/21	m	846	648	
98/08/21	m	963	730	
98/08/21	m	900	699	
98/08/21	m	760	590	
98/08/21	m	851	655	
98/08/21	m	1080	830	
98/08/22	m	865	686	
98/08/22	m	940	790	
98/08/22	m	724	575	
98/08/22	m	870	684	
98/08/22	m	864	679	
98/08/22	m	403	326	
98/08/22	f	924	751	
98/08/22	m	810	638	
98/08/22	m	823	657	
98/08/22	m	702	544	
98/08/22	m	853	660	
98/08/22	m	652	522	
98/08/23	m	702	564	
98/08/23	m	710	557	
98/08/23	m	696	546	
98/08/23	m	730	565	
98/08/23	m	684	534	
98/08/23	m	1019	771	
98/08/23	f	851	678	
98/08/23	m	855	679	
98/08/23	m	781	608	
98/08/23	m	738	590	
98/08/24	m	392	310	
98/08/24	m	930	712	
98/08/24	m	877	664	
98/08/24	m	912	701	
98/08/24	m	714	557	
98/08/24	f	881	702	pre-spawn mort
98/08/24	m	812	621	
98/08/24	m	780	609	
98/08/24	m	895	711	
98/08/24	m	665	533	
98/08/24	m	880	691	
98/08/24	m	885	691	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/24	m	747	595	
98/08/25	m	780	614	
98/08/25	m	661	553	
98/08/25	m	821	644	
98/08/25	m	819	693	
98/08/25	m	960	739	
98/08/26	m	964	756	
98/08/26	m	686	734	
98/08/27	f		800	
98/08/27	m	905	745	
98/08/28	n/a			sack of fungus
98/08/28	m	Jack		not measured
98/08/28	m	885	705	
98/08/28	m	1010	825	
98/08/30	m	1020	830	
98/08/30	m	880	680	
98/08/30	f	800	640	
98/08/30	f	870	700	
98/08/30	m	580		
98/08/31	f	870	710	
98/08/31	m	960	830	sack of fungus
98/09/02	f	890	705	
98/09/03	m	1000	775	
98/09/03	f	900	705	
98/09/03	f	955	765	

Appendix Table 11. Chinook salmon daily migration sex ratios.

	Daily					Cumulative				
Date (yymmdd)	M	F	Total	%M	%F	M	F	Total	%M	%F
98/08/01	10	14	24	41.7	58.3	10	14	24	41.7	58.3
98/08/02	20	14	34	58.8	41.2	30	28	58	51.7	48.3
98/08/03	6	8	14	42.9	57.1	36	36	72	50.0	50.0
98/08/04	15	14	29	51.7	48.3	51	50	101	50.5	49.5
98/08/05	49	38	87	56.3	43.7	100	88	188	53.2	46.8
98/08/06	17	27	44	38.6	61.4	117	115	232	50.4	49.6
98/08/07	17	24	41	41.5	58.5	134	139	273	49.1	50.9
98/08/08	17	15	32	53.1	46.9	151	154	305	49.5	50.5
98/08/09	37	41	78	47.4	52.6	188	195	383	49.1	50.9
98/08/10	11	15	26	42.3	57.7	199	210	409	48.7	51.3
98/08/11	11	12	23	47.8	52.2	210	222	432	48.6	51.4
98/08/12	7	25	32	21.9	78.1	217	247	464	46.8	53.2
98/08/13	13	18	31	41.9	58.1	230	265	495	46.5	53.5
98/08/14	7	15	22	31.8	68.2	237	280	517	45.8	54.2
98/08/15	10	13	23	43.5	56.5	247	293	540	45.7	54.3
98/08/16	10	2	12	83.3	16.7	257	295	552	46.6	53.4
98/08/17	4	2	6	66.7	33.3	261	297	558	46.8	53.2
98/08/18	1	1	2	50.0	50.0	262	298	560	46.8	53.2
98/08/19	0	0	0			262	298	560	46.8	53.2
98/08/20	0	1	1	0.0	100.0	262	299	561	46.7	53.3
98/08/21	1	0	1	100.0	0.0	263	299	562	46.8	53.2

Date (yymmdd)	Daily M	F	Total	%M	%F	Cumulative M	F	Total	%M	%F
98/08/22	0	0	0			263	299	562	46.8	53.2
98/08/23	3	0	3	100.0	0.0	266	299	565	47.1	52.9
98/08/24	1	0	1	100.0	0.0	267	299	566	47.2	52.8
98/08/25	1	3	4	25.0	75.0	268	302	570	47.0	53.0

Appendix Table 12. Sockeye salmon DNA and scale samples.

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/08/02	m	680	580	1-21R	40618	Aug 1 -7	
98/08/02	m	695	575	1-21L	40618	Aug 1 -7	
98/08/02	f	725	595	2-22R	40618	Aug 1 -7	Trap Box Mort
98/08/02	f	615	510	2-22L	40618	Aug 1 -7	Trap Box Mort
98/08/03	f	655	545	3-23R	40618	Aug 1 -7	
98/08/05	m	672	561	3-23L	40618	Aug 1 -7	
98/08/05	f	608	514	4-24R	40618	Aug 1 -7	
98/08/05	m	678	555	4-24L	40618	Aug 1 -7	Apparent Red inoculation tag on dorsal fin Pic. R1-#5 & 6
98/08/06	m	689	578	5-25R	40618	Aug 1 -7	
98/08/06	f	642	554	5-25L	40618	Aug 1 -7	
98/08/06	m	675	541	1-21R	40620	Aug 1 -7	
98/08/06	m	728	594	1-21L	40620	Aug 1 -7	
98/08/06	f	605	505	2-22R	40620	Aug 1 -7	
98/08/06	f	674	568	2-22L	40620	Aug 1 -7	
98/08/06	m	705	586	3-23R	40620	Aug 1 -7	
98/08/06	m	623	516	3-23L	40620	Aug 1 -7	
98/08/06	m	641	531	4-24R	40620	Aug 1 -7	
98/08/06	f	623	540	4-24L	40620	Aug 1 -7	
98/08/07	m	678	565	5-25R	40620	Aug 1 -7	
98/08/07	f	671	563	5-25L	40620	Aug 8-14	
98/08/09	m	656	535	1-21R	40622	Aug 8-14	
98/08/09	f	604	495	1-21L	40622	Aug 8-14	
98/08/09	m	723	609	2-22R	40622	Aug 8-14	
98/08/09	f	618	534	2-22L	40622	Aug 8-14	
98/08/09	m	714	611	3-23R	40622	Aug 8-14	
98/08/09	m	672	564	3-23L	40622	Aug 8-14	
98/08/09	m	650	546	4-24R	40622	Aug 8-14	
98/08/11	m	697	571	4-24L	40622	Aug 8-14	
98/08/11	f	660	550	5-25R	40622	Aug 8-14	
98/08/12	f	637	530	5-25L	40622	Aug 8-14	
98/08/17	m	675	\	1-41	4859	Aug 15-21	
98/08/17	m	683	\	2-42	4859	Aug 15-21	
98/08/17	m	674	\	3-43	4859	Aug 15-21	
98/08/17	f	638	\	4-44	4859	Aug 15-21	
98/08/17	f	658	\	5-45	4859	Aug 15-21	
98/08/17	f	640	\	6-46	4859	Aug 15-21	
98/08/17	f	650	\	7-47	4859	Aug 15-21	
98/08/17	m	658	\	8-48	4859	Aug 15-21	
98/08/17	f	644	\	9-49	4859	Aug 15-21	
98/08/17	m	657	\	10-50	4859	Aug 15-21	
98/08/17	m	661	\	1-41	4860	Aug 15-21	
98/08/17	m	676	\	2-42	4860	Aug 15-21	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/08/17	f	665	\	3-43	4860	Aug 15-21	
98/08/17	f	618	\	4-44	4860	Aug 15-21	
98/08/17	m	685	\	5-45	4860	Aug 15-21	
98/08/17	f	622	\	6-46	4860	Aug 15-21	
98/08/17	f	641	\	7-47	4860	Aug 15-21	
98/08/17	f	634	\	8-48	4860	Aug 15-21	
98/08/17	m	661	\	9-49	4860	Aug 15-21	
98/08/17	m	685	\	10-50	4860	Aug 15-21	
98/08/18	m	688	\	1-41	4861	Aug 15-21	
98/08/18	m	667	\	2-42	4861	Aug 15-21	
98/08/18	f	614	\	3-43	4861	Aug 15-21	
98/08/18	m	663	\	4-44	4861	Aug 15-21	
98/08/18	f	647	\	5-45	4861	Aug 15-21	
98/08/18	m	724	\	6-46	4861	Aug 15-21	
98/08/18	m	683	\	7-47	4861	Aug 15-21	
98/08/18	m	690	\	8-48	4861	Aug 15-21	
98/08/18	f	626	\	9-49	4861	Aug 15-21	
98/08/18	m	663	\	10-50	4861	Aug 15-21	
98/08/19	f	625	504	1-41	4862	Aug 15-21	Trap Box Mort
98/08/20	m	703	\	2-42	4862	Aug 15-21	Possible inoculation tag in the dorsal fin
98/08/20	m	642	\	3-43	4862	Aug 15-21	
98/08/20	m	703	\	4-44	4862	Aug 15-21	
98/08/23	f	648	\	5-45	4862	Aug 22-28	
98/08/23	m	661	\	6-46	4862	Aug 22-28	
98/08/23	f	625	\	7-47	4862	Aug 22-28	
98/08/23	m	636	\	8-48	4862	Aug 22-28	
98/08/23	f	636	\	9-49	4862	Aug 22-28	
98/08/23	m	658	\	10-50	4862	Aug 22-28	
98/08/23	f	600	\	1-41	4863	Aug 22-28	
98/08/23	f	652	\	2-42	4863	Aug 22-28	
98/08/23	f	653	\	3-43	4863	Aug 22-28	
98/08/23	f	604	\	4-44	4863	Aug 22-28	
98/08/23	m	603	\	5-45	4863	Aug 22-28	
98/08/23	f	645	\	6-46	4863	Aug 22-28	
98/08/23	f	606	\	7-47	4863	Aug 22-28	
98/08/23	m	655	\	8-48	4863	Aug 22-28	
98/08/23	f	655	\	9-49	4863	Aug 22-28	
98/08/23	f	633	\	10-50	4863	Aug 22-28	
98/08/24	m	632	\	1-41	4864	Aug 22-28	
98/08/24	m	656	\	2-42	4864	Aug 22-28	
98/08/24	f	628	\	3-43	4864	Aug 22-28	
98/08/24	m	641	\	4-44	4864	Aug 22-28	
98/08/24	m	619	\	5-45	4864	Aug 22-28	
98/08/24	f	536	\	6-46	4864	Aug 22-28	
98/08/24	f	647	\	7-47	4864	Aug 22-28	
98/08/24	f	611	\	8-48	4864	Aug 22-28	
98/08/24	f	589	\	9-49	4864	Aug 22-28	
98/08/24	f	630	\	10-50	4864	Aug 22-28	
98/08/25	f	660		1-41	4865	Aug 22-28	
98/08/25	f	594		2-42	4865	Aug 22-28	
98/08/25	f	637		3-43	4865	Aug 22-28	
98/08/25	m	692		4-44	4865	Aug 22-28	
98/08/25	f	626		5-45	4865	Aug 22-28	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/08/25	m	700		6-46	4865	Aug 22-28	
98/08/25	m	628		7-47	4865	Aug 22-28	
98/08/25	f	625		8-48	4865	Aug 22-28	
98/08/25	f	632		9-49	4865	Aug 22-28	
98/08/25	f	610		10-50	4865	Aug 22-28	
98/08/25	f	592		1-41	4866	Aug 22-28	
98/08/25	f	636		2-42	4866	Aug 22-28	
98/08/25	m	668		3-43	4866	Aug 22-28	
98/08/25	m	697		4-44	4866	Aug 22-28	
98/08/25	f	595		5-45	4866	Aug 22-28	
98/08/25	f	638		6-46	4866	Aug 22-28	
98/08/25	m	632		7-47	4866	Aug 22-28	
98/08/25	f	598		8-48	4866	Aug 22-28	
98/08/25	m	660		9-49	4866	Aug 22-28	
98/08/25	f	670		10-50	4866	Aug 22-28	
98/08/27	m	650		1-41	4868	Aug 22-28	
98/08/27	f	615		2-42	4868	Aug 22-28	
98/08/27	m	648		3-43	4868	Aug 22-28	
98/08/27	m	700		4-44	4868	Aug 22-28	
98/08/27	f	559		5-45	4868	Aug 22-28	
98/08/27	m	690		6-46	4868	Aug 22-28	
98/08/27	f	587		7-47	4868	Aug 22-28	
98/08/27	m	674		8-48	4868	Aug 22-28	
98/08/27	f	631		9-49	4868	Aug 22-28	
98/08/27	f	604		10-50	4868	Aug 22-28	
98/08/29	f	640		1-41	4867	Aug 29- Sep 4	
98/08/29	f	620		2-42	4867	Aug 29- Sep 4	
98/08/29	f	640		3-43	4867	Aug 29- Sep 4	
98/08/29	f	580		4-44	4867	Aug 29- Sep 4	
98/08/29	m	670		5-45	4867	Aug 29- Sep 4	scars
98/08/29	f	620		6-46	4867	Aug 29- Sep 4	scars
98/08/29	m	660		7-47	4867	Aug 29- Sep 4	
98/08/29	f	585		8-48	4867	Aug 29- Sep 4	
98/08/29	f	555		9-49	4867	Aug 29- Sep 4	predator scars
98/08/29	f	660		10-50	4867	Aug 29- Sep 4	
98/09/02	f	595		1-41	4869	Aug 29- Sep 4	
98/09/02	m	650		2-42	4869	Aug 29- Sep 4	
98/09/02	f	615		3-43	4869	Aug 29- Sep 4	
98/09/02	f	625		4-44	4869	Aug 29- Sep 4	predator scar, blind in one eye
98/09/02	f	680		5-45	4869	Aug 29- Sep 4	
98/09/02	m	660		6-46	4869	Aug 29- Sep 4	
98/09/02	m	660		7-47	4869	Aug 29- Sep 4	
98/09/02	m	565		8-48	4869	Aug 29- Sep 4	
98/09/02	m	700		9-49	4869	Aug 29- Sep 4	
98/09/02	f	630		10-50	4869	Aug 29- Sep 4	
98/09/06	f	645		1-41	4872	Sep 5-11	predator scars
98/09/06	f	640		N/A		Sep 5-11	DNA- YES- but no scales
98/09/06	m	650		2-42	4872	Sep 5-11	
98/09/06	m	640		3-43	4872	Sep 5-11	
98/09/07	m	670		4-44	4872	Sep 5-11	
98/09/07	m	700		5-45	4872	Sep 5-11	
98/09/07	m	700		6-46	4872	Sep 5-11	
98/09/07	f	630		7-47	4872	Sep 5-11	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/09/07	m	680		8-48	4872	Sep 5-11	
98/09/07	m	690		9-49	4872	Sep 5-11	
98/09/07	f	610		10-50	4872	Sep 5-11	
98/09/13	f	653		1-41	4873	Sep 12-18	
98/09/13	m	675		2-42	4873	Sep 12-18	
98/09/13	f	658		3-43	4873	Sep 12-18	
98/09/13	m	614		4-44	4873	Sep 12-18	
98/09/13	f	672		5-45	4873	Sep 12-18	
98/09/13	f	620		6-46	4873	Sep 12-18	
98/09/13	m	646		7-47	4873	Sep 12-18	
98/09/14	m	614		8-48	4873	Sep 12-18	
98/09/14	f	598		9-49	4873	Sep 12-18	
98/09/14	f	645		10-50	4873	Sep 12-18	
98/09/14	m	671		1-41	4875	Sep 12-18	
98/09/14	f	629		2-42	4875	Sep 12-18	
98/09/14	m	625		3-43	4875	Sep 12-18	
98/09/14	m	661		4-44	4875	Sep 12-18	
98/09/15	f	607		5-45	4875	Sep 12-18	
98/09/15	f	641		6-46	4875	Sep 12-18	
98/09/15	m	622		7-47	4875	Sep 12-18	
98/09/15	m	684		8-48	4875	Sep 12-18	
98/09/15	m	672		9-49	4875	Sep 12-18	
98/09/15	f	594		10-50	4875	Sep 12-18	
98/09/15	f	623		1-41	4876	Sep 12-18	
98/09/15	f	656		2-42	4876	Sep 12-18	
98/09/15	f	602		3-43	4876	Sep 12-18	
98/09/15	m	649		4-44	4876	Sep 12-18	
98/09/15	m	625		5-45	4876	Sep 12-18	
98/09/16	f	646		6-46	4876	Sep 12-18	
98/09/16	m	689		7-47	4876	Sep 12-18	
98/09/16	f	671		8-48	4876	Sep 12-18	
98/09/16	f	618		9-49	4876	Sep 12-18	
98/09/16	f	626		10-50	4876	Sep 12-18	
98/09/17	f	634		1-41	4878	Sep 19-25	
98/09/17	f	618		2-42	4878	Sep 19-25	
98/09/17	f	628		3-43	4878	Sep 19-25	
98/09/17	f	632		4-44	4878	Sep 19-25	
98/09/18	f	620		5-45	4878	Sep 19-25	
98/09/18	f	594		6-46	4878	Sep 19-25	
98/09/18	f	618		7-47	4878	Sep 19-25	
98/09/18	f	631		8-48	4878	Sep 19-25	
98/09/18	f	575		9-49	4878	Sep 19-25	
98/09/18	m	638		10-50	4878	Sep 19-25	
98/09/20	f	605		1-41	4857	Sep 19-25	
98/09/20	f	642		2-42	4857	Sep 19-25	
98/09/20	m	631		3-43	4857	Sep 19-25	
98/09/20	f	615		4-44	4857	Sep 19-25	
98/09/21	f	610		5-45	4857	Sep 19-25	
98/09/21	f	628		6-46	4857	Sep 19-25	
98/09/22	m	655		7-47	4857	Sep 19-25	
98/09/22	f	608		8-48	4857	Sep 19-25	
98/09/25	m	681		9-49	4857	Sep 19-25	
98/09/25	f	611		10-50	4857	Sep 19-25	Last Fish Sampled

Appendix Table 13. Sockeye salmon morts.

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Comments
98/08/16	m	721	579	pre-spawn mort
98/09/08	f	NA	NA	pre-spawn mort
98/09/10	f	683	561	pre-spawn mort
98/09/10	f	652	529	pre-spawn mort
98/09/10	f	649	531	pre-spawn mort
98/09/12	m	657	515	pre-spawn mort
98/09/14	f	675	550	pre-spawn mort
98/09/14	f	620	495	pre-spawn mort
98/09/14	f	650	540	pre-spawn mort
98/09/14	m	675	545	lot of fungus
98/09/17	f	632	511	pre-spawn mort lots of fungus
98/09/20	m	651	510	
98/09/20	f	600	488	pre-spawn mort lots of fungus
98/09/20	m	672	540	
98/09/20	f	618	502	pre-spawn mort
98/09/21	f	640	528	pre-spawn mort
98/09/21	f	660	540	pre-spawn mort
98/09/22	f	633	520	10-15% egg retention
98/09/22	f	633	515	pre-spawn mort
98/09/23	m	652	516	
98/09/26	f	629	508	pre-spawn mort
98/09/26	f	609	485	pre-spawn mort
98/09/27	f	635	510	pre-spawn mort
98/09/27	m	613	490	
98/09/28	m	628	496	
98/09/29	m	682	532	

Appendix Table 14. Coho salmon DNA and scale samples.

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/08/17	m	525	431	1-41	4858	Aug 15-21	dark- bronze, no marks
98/08/21	m	416	342	2-42	4858	Aug 15-21	clean bright
98/08/23	m	458	371	3-43	4858	Aug 22-28	clean, bronze
98/08/26	m	420		4-44	4858		bright, clean
98/08/28	f	685		5-45	4858	Aug 22-28	
98/08/28	m	510		6-46	4858	Aug 22-28	bright
98/08/28	m	715		7-47	4858	Aug 22-28	reddish
98/08/29					UNSAMPLED		
98/08/29	m	680		8-48	4858	Aug 29-Sep 4	predator scars
98/08/31	m	525		9-49	4858	Aug 29-Sep 4	clean
98/08/31	m	420		10-50	4858	Aug 29-Sep 4	clean
98/08/31	m	450		1-41	4870	Aug 29-Sep 4	clean
98/09/01	m	500		2-42	4870	Aug 29-Sep 5	
98/09/01	m	525		3-43	4870	Aug 29-Sep 6	
98/09/02	m	510		4-44	4870	Aug 29-Sep 4	clean
98/09/02	m	570		5-45	4870	Aug 29-Sep 4	
98/09/02	m	520		6-46	4870	Aug 29-Sep 4	

Date (yymmdd)	Sex	Fork Length (cm)	Length P.O.H	Scale Book Position	Scale Book Number	DNA Vial	Comments
98/09/02	m	785		7-47	4870	Aug 29-Sep 4	predator scar
98/09/02	m	720		8-48	4870	Aug 29-Sep 4	
98/09/02	f	715		9-49	4870	Aug 29-Sep 4	predator scar
98/09/03	f	784		10-50	4870	Aug 29-Sep 4	clean
98/09/03	f	660		1-41	4871	Aug 29-Sep 4	clean
98/09/04	f	525		2-42	4871	Aug 29-Sep 4	clean
98/09/07	m	450		3-43	4871	Sep 5-11	predator scars
98/09/08	m	523	425	4-44	4871	Sep 5-11	
98/09/11	m	500		5-45	4871	Sep 5-11	
98/09/11	m	552		6-46	4871	Sep 5-11	
98/09/11	m	665		7-47	4871	Sep 5-11	
98/09/12	f	701		8-48	4871	Sep 12-18	
98/09/13	m	774		9-49	4871	Sep 12-18	
98/09/13	f	692		10-50	4871	Sep 12-18	bronze, no marks
98/09/13	f	716		1-41	4874	Sep 12-18	
98/09/13	f	603		2-42	4874	Sep 12-18	
98/09/13	m	710		3-43	4874	Sep 12-18	
98/09/13	f	735		4-44	4874	Sep 12-18	
98/09/13	f	724		5-45	4874	Sep 12-18	
98/09/14	m	461		6-46	4874	Sep 12-18	
98/09/15	m	765		7-47	4874	Sep 12-18	
98/09/16	m	722		8-48	4874	Sep 12-18	dark, red
98/09/16	f	699		9-49	4874	Sep 12-18	
98/09/16	m	543		10-50	4874	Sep 12-18	
98/09/16	f	666		1-41	4877	Sep 12-18	
98/09/16	m	644		2-42	4877	Sep 12-18	
98/09/17	f	647		3-43	4877	Sep 12-18	
98/09/19	m	536		4-44	4877	Sep 19-25	
98/09/19	m	718		5-45	4877	Sep 19-25	
98/09/20	f	662		6-46	4877	Sep 19-25	
98/09/20	f	686		7-47	4877	Sep 19-25	
98/09/22	m	640		8-48	4877	Sep 19-25	
98/09/24	m	510		9-49	4877	Sep 19-25	
98/09/24	f	708		10-50	4877	Sep 19-25	
98/09/25	m	681		1-41	4879	Sep 19-25	
98/09/26	f	690		2-42	4879	Sep 26-30	scrapes, fungus spots on both opercula
98/09/26	f	700		3-43	4879	Sep 26-30	
98/09/27	m	737		4-44	4879	Sep 26-30	red, scale parasite
98/09/27	f	712		5-45	4879	Sep 26-30	
98/09/27	f	737		6-46	4879	Sep 26-30	
98/09/27	f	683		7-47	4879	Sep 26-30	
98/09/27	m	584		8-48	4879	Sep 26-30	
98/09/27	m	731		9-49	4879	Sep 26-30	
98/09/28	m	600		10-50	4879	Sep 26-30	
98/09/28	m	473		1-41	4880	Sep 26-30	
98/09/30	f	632		2-42	4880	Sep 26-30	upper tail wear, fungus
98/09/30	f	691		3-43	4880	Sep 26-30	