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**Toboggan Creek Coho Smolt
Enumeration
2001**

Prepared by

**SKR Consultants Ltd.
Smithers, B.C.**

for

**Department of Fisheries and Oceans
Pacific Biological Station
Nanaimo, B.C.**

August 2001

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November 13th, 2001

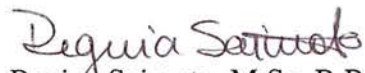
Dana Atagi
Ministry of Sustainable Resources
Box 5000
Smithers, B.C.
V0J 2N0

RE: Toboggan Creek Coho Smolt Enumeration 2001; permit number 145013K

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Yours sincerely,



Regina Saimoto, M.Sc. R.P.Bio.
Fisheries Biologist

Toboggan Creek Coho Smolt Enumeration Project 2001
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Executive Summary

Coho smolts were sampled in Toboggan Creek for the seventh consecutive year. A wolf type weir constructed upstream of the Toboggan Creek hatchery, and an inclined plane trap (IPT) installed downstream of the hatchery were used for smolt enumeration in the spring of 2001, similar to methodologies used in the spring 2000. The wolf type weir was also used in the spring of 1999. A rotary screw trap was used for smolt enumeration in the spring of 1998, and a fyke trap was used for coho smolt enumeration in 1995, 1996 and 1997. The wolf type weir was sampled nightly between May 14th and June 26th, except on June 9th and 10th, as well as June 20th to June 23rd, when elevated water levels required the removal of the fence panels. The IPT was sampled during two nights per week between May 14th and June 30th, 2001 except during peak coho smolt migration when sampling intensity was increased to three nights per week. Data on discharge, water temperature, ambient temperature, weather conditions and trap performance were collected throughout the study.

Fish species captured during the study period included 6,889 coho (*Oncorhynchus kisutch*), 14 Dolly Varden (*Salvelinus malma*), 107 rainbow trout/steelhead (*O. mykiss*), five Chinook (*O. tshawytscha*), 22 cutthroat trout (*O. clarki*), 10 mountain whitefish (*Prosopium williamsoni*), 2 longnose suckers (*Catostomus catostomus*) and 542 lamprey (*Lampetra sp.*). One bull trout was also captured by dipnet near the wolf type weir. The majority of these fish, including all Dolly Varden, longnose suckers, and mountain whitefish, were captured in the wolf type weir. Of the total number of coho captured, 723 (10.5%) were captured in the IPT, while 57 (53.3%) of rainbow trout/steelhead, four (18.2%) of cutthroat trout, and one (20%) of chinook were captured in the IPT. Trap performance of both the IPT and the wolf type weir was best at moderate water levels, when debris accumulations were manageable, and fishing efficiency was relatively consistent.

The proportion of coho smolts tagged in May and June 2001 with a fork length less than 100 mm (55.6%) was slightly greater than the proportion of coho smolts tagged that were longer than 100 mm (44.4%). Since the smolts less than 100 mm in length are suspected to be age 1+, the proportion of age 1+ coho smolts in 2001 was low compared to the spring 2000, when the majority of smolts were less than 100 mm in length. In the spring 2000, the 1 year old smolts resulted from a good escapement year in 1998 (1970 coho upstream of the adult fence), while the smaller size class of smolts estimated to be age 2+ resulted from a poor escapement year in 1997 (376 coho upstream of the adult fence). Compared to the spring of 2000, the proportion of 1+ and 2+ smolts were relatively similar. The 2001 smolts the progeny of two good adult escapement years (1998 and 1999).

The total number of wild coho was estimated using a Petersen mark-recapture estimate. The estimated number of wild coho moving past the IPT location in the spring of 2001 is 43,693 (95% confidence interval = 36,286-52,093). This is considerably lower than the wild smolt estimate calculated for 2000 (estimated 83,391, 95% confidence interval = 72,836-109,172). A significant proportion of the smolts captured in the spring 2001 had fork lengths greater than 100 mm, indicating that a larger proportion of age 2+ smolts were present in the sample. The lower proportion of age 1+ smolts in 2001 may be a result of delayed smoltification by this age group in 2001. High adult escapements in both 1998 and 1999 may have resulted in

high juvenile densities, particularly for the winter of 2000/2001, which may have reduced growth rate and survival. Reduced growth rates may have caused some age 1+ coho to delay smoltification. If a greater proportion of the age 1+ coho are delaying smoltification, a relatively large number of 2+ smolts would be expected in the spring of 2002.

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1.0 Introduction

The primary focus of the "Toboggan Creek Smolt Project" is to collect information, which can be used for an estimation of the number and age distribution of wild coho smolts leaving Toboggan Creek. This is the seventh consecutive year of the coho smolt enumeration project in Toboggan Creek, a tributary to the Bulkley River, near Smithers B.C. (Figure 1). This report summarizes data collected in the 2001 field season. Data will be utilized by the Department of Fisheries to conduct abundance estimates, and to assess smolt to adult survival of wild coho from Toboggan Creek.

The Toboggan Creek smolt enumeration study had the following objectives:

- to construct, install and maintain a temporary wolf type trap,
- to identify to species and enumerate all fish captured in the trap,
- to install an inclined plane trap,
- to identify to species and enumerate all fish captured in the inclined plane trap,
- to collect standard biological data from a random sample of all fish captured,
- to mark natural origin coho captured at the wolf type weir using adipose fin clips and coded wire tags,
- to estimate the rate of tag loss,
- to remove and store all fish fence components and inclined plane trap components for future use, and

to summarize the field program, methodologies, and sampling results in a data report.

2.0 Background

Toboggan Creek is a glacial tributary to the Bulkley River, within the Skeena watershed. Toboggan Creek has good spawning habitat, and its low gradient side channels and Toboggan Lake appear to provide a substantial amount of suitable rearing habitat for juvenile coho salmon (*Oncorhynchus kisutch*). Adult coho returns to Toboggan Creek have ranged from 376 to 7,382 in the past 11 years (O'Neill pers. comm.). In addition steelhead (*O. mykiss*), cutthroat trout (*O. clarki*), rocky mountain whitefish (*Prosopium williamsoni*), Dolly Varden (*Salvelinus malma*), occasionally chinook (*Oncorhynchus tsatwytsha*), lamprey (*Lampetra sp.*) and sculpin (*Cottus sp.*) are known to utilize the system (SISS, FISS, Donas and Saimoto 1999, Donas and Saimoto 2000).

Toboggan Creek is a relatively unique sub-drainage of the Skeena Watershed in that it has a hatchery facility, which has augmented the Toboggan Creek coho stock since 1988 (1986 brood year). Smolts that have been released from the hatchery are marked with coded wire tags and adipose fin clips. An adult counting fence, located approximately 2.5 km upstream of the confluence of the creek with the Bulkley River (Figure 1), has served for the detailed enumeration of adult coho since 1989 and adult steelhead since 1993 (O'Neill pers. comm.). The adult fence is maintained and managed by the Toboggan Creek hatchery staff. Due to the availability of reliable adult escapement data, and the presence of a known number of marked coho smolts in the system, Toboggan Creek lends itself to studies in freshwater

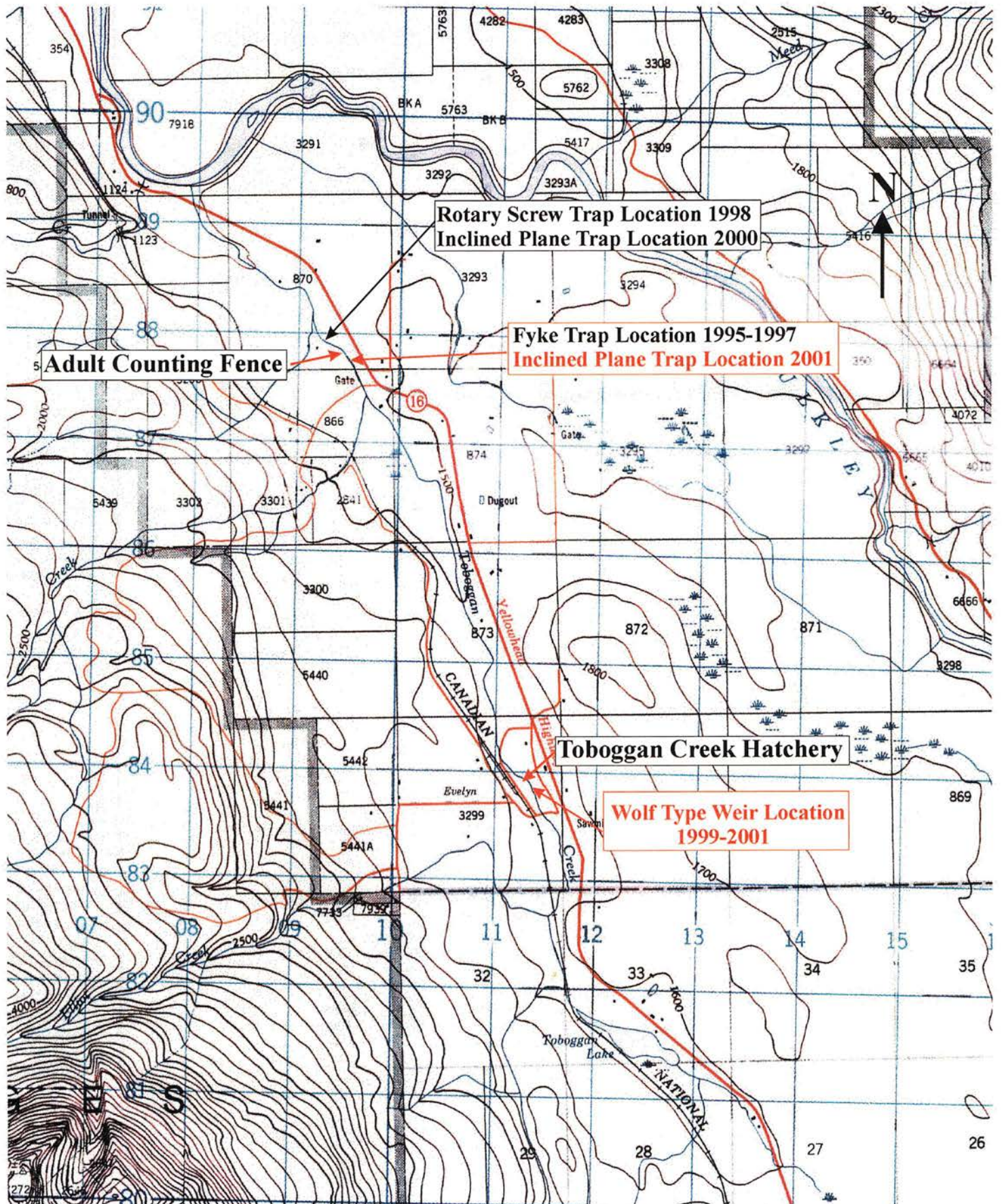


Figure 1. Locations of study site (approx. Scale = 1:50,000).

survival, age distribution at smoltification, migration timing and recruitment of juvenile coho salmon.

The “Toboggan Creek coho smolt enumeration project” was initiated in the spring of 1995 (Saimoto 1995), using a fyke trap to enumerate coho smolts, and repeated in the spring of 1996 (SKR 1996) and 1997 (SKR 1997). In 1998, sampling techniques were altered in order to reduce stress and mortalities on coho salmon in Toboggan Creek by using a rotary screw trap (SKR 1998). In 1999, the trapping location and methodology was changed to obtain a better estimate of the wild production of coho in the system, and to tag a large proportion of wild coho using coded wire tags. In 2000, the wolf type weir constructed in 1999 was used upstream of the hatchery in conjunction with an inclined plane trap deployed downstream of the adult counting fence. In 2001, the wolf type weir was again installed upstream of the hatchery, and operated in conjunction with an inclined plane trap deployed just upstream of the adult counting fence (Figure 1).

3.0 Materials and Methods

3.1 Study Site

The wolf type weir and inclined plane trap were set on the mainstem of Toboggan Creek at locations used for sampling coho smolts in previous years (Saimoto 1995, SKR 1996, 1997, 1998, 1999, 2000). The wolf type weir was installed upstream of the Toboggan Creek hatchery outflow, at the location used for this weir in 1999 and 2000 (Figure 1). The inclined plane trap (IPT) was set upstream of the adult enumeration fence, similar to the location used for the fyke trap in 1995 and 1996, respectively (Saimoto 1995, SKR 1996). The location of the weir was chosen due to its easy access, relatively uniform substrate, well developed banks, and lack of side or backwater channels. The site allowed for the construction of a wolf type weir across the entire width of the channel. The margins of the channel were sealed with seine nets and removable panels to allow for a maximum interception of migrating smolts (Figure 2). The IPT trap location was chosen due to its easy access, adequate water depth, moderate water velocity, and lack or low abundance of steelhead redds at the trap location. Mike O’Neil and Ken Landrock were consulted in determining the location of the IPT trap.

3.2 Fence Design, Construction and Maintenance

The Toboggan Creek smolt enumeration fence consisted of a wolf type design. The frame of the fence was constructed of 2” by 4” lumber, and fence panels were removable from the frame to facilitate fence opening during high water levels. The fence panels were approximately 35” tall and 24” wide, and were covered with ¼” galvanized hardware cloth. The fence was equipped with a polyethelyne apron to minimize scouring and the escape of most fish. In addition, a plywood floor was constructed across the channel to minimize scour at the fence frame. Two live boxes and a holding tank were constructed of 2” by 4” lumber and plywood. The mesh size in the back of the two live boxes was increased to 0.375” mesh

to allow coho fry to pass through the screens. The fence frame, live boxes and holding tanks were anchored using rebar. Upstream passage of steelhead was provided in the upstream portion of the "W" via an opening that could be sealed during maximum smolt migration rates. Downstream passage of steelhead was provided by temporarily removing selected fence panels during the day, when smolt migration rates were low. The fence was constructed and installed between May 7 and May 14, 2001.

The fence was monitored and cleaned regularly, including day and night. Due to low migration rates during the day and necessities for continual fence cleaning and maintenance, as well as to facilitate movement of adult steelhead, fence panels were removed on most days, and were installed prior to dusk. The fence was monitored continually during moderate and high flows, and checked periodically when panels were removed (June 9th – 10th 2001, June 20th – 23rd 2001 and after June 26th, 2001) and at low flow conditions. Live boxes were emptied on a regular basis, and fish were transferred to a holding tank. Fish were processed in the morning during low migration rates. Removal of fish from the live boxes decreased densities in the live boxes, resulting in reduced mortality and injury to fish.

Water and ambient temperature, weather conditions, staff gauge readings (at the hatchery) and subjective notes on weir performance (low, medium, and high) were recorded at least once per day during the operations of the fence.

3.3 Inclined Plane Trap Installation and Maintenance

A 2 foot deep by 3 foot wide inclined plane trap was installed downstream of the adult migration fence on May 16, 2001. The trap was operated two nights per week, except during peak migration or high flows when the trap was fished a minimum of three nights per week. The inclined plane trap was fished more frequently when high flows necessitated the removal of the wolf type weir to determine how significant coho migration rates were at these times. The trap was generally set by 17:00 and retrieved by 07:00. The trap was checked continuously during all settings to reduce injury to fish and to ensure optimal trap performance.

3.4 Fish Sampling

All fish other than fry captured in the wolf type weir were transported to the Toboggan Creek fish hatchery in 4 gallon buckets. A work area sheltered with tarps was established to allow for processing of fish behind the hatchery shed. At the hatchery, fish were sorted roughly by size, anaesthetized using MS 222, and identified to species.

Of the natural origin coho captured, a random subsample of 10% (not to exceed ~ 100 per day) were measured and weighed at the hatchery, in conjunction with the coded wire tagging protocol (see section 2.5 below). Scale smears (10 smears per 5 mm size category) were taken from anaesthetized coho. Weight and length data were also collected for all other species captured, except lamprey.



Figure 2. Wolf type weir (above) and inclined plane trap (below) used at Toboggan Creek in the spring of 2001.



Fish captured downstream of the hatchery in the IPT were identified to species. All adipose clipped coho were enumerated and released without further sampling. Fork lengths and weights were collected from all other fish captured, except lamprey. Unmarked fish were anaesthetized in the field using MS222. Scale smears were collected on gummed cards from the entire size range of unmarked coho smolts until a total of 10 samples for each 5 mm size group was reached.

Length and weight data were used to calculate Fulton's condition factor. Fulton's condition factor (equation 1) is useful where growth is isometric, and/or if the fish to be compared are of approximately the same length (Ricker 1975, Bagenal 1978).

Equation 1:
$$K = 10^5 (w / l^3)$$

where: K = Fulton's condition factor
w = weight (g)
l = fork length (mm)

3.5 Coded Wire Tagging

Coho transported to the Toboggan Creek hatchery were coded wire tagged and adipose clipped. Ten percent of captured coho (up to 100 fish per day) were chosen at random, measured and weighed (see section 2.4). For tagging, smolts were divided into two size groups (75-100 mm and 101 mm or greater) to roughly represent two different age classes (age 1+ and 2+ respectively). A different coded wire tag was applied to distinguish between these two size groups (CWT 08/02/47 for coho \leq 100 mm; CWT 08/02/50 and 08/02/49 for coho $>$ 100 mm). Coho were anaesthetized using MS222 prior to tagging. Prior to tagging, each coho was checked for physical damage or scale loss. The incidence of physical damage and/or scale loss was recorded, and fish exhibiting physical damage or scale loss were not included in the number of fish that were coded wire tagged. Following tagging, coho were allowed to recover in live troughs outside of the hatchery, if possible, prior to their release. The total number of coho tagged, or a sub-sample of at least 200 coho, representing a variety of sizes were retained overnight. Smolts with no tags after 24 hours were re-tagged with the appropriate code prior to release.

3.6 Trap Efficiency

Trap efficiency at the wolf type weir and the inclined plane trap was determined subjectively each day. Trap efficiency at the weir was determined by water level, scouring under the fence panels, ability of fish to migrate past the fence through openings (e.g. along stream margins and steelhead opening), debris, and necessity to remove panels for cleaning. Trap efficiency at the weir was also monitored by periodically observing the entrance to the live boxes to monitor the ability of fish to exit the live boxes at lower flows. Trap efficiency at the inclined plane trap was determined by considering the amount of flow intercepted by the trap, monitoring the entrance to the trap, and considering water levels as well as fluctuations in water levels.

The ratio of marked to unmarked coho captured in the IPT was also used to determine trap efficiency of the wolf type weir upstream. Marked fish captured in the IPT consisted of marked hatchery coho, and marked wild coho previously captured in the wolf type weir. Unmarked coho captured in the IPT consisted of coho overwintering between the wolf type weir and the IPT trap location (believed to be a relatively minor proportion), and wild coho overwintering upstream of the wolf type weir that were not captured in the weir (e.g. during periods of peak flow when the fence was removed, and fish passing through scoured holes under the fence). Population size was estimated for coho smolts upstream of the IPT in May and June 2000 by using an adjusted Petersen estimate (Ricker 1975) (Equation 2). This method is relatively unbiased (Ricker 1975, Bagenal 1978).

Equation 2:
$$N^* = (M+1) (C+1) / (R+1)$$

where: N^* = adjusted Petersen estimate
 M = number of marked fish (hatchery and weir)
 C = catch of sample taken for census
 R = number of recaptured marks in the sample

Confidence intervals around the estimate were determined by assuming a Poisson distribution of recaptured (R) and by determining the approximate confidence interval of R from statistical tables (Ricker 1975).

4.0 Results and Discussion

4.1 Discharge and Temperature

Staff gauge readings ranged from a low of 19 to 85 cm, and temperature ranged between 4.0 and 11°C (Figure 3). Water levels remained consistently low (between 19 and 21 cm) until May 22nd 2001. After this date, water levels increased gradually to 36 cm on May 30th, and continued to increase to 46 cm on June 10th 2000. Staff gauge readings remained between 26 and 38 cm until June 18th, 2001 when staff gauge readings increased to 61 cm on June 22nd, and 85 cm on June 28th, 2001. Water temperatures fluctuated considerably throughout the study, but appeared to increase somewhat with increases in staff gauge readings between June 10th and June 28th 2001.

Water levels in the spring of 2001 were generally lower than those recorded at the hatchery in the spring of 1999, or those reported downstream in other years of the study (1995-1998), (Saimoto 1995, SKR 1996, 1997, 1998, 1999). Flow levels to May 22nd, 2001 were comparable to flow levels noted in 2000 (SKR 2000), however, peak flows occurred later in the spring of 2001 than in any of the other six years of the study. A lower, earlier peak in staff gauge readings commonly observed in May in other years (1995-1999) was not observed in the May 2000 or in May 2001. Lower and delayed peak discharge appears to be attributed an unseasonably cool spring which resulted in delayed melt of the snow pack.

Water temperatures in May and June 2001 were lower than those observed in previous years of the study (1995-2000) (Saimoto 1995, SKR 1996, 1997, 1998, 1999, 2000). Peak discharge in late June 2001 were similar to those observed in 1999, and were generally higher than peak discharge observed in 1995, 1996, 1997, 1998 or 2000. Water temperatures in mid May were lower than those observed in previous years of the study, coupled with lower staff gauge readings than those observed in previous years. Water temperatures in mid May were lower than in previous years due to cold spring conditions. Low ambient temperature also resulted in gradual snow melt in the watershed, which lead to a gradual and low peak in the end of May compared to higher peaks in discharge in early May observed in 1995 to 1999.

On average, staff gauge readings and water temperatures were lower throughout the study than those observed at the same location in 1999 or 2000, particularly for May and early June. Snow pack in the Bulkley Valley was below normal levels, and the relatively cool spring resulted in delayed run-off, and gradual, delayed increases in water temperature. We therefore speculate that lower water levels are likely attributable to relatively cool spring temperatures resulting in delayed melting. Unseasonably cool spring conditions are also likely the cause of delayed increases in water temperatures in Toboggan Creek in late May and early June, when compared to other years of the study. The lower, earlier peak in staff gauge readings in mid May observed in previous years was lacking in May 2000 and 2001, indicating that the proportion of meltwater in the creek was small. Moderate water levels compared to 1999 allowed the wolf type weir to be fished on most days, but periodic peak discharge (June 9th to June 10th, June 20th to June 23rd, and after June 26th) increased debris movement, fence maintenance activities, stress on fish, and decreased trap efficiency of the wolf type weir as well as the IPT.

Toboggan Creek Coho Smolt Enumeration 2001

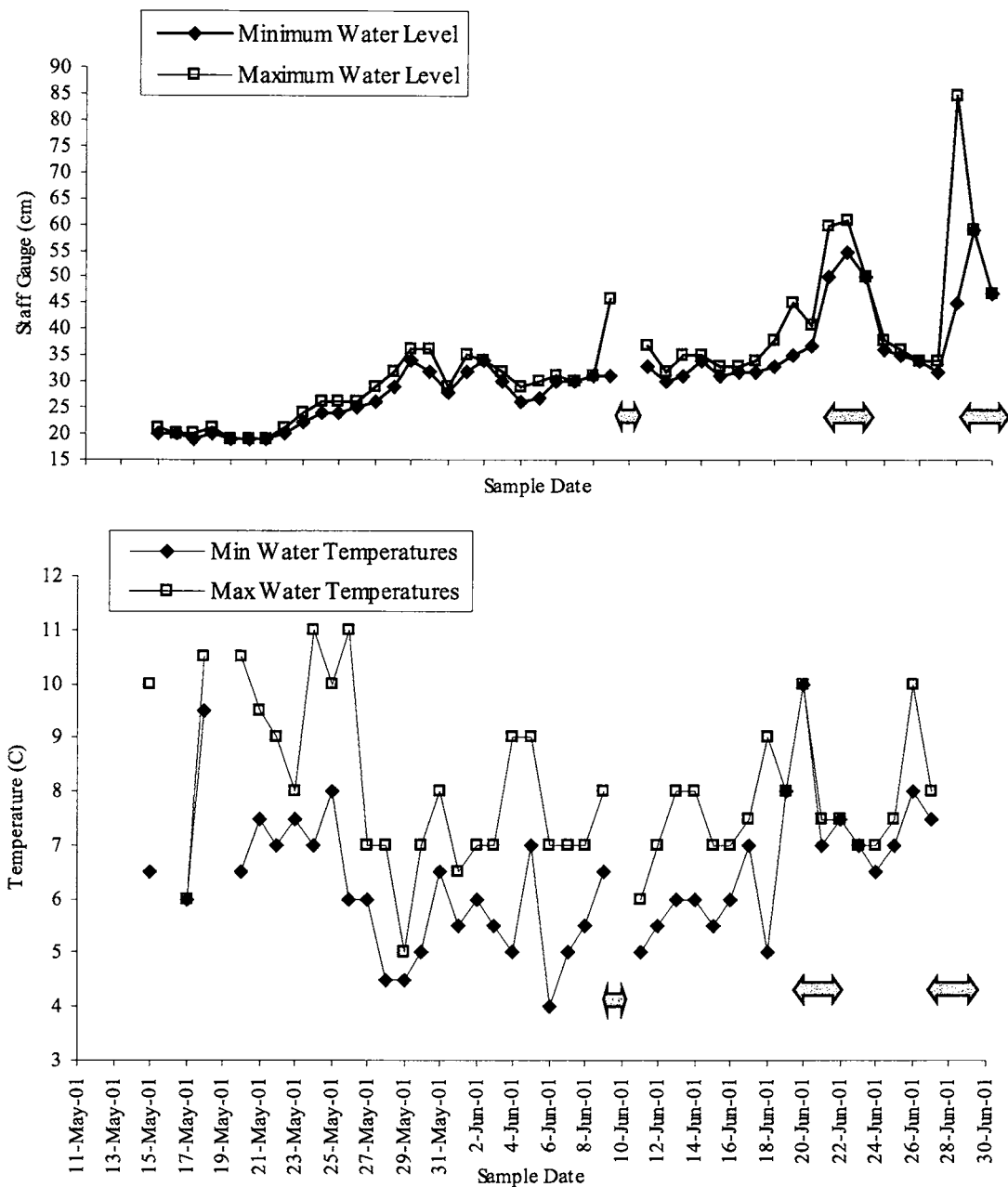


Figure 3. Staff gauge readings (above) and water temperature (below) recorded at the Toboggan Creek fish hatchery, just downstream of the Toboggan Creek smolt weir in 2001. Grey arrows indicate times when fence panels at the wolf type weir were removed.

4.2 Trap Performance

The wolf type weir was found to operate best at moderate water levels. Trap performance was generally low at staff gauge readings less than 24 cm. At low water levels, fish were able to swim out of the live box, or avoid entering the live box. However, when the fence was operational, fish could not circumvent the weir. When the fence panels were installed, it is estimated that the majority of migrating smolts were captured in the live boxes. At moderate flows, the live box was more effective in retaining captured fish. The wolf type weir performed best at water levels between 24 and 34 cm. The fence panels were removed at higher water levels (June 9-10, June 10-23, after June 26) due to the amount of debris washing up against the fence, and the increased rate of injuries to fish experienced at higher flow levels. Of the 6166 coho captured, 120 died (1.9%), with higher mortality rates noted during high discharge periods. The highest mortality was observed on June 14-15, when 99 coho were found dead in the live box (82.5% of mortalities at the weir), despite moderate water levels. The cause of this high mortality is unknown. Some scale loss and other injuries (e.g. bruising, fin abrasion) was also observed (about 0.05% of coho captured), and the incidence of scale loss was reduced by not fishing the fence at high flows and less frequent cleaning of the fence panels.

The Inclined Plane Trap (IPT) performed well at almost all flows. However, continual adjustments to the trap were required under fluctuating water levels. In addition, trap efficiencies at high and low flows were not as good as those observed at moderate water levels. A total of 723 coho (362 marked and 361 un-marked) were captured in the IPT trap. A total of 3,521 coho (1,692 marked and 1,829 un-marked) were captured at the same location using a fyke trap in 1996 (SKR 1996), and 5,419 coho (2,552 marked and 2,867 un-marked) in a fyke trap in 1995 (SKR 1995). This indicates that the fyke trap was likely the most effective at capturing coho smolts migrating in Toboggan Creek. However, rates of injury and mortality observed while using the fyke trap were higher than those observed with the rotary screw trap (SKR 1998), or the IPT. Two of the 723 coho captured in the IPT trap were dead upon sampling, and four were injured.

Comparing the number of marked and un-marked coho captured in the inclined plane trap can also assess trap efficiency of the wolf type weir. If most of the coho migrating past the IPT originated from the Toboggan Creek hatchery and upstream, most of the fish should be marked with adipose fin clipped (either from hatchery releases or tagging of wild coho at the weir). Three hundred and sixty-two (50.1%) of the 723 coho captured in the IPT were marked with adipose fin clips. This indicates that a significant number of wild coho moved past the wolf type weir without being tagged, and/or that a significant number of coho migrating past the IPT were located between the wolf type weir and the IPT prior to the start of the smolt enumeration program. However, the proportion of marked fish captured in the IPT in May to June 2001 is considerably greater than the proportion of marked fish captured in May to June 2000 (32.2%). The higher proportion of marked coho indicates that a significantly larger proportion of wild coho were captured and sampled at the wolf type weir in 2001 than in 2000.

4.3 Coho Tagging

Of the 6,116 coho captured at the weir during the coho smolt enumeration project, 2184 smolts less than 100 mm and 2875 smolts greater than 100 mm were coded wire tagged (total of 5,059 smolts). A sub-sample of coho were retained to check overnight tag retention during most of the study (2964 smolts, 60.6 %). The percent of overnight tag retention varied between 71.4% and 100% (Tables 1 and 2), and was 100% on all but two tagging days (May 21 and June 2). Overnight mortality was low, except on June 12- 13, when overnight mortality resulted in the loss of 83 coho due to lack of water flow into the holding tank overnight. Subsequent to this incident, water flow was checked regularly during the night to minimize the chance of further mortalities in the overnight holding tank used for tagged fish. When adjusted for the percent tag retention and overnight mortality for each day, the number of coho smolts marked that retained their tag is estimated to be 4961 (2119 < 100 mm and 2842 > 100 mm) (Tables 1 and 2).

4.4 Migration Rates and Fish Abundance

4.4.1 COHO MIGRATION RATES AND ABUNDANCE

4.4.1.1 Migration Rates

Migration rates were evaluated graphically using daily catch data for coho obtained at the wolf type weir and the IPT location. Catch per hour was not used for this analysis, since most of the smolts were captured migrating in a consistent period of the night (generally between 11:00 and 1:00). This results in a change in sampling efficiency depending on the hour of sampling, and makes catch per hour less indicative of migration rates than total catch, provided that the sampling incorporates the times of peak migration, as was the case in this study. Coho catch at the wolf type weir peaked between May 27 and May 31, and June 2 and June 13, 2001 (Figure 5). Peak capture rates at the wolf type weir coincided with increases in water levels in late May, and increased water temperature in early to mid June (Figure 3). Coho catches increased from negligible amounts in early May to relatively high levels at the end of May, and daily catch rates remained relatively high until June 19. Daily catches of coho at the IPT trap (Figure 6) closely mimics coho capture rates at the wolf type weir (Figure 5), although increases and decreases in capture rates appear to be delayed by 2 days. For example, coho catch started to increase on May 24th, 2001, and a similar increase in catch was noted at the IPT trap between May 25th and May 27th. Capture rates of marked and un-marked coho in the IPT were remarkably similar, and were virtually identical on many sample days. However, catches of marked coho (primarily hatchery origin) peaked prior to the catches of unmarked coho at the IPT location (Figure 6). This is contrary to the proportion of un-marked coho captured in the IPT in May to June 2000, which were often notably different from one another (SKR 2000). Migration rates, as indicated by coho smolt capture rates at the wolf type weir and the IPT appear to be highest during moderate to high discharge.

Toboggan Creek Coho Smolt Enumeration 2001

Table 1. Coho coded wire tag retention for coho smolts between 75 and 100 mm fork length during the initial 24 hours after marking.

Date (2001)	# tagged	# that did not retain tags ¹	% tag retention	estimated number of coho that retained tag (accounting for re-tagging)
May 15-16	1	0	100	1
May 16-17	2	0	100	2
May 17-18	1	0	100	1
May 18-19	0	0		0
May 19-20	1	0	100	1
May 20-21	0	0		0
May 21-22	0	0		0
May 22-23	0	0		0
May 23-24	0	0		0
May 24-25	5	0	100	5
May 25-26	11	0	100	10 (1 overnight mortality)
May 26-27	20	0	100	20
May 27-28	46	0	100	46
May 28-29	70	0	100	70
May 29-30	54	0	100	54
May 30-31	13	0	100	13
May 31-June 1	5	0	100	5
June 1-2	64	0	100	64
June 2-3	92	1 (of 14 retained)	93	87
June 3-4	89	0	100	89
June 4-5	83	0	100	83
June 5-6	89	0	100	89
June 6 - 7	194	0	100	194
June 7-8	151	0	100	151
June 8-9	127	0	100	127
June 9 - 10	200	0	100	200
June 10 - 11	---	---	---	---
June 11 - 12	184	0	100	183 (1 overnight mortality)
June 12-13	64	0	100	6 (58 overnight mortality)
June 13-14	14	0	100	14
June 14-15	17	0	100	17
June 15-16	130	0	100	130
June 16-17	144	0	100	144
June 17-18	38	0	100	38
June 18-19	209	0	100	209
June 19-20	6	0	100	6
June 20-21	34	0	100	34
June 21-22	---	---	---	---
June 22-23	---	---	---	---
June 23-24	---	---	---	---
June 24-25	6	not evaluated		6
June 25-26	4	not evaluated		4
June 26-27	11	not evaluated		11
June 26-27	5	not evaluated		5
combined	2184	1	0.05	2119

Toboggan Creek Coho Smolt Enumeration 2001

Table 2. Coho coded wire tag retention for coho smolts greater than 100 mm fork length during the initial 24 hours after marking.

Date (2001)	# tagged	# that did not retain tags ¹	% tag retention	estimated number of coho that retained tag (accounting for re-tagging)
May 15-16	0			0
May 16-17	0			0
May 17-18	1	0	100	1
May 18-19	4	0	100	4
May 19-20	4	0	100	4
May 20-21	10	0	100	10
May 21-22	7	2	71.4	7
May 22-23	5	0	100	5
May 23-24	0			0
May 24-25	33	0	100	33
May 25-26	192	0	100	192
May 26-27	115	0	100	114 (1 overnight mortality)
May 27-28	228	0	100	228
May 28-29	299	0	100	299
May 29-30	108	0	100	108
May 30-31	32	0	100	32
May 31-June 1	28	0	100	28
June 1-2	102	0	100	102
June 2-3	174	0	93	174
June 3-4	149	0	100	149
June 4-5	153	0	100	153
June 5-6	192	0	100	192
June 6 - 7	239	0	100	239
June 7-8	111	0	100	111
June 8-9	81	0	100	81
June 9 - 10	60	0	100	56 (4 overnight mortality)
June 10 - 11	---		---	---
June 11 - 12	141	0	100	140 (1 overnight mortality)
June 12-13	73	0	100	46 (27 overnight mortality)
June 13-14	11	0	100	11
June 14-15	10	0	100	10
June 15-16	79	0	100	79
June 16-17	67	0	100	67
June 17-18	22	0	100	22
June 18-19	108	0	100	108
June 19-20	4	0	100	4
June 20-21	31	0	100	31
June 21-22	---		---	---
June 22-23	---		---	---
June 23-24	---		---	---
June 24-25	0	not evaluated		0
June 25-26	0	not evaluated		0
June 26-27	0	not evaluated		0
June 27-28	2	not evaluated		2
Combined	2875	2	0.07	2842

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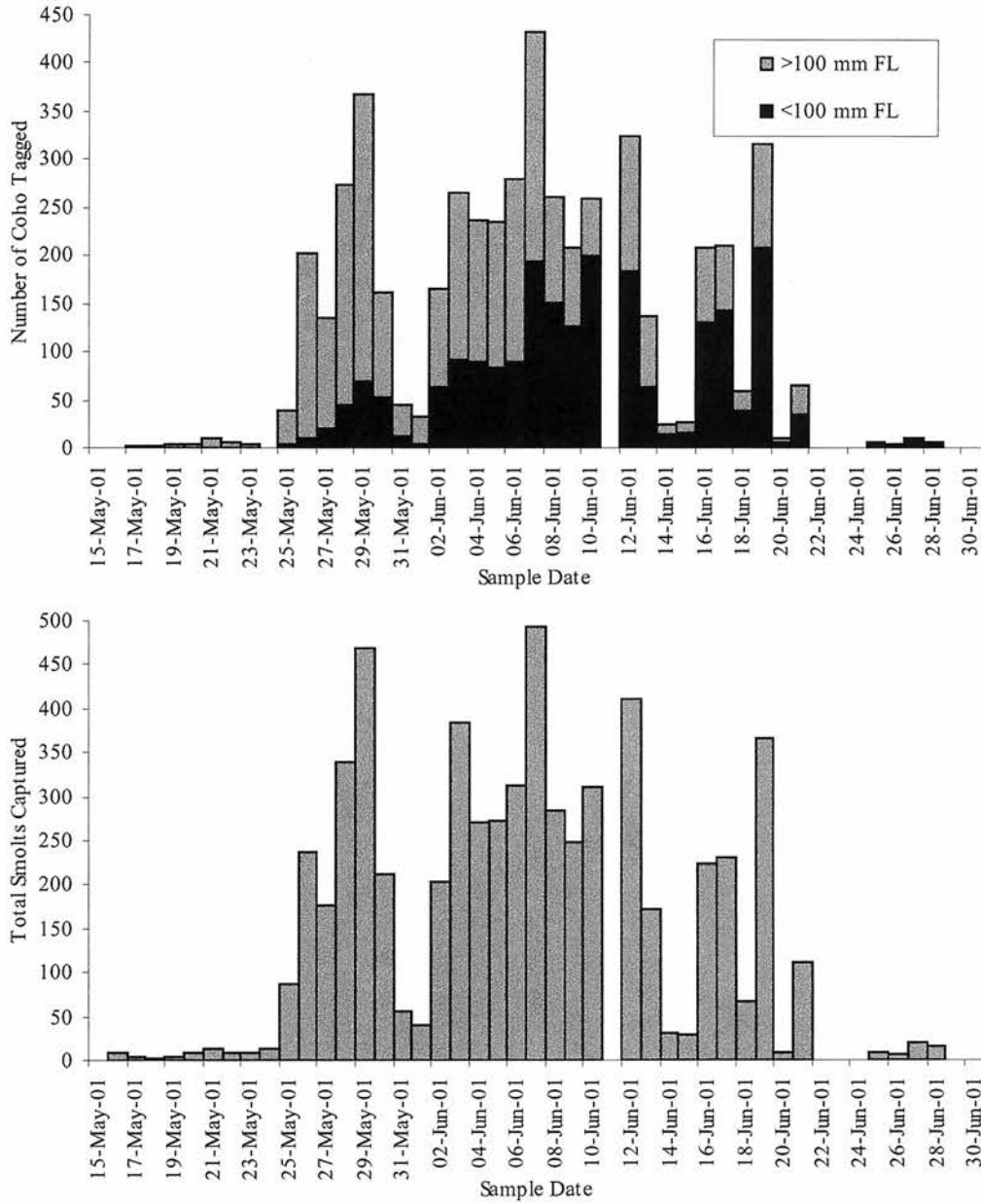


Figure 4. Number of coho captured at the wolf type weir in the Toboggan Creek coho smolt enumeration project in May and June 2001. The upper graph shows the number of coho that were coded wire tagged, while the lower graph shows the total number of coho smolts captured.,

Toboggan Creek Coho Smolt Enumeration 2001

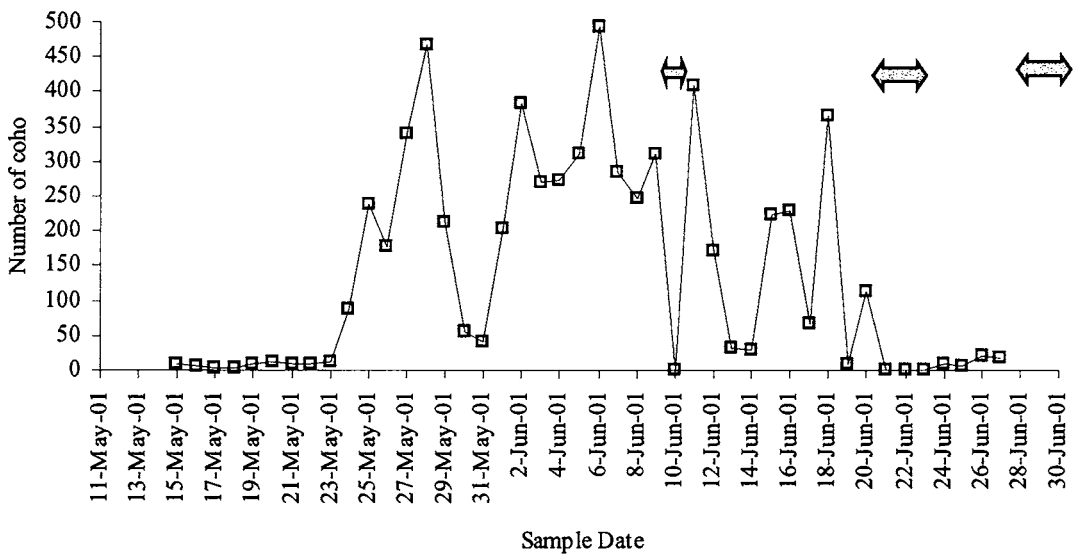


Figure 5. Numbers of coho captured at the wolf type weir in May and June 2001. Grey arrows indicate times when fence panels at the wolf type weir were removed.

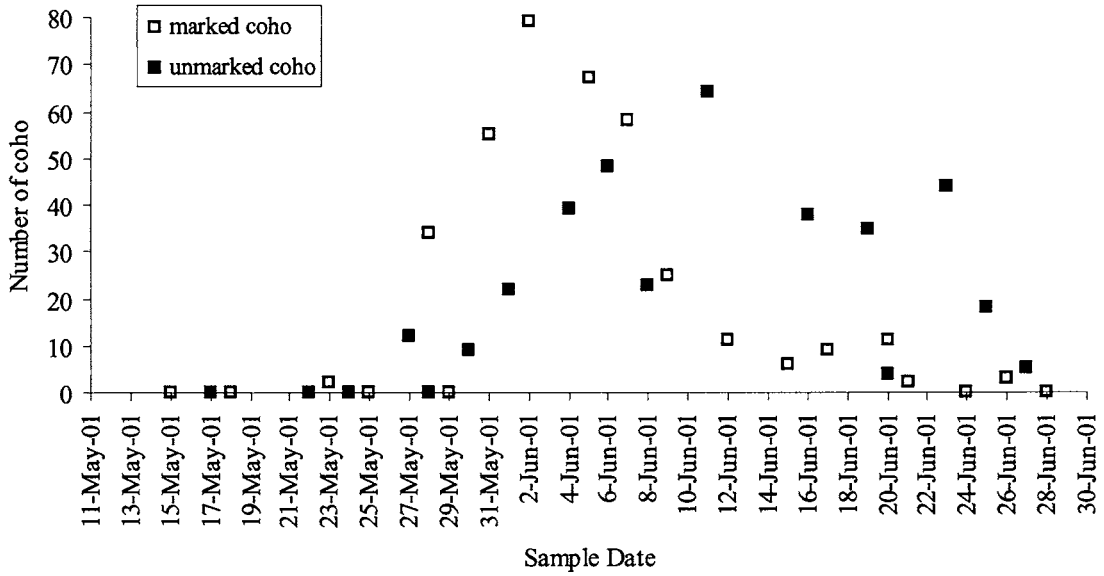


Figure 6. Numbers of coho captured in the IPT in May and June 2001.

4.4.1.2 Abundance

In four of the six previous years of the Toboggan Creek coho smolt enumeration project, wild coho smolt abundance was estimated by enumerating wild and hatchery smolts, and comparing to the number of known hatchery coho released (Table 3). In the 1999 field season, the first year of coho smolt enumeration using the wolf type weir, three separate releases of marked coho upstream of the weir were used to estimate weir efficiency and estimate the number of wild coho smolts migrating past the weir. In May and June 2000, the wolf type weir was operated in conjunction with the IPT downstream, making it possible to estimate wild coho smolt numbers moving past the IPT in 2000. A similar sampling design in May to June 2001 allowed for a similar methodology to estimate wild coho production in Toboggan Creek. Similar to the 2000 study (SKR 2000), enumerating the number of coded wire tagged smolts (hatchery and weir origin) re-captured in the IPT (Table 1), allows for the calculation of a Petersen estimate for the 2001 coho smolt migration.

The 362 marked coho captured in the IPT trap originated either through coded wire tagging conducted at the wolf type weir (4961 coho adjusted for tag loss and mortality) or hatchery releases of tagged coho (33,984) (Cory Koenig pers. comm.). The adjusted Petersen estimate of the total number of coho (wild and hatchery) moving past the IPT trap in May and June 2001 is 77,677.4 (95% confidence interval = 70,270.4 – 86,077.2). Adjusting these numbers by the known number of hatchery coho released (33,984) leads to an estimated 43,693.4 (CI = 36,286.4 – 52,093.2) wild coho moving past the IPT in May and June 2001 (Table 3).

The number of coho smolts captured in May and June 2001 with fork length greater than 100 mm was somewhat lower than the number of coho smolts with fork lengths between 75 and 100 mm (Figure 4, Table 1 and 2). Of the 5059 coho tagged at the wolf type weir, 2184 (55.6%) were less than 100 mm in length. These fish are likely 1+, and resulted from a high escapement year in Toboggan Creek in 1999 (7382 coho upstream of the adult fence, Table 4). The similar size class of smolts estimated to be age 2+ (>100 mm) resulted from a good escapement year in 1998 (1970 coho upstream of the adult fence, Table 4). Unlike the previous two years of the study (1999 and 2000), the different age classes of coho were not a direct reflections of adult escapement in the brood year for smolts produced in 2001. This is speculated to be due to the high escapement in both 1998 and 1999 resulting in high juvenile densities in the system, which in turn may result in lower growth rate during freshwater residence and delayed smoltification. If increased escapement in the brood year results in delayed smoltification, one would expect a predominance of coho smolts > 100 mm in length in the spring of 2002, coupled with an overall smaller size at age than in the spring of 1999 or 2000.

Toboggan Creek Coho Smolt Enumeration 2001

Table 3. Summary of estimated total numbers of wild and hatchery coho during the five years of the Toboggan Creek coho smolt enumeration project.

Year	# wild coho captured	# marked coho captured	ratio of wild:marked coho	# marked coho released	adjusted Petersen estimate for wild coho	95% Confidence Interval
1995 ¹	2,867	2,552	1.12:1	33,609	37,642.1	
1996 ¹	1,829	1,692	1.08:1	32,638	35,280.2	
1997 ¹	1,628	1,276	1.27:1	33,255	42,422.9	
1998 ¹	408	208	1.96:1	33,935	66,410.6	
1999 ²	6883	93	74.01:1	600	44,480.5	35,963.7-53,851.8
2000 ¹	369	175	2.11:1	40,295 ³	89,391.2	72,836.2-109,171.7
2001 ¹	361	362	0.997:1	38,945	43,888.9	36,286.4-52,093.2

¹ catches of coho downstream of the hatchery were used for population estimates in 1995, 1996, 1997, 1998 and 2000

² trap efficiency and catches of coho at the wolf type weir were used to estimate wild coho population sizes in 1999 (SKR 1999)

³ number of marked coho include 4,906 coho marked at the wolf type weir and 35,389 marked coho released from the Toboggan Creek hatchery (Darryl Struthers pers. comm. 2000); the number of hatchery coho were deducted from the total Petersen estimate.

⁴ number of marked coho include 4,961 coho marked at the wolf type weir (adjusted for tag loss and mortality, tables 1 and 2) and 33,984 marked coho released from the Toboggan Creek hatchery (Cory Koenig pers. comm. 2001); the number of hatchery coho were deducted from the total Petersen estimate

Table 4. Adult coho escapement recorded for 1993, 1994, 1995, 1996, 1997, 1998, 1999 and 2000. Numbers are courtesy of Mike O'Neil (pers. comm. 1999, 2001) and Darryl Struthers (pers. comm. 2000)

Year	Total Number	# upstream of fence	Comments
1993		1700	
1994		2430	
1995	1854	1762	<ul style="list-style-type: none"> • 671 females upstream of fence (25 were used for brood stock) • 35 females downstream of fence
1996	1166	866	<ul style="list-style-type: none"> • 289 females upstream of fence (20 females were hatchery brood stock) • 83 females downstream of fence
1997	394	376	<ul style="list-style-type: none"> • number of females not available
1998	2470	1970	<ul style="list-style-type: none"> • number of females not available
1999		7382	<ul style="list-style-type: none"> • 2306 hatchery origin
2000	3890	3680	<ul style="list-style-type: none"> • # upstream of fence includes 60 coho for brood stock, 1839 males and 1721 females

The estimated smolt output (both hatchery and natural origin) at Toboggan Creek since 1996 are summarized in Table 5, along with the adult escapement of the following year (the expected year of return for these smolts). The number of smolt leaving Toboggan Creek appear to be relatively well correlated with the number of adult returns. Years with lower adult returns are closely linked to years with lower smolt output. However, it is important to consider, that the data in Table 6 is oversimplified, and does not take into account variable smolt to adult survival, and varying fishing pressure from sport, commercial and aboriginal fisheries. Exploitation rates for Toboggan Creek hatchery coho has been determined for 1988 to 1998 return years, and varies between 0.28 and 0.73 (DFO 1999). Smolt to adult survival has also been estimated for Toboggan Creek hatchery coho during the same interval, and ranges between 0.005 and 0.06 (DFO 1999). Smolt to adult survival for Lachmach River coho (wild origin) is estimated to be higher than for Toboggan Creek hatchery coho (0.03 to 0.17) (DFO 1999). The higher smolt to adult survival rates of the Lachmach River coho may be due to the fact that Lachmach River is a coastal system, where Toboggan Creek is an interior system, and that Toboggan Creek estimates are based on hatchery origin coho only, while Lachmach River estimates are based on wild origin coho. Assuming a range in coho smolt to adult survival of 0.02 to 0.12, and an exploitation rate ranging between 0.28 and 0.73, the estimated number of coho returning to Toboggan Creek in the fall of 2001 would range between 700 and 11,205. Coded wire tagging of wild origin coho at Toboggan Creek since 1999 can be used to estimate wild coho survival for Toboggan Creek, which may differ from smolt to adult survival of hatchery origin fish.

Table 5. Estimated smolt production, and corresponding adult coho escapement at Toboggan Creek (for details, see Tables 3 and 4).

Smolt migration (spring)		Adult returns to Toboggan Fence (fall)	
Year	Estimated number¹	Year	Adult returns (escapement)
1995	71,251	1996	866
1996	67,918	1997	376
1997	75,678	1998	1970
1998	100,346	1999	7382
1999	79,481	2000	3680
2000	129,686		
2001	82,834		

¹ the number of hatchery origin smolts for 1999 is estimated as 35,000.

4.4.2 RAINBOW TROUT/STEELHEAD MIGRATION RATES

A total of 107 rainbow trout/steelhead were captured in the wolf type weir and the IPT in May and June 2001. The total number of rainbow trout/steelhead capture in May and June 2001 is low compared to the number of rainbow trout/steelhead captured in 2000 (243) or 1999 (202) (SKR 1999, 2000). Forty - three (75.4%) of the 57 rainbow trout/steelhead captured in the wolf type weir were captured after June 3, 2001 (Figure 7). No rainbow trout/steelhead were captured in the IPT prior to May 27, 2001 (Figure 8). Similar to previous years of the project (Saimoto 1995, SKR 1996, 1997, 1998, 1999), rainbow trout/steelhead capture rates in both, the wolf type weir and the IPT indicate that rainbow trout/steelhead migration occur towards the end and after coho smolt migration.

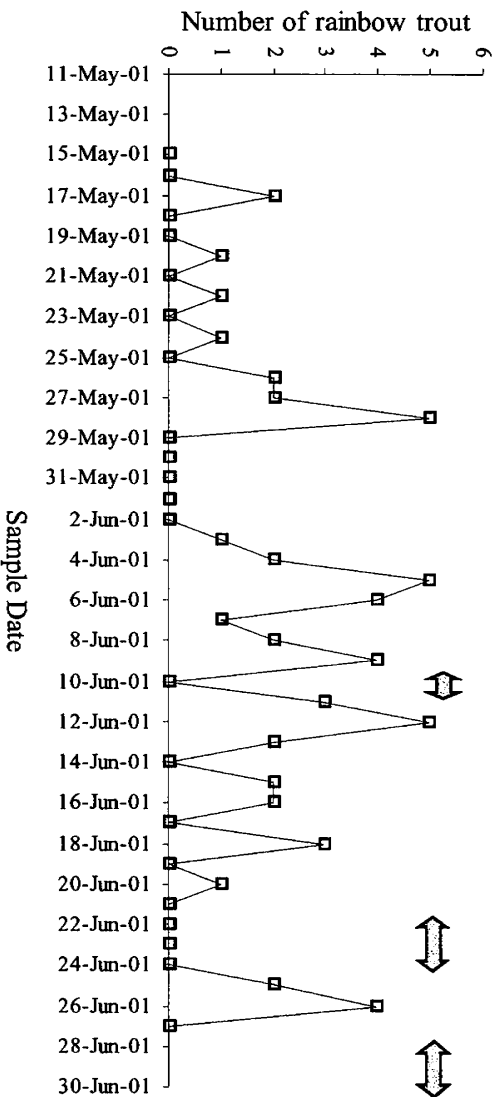


Figure 7. Number of rainbow trout caught at the wolf type weir in May and June 2000. Grey arrows indicate times when fence panels at the wolf type weir were removed.

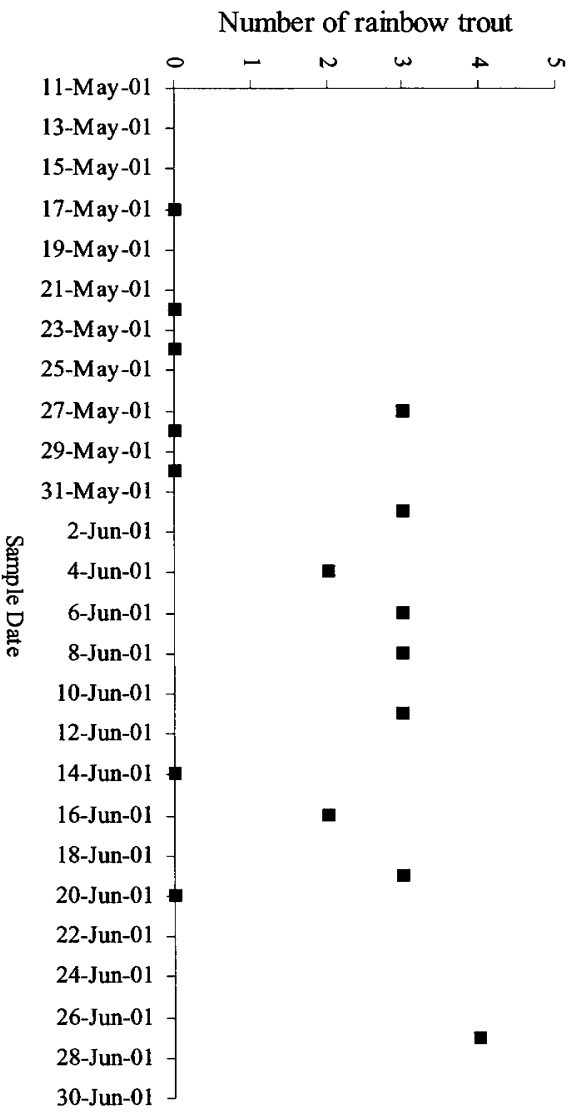


Figure 8. Number of rainbow trout captured in the IPT in May and June 2001.

4.4.3 OTHER SPECIES

In addition to coho and rainbow trout/steelhead, 542 pacific lamprey, 14 Dolly Varden, 22 cutthroat trout, five chinook, two longnose suckers and ten mountain whitefish were captured in the wolf type weir and the IPT in May and June 2001. A bull trout was captured by dipnet at the wolf type weir (Figure 9). Four of the 22 cutthroat trout, and one of the chinook were captured in the IPT, but no other species aside from rainbow trout/steelhead and coho were captured in the IPT during the study. Chinook were present at low number (four) at the wolf type weir, similar to findings in the coho smolt enumeration project conducted in 1995, 1997 and 1998 (Saimoto 1995, SKR 1997, 1998). Longnose suckers were captured in the wolf type weir in 1999 and in 2000, but were not captured in the fyke net or rotary screw trap utilized in 1995-1998 (Saimoto 1995, SKR 1996, 1997, 1998). Capture rates for cutthroat trout, Dolly Varden, mountain whitefish, chinook, and longnose suckers are illustrated in Figure 10. Capture rates for mountain whitefish and cutthroat trout peaked between May 19 and June 4, and no mountain whitefish were captured after June 4. Juvenile chinook were captured on two days during the study (June 12 and June 26, 2001). No Dolly Varden were captured after June 10, 2001 at the wolf type weir, while capture rates of cutthroat trout were highest at the conclusion of the coho smolt enumeration project.



Figure 9. Bull trout captured in Toboggan Creek near the wolf type weir location on June 5, 2001.

Toboggan Creek Coho Smolt Enumeration 2001

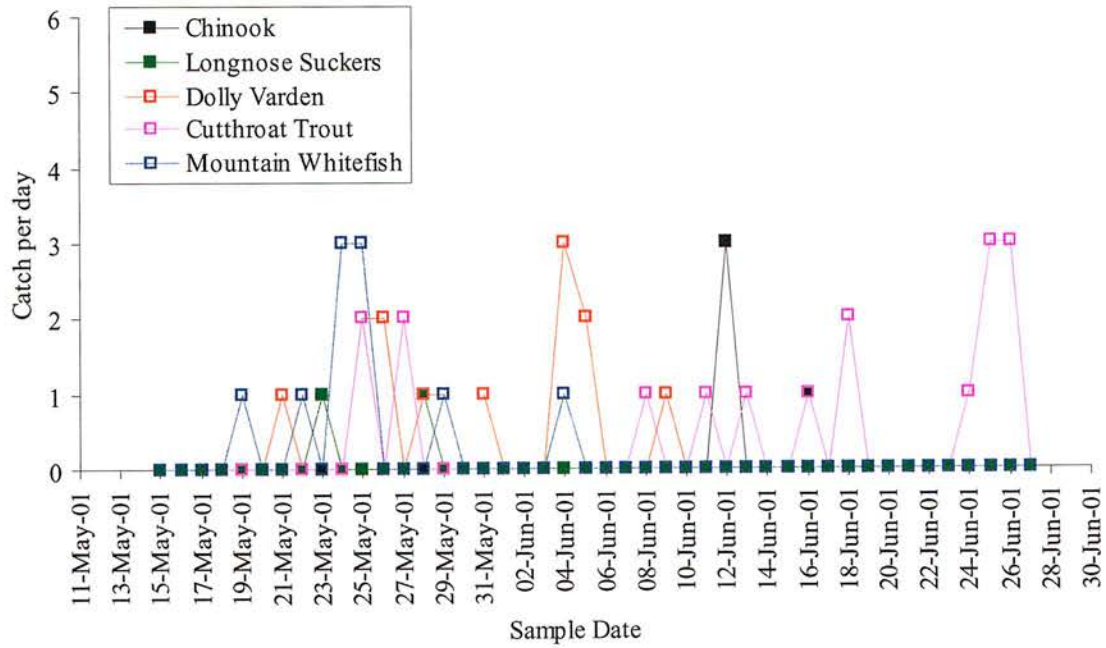


Figure 10. Number of chinook, cutthroat trout, Dolly Varden, chinook, mountain whitefish, and longnose suckers captured at the wolf type weir on each sample date in May and June 2001.

4.5 Length, Weight and Condition Factor

4.5.1 COHO

Length and weight data were collected for 1,422 (23.3%) of coho captured at the wolf type weir, and for 357 un-marked coho (98.9%) captured at the IPT. Fork length frequency analysis (Figure 11) indicates that four age classes are present in the sample of coho obtained at the wolf type weir, including 0+ fry and three age classes of smolts (1+, 2+ and 3+). There is significant overlap in the size ranges for the smolt age classes. The number of 1+ and 2+ smolts appear similar, while the number of 3+ smolts comparatively low. Size distribution of coho captured in the IPT is similar to the size distribution of coho captured at the weir. Due to considerable overlap in sizes of the coho estimated to be age 1+ and age 2+ based on length frequency analysis, coho were not separated by age categories. Once scale age data is available, a more rigorous analysis of length at age can be conducted.

Mean fork length, weight and condition factor for coho captured at the wolf type weir and the IPT were compared graphically over time (Figure 12). Coho were captured earlier in the sampling period at the wolf type weir than at the IPT. Mean fork length of coho captured earlier are more variable than those for coho captured after May 24th, 2001. This may in part be due to a higher proportion of age 0+ coho earlier in the study, which were not smoltifying at the time of sampling. A similar trend was observed at the wolf type weir in 1999 and 2000 (SKR 1999, 2000). The reduced variability in mean fork length observed after May 24th coincides with an increase in coho captured rates at the wolf type weir, indicating that smolt emigration was low prior to this date. Fork length, weight and condition factor were similar between wild coho captured in the wolf type weir and the IPT between May 31st and June 28th, 2001. Mean fork length stabilized shortly after the beginning of the study, and showed a gradual and minor decrease as the study progressed, similarly to trends observed in 1997, 1998 and 2000 (SKR 1997, 1998, 2000).

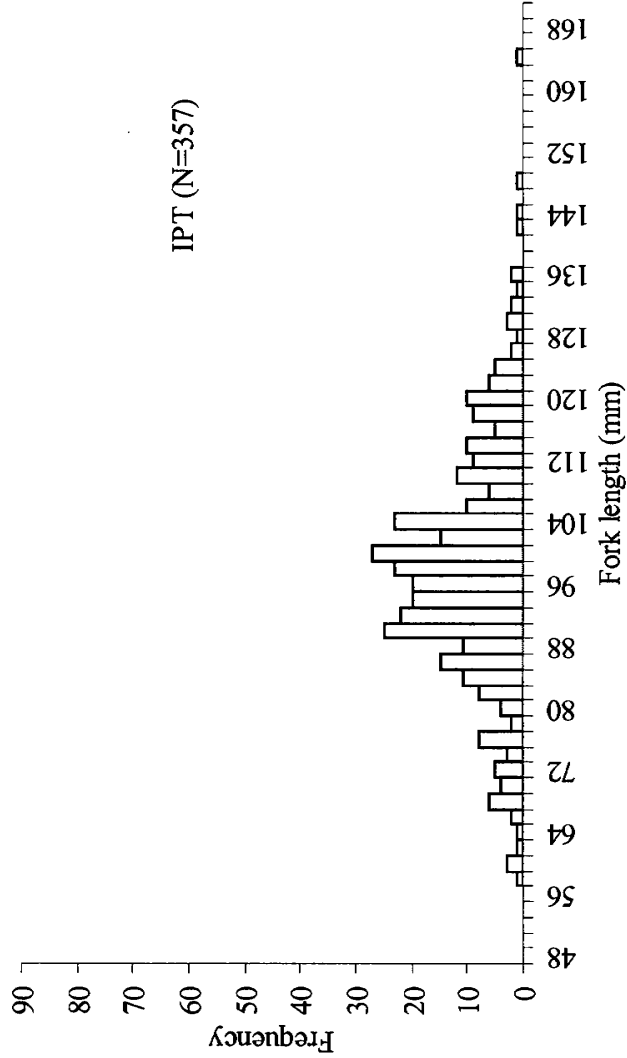
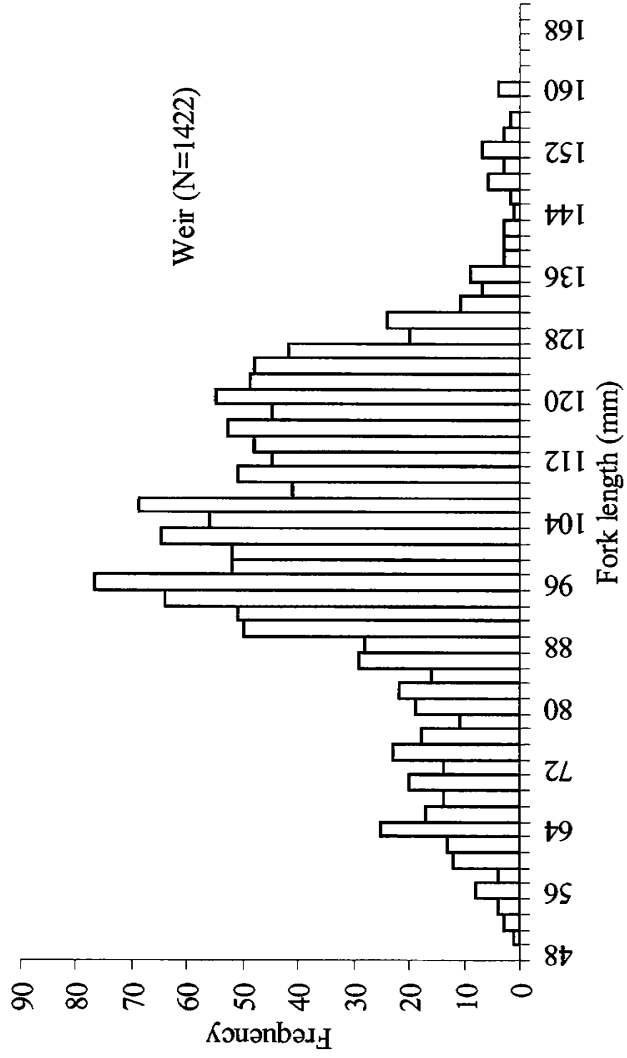


Figure 11. Length frequency histograms of wild coho captured at the wolf type weir (above) and the IPT (below) in Toboggan Creek, May to June 2000.

Toboggan Creek Coho Smolt Enumeration 2001

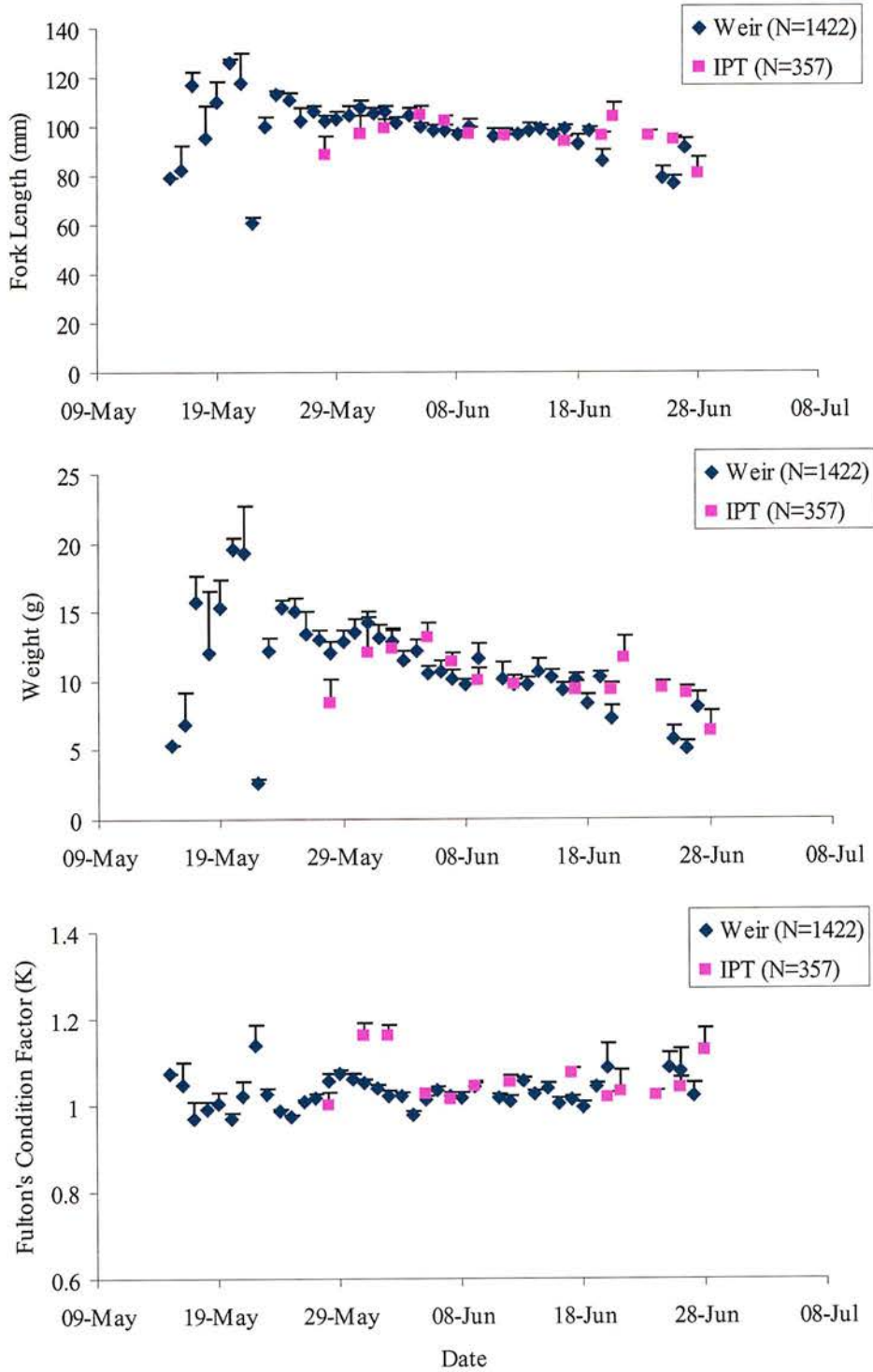


Figure 12. Mean fork length, weight and condition factor of wild coho capture in the wolf type weir and the IPT on each sample date. Error bars indicate standard errors.

Size of wild coho captured in the wolf type weir and un-marked coho captured in the IPT were compared. Box plots of fork length, weight, and condition factor are presented in Figures 13 to 15. The range of coho fork length, weight and condition factor is greater for the sample of coho obtained at the wolf type weir than for the sample obtained at the IPT. Since fork length, weight and condition factor data were not normally distributed and differed in variance between the sample obtained in the IPT and wolf type weir, non-parametric tests were used for statistical comparisons. Coho captured in the IPT are significantly shorter ($U=211183$, $p<0.000$) and lighter ($U=216061$, $p=0.000$) than coho captured in the wolf type weir (Table 6). Fulton's condition factor was significantly higher for coho captured in the IPT than for coho captured at the wolf type weir ($U=3000159.5$, $p<0.000$). Comparisons of Fulton's condition factor can be misleading however, since Fulton's condition factor is not independent of size (Ricker 1975, Bagenal 1978), and smaller fish have been found to have a higher Fulton's condition factor, even though they may actually not be in better condition (Saimoto and Donas 2000, CFDCN and SKR 2000). These difference may be attributable to size selectivity of one or both capture techniques. However, these differences in size is opposite to those found in 2000, where coho captured in the IPT were found to be significantly longer and heavier than those captured at the weir. Since sampling methods used during the two years of the study are comparable, size biases between methods should be consistent between the two years of the study. Alternatively, migration patterns may be size dependent, with smaller fish moving later in the spring than larger fish. This is supported by apparent decline in the mean fork length of coho towards the conclusion of the study (Figure 12). At this time, water levels increased, and fence panels were removed, while the IPT was fished. Thus, smaller fish that may have been moving to a larger degree towards the conclusion of the study would continue to be captured in the IPT, while they may not have been captured at the weir due to the removal of the fence panels. Un-marked coho captured at the IPT either originated upstream of the weir, but were not captured in the weir, or originated downstream of the weir. Statistically significant differences in length and weight of wild coho captured at the wolf type weir and un-marked coho captured in the IPT suggest that timing of coho migration is size dependent.

Table 6. Comparisons of fork length, weight, and Fulton's Condition factor (K) for wild coho captured at the wolf type weir and un-marked coho captured at the IPT in May – June 2001. Statistically significant differences ($\alpha=0.05$) are indicated in bold text.

	Fork Length (mm)		Weight (g)		Condition Factor (K)	
	Weir	IPT	Weir	IPT	Weir	IPT
N	1422	357	1422	357	1422	357
Range	49-60	58-163	1.28-46.41	2.12-34.78	0.742-1.968	0.258-1.448
Mean	101.88	97.64	11.86	10.32	1.0239	1.0473
SE	0.522	0.834	0.017	0.252	0.0022	0.0053
U-statistic	U=211183, p<0.000		U=216061, p=0.000		U=3000159.5, P<0.000	

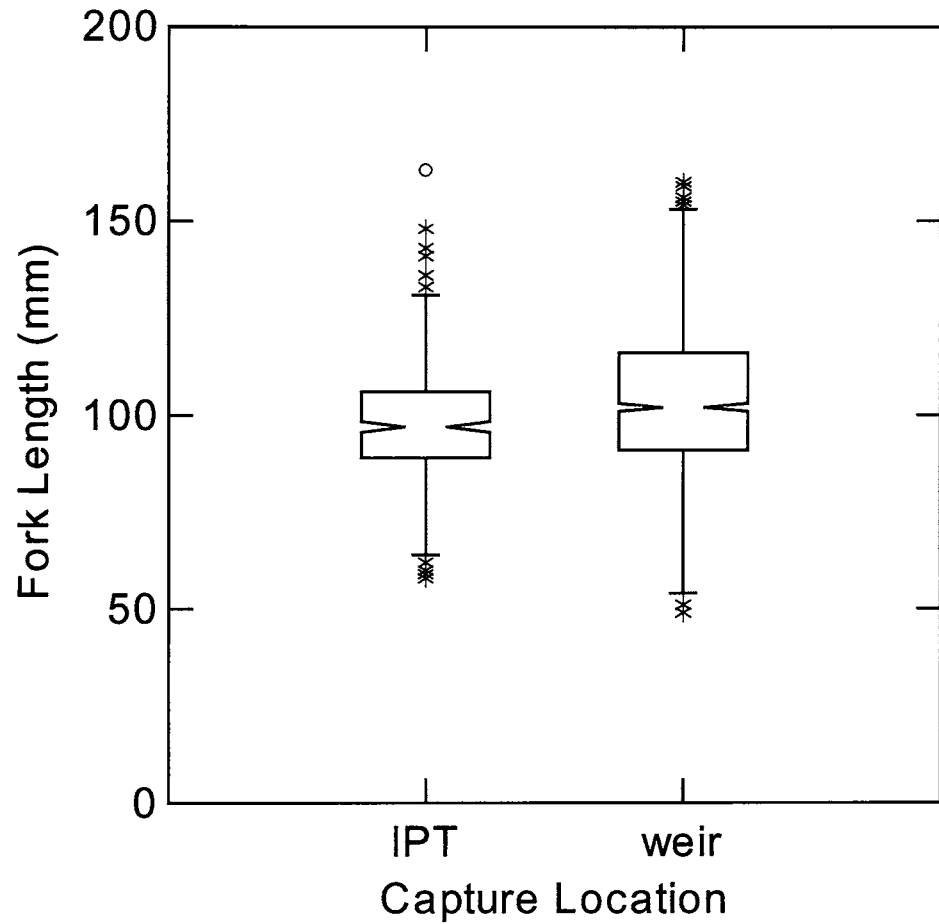


Figure 13. Box plot showing fork length (mm) distribution of wild coho captured at the weir, and un-marked coho captured at the IPT. Notches indicate 95% confidence intervals.

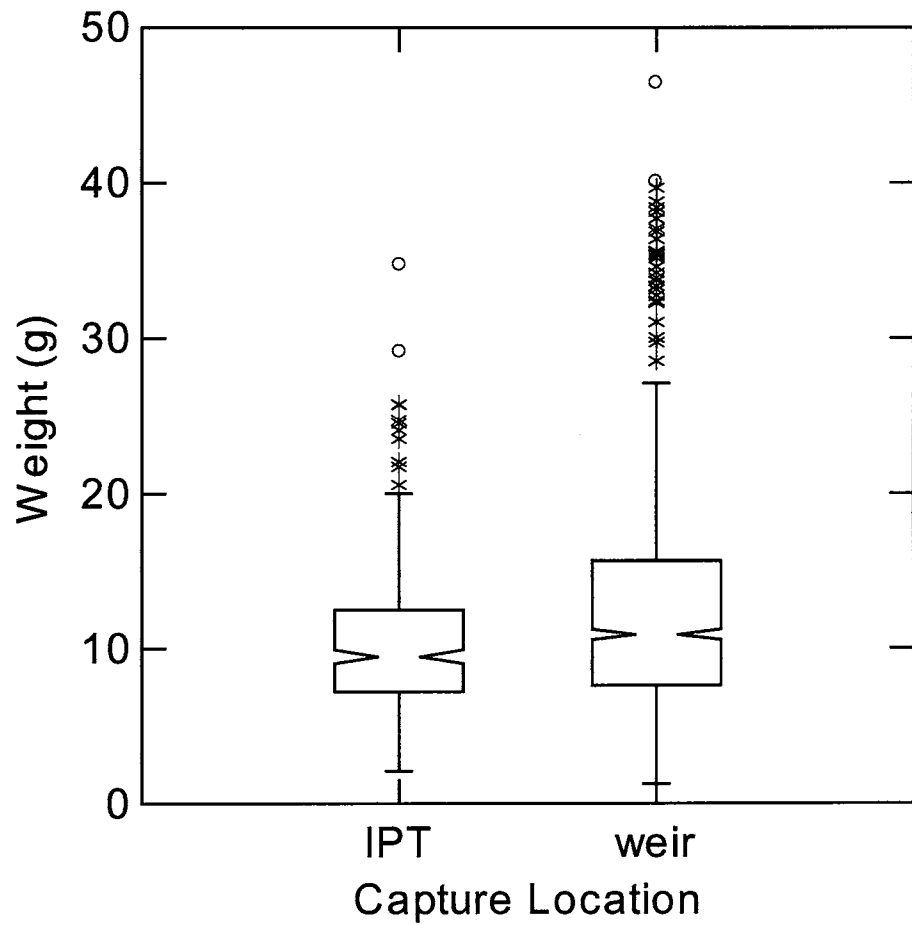


Figure 14. Box plot showing weight (g) distribution of wild coho captured at the weir, and un-marked coho captured at the IPT. Notches indicate 95% confidence intervals.

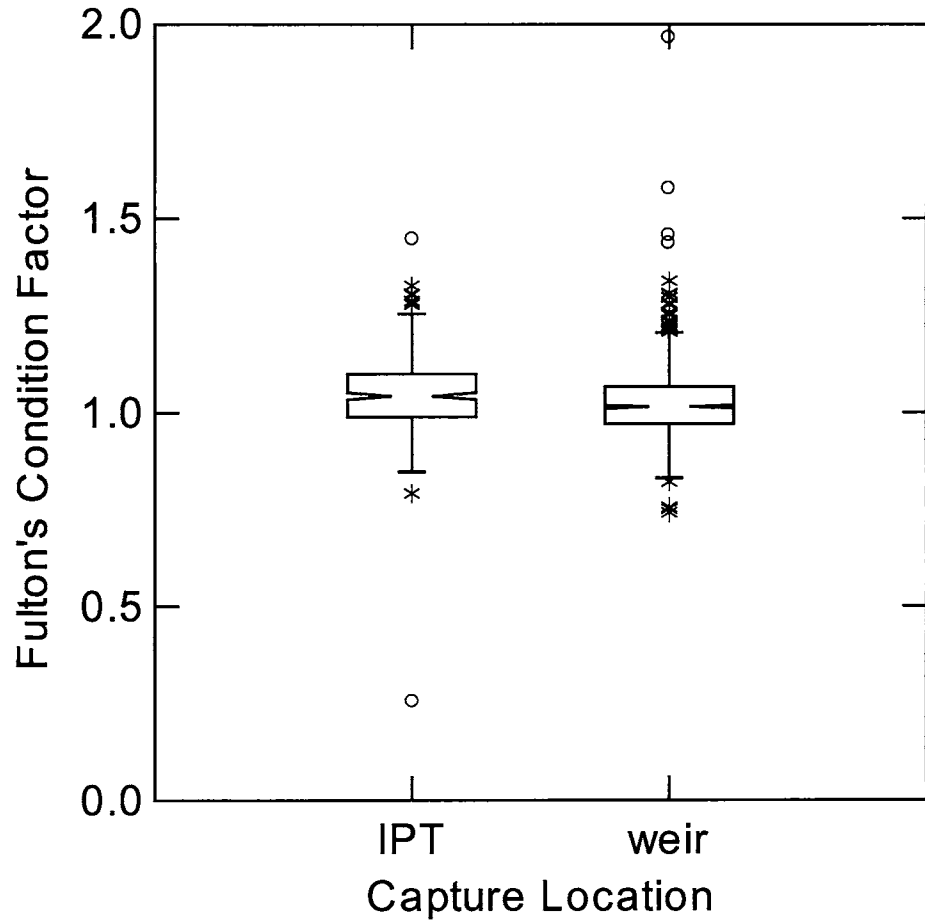


Figure 15. Box plot showing Fulton's Condition Factor (K) distribution of wild coho captured at the weir, and un-marked coho captured at the IPT. Notches indicate 95% confidence intervals.

4.5.2 RAINBOW TROUT/STEELHEAD

Length and weight data were collected for 54 (94.7%) of 57 rainbow trout/steelhead captured at the wolf type weir, and for 50 rainbow trout/steelhead (100%) captured at the IPT. Fork length frequency analysis (Figure 16) indicates at least three or four different age classes are present in the sample of rainbow trout/steelhead obtained during the study. In the absence of age data, rainbow trout/steelhead less than 86 mm are grouped as 0+ based on fork length distribution. Fork length, weight and condition factors for age 0+ and age $\geq 1+$ are summarized in Table 7.

Table 7. Summary of fork length, weight and condition factor data for rainbow trout/steelhead captured during the Toboggan Creek salmonid trapping project (May and June 2001) at the wolf type weir and the IPT. Rainbow trout/steelhead less than 86 mm in length are assumed to be age 0+ based on length frequency analysis (Figure 14).

		Fork Length (mm)		Weight (g)		Condition Factor (K)	
		0+	$\geq 1+$	0+	$\geq 1+$	0+	$\geq 1+$
Weir	N	8	46	8	46	8	46
	Range	61-76	88-150	2.8-4.5	7.2-37.5	0.261-0.973	0.960-1.608
	Mean	69.4	113.4	3.61	17.48	1.076	1.134
	SE	1.74	2.11	0.213	1.115	0.0277	0.0176
IPT	N	9	41	9	41	9	41
	Range	62-84	89-135	2.71-7.42	7.96-29.75	1.034-1.252	0.747-1.332
	Mean	74.0	109.5	4.73	14.99	1.244	0.747
	SE	2.84	1.80	0.542	0.778	0.0230	0.183

Mean fork length, weight and condition factor for rainbow trout/steelhead captured at the wolf type weir and the IPT were compared graphically over time (Figure 17). Rainbow trout/steelhead fork length and weight are variable throughout the sampling periods, and rainbow trout appear to be somewhat smaller and lighter prior to June 2nd than those captured after June 2nd, 2001. Rainbow trout fork length and weight are variable throughout the study at both the IPT and the weir location.

Size of rainbow trout/steelhead captured in the wolf type weir and un-marked coho captured in the IPT were compared. Box plots of fork length, weight, and condition factor are presented in Figures 18 to 20. Rainbow trout/steelhead captured at the weir had a wider range and more variability in fork length and weight. Since fork length, weight and condition factor data were not normally distributed and differed in variance between the sample obtained in the IPT and wolf type weir, non-parametric tests were used for statistical comparisons. Fork length, weight, and Fulton's condition factor of rainbow trout/steelhead captured in the wolf type weir is statistically similar to those captured in the IPT (Fork Length: $U=1204$, $p=0.342$; weight: $U=1157$, $p=0.209$; K: $U=1378.5$, $p=0.853$).

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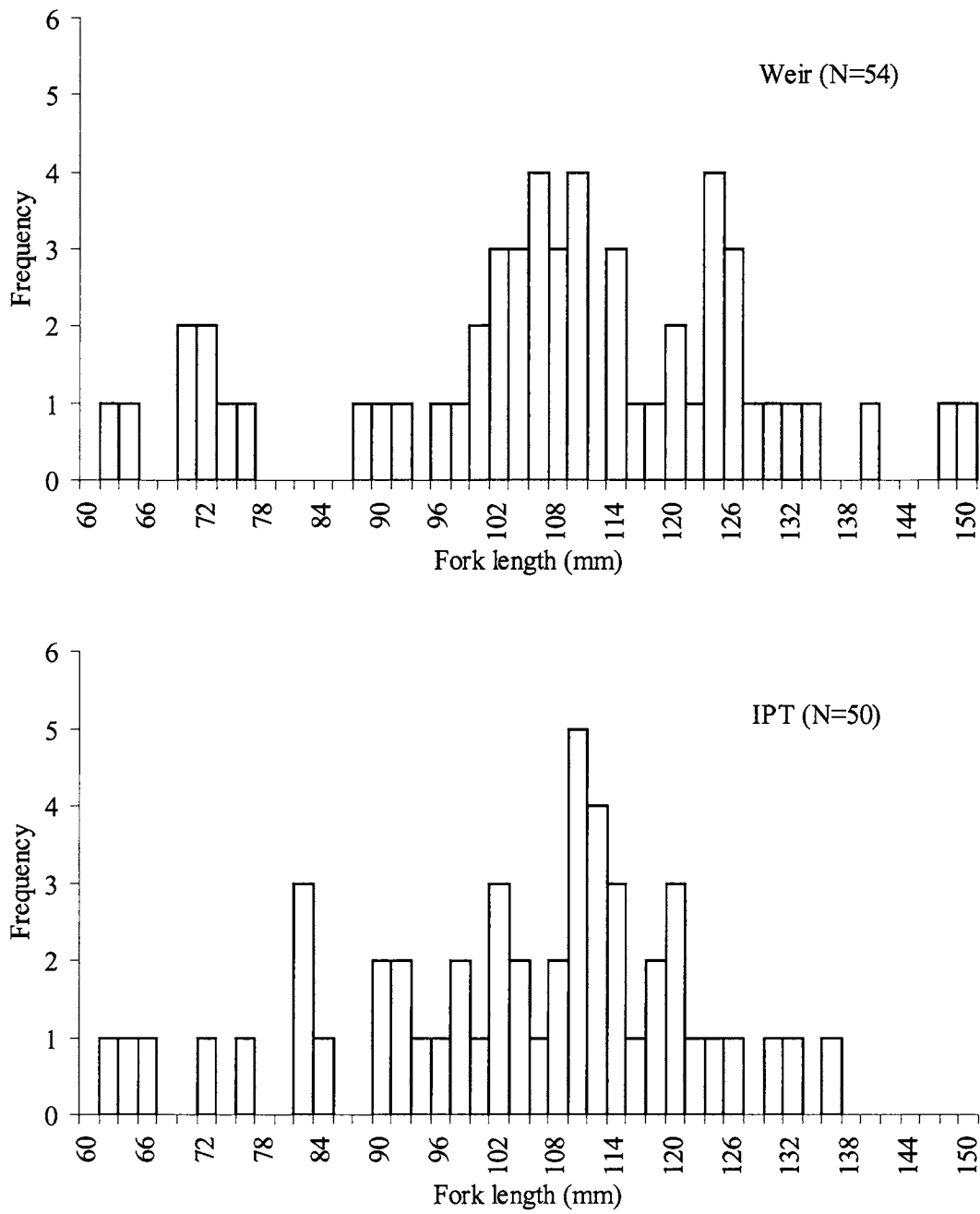


Figure 16. Length frequency histograms of rainbow trout/steelhead captured at the wolf type weir (above) and the IPT (below) in Toboggan Creek, May to June 2001.

Toboggan Creek Coho Smolt Enumeration 2001

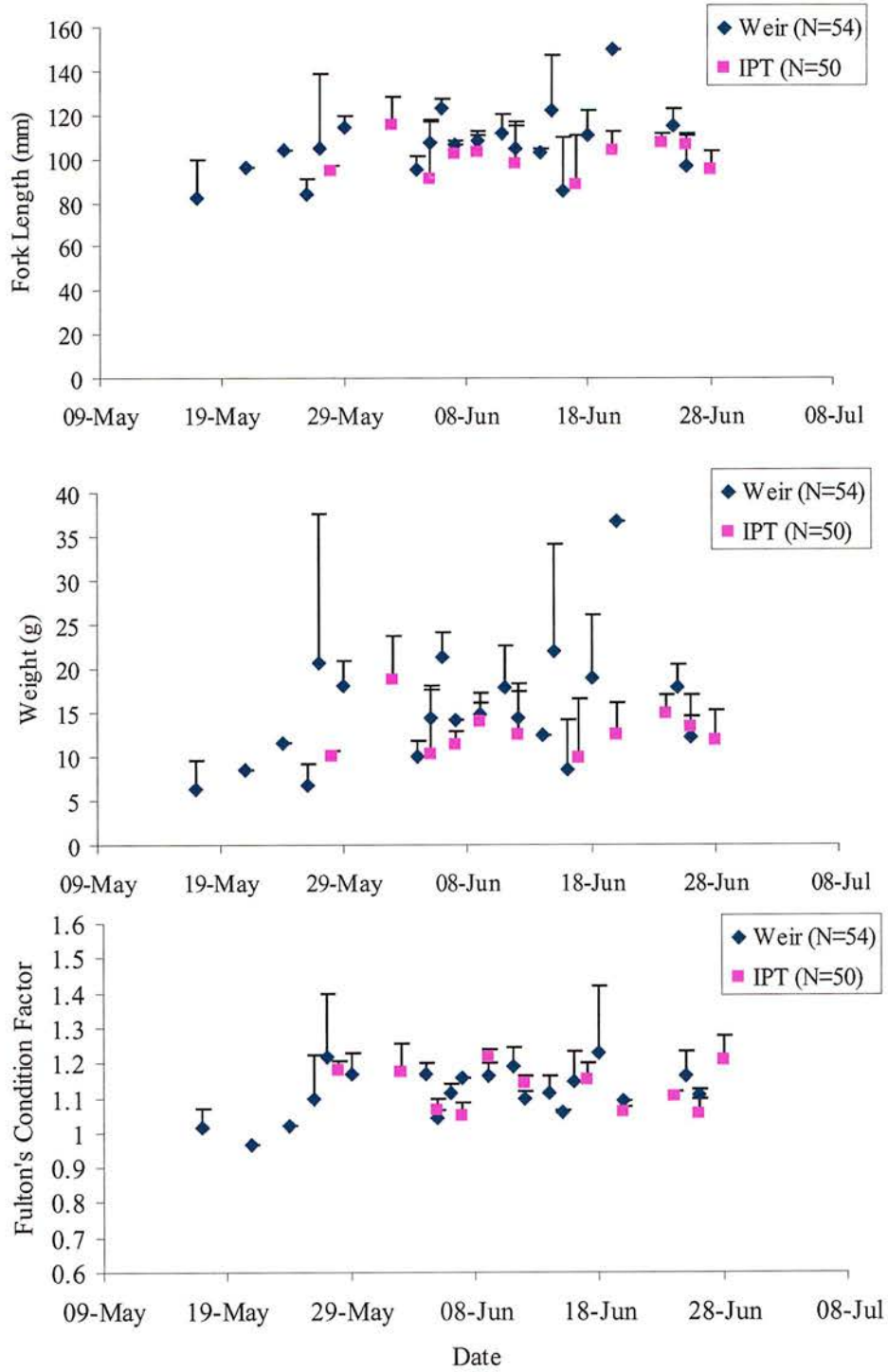


Figure 17. Mean fork length, weight and condition factor of rainbow trout/steelhead capture in the wolf type weir and the IPT on each sample date. Error bars indicate standard errors.

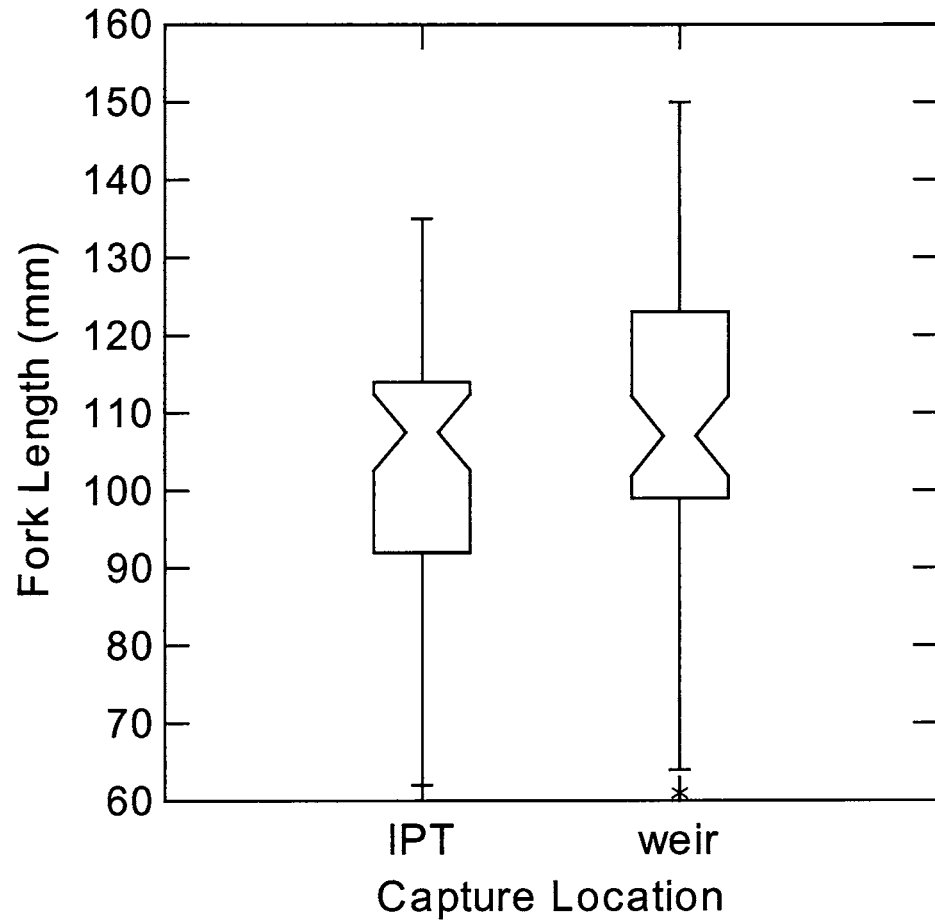


Figure 18. Box plot showing fork length distribution of rainbow trout/steelhead captured at the weir and the IPT. Notches indicate 95% confidence intervals.

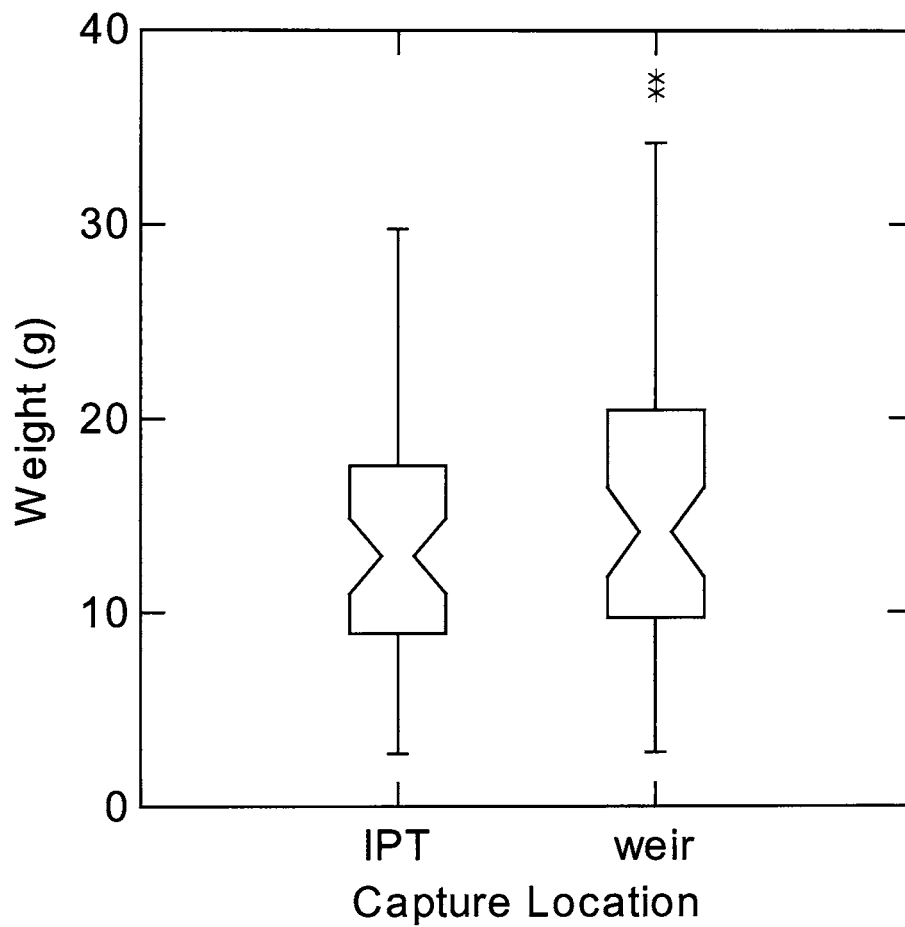


Figure 19. Box plot showing weight distribution of rainbow trout/steelhead captured at the weir and the IPT. Notches indicate 95% confidence intervals.

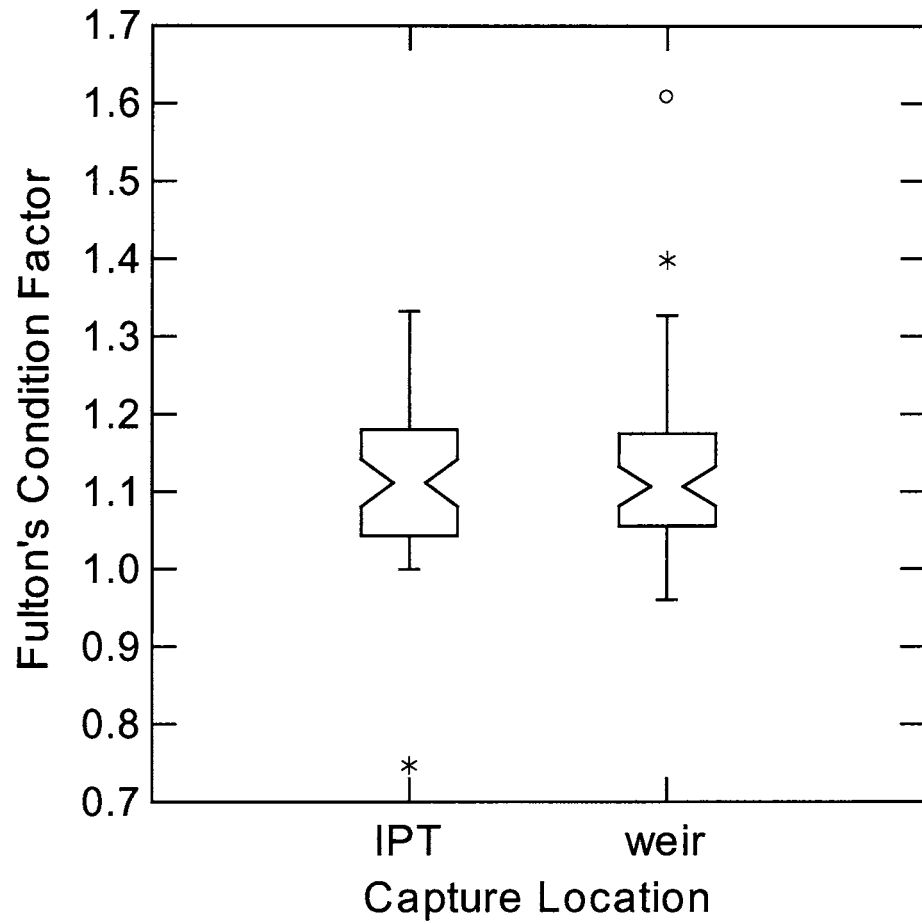


Figure 20. Box plot showing Fulton's condition factor (K) distribution of rainbow trout/steelhead captured at the weir and the IPT. Notches indicate 95% confidence intervals.

4.5.3 Other Species

Fork length data were recorded for 13 Dolly Varden (92.9%), 17 cutthroat trout (94.4%), four chinook (100%), three mountain whitefish (30%) and one longnose sucker (50%) captured in the wolf type weir. Weight data were recorded for 11 Dolly Varden (78.6%), 17 cutthroat trout (94.45), three mountain whitefish (30%), and the one longnose sucker (50%) captured in the wolf type weir. The longnose sucker measured 70 mm and weighed 2.98 g (Fulton's condition factor = 0.869). Fork length averaged 148.3 (range = 144-155, SE = 3.38), weight averaged 30.8 g (range = 27.8-35.1, SE = 2.22) and Fulton's condition Factor averaged 0.941 (range = 0.93 – 0.948, SE = 0.0053) for mountain whitefish captured at the wolf type weir. Fork length, weight and Fulton's condition factor data for cutthroat trout, Dolly Varden and chinook captured at the wolf type weir are summarized in Table 8. Fork length and weight data were also collected for the chinook and three cutthroat trout captured in the IPT, and are summarized in Appendix 4.

Table 8. Summary of fork length (FL), weight (W) and condition factor data (K) for cutthroat trout, Dolly Varden and chinook captured during the Toboggan Creek salmonid trapping project (May and June 2001) at the wolf type weir.

	Cutthroat Trout			Dolly Varden			Chinook		
	FL	W	K	FL	W	K	FL	W	K
N	17	17	17	13	11	11	4	4	4
Range	70-188	4.5-63.9	0.84-1.31	66-300	2.8-24.4	0.74-1.13	51-64	1.2-3.1	0.93-1.19
Mean	116.7	18.34	1.020	117.23	8.18	0.943	55.8	1.89	1.034
SE	6.86	3.367	0.0285	19.22	2.095	0.0343	2.87	0.426	1.008

5.0 Recommendations

1. Toboggan Creek should continue to be used as an index stream to monitor fluctuations in freshwater productivity, juvenile survival, and possible smolt to adult survival of coho in the Bulkley River watershed.
2. The wolf type weir constructed at Toboggan Creek allowed for feasible maintenance and removal of panels during high flows. Fence panels and frames have been used for the past three years of the study, and some of the lumber may require replacing in future years of the study. However, development of a more permanent structure to attach to the adult fence may be suitable for both tagging of wild smolts, and an estimation of total adult output based on the ratio of hatchery and wild origin smolts captured downstream of the hatchery.
3. The site chosen for installation of the weir allowed for easy installation of the structure, and facilitated access to the trapping site. It is suggested that the same site be used in future years. Large woody debris located upstream of the trapping site should be anchored prior to installation of the fence, and a leaning tree at the trapping location should be secured or removed for safety.
4. Concurrent sampling with the IPT downstream of the wolf type weir is valuable in determining the extent of migration of wild coho past the weir when fence panels are removed due to high water. Marking coho captured at the weir with an additional, non permanent mark could further decrease confidence in the estimate of wild smolt production at Toboggan Creek. Coho captured at the weir are anaesthetized for coded wire tagging and adipose fin clipping. Applying an additional, non-permanent mark (e.g. immersion dye) could give valuable data in generating two separate mark recapture estimates resulting from the IPT sampled downstream. Alternatively, releases of marked fish back upstream of the wolf type weir (such as conducted in 1999) would result in a better estimate of trap efficiency at the weir, and additional mark-recapture data for population estimates at the IPT.
5. The proportion of smolts greater than 100 mm (assumed to be age 2+) is not consistent from year to year, and may partly be dependent on growth rates and juvenile coho densities. A detailed analysis of the age structure of smolts, and the estimated proportion of different age groups in the smolt numbers for each year should be conducted. In some years, a larger proportion of coho may delay smoltification to age 2+ than in other years, and this may be a result of various factors, including juvenile densities. Coupled with continued enumeration of adult coho to the Toboggan Creek fence, and age structure analysis of the adult coho, age structure analysis of coho smolts may yield useful input into life history strategies.
6. The documentation of bull trout in Toboggan Creek is of interest since this is a Blue listed species. To our knowledge, bull trout have not been previously documented in Toboggan Creek. Further study into the size of the bull trout population, and its connection to mid-Bulkley populations may be of interest.

6.0 Literature Cited

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Appendix 1. Weir performance, fish capture summary and tagging summary for the Toboggan Creek coho smolt enumeration project, 2001

Toboggan Creek Smolt Enumeration 2001

Day **1** Date from: **01-May-14** to: **01-May-15** Discharge **low**
 Time from: **12:00** to: **8:00** Trap performance **excellent**

Performance comments **at set trap appeared to be fishing extremely efficiently with no holes present**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
17:09	12	10	80	7.7	clear	21	
21:30	9	10	70	7.8	clear	21	
7:00	4	6.5	80	7.8	clear	20	

General Comments

Trap still fishing excellent (1 20 to 25cm CT was in trap but not captured)
 very little debris on fence (2 to 3 cm back-up)
 still very little debris accumulation, upper most of panel on left side of trap B had fallen out, 7 of 8 CO in Box A were <100mm; DV/BT (13 Br left and right) was a mort (~200mm), 10 mortis disposed of but DV/BT retained for conformation in live box.
 Appears that flow in trap boxes A and B are too much for even larger fish to handle. Mortis. due to this turbulence
 Drain was partailly plugged to reduce turbulence

Species Summary

Coho **8** RB/ST **0** DV **1** PL **0** Salmonid fry **0**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0 X	100	=	0
	>100mm	0 X	100	=	0
	Combined	0 X	100	=	0
Coho with overnight retention of CWT	<100mm	1		=	1
	>100mm	0		=	0
	Combined	1		=	1
Coho re-tagged and released immediately	<100mm	0 X	100	=	0
	>100mm	0 X	100	=	0
	Combined	0 X	100	=	0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			=	1
	>100mm			=	0
	Combined			=	1
Coho Smolts not tagged:					7 including 7 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day Date from: to: Discharge
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
9:00	0	0	0	0		20	
0:00	0	0	0	0		20	
5:00	0	0	0	0		20	

General Comments

To reduce current in trap boxes an extended piece of pipe was inserted in the drain, resulting in a much calmer water while still allowing for small current

Toad found in trap box B, steelheads hitting side panels with large force may cause damage.

monitored hatchery pond, approximately 10 smolts per 5 minutes exiting

clear and cold all night, slightly overcast in the morning

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	{	<100mm	<input type="text" value="0"/> X	100	= 0
		>100mm	<input type="text" value="0"/> X	100	= 0
		Combined	<input type="text" value="0"/> X	100	= 0
Coho with overnight retention of CWT	{	<100mm	<input type="text" value="2"/>		= 2
		>100mm	<input type="text" value="0"/>		= 0
		Combined	<input type="text" value="2"/>		= 2
Coho re-tagged and released immediately	{	<100mm	<input type="text" value="0"/> X	100	= 0
		>100mm	<input type="text" value="0"/> X	100	= 0
		Combined	<input type="text" value="0"/> X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	{	<100mm			= 2
		>100mm			= 0
		Combined			= 2
Coho Smolts not tagged:					<input type="text" value="3"/> including <input type="text" value="0"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **3** Date from: **01-May-16** to: **01-May-17** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
22:30	8	6	0	7.7	clear	20	weather: slightly cloudy, with some precipitation, no st
6:00	5	6	0	8	clear	19	

General Comments

packed sandbags, repaired panels, packed up lights

Species Summary

Coho **2** RB/ST **2** DV **0** PL **0** Salmonid fry **15**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Coho with overnight retention of CWT	<100mm	1			= 0
	>100mm	1			= 0
	Combined	2			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 1
	>100mm				= 1
	Combined				= 2
Coho Smolts not tagged:		0			including 0 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day Date from: to: Discharge
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
16:00	11	10.5	80	7.8	clear	20	
22:30	9	10	50	7.8	clear	20	
1:00	8	10	0	0	moderate	21	checked, cleaned trap
5:00	7	9.5	0	0	moderate	21	checked, cleaned trap
7:00	6	9.5	80	7.9	moderate	20	final check

General Comments

at trap set 30% cloud cover, mostly sunny with moderate to high wind, trap setting efficiency is 100%, no sign of holes for escape detected
 panels repaired on river right of trap B
 cloudy with clear breaks all night

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X 100	= 0
	>100mm	<input type="text" value="0"/>	X 100	= 0
	Combined	<input type="text" value="0"/>	X 100	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>		= 0
	>100mm	<input type="text" value="4"/>		= 0
	Combined	<input type="text" value="4"/>		= 0
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X 100	= 0
	>100mm	<input type="text" value="0"/>	X 100	= 0
	Combined	<input type="text" value="0"/>	X 100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 0
	>100mm			= 4
	Combined			= 4

Coho Smolts not tagged: including mortalities)

Toboggan Creek Smolt Enumeration 2001

Day 5 Date from: 01-May-18 to: 01-May-19 Discharge low
 Time from: 8:00 to: 8:00 Trap performance excellent

Performance comments trap performance is excellent

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
10:00	0	0	0	0		19	
0:00	0	0	0	0		19	
8:00	0	0	0	0		19	

General Comments

removed extra drain piece, put it back in at 00:00 when left
 a whole bunch of PL are stuck in Back of Trap Box A

Species Summary

Coho 8 RB/ST 0 DV 0 PL 0 Salmonid fry 68
 Chinook 0 CT 0 MW 1 LSU 0

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X 100	= 0
	>100mm	0	X 100	= 0
	Combined	0	X 100	= 0
Coho with overnight retention of CWT	<100mm	1		= 0
	>100mm	4		= 0
	Combined	5		= 0
Coho re-tagged and released immediately	<100mm	0	X 100	= 0
	>100mm	0	X 100	= 0
	Combined	0	X 100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 1
	>100mm			= 4
	Combined			= 5
Coho Smolts not tagged:		3	including	0

Toboggan Creek Smolt Enumeration 2001

Day **6** Date from: **01-May-19** to: **01-May-20** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
16:00	11	10.5	80	8.2	clear	19	
22:00	5	9	90	8	clear	19	
23:00	5	9	90	7.8	clear	19	
0:00	3.5	8	90	7.8	clear	19	
8:00	6	6.5	90	8	clear	19	

General Comments

trap stays very clean!

Species Summary

Coho **13** RB/ST **1** DV **1** PL **9** Salmonid fry **46**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Coho with overnight retention of CWT	<100mm	0			= 0
	>100mm	10			= 0
	Combined	10			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 10
	Combined				= 10

Coho Smolts not tagged: **3** including **0** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day Date from: to: Discharge
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
16:00	13	9.5	80	8	clear	19	
22:00	5	8.5	80	7.8	clear	19	
23:00	5	8	80	7.8	clear	19	
0:00	5	8	80	7.8	clear	19	
8:00	6	7.5	80	8	clear	20	

General Comments

pulled 15 lamprey off back screen of Trap Box A, all were dead (also 1 dead Co smolt)
 100% cloud cover with light breeze
 light rain,
 light rain
 large CT caught trying to jump over fence (going upstream) releases farther downstream, western toad caught in Box B
 raining, 100% cloud cover

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X	100	= 0
	>100mm	<input type="text" value="0"/>	X	71	= 0
	Combined	<input type="text" value="0"/>	X	71	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>			= 0
	>100mm	<input type="text" value="7"/>			= 5
	Combined	<input type="text" value="7"/>			= 5
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X	100	= 0
	>100mm	<input type="text" value="2"/>	X	71	= 2
	Combined	<input type="text" value="2"/>	X	71	= 2
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 5
	Combined				= 5

Coho Smolts not tagged: including mortalities)

Toboggan Creek Smolt Enumeration 2001

Day Date from: to: Discharge
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
15:00	10	9	80	8	clear	20	
22:00	7.5	9	80	7.8	clear	21	
23:00	7.5	8.5	80	7.7	clear	21	
0:00	6.5	8	80	7.7	clear	21	
8:00	7	7	80	7.8	clear	21	

General Comments

raining with clouds
 same large MW caught 2 days ago was in Trap A again, released Downstream (27.2cm (CT from yesterday = 26.5cm)
 light rain
 no fish were observed moving from hatchery for 10 min at 22:50 to 23:00
 raining
 cloudy with light wind

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X	100	= 0
	>100mm	<input type="text" value="0"/>	X	100	= 0
	Combined	<input type="text" value="0"/>	X	100	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>			= 0
	>100mm	<input type="text" value="5"/>			= 5
	Combined	<input type="text" value="5"/>			= 5
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X	100	= 0
	>100mm	<input type="text" value="0"/>	X	100	= 0
	Combined	<input type="text" value="0"/>	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 5
	Combined				= 5
Coho Smolts not tagged:					<input type="text" value="4"/> including <input type="text" value="2"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **9** Date from: **01-May-22** to: **01-May-23** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
14:30	11	8	80	8	clear	22	cleaned fence, took temps
23:30	8	8	80	7.9	mod	22	checked trap
0:30	0	0	0	0	mod	24	cleaned trap
5:00	4	7.5	80	8	mod	22	cleaned trap
6:00	4	7.5	80	8	mod	22	cleaned trap
8:00	8	7.5	0	0	mod	24	removed ST doors, cleaned trap

General Comments

when I arrived there was a little bit more debris present on the fence because of the rain. I was going to close the ST doors but one ST was right in front of the doors so I left them out in the hopes that it would find it's way downstream

raining

approx. 4 per minute exiting pond

debris on trap is accumulating faster due to increase in water level (staff gauge)

Species Summary

Coho **13** RB/ST **0** DV **0** PL **6** Salmonid fry **2**
 Chinook **0** CT **0** MW **0** LSU **1**

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X 0	= 0
	>100mm	0	X 0	= 0
	Combined	0	X 0	= 0
Coho with overnight retention of CWT	<100mm	0		= 0
	>100mm	0		= 0
	Combined	0		= 0
Coho re-tagged and released immediately	<100mm	0	X 0	= 0
	>100mm	0	X 0	= 0
	Combined	0	X 0	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 0
	>100mm			= 0
	Combined			= 0
Coho Smolts not tagged:		13	including	1 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **10** Date from: **01-May-23** to: **01-May-24** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
10:45	12	7	70	8	clear	24	
18:00	15	11	80	7.9	light	24	
21:30	12	8	70	8	light	25	
22:30	10	8	70	7.9	light	26	
1:30	7	8	70	8	light	25	
3:30	8	8	70	8	light/clear	24	
7:00	8	8	75	8	light/clear	25	
8:00	8	8	0	0	clear	25	

General Comments

2 CO removed from Trap A alive but in poor condition. They may die in live box. A 15cm MW was released downstream and ST doors were put in.

very warm and sunny today. Estimate trap can remain uncleaned for 3 to 4 hours (5 max).

trap efficiency was good with fast flow, one ST was let through moving upstream (MW were ~230, 250mm), they were healthy

clear and warm during entire night with some cloudy breaks

set up tagging equipment

13 dead PL in Box A and 6 dead PL in Box B

Species Summary

Coho **83** RB/ST **1** DV **0** PL **65** Salmonid fry **42**
 Chinook **0** CT **0** MW **3** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	{	<100mm	0 X	100	= 0
		>100mm	0 X	100	= 0
		Combined	0 X	100	= 0
Coho with overnight retention of CWT	{	<100mm	5		= 5
		>100mm	29		= 29
		Combined	35		= 35
Coho re-tagged and released immediately	{	<100mm	0 X	100	= 0
		>100mm	0 X	100	= 0
		Combined	0 X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	{	<100mm			= 5
		>100mm			= 29
		Combined			= 35
Coho Smolts not tagged:					48 including 30 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **11** Date from: **01-May-24** to: **01-May-25** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments trap performance is excellent

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
11:00	12	9	0	0	mod	25	
14:30	13	9	0	0	clear	25	
18:45	14	10	80	7.6	clear	25	
22:00	10	8	80	7.7	clear/mod	26	
0:00	8	8	80	7.9	clear/mod	26	
5:00	4	8	80	7.8	clear/mod	26	
6:30	5	8	80	7.9	clear/mod	26	

General Comments

set up tagging equipment

Note: no mortis in Trap Box A, while 4 in Trap Box B, possibly still too turbulant, also I noticed that fish in Trap Box B are less "lively", seem exhausted, (again possibly due to turbulence).

sunny with scattered clouds

one of the smolts is a probable mort. Put St doors in and cleaned fence

sunny, no clouds.

Two large Western Toads were removed from Trap Box B

clear skies, warm all night, cloudy in the morning

Species Summary

Coho **236** RB/ST **0** DV **2** PL **4** Salmonid **32**
 Chinook **0** CT **2** MW **3** LSU **0** fry

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X	100	= 0
	>100mm	87	X	100	= 87
	Combined	87	X	100	= 87
Coho with overnight retention of CWT	<100mm	10			= 10
	>100mm	105			= 105
	Combined	115			= 115
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 10
	>100mm				= 192
	Combined				= 202
Coho Smolts not tagged:					34 including 5 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **12** Date from: **01-May-25** to: **01-May-26** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:00	8.5	8.5	80	7.7	light/clear	26	
22:30	6	8	80	7.7	light/clear	26	
1:30	5	8	80	7.8	light/clear	25	
3:30	0.5	6	70	8	light/clear	26	cleaned trap
5:00	0.5	6	70	8	light/clear	26	checked trap
6:00	0.5	6	70	8	light/clear	26	cleaned trap
7:00	1	6	70	8	light/clear	26	checked/cleaned trap
16:55	19	11	80	7.7	light	25	

General Comments

cloudy until ~13:00 when clouds cleared and there was sun for the rest of the day
 Trap A still building up much more debris than Trap B panels
 still sunny
 21 Co morts in Trap Box A
 set up tagging equipment
 approx. 1 fish every 5 minutes observed exiting the pond (monitored for 15 minutes)
 mostly clear and cool all night and some cloud cover; high cloud cover/cool in the morning
 approx. 20 morts in Trap A due to suction produced by board (board taken out at 02:30), at 05:00 there were 4 morts on Fence A, and 1 mort on Fence B. Noticeably much more debris on Fence A than Fence B for past few nights

Species Summary

Coho **176** RB/ST **2** DV **2** PL **19** Salmonid fry **44**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	{	<100mm	0 X	100	= 0
		>100mm	0 X	100	= 0
		Combined	0 X	100	= 0
Coho with overnight retention of CWT	{	<100mm	19		= 19
		>100mm	115		= 115
		Combined	134		= 134
Coho re-tagged and released immediately	{	<100mm	0 X	100	= 0
		>100mm	0 X	100	= 0
		Combined	0 X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	{	<100mm			= 19
		>100mm			= 115
		Combined			= 134
Coho Smolts not tagged:					42 including 28 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **13** Date from: **01-May-26** to: **01-May-27** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
11:00	0	0	0	0	clear/light	26	cleaned fence
17:00	14	8	70	7.8	clear/light	26	cleaned fence and closed ST doors
19:00	10	7	70	7.9	light	27	cleaned fence
22:30	9	7	70	8	light	27	
0:30	8	7	70	8	light	29	
3:30	2	7	70	8	light	29	
6:00	6	7	60	8	light	29	
6:30	80	6	60	8	light	28	
8:30	0	0	0	0	moderate	29	

General Comments

weather was overcast with light rain all afternoon
 2 ducks (mergansers ?) in reservoir. Still raining. Creek appears to be coming up more
 rained until 23:30; high cloud cover and warm for rest of the night and morning
 adult ST/BT? Sighted inside of trap Box B
 lots of "beaver wood" on fence between 03:00 and 05:30. (2 morts in trap A)
 set up tagging equipment, QCD Fish
 ST doors kept getting knocked out all night (pulled ST doors at 05:00)

Species Summary

Coho **339** RB/ST **2** DV **1** PL **58** Salmonid fry **117**
 Chinook **0** CT **2** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	28	X	100	= 28
	>100mm	142	X	100	= 142
	Combined	170	X	100	= 170
Coho with overnight retention of CWT	<100mm	18			= 18
	>100mm	86			= 86
	Combined	104			= 104
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 46
	>100mm				= 228
	Combined				= 274

Coho Smolts not tagged: **65** including **4** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **14** Date from: **01-May-27** to: **01-May-28** Discharge **moderate**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
17:15	14	7	70	7.8	moderate	29	
18:30	0	0	0	0	moderate	29	
20:30	0	0	0	0	moderate	30	
21:50	8	6	70	7.8	moderate	30	
22:30	0	0	0	0	moderate	30	
23:00	3	5	70	7.8	moderate	31	
23:45	2	0	0	0	moderate	0	
0:30	0.5	5	70	7.8	moderate	31	
1:00	0	0	0	0	moderate	31	
1:45	0	5	80	7.8	moderate	0	
3:00	2	5	70	7.8	moderate	32	
5:15	3	4.5	70	7.8	moderate	32	
7:00	4	4.5	70	7.5	turbid	0	

General Comments

overcast and light constant rain all day
 raining harder over past hour; debris accumulation of A panels moderate (not excessiv) hardly any debris on B panels
 rain stops; starting to clear
 Trap A requiring almost constant cleaning
 Ron took headlamp so no fish ID was don, all smolt size fish recorded as CO, large DV/BT hanging out in funnel A and around live box
 fence needs constant cleaning
 beaver swimming around in Trap . Trap Box A gets a large hole in back of Trap Box.
 removed ~170 dead lamprey from panels when removed and ~100 (20 to 30 mm) dead fry.

Species Summary

Coho **468** RB/ST **1** DV **1** PL **286** Salmonid **415**
 Chinook **0** CT **0** MW **0** LSU **1** fry

Coho Summary

				CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	}	<100mm	58	X	100	= 58
		>100mm	254	X	100	= 254
		Combined	312	X	100	= 312
Coho with overnight retention of CWT	}	<100mm	12			= 12
		>100mm	45			= 45
		Combined	57			= 57
Coho re-tagged and released immediately	}	<100mm	0	X	100	= 0
		>100mm	0	X	100	= 0
		Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	}	<100mm				= 70
		>100mm				= 299
		Combined				= 369
		Coho Smolts not tagged:				99 including 36 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **15** Date from: **01-May-28** to: **01-May-29** Discharge **moderate**
 Time from: **20:00** to: **3:30** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
20:00	6	5	70	7.8	turbid	34	
22:00	0	0	0	0		34	
0:00	5	5	70	7.5	turbid	35	
5:00	1	4.5	70	7.8	high	36	

General Comments

raining off and on all day
 large debris (>8cm diameter) entering funnels
 pulled panels @ 03:30, lots of debris, flow topping 2x4 above ST doors. Did not keep record of fish removed from trap boxes.
 Raining hard at times.
 ~18 Co mortis disposed of. Aside from the one ST removed from box B, several others were noted in the funnels. Trap required constant cleaning (no breaks) by 2 people.

Species Summary

Coho **212** RB/ST **5** DV **1** PL **7** Salmonid **4**
 Chinook **0** CT **0** MW **1** LSU **0** frv

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	22	X	100	= 22
	>100mm	70	X	100	= 70
	Combined	92	X	100	= 92
Coho with overnight retention of CWT	<100mm	32			= 32
	>100mm	38			= 38
	Combined	70			= 70
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 54
	>100mm				= 108
	Combined				= 162
Coho Smolts not tagged:					50 including 25 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **16** Date from: **01-May-29** to: **01-May-30** Discharge **moderate**
 Time from: **20:30** to: **5:30** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
20:30	7	7	70	7.8	mod	34	
22:30	6.5	6.5	70	8	mod	33	
0:30	3.5	5.5	70	8.1	mod	33	
2:30	2	5	70	8	mod/clear	33	
5:30	2	5	70	8	mod/clear	32	

General Comments

water considerably cleaner. Removed ~30 lampreys from fixed panels before inserting removable ones. Sunny with high cirrus cloud. clear, light cloud cover, cool
 clear, cool

Species Summary

Coho **55** RB/ST **0** DV **0** PL **34** Salmonid fry **16**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0 X	100	= 0
	>100mm	0 X	100	= 0
	Combined	0 X	100	= 0
Coho with overnight retention of CWT	<100mm	13		= 13
	>100mm	32		= 32
	Combined	45		= 45
Coho re-tagged and released immediately	<100mm	0 X	100	= 0
	>100mm	0 X	100	= 0
	Combined	0 X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 13
	>100mm			= 32
	Combined			= 45
Coho Smolts not tagged:		10	including	3 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **17** Date from: **01-May-30** to: **01-May-31** Discharge **low**
 Time from: **20:30** to: **5:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
20:30	11	8	60	8.1	clear	29	
21:30	10	8	60	8	clear	29	
1:00	5	6.5	60	8	clear	29	
6:00	9	7.5	60	8.1	clear	28	

General Comments

Trap performance looks excellent
 light to moderate rain
 very light rain
 heavy cloud cover, no rain

Species Summary

Coho **41** RB/ST **0** DV **1** PL **0** Salmonid **7**
 Chinook **0** CT **0** MW **0** LSU **0** fry

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Coho with overnight retention of CWT	<100mm	5			= 5
	>100mm	28			= 28
	Combined	33			= 33
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 5
	>100mm				= 28
	Combined				= 33
Coho Smolts not tagged:					8 including 1 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **18** Date from: **01-May-31** to: **01-Jun-01** Discharge **moderate**
 Time from: **20:30** to: **3:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
20:30	0	0	0	0	clear	32	
21:00	14	6.5	60	8.2	clear	32	
0:00	7	5.5	70	8	moderate	32	
2:00	0	0	0	0	high	34	
3:00	8	6	70	8	high	35	

General Comments

sunny with scattered clouds, warm
 weather was warm with high cloud cover all night

Species Summary

Coho **203** RB/ST **0** DV **0** PL **0** Salmonid fry **4**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X 100	= 0
	>100mm	72	X 93	= 67
	Combined	72	X 98	= 70
Coho with overnight retention of CWT	<100mm	64		= 64
	>100mm	30		= 28
	Combined	94		= 92
Coho re-tagged and released immediately	<100mm	0	X 100	= 0
	>100mm	2	X 93	= 2
	Combined	2	X 98	= 2
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 64
	>100mm			= 30
	Combined			= 92
Coho Smolts not tagged:		37	including	9 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **19** Date from: **01-Jun-01** to: **01-Jun-02** Discharge **moderate**
 Time from: **20:30** to: **4:00** Trap performance **good**

Performance comments **trap performance is good**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
0:00	6	6	60	8	mod/high	0	
4:00	0	0	0	0	high	34	
20:30	12	7	60	8	mod/high	34	

General Comments

At 03:00 there was approx. 10 morts found since 01:00
 Several adult steelheads observed above trap and swimming in the funnels. Water level seemed to rise and fall often and very quickly all night by approx. 1 to 2 cm
 cleaned the back of trap boxes and found 9 morts in Trap A and 5 morts in trap B (Water level at 32
 showers off and on all day, hard rain for 10 min at 17:00, water level down 0.5cm from 17:00
 cloud cover with sunny breaks
 mostly clear, cool, some clouds all night
 Many dead or damaged fish were found on first 2 panels (the two closest to the trap boxes) of funnels A and B. Approx. 50 morts @ 01:00, I stopped cleaning these panels to help avoid tired fish from getting stuck on the wire mesh.

Species Summary

Coho **384** RB/ST **0** DV **0** PL **0** Salmonid fry **10**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	78	X	100	= 78
	>100mm	99	X	99	= 98
	Combined	177	X	99	= 176
Coho with overnight retention of CWT	<100mm	14			= 14
	>100mm	75			= 74
	Combined	89			= 88
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	1	X	99	= 1
	Combined	1	X	99	= 1
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 92
	>100mm				= 172
	Combined				= 264
Coho Smolts not tagged:					118 including 93 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **20**

Date from: **01-Jun-02** to: **01-Jun-03**
 Time from: **21:00** to: **6:00**

Discharge **moderate**
 Trap performance **very good**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:00	7	7	60	8.2	mod/low	32	
22:15	6	7	70	8	mod/low	31	
1:30	6	7	70	8	mod	32	
5:00	2.5	5.5	70	8	clear	30	

General Comments

cool and overcast all day with no rain. Suspect meters could use calibration soon. Placed some rocks in undercut bank behind trap on river left

cool, high cloud cover all night with clear breaks

board at front of trap boxes removed at 22:00, seemed to increase flow and decrease number of morts

immature bald eagle sighted on funnel A @ 05:30. Rate of flow into trap box B still a little too slow, smolts still able to just "sit" in front of opening (more morts at funnel)

Species Summary

Coho **270** RB/ST **1** DV **0** PL **0** Salmonid fry **57**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	73	X	100	= 73
	>100mm	119	X	100	= 119
	Combined	192	X	100	= 192
Coho with overnight retention of CWT	<100mm	16			= 16
	>100mm	30			= 30
	Combined	46			= 46
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 89
	>100mm				= 149
	Combined				= 238
Coho Smolts not tagged:					32 including 12 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **21** Date from: 01-Jun-03 to: 01-Jun-04 Discharge **low**
 Time from: 6:30 to: 7:30 Trap performance **excellent**

Performance comments trap performance is excellent

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
6:30	0	0	0	0	moderate	29	
14:00	13.5	8.5	70	8.2	clear	28	
16:45	13.5	9	70	8.2	clear	28	
19:45	12	8.5	70	7.8	clear	28	
21:00	9	7	70	7.8	clear/low	28	
22:30	5	7	70	7.8	clear/low	28	
23:30	4	0	0	0		0	
0:30	2	7	70	7.8	clear/low	0	
1:15	0	0	0	0		0	
1:45	0	6	70	7.8	clear/low	29	
2:15	-0.5	0	0	0		0	
3:00	-1	6	70	7.8	clear/low	29	
4:30	-2	5	70	7.8	clear	28	
6:00	-1.5	0	0	0		0	
7:30	1	5	70	7.8	clear	26	

General Comments

Ron observed 8 Co in Trap Box B, but they swam out and could not be captured
 sunny with some clouds, Ron and I observed a mink around panels of B, as well as it entered Trap Box B. Observed a small RB/ST trying to jump upstream on river left
 While cleaning panels on river right, I captured a small ST and placed it downstream. Observed no fish in trap boxes when I arrived and after I cleaned the fence panels there was still no fish in trap boxes. Observed the mink again on river right.
 clear skies (few clouds), nearly full moon. (No fish ID done after 22:00 because no head lamp)
 overnight frost.
 Trap can be left for over an hour, (probably 2) without cleaning

Species Summary

Coho **273** RB/ST **2** DV **3** PL **0** Salmonid **197**
 Chinook **0** CT **1** MW **1** LSU **0**
 fry

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	{	<100mm	67	X	100 = 67
		>100mm	81	X	100 = 81
		Combined	148	X	100 = 148
Coho with overnight retention of CWT	{	<100mm	16		= 16
		>100mm	72		= 72
		Combined	88		= 88
Coho re-tagged and released immediately	{	<100mm	0	X	100 = 0
		>100mm	0	X	100 = 0
		Combined	0	X	100 = 0
Estimated Release of Coho with 24 hour retention of CWT	{	<100mm			= 83
		>100mm			= 153
		Combined			= 236
		Coho Smolts not tagged:	37	including	9 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **22** Date from: **01-Jun-04** to: **01-Jun-05** Discharge **low**
 Time from: **8:00** to: **8:00** Trap performance **excellent**

Performance comments **1 adult BT captured**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
10:00	0	0	0	0		27	
11:15	15	8	70	8	clear	27	
13:15	15	9	0	0	clear	27	
17:00	0	0	0	0	clear	27	
20:30	0	0	0	0	clear	28	
21:00	15	9	70	7.8	clear	28	
23:30	12	8	70	7.8	clear	29	
1:00	9	7	70	7.8	clear	29	
2:30	9	0	0	0		0	
3:00	8.5	7	70	7.9	clear	29	
4:00	7	0	0	0		0	
6:00	7	7	70	7.8	clear	30	
7:00	7	7	70	7.8	clear	30	

General Comments

sunny with some scattered clouds

Co captured in trap boxes were part of a group of fish, I was only able to dipnet 15 fish out of trap box B and the rest swam back upstream out of the box (estimate ~25 fish total)

repaired some panels and watched for fish to come back

very warm all day (>20 degrees C), scattered clouds

light rain

when splashing brush in Box B, 7 ST jacks appeared

Noticing fish after 02:00 are usually <100mm for the last two nights

periodic light showers all night

15cm fish observed in Box A but swam out and evaded capture, possible a MW

pulled ST doors to allow 1 hour intervals between cleaning (water level rising)

Species Summary

Coho **312** RB/ST **5** DV **2** PL **0** Salmonid **401**
 Chinook **0** CT **0** MW **0** LSU **0**
 fry

Coho Summary

				CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	{	<100mm	57	X	100	= 57
		>100mm	113	X	100	= 113
		Combined	170	X	100	= 170
Coho with overnight retention of CWT	{	<100mm	32			= 32
		>100mm	79			= 79
		Combined	111			= 111
Coho re-tagged and released immediately	{	<100mm	0	X	100	= 0
		>100mm	0	X	100	= 0
		Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	{	<100mm				= 89
		>100mm				= 192
		Combined				= 281
Coho Smolts not tagged:						31 including 5 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **23** Date from: **01-Jun-05** to: **01-Jun-06** Discharge **moderate**
 Time from: **8:00** to: **6:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:35	0	0	0	0	clear	30	
9:10	0	0	0	0	clear	30	
12:30	0	0	0	0	clear	30	
14:00	0	0	0	0	clear	30	
21:30	10	7	60	8.2	oderate/cle	30	
5:00	-0.5	4	60	8	clear	31	

General Comments

raining again, saw a large black bear toward ball field
 observed ~20cm Co swim through trap A funnel
 mostly clear and cool with some scattered high cloud cover all night
 ST movement observed upstream of trap. Steady debris accumulation on trap all night, very difficult to keep up. Water came up at 01:30 but I didn't have time to check staff guage, ros to 33cm by 01:30
 pulled panels @ 06:00, too hard for one person to clean and tag fish (too much debris accumulation) fence must be cleaned a least every 10 to 15 minutes

Species Summary

Coho **493** RB/ST **4** DV **0** PL **5** Salmonid **39**
 Chinook **0** CT **0** MW **0** LSU **0** fry

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	144	X	100	= 144
	>100mm	189	X	100	= 189
	Combined	333	X	100	= 333
Coho with overnight retention of CWT	<100mm	50			= 50
	>100mm	50			= 50
	Combined	100			= 100
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 194
	>100mm				= 239
	Combined				= 433

Coho Smolts not tagged: **60** including **11** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **24** Date from: **01-Jun-06** to: **01-Jun-07** Discharge **moderate**
 Time from: **21:30** to: **5:30** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
22:30	7	7	60	8.1	clear	30	
5:00	0.5	5	60	8	clear	30	

General Comments

7 new panels put in/ replaced old panels
 high cloud cover with clear breaks, cool

Species Summary

Coho **284** RB/ST **1** DV **0** PL **3** Salmonid fry **20**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	122 X	100	= 122
	>100mm	95 X	100	= 95
	Combined	217 X	100	= 217
Coho with overnight retention of CWT	<100mm	29		= 29
	>100mm	16		= 16
	Combined	45		= 45
Coho re-tagged and released immediately	<100mm	0 X	100	= 0
	>100mm	0 X	100	= 0
	Combined	0 X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 151
	>100mm			= 111
	Combined			= 262
Coho Smolts not tagged:		22	including	6 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **25** Date from: **01-Jun-07** to: **01-Jun-08** Discharge **moderate**
 Time from: **21:30** to: **6:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:00	6	6.5	0	0	clear	31	
10:00	0	0	0	0	clear	31	
21:30	8	7	50	8.2	clear	31	
4:00	1	5.5	50	8.2	clear	31	

General Comments

warm and sunny with some clouds
 cool and clear all night, some high cloud cover

Species Summary

Coho **248** RB/ST **2** DV **0** PL **10** Salmonid fry **0**
 Chinook **0** CT **1** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	58	X	100	= 58
	>100mm	55	X	100	= 55
	Combined	113	X	100	= 113
Coho with overnight retention of CWT	<100mm	69			= 69
	>100mm	26			= 26
	Combined	95			= 95
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 127
	>100mm				= 81
	Combined				= 208
Coho Smolts not tagged:					0 including 0 (mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **26** Date from: **01-Jun-08** to: **01-Jun-09** Discharge **moderate**
 Time from: **20:30** to: **2:15** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:30	9	6.5	0	0	clear	32	
20:30	12	8	60	8	clear	31	
22:00	0	0	0	0		34	
3:00	7	7	60	7.9	turbid	38	
8:00	0	0	0	0	turbid	42	
11:00	0	0	0	0	turbid	46	

General Comments

cloudy with periods of sun
 sunny with scattered cloud. Hard rain around 1400 to 1500 today
 At 22:00 stopped keeping records, trap required constant cleaning. Fish began moving shortly after 22:00. Rough estimate of 270 fish caught tonight.
 Stream rose steadily to 39.5cm at 01:30, then began to drop. Panels pulled at 02:15 after Ron couldn't be reached. Staff guage 38cm at this time.
 It began to rain ~22:00 and lasted until midnight, one lightning flash observed.
 Two people could have fished the trap until morning. Flow was over 2x4 and over ST doors by 2" at times (when stopped cleaning to scoop fish). Raining again at 04:00
 Raining all morning with lightning and thunder, still raining at 11:00.

Species Summary

Coho **306** RB/ST **4** DV **1** PL **0** Salmonid **7**
 Chinook **0** CT **0** MW **0** LSU **0**
 fry

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	173 X	100	= 173
	>100mm	39 X	100	= 39
	Combined	212 X	100	= 212
Coho with overnight retention of CWT	<100mm	27		= 27
	>100mm	17		= 17
	Combined	44		= 44
Coho re-tagged and released immediately	<100mm	0 X	100	= 0
	>100mm	0 X	100	= 0
	Combined	0 X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 200
	>100mm			= 56
	Combined			= 256

Coho Smolts not tagged: **50** including **18** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day Date from: to: Discharge
 Time from: to: Trap performance

Performance comments

General Comments

Species Summary

Coho RB/ST DV PL Salmonid
 Chinook CT MW LSU fry

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>			= 0
	>100mm	<input type="text" value="0"/>			= 0
	Combined	<input type="text" value="0"/>			= 0
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 0
	Combined				= 0
Coho Smolts not tagged:				<input type="text" value="0"/>	including <input type="text" value="0"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **28** Date from: **01-Jun-10** to: **01-Jun-11** Discharge **moderate**
 Time from: **22:15** to: **5:40** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	6	6	60	8.1	moderate	37	
22:15	0	0	0	0	moderate	37	
23:40	4	6	60	8	moderate	0	
	0	0	0	0	moderate	36	
	3	5.5	60	8	moderate	36	
	2.5	0	0	0		0	
	2	5	60	7.9	moderate	0	
	0	0	0	0		36	
	2	5	60	7.8	moderate	36	
11:00	0	0	0	0	oderate/lo	33	

General Comments

cloudy without rain most of the day; water is relatively clean
 estimate ~20 to 30 morts from fence panels overnight (recorded 30 morts in database)
 raining at 10:00, with clouds and cool weather all morning

Species Summary

Coho **409** RB/ST **3** DV **0** PL **1** Salmonid fry **54**
 Chinook **0** CT **1** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	137	X	100	= 137
	>100mm	89	X	100	= 89
	Combined	226	X	100	= 226
Coho with overnight retention of CWT	<100mm	46			= 46
	>100mm	51			= 51
	Combined	97			= 97
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 183
	>100mm				= 140
	Combined				= 323
Coho Smolts not tagged:					86 including 32 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **29** Date from: **01-Jun-11** to: **01-Jun-12** Discharge **moderate**
 Time from: **21:50** to: **6:20** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	6.5	7	60	7.9	moderate/low	32	
23:30	5	6.5	60	7.9	moderate/low	31	
	5	5.5	60	7.9	moderate/low	32	
	0	0	0	0	moderate/low	31	
	6	0	0	0	moderate/low	30	
	6	5.5	60	7.9	moderate/low	30	

General Comments

mostly cool and overcast all day, cloud broken now, some sun. water clean

Species Summary

Coho **87** RB/ST **5** DV **0** PL **1** Salmonid fry **18**
 Chinook **3** CT **0** MW **0** LSU **1**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	9	X	100	= 9
	>100mm	32	X	100	= 32
	Combined	41	X	100	= 41
Coho with overnight retention of CWT	<100mm	6			= 6
	>100mm	5			= 5
	Combined	11			= 11
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 15
	>100mm				= 37
	Combined				= 52
Coho Smolts not tagged:					35 including 3 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **30** Date from: **01-Jun-12** to: **01-Jun-13** Discharge **moderate**
 Time from: **21:30** to: **4:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	15	8	50	8.2	oderate/hig	31	
23:00	0	0	0	0	moderate	33	
23:30	0	0	0	0	high	0	
2:30	0	0	0	0	high	35	
3:30	0	0	0	0	moderate	34	
4:00	2	6	50	8.2	moderate	33	

General Comments

clear, warm
 large amounts of debris coming downstream
 still large amounts of debrish build up, some debris looks to be beaver wood
 clear, cool all night/ morning
 Grey hose flowing into overnight holding tank was found in the morning to have been removed, all but 11 fish were found dead.

Species Summary

Coho **32** RB/ST **2** DV **0** PL **0** Salmonid fry **0**
 Chinook **0** CT **1** MW **0** LSU **0**

Coho Summary

				CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	0	X	100	=	0
	>100mm	0	X	100	=	0
	Combined	0	X	100	=	0
Coho with overnight retention of CWT	<100mm	14			=	14
	>100mm	11			=	11
	Combined	25			=	25
Coho re-tagged and released immediately	<100mm	0	X	100	=	0
	>100mm	0	X	100	=	0
	Combined	0	X	100	=	0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				=	14
	>100mm				=	11
	Combined				=	25
Coho Smolts not tagged:						7 including 0 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **31** Date from: **01-Jun-13** to: **01-Jun-14** Discharge **moderate**
 Time from: **21:30** to: **4:30** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	10	8	50	8	clear	35	
23:30	0	0	0	0	moderate	35	
4:30	0.5	6	50	8	moderate	35	
7:30	6	6.5	0	0	moderate/lo	34	

General Comments

clear, cool, some high cloud cover
 cloudy with periods of sun

Species Summary

Coho **28** RB/ST **0** DV **0** PL **0** Salmonid **5**
 Chinook **0** CT **0** MW **0** LSU **0**
 fry

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	17	X	100	= 17
	>100mm	10	X	100	= 10
	Combined	27	X	100	= 27
Coho with overnight retention of CWT	<100mm	0			= 0
	>100mm	0			= 0
	Combined	0			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 17
	>100mm				= 10
	Combined				= 27
Coho Smolts not tagged:					1 including 0 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **32** Date from: **01-Jun-14** to: **01-Jun-15** Discharge **moderate**
 Time from: **21:30** to: **6:00** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
22:00	8	7	50	8.2	clear	32	
23:00	0	0	0	0	clear	33	
4:00	0.5	5.5	50	8	clear	31	
8:00	10	7	0	0	clear	33	

General Comments

cool, cloudy all night
 mink and fox sighted at trap site

Species Summary

Coho **224** RB/ST **2** DV **0** PL **0** Salmonid fry **2**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	86	X	100	= 86
	>100mm	41	X	100	= 41
	Combined	127	X	100	= 127
Coho with overnight retention of CWT	<100mm	44			= 44
	>100mm	38			= 38
	Combined	82			= 82
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 130
	>100mm				= 79
	Combined				= 209
Coho Smolts not tagged:					15 including 1 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **33** Date from: **01-Jun-15** to: **01-Jun-16** Discharge **moderate**
 Time from: **21:30** to: **5:30** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
22:00	8	7	50	8.1	clear	33	
5:00	3	6.5	50	8	clear	32	
6:30	8	6	0	0	clear	33	
10:00	0	0	0	0		32	

General Comments

high cloud cover, very slight percipitation
 low cloud cover, moderate to hard rain
 light rain,

Species Summary

Coho **231** RB/ST **2** DV **0** PL **0** Salmonid **3**
 Chinook **1** CT **1** MW **0** LSU **0** fry

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	124	X	100	= 124
	>100mm	52	X	100	= 52
	Combined	176	X	100	= 176
Coho with overnight retention of CWT	<100mm	20			= 20
	>100mm	15			= 15
	Combined	35			= 35
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 144
	>100mm				= 67
	Combined				= 211
Coho Smolts not tagged:					20 including 2 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **34** Date from: **01-Jun-16** to: **01-Jun-17** Discharge **moderate**
 Time from: **21:15** to: **7:30** Trap performance **excellent**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:00	10	7.5	60	8	low	33	
21:30	0	0	0	0	clear	32	
1:30	0	0	0	0	clear	34	
5:00	5	7	60	8.1	clear	32	
7:30	0	0	0	0	clear	33	

General Comments

overcast, looks like rain tonight, windy
 light rain, suspect meter should be calibrated again
 mink sighted in trap B again
 moderate to heavy rain from 21:30 to 03:30, slight to no rain from 04:00 to 06:00

Species Summary

Coho **68** RB/ST **0** DV **0** PL **0** Salmonid fry **0**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	12	X	100	= 12
	>100mm	10	X	100	= 10
	Combined	22	X	100	= 22
Coho with overnight retention of CWT	<100mm	26			= 26
	>100mm	12			= 12
	Combined	38			= 38
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 38
	>100mm				= 22
	Combined				= 60

Coho Smolts not tagged: **8** (including **5** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **35** Date from: **01-Jun-17** to: **01-Jun-18** Discharge **moderate**
 Time from: **7:30** to: **7:00** Trap performance **excellent**

Performance comments **trap performance is good**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
9:00	10	7	0	0	clear	33	
10:00	11	7	0	0	clear	33	cleaned fence
11:30	14	8	0	0	clear	33	cleaned fence
13:30	14	8	0	0	clear	33	
14:30	17	9	0	0	clear	33	
16:00	17	9	0	0	clear	33	
19:00	14	9	0	0	low	33	
19:10	0	0	0	0	mod	34	
19:30	0	0	0	0	mod	34	
20:30	9	8	0	0		0	
22:00	6.5	7	60	8	moderate	35	
0:30	3	6	60	8	moderate	36	
1:30	1.5	0	0	0		0	
2:00	0	0	0	0		38	
3:00	1	5	60	8	moderate	37	
4:30	1.5	5	0	0		36	
10:00	0	0	0	0	low	35	

General Comments

100% cloud cover, looks like chance of rain
 needs to be cleaned every 1/2 hour
 cloudy with sunny periods, 1 co mort on panels to trap A
 one CO mort on panels to trap A
 cloudy with some rain
 sunny with clear periods, 1 fry mort in Trap B
 saw mink on river left panels then swam into the water
 light rain with clouds
 sunny periods with clouds
 sunny with some clouds
 clear skies, northern lights across whole sky overhead. Fence requires constant cleaning and water level is rising
 cloudy overhead
 clouds passed over, clear again. Some frost in low lying areas away from the creek
 sunny and warm

Species Summary

Coho **366** RB/ST **3** DV **0** PL **0** Salmonid **131**
 Chinook **0** CT **2** MW **0** LSU **0** fry

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	{	<100mm	174	X	100 = 174
		>100mm	71	X	100 = 71
		Combined	245	X	100 = 245
Coho with overnight retention of CWT	{	<100mm	35		= 35
		>100mm	37		= 37
		Combined	72		= 72
Coho re-tagged and released immediately	{	<100mm	0	X	100 = 0
		>100mm	0	X	100 = 0
		Combined	0	X	100 = 0
Estimated Release of Coho with 24 hour retention of CWT	{	<100mm			= 209
		>100mm			= 108
		Combined			= 317
		Coho Smolts not tagged:	49	including	19 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **36** Date from: **01-Jun-18** to: **01-Jun-19** Discharge **moderate**
 Time from: **21:30** to: **2:00** Trap performance **good**

Performance comments **trap performance is excellent**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	15	8	50	8	moderate	35	
22:30	0	0	0	0		37	
0:30	0	0	0	0		41	
2:00	0	0	0	0		45	

General Comments

water level increased rapidly, even though debris was only moderate it was impossible to keep up when the water hit 45cm on the staff gauge.

Species Summary

Coho **11** RB/ST **0** DV **0** PL **0** Salmonid fry **2**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	6	X	100	= 6
	>100mm	4	X	100	= 4
	Combined	10	X	100	= 10
Coho with overnight retention of CWT	<100mm	0			= 0
	>100mm	0			= 0
	Combined	0			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 6
	>100mm				= 4
	Combined				= 10
Coho Smolts not tagged:					1 including 0 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day 37 Date from: 01-Jun-19 to: 01-Jun-20 Discharge moderate
 Time from: 21:30 to: 3:00 Trap performance good

Performance comments trap performance is good

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	16	10	50	8	moderate	37	
22:30	0	0	0	0	moderate	39	
0:30	0	0	0	0		41	
2:30	0	0	0	0		41	
3:00	0	0	0	0		41	

General Comments

heavy rain beginning
 rain stops / light precipitation
 too many morts occurring on fences so we pulled the panels although lots of fish were moving (35 morts recorded)
 raining again

Species Summary

Coho 112 RB/ST 0 DV 0 PL 0 Salmonid fry 0
 Chinook 0 CT 0 MW 0 LSU 0

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	}	<100mm	34	X	100 = 34
		>100mm	31	X	100 = 31
		Combined	65	X	100 = 65
Coho with overnight retention of CWT	}	<100mm	0		= 0
		>100mm	0		= 0
		Combined	0		= 0
Coho re-tagged and released immediately	}	<100mm	0	X	100 = 0
		>100mm	0	X	100 = 0
		Combined	0	X	100 = 0
Estimated Release of Coho with 24 hour retention of CWT	}	<100mm			= 34
		>100mm			= 31
		Combined			= 65
Coho Smolts not tagged:					47 including 39 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **38** Date from: 01-Jun-20 to: 01-Jun-21 Discharge **high**
 Time from: to: Trap performance

Performance comments fence not fishing due to high water levels

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:30	12	7	0	0	high	50	
11:00	0	0	0	0	high	55	
16:00	10	7.5	0	0	high	60	

General Comments

overcast with light wind
 place panels up on top of trap boxes and removed plywood from the live box.

Species Summary

Coho RB/ST DV PL Salmonid
 Chinook CT MW LSU fry

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>			= 0
	>100mm	<input type="text" value="0"/>			= 0
	Combined	<input type="text" value="0"/>			= 0
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 0
	Combined				= 0
Coho Smolts not tagged:				<input type="text" value="0"/>	including <input type="text" value="0"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day 39 Date from: 01-Jun-21 to: 01-Jun-22 Discharge high
 Time from: to: Trap performance

Performance comments fence not fishing due to high water levels

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:00	10	7.5	0	0	high	61	
8:30	0	0	0	0	high	60	
16:45	0	0	0	0	high	55	
21:00	0	0	0	0	high	55	

General Comments

see some small sticks in "V to trap B, and some small debris on the log upstream of the trap
 everything seems to be okay and trap looks good

Species Summary

Coho 0 RB/ST 0 DV 0 PL 0 Salmonid fry 0
 Chinook 0 CT 0 MW 0 LSU 0

Coho Summary

					CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	}	<100mm	0	X	0	= 0
		>100mm	0	X	0	= 0
		Combined	0	X	0	= 0
Coho with overnight retention of CWT	}	<100mm	0			= 0
		>100mm	0			= 0
		Combined	0			= 0
Coho re-tagged and released immediately	}	<100mm	0	X	0	= 0
		>100mm	0	X	0	= 0
		Combined	0	X	0	= 0
Estimated Release of Coho with 24 hour retention of CWT	}	<100mm				= 0
		>100mm				= 0
		Combined				= 0
Coho Smolts not tagged: 0 including 0 mortalities)						

Toboggan Creek Smolt Enumeration 2001

Day Date from: to: Discharge
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:30	9	7	0	0	high	50	

General Comments

sunny with some clouds,
 when checked trap it looked like the water level had just come down by 5cm, (noticed a 5cm drop on the plywood along river right of fence)

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>			= 0
	>100mm	<input type="text" value="0"/>			= 0
	Combined	<input type="text" value="0"/>			= 0
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 0
	Combined				= 0
Coho Smolts not tagged:				<input type="text" value="0"/>	including <input type="text" value="0"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **41** Date from: **01-Jun-23** to: **01-Jun-24** Discharge **moderate**
 Time from: **22:00** to: **5:30** Trap performance **very good**

Performance comments **trap performance is excellent, but only 8 smolts captured**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	0	0	0	0	low	37	
22:30	9	7	50	8	low	37	
0:30	7	7	50	8	low	38	
5:00	2	6.5	50	8	low	36	
6:30	0	0	0	0	low	36	

General Comments

panel along bank on river left has taken damage during high water/panel is torn quite badly. Not able to repair unless entire panel mesh is replance. Will watch carefully tonight to see if repairs are necessary.
 panel seems to be fine, does not comprmise efficiency of fence or seem to pose any damage to fish.
 high and low cloud cover with periods of light rain showers

Species Summary

Coho **8** RB/ST **0** DV **0** PL **7** Salmonid fry **151**
 Chinook **0** CT **0** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	6	X	100	= 6
	>100mm	0	X	100	= 0
	Combined	6	X	100	= 6
Coho with overnight retention of CWT	<100mm	0			= 0
	>100mm	0			= 0
	Combined	0			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 6
	>100mm				= 0
	Combined				= 6

Coho Smolts not tagged: **2** including **0** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **42** Date from: **01-Jun-24** to: **01-Jun-25** Discharge **moderate**
 Time from: **21:30** to: **6:00** Trap performance **very good**

Performance comments **trap performance is excellent, number of smolts seems to slow down**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
22:00	8	7.5	50	8	low	35	
0:00	6	7.5	50	8	low	36	
2:30	3	7	50	8	low	35	
5:00	2	7	50	8	low	35	

General Comments

high and low cloud cover with moderate percipitation
 raining hard now
 mink sighted on trail
 raining off and on all night, cool all night

Species Summary

Coho **6** RB/ST **2** DV **0** PL **4** Salmonid fry **145**
 Chinook **0** CT **1** MW **0** LSU **0**

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	4	X	100	= 4
	>100mm	0	X	100	= 0
	Combined	4	X	100	= 4
Coho with overnight retention of CWT	<100mm	0			= 0
	>100mm	0			= 0
	Combined	0			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 4
	>100mm				= 0
	Combined				= 4

Coho Smolts not tagged: **3** including **0** mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **43** Date from: **01-Jun-25** to: **01-Jun-26** Discharge **moderate**
 Time from: **21:00** to: **5:30** Trap performance **good**

Performance comments **trap performance is good**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:00	11	10	60	8	clear	34	
23:00	0	0	0	0	low	34	
3:30	0	0	0	0	low	34	
4:30	2	8	60	8	low	34	

General Comments

set trap, no holes or leakage in fence observed
 clear skies, cool

Species Summary

Coho **19** RB/ST **4** DV **0** PL **0** Salmonid fry **31**
 Chinook **0** CT **3** MW **0** LSU **0**

Coho Summary

			CWT % Retention		Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	11	X	100	= 11
	>100mm	0	X	100	= 0
	Combined	11	X	100	= 11
Coho with overnight retention of CWT	<100mm	0			= 0
	>100mm	0			= 0
	Combined	0			= 0
Coho re-tagged and released immediately	<100mm	0	X	100	= 0
	>100mm	0	X	100	= 0
	Combined	0	X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 11
	>100mm				= 0
	Combined				= 11
Coho Smolts not tagged:					8 including 0 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **44** Date from: **01-Jun-26** to: **01-Jun-27** Discharge **moderate**
 Time from: **21:30** to: **5:45** Trap performance **very good**

Performance comments **trap performance is good**

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	12	8	50	8	low	32	
1:00	4	7.5	50	8	low	34	
5:00	3	7.5	50	8	low	33	

General Comments

high cloud cover with periods of precipitation, cool

Species Summary

Coho **17** RB/ST **0** DV **0** PL **3** Salmonid fry **9**
 Chinook **0** CT **3** MW **0** LSU **0**

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	5 X	100	= 5
	>100mm	2 X	100	= 2
	Combined	7 X	100	= 7
Coho with overnight retention of CWT	<100mm	0		= 0
	>100mm	0		= 0
	Combined	0		= 0
Coho re-tagged and released immediately	<100mm	0 X	100	= 0
	>100mm	0 X	100	= 0
	Combined	0 X	100	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 5
	>100mm			= 2
	Combined			= 7
Coho Smolts not tagged:				10 (including 1 mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **45** Date from: **01-Jun-27** to: **01-Jun-28** Discharge **very high**
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
21:30	0	0	0	0		45	
0:00	0	0	0	0		65	
8:00	0	0	0	0		85	

General Comments

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

			CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/> X	0	= 0
	>100mm	<input type="text" value="0"/> X	0	= 0
	Combined	<input type="text" value="0"/> X	0	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>		= 0
	>100mm	<input type="text" value="0"/>		= 0
	Combined	<input type="text" value="0"/>		= 0
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/> X	0	= 0
	>100mm	<input type="text" value="0"/> X	0	= 0
	Combined	<input type="text" value="0"/> X	0	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm			= 0
	>100mm			= 0
	Combined			= 0
Coho Smolts not tagged:		<input type="text" value="0"/>	including	<input type="text" value="0"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day **46** Date from: **01-Jun-28** to: **01-Jun-29** Discharge **high**
 Time from: to: Trap performance

Performance comments

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:00	0	0	0	0		59	

General Comments

Species Summary

Coho RB/ST DV PL Salmonid fry
 Chinook CT MW LSU

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Coho with overnight retention of CWT	<100mm	<input type="text" value="0"/>			= 0
	>100mm	<input type="text" value="0"/>			= 0
	Combined	<input type="text" value="0"/>			= 0
Coho re-tagged and released immediately	<100mm	<input type="text" value="0"/>	X	0	= 0
	>100mm	<input type="text" value="0"/>	X	0	= 0
	Combined	<input type="text" value="0"/>	X	0	= 0
Estimated Release of Coho with 24 hour retention of CWT	<100mm				= 0
	>100mm				= 0
	Combined				= 0
Coho Smolts not tagged:					<input type="text" value="0"/> including <input type="text" value="0"/> mortalities)

Toboggan Creek Smolt Enumeration 2001

Day 47 Date from: 01-Jun-29 to: 01-Jun-30 Discharge moderate
 Time from: to: Trap performance

Performance comments fence not in operation due to high water levels

Time	Air temp	Water temp	Cond.	pH	Turbidity	Staff	General Comments
8:00	0	0	0	0		47	

General Comments

Species Summary

Coho 0 RB/ST 0 DV 0 PL 0 Salmonid fry 0
 Chinook 0 CT 0 MW 0 LSU 0

Coho Summary

				CWT % Retention	Estimated number with 24hr. retention
Coho CWT'ed and released immediately	}	<100mm	0	X	0 = 0
		>100mm	0	X	0 = 0
		Combined	0	X	0 = 0
Coho with overnight retention of CWT	}	<100mm	0		= 0
		>100mm	0		= 0
		Combined	0		= 0
Coho re-tagged and released immediately	}	<100mm	0	X	0 = 0
		>100mm	0	X	0 = 0
		Combined	0	X	0 = 0
Estimated Release of Coho with 24 hour retention of CWT	}	<100mm			= 0
		>100mm			= 0
		Combined			= 0
Coho Smolts not tagged:					0 including 0 mortalities)

Appendix 2. Individual fish data for fish captured at the wolf type weir during the Toboggan Creek coho smolt enumeration project, 2001

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
1	C0	79	5.3			08/02/47	
2	C0	64	2.9				
2	C0	64	3.1				
2	C0	66	3.5				
2	C0	75	4.3			08/02/47	
2	C0	88	6			08/02/47	
3	C0	87	7.1			08/02/47	
3	C0	134	20.7	62185	1	08/02/50	
3	RB/ST	64	2.8				
3	RB/ST	100	9.6				
4	C0	101	9.9	62185	12	08/02/50	
4	C0	118	17.71	62185	11	08/02/50	
4	C0	119	15.78	62185	10	08/02/50	
4	C0	129	19.2	62185	9	08/02/50	
5	C0	59	2.22	62185	4		
5	C0	60	2.15				
5	C0	64	2.55	62185	2		
5	C0	72	3.79	62185	3	08/02/47	tagged by accident (not in size range specified in proposal)
5	C0	108	12.95	62185	6	08/02/50	
5	C0	116	14.87	62185	5	08/02/50	
5	C0	124	17.3	62185	8	08/02/50	
5	C0	160	40.03	62185	7	08/02/50	
6	C0	54	1.7			Not Tagged	
6	C0	54	1.89			Not Tagged	
6	C0	67	3.5	62185	29	Not Tagged	
6	C0	114	14.49	62185	28	08/02/50	
6	C0	121	17.09	62185	27	08/02/50	
6	C0	123	19.01	62185	20	08/02/50	
6	C0	124	17.58	62185	21	08/02/50	
6	C0	126	20.08	62185	19	08/02/50	
6	C0	126	18.2	62185	25	08/02/50	
6	C0	126	17.59	62185	26	08/02/50	
6	C0	129	21.54	62185	22	08/02/50	
6	C0	132	22.13	62185	23	08/02/50	
6	C0	135	23.35	62185	24	08/02/50	
6	DV	300					12 left Br Rays, and 13 right Br. Rays
6	RB/ST	60					fence mort.
7	C0	122	17.2	62185	15	08/02/50	
7	C0	122	17.52	62185	14	08/02/50	
7	C0	125	18.81	62185	17	08/02/50	
7	C0	127	20.3	62185	18	08/02/50	
7	C0	128	19.23			08/02/50	
7	C0	129	21.25	62185	16	08/02/50	
7	C0	131	22.73	62185	13	08/02/50	
7	RB/ST	96	8.53				
8	C0	49	1.28				
8	C0	125	19.7	62185	31	08/02/50	
8	C0	126	17.7	62185	30	08/02/50	
8	C0	127	19.42			08/02/50	
8	C0	128	23.8			Not Tagged	extreme scale loss
8	C0	129	20.22	62185	33	08/02/50	
8	C0	142	32.4	62185	32	08/02/50	
9	C0	51	1.37			Not Tagged	
9	C0	51	2.09			Not Tagged	
9	C0	55	1.63			Not Tagged	
9	C0	56	2.15			Not Tagged	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
9	C0	60	2.76			Not Tagged	
9	C0	62	2.66	62185	35	Not Tagged	
9	C0	62	2.43			Not Tagged	
9	C0	64	2.73	62185	37	Not Tagged	
9	C0	65	2.9	62185	36	Not Tagged	
9	C0	66	3.37	62185	39	Not Tagged	
9	C0	69	3.14	62185	38	Not Tagged	
9	C0	70	4.15	62185	34	Not Tagged	
9	LSU	70	2.98				
10	C0	54	1.67			Not Tagged	
10	C0	56	1.53			Not Tagged	
10	C0	56	1.85			Not Tagged	
10	C0	59	2.23			Not Tagged	
10	C0	62	2.43			Not Tagged	
10	C0	64	2.85			Not Tagged	
10	C0	64	3.51	62186	19	Not Tagged	
10	C0	64	2.84	62186	29	Not Tagged	
10	C0	64	2.86			Not Tagged	
10	C0	64	3.14			Not Tagged	
10	C0	64	3.06	62186	20	Not Tagged	
10	C0	65	3.11	62186	26	Not Tagged	
10	C0	66	3.4	62186	24	Not Tagged	
10	C0	67	3.22	62186	23	Not Tagged	
10	C0	68	3.73	62186	21	Not Tagged	
10	C0	69	3.65	62186	28	Not Tagged	
10	C0	70	3.93	62186	22	Not Tagged	
10	C0	71	3.96	62186	25	Not Tagged	
10	C0	81	6.14	62186	18	08/02/47	
10	C0	82	6.2	62186	16	08/02/47	
10	C0	82	5.78	62186	27	08/02/47	
10	C0	89	7.15	62186	15	08/02/47	
10	C0	93	7.16	62186	17	08/02/47	
10	C0	110	15.87			Not Tagged	Mort from Live Box
10	C0	113	14.17	62186	7	08/02/50	
10	C0	113	13.45	62185	46	08/02/50	
10	C0	114	14.7	62186	10	08/02/50	
10	C0	114	15.95	62186	13	08/02/50	
10	C0	114	17.37	62185	49	08/02/50	
10	C0	114	15.14	62186	6	08/02/50	
10	C0	115	15.03	62185	44	08/02/50	
10	C0	117	12.03	62186	14	08/02/50	
10	C0	117	17.21			08/02/50	
10	C0	117	15.69	62186	3	08/02/50	
10	C0	118	15.62			08/02/50	
10	C0	119	16.16	62186	9	08/02/50	
10	C0	120	17.25			08/02/50	
10	C0	120	16.82			08/02/50	
10	C0	121	17.06	62186	12	08/02/50	
10	C0	121	17.48	62186	4	08/02/50	
10	C0	121	17.35	62186	2	08/02/50	
10	C0	122	17.29	62186	5	08/02/50	
10	C0	122	17.34	62185	47	08/02/50	
10	C0	122	15.72	62186	30	08/02/50	
10	C0	123	20.21	62186	11	08/02/50	
10	C0	124	17.87	62185	43	08/02/50	
10	C0	124	18.34	62186	8	08/02/50	
10	C0	125	18.8	62185	40	08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
10	C0	125	18.23	62185	45	08/02/50	
10	C0	128	20.49			08/02/50	
10	C0	129	20.89	62186	1	08/02/50	
10	C0	132	22	62185	48	08/02/50	
10	C0	133	22.9	62185	41	08/02/50	
10	C0	133	23.5			08/02/50	
10	C0	134	24.1	62185	50	08/02/50	
10	C0	134	21.64	62185	42	08/02/50	
10	C0	137	24.09	62186	31	08/02/50	
10	RB/ST	104	11.5				
11	C0	60	2.18	62187	44	Not Tagged	
11	C0	61	2.38	62187	41	Not Tagged	
11	C0	62	2.68	62187	43	Not Tagged	
11	C0	63	2.39	62187	35	Not Tagged	
11	C0	64	2.65	62187	34	Not Tagged	
11	C0	66	2.81	62187	36	Not Tagged	
11	C0	67	3.18	62187	40	Not Tagged	
11	C0	68	3.69	62187	25	Not Tagged	
11	C0	69	3.22	62187	42	Not Tagged	
11	C0	70	3.56	62187	37	Not Tagged	
11	C0	74	4.41	62187	33	Not Tagged	
11	C0	74	4.28	62187	26	Not Tagged	
11	C0	75	4.74	62187	38	08/02/47	
11	C0	78	4.62	62187	39	08/02/47	
11	C0	79	4.97	62187	45	08/02/47	
11	C0	79	4.78	62187	31	08/02/47	
11	C0	91	7.37	62187	28	08/02/47	
11	C0	92	7.61	62187	32	08/02/47	
11	C0	95	8.73	62187	24	08/02/47	
11	C0	96	9.39	62187	29	08/02/47	
11	C0	97	9.14	62187	23	08/02/47	
11	C0	98	8.44	62187	27	Not Tagged	
11	C0	99	9.59	62187	30	08/02/47	
11	C0	100	9.6	62186	48	08/02/50	
11	C0	101	10.63	62187	16	08/02/50	
11	C0	104	11.28	62187	4	08/02/50	
11	C0	105	10.94	62186	38	08/02/50	
11	C0	106	11.66	62187	9	08/02/50	
11	C0	108	12.39	62187	19	08/02/50	
11	C0	109	11.88	62187	13	08/02/50	
11	C0	109	12.63	62187	10	08/02/50	
11	C0	111	13.2	62186	45	08/02/50	
11	C0	111	14.68	62186	42	08/02/50	
11	C0	112	12.98	62186	36	08/02/50	
11	C0	112	13.31	62187	6	08/02/50	
11	C0	112	14.58	62186	32	08/02/50	
11	C0	112	15.12			08/02/50	
11	C0	112	15.01			08/02/50	
11	C0	112	14.38	62187	3	08/02/50	
11	C0	113	15.43			08/02/50	
11	C0	113	13.77	62187	18	08/02/50	
11	C0	113	14.67			08/02/50	
11	C0	113	14	62186	41	08/02/50	
11	C0	114	14.15			08/02/50	
11	C0	114	13.38	62187	12	08/02/50	
11	C0	115	14.49			08/02/50	
11	C0	115	14.24	62186	44	08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
11	C0	115	15.53			08/02/50	
11	C0	115	13.95	62186	40	08/02/50	
11	C0	115	14.46	62186	35	08/02/50	
11	C0	116	14.47			08/02/50	
11	C0	116	15.83	62186	33	08/02/50	
11	C0	116	15.17			08/02/50	
11	C0	117	15.42			08/02/50	
11	C0	117	17.27			08/02/50	
11	C0	117	15.87	62186	46	08/02/50	
11	C0	117	15.61			08/02/50	
11	C0	117	15.87	62187	2	08/02/50	
11	C0	118	15.59			08/02/50	
11	C0	118	15.9	62186	47	08/02/50	
11	C0	118	17.97	62186	50	08/02/50	
11	C0	118	16.07			08/02/50	
11	C0	118	14.97			08/02/50	
11	C0	119	17.49			08/02/50	
11	C0	119	16.69			08/02/50	
11	C0	119	15.23			08/02/50	
11	C0	119	15.8			08/02/50	
11	C0	119	16.47			08/02/50	
11	C0	120	17.49			08/02/50	
11	C0	120	16.4			08/02/50	
11	C0	120	17.32			08/02/50	
11	C0	120	16			08/02/50	
11	C0	120	16.44			08/02/50	
11	C0	121	17.87			08/02/50	
11	C0	121	17.18			08/02/50	
11	C0	121	17.63			08/02/50	
11	C0	121	17.03			08/02/50	
11	C0	122	18.43			08/02/50	
11	C0	122	17.18			08/02/50	
11	C0	122	18.96			08/02/50	
11	C0	122	18.18			08/02/50	
11	C0	122	16.95			08/02/50	
11	C0	122	18.16			08/02/50	
11	C0	122	18.37	62186	37	08/02/50	
11	C0	122	17.54			08/02/50	
11	C0	123	16.95			08/02/50	
11	C0	123	16.93			08/02/50	
11	C0	123	17.91			08/02/50	
11	C0	123	17.06			08/02/50	
11	C0	123	19.92			08/02/50	
11	C0	124	18.19			08/02/50	
11	C0	124	17.86			08/02/50	
11	C0	124	19.2			08/02/50	
11	C0	124	19.11			08/02/50	
11	C0	124	17.77			08/02/50	
11	C0	125	18.42			08/02/50	
11	C0	125	19.28			08/02/50	
11	C0	125	18.6			08/02/50	
11	C0	125	18.67			08/02/50	
11	C0	125	19.64			08/02/50	
11	C0	125	19.02			08/02/50	
11	C0	126	19.02			08/02/50	
11	C0	126	19.3			08/02/50	
11	C0	126	20.24			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
11	C0	126	20.38			08/02/50	
11	C0	127	18.41	62186	34	08/02/50	
11	C0	127	19.23			08/02/50	
11	C0	127	19.97			08/02/50	
11	C0	127	19.52			08/02/50	
11	C0	127	18.87			08/02/50	
11	C0	128	20.43			08/02/50	
11	C0	128	21.47			08/02/50	
11	C0	128	20.21			08/02/50	
11	C0	129	19.42			08/02/50	
11	C0	129	19.1			08/02/50	
11	C0	129	20.98			08/02/50	
11	C0	130	20.75	62187	8	08/02/50	
11	C0	130	22.98	62186	49	08/02/50	
11	C0	130	21.81	62187	15	08/02/50	
11	C0	130	19.99	62187	7	08/02/50	
11	C0	131	22.56	62186	39	08/02/50	
11	C0	131	32.34	62187	14	08/02/50	
11	C0	135	25.03	62187	5	08/02/50	
11	C0	135	23.04	62186	43	08/02/50	
11	C0	138	25.09	62187	1	08/02/50	
11	C0	140	23.8	62187	17	08/02/50	
11	C0	141	25.5	62187	11	08/02/50	
11	C0	141	27.11	62187	21	08/02/50	
11	C0	146	33.13	62187	20	08/02/50	
11	CT	113	12.99				
11	CT	136	21.02				
11	DV	97	8.3				11L and 11R Br. Rays
11	DV	113	13.52				11L and 11R Br. Rays 11L and 11R Br. Rays
							11L and 11R Br. Rays
11	MW	144	27.78				
11	MW	146	29.5				
11	MW	155	35.13				
12	C0	54	1.66			Not Tagged	
12	C0	56	1.71			Not Tagged	
12	C0	57	2.12			Not Tagged	
12	C0	61	2.34			Not Tagged	
12	C0	61	2.69			Not Tagged	
12	C0	62	2.43			Not Tagged	
12	C0	65	2.6			Not Tagged	
12	C0	67	3.07			Not Tagged	
12	C0	70	3.59	62188	16	Not Tagged	
12	C0	75	4.34	62188	15	08/02/47	
12	C0	77	4.93	62188	14	08/02/47	
12	C0	85	5.73	62188	12	08/02/47	
12	C0	86	6.71	62188	11	08/02/47	
12	C0	92	8.12	62188	9	Not Tagged	flesh exposed on back to right of dorsal
							flesh exposed on back to right of dorsal fin
12	C0	98	9.12	62188	13	08/02/47	
12	C0	99	9.49	62188	10	08/02/47	
12	C0	101	9.3	62187	50	08/02/50	
12	C0	104	11.11	62187	47	08/02/50	
12	C0	104	10.77	62188	5	08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
12	C0	104	10.78	62187	48	08/02/50	
12	C0	105	11.25	62188	4	08/02/50	
12	C0	105	11.14	62188	1	08/02/50	
12	C0	107	12.01	62187	49	08/02/50	
12	C0	107	11.57	62187	46	08/02/50	
12	C0	108	12.22	62188	2	08/02/50	
12	C0	109	12.28	62188	6	08/02/50	
12	C0	110	12.1			08/02/50	
12	C0	110	12.29			08/02/50	
12	C0	110	12.52			08/02/50	
12	C0	112	13.58			08/02/50	
12	C0	115	15.26			08/02/50	
12	C0	115	15.4			08/02/50	
12	C0	116	15.07			08/02/50	
12	C0	117	16.64			08/02/50	
12	C0	117	14.74			08/02/50	
12	C0	119	16.64			08/02/50	
12	C0	119	15.79			08/02/50	
12	C0	119	15.96			08/02/50	
12	C0	121	17.55			08/02/50	
12	C0	121	17.06			08/02/50	
12	C0	122	17.55			08/02/50	
12	C0	123	17.75			08/02/50	
12	C0	123	18.56			08/02/50	
12	C0	124	18.49			08/02/50	
12	C0	124	18.24			08/02/50	
12	C0	124	17.67			08/02/50	
12	C0	124	17.52			08/02/50	
12	C0	125	19.97			08/02/50	
12	C0	125	17.31			08/02/50	
12	C0	126	18.97			08/02/50	
12	C0	126	19.8			08/02/50	
12	C0	126	19.91			08/02/50	
12	C0	127	19.71			08/02/50	
12	C0	128	18.88			08/02/50	
12	C0	129	20.55			08/02/50	
12	C0	129	19.93			08/02/50	
12	C0	129	19.81			08/02/50	
12	C0	132	21.31			08/02/50	
12	C0	132	20.91			08/02/50	
12	C0	134	20.01			08/02/50	
12	C0	135	23.42	62188	7	08/02/50	
12	C0	135	20.69	62188	3	08/02/50	
12	C0	146	31.04	62188	17	08/02/50	not part of random sample
12	C0	147	30.03	62188	18	08/02/50	not part of random sample
12	C0	149	32.75	62188	21	08/02/50	not part of random sample
12	C0	149	29.73	62188	8	08/02/50	
12	C0	151	35.38	62188	20	08/02/50	not part of random sample
12	C0	160	39.69	62188	19	08/02/50	not part of random sample
12	DV	90	6.21				11L and 12R Br. Rays
12	DV	135	24.43				10L and 10R Br. Rays 10L and 10R Br. Rays
12	RB/ST	76	4.27				
12	RB/ST	91	9.22				
13	C0	51	1.38			Not Tagged	
13	C0	57	1.9			Not Tagged	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
13	C0	60	2.08			Not Tagged	
13	C0	63	2.47			Not Tagged	
13	C0	64	2.67			Not Tagged	
13	C0	65	2.95			Not Tagged	
13	C0	71	3.78	62188	31	Not Tagged	
13	C0	72	3.77	62188	29	Not Tagged	
13	C0	76	4.57	62188	34	08/02/47	
13	C0	76	4.55	62188	33	08/02/47	
13	C0	77	4.89	62188	35	08/02/47	
13	C0	81	6	62188	32	08/02/47	
13	C0	88	6.93	62188	30	08/02/47	
13	C0	94	8.28	62188	25	08/02/47	
13	C0	95	8.31	62188	28	08/02/47	
13	C0	96	8.74	62188	26	08/02/47	
13	C0	97	9.62	62188	27	08/02/47	
13	C0	106	11.71	62188	24	08/02/50	
13	C0	110	12.09			08/02/50	
13	C0	110	13.15			08/02/50	
13	C0	113	13.71			08/02/50	
13	C0	113	14.38			08/02/50	
13	C0	115	14.72			08/02/50	
13	C0	116	14.48			08/02/50	
13	C0	118	15.6			08/02/50	
13	C0	119	16.11			08/02/50	
13	C0	120	18.03			08/02/50	
13	C0	123	17.3			08/02/50	
13	C0	124	20.37			08/02/50	
13	C0	124	19.02			08/02/50	
13	C0	130	21.36			08/02/50	
13	C0	131	23.77			08/02/50	Not part of subsample
13	C0	136	24.9	62188	22	08/02/50	
13	C0	147	33.36	62188	37	08/02/50	Not part of subsample
13	C0	147	33.87	62188	23	08/02/50	
13	C0	153	35.32	62188	38	08/02/50	Not part of subsample
13	C0	156	37.06	62188	36	08/02/50	Not part of subsample
13	CT	148	28.68				
13	CT	188	63.85				
13	DV	76	3.25				11L and 11R Br.Rays
13	RB/ST	71	3.71				
13	RB/ST	139	37.54				
14	C0	55					Mort from Live Box
14	C0	60	2.3			Not Tagged	
14	C0	63	2.91			Not Tagged	
14	C0	64					Mort from Live Box
14	C0	65					Mort from Live Box
14	C0	66					Mort from Live Box
14	C0	68					Mort from Live Box
14	C0	68					Mort from Live Box
14	C0	70					Mort from Live Box
14	C0	71	3.56	62189	14	Not Tagged	
14	C0	71					Mort from Live Box
14	C0	72	3.96			Not Tagged	
14	C0	72					Mort from Live Box
14	C0	74	4.66			Not Tagged	
14	C0	77	4.26	62189	1	08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
14	C0	79	5.19	62189	13	08/02/47	
14	C0	81	6.32	62189	12	08/02/47	
14	C0	82	6.22	62189	4	08/02/47	
14	C0	82					Mort from Live Box
14	C0	84	6.49	62189	6	08/02/47	
14	C0	84	6.28	62189	9	08/02/47	
14	C0	88	7.19	62189	5	08/02/47	
14	C0	90					Mort from Live Box
14	C0	91	7.65	62189	11	08/02/47	
14	C0	92	7.25	62189	7	08/02/47	
14	C0	92					Mort from Live Box
14	C0	93	8.8	62189	2	08/02/47	
14	C0	96	8.31	62189	3	08/02/47	
14	C0	99					Mort from Live Box
14	C0	100	9.85	62189	8	08/02/47	
14	C0	101	10.8			08/02/50	
14	C0	101	10.87	62188	42	08/02/50	
14	C0	101	9.62	62188	46	08/02/50	
14	C0	103	11.95	62188	41	08/02/50	
14	C0	103	10.73			08/02/50	
14	C0	105	11.13	62188	47	08/02/50	
14	C0	105	11.76	62188	50	08/02/50	
14	C0	106	12.78	62188	45	08/02/50	
14	C0	107	11.79			08/02/50	
14	C0	108	13.24			08/02/50	
14	C0	108	13.12	62188	44	08/02/50	
14	C0	109	13.34			08/02/50	
14	C0	111	13.22			08/02/50	
14	C0	112	13.74			08/02/50	
14	C0	112	14.2	62188	43	08/02/50	
14	C0	112	15.35			08/02/50	
14	C0	112	14.2			08/02/50	
14	C0	113	13.41			08/02/50	
14	C0	113	14.46			08/02/50	
14	C0	113	15.42			08/02/50	
14	C0	114	13.87			08/02/50	
14	C0	114	15.99			08/02/50	
14	C0	115	14.92			08/02/50	
14	C0	115	15.12			08/02/50	
14	C0	116	13.91			08/02/50	
14	C0	117	15.14			08/02/50	
14	C0	118	15.62			08/02/50	
14	C0	118	19.18			08/02/50	
14	C0	118	16.16			08/02/50	
14	C0	118	15.83			08/02/50	
14	C0	119	17.95			08/02/50	
14	C0	119	16			08/02/50	
14	C0	120	17.5			08/02/50	
14	C0	120	17.32			08/02/50	
14	C0	120					Mort from Live Box
14	C0	121	16.71			08/02/50	
14	C0	122	18.06			08/02/50	
14	C0	125	19.24			08/02/50	
14	C0	125	19.12			08/02/50	
14	C0	126	20.45			08/02/50	
14	C0	129	21.95			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
14	C0	129	22.01			08/02/50	
14	C0	132	22.23			08/02/50	
14	C0	134	25.09	62188	49	08/02/50	
14	C0	135					Mort from Live Box
14	C0	137	24.36	62188	48	08/02/50	
14	C0	117	17.22			08/02/50	
15	C0	59	2.4			Not Tagged	
15	C0	66	3.4			Not Tagged	
15	C0	67	3.7			Not Tagged	
15	C0	68	3			Not Tagged	
15	C0	69	3.7			Not Tagged	
15	C0	69					Mort from Live Box
15	C0	70	4			08/02/47	
15	C0	70	4.3			Not Tagged	
15	C0	70	3.9			08/02/47	
15	C0	73	3.8			Not Tagged	
15	C0	74	5.1			Not Tagged	
15	C0	74	5.3			Not Tagged	
15	C0	76	5.7			08/02/47	
15	C0	79					Mort from Live Box
15	C0	79	6.1			08/02/47	
15	C0	82	6.4			08/02/47	
15	C0	82	6.8			08/02/47	
15	C0	84	7.6			Not Tagged	extreme scale loss
15	C0	85					Mort from Live Box
15	C0	86	7.6			08/02/47	
15	C0	87					Mort from Live Box
15	C0	89	8			08/02/47	
15	C0	89	7.3			08/02/47	
15	C0	93	7.4			08/02/47	
15	C0	95	9.3			08/02/47	
15	C0	99	10.9			08/02/47	
15	C0	101	10.8			08/02/50	
15	C0	102	10.6			08/02/50	
15	C0	105	12.5			08/02/50	
15	C0	105	12.2			08/02/50	
15	C0	106	11.7			08/02/50	
15	C0	106	11.6			08/02/50	
15	C0	107	12.9			08/02/50	
15	C0	108	12.9			08/02/50	
15	C0	110					Mort from Live Box
15	C0	110	14			08/02/50	
15	C0	110	13.8			08/02/50	
15	C0	110	12.7			08/02/50	
15	C0	111	14.1			08/02/50	
15	C0	112	14.9			08/02/50	
15	C0	113	15.2			08/02/50	
15	C0	114	15			08/02/50	
15	C0	115	15.51			08/02/50	
15	C0	115	13.9			08/02/50	
15	C0	116	11.8			08/02/50	
15	C0	116	14.4			08/02/50	
15	C0	116	15.8			08/02/50	
15	C0	116	16.3			08/02/50	
15	C0	117	16			08/02/50	
15	C0	119	17.3			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
15	C0	119	17.3			08/02/50	
15	C0	119	14.8			08/02/50	
15	C0	120	15.54			08/02/50	
15	C0	120	15.8			08/02/50	
15	C0	121	17.6			08/02/50	
15	C0	122	18.1			08/02/50	
15	C0	123	18.9			08/02/50	
15	C0	123	18.7			08/02/50	
15	C0	124	20.4			08/02/50	
15	C0	124	20.6			08/02/50	
15	C0	125	19.8			08/02/50	
15	C0	126					Mort from Live Box
15	C0	126	19.3			08/02/50	
15	C0	127	21.4			08/02/50	
15	C0	129	21.7			08/02/50	
15	C0	130	21.8			08/02/50	
15	DV	82					11L and 12R Br. Rays
15	RB/ST	103	10.5				
15	RB/ST	105	14.7				
15	RB/ST	114	17.7				
15	RB/ST	125	25.2				
15	RB/ST	126	22.6				
16	C0	60	2.4			Not Tagged	
16	C0	62	2.76			Not Tagged	
16	C0	64	2.64			Not Tagged	
16	C0	64					Mort from Live Box
16	C0	66	3.22			Not Tagged	
16	C0	69	3.75			Not Tagged	
16	C0	75					Mort from Live Box
16	C0	79	5.7			08/02/47	
16	C0	84	7.69			Not Tagged	open wound by anal fin
16	C0	86	6.81	62189	21	08/02/47	
16	C0	87	6.53	62189	19	08/02/47	
16	C0	89	6.41	62189	18	08/02/47	
16	C0	90	8.19			08/02/47	
16	C0	91	8.43	62189	20	08/02/47	
16	C0	93	9.95	62189	17	08/02/47	
16	C0	94	8.82			08/02/47	
16	C0	96	10.43			08/02/47	
16	C0	97	10.23			08/02/47	
16	C0	98	11.81			Not Tagged	extreme scale loss
16	C0	99	9.63			08/02/47	
16	C0	99	9.86			08/02/47	
16	C0	100					Mort from Live Box
16	C0	101	10.95			08/02/50	
16	C0	101	11.14			08/02/50	
16	C0	102	10.06			08/02/50	
16	C0	102	11.67			08/02/50	
16	C0	103	12.65			08/02/50	
16	C0	104	12.28			08/02/50	
16	C0	104	11.17			08/02/50	
16	C0	105	13.33			08/02/50	
16	C0	105	12.8			08/02/47	
16	C0	106	12.43			08/02/50	
16	C0	111	13.04			08/02/50	
16	C0	111	15.64			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
16	C0	111	13.91			08/02/50	
16	C0	112	16.07			08/02/50	
16	C0	112	13.14			08/02/50	
16	C0	115	14.6			08/02/50	
16	C0	116	15.14			08/02/50	
16	C0	116	17.1			08/02/50	
16	C0	116	16.87			08/02/50	
16	C0	117	16.23			08/02/50	
16	C0	117	18.44			08/02/50	
16	C0	118	17.23			08/02/50	
16	C0	119	16.92			08/02/50	
16	C0	119	16.75			08/02/50	
16	C0	120	17.38			08/02/50	
16	C0	122	20.19			08/02/50	
16	C0	122	19.36			08/02/50	
16	C0	123	17.93			08/02/50	
16	C0	124	20.19			08/02/50	
16	C0	124	20.04			08/02/50	
16	C0	124	21.03			08/02/50	
16	C0	126	20.5			08/02/50	
16	C0	147	34.6	62189	16	08/02/50	
17	C0	63	2.4			Not Tagged	
17	C0	64	3.12			Not Tagged	
17	C0	65	2.94			Not Tagged	
17	C0	66	2.91			Not Tagged	
17	C0	69	3.81			Not Tagged	
17	C0	71	4.2			Not Tagged	
17	C0	74	4.89			Not Tagged	
17	C0	75	4.71			08/02/47	
17	C0	79	5.58			08/02/47	
17	C0	80	6.68			08/02/47	
17	C0	86					Mort from Live Box
17	C0	94	8.9			08/02/47	
17	C0	94	9.04			08/02/47	
17	C0	101	10.62			08/02/50	
17	C0	102	10.97			08/02/50	
17	C0	103	11.49			08/02/50	
17	C0	105	11.64			08/02/50	
17	C0	108	12.67			08/02/50	
17	C0	109	14.24			08/02/50	
17	C0	112	14.38			08/02/50	
17	C0	113	14.4			08/02/50	
17	C0	113	15.86			08/02/50	
17	C0	114	16.15			08/02/50	
17	C0	115	16.12			08/02/50	
17	C0	115	16.13			08/02/50	
17	C0	116	15.05			08/02/50	
17	C0	117	17.32			08/02/50	
17	C0	119	16.58			08/02/50	
17	C0	121	17.56			08/02/50	
17	C0	121	17.63			08/02/50	
17	C0	122	20.38			08/02/50	
17	C0	122	18.18			08/02/50	
17	C0	122	19.61			08/02/50	
17	C0	123	18.67			08/02/50	
17	C0	124	18.81			08/02/50	
17	C0	126	21.3			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
17	C0	126	20.73			08/02/50	
17	C0	126	18.8			08/02/50	
17	C0	126	21.15			08/02/50	
17	C0	132	24.58			08/02/50	
17	C0	139	28.53	62189	22	08/02/50	
17	DV	66	3.24				11R and 11L Br. Rays
18	C0	55					Mort from Live Box
18	C0	64	3			Not Tagged	
18	C0	68	3.46			Not Tagged	
18	C0	71	4.12			Not Tagged	
18	C0	74	4.63			Not Tagged	
18	C0	74					Mort from Live Box
18	C0	74	4.85			08/02/47	
18	C0	89	7.27			08/02/47	
18	C0	90	7.95			08/02/47	
18	C0	94	8.66			08/02/47	
18	C0	94	9.84			08/02/47	
18	C0	95	10.72			08/02/47	
18	C0	96	9.6			08/02/47	
18	C0	97					Mort from Live Box
18	C0	97	9.15			08/02/47	
18	C0	99	9.8			08/02/47	
18	C0	100	10			08/02/47	
18	C0	102	9.92			08/02/50	
18	C0	103	11.42			08/02/50	
18	C0	105	12.54			08/02/50	
18	C0	105					Mort from Live Box
18	C0	105	12.12			08/02/50	
18	C0	106	12.91			08/02/50	
18	C0	106	12.11			08/02/50	
18	C0	107					Mort from Live Box
18	C0	108	13.02			08/02/50	
18	C0	109	11.93			Not Tagged	extreme scale loss extreme scale loss
							extreme scale loss
18	C0	109	14.76			08/02/50	
18	C0	109					Mort from Live Box
18	C0	111					Mort from Live Box
18	C0	113	14.6			08/02/50	
18	C0	113	16.23			08/02/50	
18	C0	114	15.02			08/02/50	
18	C0	114	15.31			08/02/50	
18	C0	114	16.1			08/02/50	
18	C0	115	15.47			08/02/50	
18	C0	115					Mort from Live Box
18	C0	116	15.7			08/02/50	
18	C0	117	17.97			08/02/50	
18	C0	118	17.23			08/02/50	
18	C0	119	16.47			08/02/50	
18	C0	119	17.66			Not Tagged	extreme scale loss
18	C0	119	16.93			08/02/50	
18	C0	119	15.8			08/02/50	
18	C0	119	16.44			08/02/50	
18	C0	121	18.3			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
18	C0	122	16.91			08/02/50	
18	C0	123	20.17			08/02/50	
18	C0	124	19.31			08/02/50	
18	C0	127	20.93			08/02/50	
18	C0	127	20.85			08/02/50	
18	C0	129	23.4			08/02/50	
18	C0	129	22.52			08/02/50	
18	C0	135	23.97			08/02/50	
18	C0	155	38.42	62189	24		Not part of sub-sample
18	C0	101					Mort from Live Box
19	C0	55	1.71			Not Tagged	
19	C0	63	2.46			Not Tagged	
19	C0	70					Mort from Live Box
19	C0	70					Mort from Live Box
19	C0	74	4.63			Not Tagged	
19	C0	75	4.75			08/02/47	
19	C0	76	5.07			08/02/47	
19	C0	80					Mort from Live Box
19	C0	80	5.05			08/02/47	
19	C0	82	6.58			08/02/47	
19	C0	84	6.32	62189	23	08/02/47	
19	C0	84					Mort from Live Box
19	C0	86	7.66	62189	26	08/02/47	
19	C0	87	6.78	62189	27	08/02/47	
19	C0	89	7.26	62189	25	08/02/47	
19	C0	90	7.31			08/02/47	
19	C0	94					Mort from Live Box
19	C0	94	8.49			08/02/47	
19	C0	94	8.76			08/02/47	
19	C0	94	8.42			08/02/47	
19	C0	95					Mort from Live Box
19	C0	95	9.11			08/02/47	
19	C0	95	9.87			08/02/47	
19	C0	96					Mort from Live Box
19	C0	96	9.78			08/02/47	
19	C0	97	10.05			08/02/47	
19	C0	97					Mort from Live Box
19	C0	99					Mort from Live Box
19	C0	100					Mort from Live Box
19	C0	100					Mort from Live Box
19	C0	101	11.32			08/02/50	
19	C0	101					Mort from Live Box
19	C0	101	10.61			08/02/50	
19	C0	102					Mort from Live Box
19	C0	103	10.94			08/02/50	
19	C0	103	10.72			08/02/50	
19	C0	103	10.72			08/02/50	
19	C0	104	11.63			08/02/50	
19	C0	104	10.69			08/02/50	
19	C0	105	13.25			08/02/50	
19	C0	106					Mort from Live Box
19	C0	106	11.99			08/02/50	
19	C0	107					Mort from Live Box
19	C0	108	12.97			08/02/50	
19	C0	109	12.03			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
19	C0	109	12.85			08/02/50	
19	C0	111	15.61			08/02/50	
19	C0	111	14.36			08/02/50	
19	C0	111	13.76			08/02/50	
19	C0	111					Mort from Live Box
19	C0	112	15.49			08/02/50	
19	C0	112	14.15			08/02/50	
19	C0	113	14.74			08/02/50	
19	C0	114	15.37			08/02/50	
19	C0	114	13.84			08/02/50	
19	C0	115	14.78			08/02/50	
19	C0	115					Mort from Live Box
19	C0	116	15.24			08/02/50	
19	C0	116	16.9			08/02/50	
19	C0	116	16.5			08/02/50	
19	C0	119	16.98			08/02/50	
19	C0	119	16.85			08/02/50	
19	C0	119	15.86			08/02/50	
19	C0	121	17.9			08/02/50	
19	C0	121	16.9			08/02/50	
19	C0	122					Mort from Live Box
19	C0	122	19.96			08/02/50	
19	C0	124	19.57			08/02/50	
19	C0	124	19.51			08/02/50	
19	C0	125	18.93			08/02/50	
19	C0	126	20.39			08/02/50	
19	C0	128					Mort from Live Box
19	C0	147	32.27	62189	31		
19	C0	149	34.21	62189	29		
19	C0	152	38.13	62189	30		
20	C0	70	3.99			08/02/47	
20	C0	76	5.07			08/02/47	
20	C0	77	4.57			08/02/47	
20	C0	78	5.5			08/02/47	
20	C0	86					Mort from Live Box
20	C0	86	6.97			08/02/47	
20	C0	88	5.6			08/02/47	
20	C0	89	6.97			08/02/47	
20	C0	89	6.34			08/02/47	
20	C0	91	8.05			08/02/47	
20	C0	92	8			08/02/47	
20	C0	94	9.88			08/02/47	
20	C0	96	8.7			08/02/47	
20	C0	96	8.15			08/02/47	
20	C0	96					Mort from Live Box
20	C0	97	6.77			08/02/47	
20	C0	97					Mort from Live Box
20	C0	98	9.91			08/02/47	
20	C0	99	9.75			08/02/47	
20	C0	101	11.23			08/02/50	
20	C0	105	10.91			08/02/50	
20	C0	106	12.61			08/02/50	
20	C0	106	12.6			08/02/50	
20	C0	106	12.57			08/02/50	
20	C0	106	11.35			08/02/50	
20	C0	106	12.53			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
20	C0	108					Mort from Live Box
20	C0	108	14.34			08/02/50	
20	C0	111					Mort from Live Box
20	C0	111	13.52			08/02/50	
20	C0	111	13.56			08/02/50	
20	C0	112	13.58			08/02/50	
20	C0	113	14.02			08/02/50	
20	C0	115	15.58			08/02/50	
20	C0	115					Mort from Live Box
20	C0	115					Mort from Live Box
20	C0	116	16.62			08/02/50	
20	C0	117	16.66			08/02/50	
20	C0	117	17.25			08/02/50	
20	C0	117	16.3			08/02/50	
20	C0	118	14.26			08/02/50	
20	C0	119	17.4			08/02/50	
20	C0	119	15.63			08/02/50	
20	C0	119	17.58			08/02/50	
20	C0	121	19.4			08/02/50	
20	C0	122	17.89			08/02/50	
20	C0	122	18.39			08/02/50	
20	C0	122					Mort from Live Box
20	C0	123	19.84			08/02/50	
20	C0	124	18.39			08/02/50	
20	C0	124	21.52			08/02/50	
20	C0	125					Mort from Live Box
20	C0	126	19.25			08/02/50	
20	C0	126	20.49			08/02/50	
20	C0	126					Mort from Live Box
20	C0	130	23.92			08/02/50	
21	C0	61	2.61			Not Tagged	
21	C0	62					Mort from Live Box
21	C0	67	3.53			Not Tagged	
21	C0	68	3.19			Not Tagged	
21	C0	69	3.41			Not Tagged	
21	C0	74	4.12			Not Tagged	
21	C0	76	4.83			08/02/47	
21	C0	77	5.05			08/02/47	
21	C0	81					Mort from Live Box
21	C0	81	5.51			08/02/47	
21	C0	83	6.04			08/02/47	
21	C0	84					Mort from Live Box
21	C0	87	7.14			08/02/47	
21	C0	87	7.02			08/02/47	
21	C0	87	6.99			08/02/47	
21	C0	92	8.48			08/02/47	
21	C0	93	8.43			08/02/47	
21	C0	93	8.75			08/02/47	
21	C0	95	9.4			08/02/47	
21	C0	96	8.29			08/02/47	
21	C0	96	9.15			08/02/47	
21	C0	97	9.51			08/02/47	
21	C0	97	8.46			08/02/47	
21	C0	99	10.35			08/02/47	
21	C0	101	10.9			08/02/50	
21	C0	101	10.01			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
21	C0	101	9.98			08/02/50	
21	C0	101	10.47			08/02/50	
21	C0	102	11.03			08/02/50	
21	C0	103	10.68			08/02/50	
21	C0	103					Mort from Live Box
21	C0	104	10.91			08/02/50	
21	C0	105	11.72			08/02/50	
21	C0	106	11.53			08/02/50	
21	C0	109					Mort from Live Box
21	C0	109	12.85			08/02/50	
21	C0	111				Not Tagged	fence panel wound and scale loss
21	C0	111				Not Tagged	eye is gone and many wounds from trap panel
21	C0	112	13.56			08/02/50	
21	C0	113	14.07			08/02/50	
21	C0	114	14.67			08/02/50	
21	C0	114	14.98			08/02/50	
21	C0	116	15.79			08/02/50	
21	C0	116	14.71			08/02/50	
21	C0	116	15.75			08/02/50	
21	C0	117	17.09			08/02/50	
21	C0	117	15.63			08/02/50	
21	C0	117	15.01			08/02/50	
21	C0	119	16.12			08/02/50	
21	C0	119	16.48			08/02/50	
21	C0	121	17.43			08/02/50	
21	C0	122	17.12			08/02/50	
21	C0	122	18.6			08/02/50	
21	C0	123	18.8			08/02/50	
21	C0	125	22.23			08/02/50	
21	C0	127				Not Tagged	wound around anal and extreme scale loss
21	C0	128	19.98			08/02/50	
21	C0	136	25.09			08/02/50	
21	CT	101	10.7				
21	DV	72	3.92				11L and 11R Br. Rays
21	DV	73	3.62				11L and 11R Br. Rays
21	DV	78	4.93				11L and 11R Br. Rays
21	RB/ST	89	8.46				
21	RB/ST	101	11.71				
22	C0	64	2.42			Not Tagged	
22	C0	65	2.83			Not Tagged	
22	C0	76	4.39			08/02/47	
22	C0	77	4.84			08/02/47	
22	C0	90	7.23	62189	35	08/02/47	
22	C0	91	6.82	62189	43	08/02/47	
22	C0	92	8.16	62189	39	08/02/47	
22	C0	93	8.21	62189	40	08/02/47	
22	C0	94	7.69	62189	42	08/02/47	
22	C0	94	7.8			Not Tagged	scale loss on left side
22	C0	95	8.2			08/02/47	
22	C0	96	7.62	62189	36	08/02/47	
22	C0	99	9.15	62189	41	08/02/47	
22	C0	99	9.02	62189	38	08/02/47	
22	C0	99	9.24	62189	37	08/02/47	
22	C0	100	10.08			08/02/50	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
22	C0	100	9.75			08/02/50	
22	C0	100	10.25	62189	33	08/02/50	
22	C0	100	10.23	62189	32	08/02/50	
22	C0	102	9.41			08/02/50	
22	C0	102	10.6			08/02/50	
22	C0	103	10.02	62189	34	08/02/50	
22	C0	106	11.56			08/02/50	
22	C0	109	13.72			08/02/50	
22	C0	109	11.89			08/02/50	
22	C0	109	13.5			08/02/50	
22	C0	110	13.15			08/02/50	
22	C0	110	13.11			08/02/50	
22	C0	112	13.9			08/02/50	
22	C0	112	13.59			08/02/50	
22	C0	112	14.91			08/02/50	
22	C0	114	13.58			08/02/50	
22	C0	115	14.48			08/02/50	
22	C0	116	14.65				
22	C0	117	18.02			08/02/50	
22	C0	117	14.27			08/02/50	
22	C0	118	16.8			08/02/50	
22	C0	120	16.14			08/02/50	
22	C0	122	18.05			08/02/50	
22	C0	124	20.54			08/02/50	
22	C0	124	18.09			08/02/50	
22	C0	126	19.19			08/02/50	
22	C0	129	21.43			08/02/50	
22	C0	152	35.16	62189	44	Not Tagged	not part of subsample, extreme scale loss on left side
22	DV	117	15.83				11L and 10R Br. Rays
22	DV	225					11L and 12R Br. Rays (photo #12?)
22	RB/ST	69	3.41				
22	RB/ST	109	13.3				
22	RB/ST	109	12.91				
22	RB/ST	117	16.66			08/02/50	
22	RB/ST	132	25.73				
23	C0	64	2.71			Not Tagged	
23	C0	72	3.73			Not Tagged	
23	C0	77	4.43			08/02/47	
23	C0	80	5.24	62189	46	08/02/47	
23	C0	81	5.7	62189	50	08/02/47	
23	C0	82	6.48	62189	47	08/02/47	
23	C0	87	6.7	62189	45	08/02/47	
23	C0	89	7.13	62189	49	08/02/47	
23	C0	89	7.15	62189	48	08/02/47	
23	C0	90	7.89			08/02/47	
23	C0	90	7.2			08/02/47	
23	C0	90	8.1			08/02/47	
23	C0	92	6.52			08/02/47	
23	C0	92	7.61			08/02/47	
23	C0	92	8.63			08/02/47	
23	C0	94	8.11			08/02/47	
23	C0	95	8.73			08/02/47	
23	C0	95	9.29			08/02/47	
23	C0	96	8.79			08/02/47	
23	C0	96	8.95			08/02/47	
23	C0	96	10.05			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
23	C0	96	8.16			08/02/47	
23	C0	97	9.7			08/02/47	
23	C0	97	9.99			08/02/47	
23	C0	99	9.91			08/02/47	
23	C0	99	9.58			08/02/47	
23	C0	99	8.92			08/02/47	
23	C0	100	10.52			08/02/50	
23	C0	101	11.1			08/02/50	
23	C0	101	11.02			08/02/50	
23	C0	101	10.5			08/02/50	
23	C0	101	10.55			08/02/50	
23	C0	102	10.72			08/02/50	
23	C0	105	12.22			08/02/50	
23	C0	106	11.92			08/02/50	
23	C0	106	11.53			08/02/50	
23	C0	107	11.91			08/02/50	
23	C0	107	12.25			08/02/50	
23	C0	108	11.96			08/02/50	
23	C0	108	11.83			08/02/50	
23	C0	110	12.15			08/02/50	
23	C0	111	12.53			08/02/50	
23	C0	112	13.56			08/02/50	
23	C0	112	15.47			08/02/50	
23	C0	114	14.54			08/02/50	
23	C0	115	15.5			08/02/50	
23	C0	120	15.58			08/02/50	
23	C0	120	18.71			08/02/50	
23	C0	121	18.29			08/02/50	
23	C0	125	20.18			08/02/50	
23	C0	125	17.71			08/02/50	
23	C0	127	20.04			08/02/50	
23	RB/ST	113	15.1				
23	RB/ST	123	20.97				
23	RB/ST	124	21.08				
23	RB/ST	134	28.27				
24	C0	59	2.15			Not Tagged	
24	C0	64	2.97			Not Tagged	
24	C0	75	4.25			08/02/47	
24	C0	76	4.94			08/02/47	
24	C0	80	5.73			08/02/47	
24	C0	81	5.71			08/02/47	
24	C0	82	6.15			08/02/47	
24	C0	84					Mort from Live Box
24	C0	85	6.93			08/02/47	
24	C0	86	7.35			08/02/47	
24	C0	86	6.49			08/02/47	
24	C0	86	6.07			08/02/47	
24	C0	86	6.41			08/02/47	
24	C0	87	7.11			08/02/47	
24	C0	89					Mort from Live Box
24	C0	89	8.62				
24	C0	90	7.26			08/02/47	
24	C0	91	7.66			08/02/47	
24	C0	91	8.14			08/02/47	
24	C0	93	8.55			08/02/47	
24	C0	94	9.46			08/02/47	
24	C0	94	7.36			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
24	C0	94	7.97			08/02/47	
24	C0	96	9.01			08/02/47	
24	C0	96					Mort from Live Box
24	C0	97	9.23			08/02/47	
24	C0	97	8.78			08/02/47	
24	C0	97	9.69			08/02/47	
24	C0	97	9.07			08/02/47	
24	C0	98	9.11			08/02/47	
24	C0	98	9.57			08/02/47	
24	C0	98	9.91				
24	C0	98					Mort from Live Box
24	C0	99	10.48			08/02/47	
24	C0	99	9.73			08/02/47	
24	C0	101	10.08			08/02/49	
24	C0	101	11.1			08/02/49	
24	C0	101	10.35			08/02/49	
24	C0	101	10.15			08/02/49	
24	C0	104	10.53			08/02/49	
24	C0	104					Mort from Live Box
24	C0	106	11.44			08/02/49	
24	C0	107	12.65			08/02/49	
24	C0	107	12.3			08/02/49	
24	C0	107	12.9			Not Tagged	open wound by tail
24	C0	107	11.82			08/02/49	
24	C0	107					Mort from Live Box
24	C0	109	12.8			08/02/49	
24	C0	109	12.82			08/02/49	
24	C0	111	13.16			08/02/49	
24	C0	111	14.62			08/02/49	
24	C0	111	14.1			08/02/49	
24	C0	112	14.48			08/02/49	
24	C0	120	16.96			08/02/49	
24	C0	122				Not Tagged	Not part of subsample, open wound above anal fin
24	C0	136	26.27	62190	3	08/02/48	Not part of subsample
24	C0	147	35.43	62190	1	08/02/48	Not part of subsample
24	C0	153	35.6	62190	2	08/02/48	Not part of subsample
24	RB/ST	107	14.2				
25	C0	60	2.35			Not Tagged	
25	C0	73					Mort from Live Box
25	C0	81	5.45			08/02/47	
25	C0	84					Mort from Live Box
25	C0	84	5.19			08/02/47	
25	C0	84	6.38			08/02/47	
25	C0	86	6.25			08/02/47	
25	C0	86	6.24			08/02/47	
25	C0	87	7.12			08/02/47	
25	C0	87	7.12			08/02/47	
25	C0	89	7.02			08/02/47	
25	C0	89	7.38			08/02/47	
25	C0	90	7.98			08/02/47	
25	C0	91					Mort from Live Box
25	C0	91	6.87			08/02/47	
25	C0	91	7.17			08/02/47	
25	C0	92	8.37			08/02/47	
25	C0	92	8.22			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
25	C0	93	8.87			08/02/47	
25	C0	94	8.7			08/02/47	
25	C0	94					Mort from Live Box
25	C0	95	8.79			08/02/47	
25	C0	95	9.01			08/02/47	
25	C0	96					Mort from Live Box
25	C0	97					Mort from Live Box
25	C0	98	10.52			08/02/47	
25	C0	98	9.57			08/02/47	
25	C0	98					Mort from Live Box
25	C0	99	9.9			08/02/47	
25	C0	99	10.02			08/02/47	
25	C0	99	9.67			08/02/47	
25	C0	100	10.27			08/02/47	
25	C0	100					Mort from Live Box
25	C0	101	10.31			08/02/49	
25	C0	101	10.22			08/02/49	
25	C0	103					Mort from Live Box
25	C0	104	11.69			08/02/49	
25	C0	104	11.63			08/02/49	
25	C0	106	12.23			08/02/49	
25	C0	106	12.23			08/02/49	
25	C0	106	11.91			08/02/49	
25	C0	106	12.63			Not Tagged	scale loss and marks from fence
25	C0	108					Mort from Live Box
25	C0	109	13.9			08/02/49	
25	C0	109					Mort from Live Box
25	C0	110	12.73			08/02/49	
25	C0	111	14.2			08/02/49	
25	C0	113	13.72			08/02/49	
25	C0	115	13.59			08/02/49	
25	C0	117	16.67			08/02/49	
25	C0	117					Mort from Live Box
25	C0	119	17.56			Not Tagged	scale loss and marks from fence
25	C0	124	17.92			08/02/49	
25	C0	125	19.27			08/02/49	
25	CT	117	14.94				
25	RB/ST	109	14.53				
25	RB/ST	119	18.1				
26	C0	66	3.05			Not Tagged	
26	C0	74	5.25			Not Tagged	
26	C0	77	4.81			08/02/47	
26	C0	80	4.99			08/02/47	
26	C0	80	5.83			08/02/47	
26	C0	81	5.95			08/02/47	
26	C0	82					Mort from Live Box
26	C0	82	5.65			08/02/47	
26	C0	84	5.54			08/02/47	
26	C0	85	6.65			08/02/47	
26	C0	85					Mort from Live Box
26	C0	86	6.33			08/02/47	
26	C0	86					Mort from Live Box
26	C0	86	6.19			08/02/47	
26	C0	87	6.99			08/02/47	
26	C0	87					Mort from Live Box

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
26	C0	88					Mort from Live Box
26	C0	89	7.2			08/02/47	
26	C0	89	6.63			08/02/47	
26	C0	89					Mort from Live Box
26	C0	90					Mort from Live Box
26	C0	90	6.3			08/02/47	
26	C0	90	8.07			08/02/47	
26	C0	91	7.33			08/02/47	
26	C0	92	8.75			08/02/47	
26	C0	94					Mort from Live Box
26	C0	94	9.04			08/02/47	
26	C0	95	9.41			08/02/47	
26	C0	95	9.04			08/02/47	
26	C0	95	7.92			08/02/47	
26	C0	95	8.32			08/02/47	
26	C0	95	8.29			08/02/47	
26	C0	96	8.66			08/02/47	
26	C0	96	9.17			08/02/47	
26	C0	96	8.63			08/02/47	
26	C0	97					Mort from Live Box
26	C0	97					Mort from Live Box
26	C0	98	881			08/02/47	
26	C0	99					Mort from Live Box
26	C0	99					Mort from Live Box
26	C0	100	9.7			08/02/47	
26	C0	102					Mort from Live Box
26	C0	102	11.02			08/02/49	
26	C0	102					Mort from Live Box
26	C0	103	11.88			08/02/49	
26	C0	103	10.55			08/02/49	
26	C0	104	10.84			08/02/49	
26	C0	104	10.7			08/02/49	
26	C0	105	11.9			08/02/49	
26	C0	105	11.18			08/02/49	
26	C0	105	12.34			08/02/49	
26	C0	105	11.43			08/02/49	
26	C0	106	11.86			08/02/49	
26	C0	106					Mort from Live Box
26	C0	106	13.43			08/02/49	
26	C0	107	12.89			08/02/49	
26	C0	107	12.83			08/02/49	
26	C0	108	12.69			08/02/49	
26	C0	109	12.94			08/02/49	
26	C0	113	13.32			08/02/49	
26	C0	114	14.59			08/02/49	
26	C0	115	16.3			08/02/49	
26	C0	116	15.6			08/02/49	
26	C0	119	15.9			08/02/49	
26	C0	124	19.26			08/02/49	
26	C0	124					Mort from Live Box
26	DV	70	2.75				10L and 11R Br. Rays
26	RB/ST	99	10.75				
26	RB/ST	104	13.42				
26	RB/ST	105	13.26				
26	RB/ST	113	19.15				
28	C0	64	2.78				

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
28	C0	65	3.05				
28	C0	73	4.17				
28	C0	76	4.01				
28	C0	79	5.14				
28	C0	82	5.99				
28	C0	82	5.8				
28	C0	86	5.95				
28	C0	87	6.75				
28	C0	87	6.23				
28	C0	88	7.92				
28	C0	89	7.44				
28	C0	89	7.09				
28	C0	89	6.54				
28	C0	91	7.74				
28	C0	91	7.51				
28	C0	92	8.14				
28	C0	93	8.15				
28	C0	93	9.02				
28	C0	94	7.88				
28	C0	94	10.25				
28	C0	94	9.02				
28	C0	95	8.83				
28	C0	95	9.4				
28	C0	96	9.66				
28	C0	96	8.96				
28	C0	96	9.06				
28	C0	97	9.63				
28	C0	97	10.95				
28	C0	97	9.5				
28	C0	99	10.19				
28	C0	99	11.22				
28	C0	100	10.06				
28	C0	101					Mort from Live Box
28	C0	101	11.36				
28	C0	104	11.53				
28	C0	104	13.22				
28	C0	104	10.79				
28	C0	104	11.78				
28	C0	104	11.11				
28	C0	105	12.34				
28	C0	106					Mort from Live Box
28	C0	106	11.34				
28	C0	106	11.64				
28	C0	108	13.79				
28	C0	109	13.25				
28	C0	110	13.05				
28	C0	110	13.56				
28	C0	115	16.21				
28	C0	119	19.11				
28	C0	124	19.56				
28	C0	131	24.13	62190	5		Not part of sub-sample
28	C0	143	26.57	62190	4		
28	C0	152	33.7	62190	6		Not part of sub-sample
28	C0	152	38.78	62190	8		2 photos taken, Not part of sub-sample
28	C0	154	36.86	62190	7		1 photo taken, Not part of sub-sample

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
28	CT	83	6.81				
28	RB/ST	102	11.51				
28	RB/ST	106	14.32				
28	RB/ST	129	27.38				
29	C0	57	1.97			Not Tagged	
29	C0	69	3.37			Not Tagged	
29	C0	70	3.73			Not Tagged	
29	C0	70	3.81			Not Tagged	
29	C0	73	4.29			Not Tagged	
29	C0	73	3.86				Not part of subsample
29	C0	74	4.15			Not Tagged	
29	C0	82	6.64			08/02/47	
29	C0	82	6.36			08/02/47	
29	C0	82	5.85			08/02/47	
29	C0	83	6.05			08/02/47	
29	C0	85	6.32			08/02/47	
29	C0	85	6.55			08/02/47	
29	C0	88	6.3			08/02/47	
29	C0	89	7.35			08/02/47	
29	C0	90	6.77			08/02/47	
29	C0	92	7.39			08/02/47	
29	C0	92	8.84			08/02/47	
29	C0	93	8.02			08/02/47	
29	C0	93	8.44			08/02/47	
29	C0	94	7.57			08/02/47	
29	C0	94	8.9			08/02/47	
29	C0	96	8.72			08/02/47	
29	C0	98	8.52			08/02/47	
29	C0	99	8.97			08/02/47	
29	C0	99	9.31			08/02/47	
29	C0	101	10.66			08/02/49	
29	C0	101	10.2			08/02/49	
29	C0	101	10.25			Not Tagged	
29	C0	103	11.35			08/02/49	
29	C0	104	12.23			08/02/49	
29	C0	105	11.18			08/02/49	
29	C0	106	11.83			08/02/49	
29	C0	106	12.04			08/02/49	
29	C0	106	10			08/02/49	
29	C0	107	12.37			08/02/49	
29	C0	107	11.43			08/02/49	
29	C0	108	10.8			08/02/49	
29	C0	110	13.01			08/02/49	
29	C0	110	13.01			08/02/49	
29	C0	114	14.45			08/02/49	
29	C0	115	16.08			08/02/49	
29	C0	117	16.17			08/02/49	
29	C0	151	36.39	62190	10	08/02/49	Not part of subsample
29	C0	160	46.41	62190	11	08/02/49	Not part of subsample
29	CH	51	1.23				
29	CH	53	1.48				
29	CH	55	1.7				Not part of subsample
29	RB/ST	71	3.7				Not part of subsample
29	RB/ST	107	13.87				Not part of subsample
29	RB/ST	116	17.7				
29	RB/ST	127	22.11				

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
30	C0	61	2.56				
30	C0	65	3.11				
30	C0	71	3.38				
30	C0	79	5.5			08/02/47	
30	C0	88	7.07			08/02/47	
30	C0	90	7.45			08/02/47	
30	C0	90	7.85			Not Tagged	
30	C0	91	7.62			08/02/47	
30	C0	92	7.37			08/02/47	
30	C0	92	7.77			08/02/47	
30	C0	93	8.06			08/02/47	
30	C0	94	8.49			08/02/47	
30	C0	96	8.66			08/02/47	
30	C0	96	8.41			08/02/47	
30	C0	97	8.26			08/02/47	
30	C0	97	8.88			08/02/47	
30	C0	97	9.98			08/02/47	
30	C0	97	8.87			08/02/47	
30	C0	98	8.74			Not Tagged	
30	C0	100	10.14			08/02/49	
30	C0	101	10.24			08/02/49	
30	C0	102	10.95			08/02/49	
30	C0	104	11.68			08/02/49	
30	C0	105	11.67			08/02/49	
30	C0	106	12.68			Not Tagged	
30	C0	106	12.13			08/02/49	
30	C0	107	12.21			08/02/49	
30	C0	108	14.02			Not Tagged	
30	C0	110	11.91			08/02/49	
30	C0	111	13.71			08/02/49	
30	C0	117	15.99			08/02/49	
30	C0	139	24.19	62190	11	08/02/49	
30	CT	119	16.3				
30	RB/ST	102	12.36				
30	RB/ST	105	12.28			08/02/49	
31	C0	79	5.57			08/02/47	
31	C0	79	5.34			Not Tagged	missing one eye, wound from fence dip netting?
31	C0	89	6.4			08/02/47	very skinny
31	C0	89	7.36			08/02/47	
31	C0	89	6.86			08/02/47	
31	C0	90	7.33			08/02/47	
31	C0	90	8.72			08/02/47	
31	C0	91	7.98			08/02/47	
31	C0	92	8.47			08/02/47	
31	C0	93	8.66			08/02/47	
31	C0	94	8.85			08/02/47	
31	C0	94	8.33			08/02/47	
31	C0	95	9.13			08/02/47	
31	C0	96	9.42			08/02/47	
31	C0	97	10.41			08/02/47	
31	C0	97	9.23			08/02/47	
31	C0	97	8.75			08/02/47	
31	C0	100	10.08			08/02/47	
31	C0	101	11.25			08/02/49	
31	C0	102	10.38			08/02/49	
31	C0	102	11.53			08/02/49	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
31	C0	103	12.91			08/02/49	
31	C0	103	11.16			08/02/49	
31	C0	103	12.02			08/02/49	
31	C0	106	12.64			08/02/49	
31	C0	107	12.54			08/02/49	
31	C0	113	14.8			08/02/49	
31	C0	116	16.92			08/02/49	
32	C0	74	4.86			Not Tagged	
32	C0	74	4.43			Not Tagged	
32	C0	74	4.04			Not Tagged	
32	C0	86	6.54			08/02/47	
32	C0	87	6.82			Not Tagged	markings from fence panels
32	C0	89	7.61			08/02/47	
32	C0	89	7.69			08/02/47	
32	C0	89	7.38			08/02/47	
32	C0	90	7.42			08/02/47	
32	C0	90	7.76			08/02/47	
32	C0	90	7.73			08/02/47	
32	C0	91	7.61			08/02/47	
32	C0	91	7.6			08/02/47	
32	C0	91	8.05			08/02/47	
32	C0	92	8.49			08/02/47	
32	C0	94	8.85			08/02/47	
32	C0	95	8.4			08/02/47	
32	C0	95	8.63			08/02/47	
32	C0	96	8.95			Not Tagged	wound around anal
32	C0	96	9.18			08/02/47	
32	C0	96	8.37			08/02/47	
32	C0	96	8.64			08/02/47	
32	C0	97	9.23			08/02/47	
32	C0	98	11.42			08/02/47	
32	C0	99					Mort from Live Box
32	C0	100	10.6			Not Tagged	wound from mink?
32	C0	101	9.02			08/02/49	
32	C0	101	10.68			08/02/49	
32	C0	101	10.79			08/02/49	
32	C0	102	10.21			08/02/49	
32	C0	102	11.35			08/02/49	
32	C0	103	10.5			08/02/49	
32	C0	103	10.81			08/02/49	
32	C0	103	11.15			08/02/49	
32	C0	103	10.69			08/02/49	
32	C0	103	10.69			08/02/49	
32	C0	104	10.84			08/02/49	
32	C0	104	11.49			08/02/49	
32	C0	106	11.51			08/02/49	
32	C0	110	13.15			08/02/49	
32	C0	113	14.94			08/02/49	
32	C0	121	18.89			08/02/49	
32	C0	151	35.54	62190	16	08/02/49	Not part of subsample
32	C0	159	37.7	62190	17	08/02/49	Not part of subsample
32	RB/ST	97	9.73				
32	RB/ST	148	34.22				Not part of subsample
33	C0	69	3.7			Not Tagged	
33	C0	79	5.32			08/02/47	
33	C0	84	7.11			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
33	C0	86	7.71			Not Tagged	extreme scale loss
33	C0	86	7.38			08/02/47	
33	C0	89	7.98			08/02/47	
33	C0	92	7.81			08/02/47	
33	C0	92	8.15			08/02/47	
33	C0	92	7.05			08/02/47	
33	C0	93	7.62			08/02/47	
33	C0	94	8.6			08/02/47	
33	C0	94	8.44			08/02/47	
33	C0	94	8.12			08/02/47	
33	C0	94	8.87			08/02/47	
33	C0	95	8.44			08/02/47	
33	C0	96	9.14			08/02/47	
33	C0	97	10.53			08/02/47	
33	C0	98	9.51			08/02/47	
33	C0	99	8.47			08/02/47	
33	C0	99	9.75			08/02/47	
33	C0	99					Mort from Live Box
33	C0	100	10.71			08/02/47	
33	C0	100	10.52			08/02/47	
33	C0	100	10.7			08/02/47	
33	C0	101	10.4			Not Tagged	extreme scale loss
33	C0	101	11.09			08/02/49	
33	C0	103	10.28			08/02/49	
33	C0	104	10.32			08/02/49	
33	C0	104	11.88			08/02/49	
33	C0	104	12.06			08/02/49	
33	C0	104	11.2			08/02/49	
33	C0	105	11.92			08/02/49	
33	C0	106	12.5			Not Tagged	extreme scale loss
33	C0	106	13.23			08/02/49	
33	C0	107	12.4			08/02/49	
33	C0	107	13.07			08/02/49	
33	C0	108	12.13			08/02/49	
33	C0	110	14.8			08/02/49	
33	C0	112	14.13			Not Tagged	extreme scale loss
33	C0	113	14.18			08/02/49	
33	C0	113					Mort from Live Box
33	C0	119	17.57			08/02/49	
33	C0	119	17.05			08/02/49	
33	CH	64	3.13				
33	CT	104	12.08				
33	RB/ST	61	2.8				
33	RB/ST	110	14.06				
34	C0	65	2.79			Not Tagged	
34	C0	78	5.54			08/02/47	
34	C0	79	5.3	62190	18	08/02/47	
34	C0	85	6.34	62190	19	08/02/47	
34	C0	85	5.93	62190	20	08/02/47	
34	C0	85	5.46			08/02/47	
34	C0	90	7.04			08/02/47	
34	C0	91					Mort from Live Box
34	C0	91	7.95			08/02/47	
34	C0	92	7.81			08/02/47	
34	C0	94	8.29			08/02/47	
34	C0	94	8.71			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
34	C0	94	9.52			08/02/47	
34	C0	95	8.43			08/02/47	
34	C0	95	7.94			08/02/47	
34	C0	95	7.82			08/02/47	
34	C0	95	8.41			08/02/47	
34	C0	95	9.09			08/02/47	
34	C0	96					Mort from Live Box
34	C0	96	9.09			08/02/47	
34	C0	96	8.66			08/02/47	
34	C0	96	8.24			08/02/47	
34	C0	96	7.78			08/02/47	
34	C0	96	8.99			08/02/47	
34	C0	97					Mort from Live Box
34	C0	97	8.24			08/02/47	
34	C0	98	9.13			08/02/47	
34	C0	98	10.18			08/02/47	
34	C0	98	9.62			08/02/47	
34	C0	99	10.05			08/02/47	
34	C0	99	9.69			Not Tagged	
34	C0	101	10.08			08/02/49	
34	C0	102	10.17			08/02/49	
34	C0	103					Mort from Live Box
34	C0	104	11.25			08/02/49	
34	C0	104	11.62			Not Tagged	extreme scale loss
34	C0	104	11.87			08/02/49	
34	C0	105	12.47			08/02/49	
34	C0	105	13.15			08/02/49	
34	C0	106	12.04			08/02/49	
34	C0	107	12.43			08/02/49	
34	C0	109	12.91			08/02/49	
34	C0	109	11.23			08/02/49	
34	C0	114					Mort from Live Box
34	C0	115	15.71			08/02/49	
34	C0	119	16.6			08/02/49	
35	C0	84	6.07			08/02/47	
35	C0	84	5.76			08/02/47	
35	C0	86	7.09			08/02/47	
35	C0	86					Mort from Live Box
35	C0	87	6.34			08/02/47	
35	C0	89	6.8			08/02/47	
35	C0	89	7.56			08/02/47	
35	C0	91	7.64			08/02/47	
35	C0	91	8.17			08/02/47	
35	C0	92	8.15			08/02/47	
35	C0	93	8.1			08/02/47	
35	C0	94	7.94			08/02/47	
35	C0	94	9.11			08/02/47	
35	C0	94	8.96			08/02/47	
35	C0	95	9.48			08/02/47	
35	C0	96	9.33			08/02/47	
35	C0	96	8.55			08/02/47	
35	C0	96	9.34			08/02/47	
35	C0	96	9.91			08/02/47	
35	C0	96	8.81			08/02/47	
35	C0	98	9.23			08/02/47	
35	C0	99	10.38			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
35	C0	100	9.72			08/02/47	
35	C0	100	9.91			08/02/49	
35	C0	101	10.79			08/02/49	
35	C0	101	11.64			08/02/49	
35	C0	102	10.45			08/02/49	
35	C0	102	9.9			08/02/49	
35	C0	104	10.73			08/02/49	
35	C0	104	11.41			08/02/49	
35	C0	105	11.83			08/02/49	
35	C0	106	11.5			08/02/49	
35	C0	106	10.31			Not Tagged	wound around tail
35	C0	107	12.78			08/02/49	
35	C0	108	12.96			08/02/49	
35	C0	108	11.8			08/02/49	
35	C0	109	13.14			08/02/49	
35	C0	109	13.4			Not Tagged	wound on abdomen
35	C0	109	12.16			08/02/49	
35	C0	112	12.88			08/02/49	
35	C0	116	15.52			08/02/49	
35	C0	118	17.13			08/02/49	
35	CT	110	12.27				
35	CT	145	32.21				
35	RB/ST	88	7.2				
35	RB/ST	119	17.29				
35	RB/ST	126	32.16				
36	C0	61	2.25			Not Tagged	
36	C0	90	7.37			08/02/47	
36	C0	91	7.29			08/02/47	
36	C0	92	7.86			08/02/47	
36	C0	94	8.46			08/02/47	
36	C0	94	8.81			08/02/47	
36	C0	94	8.5			08/02/47	
36	C0	100	9.91			08/02/49	
36	C0	101	10.04			08/02/49	
36	C0	102	10.23			08/02/49	
36	C0	105	11.11			08/02/49	
37	C0	60	2.28			Not Tagged	
37	C0	71	3.99			Not Tagged	
37	C0	84	6.3			08/02/47	
37	C0	87	7.57			Not Tagged	extreme scale loss
37	C0	87	6.13			08/02/47	
37	C0	91	9.31			Not Tagged	extreme scale loss
37	C0	91	7.97			08/02/47	
37	C0	92	7.86			08/02/47	
37	C0	94	8.5			08/02/47	
37	C0	94	9.25			08/02/47	
37	C0	94	9.34			08/02/47	
37	C0	95					Mort from live box
37	C0	96	9.02			08/02/47	
37	C0	96	9.12			08/02/47	
37	C0	96	9.34			08/02/47	
37	C0	97	10.45			08/02/47	
37	C0	97	9.83			Not Tagged	extreme scale loss
37	C0	97					Mort from live box
37	C0	97	8.97			08/02/47	
37	C0	98	9.67			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
37	C0	98	9.35			08/02/47	
37	C0	98	9.87			Not Tagged	extreme scale loss
37	C0	100	9.95			08/02/47	
37	C0	100	9.67			08/02/47	
37	C0	100	10.85			08/02/47	
37	C0	101	10.95			08/02/49	
37	C0	101					Mort from live box
37	C0	101	10.84			08/02/49	
37	C0	102	11.34			08/02/49	
37	C0	102	10.64			08/02/49	
37	C0	103					Mort from live box
37	C0	103	11.56			08/02/49	
37	C0	105	12.65			08/02/49	
37	C0	106	11.8			08/02/49	
37	C0	108	12.45			08/02/49	
37	C0	108	12.23			08/02/49	
37	C0	109	13.48			08/02/49	
37	C0	109	13.5			08/02/49	
37	C0	109	12.46			Not Tagged	extreme scale loss
37	C0	109	13.52			08/02/49	
37	C0	110	14.2			08/02/49	
37	C0	110	13.88			08/02/49	
37	C0	110	13.35			08/02/49	
37	C0	110	13.86			08/02/49	
37	C0	113	14.1			08/02/49	
37	RB/ST	150	36.8			08/02/49	
41	C0	68	3.11			Not Tagged	
41	C0	71	3.86			Not Tagged	
41	C0	83	8.32			08/02/47	
41	C0	86	7.28			08/02/47	
41	C0	94	8.46			08/02/47	
41	C0	94	8.31			08/02/47	
41	C0	97	9.63			08/02/47	
41	C0	99	9.21			08/02/47	
42	C0	61	2.45			Not Tagged	
42	C0	64	2.64			Not Tagged	
42	C0	74	4.52			Not Tagged	
42	C0	83	7.08			08/02/47	
42	C0	86	6.84			08/02/47	
42	C0	90	8.12			08/02/47	
42	C0	95	8.52			08/02/47	
42	CT	121	19.92				
42	RB/ST	107	15.09				
42	RB/ST	123	20.44				
43	C0	56	1.78			Not Tagged	
43	C0	56	1.79			Not Tagged	
43	C0	57	1.99			Not Tagged	
43	C0	67	3.23			Not Tagged	
43	C0	68	3.36			Not Tagged	
43	C0	70	3.55			Not Tagged	
43	C0	72	4.51			Not Tagged	
43	C0	74	4.21			Not Tagged	
43	C0	74	4.42			Not Tagged	
43	C0	76	8.64			08/02/47	
43	C0	76	4.54			08/02/47	
43	C0	76	4.83			08/02/47	

Day	Species	Fork Length	Weight	Scale Book #	Scale #	Tag Spool	General Comments
43	C0	87	6.72			08/02/47	
43	C0	87	6.58			08/02/47	
43	C0	88	7.08			08/02/47	
43	C0	91	7.02			08/02/47	
43	C0	92	7.32			08/02/47	
43	C0	94	7.05			08/02/47	
43	C0	96	8.63			08/02/47	
43	CT	75	4.54				
43	CT	115	15.29				
43	CT	121	18.1				
43	RB/ST	69	3.68				
43	RB/ST	74	4.47				
43	RB/ST	122	19.46				
43	RB/ST	123	21.35				
44	C0	72	3.8				
44	C0	73	4.71			Not Tagged	
44	C0	86	6.79			08/02/47	
44	C0	88	6.52			08/02/47	
44	C0	94	8.2			08/02/47	
44	C0	95	7.94			08/02/47	
44	C0	96	9.08			08/02/47	
44	C0	100					Mort from Live Box
44	C0	104	11.35			08/02/49	
44	C0	113	14.62				
44	CT	70	4.48				
44	CT	119	17.63				

Appendix 3. Inclined plane trap (IPT) performance, fish capture summary and tagging summary for the Toboggan Creek coho smolt enumeration project, 2001

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
7	2001-06-21	3:00	CL//					moderat		H	70		

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-21	4:00	CL//	3	6			moderat		H	70		

Comments:

Note: since trap was receiving less volume of main flow (approximately 2.5m wide) it's efficiency was comprised. Not enough main flow volume covered by trap, alos high flow/water in the previous night may have "flushed" out most of the remaining run.

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	4	94	120	9.1	16.3
CO-m	2	86	110	8.81	14.6

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
15	2001-06-20	22:15	RS/CL/	[]	[]	[]	[]	high	[]	[]	70	[]	

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-20	22:30	RS/CL/	[]	[]	[]	[]	high	[]	H	70	[]	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-20	22:40	RS/CL/	[]	[]	[]	[]	high	[]	H	70	[]	

Comments: checked trap every 10 to 15minutes throughout the evening

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-20	11:10	CL//	[]	[]	[]	[]	high	[]	H	70	[]	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-21	0:00	CL//	[]	[]	[]	[]	high	[]	H	70	[]	

Comments: raised front end approximately 2cm, cleaning occurring too often: about every 4 minutes, cleaning reduced to every 10 minutes (maximum allowance without being cleaned)

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-07-21	1:00	CL//	[]	[]	[]	[]	moderat	[]	H	70	[]	

Comments: weather: slight rain starts and ends around 01:30

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
6	2001-06-21	2:00	CL//	[]	[]	[]	[]	moderat	[]	H	70	[]	

Comments:

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
14	2001-06-19	22:45	RS//	[]	[]	[]	[]	moderat	[]	[]	100	[]	

Comments: set trap in main flow.

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-19	23:00	RS//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments: water is clean but rising, trap is set in main flow and working great but depth is to within 2" of the top of my waters at the back of the trap so it is difficult to get on the trap to clean it.

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-20	0:20	RS//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments: steady light rain, water level is rising, haven't filled my waders yet

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-20	1:10	RS//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-20	2:15	RS//	[]	[]	[]	[]	r/moder	[]	H	100	[]	

Comments: smolt movement appears to have slowed down as water level is rising, pulled trap to help at fence

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	35	82	126	5.87	19.85
CO-m	11				
RB/ST	3	92	122	7.96	19.8

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
13	2001-06-16	21:40	NF//					moderat			95		

Comments: weather: light rain on/off, with a light breeze. Not much debris accumulation.

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-16	22:00	NF//					moderat		M	100		

Comments: weather: raining

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-16	22:30	NF//					moderat		M	100		

Comments: weather: rain tapering to light rain

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-16	23:00	NF//					moderat		M	100		

Comments: checked trap every 15 minutes until trap pull. water conditions remained the same the whole night.

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-17	5:30	NF//					moderat		M	100		

Comments:

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	38	67	121	2.99	19.75
CO-m	9				
RB/ST	2	65	111	3.01	16.45

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-15	5:00	CL//					clear		M	100		

Comments:

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO-m	6				

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
12	2001-06-14	22:00	ML//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments: trap set in main current; weather is overcast with some dark low clouds

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-14	0:00	ML//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-15	2:00	ML//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-15	3:00	ML//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-15	4:00	ML//	[]	[]	[]	[]	clear	[]	M	100	[]	

Comments:

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
11	2001-06-11	22:30	RS//	[]	[]	[]	[]	[]	moderat	[]	[]	100	[]

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-11	22:45	RS//	[]	[]	[]	[]	[]	[]	M	100	[]	

Comments: weather: partially cloudy, moonris is 01:08. Checked trap every 15 minutes the whole night until pull at 04:00

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-11	4:00	RS//	[]	[]	[]	[]	[]	moderat	[]	M	100	[]

Comments:

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
	0				
CO	60	64	163	2.87	17.61
CO-m	11				
RB/ST	3	62	118	2.81	18.11

Trap Pull Data

Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water							
2001-06-09	2:35	RS//					moderat		M	100	

Comments: pulled trap

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	23	72	122	4.1	17.89
CO-m	25				
RB/ST	3	84	114	7.42	17.68

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
10	2001-06-08	22:00	RS//					moderat		M	100		

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-08	22:30	RS//					moderat		M	100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-08	23:20	RS//					moderat		M	100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-09	0:00	RS//					moderat		M	100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-09	1:00	RS//					moderat		M	100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-06-09	2:00	RS//					moderat		M	100		

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-07	4:00	ML//					clear			100		

Comments: Trap fished well all night; very little debris accumulation

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	48	73	141	4.24	29.15
CO-m	58				
RB/ST	3	91	112	8.45	14.04

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
9	2001-06-06	22:00	ML//					clear			100		

Comments: Trap set entirely in main flow; water looking fairly clean; clear sky with some scattered clouds

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-06	23:00	ML//					clear			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-07	0:00	ML//					clear			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-07	1:00	ML//					clear			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-07	2:00	ML//					clear			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-06-07	3:00	ML//					clear			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)			pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.						
7	2001-06-05	3:05	RS//								100	

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)			pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.						
2001-06-05	3:30	RS//					clear			100	

Comments:

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CH	1	61	61	2.65	2.65
CO	39	62	143	2.7	25.74
CO-m	67				
RB/ST	2	64	117	2.71	17.57

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
8	2001-06-04	21:30	NF//						clear			85	

Comments: trap's normal position is not efficient at this water level, but by moving rear of trap towards river left, performance was increased. Very little debris build up. Weather: warm, but strong gusts of wind.

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-04	22:30	RS//							L		95	

Comments: checked trap, cleaned and adjusted

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-04	23:15	RS//									100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-04	23:30	RS//									100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-05	0:20	RS//									100	

Comments: lots of small fry <30mm (looks like they are freshley emerged from gravel (very skinny)

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-06-05	1:30	RS//									100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
6	2001-06-05	2:30	RS//									100	

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-06-02	4:15	NF//					erate/l			98		

Comments: trap performance was exvellent all night

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
	0				
CO	22	67	148	3.53	34.78
CO-m	79				
RB/ST	3	89	132	9.13	23.7

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
7	2001-06-01	21:30	NF/RS/						erate/l			95	

Comments: weather: cool, clear, scattered cumulus cloud cover. Took 2 photos at time of set.

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-01	22:00	NF//						erate/l			100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-01	22:30	NF//						erate/l			100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-01	22:45	NF//									100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-01	23:00	NF//						erate/l			100	

Comments: Trap is performing very well with cleaning every 15 minutes. Checked and cleaned trap every 15 minutes until 04:15

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
7	2001-05-31	2:00	ML//	[]	[]	[]	[]	[]	[]	[]	0	[]	
Comments:													

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
8	2001-05-30	3:00	ML//	[]	[]	[]	[]	t/mode	[]	[]	0	[]	
Comments:													

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
			Air	Water	Cond.							
2001-05-30	3:30	ML//	[]	[]	[]	[]	t/mode	[]	[]	100	[]	
Comments: weather: very light debris accumulation throughout the night												

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	9	65	130	3.06	24.51
CO-m	55				
CT	1	94	94	9.89	9.89

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
6	2001-05-30	22:15	ML/RS/					t/mode			100		

Comments: weather: overcast with occasional light rain; trap set in main current

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-05-30	22:45	ML//					t/mode			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-05-30	23:15	ML//					t/mode			100		

Comments: 1 CO mort >100mm

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-05-31	0:00	ML//					t/mode			100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-05-30	0:30	ML//								0		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-05-30	1:00	ML//								0		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
6	2001-05-30	1:30	ML//					t/mode			100		

Comments:

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-05-28	22:50	ML//						moderat		M	100	

Comments: trap set in main current. weather: light steady rain.

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-05-28	23:15	ML//						moderat		M	100	

Comments: trap plugging quickly; requiring constant cleaning

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-05-28	23:45	ML//						moderat		M	100	

Comments: adjusted placement of trap. Trap position moved closer to right bank out of main current due to being overwhelmed by debris; intercepting ~50% of main flow.

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-05-29	0:30	ML//						moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-05-29	0:55	ML//						moderat		M	100	

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-05-29	1:30	ML//						moderat		M	100	

Comments: trap required cleaning every 3 to 5 minutes; only fry and lamprey captured during sample period

Fish Information Summary

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-05-27	23:30	RS//					moderat		M	100		

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-05-27	0:30	RS//					moderat		M	100		

Comments: steadily sample (24 of 30 were adipose clipped, adipose clipped >100mm)

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-05-28	1:10	RS//					moderat		M	100		

Comments: trap is plugging up every 15 minutes (6 adipose clipped coho released all were >110mm)

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-05-28	1:30	RS//					moderat		M	100		

Comments: 1 hatchery was released

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-05-28	2:00	RS//					moderat		M	100		

Comments: left 17 fish in trap for FL and Weight in the morning

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	12	58	123	2.12	17.49
CO-m	34				
CT	2	64	88	2.93	7.24
RB/ST	3	89	98	8.66	10.68

Trap Pull Data

Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water							
2001-05-25	7:00	CL//					moderat		M	100	

Comments:

Fish Information Summary

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
3	2001-05-24	7:00	CL//	8	8			moderat		M	100	

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
1	2001-05-24	22:30	CL//	10	8			moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
2	2001-05-25	1:30						moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
3	2001-05-25	2:30	CL//	6	8			moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
4	2001-05-25	3:30	CL//					moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
5	2001-05-25	6:00	CL//	5	8			moderat		M	100	

Comments:

weather: clear sky, warm strong winds all night, cloudy mroning (thin cloud cover). Debris builds up quickly, for mazimum efficiency trap needs to be cleaned approximately every 1 hour and 30 minutes, suggest that someone monitor trap more full-time.

Trap Pull Data

Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water							
2001-05-23	7:00	CL/SH/	6	7.5			moderat		M	100	

Comments:

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO-m	2				

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-05-22	13:30	SH//	11	8				moderat		L	100	

Comments: weather: raining. Took sandbags off of IPT because there was way too much flow into the trap. Once sandbags were off the trap was at 100% performance. The trap is positioned more to river left whre the current is a little bit stronger.

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-05-22	22:00	RS//	10					moderat		M	100	

Comments: trap overflowing, modifications done, captured one marked CO

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-05-23	1:00	CL//	5	8				moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-05-23	2:00	CL//						moderat		M	100	

Comments: large amount of debris accumulation.

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-05-23	3:00	CL//						moderat		M	100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
										M			

Comments:

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-05-17	7:00	CL/SH/						clear		L	100	

Comments: weather: sunny with cloudy breaks during the day, strong winds

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-05-17	22:30	CL//	9	10				clear			100	

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-05-18	2:00	CL//						moderat		L	100	

Comments: weather: cloudy with clear breaks during the night

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-05-18	4:00	CL//							M	0		

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water	Cond.							
2001-05-18	7:00	CL//	6	9.5					M	100		

Comments:

Fish Information Summary

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
16	2001-06-23	22:00	ML//						c		100		

Comments: weather: overcast and drizzling all day; trap set in main current

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-23	22:45	ML//						clear		100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-23	23:00	ML//						clear		100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-23	23:50	ML//						clear		100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-24	0:15	ML//						clear		100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-06-24	0:50	ML//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
6	2001-06-24	1:30	ML//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)			pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.						
7	2001-06-24	2:00	ML//	[]	[]	[]	[]	[]	[]	[]	100	[]
Comments: []												

Check #	Date	Time	Crew	Temp. (C)			pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.						
8	2001-06-24	3:00	ML//	[]	[]	[]	[]	[]	[]	[]	100	[]
Comments: []												

Trap Pull Data

Date	Time	Crew	Temp. (C)			pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
			Air	Water	Cond.						
2001-06-24	3:30	ML//	[]	[]	[]	[]	clear	[]	[]	100	[]
Comments: weather: light rain all night. Trap fished well all night											

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	44	70	119	3.73	18.65
CT	1	99	99	9.77	9.77
RB/ST	11	81	135	5.68	29.75

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
17	2001-06-25	22:15	MC//								100		

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
1	2001-06-25	22:35	MC//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
2	2001-06-25	23:00	MC//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
3	2001-06-26	0:00	MC//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
4	2001-06-26	0:35									100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
5	2001-06-26	0:55	MC//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)				pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.							
6	2001-06-26	1:15	MC//								100		

Comments:

Check #	Date	Time	Crew	Temp. (C)					pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.								
7	2001-06-26	1:45	MC//	[]	[]	[]	[]	[]	[]	[]	[]	100	[]	
Comments: []														

Check #	Date	Time	Crew	Temp. (C)					pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.								
8	2001-06-26	2:00	MC//	[]	[]	[]	[]	[]	[]	[]	[]	100	[]	
Comments: []														

Check #	Date	Time	Crew	Temp. (C)					pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water	Cond.								
9	2001-06-26	2:30	MC//	[]	[]	[]	[]	[]	[]	[]	[]	100	[]	
Comments: []														

Trap Pull Data

Date	Time	Crew	Temp. (C)					pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
			Air	Water	Cond.								
2001-06-26	2:45	MC//	[]	[]	[]	[]	[]	[]	[]	[]	100	[]	
Comments: pulled trap													

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	18	84	107	6.04	14.61
CO-m	3				
RB/ST	10	72	123	4.42	21.52

Trap Set Data

Set #	Date	Time	Crew	Temp.(C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
18	2001-06-27	22:10	NF//								100	

Comments:

Trap Check Data

Check #	Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	% Trap Perform.	Photos
				Air	Water							
1	2001-06-27	23:00	NF//								100	

Comments:

Trap Pull Data

Date	Time	Crew	Temp. (C)		Cond.	pH	Turb.	Staff Gauge (cm)	Water Level	%Trap Perform.	Photos
			Air	Water							
2001-06-28	0:15	NF//								100	

Comments:

floats pushed way down but water still coming over trap by the time the incline was cleaned (1.5 minutes). Staff gauge at 53 @ 21:50. Water is extremely turbid (chocolate milk). Tons of fry captured, some quite large (~50 to 60mm).

Fish Information Summary

Species	Count	Fork Length (mm)		Weight (g)	
		Minimum	Maximum	Minimum	Maximum
CO	5	60	104	2.37	10.94
RB/ST	2	81	110	5.77	17.73

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
2	CO-m					-		Adipose Clipped
2	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO-m					-		(adipose clipped)
4	CO	59	2.18			-		
4	CO	70	3.04			-		
4	CO	58	2.12			-		
4	CO	118	14.03			-		
4	CO	121	16.8			-		
4	CO	86	6.85			-		
4	CO	59	2.21			-		
4	CO	103	11.04			-		
4	CO	123	15.77			-		
4	RB/ST	96	10.44			-		
4	CO	68	3.55			-		
4	CO	119	17.49			-		

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO-m					-		>100mm (adipose clipped)
6	CO	85	7.11			-		
6	CT	94	9.89			-		
6	CO	65	3.41			-		
6	CO	104	12.63			-		
6	CO	106	15.32			-		
6	CO	123	20.01			-		
6	CO	117	16.65			-		
6	CO	130	24.51			-		
6	CO	65	3.06			-		
6	CO	75	5.41			-		
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		(adipose clipped)
7	CO-m					-		>100mm (adipose clipped)
7	CO-m					-		>100mm (adipose clipped)
7	CO-m					-		>100mm (adipose clipped)
7	CO-m					-		>100mm (adipose clipped)
7	CO-m					-		>100mm (adipose clipped)

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
8	CO-m					-		>100mm (adipose clipped)
8	CO-m					-		>100mm (adipose clipped)
8	CO	103	10.94			-		
8	CO	71	3.55			-		
8	CO	108	15.6			-		
8	CO	143	25.7			-		
8	CO	93	6.85			-		
8	CO	131	21.72			-		
8	CO	89	7.49			-		
8	CO	117	16.51			-		
8	CO	119	16.84			-		
8	CO	136	25.74			-		
8	CH	61	2.65			-		
8	RB/ST	117	17.57			-		
8	CO	129	20.55			-		
8	CO	95	8.87			-		
8	CO	123	18.37			-		
8	CO	108	11.18			-		
8	CO	99	10.01			-		
8	CO	120	18.49			-		
8	CO	102	10.57			-		
8	CO	109	12.47			-		
8	CO	131	22.03			-		
8	CO	69	3.45			-		
8	CO	83	6.34			-		
8	CO	133	24.51			-		
8	CO	62	2.7			-		
8	CO	136	24.08			-		
8	CO	67	3.24			-		
8	RB/ST	64	2.71			-		
8	CO	104	12.01			-		
8	CO	100	9.69			-		
8	CO	118	16.42			-		
8	CO	75	4.53			-		
8	CO	119	17.71			-		
8	CO	94	9.19			-		
8	CO	75	4.65			-		
8	CO	113	15.81			-		
8	CO	112	13.35			-		
8	CO	103	11.31			-		
8	CO	82	6.17			-		
8	CO	86	6.91			-		
8	CO	121	18.74			-		
8	CO	116	16.41			-		
9	CO-m					-		<100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO-m					-		>100mm (adipose clipped)
9	CO	97	9.16			-		
9	CO	90	7.51			-		
9	CO	94	9.2			-		
9	CO	114	14.15			-		
9	CO	106	12.6			-		
9	CO	116	17.47			-		
9	CO	110	13.93			-		
9	CO	120	16.02			-		
9	CO	113	14.67			-		
9	CO	73	4.24			-		
9	CO	98	9.62			-		
9	RB/ST	103	11.26			-		
9	CO	111	14.9			-		
9	CO	106	13.04			-		
9	CO	89	6.92			-		
9	CO	100	10.61			-		
9	CO	110	12.66			-		
9	CO	104	10.65			-		
9	CO	125	17.97			-		
9	CO	97	9.51			-		
9	CO	90	7			-		
9	CO	110	12.5			-		
9	CO	100	9.39			-		
9	CO	124	19.53			-		
9	CO	85	6.7			-		
9	CO	101	10.45			-		
9	CO	100	10.08			-		
9	CO	109	11.79			-		
9	CO	109	12.47			-		
9	CO	97	8.82			-		
9	CO	124	18.17			-		
9	CO	93	8.03			-		
9	CO	90	6.84			-		
9	CO	100	10.05			-		
9	CO	113	14.85			-		
9	CO	113	14.84			-		
9	RB/ST	112	14.04			-		
9	CO	101	10.28			-		
9	CO	93	8.26			-		
9	CO	91	8.04			-		
9	CO	113	15.04			-		
9	CO	82	5.77			-		

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
10	CO	81	5.67			-		
10	CO	87	7.21			-		
10	CO	84	6.66			-		
10	CO	96	9.25			-		
10	CO	114	16.3			-		
10	CO	86	6.63			-		
10	RB/ST	84	7.42			-		
10	CO	111	14.66			-		
10	CO	110	16.59			-		
10	CO	98	9.64			-		
10	CO	74	4.65			-		
10	CO	85	6.04			-		
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO-m					-		(adipose clipped)
11	CO	98	10.66			-		
11	CO	109	13.24			-		
11	RB/ST	62	2.81			-		
11	CO	91	7.17			-		
11	CO	122	17.61			-		
11	CO	101	11.25			-		
11	CO	110	14.59			-		
11	CO	90	7.83			-		
11	CO	68	3.9			-		
11	CO	80	5.31			-		
11	CO	88	7.73			-		
11	CO	87	7.16			-		
11	CO	75	4.94			-		
11	CO	97	10.5			-		
11	CO	106	12.2			-		
11	CO	90	8.15			-		
11	CO	117	17.37			-		
11	CO	118	15.66			-		
11	CO	107	13.11			-		
11	CO	94	8.14			-		
11	CO	90	7.09			-		
11	CO	90	7.9			-		
11	CO	106	11.85			-		
11	CO	163	11.17			-		
11	CO	98	9.57			-		

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
11	CO	88	6.72			-		
11	CO	91	8.2			-		
11	CO	109	13.03			-		
11	CO	100	11			-		
11	CO	95	8.9			-		
11	CO	104	11.51			-		
11	CO	93	7.94			-		
11	CO	92	9.1			-		
11	CO	74	5.18			-		looks smolting
11	CO	82	6.2			-		
11	CO	86	6.87			-		
11	CO	100	10.18			-		
11	CO	103	11.61			-		
11	CO	84	7.11			-		
11	CO	95	9.69			-		
11	CO	93	9.17			-		
11	CO	67	3.06			-		
11	CO	91	8.46			-		
11	RB/ST	113	16.51			-		
11	RB/ST	118	18.11			-		
11	CO	75	4.9			-		
11	CO	103	11.35			-		
11	CO	97	9.19			-		
11	CO	94	8.74			-		
11	CO	116	17.27			-		
11	CO	113	14.67			-		
11	CO	64	2.87			-		not smolting
11	CO	95	8.02			-		
11	CO	112	15.74			-		
11	CO	102	11.13			-		
11	CO	95	9.09			-		
11	CO	105	11.22			-		
11	CO	105	11.54			-		
11	CO	96	9.5			-		
11	CO	96	8.13			-		
11	CO	88	8.37			-		
11	CO	75	4.72			-		
11	CO	119	16.67			-		
11						-		
12	CO-m					-		(adipose clipped)
12	CO-m					-		(adipose clipped)
12	CO-m					-		(adipose clipped)
12	CO-m					-		(adipose clipped)
12	CO-m					-		(adipose clipped)
12	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO-m					-		(adipose clipped)
13	CO	121	19.75			-		
13	CO	89	7.5			-		damaged lower jaw, but swimming fine
13	RB/ST	65	3.01			-		
13	CO	91	7.35			-		
13	CO	111	16.4			-		
13	CO	90	7.98			-		
13	CO	96	7.5			-		
13	CO	89	7.13			-		
13	CO	79	5.67			-		
13	CO	104	10.08			-		
13	CO	87	7.3			-		
13	CO	95	10.41			-		
13	CO	90	6.91			-		
13	CO	106	13.95			-		
13	CO	97	9.8			-		
13	CO	91	8.51			-		
13	CO	72	4.37			-		
13	CO	101	9.96			-		
13	CO	108	12.59			-		
13	CO	80	5.76			-		
13	CO	67	2.99			-		mort, no obvious injuries, died in holding bucket
13	CO	90	8.42			-		
13	CO	100	11.15			-		
13	CO	84	6.23			-		
13	CO	84	6.56			-		
13	CO	82	5.64			-		
13	CO	99	9.9			-		
13	CO	96	9.83			-		
13	CO	116	18.05			-		
13	CO	71	3.65			-		
13	CO	100	10.9			-		
13	CO	112	14.24			-		
13	CO	97	9.47			-		
13	CO	85	6.13			-		
13	CO	81	7.05			-		bruise on right side
13	CO	88	7.88			-		
13	CO	98	9.45			-		damaged lower jaw
13	CO	120	18.42			-		
13	CO	99	10.19			-		
13	RB/ST	111	16.45			-		
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO-m					-		(adipose clipped)
14	CO	102	11.12			-		
14	CO	99	9.73			-		
14	CO	98	9.46			-		
14	CO	95	9.4			-		
14	CO	96	8.8			-		
14	RB/ST	122	19.8			-		
14	CO	99	9.23			-		
14	CO	91	7.32			-		
14	CO	100	9.68			-		
14	RB/ST	97	9.65			-		
14	CO	107	13.1			-		
14	CO	93	8.09			-		
14	CO	91	8.32			-		
14	CO	92	8.61			-		
14	CO	89	6.84			-		
14	CO	96	8.23			-		
14	CO	82	5.87			-		
14	CO	90	7.81			-		
14	CO	104	10.72			-		
14	CO	103	10.92			-		
14	CO	126	19.85			-		
14	CO	109	13.95			-		
14	CO	100	10.09			-		
14	CO	95	8.78			-		
14	CO	97	8.88			-		
14	CO	92	8.31			-		
14	CO	101	11.56			-		
14	CO	84	6.64			-		
14	RB/ST	92	7.96			-		
14	CO	104	9.68			-		
14	CO	87	6.93			-		
14	CO	92	7.4			-		
14	CO	101	10.38			-		
14	CO	98	9.03			-		
14	CO	100	10.83			-		
14	CO	91	8.38			-		
14	CO	87	6.56			-		
14	CO	87	6.32			-		
15	CO-m	86	8.81			-		(adipose clipped)

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
15	CO-m	110	14.6			-		(adipose clipped)
15	CO	94	9.1			-		
15	CO	120	16.3			-		
15	CO	98	10.82			-		
15	CO	104	10.4			-		
16	CO	95	7.51			-		
16	CO	72	4.06			-		
16	CO	105	10.84			-		
16	CO	95	8.12			-		
16	RB/ST	81	5.68			-		
16	RB/ST	109	14.05			-		
16	CO	102	9.87			-		
16	CO	89	7.61			-		
16	RB/ST	94	8.9			-		
16	CO	103	11.2			-		
16	CO	100	9.45			-		
16	CO	85	5.78			-		
16	CO	91	7.23			-		
16	CO	104	9.53			-		
16	CO	99	9.34			-		
16	CO	99	10.42			-		
16	CO	117	12.69			-		
16	RB/ST	101	10.6			-		
16	CO	94	8.13			-		
16	RB/ST	135	29.75			-		
16	CO	113	14.05			-		
16	CO	99	10.08			-		
16	CO	97	9.99			-		
16	CO	91	7.33			-		
16	CO	101	10.52			-		
16	CO	100	10.04			-		
16	CO	93	9.11			-		
16	RB/ST	100	11.13			-		
16	CO	97	9.55			-		
16	CO	78	4.89			-		
16	CO	77	4.94			-		
16	CO	70	3.73			-		
16	CO	92	8.38			-		
16	CO	100	9.95			-		
16	CO	94	8.3			-		
16	RB/ST	104	11.5			-		
16	CO	119	17.36			-		
16	CO	101	10.62			-		
16	CO	75	4.74			-		
16	CO	118	17.3			-		
16	CO	98	9.99			-		
16	CO	103	11.27			-		
16	CO	118	18.65			-		

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
16	CO	85	6.97			-		
16	CO	85	6.71			-		
16	CO	112	15.75			-		
16	CO	103	11.62			-		
16	CO	103	11.21			-		
16	CT	99	9.77			-		
16	CO	90	7.69			-		
16	RB/ST	105	12.84			-		
16	RB/ST	130	24.72			-		
16	RB/ST	111	15.09			-		
16	CO	93	8.13			-		
16	RB/ST	115	18			-		
16	CO	85	6.7			-		
17	CO	93	9.64			-		
17	RB/ST	76	4.98			-		
17	RB/ST	107	14.07			-		
17	RB/ST	108	14.22			-		
17	CO	100	10.61			-		
17	CO	88	6.6			-		
17	CO	99	9.56			-		
17	RB/ST	123	21.52			-		
17	CO	91	7.46			-		
17	RB/ST	72	4.42			-		
17	CO	84	6.94			-		
17	CO	89	6.37			-		
17	CO	97	8.49			-		
17	CO	99	9.09			-		
17	CO	97	9.09			-		
17	RB/ST	114	17.06			-		
17	RB/ST	120	19.94			-		
17	RB/ST	110	13.78			-		
17	CO	89	6.04			-		
17	CO	93	8.47			-		
17	CO	95	9.58			-		
17	CO	107	14.61			-		
17	CO	105	12.75			-		
17	CO	92	9.65			-		
17	CO	89	7.57			-		
17	RB/ST	102	11.07			-		
17	CO	102	10.24			-		
17	RB/ST	120	12.91			-		
17	CO-m					-		(adipose clipped)
17	CO-m					-		(adipose clipped)
17	CO-m					-		(adipose clipped)
18	CO	85	7.58			-		
18	CO	70	4.21			-		
18	CO	104	10.94			-		
18	CO	83	6.34			-		

Fish Data for Inclined Plane Trap at Toboggan Creek - Spring 2001

DAY	Species	Fork Length (mm)	Weight (grams)	Aging Structure	Age Sample Book #	Age Sample #	Age	COMMENTS
18	CO	60	2.37			-		
18	RB/ST	110	17.73			-		
18	RB/ST	81	5.77			-		