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**Bulkley River Watershed  
Overwintering Study  
2005-2006**



prepared by

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## Executive Summary

An overwintering study was conducted from November 2005 to April 2006 in the Bulkley River watershed in north-central British Columbia. The study area includes Byman, McQuarrie and Barren Creeks, located in the lower portion of the Upper Bulkley watershed upstream of the confluence of the Morice and Bulkley rivers near Houston, B.C. The study area also includes McKinnon Creek and an Unnamed Creek, which is a tributary of McKinnon Creek near the town of Smithers, B.C., and Waterfalls Creek (a tributary to Mission Creek), located at the Village of New Hazelton, B.C. This study focused on monitoring species composition and fish condition at sites that were index sites during the Bulkley/Morice Watershed Overwintering Studies conducted from 1998 – 2001. The McKinnon Creek site is a habitat enhancement project conducted by Fisheries and Oceans and the overwintering monitoring was conducted to determine relative success of the project at providing over-wintering habitat. This over-wintering monitoring was conducted to provide background data to assist Habitat Management staff and Resource Restoration staff in liaising with various agencies and proponents when work is to be conducted in areas of the Upper Bulkley, McKinnon Creek and Mission Creek watershed study areas.

Species composition, fork length and weight data were collected when possible. Catch per unit effort (CPUE) data and condition of fish was collected over the winter at each site. Winter and spring habitat assessments were also completed at each site over the winter.

This report focuses primarily on the reporting of data collected during this study (2005/2006). The following is a summary of the data collected.

### Upper Bulkley Sites

Habitat assessments found all three sites to have sufficient water depth and dissolved oxygen throughout the winter. The only limiting factor noted may have been the low potential for migration and low stream flow at the Barren Creek site in February.

Overall, species composition at the Upper Bulkley sites consisted of coho salmon (*Oncorhynchus kisutch*) and Rainbow trout/steelhead (*Oncorhynchus mykiss*). Coho salmon were most abundant at the Barren Creek site and least abundant at the McQuarrie Creek site. The majority of fish captured at McQuarrie Creek were RBT/sthd. Total catch was greatest at the Barren Creek site and lowest overall at the Byman Creek site.

The majority of coho and RBT/sthd captured at the Upper Bulkley sites were greater than 80 mm in length. It is uncertain why fewer fish less than or equal to 80 mm were captured; however, it is speculated that inter- and intra-specific competition with larger, more competitive fish may have affected the catch-ability rate of smaller fish. According to a higher mean condition factor (FCC) of coho salmon near the end of winter at the Barren site than the Byman site, it appears that the Barren site provides more stable overwintering habitat than Byman. The mean condition factor of both fork length categories of RBT/sthd was consistently above 1.0 throughout the winter at Barren Creek, which suggests this site provides optimal overwintering habitat for RBT/sthd. The



mean condition factor of RBT/sthd at McQuarrie site was above 1 throughout the winter in the greater than 80 mm category, with only a slight decrease in mean FCC noted over the winter with the less than or equal to 80 mm category RBT/sthd. A decline in mean FCC of less than or equal to 80 mm category RBT/sthd at Byman Creek occurred over the winter, which is to be expected since younger fish are assumed to have less energy reserves than larger fish.

The CPUE varied between Upper Bulkley sites and varied throughout the course of the winter. For coho salmon, CPUE was fairly consistent from beginning to end of winter at the McQuarrie and Byman sites. CPUE at the Barren Creek site was much higher throughout the winter than the other two sites, which could be attributed to the pool enhancement work (i.e., dredging) conducted at this site in the fall of 2005. CPUE for RBT/sthd varied throughout the winter sampling period but in general, the December 2005 CPUE was similar to March 2006 CPUE. CPUE at the Barren Creek site was the most consistent of the three sites, which could be attributed to Barren Creek having the lowest potential for migration of the 3 sites.

### **McKinnon Creek Sites**

Habitat assessment found the water depths and dissolved oxygen levels to be sufficient at most sampling times throughout the winter. The most notable result was the decrease in water depth near the end of winter at the culvert pools of Hydropole 12 and site 1 (rehabilitation pool) of McKinnon Creek. The pool depth of these sites was less than 10 cm in March, which is suspected to limit use by overwintering fish.

Species composition at the McKinnon Creek sites consisted of coho salmon, RBT/sthd, Dolly Varden Char (*Salvelinus malma*), and Cutthroat trout (*Oncorhynchus clarki*).

The majority of coho captured at site 1 and 2 of McKinnon Creek were less than or equal to 80 mm. Overall, the frequency of coho decreased from the beginning to end of winter at both sites, which could indicate a net migration of coho out of these pools or some mortality over the winter. At site 1, the mean FCC for coho in the greater than 80 mm fork length category decreased from above 1 in Dec. to 0.82 in Feb. The mean FCC was 1.16 for the less than or equal to 80 mm fork length category at the beginning and end of winter (Feb.). At site 2, the mean FCC remained fairly constant for the coho in the less than or equal to 80 mm category, where it was 1.1 or greater. The mean FCC for the greater than 80 mm coho was 1.11 (Dec.); however, middle-end of winter data is absent. It appears that site 1 and 2 provide good overwintering habitat for coho less than or equal to 80 mm, and overwinter habitat is also likely to be stable for greater than 80 mm coho.

The CPUE at the Hydropole 12 site remained fairly constant, which could be attributed to the fairly low potential for migration compared to the other 2 sites sampled in the watershed. The decrease in CPUE from the beginning to end of winter at site 1 and 2 of McKinnon Creek may have been due to high to moderate potential for migration and/or mortality.

### **Waterfalls Creek Sites**

Habitat assessments found sites 1-3 to have sufficient water depth, dissolved oxygen and potential for migration throughout the winter. The water depth at site 4 (culvert pool) became low and potential for migration was moderate near the end of winter, which could be limiting for overwintering fish.

Three species were captured at Waterfalls Creek sites, including coho salmon, Dolly Varden char and cutthroat trout. High numbers of coho were captured at the Waterfalls Creek site, potentially due to adult and fry stocking enhancement in the system.

A large proportion of coho captured at site 1 of Waterfalls Creek were less than or equal to 80 mm, where the numbers remained fairly constant with a decline noted in March. The greater than 80 mm category coho remained fairly constant throughout the winter. These results indicate that site 1 provides fairly stable habitat, with the decline in numbers possibly due to net migration out of the glide or mortality. Most of the coho captured at the site 2 were greater than 80 mm, with an overall decline in numbers over the winter with a peak noted in January. At site 3, there appeared to be a decline in numbers over the winter; however, both fork length categories also peaked in January. The peak in January may have been due net migration of coho to these sites. The overall decline of coho over the winter at sites 2 and 3 may have been due to mortality and/or migration of coho out of the pools. All coho captured at site 4 were of the less than or equal to 80 mm category, with a decrease in numbers over the winter. Since potential for migration at site 4 was only moderate in Feb., mortality may explain the decline in coho numbers. The decline in coho captured at all sites may have been partly due to these fish being less active and feeding less throughout the winter, in which case some coho may not have entered the traps.

The mean FCC for coho steadily decreased over the winter at all four sites, with some declines in FCC being more pronounced than others. The decline in condition is to be expected since fish utilize their stored energy reserves to survive the stressful season (Dolloff 1987).

Dolly Varden of the greater than 80 mm category were most abundant in all sites. Overall, the DV of the greater than 80 mm category at site 1 increased throughout the winter, although only 2 DV were captured in January. The increase in DV overall may have been due to net immigration to this glide since potential for migration was noted to be high at site 1. Most of the DV captured at site 2 were greater than 80 mm, with an overall decrease in numbers from beginning to end of winter; however, the numbers increased in January and February. Migration to and from this glide could explain differences in numbers for each month due to high potential for migration noted at site 2. In addition, some mortality may have occurred near the end of winter. At site 3, there was an overall increase in numbers over the winter and both fork length categories peaked in January. Migration to and from this glide due to high potential for migration at this site may have contributed to a peak in January. All DV captured at site 4 were of the greater than 80 mm category, with a decrease from 18 in Dec. to 11 in Feb. Net migration out of the pool or mortality may have contributed to the decline in DV at site 4 since it had only a moderate potential for migration in Feb. A likely net migration out of the pool occurred in January due to high potential for migration noted during this month.

The mean FCC for DV at all sites decreased from the beginning to end of winter to less than 1. The decrease in mean FCC indicates that winter is difficult for the DV in the system, which is to be expected for all salmonids. Possibly higher CPUE of DV later on in winter at sites 1 and 3 led to more intra-specific competition, hence the lower mean FCC recorded.

The CPUE for coho decreased from onset of winter (December 2005) to end of winter (March 2006) at Waterfalls Creek sites 1 and 2. This could be due to a high potential for migration at sites 1 and 2, which were located in pool/glide habitat with a total length of about 300m. It is not certain why CPUE decreased so greatly in February at Waterfalls Creek Site 3, but since the potential for migration at this site was high the coho may have migrated out of the glide. On the whole, the CPUE at site 3 was fairly consistent at the beginning and end of winter. The CPUE at Waterfalls Creek Site 4 for coho remained fairly constant, possibly due to potential for migration being much less at this site.

The CPUE for Dolly Varden char at the Waterfalls Creek sites varied over the duration of winter sampling with site 3 having the most consistent CPUE over all sampling dates. High potential for migration most likely affected CPUE for Dolly Varden char.

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## **Acknowledgements**

The overwintering study of 2005/2006 was conducted by Fisheries and Oceans Canada (DFO), Smithers, B.C. Brenda Donas designed the project, based on previous years of overwintering sampling conducted by Ms. Donas (DFO) in conjunction with SKR Consultants Ltd. Field sampling was conducted by Brenda Donas, Kevin Koch, Chrissy MacInnis, Gavin Grub, and Natalie Newman. Data was entered by Brenda Donas, Natalie Newman and Gavin Grub. Data analysis and reporting was conducted by Brenda Donas and Natalie Newman.

## 1.0 INTRODUCTION

The 2005/2006 monitoring program was used to monitor species composition and fish condition within the study area (i.e., Byman, Barren, McQuarrie, McKinnon, and Waterfalls Creek and one unnamed creek) located in the Bulkley River watershed. Culvert pools in the Upper Bulkley and McKinnon watersheds were areas of focus. The Waterfalls Creek monitoring sites were the same index sites monitored during the 1998 – 2001 overwintering study (Donas and Saimoto. 2001b).

The Bulkley River watershed is utilized by several species of pacific salmon (coho, Chinook, sockeye, pink salmon) and steelhead, which have been in decline (Houston Chapter of the Steelhead Society of B.C. 1990, BCCF 1997, 1998, Holtby and Finnegan 1998). Declines in salmon stocks are generally attributed to over-exploitation of the stocks, decreased ocean or freshwater survival or a combination of these (Hillborn and Walters 1992, Walters 1995, Slaney *et al.* 1996, Slaney and Zaldokas 1997, Bradford and Irvine 2000). Decreased survival of juveniles in freshwater is often attributed to habitat degradation (National Research Council 1992, Johnston and Slaney 1996, Slaney and Zaldokas 1997, BCCF 1998). Winter survival has been considered to be one potential bottleneck in salmonid production in several systems (Bustard and Narver 1975, Swales *et al.* 1986, Dolloff 1987, Koning and Keeley 1997) since winter is generally a more stressful time for fish with resultant starvation, energy loss, declines in fish health and survival (Bustard and Narver 1975, Dolloff 1987, Cagnelli and Gross 1997) (Donas and Saimoto 2001a).

The long-term objectives of the Bulkley overwintering studies are to:

- determine changes in species abundance during the winter,
- document changes in weight, length and condition of species at sites examined
- document changes in habitat such as in-filling of pools and reduction in available habitat over the course of the winter

This report documents the results of the overwintering study from December 2005 to March 2006.

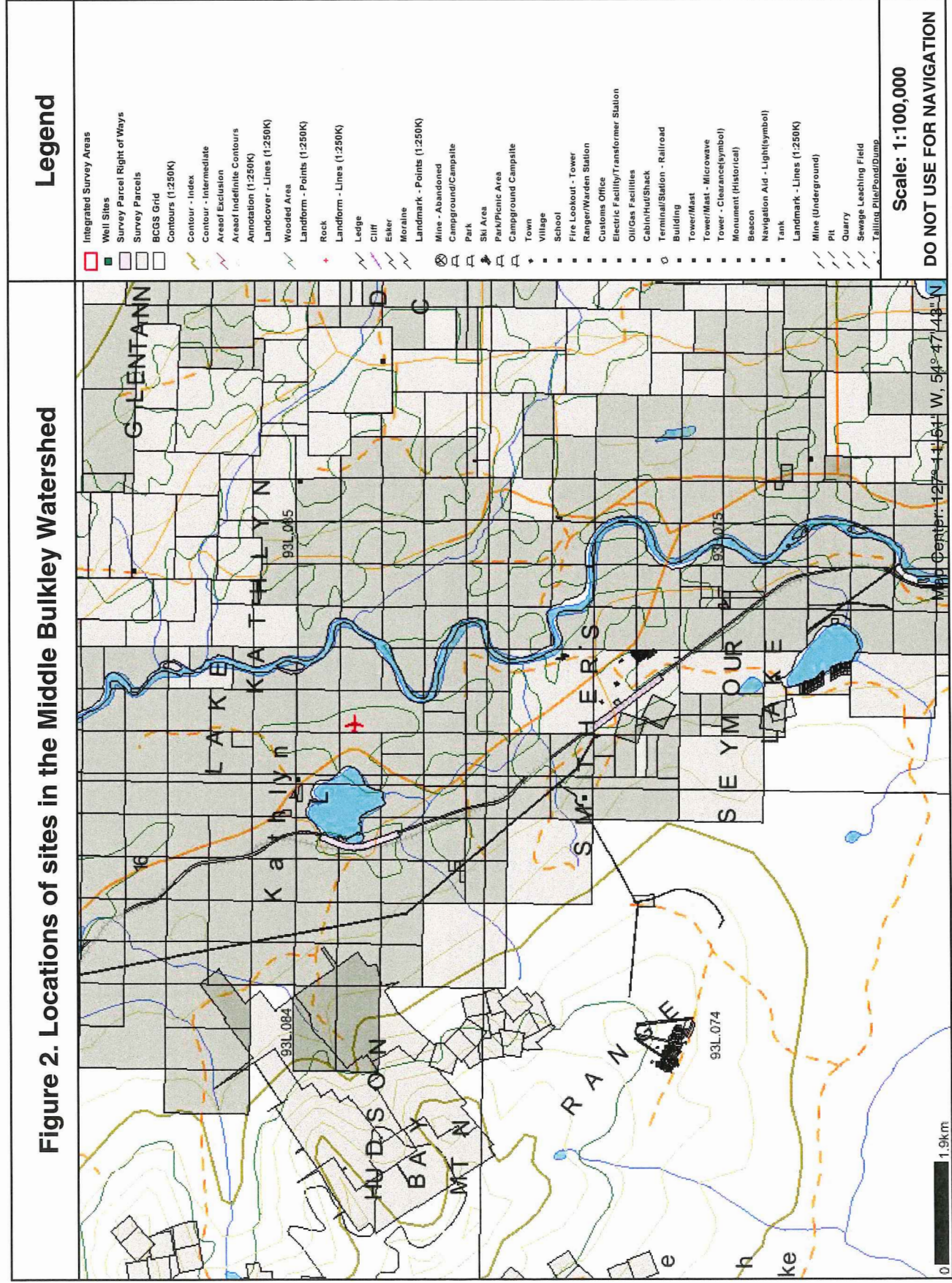
## 2.0 STUDY AREA

The Bulkley River is a major tributary to the Skeena River, located in north-central British Columbia. The Bulkley River drains into the Skeena River near the Village of Hazelton, B.C. The study area includes Byman, McQuarrie and Barren Creeks, located in the Upper Bulkley watershed upstream of the confluence of the Morice and Bulkley rivers near Houston, B.C. (Figure 1). The study area also includes McKinnon Creek and two unnamed creeks near the town of Smithers, B.C. (Figure 2). In addition, the study area includes Waterfalls Creek, a tributary to Mission Creek, at the Village of New Hazelton, B.C. Waterfalls Creek is located in the lower Bulkley River Watershed (Figure 3).



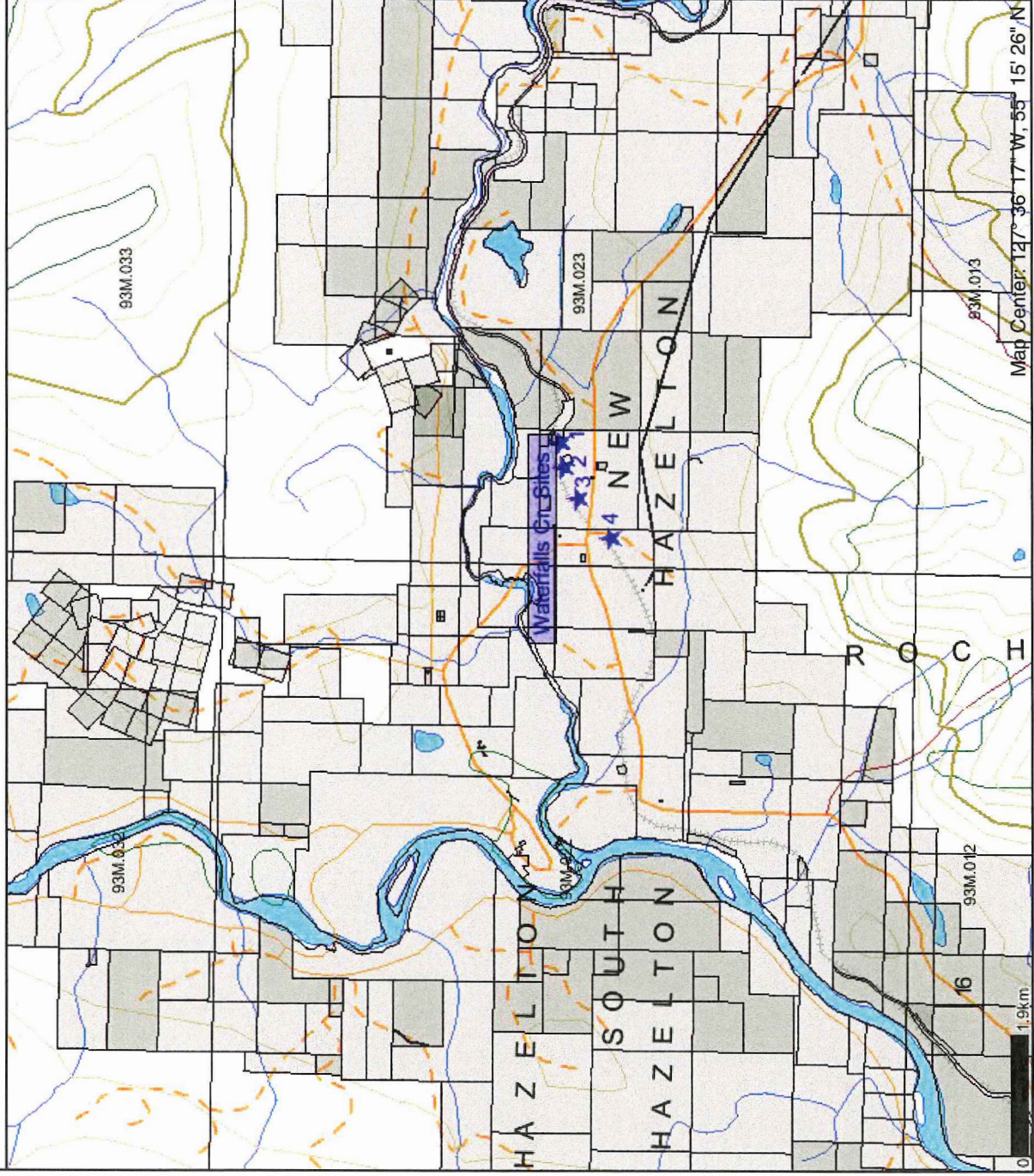


Figure 2. Locations of sites in the Middle Bulkeley Watershed





# Locations of sites sampled in the Lower Bulkley Watershed



## Legend

- Integrated Survey Areas
- Well Sites
- Survey Parcel Right of Ways
- Survey Parcels
- BCGS Grid
- Contours (1:250K)
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- Area of Indefinite Contours
- Annotation (1:250K)
- Landcover - Lines (1:250K)
- Wooded Area
- Landform - Points (1:250K)
- Rock
- Landform - Lines (1:250K)
- Ledge
- Cliff
- Esker
- Moraine
- Mine - Abandoned
- Campground/Campsite
- Park
- Ski Area
- Park/Picnic Area
- Campground Campsite
- Town
- Village
- School
- Fire Lookout - Tower
- Ranger/Warden Station
- Customs Office
- Electric Facility/Transformer Station
- Oil/Gas Facilities
- Cabin/Hut/Shack
- Terminal Station - Railroad
- Building
- Tower/Mast
- Tower/Mast - Microwave
- Tower - Clearance (symbol)
- Monument (Historical)
- Beacon
- Navigation Aid - Light (symbol)
- Tank
- Mine (Underground)
- Pit
- Quarry
- Sewage Leaching Field
- Tailing Pile/Pond/Dump

Scale: 1:100,000

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## **3.0 MATERIALS AND METHODS**

### **3.1 *Habitat Assessment***

Sites were selected based on accessibility of sites to salmonids and ease of access during winter sampling. Many of the sites were at culvert pools at road crossings. Sample site locations are illustrated in Figures 1, 2 and 3. All sites located on Barren, Byman, and McQuarrie Creek are drained by the Upper Bulkley River watershed, and are found within the portion of the watershed accessible to salmonids (downstream of falls). These sites were located upstream and downstream of culverts situated along the Highway 16 corridor. The site on McKinnon Creek was at a habitat enhancement project at the McKinnon Creek Whalen Road culvert crossing. This project involved construction of pool habitat on the upstream and downstream sides of the Whalen Road culvert. In addition, sites at culvert pools located on two unnamed creeks that are part of the McKinnon Creek watershed were also included in this study. The Waterfalls Creek sites in New Hazelton are located in the Lower Bulkley River watershed, and were sampled for continuity with the previous years of sampling (Donas and Saimoto 1999, 2000, 2001).

#### **3.1.1 Winter Assessments**

Changes in physical and chemical parameters (Table 1) were recorded monthly for each sample site using a data form designed for overwintering sampling (Appendix 1). Monthly physical and chemical data were collected by removing ice from the limnological/trapping station by hand with an axe.

These data include air temperature, pH, water temperature, ice thickness, snow depth, dissolved oxygen, and water depth.

Table 1. Physical and chemical parameters recorded on a monthly basis for each site during the overwintering study.

	Parameter	Unit/Categories	Method
General site description			
	Air temperature	Celsius	truck thermometer
	Ice Cover	percent	visual estimate
	Stream Flow	None, Low, Moderate, High	visual estimate
	Potential for fish migration	None, Low, Moderate, High	visual estimate
Limnological station	water depth	centimeters	meter stick
	ice thickness	centimeters	meter stick
	clarity of ice	None, Low, Moderate, High	visual estimate
	snow depth	centimeters	meter stick
	water temperature	Celsius	OxyGuard D. O. Meter
	turbidity	None, Low, Moderate, High	visual estimate
	Dissolved Oxygen	ppm	Oxyguard
	pH	pH units	Hanna H 19812

### 3.2.2 Spring Assessments

Spring assessments included an evaluation of physical characteristics at each site. These assessments were conducted near the end of April 2006, using a data form designed for the project (Appendix 2). Habitat measurements were documented for all sites (Table 2).

Table 2. Physical parameters recorded in the field for each site sampled in April 2006, immediately after ice thaw.

	Parameter	Unit/Categories	Methods
pool, glide or riffle	wetted width	meter	hip chain
	Length	meter	hip chain
	max. wetted depth (Depth at Limno.)	meter	Meter stick
	Boulder proportion of site	percent	visual estimate
	Cobble proportion of site	percent	visual estimate
	Fines proportion of site	percent	visual estimate
	SWD	percent	visual estimate
	LWD	percent	visual estimate
	Canopy Cover	percent	visual estimate



### 3.2 Fish Sampling

Low water temperatures and thick ice cover precluded the use of electrofishers, since electrofishing at water temperatures below 4°C can be harmful to salmonids. Fish sampling was conducted by setting minnow traps baited with roe in nylon bags at each of the sample sites during each sampling period (once per month). The minnow traps were left for 24 hours. Fish were recovered from the traps, anesthetized with Alka Seltzer and baking soda, identified to species, measured (fork length  $\pm 1.0$  mm), weighed ( $\pm 0.1$  g using an Acculab V1200 electronic balance) and released back into the habitat. Due to difficulties encountered with estimates of population size in the winter of 1998/1999 (Donas and Saimoto 1999), no mark-recapture estimates were conducted in the winter of 2005/2006. Attempts were made to standardize the trapping intensity by considering the surface area of the site (a cluster of three traps/ 50 m<sup>2</sup> surface area). Difficulties in setting traps under the ice resulted in a reduction in trapping intensity at most sites to a cluster to three traps / 150 m<sup>2</sup> surface area. Trapping intensity at each site changed through the winter, in some cases, due to decreased pool depth in the latter portion of winter. Total catch and particularly catch per unit effort (i.e. catch per trap) was used as an indicator of fish abundance, as suggested in previous studies (Swales *et al.* 1986).

### 3.3 Fish Fork Length, Size and Condition

Fulton's condition factor was calculated for sampling dates where both length and weight of the fish were recorded. Fulton's condition factor (equation 4) is useful where growth is isometric, and/or if the fish to be compared are of approximately the same length (Ricker 1975, Bagenal 1978). Fulton's condition factor provides a measure of fatness of the fish, which is expected to reflect a fish's health.

Equation 4: 
$$K = 10^5 (w / l^3)$$

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

## 4.0 RESULTS

### 4.1 Habitat Assessment

Sites chosen in 2005 were mostly road culvert crossings that were expected to be suitable for overwintering habitat. Three sites on tributaries to the Upper Bulkley watershed, three sites in the McKinnon Creek watershed and four sites in the Waterfalls Creek mainstem (a tributary to Mission Creek) were sampled. The distribution of sites among general habitat types is summarized in Table 3. Spring and winter habitat assessment forms are located in Appendices 1 and 2, respectively.

### **4.1.1 Spring Assessments**

Spring assessments were conducted at all ten sites in April 2006, immediately after ice-off. All sites can be characterized as fluvial habitat, where three of the ten sites were glide-type habitat and the remainder was pool-type habitat. Two of the ten sites were rehabilitation pools associated with culvert crossings (i.e., McKinnon Cr. – Site 1 and Barren Cr.). The surface area, width and depth of all sites are summarized in Table 4.

#### **4.1.1.1 Surface Area, Width and Depth**

A total of ten sites were sampled in April 2006. Sites ranged in surface area from 3.8 to 210 m<sup>2</sup>. The unnamed creek near hydropole 12 on Neilson Road had the smallest surface area (3.8 m<sup>2</sup>), located in the middle Bulkley watershed. One of the Upper Bulkley sites, namely the Byman Creek site, had the largest surface area (210 m<sup>2</sup>). The average surface area of the Upper Bulkley sites was 128.6 m<sup>2</sup> (SD=78.4). The average surface area of the middle Bulkley sites was 8.03 m<sup>2</sup> (SD=6.6). The average surface area of the Waterfalls Creek sites was 72.6 m<sup>2</sup> (SD=37.8). Of the sites sampled, only two had a surface area less than 15 m<sup>2</sup>.

Wetted width of all the sites ranged from 1.6 to 14.1 meters. Wetted widths averaged 9.6 m (SD=4) at the Upper Bulkley sites, 2.4 m (SD=0.8) at the middle Bulkley sites and 5.6 m (SD=1.54) at the Waterfalls Creek sites. Maximum depths of all the sites ranged from 0.30 to 1.21 meters. The maximum depths averaged 0.99 m (SD=0.21) at the Upper Bulkley sites, 0.45 m (SD=0.13) at the middle Bulkley sites, and 0.65 m (SD=0.11) at the Waterfalls Creek sites. Of the sites sampled, only two had a maximum wetted depth shallower than 0.50 m.

#### **4.1.1.2 Habitat, Substrate and Cover**

The majority of habitat sampled consisted of pools, with some glide habitat. Sites sampled had estimated gradients ranging between 0-1 percent. Seventy percent of the sites sampled were pools, and the remaining 30% were glides. The dominant substrate type at 50% of the sites was cobbles, and the other half were dominated by fines. The highest proportion of boulders was found at Waterfalls Creek site 3. The glide-type habitat of Sites 1-3 of Waterfalls Creek consisted pre-dominantly of fines. It also appeared that the downstream culvert pools of McKinnon Creek and the unnamed creek at Hydropole 12 were filling with fines. Cover provided by small and large woody debris, and canopy cover was either non-existent or very minimal at all the sites. Sites 1 and 2 at Waterfalls Creek contained the highest amount

**Table 3.** Site description and sampling times during the Bulkley River overwintering study, November 2005 to March 2006.

	Site # or Name	Location	Habitat	Surface Area	Dates (05/06)
Upper Bulkley River Trib's	McQuarrie*	just downstream of highway 16, upstream of CNR crossing	Culvert pool, cobble	53.8 m <sup>2</sup>	December - March
	Byman*	downstream side of highway 16 crossing	Culvert pool, cobble	210.1 m <sup>2</sup>	December - March
	Barren*	upstream side of highway 16 crossing. This pool was dredged in September 2005.	Rehabilitation pool, cobble/fines	121.8 m <sup>2</sup>	December - March
Middle Bulkley River Trib's	McKinnon Site 1	upstream side of Whalen Rd. culvert	Rehabilitation pool, cobble/fines	15.7 m <sup>2</sup>	November - March
	McKinnon Site 2	downstream side of Whalen Rd. culvert	Culvert pool, fines/cobble	4.6 m <sup>2</sup>	November - March
	Unnamed (Hydropole12)	downstream side of Neilson Rd. culvert	Culvert pool, fines/cobble	3.8 m <sup>2</sup>	November - March
Waterfalls Creek (Lower Bulkley)	Site 1*	Located approx. 1 km upstream of Highway 16 culvert, just downstream of a beaver dam. This is the uppermost site sampled, and is located adjacent to railway tracks.	Glide, fines	81 m <sup>2</sup>	December - March
	Site 2*	Located approx. 800 m upstream of Highway 16 culvert, just upstream of a beaver dam. This site is also located adjacent to railway tracks.	Glide, fines	122.5 m <sup>2</sup>	December - March
	Site 3*	Located approx. 500 m upstream of Highway 16 culvert, just upstream of a riffle. Site located adjacent to road.	Glide, fines/cobble/boulder	46.5 m <sup>2</sup>	December - March
	Site 4*	Located just downstream of culvert crossing of road to landing. This site is located approximately 200 m downstream of Highway 16 culvert.	Culvert pool, cobble.	40.3 m <sup>2</sup>	December - March

(\* also see Figure 1, 2 and 3 for site locations)

\* indicates sites also sampled in the winter of 1999 - 2001)

**Table 4.** Surface Area, Width and Depth of all sites sampled in April 2005.

	Barren	Byman	McQuarrie	McKinnon Site 1 (u/s)	McKinnon Site 2 (d/s)	Hydropole 12	Waterfalls Site 1	Waterfalls Site 2	Waterfalls Site 3	Waterfalls Site 4
Width (m)	8.4	14.1	6.4	3.2	2.4	1.6	4.5	7.8	4.6	5.3
Max. Depth (m)	1.21	0.98	0.79	0.49	0.55	0.3	0.6	0.8	0.56	0.62
Surface Area (m <sup>2</sup> )	121.8	210.1	52.8	15.7	4.56	3.8	81	122.5	46.5	40.3

of small and large woody debris (10-12%) due to their close proximity to beaver dams. The boulders from the rip-rap associated with most of culvert pools provided some cover.

#### **4.1.2 Winter Assessments**

Some variability in air and water temperature, dissolved oxygen, pH, water depth, ice cover and thickness, and snow depth were observed among the sites sampled during the winter. Turbidity remained clear throughout the winter at all sites. Quantitative data recorded during the winter sampling at the sites are summarized in Table 5. Ranges, means and variability of conditions recorded during the winter assessments at all the sites are also provided in Table 5. Refer to Appendix 1 for detailed information.

Air temperature throughout the study ranged from a low of  $-8^{\circ}\text{C}$  to a high of  $+7^{\circ}\text{C}$  making it possible to individually sample juveniles on all sample dates. Water temperature ranged from  $0.1^{\circ}\text{C}$  to  $1.7^{\circ}\text{C}$  at all the sites. The recorded pH across all sites was within safe limits for salmonids and pH ranged from 6.7 to 8.0 with a mean of 7.5. Dissolved oxygen (DO) levels were also within safe limits for salmonids and DO was greater than 11 ppm for most sites throughout the sample period. There were only two sites with dissolved oxygen levels less than 11 ppm and they were Barren Creek on December 8, 2005 (9.4ppm) and the Hydropole12 creek on March 13, 2006 (6.4 ppm). It should be noted that the minimum water depth (8.5cm) was recorded at the unnamed creek with low dissolved oxygen on March 13, 2006. The maximum water depth was recorded at McQuarrie Cr. on December 8, 2006. Stream flow at the middle Bulkley sites and McQuarrie Cr. was low from January 20 to March 13, 2006. The potential for fish migrating in or out of pools at the upper and middle Bulkley sites was moderate to high throughout the winter, except at Barren Cr. on February 13, 2006 and at Hydropole12 creek on February 14 and March 13, 2006 where the potential for migration was low. The potential for fish migrating in or out of glides or pools at sites 1-4 of Waterfalls Cr. was moderate to high throughout the winter, except at site 4 on March 13, 2006 where the potential for migration was low.

All sites sampled throughout the winter had ice cover of 90-100% on at least three sampling times. Ice thickness appeared to be greatest at McQuarrie Cr. (41.5 to 61 cm) throughout the winter. The maximum ice thickness (61 cm) was recorded at McQuarrie Cr. on March 15, 2006. The minimum ice thickness (0.5 cm) was recorded at various sites at the beginning of winter. The minimum snow depth (0 cm) occurred at the beginning of the winter at various sites. The maximum snow depth (33 cm) was recorded at McQuarrie Creek on March 15, 2006.

Table 5. Summary of winter assessment results at all sites sampled from November 2005 to March 2005.

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Air Temperature	37	-8°C	7°C	-1.2 °C	4.0
Water Temperature	37	0.1°C	1.7°C	0.4 °C	0.4
Dissolved Oxygen	37	6.4ppm	14ppm	12.6ppm	1.3
pH	37	6.7	8.0	7.5	0.3
Water Depth (cm)	42	8.5 cm	125.5 cm	55.1 cm	28.7
Ice Thickness (cm)	42	0.5 cm	61 cm	23.5 cm	16.3
Ice Cover (%)	37	0.5%	100%	94.2%	14.6
Snow Depth (cm)	37	0 cm	33 cm	10 cm	9.5

N=Number of times the variable was recorded over the course of the winter study.

### 4.1.3 Changes in Habitat During the Winter

The change in habitat at sites in three study areas, Upper, Middle and Lower Bulkley tributaries, are presented in the three following sections for comparison purposes. Temporal trends in water depth, ice thickness and dissolved oxygen were graphed for each site (Figures 4, 5 and 6). Trends in percent ice cover, snow depth and pH are not discussed in these sections since it was found that these variables remained relatively consistent throughout the winter. Air temperature varied throughout the winter since some sites were sampled during warm or cold spells, and no trends were evident. Only minor decreases in water temperatures occurred at all sites throughout the winter (Refer to data sheets in Appendix 2 for more detailed information).

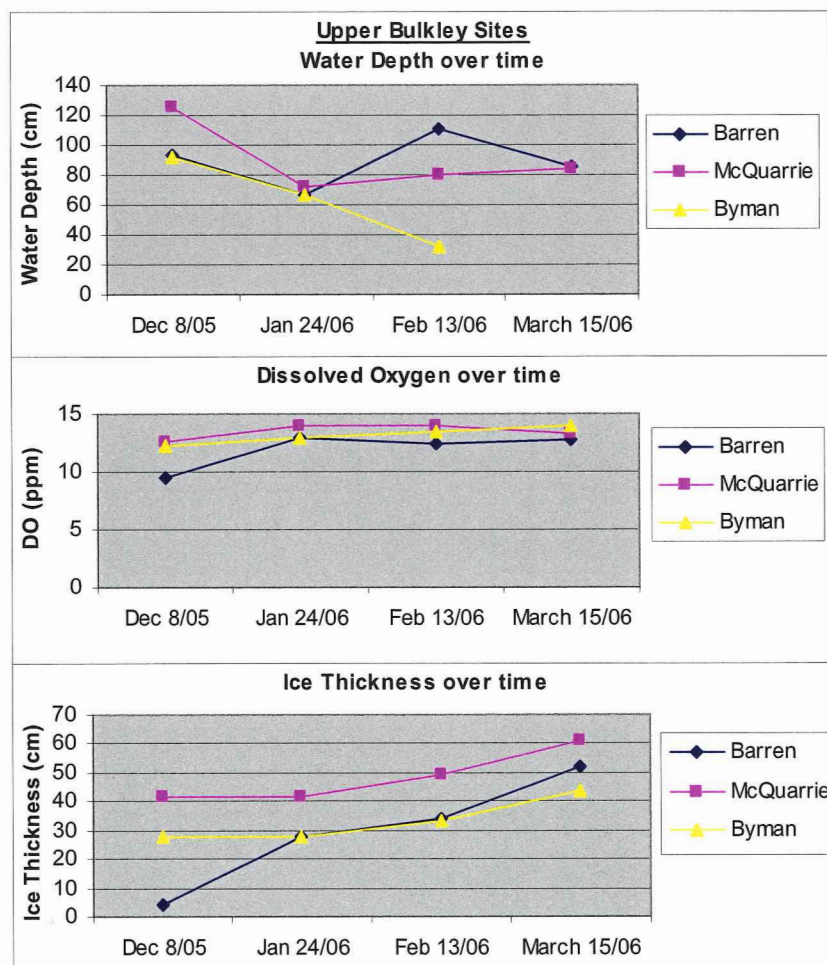
#### 4.1.3.1 Upper Bulkley tributary Sites

Water depths at the Upper Bulkley sites decreased throughout the winter (Figure 4). It should be noted that water depth at Byman Cr. was measured in a shallower section near the bank of the pool on February 13<sup>th</sup> and March 15<sup>th</sup>, 2006; therefore, it is not possible to determine change in water depth during these months. The dissolved oxygen of the three sites remained fairly constant throughout the winter, and no levels less than 12 ppm was recorded other than the 9.4 ppm recorded at Barren Cr. on December 8<sup>th</sup>, 2005. Ice thickness steadily increased at all the sites throughout the winter, with the most noticeable increase recorded at Barren Creek where it increased from 4.5 cm on December 8<sup>th</sup>, 2005 to 52 cm on March 15<sup>th</sup>, 2006.

#### 4.1.3.2 Middle Bulkley tributary Sites

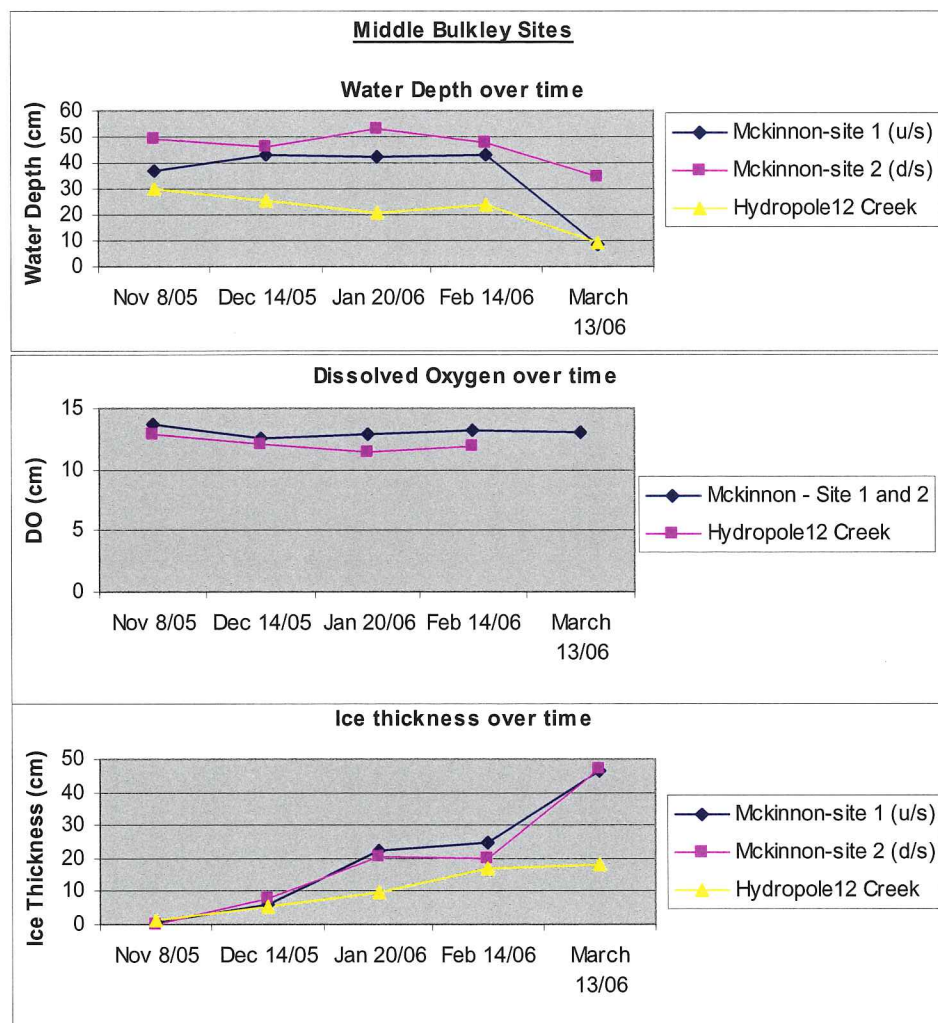
Water depths at the Middle Bulkley sites decreased overall throughout the winter (Figure 5). Water depths either increased or decreased slightly at all sites from November 2005 to February 2006. The most marked decrease in water depth occurred from February 14<sup>th</sup>

to March 13<sup>th</sup> 2006 at all sites. The water depth became very low in the rehabilitation pool of site 1, McKinnon Creek, where it decreased from 43 cm on February 14<sup>th</sup> to 8.5 cm by March 13<sup>th</sup>, 2006. In addition, the water depth decreased to a very low level of 9 cm on March 13<sup>th</sup>, 2006 at Hydropole Creek. In both cases fish sampling was not possible due to low water levels, and it is suspected these pools would not be able to provide overwintering fish habitat on and around March 13<sup>th</sup>. Dissolved oxygen at Hydropole 12 site decreased from 12.9 on Nov. 8/05 to 11.9 on Feb 14/06. Dissolved oxygen at the downstream pool of McKinnon Creek (Site 2) was greater than 12.5 ppm throughout the winter. Ice thickness steadily increased at all the sites throughout the winter, with the most noticeable increase recorded at sites 1 and 2 of McKinnon Cr. where it increased from 0-0.5 cm on November 8<sup>th</sup>, 2005 to 47 cm on March 13<sup>th</sup>, 2006.



**Figure 4. Water Depth, Dissolved Oxygen and Ice Thickness over time for the Upper Bulkley Tributaries.**



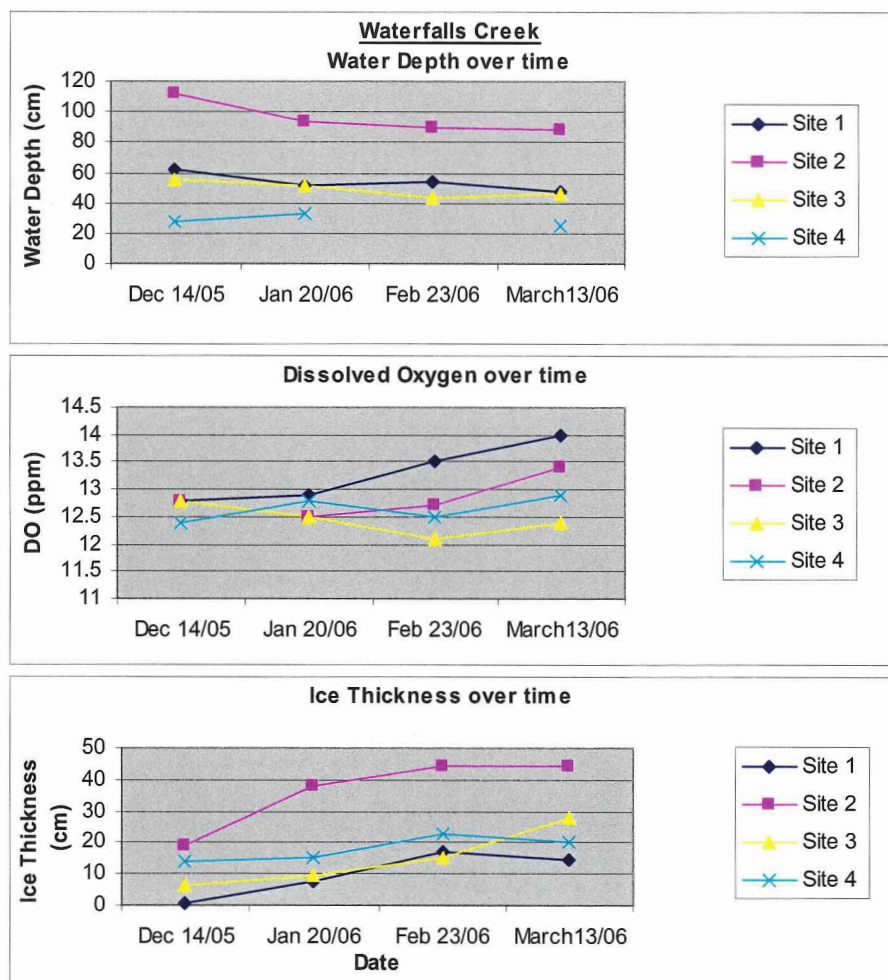


**Figure 5. Water Depth, Dissolved Oxygen and Ice Thickness over time for the Middle Bulkley Tributaries.**

#### 4.1.3.3 Lower Bulkley tributary sites

Water depths at all four sites of Waterfalls Creek decreased slightly throughout the winter (Figure 5). Sites 1-3 of Waterfalls Creek had water depths greater than 40 cm throughout the winter. Water depth at site 4 decreased slightly from 27 cm on December 14<sup>th</sup>, 2005 to 25 cm on March 13<sup>th</sup>, 2006. The dissolved oxygen of all four sites remained fairly constant throughout the winter with no levels less than 12.1 ppm. Ice thickness steadily increased at all sites throughout the winter, with the most noticeable increase recorded at site 2 where the thickness increased from 19 cm on December 14<sup>th</sup>, 2005 to 44 cm on March 13<sup>th</sup>, 2006.





**Figure 6. Water Depth, Dissolved Oxygen and Ice Thickness over time for the Lower Bulkley Tributary sites**

## 4.2 Fish Sampling

Coho, Rainbow Trout/Steelhead, Dolly Varden char and cutthroat trout were captured during the overwintering study. The following sections present fish sampling results for the Upper, Middle and Lower Bulkley tributary sites sampled between December 2005 and March 2006.

### 4.2.1 Upper Bulkley Tributary Sites

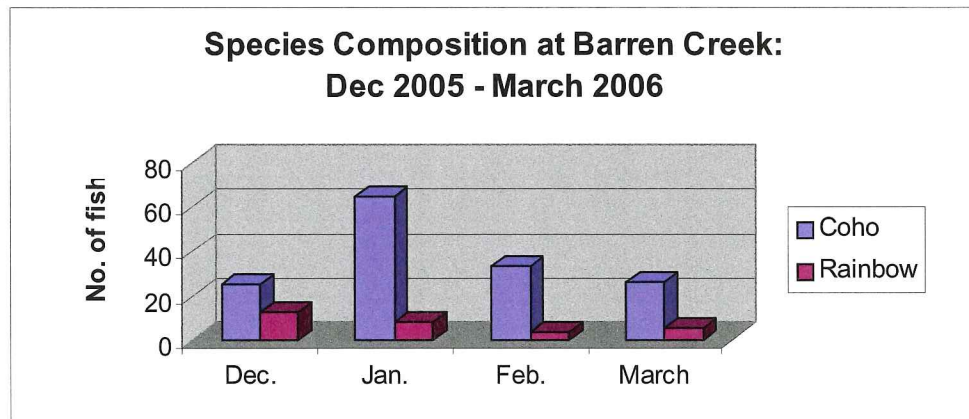
Coho and Rainbow Trout/sthd were captured during the overwintering study conducted at the Upper Bulkley tributary sites between December 2005 and March 2006. The species

composition, as well as fish fork length frequencies and condition will be discussed for all three sites. Appendix 3 contains all the fish capture data for each site throughout the winter sampling program.

#### 4.2.1.1 Species composition

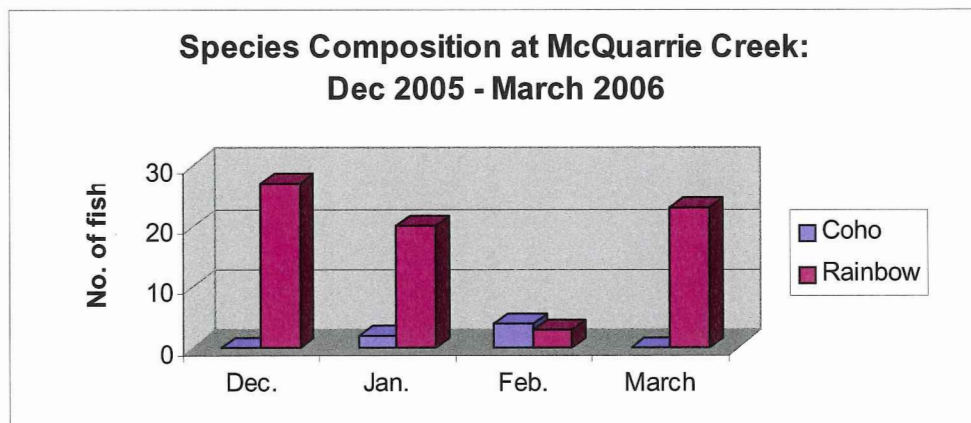
The species composition varied between the three sites and dates sampled at the Upper Bulkley tributary sites (refer to Figures 7 to 9). Barren Creek contained the highest number of fish during all winter months sampled, of the three sites sampled in the Upper Bulkley. The coho catch was highest at Barren Creek, which is a culvert pool that was enhanced by dredging in September 2005 as part of a Ministry of Transportation Culvert Maintenance Program. Byman Creek contained the lowest number of fish in December 2005, and February and March 2006. In addition, the majority of fish species captured in McQuarrie Creek was Rainbow Trout/sthd.

A total of 38 fish were captured at Barren Creek in December 2005, where the majority were coho (25, 66%), and the remainder consisted of rainbow trout (13, 34%). The total number of fish captured at Barren Creek decreased slightly from 38 in December 2005 to 32 in March 2006. The species composition changed in March 2006, where a large majority of fish captured were coho (26, 81%), and the remainder consisted of rainbow trout (6, 19%).



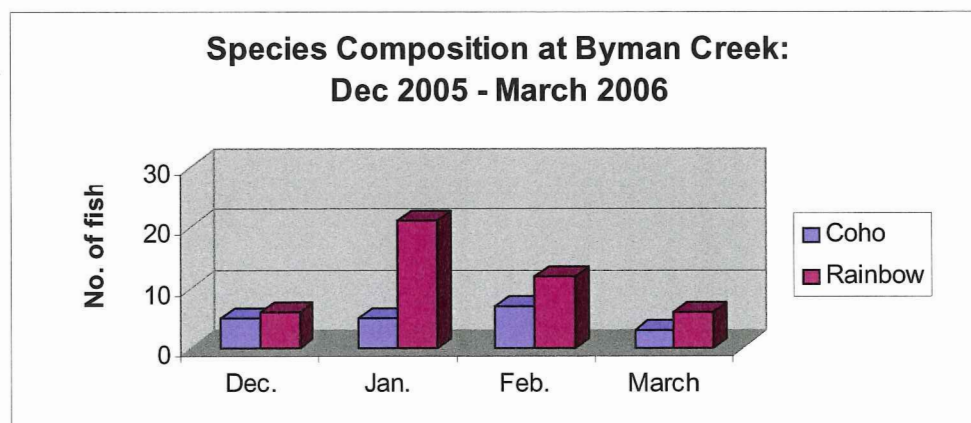
**Figure 7. Monthly Species Composition at Barren Creek**

A total of 27 fish were captured at McQuarrie Creek in December 2005 and all the fish captured were Rainbow Trout/sthd. The total number of Rainbow Trout/sthd captured at McQuarrie Creek decreased slightly from 27 (Dec. 2005) to 23 in March 2006. Both coho salmon and Rainbow Trout/sthd were captured at McQuarrie Creek in January and February 2006.



**Figure 8. Monthly Species Composition at McQuarrie Creek.**

A total of 11 fish were captured at Byman Creek in December 2005, where rainbow trout comprised 55% of the catch, and coho (5, 45%) made up the remainder of the fish captured. A total of 9 fish were captured in March 2006, where the majority was Rainbow Trout/sthd (6, 67%), and the remainder consisted of coho (3, 33%).



**Figure 9. Monthly Species composition at Byman Creek.**

#### 4.2.1.2 Fork Length and Condition Comparisons

Fork length and weight data were collected for salmonids throughout the overwintering study. A total of 175 coho and 149 Rainbow Trout/sthd were measured at the upper Bulkley tributary sites over the winter. Length, weight and condition data are summarized in the following sections. Coho has been presented in two categories estimated from fork length distributions attained from fish captured at sites at the Upper Bulkley tributary sites. Based on length frequency distributions of coho, two fork length categories have been created for 80 mm or less coho, and coho greater than 80 mm. It is assumed that Rainbow /sthd trout have similar fork length categories as coho.



#### 4.2.1.2.1 Coho

Fork length was collected for all of the coho captured (175) and weight data were collected for 144 of the 175 (82%) coho captured during the study. Length, weight and condition factor data for sites sampled are provided in Appendix 3. The fork length comparisons and Fulton's condition factor (FCC) data for coho salmon has been presented by month in two fork length categories (i.e.,  $\leq 80$  mm and  $> 80$  mm) for each site.

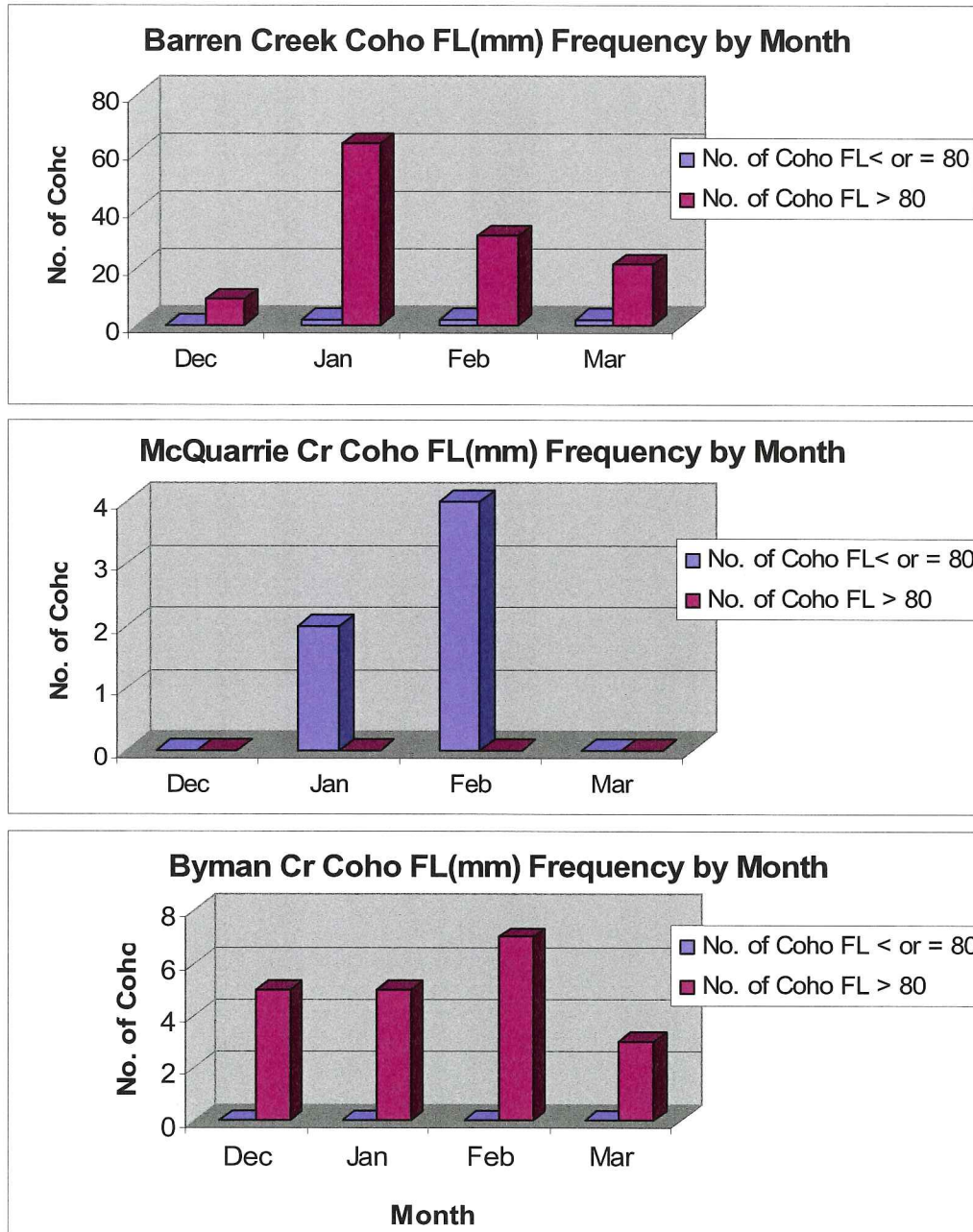
Figure 10 depicts coho salmon fork length frequency by month for Barren, McQuarrie and Byman Creek sites. The majority of coho captured at the Barren Creek site were greater than 80 mm, with the highest frequency of coho ( $n=63$ ) captured on Jan. 24/06. Overall, the frequency of coho greater than 80 mm increased from the beginning to end of winter. There were only 6 coho less than 80 mm captured in total from January to March. At the McQuarrie creek site, only 6 coho less than 80 mm were captured in the mid-winter months of January and February, and no coho greater than 80 mm were captured. At the Byman Creek site, coho less than 80 mm were not captured throughout the winter; however, coho greater than 80 mm were captured during each month with the highest number captured in February ( $n=7$ ). Overall, there was a slight decline in coho numbers from beginning to end of winter at Byman Creek.

Figure 11 depicts coho salmon mean Fulton's condition factor (FCC) by month and fork length (FL) category for Barren and Byman Creek sites. There were insufficient numbers of coho captured at the McQuarrie Creek site to analyze the data. At the Barren Creek site, the mean FCC for both fork length categories appeared to be lowest in January. The mean FCC increased from 1.1 in Dec. to 1.19 in Feb. in the less than or equal to 80 mm fork length category, with no coho in this category captured in March. Overall, the mean FCC for coho decreased from 1.06 in Dec. to 1.01 in March in the greater than 80 mm fork length category. At the Byman Creek site, coho in the less than or equal to 80 mm fork length category were absent. The mean FCC for coho in the greater than 80 mm fork length category decreased from 1.09 in Dec. to 0.95 in March.

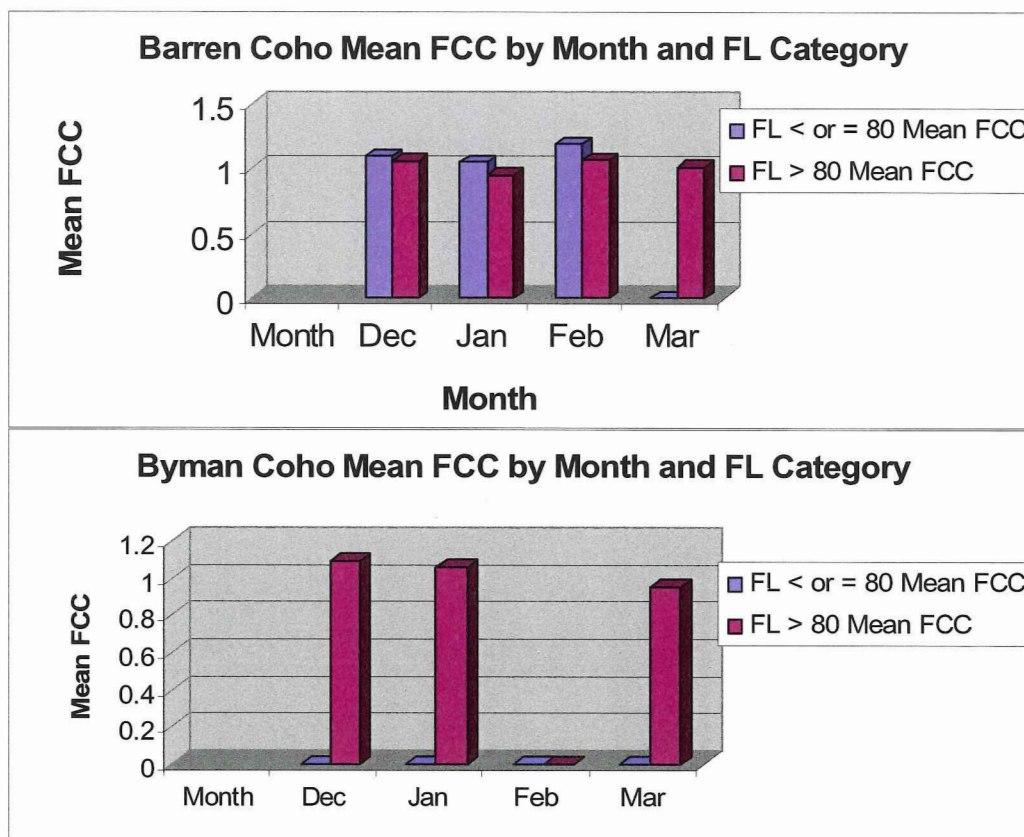
The summary of the condition factor data is also provided in Table 6. It appeared that on the whole, Fulton's condition factor for coho was greater at the beginning of winter in December 2005 than March 2006 near the end of winter.

Table 6. Mean Fulton's Condition Factor for coho at Byman Creek and Barren Creek in December 2005 and March 2006.

Site	Species	Fork Length Category	FCC-Mean	FCC-Mean
			Dec-05	Mar-06
Byman	Coho	$>80$ mm	1.09	0.95
Barren	Coho	$\leq 80$ mm	1.1	na
		$>80$ mm	1.06	1.01
McQuarrie	Coho	$\leq 80$ mm	na	na



**Figure 10. Coho Fork Length (FL) Frequency by month, for Barren, McQuarrie and Byman Creek sites.**



**Figure 11. Mean Fulton's Condition Factor by Month and FL Category at Barren and Byman Creek sites.**

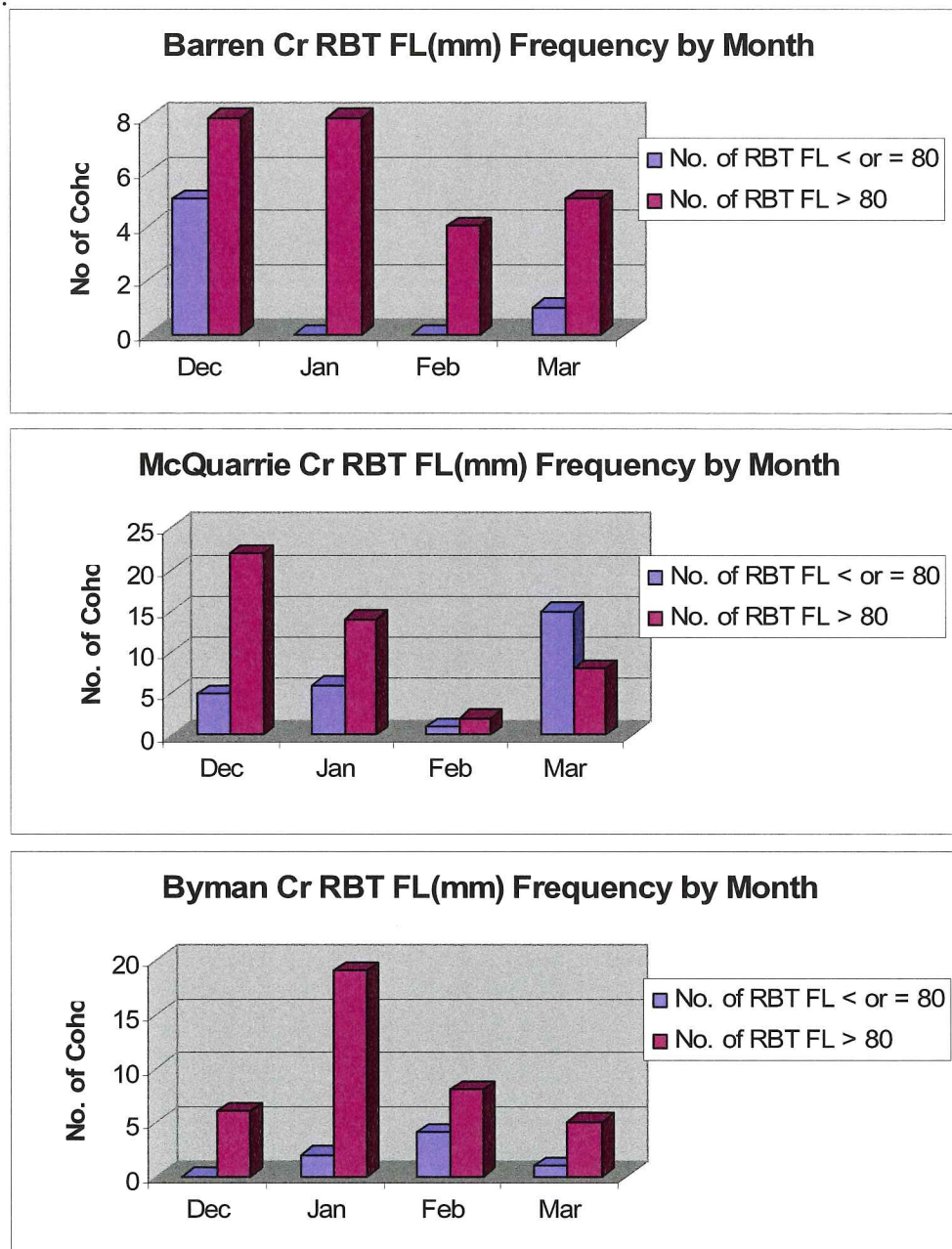
#### **4.2.1.2.2 Rainbow Trout/Steelhead**

Fork length was collected for all the rainbow (RBT)/steelhead (sthd) trout captured (149) and weight data were collected for 117 of the 149 (78.5%) RBT/sthd captured during the study. Length, weight and condition factor data for sites sampled are provided in Appendix 3. The fork length comparisons and Fulton's condition factor (FCC) data for RBT/sthd trout has been presented by month in two fork length categories (i.e., less than 80 mm and greater than 80 mm) for each site. Most of the RBT/sthd captured at the sites were greater than 80 mm in length. The majority of RBT/sthd less than 80 mm appeared to be present near the end of winter in March 2006.

Figure 12 depicts Rainbow Trout/Steelhead fork length frequency by month for Barren, McQuarrie and Byman Creek sites. The majority of RBT/sthd captured at the Barren Creek site were greater than 80 mm, with the highest frequency of rainbow/sthd ( $n=8$ ) captured on Dec. 8/05 and Jan. 24/06. Overall, the frequency of RBT/sthd greater than 80 mm and less than 80 mm decreased from the beginning to end of winter. There were only 6 RBT/sthd less than 80 mm captured in total from January to March. At the McQuarrie creek site, the frequency of RBT/sthd greater than 80 mm decreased from Dec. ( $n=22$ ) to March ( $n=8$ ), where as the frequency of RBT/sthd less than 80mm increased from Dec. ( $n=5$ ) to March ( $n=15$ ). At the Byman Creek site, there were no



apparent trends in RBT/sthd frequency distributions from beginning to end of winter. The most notable result was the increase in greater than 80 mm RBT/sthd recorded on Jan. 24/06.

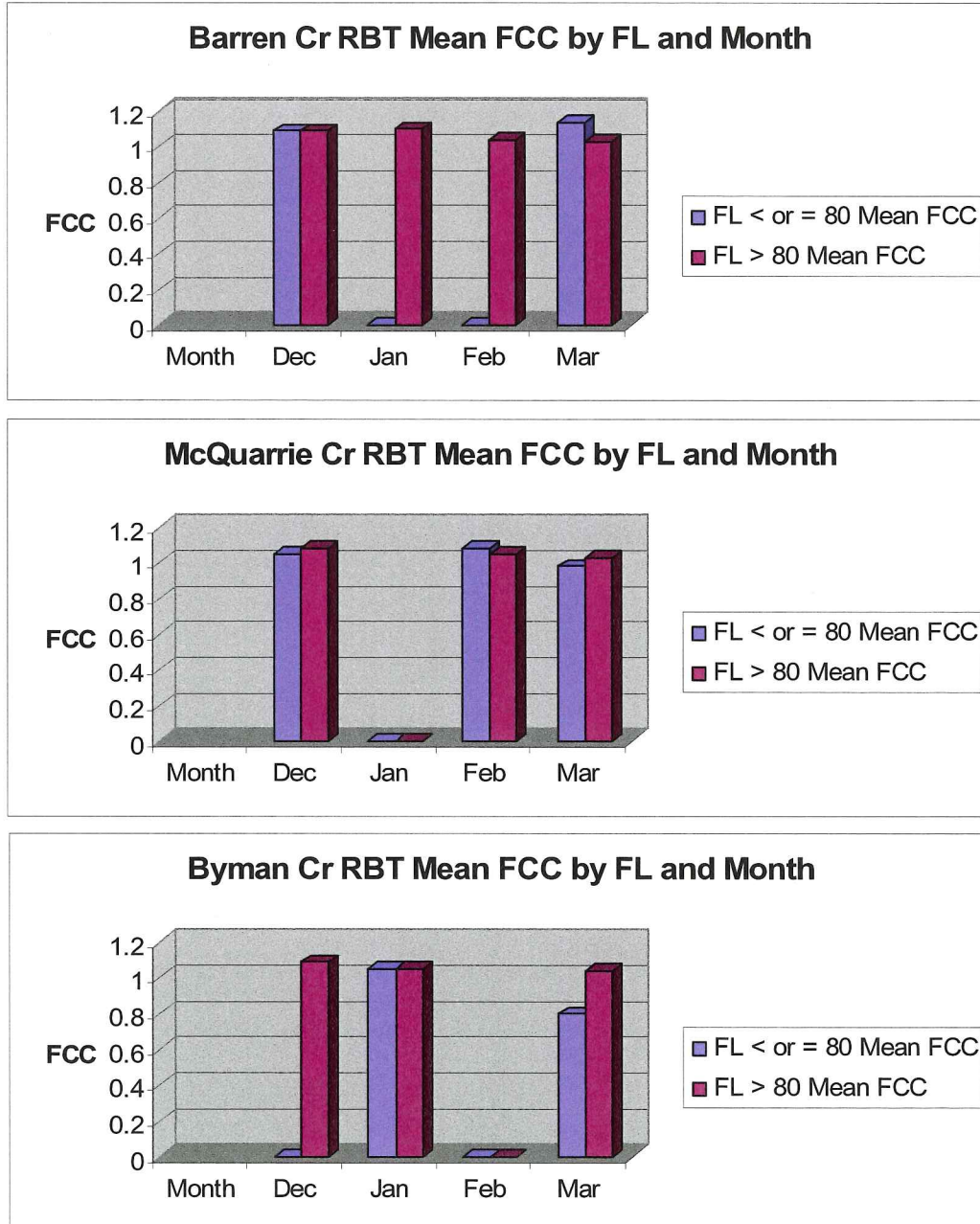


**Figure 12. Rainbow Trout Fork Length (FL) Frequency by month, for Barren, McQuarrie and Byman Creek sites.**

Figure 13 depicts RBT/sthd mean Fulton's condition factor (FCC) by month and fork length (FL) category for Barren, McQuarrie and Byman Creek sites. At the Barren Creek site, the mean FCC for the greater than 80mm fork length category was consistently above 1.0, with only a slight decrease from 1.09 in Dec. to 1.03 in March. The mean FCC increased from 1.09 in Dec. to 1.14 in March in the less than 80 mm fork length



category, with no RBT/sthd in this category captured in Jan. and Feb. At the McQuarrie Creek site, the mean FCC for the greater than 80 mm fork length category was consistently above 1.0, with only a slight decrease from 1.08 in Dec. to 1.03 in March. The mean FCC for fork length category less than 80 mm decreased from 1.05 in Dec. to 0.98 in March. At the Byman Creek site, RBT/sthd in the less than 80 mm fork length category were absent during the Dec. and Feb. sampling dates; however, there was a decrease in mean FCC noted from 1.05 in Jan. to 0.8 in March. The mean FCC for RBT/sthd in the greater than 80 mm fork length category decreased slightly from 1.09 in Dec. to 1.04 in March, with no RBT/sthd captured on Feb. 13/06.



**Figure 13. Rainbow Trout Mean Fulton's Condition Factor (FCC) by Fork Length (FL in mm) and month, for Barren, McQuarrie and Byman Creek sites.**

The summary of the condition factor data is provided in Table 7. The condition of Rainbow Trout/Steelhead appeared to be greater at the beginning than end of winter, except for the less than or equal to 80 mm category fish of Barren Creek.

Table 7. Mean Fulton's Condition Factor for Rainbow Trout/Steelhead at Byman, Barren and McQuarrie Creeks in December 2005 and March 2006.

Site	Species	Fork Length Category	FCC-Mean	FCC-Mean
			Dec-05	Mar-06
Byman	RBT/sthd	≤ 80mm	1.05 (Jan-06)	0.80
		>80 mm	1.09	1.04
Barren	RBT/sthd	≤ 80mm	1.09	1.14
		>80 mm	1.09	1.03
McQuarrie	RBT/sthd	≤ 80mm	1.05	0.98
		>80 mm	1.08	1.03

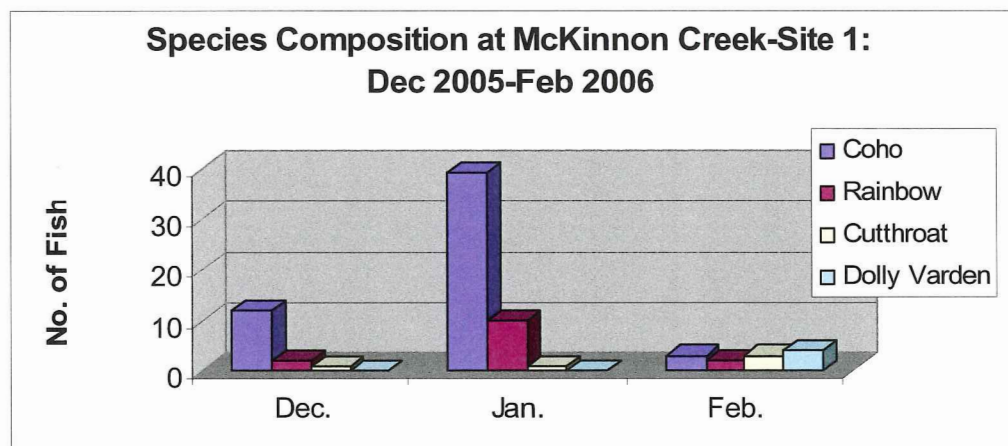
## 4.2.2 Middle Bulkley Tributary Sites

Coho, rainbow trout, cutthroat trout and Dolly Varden were captured during the overwintering study conducted at the middle Bulkley tributary sites between December 2005 and March 2006. The species composition, as well as fish fork length frequency and condition comparisons will be discussed for all three sites sampled in the McKinnon Creek watershed.

### 4.2.2.1 Species composition

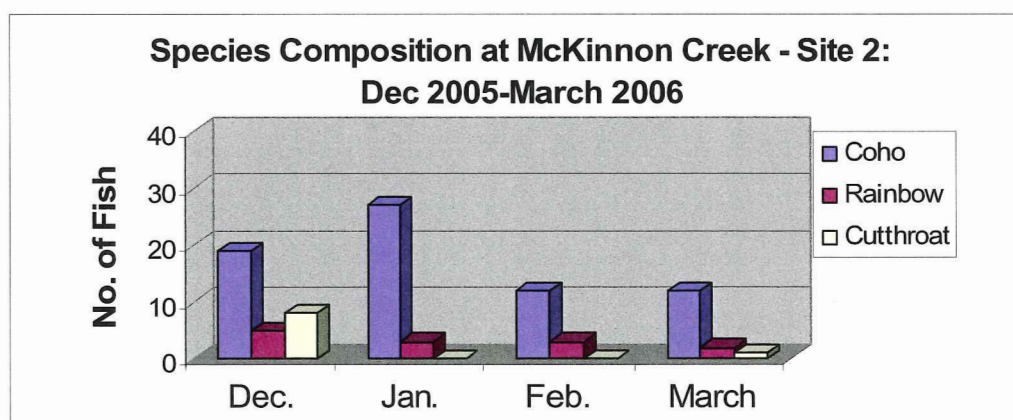
The species composition varied between the three sites and dates sampled at the three sites in the McKinnon Creek watershed (refer to Figures 14-16). Four species (coho salmon, Rainbow Trout/sthd, cutthroat trout, and Dolly varden) were present at the McKinnon Creek sites. The unnamed creek (i.e., Hydropole12 site) contained cutthroat trout, Rainbow Trout/sthd and coho salmon. Site 2, located downstream of the culvert, of McKinnon Creek contained the highest number of fish in December 2005 and at the end of winter in March 2006. It should be noted that Site 1 of McKinnon Creek, located upstream of the culvert, and Hydropole12 Creek, were not sampled in March due to shallow water conditions. February therefore represents the end of winter data for site 1 of McKinnon Creek and Hydropole12 Creek.

A total of 17 fish were captured at site 1 of McKinnon Creek in December 2005, where the majority were coho (12, 82%), and a minor proportion consisted of Rainbow Trout/sthd (2, 12%) and cutthroat trout (1, 6%). Dolly Varden was not captured in December. The total number of fish captured at site 1 decreased slightly from 17 (Dec. 2005) to 12 in February 2006. The species composition shifted in February 2006, where the majority was Dolly Varden (4, 33%), and the remainder consisted of coho (3, 25%), rainbow trout (2, 17%) and cutthroat trout (3, 25%).



**Figure 14. Monthly Species Composition at McKinnon Creek – Site 1.**

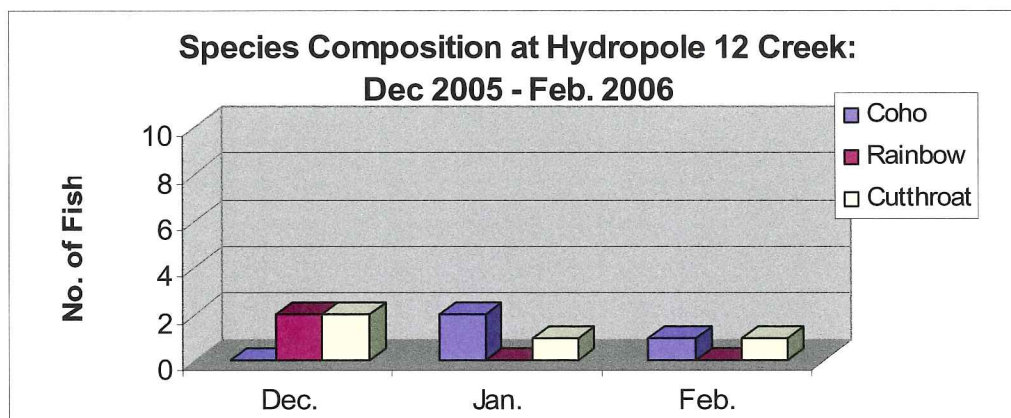
A total of 32 fish were captured at site 2 of McKinnon Creek in December 2005, where the majority were coho (19, 59%), and the remainder consisted of cutthroat trout (8, 25%) and rainbow trout (5, 16%). The total number of fish captured at site 2 decreased from 32 (Dec. 2005) to 15 in March 2006. The species composition changed slightly in March 2006, where the majority was coho (12, 80%), and the remainder consisted of rainbow /sthd trout (2, 13%) and cutthroat trout (1, 7%). It should be noted that Dolly Varden was not captured in December or March; however, one was present in November 2005.



**Figure 15. Monthly Species Composition at McKinnon Creek – Site 2.**

A total of 4 fish were captured at the Hydropole12 creek site in December 2005, where there was an even split between rainbow trout (2, 50%) and cutthroat trout (2, 50%). The total number of fish captured at this site decreased from 4 (Dec. 2005) to 2 in February 2006. The species composition changed slightly in February 2006, where there was an even split between coho (1, 50%) and cutthroat trout (1, 50%).





**Figure 16. Monthly Species Composition at Hydropole 12 Creek.**

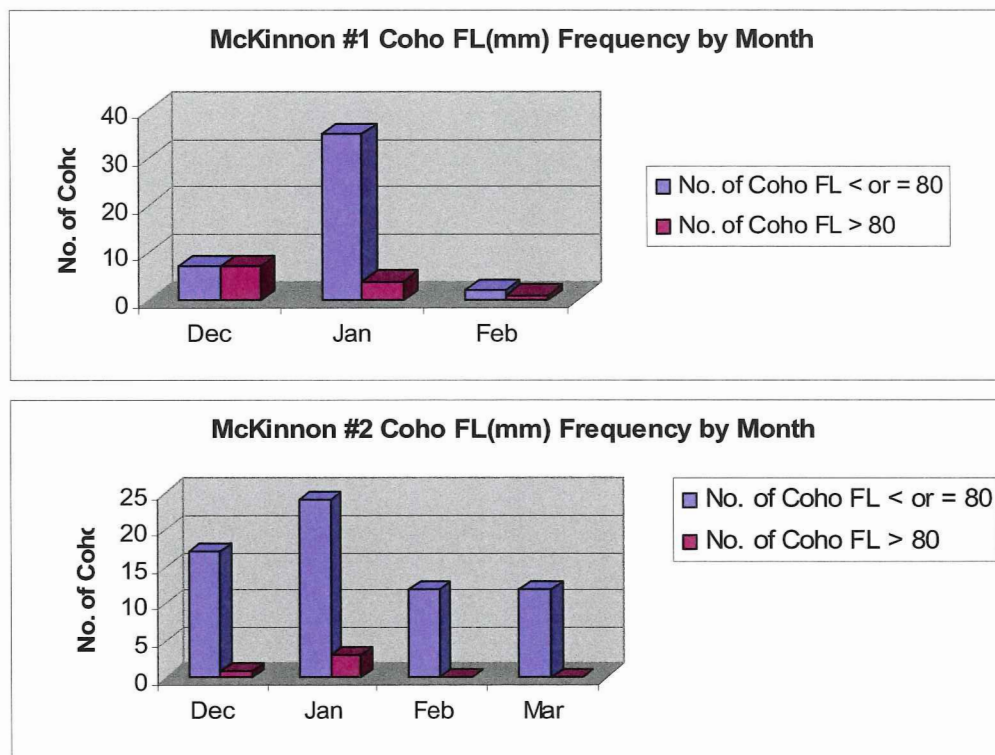
#### 4.2.2.2 Fork Length and Condition Comparisons

Fork length and weight data were collected for salmonids throughout the overwintering study. A total of 129 coho, 29 Rainbow Trout/sthd, 18 cutthroat trout, and 4 Dolly Varden were measured at the middle Bulkley tributary sites during the overwintering study. Length, weight and condition data for coho are summarized in the following sections. A summary of fish length and condition for other species has not been provided due to their relatively low numbers in the McKinnon Creek sites. Coho has been presented in two categories estimated from fork length distributions attained from fish captured at sites at the McKinnon Creek sites. Based on length frequency distributions of coho, two fork length categories have been created for 80 mm or less coho, and coho greater than 80 mm.

##### 4.2.2.2.1 Coho

Fork length and weight data was collected for all of the coho captured (129) during the study of the middle Bulkley sites. Length, weight and condition factor data for sites sampled are provided in Appendix 3. The fork length comparisons and Fulton's condition factor (FCC) data for coho salmon has been presented by month in two fork length categories (i.e.,  $\leq 80$  mm and  $> 80$  mm) for each site.

Figure 17 depicts coho salmon fork length frequency by month for sites 1 and 2 of McKinnon Creek. The majority of coho captured at the site 1 were  $\leq 80$  mm, with the highest frequency of coho ( $n=41$ ) captured on Dec. 14/05. At site 2, the majority of coho captured at the site 1 were  $< 80$  mm, with the highest frequency of coho ( $n=41$ ) captured on Jan. 20/06. Overall, the frequency of coho decreased from the beginning to end of winter at both sites.



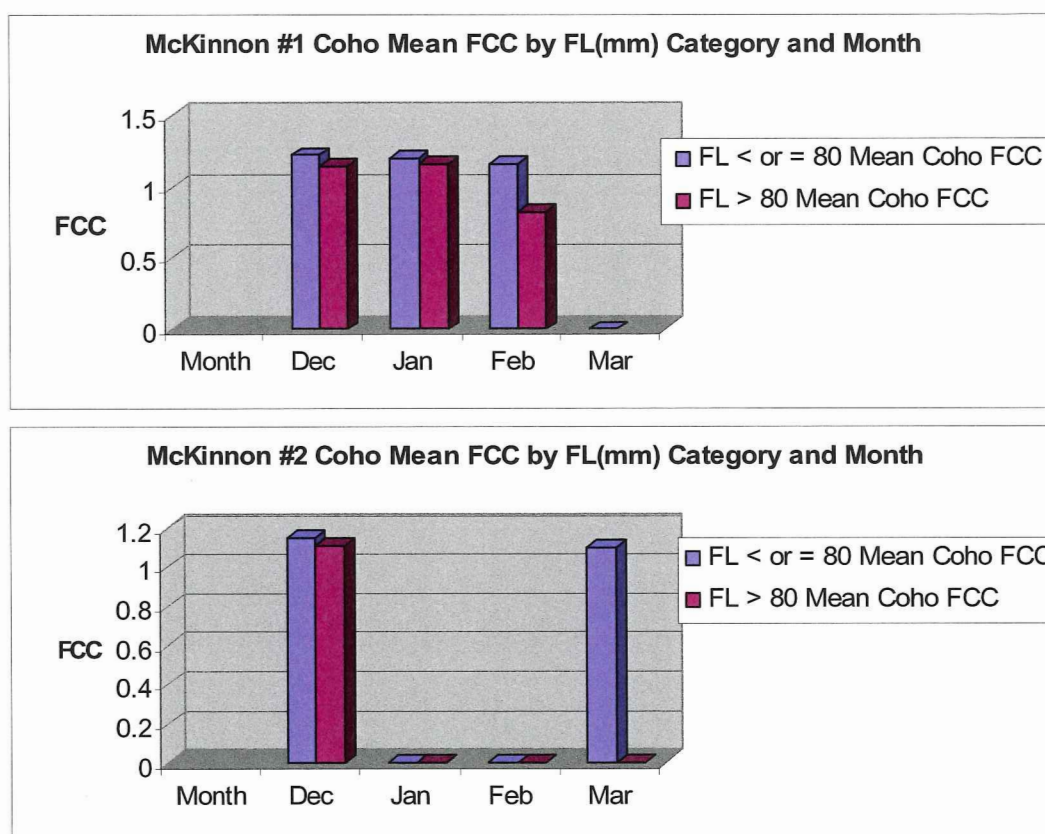
**Figure 17. McKinnon Sites 1 and 2 Coho Fork Length (FL) Frequency by Month.**

Figure 18 depicts coho salmon mean Fulton's condition factor (FCC) by month and fork length (FL) category for sites 1 and 2. At site 1, the mean FCC for coho in the greater than 80 mm fork length category decreased from 1.17 in Dec. to 0.82 in Feb. The mean FCC remained the same for coho in the less than or equal to 80 mm category, where it was 1.16 in both Dec. and Feb. At site 2, the mean FCC remained fairly constant for the coho in the less than or equal to 80 mm category, where it was 1.15 (Dec.) and 1.1 (March). The mean FCC for the greater than 80 mm coho was 1.11 (Dec.); however, middle-end of winter data is absent.

The summary of the condition factor data is also provided in Table 8. Fulton's condition factor for coho at both sites of McKinnon Creek was greater at the beginning of winter

**Table 8. Mean Fulton's Condition Factor for coho at McKinnon Creek in December 2005 and Feb./March 2006.**

Site	Species	Fork Length Category	FCC-Mean	FCC-Mean
			Dec-05	Mar-06
Site 2-McKinnon	Coho	≤ 80mm	1.15	1.1
		>80 mm	1.11	na
Site 1 - McKinnon	Coho	≤ 80mm	1.16	1.16 (Feb.)
		>80 mm	1.17	0.82 (Feb.)



**Figure 18. Mean FCC by Fork Length (FL) Category and Month for Coho at McKinnon Sites 1 and 2.**

### 4.2.3 Lower Bulkley Tributary Sites

Coho, Dolly Varden, and cutthroat trout were captured at Waterfalls Creek between December 2005 and March 2006. The species composition, as well as fish fork length frequency and condition will be discussed for all four sites sampled at Waterfalls Creek.

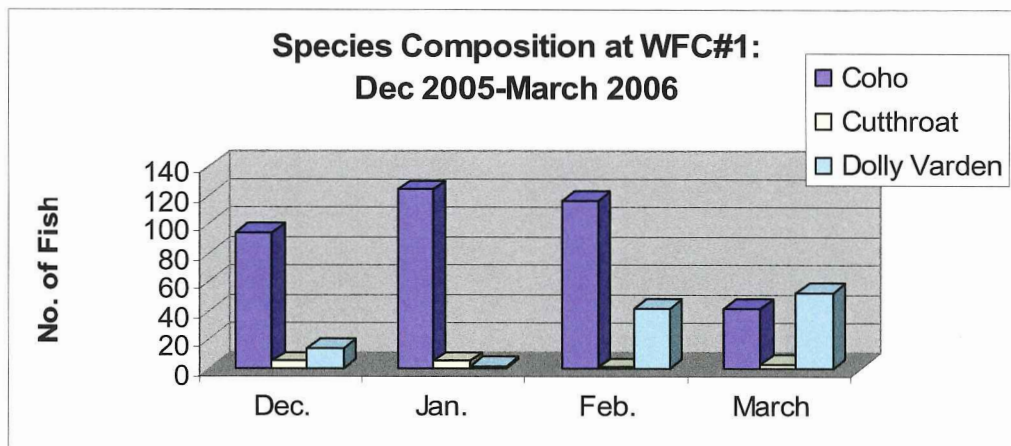
#### 4.2.3.1 Species Composition

The species composition varied between the four sites and dates sampled at Waterfalls Creek (refer to Figures 19-22). Overall, site 1 contained the highest number of fish in both December 2005 and March 2006, of all the sites sampled in Waterfalls Creek. Site 4 contained the lowest number of fish in both December 2005 and March 2006 and this is most likely a function of Site 4 having the smallest volume of all the Waterfalls Creek sites and the lowest potential for migration.

A total of 113 fish were captured at site 1 in December 2005, where the majority were coho (94, 83%), and a minor proportion consisted of Dolly Varden (14, 12%) and

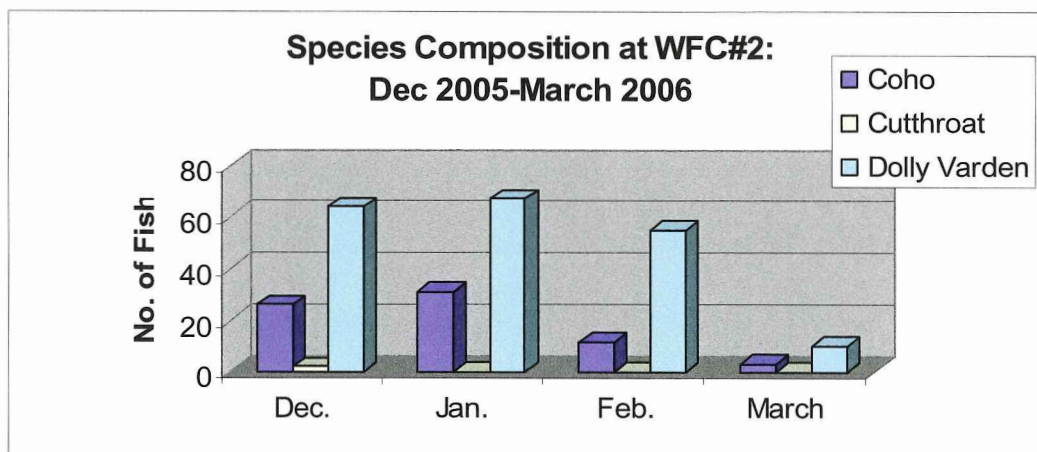


cutthroat trout (5, 4%). The total number of fish captured at site 1 decreased slightly from 113 in Dec. to 98 in March. The species composition shifted in March, where the majority was Dolly Varden (53, 54%) and Coho (42, 43%). A minor proportion consisted of cutthroat trout (3, 3%), which is comparable to December.



**Figure 19. Monthly Species Composition at Waterfalls Creek – Site 1.**

A total of 90 fish were captured at site 2 in December 2005, where the majority was Dolly Varden (64, 71%) and the remainder consisted of coho (26, 29%). The total number of fish captured at site 2 decreased dramatically from December to March, where only 13 fish were captured in March. The species composition remained fairly similar in March and December where the majority in March was Dolly Varden (10, 77%) and the remainder consisted of Coho (3, 23%).



**Figure 20. Monthly Species Composition at Waterfalls Creek – Site 2.**

A total of 84 fish were captured at site 3 in December 2005, where the amount of coho (43, 51%) and Dolly Varden (40, 48%) were comparable. Only one cutthroat trout was captured at site 3 in December. The total number of fish captured at site 3 in March 2006 remained the same at 84 fish, where the amount of coho (38, 45%) and Dolly Varden (46, 55%) shifted slightly from December 2005.

A total of 24 fish were captured at site 4 in December 2005, where the majority was Dolly Varden (18, 75%) and the remainder consisted of coho (6, 25%). A total of 14 fish was captured in February 2006, where the majority consisted of Dolly Varden (11, 79%) and the remainder consisted of coho (3, 21%). The proportion of Dolly Varden and coho remained fairly constant in December 2005 and February 2006. Fish sampling was not conducted in March 2006 at site 4 due to shallow water; therefore February data was used for comparisons to the beginning of winter.

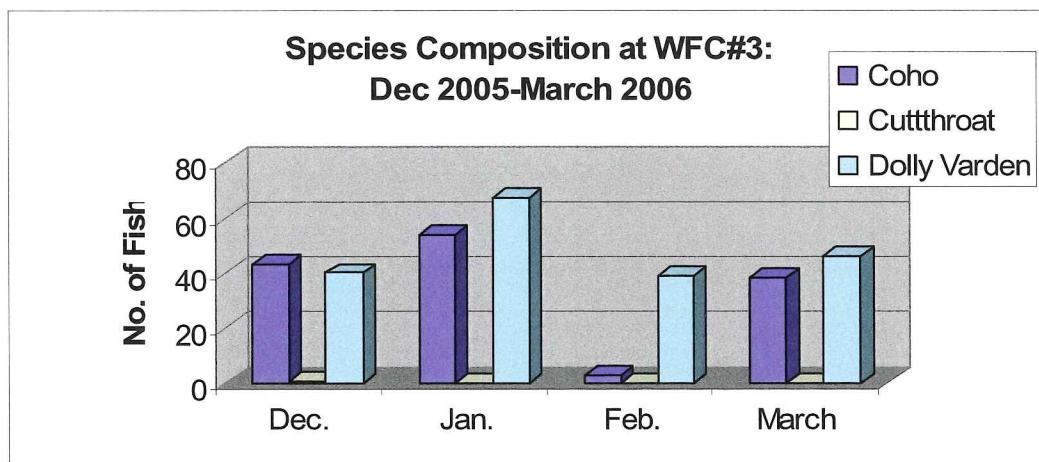


Figure 21. Monthly Species Composition at Waterfalls Creek – Site 3.

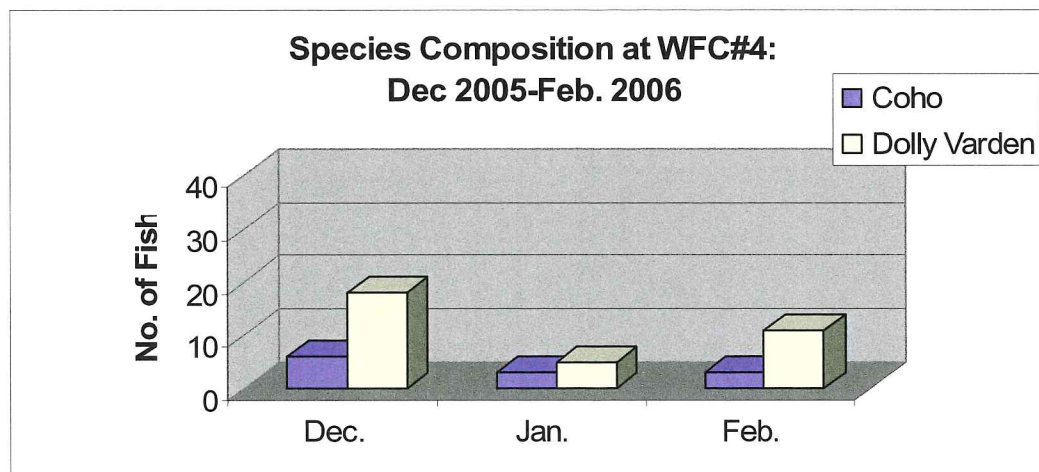


Figure 22. Monthly Species Composition at Waterfalls Creek – Site 4.

#### 4.2.3.2 Fork Length and Condition Comparisons

Fork length and weight data were collected for salmonids throughout the overwintering study. A total of 598 coho, 533 Dolly Varden, and 17 cutthroat trout were captured at the Waterfalls Creek sites during the overwintering study. Length, weight and condition data for coho and Dolly Varden are summarized in the following sections. A summary of fish length and condition for cutthroat trout has not been provided due to their relatively low numbers. Coho have been presented in two categories estimated from fork length distributions attained from fish captured at sites at the Waterfalls Creek sites. Based on



length frequency distributions of coho, two fork length categories have been created for 80 mm or less coho, and coho greater than 80 mm. It is assumed that Dolly Varden has similar fork length categories as coho.

#### **4.2.3.2.1 Coho**

Fork length and weight data was collected for over half of the coho captured during the study of the Waterfalls Creek sites. Length, weight and condition factor data for sites sampled are provided in Appendix 3. The fork length comparisons and Fulton's condition factor (FCC) data for coho salmon has been presented by month in two fork length categories (i.e., less than or equal to 80 mm and greater than 80 mm) for each site.

Figure 23 depicts coho salmon fork length frequency by month for sites 1-4 of Waterfalls Creek. A large proportion of coho captured at the site 1 were less than or equal to 80 mm, where 38 were captured in Dec. and 24 in March. The greater than 80 mm category coho remained fairly constant throughout the winter. Most of the coho captured at the site 2 were greater than 80 mm, with an overall decrease in numbers over the winter. At site 3, there appeared to be a decrease in numbers over the winter however, both fork length categories peaked in January. All coho captured at site 4 were of the less than or equal to 80 mm category, with a decrease from 6 in Dec. to 3 in Feb.

Figure 24 presents coho salmon mean Fulton's condition factor (FCC) by month and fork length (FL) category for sites 1-4. At site 1, the mean FCC steadily decreased over the winter, from 1.13 (Dec.) to 0.93 (March) for less than or equal to 80 mm coho. Similarly, the mean FCC for greater than 80 mm coho steadily decreased, from 1.02 (Dec.) to 0.93 (March). At site 2, the mean FCC decreased for the coho in the greater than 80 mm category, where it was 1.08 (Dec.) and 0.96 (March). At site 3, the mean FCC for the greater than 80 mm coho decreased from 1.08 (Dec.) to 0.95 (March). The mean FCC for the less than or equal to 80 mm coho remained above 1 in the winter, where it decreased from 1.17 (Dec.) to 1.02 (March). The culvert pool of site 4 appeared to have a decrease in mean FCC for the less than or equal to 80 mm category coho even though end of winter data was not collectable due to low water levels.

The summary of the condition factor data is also provided in Table 9. Fulton's condition factor for all sites of Waterfalls Creek was greater at the beginning of winter.

Table 9. Mean Fulton's Condition Factor for coho at Waterfalls Creek in December 2005 and Feb./March 2006.

Site	Species	Fork Length Category	FCC-Mean	FCC-Mean
			Dec-05	Mar-06
1	Coho	$\leq 80\text{mm}$	1.13	0.93
		$>80\text{ mm}$	1.02	0.93
2	Coho	$\leq 80\text{mm}$	0.96	na
		$>80\text{ mm}$	1.08	0.96
3	Coho	$\leq 80\text{mm}$	1.17	1.02
		$>80\text{ mm}$	1.08	0.95
4	Coho	$\leq 80\text{mm}$	1.21	na
		$>80\text{ mm}$	na	na

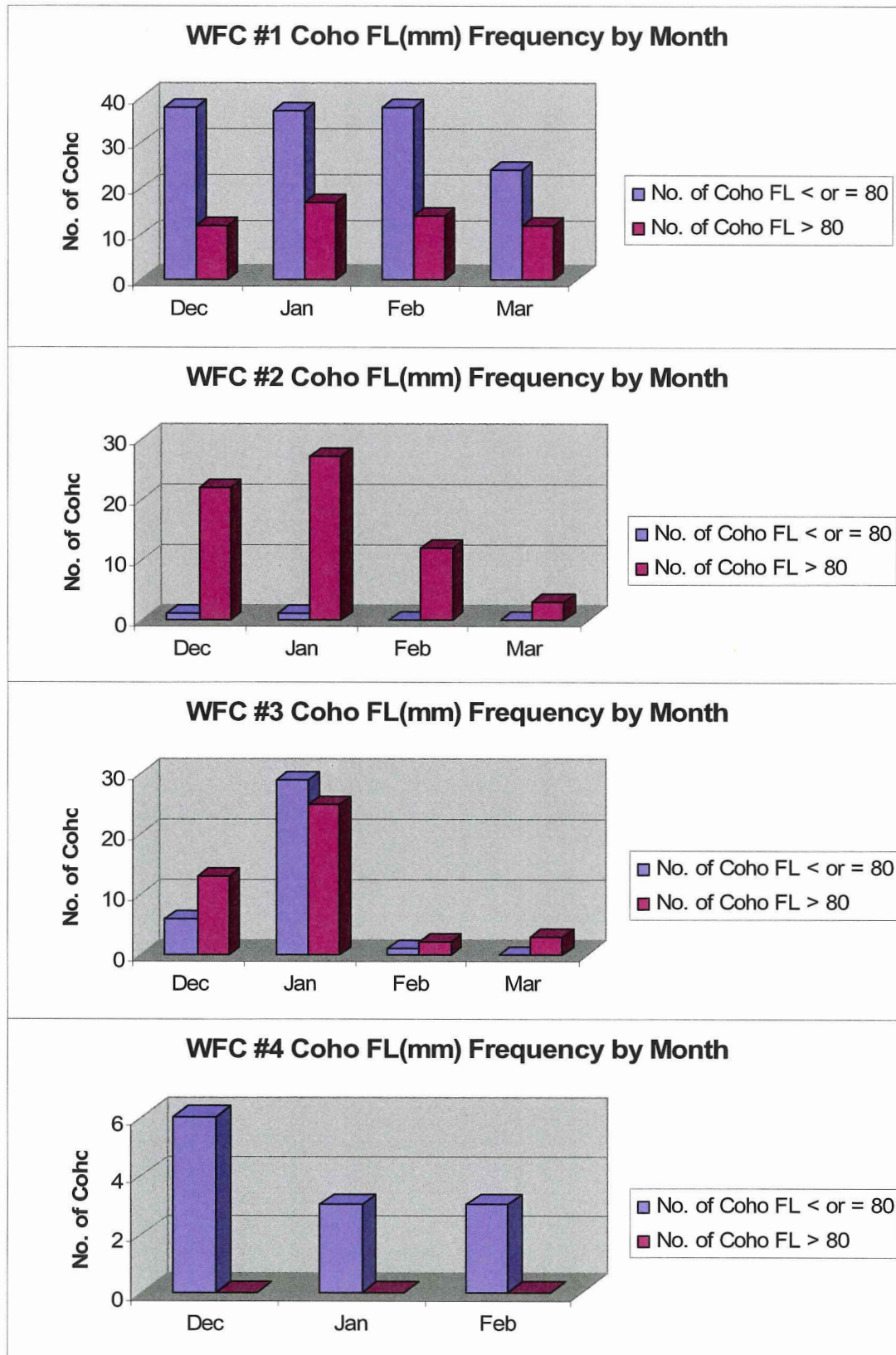
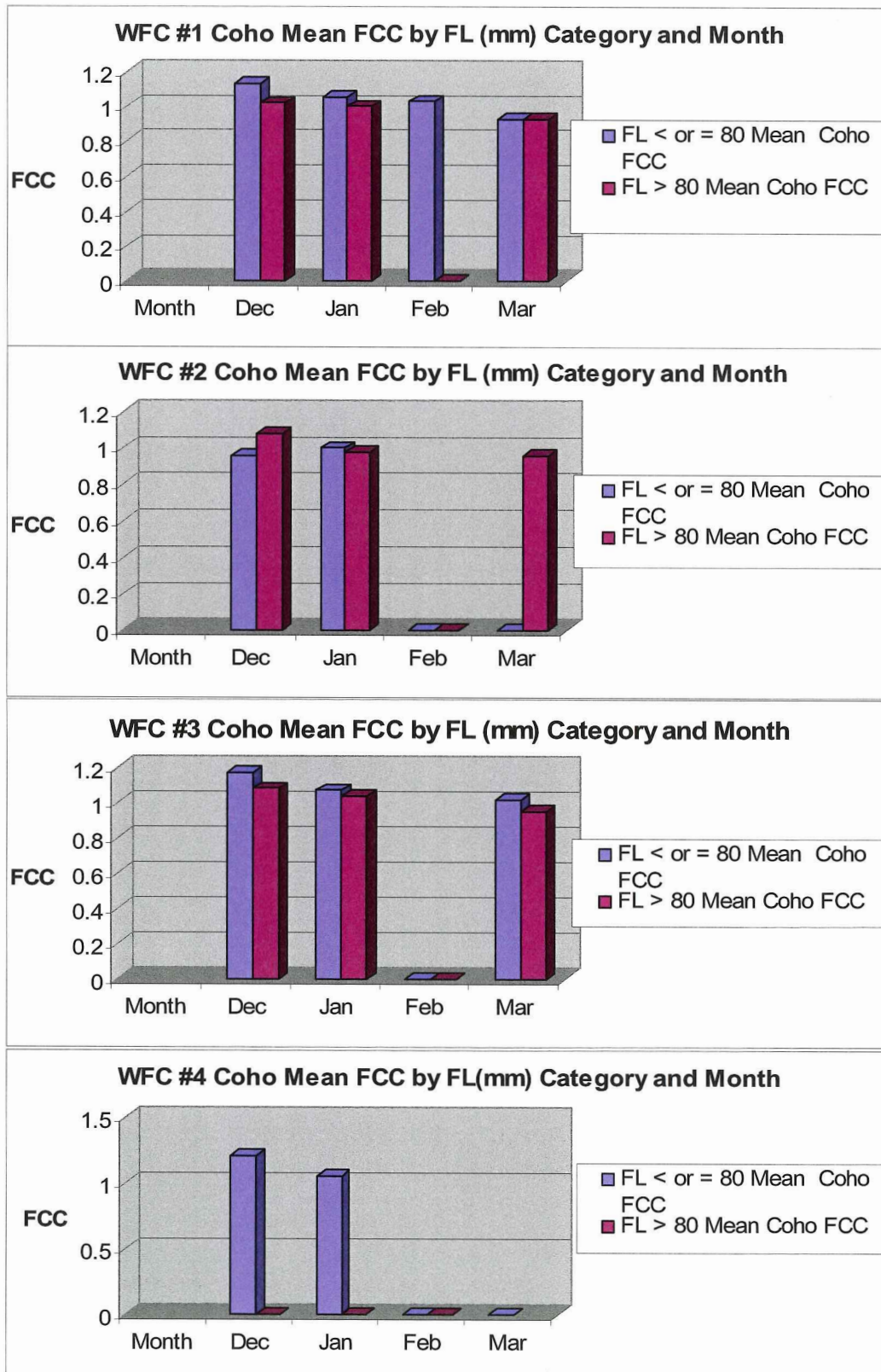


Figure 23. Coho Fork Length Frequency by month for Waterfalls Creek Sites 1-4.



**Figure 24. Mean FCC by Fork Length (FL) Category and by month for Coho at Waterfalls Creek Sites 1-4.**

#### 4.2.3.2.2 *Dolly Varden*

Fork length and weight data was collected for over half of the Dolly Varden (DV) captured during the study of the Waterfalls Creek sites. Length, weight and condition factor data for sites sampled are provided in Appendix 3. The fork length comparisons and Fulton's condition factor (FCC) data for Dolly Varden has been presented by month in two fork length categories (i.e., less than or equal to 80 mm and greater than 80 mm) for each site.

Figure 25 depicts Dolly Varden fork length frequency by month for sites 1-4 of Waterfalls Creek. Almost all DV captured at site 1 were greater than 80 mm, where 14 were captured in Dec. and 33 in March. Overall, the DV of the greater than 80 mm category increased throughout the winter, although their numbers were low in Jan. The only DV in the less than or equal to 80 mm category were captured in March. Most of the DV captured at site 2 were greater than 80 mm, with an overall decrease in numbers from beginning to end of winter; however, the numbers increased in January and February. Again, the only DV captured in the less than or equal to 80 mm category was in Dec. At site 3, there was an overall increase in numbers over the winter and both fork length categories peaked in January. All DV captured at site 4 were of the greater than 80 mm category, with a decrease from 18 in Dec. to 11 in Feb. On the whole, DV of the greater than 80 mm category were most abundant in all sites, with the less than or equal to 80 mm category DV being virtually non-existent at these sample sites.

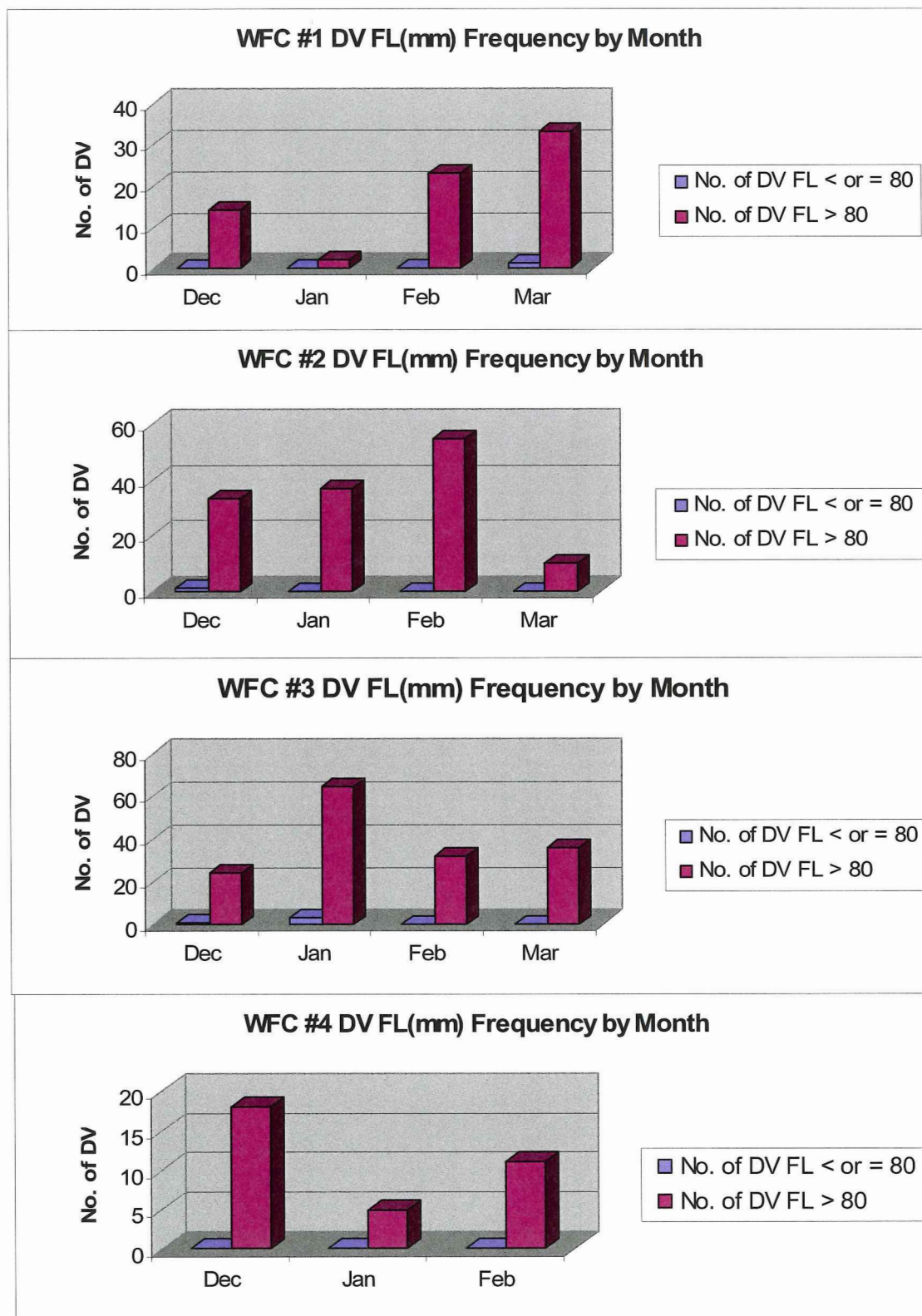
Figure 26 presents DV mean Fulton's condition factor (FCC) by month and fork length (FL) category for sites 1-4. At site 1, the mean FCC decreased overall, from 0.95 (Dec.) to 0.85 (March) for greater than 80 mm DV. At site 2, the mean FCC decreased for DV in the greater than 80 mm category, where it was 0.98 (Dec.) and 0.90 (March). At site 3, the mean FCC for the greater than 80 mm coho decreased from 1.05 (Dec.) to 0.92 (March). The culvert pool of site 4 appeared to have a decrease in mean FCC for the greater than 80 mm category DV to February 2006.

The summary of the condition factor data is also provided in Table 10. Fulton's condition factor for all sites of Waterfalls Creek was greater at the beginning of winter.

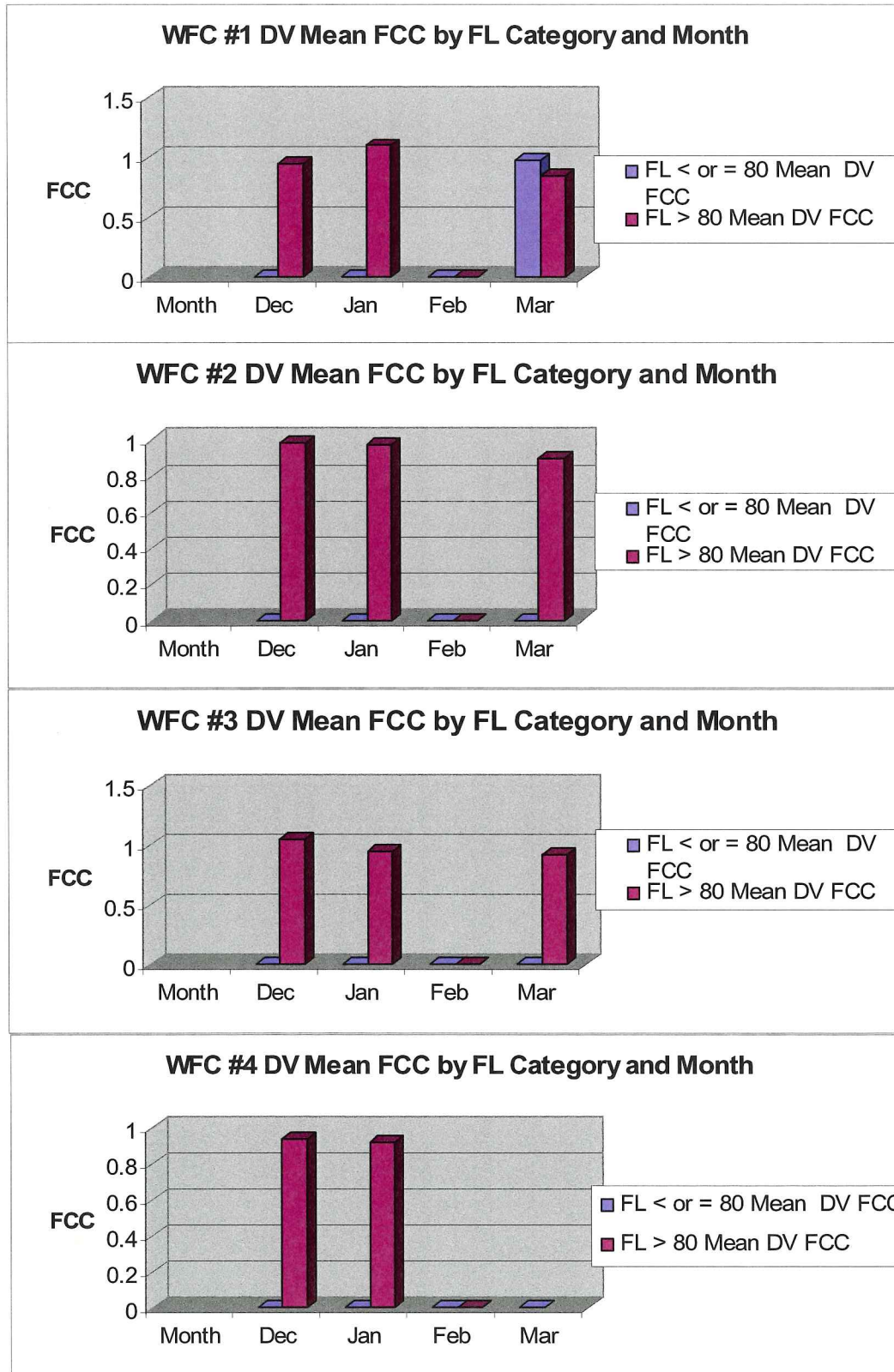
Table 10. Mean Fulton's Condition Factor for DV at Waterfalls Creek in December 2005 and Feb./March 2006.

Site	Species	Fork Length Category	FCC-Mean	FCC-Mean
			Dec-05	Mar-06
1	DV	≤ 80mm	NA	0.98
		>80 mm	0.95	0.85
2	DV	≤ 80mm	NA	NA
		>80 mm	0.98	0.90
3	DV	≤ 80mm	NA	NA
		>80 mm	1.05	0.92
4	DV	≤ 80mm	NA	NA
		>80 mm	0.94	NA





**Figure 25. Fork Length (FL) Frequency by Month for Dolly Varden at Waterfalls Creek Sites 1-4.**



**Figure 26. Mean Fulton's Condition Factor by Fork Length (FL) Category for Dolly Varden at Waterfalls Creek Sites 1-4.**

### **4.3 Density Indices (CPUE)**

Fish capture data was used to calculate catch per unit effort (CPUE). Total catch and CPUE during the overwintering study (Dec.-March) are summarized for each of the 10 sites in Table 11. It should be noted that CPUE for McKinnon Creek (Site 1), Hydropole 12 and Waterfalls Creek (Site 4) were analyzed during 3 sampling intervals only (i.e., Dec.-Feb) due to no traps set in March as a result of low water levels.

Total catch was highest at Waterfalls Cr. (Site 1) and lowest in the Hydropole 12 site. Correspondingly, CPUE was highest at Waterfalls Cr. (Site 1) and lowest at the Hydropole 12 site. Total catch over the winter was greater than 75 fish at seven of the ten sites (70%). These sites included Barren Cr., McQuarrie Cr., sites 1 and 2 of McKinnon Cr., and sites 1-3 of Waterfalls Cr. Coho salmon comprised greater than 70% of the total catch at Barren Cr., sites 1 and 2 of McKinnon Cr., and site 1 of Waterfalls Cr. Greater than 50% of the total fish captured at sites 2-4 of Waterfalls Cr. was Dolly Varden. In addition, a large proportion (greater than 65%) of the total catch at McQuarrie and Byman Creeks was Rainbow Trout/sthd. Overall, the CPUE was greater than 5 fish/trap at all sites, other than the Hydropole 12 site where only 1.8 fish/trap were captured.



Table 11. Summary of traps catches of juvenile salmonids at each site sampled during the overwintering study.

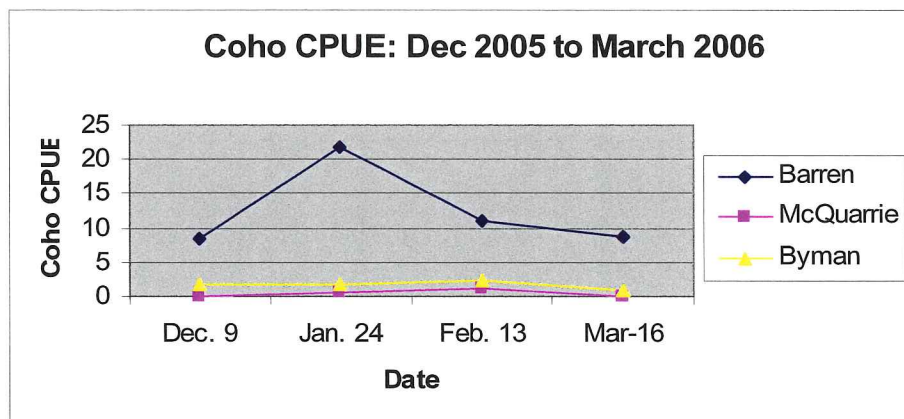
Site	# Traps Set	Coho Salmon			Rainbow trout/ steelhead			Cutthroat trout			Dolly Varden			All Species	
		C	%	CPUE	C	%	CPUE	C	%	CPUE	C	%	CPUE	C	CPUE
Upper Bulkley Tributaries	Barren	149	83	12.4	31	17	2.6	0	0	0	0	0	0	180	15
	McQuarrie	6	8	0.5	73	92	6.1	0	0	0	0	0	0	79	6.6
	Byman	20	31	1.7	45	69	3.8	0	0	0	0	0	0	65	5.4
Middle Bulkley Tributaries	McKinnon Sites 1	56	71	9.3	14	18	2.3	5	6.3	0.8	4	5.1	0.7	79	13.2
	McKinnon Site 2	70	76	8.8	13	14.1	1.6	9	9.8	1.1	0	0	0	92	11.5
	Hydropole 12	3	33.3	0.6	2	22.2	0.4	4	44.4	0.8	0	0	0	9	1.8
Waterfalls Creek	Site 1	376	75	31.3	0	0	0	14	2.8	1.2	111	22.2	9.3	501	41.75
	Site 2	72	26.7	6	0	0	0	2	0.7	0.2	196	72.6	16.3	270	22.5
	Site 3	138	41.7	15.3	0	0	0	1	0.3	0.11	192	58	21.3	331	36.8
	Site 4	12	26.1	2	0	0	0	0	0	0	34	73.9	5.7	46	7.7

C=total catch, %=proportion of the total catch, CPUE=mean catch of each species using monthly CPUE data.

The following figures present CPUE data over time as well as between sites and by species. The CPUE for coho salmon for all the sites are presented in Figures 27-29. The CPUE for Rainbow Trout/sthd are presented for McKinnon Creek and Upper Bulkley sites in Figures 30 and 31, and CPUE for Dolly Varden are presented for the Waterfalls Creek sites in Figure 32.

#### 4.3.1 CPUE for Coho

The CPUE for coho salmon remained fairly constant ( $< 4$  coho/trap) throughout the winter at the McQuarrie and Byman Creek sites. The CPUE recorded at the Barren Creek site was greater ( $> 7$  coho/trap) than McQuarrie and Byman during all sampling dates. The CPUE of Jan. 24 at Byman Creek ( $> 20$  coho/trap) was much greater than the CPUE recorded during the other sampling dates at Byman (Figure 27).



**Figure 27. Catch per Unit Effort (CPUE) by month for Coho at Barren, McQuarrie and Byman sites.**

Of the McKinnon Creek sites, the CPUE for coho salmon remained most constant at the Hydropole 12 creek where it increased slightly from 0 coho/trap on Dec. 14/05 to 1 coho/trap on Feb 14/06. The CPUE for coho salmon at Site 1 of McKinnon Creek decreased from 7 coho/trap on Dec.14/05 to only 1.5 coho/trap on Feb. 14/06. There was a large increase in coho captured at site 1 on Jan. 20/06 where the CPUE was 19.5 coho/trap. The CPUE for coho salmon at Site 2 of McKinnon Creek decreased from 9.5 coho/trap on Dec. 14 to 6 coho/trap on March 15/06. There was an increase in coho captured on Jan. 20/06 at site 2 where the CPUE was 13.5 coho/trap (Figure 28).

The CPUE for coho salmon was greater than 30 coho/trap during Dec./05 to Feb./06 at site 1 of Waterfalls Creek, which was the highest CPUE recorded during these months compared to the other three sites. On the contrary, the CPUE at site 1 on March 14<sup>th</sup> was much less at approximately 15 coho/trap. The CPUE for coho salmon at site 2 decreased from 9 coho/trap on Dec. 15/2005 to 1 coho/trap on March 14<sup>th</sup>. The CPUE for coho salmon was fairly constant at site 3 where it decreased only slightly over the winter from 21.5 coho/trap (Dec.15/05) to 19 coho/trap (March 14/06); however, the CPUE on Feb. 23 was only 1.5 coho/trap. Lastly the CPUE for Waterfalls Creek Site 4 remained fairly

constant where it increased slightly from 2 coho/trap on Dec. 15/05 to 3 coho trap on Feb. 23/06 (Figure 29).

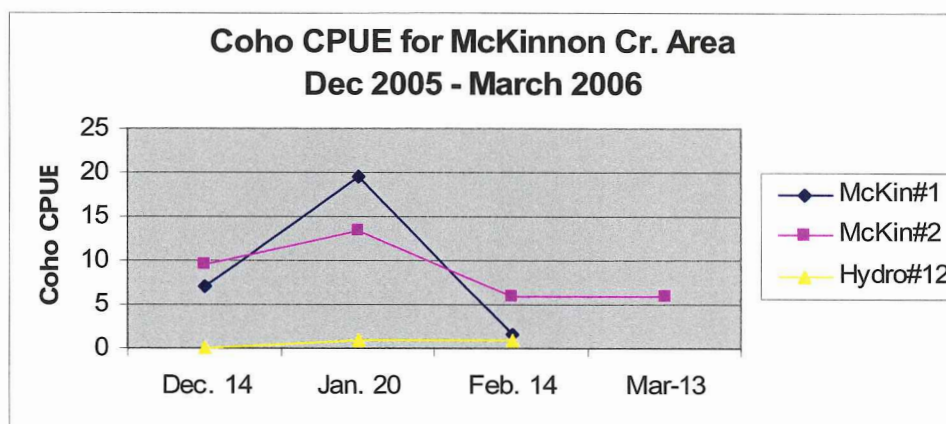


Figure 28. Catch per Unit Effort (CPUE) for Coho by month at the McKinnon Creek sites.

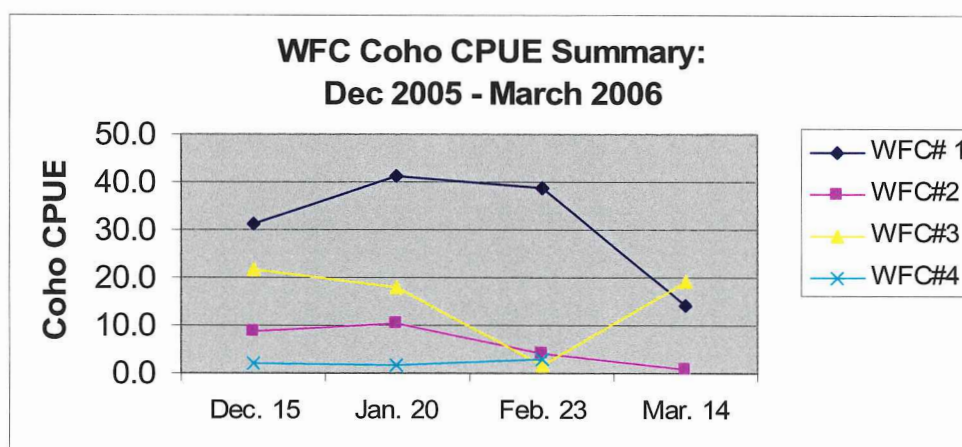
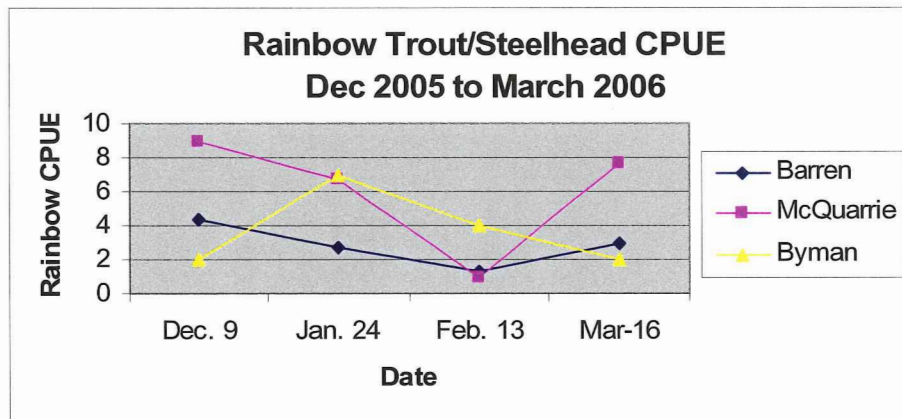


Figure 29. Catch per Unit Effort (CPUE) by month for Coho at the Waterfalls Creek sites.

#### 4.3.2 CUPE for Rainbow Trout (RBT)/Steelhead(STHD)

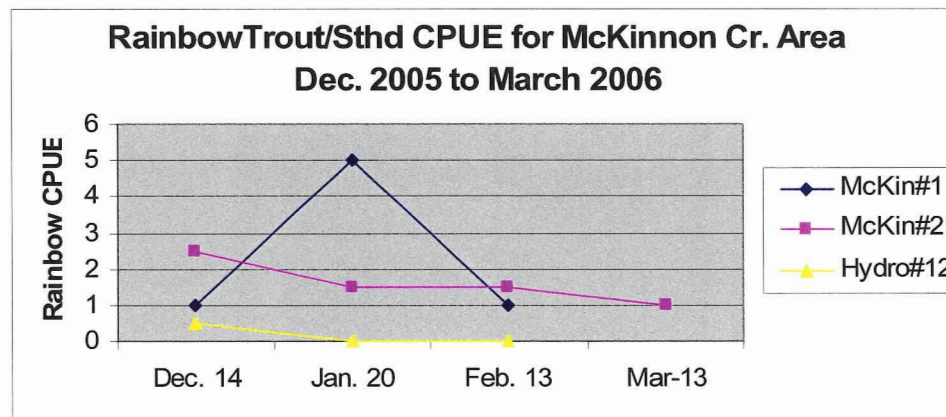
The CPUE for RBT/STHD was most constant at the Barren Creek site where it ranged from 1.3 to 4.3 RBT/STHD per trap. As well, a slight decrease in CPUE was recorded over the winter at Barren Creek. The CPUE at the McQuarrie Creek site decreased slightly from 9.7 RBT/STHD/trap on Dec. 9/05 to 7.7 RBT/STHD/trap on March 16/06. The lowest CPUE (1 RBT/STHD/trap) of all the Upper Bulkley sites was recorded at McQuarrie Creek on Feb. 13/06. Lastly, the CPUE at the Byman Creek site was 2 RBT/STHD/trap at the beginning and end of winter; where it peaked to 7 RBT/STHD/trap on Jan. 24/06 (Figure 30).





**Figure 30. Catch per Unit Effort (CPUE) by month for Rainbow Trout/Steelhead at the Upper Bulkley Sites.**

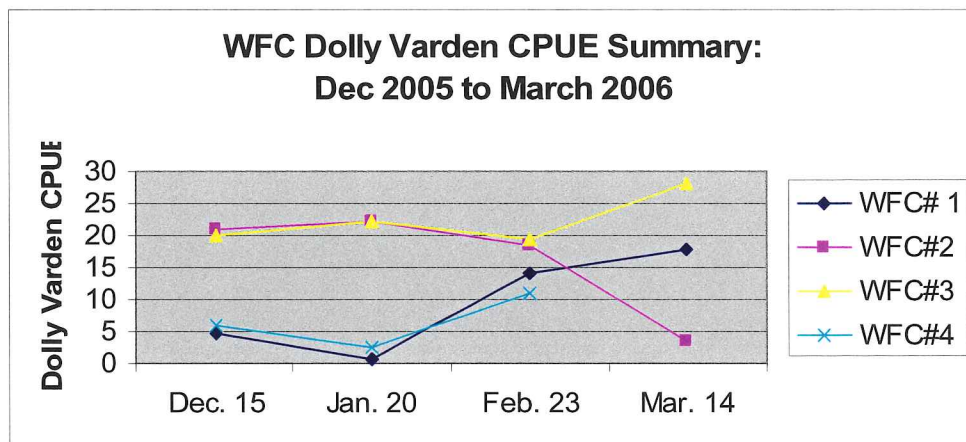
The CPUE for RBT/STHD was most constant at the Hydropole 12 and McKinnon Creek site 2, where there was only a slight decrease in CPUE from the beginning to end of winter. The CPUE at McKinnon Creek, site 1, was most varied where it peaked to 5 RBT/STHD/trap on Jan. 20/06 (Figure 31).



**Figure 31. Catch per Unit Effort (CPUE) by month for Rainbow Trout/Steelhead at the McKinnon Creek Sites.**

#### 4.3.3 CUPE for Dolly Varden (DV)

The CPUE at site 3 of Waterfalls Creek was most constant of the 4 sites sampled, where it ranged from 19.5 to 28 DV/trap. Overall, the CPUE for DV was greatest at the end of winter at sites 1, 3 and 4. Site 2 of Waterfalls Creek was the only site where the CPUE decreased over the course of the winter, with the most marked decrease noted from Feb. 24 (18.3 DV/trap) to March 14 (3.3 DV/trap) (Figure 32).



**Figure 32. Catch per Unit Effort (CPUE) by month for Dolly Varden at the Waterfalls Creek sites 1-4.**

## 5.0 DISCUSSION

As noted in previous overwintering studies (Donas and Saimoto 2001a, 2001b), watershed characteristics, as well as habitat types sampled are expected to influence species composition, fish size and condition, and fish densities such as CPUE. Therefore, it can be expected for results to vary as they have between sites of this study. Winter has been documented to be a critical time in the life history of salmonids (Bustard and Narver 1975), since this season can affect fish health and survival (Bustard and Narver 1975, Dolloff 1987). Many habitat types, such as beaver ponds, lakes, mainstems and tributaries have been identified as important overwintering habitat for salmonids (Bustard and Narver 1975, Swales et al. 1986). Within these habitat types, the importance of cobble substrate, deep pools and organic cover have been documented (Bustard and Narver 1975, Swales et al. 1986, Dolloff 1987). Differences in species composition, densities and fish size are expected to differ as a result of habitat composition at the different sample sites. As used in previous overwintering studies (Donas and Saimoto 1999-2001), the two main indicators of habitat suitability in this study were species density indices (CPUE) and fish size (fork length, weight and condition).

### 5.1 Winter and Spring Habitat Assessments

Overall, there seemed to be a greater number of fish captured at sites with water depths greater than approximately 50 centimeters. The most notable result of the winter habitat assessments was the decrease in water depth near the end of winter at the culvert pools of Hydropole 12 and site 1 (rehabilitation pool) of McKinnon Creek. The pool depth of these sites was less than 10 cm in March and it is suspected this low water depth would limit use by overwintering fish. The low pool depth may have been attributed to lower



than normal flows; however, it would be beneficial to monitor these sites in future years to determine if the pool depth is a limiting factor near the end of winter.

Habitat assessments found the Upper Bulkley sites to have sufficient water depth and dissolved oxygen throughout the winter. The only limiting factor noted may have been the low potential for migration and low stream flow at the Barren Creek site in February, although water depth and dissolved oxygen appeared to be sufficient to sustain overwintering fish at this time.

Habitat assessments at Waterfalls Creek found sites 1-3 to have sufficient water depth and dissolved oxygen throughout the winter. The water depth at site 4 (culvert pool) became low and potential for migration was moderate near the end of winter, which could be limiting for overwintering fish.

## **5.2 Species Composition and Diversity**

Coho salmon and Rainbow Trout/sthd were documented at the Upper Bulkley sites throughout the study. It should be noted that Chinook salmon was also documented at the Byman Creek site during the 2000/2001 overwintering study (Donas and Saimoto 2001a). Barren Creek contained the highest number of fish during all winter months sampled, of the three sites sampled in the Upper Bulkley. The coho catch was highest at Barren Creek, which is a culvert pool that was enhanced by dredging in September 2005 as part of a Ministry of Transportation Culvert Maintenance Program. Byman Creek contained the lowest number of fish in December 2005, and February and March 2006. As well, the majority of fish captured at McQuarrie Creek was Rainbow Trout/sthd. It appears that the maintenance program at Barren Creek has contributed to high fish count however, additional overwintering sampling at all three sites would be beneficial in using species composition/diversity as an indicator in the future.

Species composition at the McKinnon Creek sites consisted of two more species than the Upper Bulkley sites, where coho salmon, RBT/sthd, cutthroat trout, and Dolly Varden char (Site 1-McKinnon only) were captured. Three species were documented at the Waterfalls Creek sites including coho salmon, Dolly Varden char and cutthroat trout. High numbers of coho were captured in Waterfalls Creek, potentially due to adult and fry stocking enhancement in the system. It is difficult to use species composition and diversity as an indicator of overwintering habitat at the sites studied this year however, additional overwintering sampling at these sites would be beneficial in using species composition/diversity as an indicator in the future.

## **5.3 Fork Length and Condition Comparisons**

The frequency of larger fork length fish is expected to be more prevalent near the end of winter than the smaller less competitive fish since smaller fish are assumed to have less energy reserves (Dolloff 1987). Condition factor is expected to change over the winter,

and differ between sites, since the amount of energy loss during the winter is expected to vary between sites (Donas and Saimoto 2001b).

### 5.3.1 Coho – Upper Bulkley Tributaries

The majority of coho captured at the Barren Creek site were greater than 80 mm, where their numbers increased from the beginning to end of winter. There were only 6 coho less than or equal to 80 mm captured in total from January to March. It is uncertain why so few coho less than or equal to 80 mm were captured; however, it is speculated that due to inter- and intra- specific competition the smaller coho fry may not have been entering the traps as frequently as the larger coho fry. It is also speculated that smaller coho may have been less active in the winter. At the McQuarrie creek site, only 6 coho less than or equal to 80 mm were captured and no coho greater than 80 mm were captured. It is uncertain why there were so few coho captured at this site however, it should be noted that RBT/sthd numbers were very high as this site therefore inter- specific competition may have been occurring where the coho were not entering the traps as frequently as the RBT/sthd. At the Byman Creek site, coho less than or equal to 80 mm were not captured throughout the winter; however, coho greater than 80 mm were captured during each month with the highest number captured in February. Again, it is not known why so few coho less than or equal to 80 mm were captured; however, it is speculated that intra-specific competition may have been occurring where the small, less competitive coho were not entering the traps. Overall, there was a slight decline in coho numbers from beginning to end of winter at Byman Creek.

At the Barren Creek site, the mean FCC for both fork length categories appeared to be lowest in January. Overall, the mean FCC for coho decreased from 1.06 in Dec. to 1.01 in March in the greater than 80 mm fork length category. A consistent FCC of greater than 1.0 for the greater than 80 mm category suggests that the Barren Creek site provides good overwintering habitat for coho. At the Byman Creek site, coho in the less than or equal to 80 mm fork length category were absent. Due to the mean FCC for coho in the greater than 80 mm fork length category decreasing from 1.09 in Dec. to 0.95 in March, the Byman site may provide less stable habitat than Barren site for coho.

### 5.3.2 Coho – McKinnon Creek

The majority of coho captured at site 1 of McKinnon Creek were less than or equal to 80 mm, with the highest frequency of coho captured on Dec. 14/05. At site 2, the majority of coho captured were less than or equal to 80 mm, with the highest frequency of coho captured on Jan. 20/06. Overall, the frequency of coho decreased from the beginning to end of winter at both sites, which could indicate their was a net migration of coho out of these pools, or some mortality over the winter.

At site 1, the mean FCC for coho in the greater than 80 mm fork length category decreased from 1.17 in Dec. to 0.82 in Feb. The mean FCC remained the same for coho

in the less than or equal to 80 mm category, where it was 1.16 in both Dec. and Feb. Other than the pool depth becoming very low at site 1 in March and overall numbers decreasing over the winter, it appears to provide good overwintering habitat for coho that are less than or equal to 80 mm in length. At site 2, the mean FCC remained fairly constant for the coho in the less than or equal to 80 mm category, where it was 1.1 or greater. The mean FCC for the greater than 80 mm coho was 1.11 (Dec.) however, middle to end of winter data is absent. It appears that site 2 provides good overwintering habitat for coho less than or equal to 80 mm, and overwintering habitat is also likely to be stable for greater than 80 mm coho.

### 5.3.3 Coho – Waterfalls Creek

A large proportion of coho captured at site 1 of Waterfalls Creek were less than or equal to 80 mm, where there numbers remained fairly constant from Dec. to Feb., with a decline noted in March. The greater than 80 mm category coho remained fairly constant throughout the winter. These results indicate that site 1 provides fairly stable habitat, with the decline in numbers possibly due to net migration out of the glide in March, although some studies have noted a lack of movement of salmonids during winter (Dolloff 1987, Swales et al. 1986, Giannico and Healey 1998). Due to warmer water temperatures in March younger coho may have migrated to other habitat in the system however, mortality of coho is also a possibility. Most of the coho captured at the site 2 were greater than 80 mm, with an overall decline in numbers over the winter with a peak noted in January. At site 3, there appeared to be a decline in numbers over the winter however, both fork length categories also peaked in January. The peak in numbers in January at sites 2 and 3 may have been due net migration of coho to these sites, contrary to studies that indicate salmonids such as coho lack movement in the winter (Dolloff 1987, Swales et al. 1986, Giannico and Healey 1998). The overall decline of coho over the winter at sites 2 and 3 may have been due to mortality or migration of coho out of the pools since potential for migration was noted to be high to moderate at these sites. All coho captured at site 4 were of the less than or equal to 80 mm category, with a decrease in numbers from Dec. to Feb. Since potential for migration at site 4 was only moderate in Feb., mortality may explain the decline in coho numbers. The decline in coho captured at all sites may have been partly due to these fish being less active and feeding less throughout the winter, in which case some coho may not have entered the traps.

The mean FCC for coho steadily decreased over the winter at all four sites, with some declines in FCC being more pronounced than others. The decline in condition is to be expected since fish utilize their stored energy reserves to survive the stressful season (Dolloff 1987). It should be noted that a previous overwintering study of Waterfalls Creek showed an increase in condition of coho in March which was attributed to increases in water temperature and improved environmental condition for feeding and growth (Donas and Saimoto 2001b). The air and water temperature recorded in March 2006 was slightly warmer than the other winter months; however, it is assumed the slight increase in these variables did not produce the similar effect as speculated in the previous study since condition of coho declined in March.

### 5.3.4 Rainbow Trout/Steelhead – Upper Bulkley Tributaries

The majority of RBT/sthd captured at the Barren Creek site was greater than 80 mm, with the highest frequency of both fork length categories captured near the beginning of winter. At the McQuarrie Creek site, the frequency of RBT/sthd in the greater than 80 mm category decreased from Dec. to March, whereas the frequency of RBT/sthd less than or equal to 80mm increased from Dec. to March. The presence of more RBT/sthd trout less than or equal to 80mm near the end of winter at the McQuarrie Creek site could be due to other overwintering habitat in the system becoming less than optimal (e.g., freezing of refuge habitat in the culvert) causing them to migrate and compete with older/larger fish in pools such as the one present at this site. At the Byman Creek site, there were no apparent trends in RBT/sthd frequency distributions from beginning to end of winter. Potential for migration was high at this site, which could be a factor in the variations from month to month with no apparent trends. RBT/sthd have been known to move to different habitat prior to or during the winter (Bustard and Narver 1975, Swales et al. 1986).

At the Barren Creek site, the mean FCC for the greater than 80mm fork length category was consistently above 1.0, with only a slight decrease from Dec. to March. The mean FCC increased from 1.09 in Dec. to 1.14 in March in the less than or equal to 80 mm fork length category, with no RBT/sthd in this category captured in Jan. and Feb. The consistent FCC for both fork length categories from beginning to end of winter suggests that the Barren Creek site provides optimal overwintering habitat for RBT/sthd. At the McQuarrie Creek site, the mean FCC for the greater than 80 mm fork length category was consistently above 1.0, with only a slight decrease from Dec. to March. The mean FCC for fork length category less than or equal to 80 mm decreased from 1.05 in Dec. to 0.98 in March. The decrease in FCC over the winter to just below 1.0 suggests that a fairly healthy population of RBT/sthd exists at this site. At the Byman Creek site, RBT/sthd in the less than or equal to 80 mm fork length category were absent during the Dec. and Feb. sampling dates; however, there was a decrease in mean FCC noted from 1.05 in Jan. to 0.8 in March. On the contrary, the mean FCC for RBT/sthd in the > 80 mm fork length category decreased only slightly from 1.09 in Dec. to 1.04 in March. The fairly substantial decline in condition of the smaller RBT/sthd is to be expected since younger fish are assumed to have less energy reserves to survive adverse conditions than larger, more competitive fish (Cargnelli and Gross 1997). Therefore, the decline in condition is not necessarily an indication that Byman Creek is limiting for overwintering salmonids.

### 5.3.5 Dolly Varden – Waterfalls Creek

On the whole, DV of the greater than 80 mm category were most abundant in all sites, with the less than or equal to 80 mm category DV being virtually non-existent. Almost all DV captured at site 1 were greater than 80 mm, where 14 were captured in Dec. and 33 in March. Overall, the DV of the greater than 80 mm category increased throughout the winter, although only 2 DV were captured in January. The increase in DV overall



may have been due to net immigration to this glide since potential for migration was noted to be high at site 1. Most of the DV captured at site 2 were greater than 80 mm, with an overall decrease in numbers from beginning to end of winter however, the numbers increased in January and February. Migration to and from this glide could explain differences in numbers for each month due to high potential for migration noted at site 2. In addition, some mortality may have occurred near the end of winter. At site 3, there was an overall increase in numbers over the winter and both fork length categories peaked in January. Migration to and from this glide due to high potential for migration at this site may have contributed to a peak in January. All DV captured at site 4 were of the greater than 80 mm category, with a decrease from 18 in Dec. to 11 in Feb. Net migration out of the pool or mortality may have contributed to the decline in DV at site 4 since it had only a moderate potential for migration in Feb. A likely net migration out of the pool occurred in January due to high potential for migration noted during this month.

At site 1, the mean FCC decreased overall, from 0.95 (Dec.) to 0.85 (March) for the greater than 80 mm DV. At site 2, the mean FCC decreased for DV in the greater than 80 mm category, where it was 0.98 (Dec.) and 0.90 (March). The decrease in FCC indicates that winter is difficult for the DV in the system, which is to be expected for all salmonids. At site 3, the mean FCC for the greater than 80 mm coho decreased from 1.05 (Dec.) to 0.92 (March). Possibly higher CPUE of DV later on in winter at sites 1 and 3 led to more intra-specific competition, hence the lower mean FCC recorded. The culvert pool of site 4 appeared to have a decrease in mean FCC for the greater than 80 mm category DV even though end of winter data is absent.

## **5.4 Density (CPUE)**

### **5.4.1 CPUE for Coho**

The CPUE varied between Upper Bulkley sites and varied throughout the course of the winter. For coho salmon, CPUE was fairly consistent from beginning to end of winter at the McQuarrie and Byman sites. On the contrary, CPUE at the Barren Creek site was much higher throughout the winter than the other two sites, which could be attributed to the pool enhancement work (i.e. dredging) conducted at this site in the fall of 2005. It should be noted that the average CPUE at the Barren Creek site over the 2000/2001 overwintering study was only 0.63 coho/trap (Donas and Saimoto 2001a), compared to the average CPUE during this study of 12.4 coho/trap. In addition, the CPUE at Barren Creek on Jan. 24/06 was much greater than the other three sampling dates, which may have been attributed to high potential for migration noted on the Dec. and Jan. sampling dates. Fish may have potentially migrated into the Barren Creek pool from other less suitable overwintering habitat in the system, which may have led to the high CPUE recorded in January. The importance of maintaining culvert pools, such as Barren Creek, appears to be a worthwhile enhancement activity based on the findings of this study.

At the McKinnon Creek Sites, the CPUE at the Hydropole 12 site remained fairly constant, which could be attributed to the fairly low potential for migration compared to

the other 2 sites sampled in the watershed. The decrease in CPUE from the beginning to end of winter at site 1 and 2 of McKinnon Creek may have been due to high to moderate potential for migration or mortality.

At the Waterfalls Creek sites 1 and 2, CPUE for coho decreased from onset of winter (December 2005) to end of winter (March 2006). This could be due to a high potential for migration at sites 1 and 2, which were located in pool/glide habitat with a total length of about 300m. It is not certain why the CPUE decreased so greatly in February at Waterfalls Creek Site 3, but since the potential for migration at this site was high the coho may have migrated out of the glide although coho usually do not actively migrate between habitats in the winter (Dolloff 1987, Swales et al. 1986, Giannico and Healey 1998). On the whole, the CPUE at site 3 was fairly consistent at the beginning and end of winter. The CPUE at Waterfalls Creek Site 4 for coho remained fairly constant, possibly due to potential for migration being much less at this site.

#### **5.4.2 CPUE for Rainbow Trout/Steelhead**

At the Upper Bulkley sampling sites, CPUE for Rainbow Trout/Steelhead varied throughout the winter sampling period but in general, the December 2005 CPUE was similar to March 2006 CPUE. CPUE at the Barren Creek site was the most consistent of the three sites, which could be attributed to Barren Creek having the lowest potential for migration of the 3 sites. Rainbow/sthd have been known to migrate to different habitat prior to or during the winter (Bustard and Narver 1975, Swales et al. 1986), which could be a factor in the variation in CPUE noted throughout the winter.

CPUE for Rainbow Trout/Steelhead at site 2 of McKinnon Creek and the Hydropole 12 creek remained fairly consistent over the course of winter sampling. CPUE at site 1 of McKinnon varied throughout the winter where it was greatest on the January sampling date which may be attributed to moderate and high potential for migration at site 1.

#### **5.4.3 CPUE for Dolly Varden**

The CPUE for Dolly Varden char at the Waterfalls Creek sites varied over the duration of winter sampling with site 3 having the most consistent CPUE over all sampling dates. High potential for migration most likely affected CPUE for Dolly Varden char.

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

1. Further monitoring, including habitat assessments and overwintering trapping, of all ten sites sampled during this study is recommended to determine if CPUE, and fish size and condition are consistent with 2005/06 results.
2. It appeared that coho salmon of the less than or equal to 80 mm fork length category were not captured as frequently as the larger fry at the Upper Bulkley sites, which could be due to intra- or inter- specific competition at the sites. Use of modified minnow traps with two hole sizes suitable for each fork length category may help to limit the potential effects of inter- and intra- specific competition. The use of two different minnow traps would also aid in determining if coho less than or equal to 80 mm are becoming less frequent in all sample sites over the course of the winter.
3. Due to a need for further understanding of catch-ability rates of minnow traps and no concrete method to measure it at this time, it is recommended to set up a study to determine a standard attraction distance of gee-type minnow traps. The importance of determining a standard distance is crucial to accurately estimating such variables as density of fish within different habitat types.
4. It appeared that the maintenance program (i.e. dredging) of the Barren Creek site in the fall of 2005 was beneficial since the densities of coho were highest at Barren Creek compared to the other two Upper Bulkley sites. Further monitoring is recommended to confirm this result however, preliminary findings indicate maintenance programs such as the one at Barren Creek are beneficial for overwintering salmonids.
5. The rehabilitation pool at McKinnon Creek (Site1), upstream of the culvert, had low water depth in March, which was suspected to limit overwintering potential near the latter portion of the winter. Future monitoring (refer to #1 above) is recommended at this site to determine if further rehabilitation should occur at this site.

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**Appendix 1**  
**Winter Habitat Assessment Data**



**Site Identification**

Barren Creek Culvert @Hwy 16

Visit #1

**Sampling Date**

08-Dec-05

**Atmospheric and Water Conditions**

Air Temp	4 C
Ice Cover	95%
Stream Flow	Low
Potential for Migration	High

Water Depth (cm)	94 cm
Ice thickness (cm)	4.5 cm
Clarity of Ice	none
Snow Depth (cm)	1 cm
Water Temp ©	1 cm
Turbidity	Clear
DO	9.4 PPM
pH	7.2
Conductivity (Ms)	na

Number of traps set

3

**Set Locations**

Set three traps on the upstream side of the highways culvert - this pool was dredged in September 2005

Set duration

24 hrs

**Comments**

There is some flow entering this pool area from the ditchline.

**Site Identification**

Barren Cr. Hwy 16  
Visit #2

**Sampling Date**

Jan 24/ 06

**Atmospheric and Water Conditions**

Air Temp	7 C
Ice Cover	100%
Stream Flow	LOW
Potential for Migration	LOW

Water Depth (cm)	112
Ice thickness (cm)	30.5
Clarity of Ice	NONE
Snow Depth (cm)	9.5
Water Temp ©	0.4 C
Turbidity	Clear
DO	12.2PPM
pH	7.7
Conductivity (Ms)	N/A

Number of traps set

3

Set Locations

3 Traps at upstream side of Hwy. 16 culvert

Set duration

24 hrs

**Comments**

Ditch flow is almost non-existent  
Lots of plowed snow from Hwy. 16 in Cr.  
Need a fish sign on this Cr.  
Hydrogen Sulphide smell to H<sub>2</sub>O

**Site Identification**

Barren Creek Culvert @Hwy 16

Visit #3

**Sampling Date**

13-Feb-06

**Atmospheric and Water Conditions**

Air Temp	-1 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Low

Water Depth (cm)	145 cm
Ice thickness (cm)	34 cm
Clarity of Ice	None
Snow Depth (cm)	16 cm
Water Temp ©	0.3 C
Turbidity	Clear
DO	12.5 ppm
pH	7.8
Conductivity (Ms)	na

Number of traps set	3
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**Set Locations**

Set three traps on the upstream side of the highways culvert - this pool was dredged in September 2005

Set duration	24 hrs
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**Comments**

No flow entering the pool from the ditchline. Snow that has been plowed from the highway has ended up on the ice just in front of the u/s side of the culvert

**Site Identification**

Barren Creek Culvert @Hwy 16

Visit #4

**Sampling Date**

15-Mar-06

**Atmospheric and Water Conditions**

Air Temp	-4 C
Ice Cover	100%
Stream Flow	Mod
Potential for Migration	Mod

Water Depth (cm)	86 cm
Ice thickness (cm)	52 cm
Clarity of Ice	None
Snow Depth (cm)	8 cm
Water Temp ©	0.1 C
Turbidity	Clear
DO	12.8 ppm
pH	7.9
Conductivity (Ms)	na

Number of traps set 3

**Set Locations**

Set three traps on the upstream side of the highways culvert - this pool was dredged in September 2005

Set duration 24 hrs

**Comments**

Actual water depth =  $138 - 52 = 86\text{cm}$   
Coho fins were frayed, especially the caudal fins (captured on March 16-06)  
Digital photos taken -



**Site Identification**

MacQuarrie Cr @ Hwy 16  
culvert  
Visit #1

**Sampling Date**

08-Dec-05

**Atmospheric and Water Conditions**

Air Temp	-2 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	125.5 cm
Ice thickness (cm)	41.5 cm
Clarity of Ice	none
Snow Depth (cm)	1 cm
Water Temp ©	0.5 C
Turbidity	clear
DO	12.6 PPM
pH	7.5
Conductivity (Ms)	na

**Number of traps set**

3

**Set Locations**

3 traps set in a cluster on the d/s side of the culvert.

**Set duration**

24 hrs

**Comments**

**Site Identification**

MacQuarrie Cr. At Hwy. 16  
culvert  
VISIT #2

**Sampling Date**

Jan 24/ 06

**Atmospheric and Water Conditions**

Air Temp	7 C
Ice Cover	100%
Stream Flow	LOW
Potential for Migration	MOD

Water Depth (cm)	72.5
Ice thickness (cm)	41.5
Clarity of Ice	NONE
Snow Depth (cm)	25.5
Water Temp ©	N/A
Turbidity	CLEAR
DO	14.0PPM
pH	7.6
Conductivity (Ms)	N/A

Number of traps set 3

**Set Locations**

3 Traps at downstream side of Hwy. 16  
culvert  
Trap #1 inside the culvert

Set duration 24 hrs

**Comments**

**Site Identification**

MacQuarrie Cr @ Hwy 16  
culvert  
Visit #3

**Sampling Date**

13-Feb-06

**Atmospheric and Water Conditions**

<b>Air Temp</b>	-1 C
<b>Ice Cover</b>	100%
<b>Stream Flow</b>	Low
<b>Potential for Migration</b>	Moderate

<b>Water Depth (cm)</b>	80 cm
<b>Ice thickness (cm)</b>	49 cm
<b>Clarity of Ice</b>	None
<b>Snow Depth (cm)</b>	32 cm
<b>Water Temp ©</b>	0.1 C
<b>Turbidity</b>	Clear
<b>DO</b>	14 ppm
<b>pH</b>	8.0
<b>Conductivity (Ms)</b>	na

**Number of traps set**

3

**Set Locations**

3 traps set in a cluster on the d/s side of  
the culvert.

**Set duration**

24 hrs

**Comments**

**Site Identification**

MacQuarrie Cr @ Hwy 16  
culvert  
Visit #4

**Sampling Date**

15-Mar-06

**Atmospheric and Water Conditions**

Air Temp	-4 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Moderate

Water Depth (cm)	84 cm
Ice thickness (cm)	61 cm
Clarity of Ice	None
Snow Depth (cm)	33 cm
Water Temp ©	0.1 C
Turbidity	Clear
DO	13.3 ppm
pH	8.0
Conductivity (Ms)	na

Number of traps set	3
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**Set Locations**

3 traps set in a cluster on the d/s side of the culvert.

Set duration	24 hrs
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**Comments**

Do not subtract ice depth from water depth.

Digital photos taken -



**Site Identification**

Byman Cr @ Hwy 16 culvert  
Visit #1

**Sampling Date**

08-Dec-05

**Atmospheric and Water Conditions**

Air Temp	-2 C
Ice Cover	85%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	91.5 cm
Ice thickness (cm)	28 cm
Clarity of Ice	none
Snow Depth (cm)	1 cm
Water Temp ©	0.5 C
Turbidity	clear
DO	12.2 PPM
pH	7.3
Conductivity (Ms)	na

Number of traps set	3
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**Set Locations**

One cluster of 3 traps on the d/s side of the  
hwys culvert

Set duration	24 hrs
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**Comments**

**Site Identification**

Byman Cr. At Hwy. 16  
culvert  
VISIT #2

**Sampling Date**

Jan 24/ 06

**Atmospheric and Water Conditions**

Air Temp	7 C
Ice Cover	95%
Stream Flow	MOD
Potential for Migration	HIGH

Water Depth (cm)	66.5
Ice thickness (cm)	28
Clarity of Ice	NONE
Snow Depth (cm)	22.5
Water Temp ©	0.1 C
Turbidity	CLEAR
DO	12.9PPM
pH	7.7
Conductivity (Ms)	N/A

Number of traps set	3
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**Set Locations**

3 Traps at downstream side of Hwy. 16  
culvert

Set duration	24 hrs
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**Comments**

**Site Identification**

Byman Cr @ Hwy 16 culvert  
Visit #3

**Sampling Date**

13-Feb-06

**Atmospheric and Water Conditions**

Air Temp	-1 C
Ice Cover	95%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	65 cm
Ice thickness (cm)	33.5 cm
Clarity of Ice	None
Snow Depth (cm)	20 cm
Water Temp ©	1.3 C
Turbidity	Clear
DO	13.4 ppm
pH	7.7
Conductivity (Ms)	na

Number of traps set	3
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**Set Locations**

One cluster of 3 traps on the d/s side of the  
hwys culvert

Set duration	24 hrs
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**Comments**

**Site Identification**

Byman Cr @ Hwy 16 culvert  
Visit #4

**Sampling Date**

15-Mar-06

**Atmospheric and Water Conditions**

Air Temp	-5 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	65 cm
Ice thickness (cm)	44 cm
Clarity of Ice	None
Snow Depth (cm)	28
Water Temp ©	0.1 C
Turbidity	Clear
DO	14
pH	8.0
Conductivity (Ms)	na

Number of traps set

3

Set Locations

One cluster of 3 traps on the d/s side of the  
hwys culvert

Set duration

24 hrs

**Comments**

Actual depth is 65-44(ice thickness)=21 cm  
No flow in culvert  
Coho fins are frayed  
Dig. Photos: 1 (Gavin and ice hole), 2 (Trap in hole), 3 (d/s view from hole)



**Site Identification**

McKinnon Creek at culvert under  
Whalen Road

**Sampling Date**

Set date : Nov 8, 2005  
Sampling date : Nov 9, 2005

**Atmospheric and Water Conditions**

Air Temp	1 C
Ice Cover	< 5%
Stream Flow	Moderate
Potential for Migration	High
Water Depth (cm)	u/s 37 and d/s 49
Ice thickness (cm)	<1
Clarity of Ice	clear
Snow Depth (cm)	2
Water Temp ©	1.7
Turbidity	clear
DO	13.7
pH	7.4
Conductivity (Ms)	na

**Number of traps set** GT Cluster #1, Trap #1 is just d/s of culvert  
GT Cluster #1, Trap #2 is 50 m d/s of culvert  
GT Cluster #1, Trap #3 is u/s of culvert in the new pool  
GT Cluster #1, Trap #4 is 10 m u/s of the new pool

NOTE : for the December trapping period the site that is 50m downstream of the d/s side of the culvert and the site that is 10m upstream from the new pool, should be identified as separate sites.

**Set duration** 24 hours

**Comments**

No physical measurements were taken to determine volume of the new pools on both u/s and d/s sides of the culvert.

**Site Identification**

McKinnon Creek @ Whalen Rd  
culvert  
Visit #2

**Sampling Date**

14-Dec-05  
Time : 11:00 am

**Atmospheric and Water Conditions**

Air Temp	-5 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	u/s of culvert = 43 cm d/s of culvert = 46 cm
Ice thickness (cm)	u/s of culvert = 6 cm d/s of culvert = 8.5 cm
Clarity of Ice	none
Snow Depth (cm)	none
Water Temp ©	0.5 C
Turbidity	clear
DO	12.6 PPM
pH	7.2
Conductivity (Ms)	na

Number of traps set	4
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**Set Locations**

GT Cluster #2 - 2 traps set d/s of culvert  
GT Cluster #1 - 2 traps set u/s of culvert

Set duration	24 hrs
--------------	--------

**Comments**

**Site Identification**

Slack Rd. McKinnon Cr. culvert #1

Visit #2

**Sampling Date**

20-Jan-06

**Atmospheric and Water Conditions**

Air Temp	-8
Ice Cover	100%
Stream Flow	LOW
Potential for Migration	MOD

Water Depth (cm)	42(up) 53(dwn)
Ice thickness (cm)	22.5(up) 20.5(dwn)
Clarity of Ice	NONE
Snow Depth (cm)	6
Water Temp ©	0.1
Turbidity	CLEAR
DO	12.8ppm
pH	7.7
Conductivity (Ms)	N/A

Number of traps set

4

Set Locations

2 traps upstream of culvert

2 traps downstream of culvert

Set duration

24hrs.

Comments

**Site Identification**

Slack Rd. McKinnon Cr. culvert #1

Visit #4

**Sampling Date**

14-Feb-06

**Atmospheric and Water Conditions**

Air Temp	0 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Moderate

Water Depth (cm)	u/s = 43 cm d/s = 48 cm
Ice thickness (cm)	u/s = 25 cm d/s = 20 cm
Clarity of Ice	None
Snow Depth (cm)	5 cm
Water Temp ©	0.6 C
Turbidity	Clear
DO	13.2 ppm
pH	7.5
Conductivity (Ms)	na

Number of traps set

4

Set Locations

2 traps upstream of culvert  
2 traps downstream of culvert

Set duration

24hrs.

**Comments**Cluster #2 is Downstream of the culvert  
Cluster #1 is Upstream of the Culvert  
It was windy, therefore the weights may be inaccurate.

**Site Identification**

Slack Rd. McKinnon Cr. culvert #1

Visit #5

**Sampling Date**

13-Mar-06

**Atmospheric and Water Conditions**

Air Temp	0
Ice Cover	100%
Stream Flow	low
Potential for Migration	mod

Water Depth (cm)	u/s = 8.5 cm d/s = 35 cm
Ice thickness (cm)	u/s = 46.5 cm d/s = 47 cm
Clarity of Ice	none
Snow Depth (cm)	4
Water Temp ©	0.1
Turbidity	clear
DO	13.1
pH	7.7
Conductivity (Ms)	n/a

Number of traps set	2
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**Set Locations**

Set duration	24hrs.
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Cluster 2 = 2 traps set downstream of culvert

**Comments**

Water flowing over ice.  
Only cluster 2 was set. Cluster 1 did not have enough water in the re-hab pool.  
The actual water depth under the ice was calculated by subtracting the ice thickness from the total water depth (i.e., u/s= 55cm minus 46.5cm=8.5cm and  
d/s was 82cm minus 47cm = 35 cm



**Site Identification**

Unnamed Creek at Hydro Pole  
#12 on Nielsen Road

**Sampling Date**

Set date : Nov 8, 2005  
Sampling date : Nov 9, 2005

**Atmospheric and Water Conditions**

Air Temp	1 C
Ice Cover	< 5%
Stream Flow	Moderate
Potential for Migration	High
Water Depth (cm)	30 cm
Ice thickness (cm)	1
Clarity of Ice	clear
Snow Depth (cm)	2
Water Temp ©	0.5
Turbidity	clear
DO	12.9
pH	7.3
Conductivity (Ms)	na

**Number of traps set**

Set 2 traps downstream of the culvert.  
GT #1 was set at culvert pool and the  
GT#2 was set about 15 m d/s of the culvert  
pool.

**Set duration**

24 hours

**Comments**

No physical measurements were taken to determine volume of the trapping sites.

**Site Identification**

Unnamed Cr at Hydro Pole #12

Visit #2

**Sampling Date**

14-Dec-05

Time : 11:20 am

**Atmospheric and Water Conditions**

Air Temp	-5 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	Moderate

Water Depth (cm)	25.5 cm
Ice thickness (cm)	5.5 cm
Clarity of Ice	none
Snow Depth (cm)	none
Water Temp ©	0.5 C
Turbidity	clear
DO	12.0 PPM
pH	7.4
Conductivity (Ms)	na

Number of traps set

2

Set Locations

2 traps set on the d/s side of the culvert

Set duration

24 hrs

Comments

**Site Identification**

Unnamed Cr. By hydro pole 12

Visit #2

**Sampling Date**

20-Jan-06

**Atmospheric and Water Conditions**

Air Temp	-8
Ice Cover	100%
Stream Flow	LOW
Potential for Migration	MOD

Water Depth (cm)	21
Ice thickness (cm)	9.5
Clarity of Ice	NONE
Snow Depth (cm)	10.5
Water Temp ©	0.1
Turbidity	CLEAR
DO	11.4
pH	7.4
Conductivity (Ms)	N/A

Number of traps set	2	Set Locations
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2 traps placed downstream of culver

Set duration	24hrs.
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**Comments**

Site downstream of traps is too shallow

**Site Identification**

Unnamed Cr. By hydro pole 12

Visit #4

**Sampling Date**

14-Feb-06

**Atmospheric and Water Conditions**

Air Temp	0 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Low

Water Depth (cm)	24 cm
Ice thickness (cm)	17 cm
Clarity of Ice	None
Snow Depth (cm)	18 cm
Water Temp ©	0.5 C
Turbidity	Clear
DO	11.9 ppm
pH	7.4
Conductivity (Ms)	na

Number of traps set

1

Set Locations

1 trap placed downstream of culvert

Set duration

24hrs.

**Comments**

Site downstream of traps is too shallow  
Site where trap was set is quite shallow - barely deep enough to insert the trap

**Site Identification**

Unnamed Cr. By hydro pole 12

Visit #5

**Sampling Date**

13-Mar-06

**Atmospheric and Water Conditions**

Air Temp	0 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Low

Water Depth (cm)	9 cm
Ice thickness (cm)	18 cm
Clarity of Ice	None
Snow Depth (cm)	16
Water Temp ©	0.1 C
Turbidity	Clear
DO	6.4 ppm
pH	7.2
Conductivity (Ms)	na

Number of traps set	none	Set Locations
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Set duration	n/a
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**Comments**

Site downstream and upstream of culvert is too shallow to set traps.  
Only 10 cm of water under ice and very low DO.



**Site Identification**

Husky Road Creek

**Sampling Date**Set date : Nov 8, 2005  
Sampling date : Nov 9, 2005**Atmospheric and Water Conditions**

Air Temp	1 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Low
Water Depth (cm)	u/s of culvert = 15 cm and d/s of culvert = 21 cm
Ice thickness (cm)	2
Clarity of Ice	clear
Snow Depth (cm)	2
Water Temp ©	0.5
Turbidity	clear
DO	13.4
pH	7.3
Conductivity (Ms)	na

**Number of traps set**Set two traps - GT#1 on u/s side of culvert  
and GT#2 on d/s side of culvert.**Set duration**

24 hours

**Comments**No physical measurements were taken to determine volume of the  
trapping sites.

**Site Identification**

Unnamed Creek @ Husky Rd

Visit #2

**Sampling Date**

14-Dec-05

Time : 11:35 am

**Atmospheric and Water Conditions**

Air Temp	-5 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Low

Water Depth (cm)	20 cm
Ice thickness (cm)	16 cm
Clarity of Ice	none
Snow Depth (cm)	none
Water Temp ©	0.5 C
Turbidity	clear
DO	13 PPM
pH	7.1
Conductivity (Ms)	na

Number of traps set

0

Set Locations

Set duration

**Comments**

Water was not quite deep enough to set traps however, we will continue to monitor water quality (pH, water temp and D.O.)

**Site Identification**

Waterfalls Creek Site #1

Visit #1

**Sampling Date**

14-Dec-05

Time : 12:50 pm

**Atmospheric and Water Conditions**

Air Temp	-2 C
Ice Cover	40%
Stream Flow	Low
Potential for Migration	High

Water Depth (cm)	62 cm
Ice thickness (cm)	skiff ice
Clarity of Ice	clear
Snow Depth (cm)	none
Water Temp ©	0.5 C
Turbidity	clear
DO	12.8 PPM
pH	7.1
Conductivity (Ms)	na

Number of traps set

3

**Set Locations**

Top end of channel that runs along CNR tracks and d/s of the CNR trailer channel

Set duration

24 hrs

**Comments**

**Site Identification**

Waterfalls Creek Site #1

Visit #2

**Sampling Date**

20-Jan-06

**Atmospheric and Water Conditions**

Air Temp	-7
Ice Cover	90%
Stream Flow	LOW
Potential for Migration	HIGH

Water Depth (cm)	51
Ice thickness (cm)	7.5
Clarity of Ice	NONE
Snow Depth (cm)	12.5
Water Temp ©	0.1
Turbidity	CLEAR
DO	12.9ppm
pH	7.5
Conductivity (Ms)	N/A

Number of traps set

3

Set Locations

3 traps

Set duration

24hrs.

**Comments**

Potential for migration is high

**Site Identification**

Water Falls Cr. Site #1	Visit #3
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**Sampling Date**

22-Feb-06
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**Atmospheric and Water Conditions**

Air Temp	0 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	54 cm
Ice thickness (cm)	17 cm
Clarity of Ice	none
Snow Depth (cm)	11.5 cm
Water Temp ©	1.1 C
Turbidity	clear
DO	13.5ppm
pH	7.8
Conductivity (Ms)	na

Number of traps set	3
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**Set Locations**

3 traps just downstream of Beaver dam
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Set duration	24 hrs.
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**Comments**

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**Site Identification**Water Falls Cr.  
Site #1

Visit #4

**Sampling Date**

13-Mar-06

**Atmospheric and Water Conditions**

Air Temp	2 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	48 cm
Ice thickness (cm)	14.5
Clarity of Ice	none
Snow Depth (cm)	4.5
Water Temp ©	0.5 C
Turbidity	clear
DO	14ppm
pH	7.2
Conductivity (Ms)	na

Number of traps set

3

Set Locations

3 traps just downstream of Beaver dam

Set duration

24 hrs.

**Comments**

Good flow through the dam.



**Site Identification**

Waterfalls Creek #2

Visit #1

**Sampling Date**

14-Dec-05

Time : 1:00 pm

**Atmospheric and Water Conditions**

Air Temp	-2 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	High

Water Depth (cm)	111.5 cm
Ice thickness (cm)	19 cm
Clarity of Ice	Moderate
Snow Depth (cm)	none
Water Temp °C	0.5 C
Turbidity	clear
DO	12.8 PPM
pH	7.1
Conductivity (Ms)	na

Number of traps set

3

Set Locations

About 200 m d/s of Waterfalls Site #1

Set duration

24 hrs

Cluster #1 - 3 traps

**Comments**

**Site Identification**

Waterfalls Creek Site #2

Visit #2

**Sampling Date**

20-Jan-06

**Atmospheric and Water Conditions**

Air Temp	-7
Ice Cover	100%
Stream Flow	LOW
Potential for Migration	MOD

Water Depth (cm)	93
Ice thickness (cm)	38
Clarity of Ice	NONE
Snow Depth (cm)	10.5
Water Temp ©	0.1
Turbidity	CLEAR
DO	12.5ppm
pH	7.1
Conductivity (Ms)	N/A

Number of traps set 3

**Set Locations**3 traps downstream of signal B  
200m downstream of WFC #1

Set duration 24hrs.

**Comments**

**Site Identification**

Water Falls Cr.

Site #2

Visit #3

**Sampling Date**

22-Feb-06

**Atmospheric and Water Conditions**

Air Temp	0 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	90 cm
Ice thickness (cm)	44.5 cm
Clarity of Ice	none
Snow Depth (cm)	11 cm
Water Temp ©	0.6 C
Turbidity	clear
DO	12.7ppm
pH	7.7
Conductivity (Ms)	na

Number of traps set

3

Set Locations

3 traps just upstream of Beaver dam

Set duration

24 hrs.

**Comments**

Some shredded caudel and dorsal fins

**Site Identification**Water Falls Cr.  
Site #2

Visit #4

**Sampling Date**

13-Mar-06

**Atmospheric and Water Conditions**

Air Temp	2 C
Ice Cover	100%
Stream Flow	mod
Potential for Migration	high

Water Depth (cm)	89
Ice thickness (cm)	44
Clarity of Ice	none
Snow Depth (cm)	4.5
Water Temp ©	1.4
Turbidity	clear
DO	13.4 ppm
pH	8.0
Conductivity (Ms)	n/a

Number of traps set

3

Set Locations

3 traps just upstream of Beaver dam

Set duration

24 hrs.

Comments

**Site Identification**

Waterfalls Cr Site #3

Visit #1

**Sampling Date**

14-Dec-05

Time : 1:20 pm

**Atmospheric and Water Conditions**

Air Temp	-2 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	55 cm
Ice thickness (cm)	6.5 cm
Clarity of Ice	clear
Snow Depth (cm)	none
Water Temp ©	0.5 C
Turbidity	clear
DO	12.8 PPM
pH	7.1
Conductivity (Ms)	na

Number of traps set

2

Set Locations

u/s end of habitat re-hab site. Traps set in  
are of mid size cobble.

Set duration

24 hrs

Comments

**Site Identification**

Waterfalls Creek Site #3

Visit #2

**Sampling Date**

20-Jan-06

**Atmospheric and Water Conditions**

Air Temp	-7
Ice Cover	100%
Stream Flow	MOD
Potential for Migration	HIGH

Water Depth (cm)	52
Ice thickness (cm)	9.5
Clarity of Ice	NONE
Snow Depth (cm)	10.5
Water Temp ©	0.1
Turbidity	CLEAR
DO	12.5ppm
pH	7.4
Conductivity (Ms)	N/A

Number of traps set

3

Set Locations

3 traps on habitat project

Set duration

24hrs.

Comments



**Site Identification**

Water Falls Cr.

Site #3

Visit #3

**Sampling Date**

22-Feb-06

**Atmospheric and Water Conditions**

Air Temp	0 C
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	43.5 cm
Ice thickness (cm)	15.5 cm
Clarity of Ice	none
Snow Depth (cm)	11.5 cm
Water Temp ©	0.1
Turbidity	clear
DO	12.1ppm
pH	7.5
Conductivity (Ms)	na

Number of traps set

2

Set Locations

Set upstream of open water riffle

Set duration

24 hrs

**Comments**

shredded caudal and dorsal fin on some of the fish  
Dolly Vardens look fatter than in previous years

**Site Identification**Water Falls Cr.  
Site #3

Visit #4

**Sampling Date**

13-Mar-06

**Atmospheric and Water Conditions**

Air Temp	2 C
Ice Cover	100%
Stream Flow	mod
Potential for Migration	high

Water Depth (cm)	45.5
Ice thickness (cm)	28
Clarity of Ice	none
Snow Depth (cm)	4.5
Water Temp ©	0.6
Turbidity	clear
DO	12.4
pH	7.7
Conductivity (Ms)	n/a

Number of traps set

2

Set Locations

Set upstream of open water riffle

Set duration

24 hrs

**Comments**

Dolly Vardens look fatter than in previous years

**Site Identification**

Waterfalls Creek Site #4

Visit #1

**Sampling Date**

14-Dec-05

Time : 1:30 pm

**Atmospheric and Water Conditions**

Air Temp	-2 C
Ice Cover	80%
Stream Flow	Moderate
Potential for Migration	High

Water Depth (cm)	27.5 cm
Ice thickness (cm)	14 cm
Clarity of Ice	low
Snow Depth (cm)	none
Water Temp ©	0.5 C
Turbidity	clear
DO	12.4 PPM
pH	6.7
Conductivity (Ms)	na

Number of traps set

3

**Set Locations**

This site is near the heli-pad.

Set all traps d/s of the road culvert.

Set duration

24 hrs

**Comments**

**Site Identification**

Waterfalls Creek Site #4

Visit #2

**Sampling Date**

20-Jan-06

**Atmospheric and Water Conditions**

Air Temp	-7
Ice Cover	100%
Stream Flow	MOD
Potential for Migration	HIGH

Water Depth (cm)	33
Ice thickness (cm)	5
Clarity of Ice	NONE
Snow Depth (cm)	10.5
Water Temp ©	0.1
Turbidity	CLEAR
DO	12.8ppm
pH	7.5
Conductivity (Ms)	N/A

Number of traps set 2

**Set Locations**

2 traps downstream of culvert

Set duration 24hrs.

**Comments**

**Site Identification**

Water Falls Cr.

Site #4

Visit #3

**Sampling Date**

22-Feb-06

**Atmospheric and Water Conditions**

Air Temp	0 C windy
Ice Cover	100%
Stream Flow	Moderate
Potential for Migration	Moderate
Water Depth (cm)	43.5 cm
Ice thickness (cm)	23 cm
Clarity of Ice	none
Snow Depth (cm)	11.5 cm
Water Temp ©	0.1 C
Turbidity	clear
DO	12.5ppm
pH	7.5
Conductivity (Ms)	na

Number of traps set

1

**Set Locations**

Downstream of twin culverts

Set duration

24 hrs

**Comments**Water flowing well through both culverts  
Shredded caudel fin

**Site Identification**Water Falls Cr.  
Site #4

Visit #4

**Sampling Date**

13-Mar-06

**Atmospheric and Water Conditions**

Air Temp	2 C
Ice Cover	100%
Stream Flow	Low
Potential for Migration	Low
Water Depth (cm)	25
Ice thickness (cm)	20.5
Clarity of Ice	none
Snow Depth (cm)	4.5
Water Temp ©	0.1
Turbidity	clear
DO	12.9
pH	7.5
Conductivity (Ms)	n/a

Number of traps set

0

Set Locations

Set duration

n/a

**Comments**Water flowing through both culverts  
Not enough water to sample for fish



**Appendix 2**  
**Spring Habitat Assessment Data**

**2005/2006 Overwintering Monitoring - Site Description Data**

Date

18-Apr-06

Location

Barren Cr, upstream of Hwy. 16 culvert

**Site Measurements**

Length (m)	14.5
Width(m)	8.4
Depth @ Limno	1.21
% Cobble	50
% Fines	50
% Boulders	
% Small Woody Debris	
% Large Woody Debris	
% Canopy Cover	
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	P
G = Glide	

Surface Area= 121.8

**Description of Other Habitat Features**

this pool was dredged September 2005.  
water almost to top of culvert.

**2005/2006 Overwintering Monitoring - Site Description Data**

Date

18-Apr-06

Location

McQuarrie Cr. - d/s side of Hwy. 16 culvert

**Site Measurements**

Length (m)	8.4
Width(m)	6.4
Depth @ Limno	0.79
% Cobble	80
% Fines	15
% Boulders	3
% Small Woody Debris	
	2
% Large Woody Debris	
	0
% Canopy Cover	
	0
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	
G = Glide	P

Surface Area = 53.76

**Description of Other Habitat Features**

Cobbles covered with leaves and debris, perhaps beaver dam blown upstream.

**2005/2006 Overwintering Monitoring - Site Description Data****Date**

18-Apr-06

**Location**

Byman Cr. - d/s of Hwy. 16 culvert

**Site Measurements**

<b>Length (m)</b>	14.9
<b>Width(m)</b>	14.1
<b>Depth @ Limno</b>	0.98
<b>% Cobble</b>	80
<b>% Fines</b>	3
<b>% Boulders</b>	15
<b>% Small Woody Debris</b>	
	0
<b>% Large Woody Debris</b>	
	2
<b>% Canopy Cover</b>	
	2
<b>Type of Habitat(P/R/G)</b>	
<b>P = Pool/R= Riffle</b>	P
<b>G = Glide</b>	

Surface Area = 210.09

**Description of Other Habitat Features**

**2005/2006 Overwintering Monitoring - Site Description Data**

Date

18-Apr-06

Location

McKinnon Cr. at Whalen Road (d/s of culvert)

**Site Measurements**

Length (m)	1.9
Width(m)	2.4
Depth @ Limno	0.55
% Cobble	35
% Fines	60
% Boulders	5
% Small Woody Debris	
	0
% Large Woody Debris	
	0
% Canopy Cover	
	0
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	P
G = Glide	

Surface Area = 4.56

**Description of Other Habitat Features**

Sediment collecting in pool.

**2005/2006 Overwintering Monitoring - Site Description Data****Date**

April 18, 2006

**Location**

McKinnon Creek at Whalen Rd. (rehabilitation pool u/s side of culvert).

**Site Measurements**

<b>Length (m)</b>	4.9
<b>Width(m)</b>	3.2
<b>Depth @ Limno</b>	0.49
<b>% Cobble</b>	70
<b>% Fines</b>	30
<b>% Boulders</b>	0
<b>% Small Woody Debris</b>	
	0
<b>% Large Woody Debris</b>	
	0
<b>% Canopy Cover</b>	
	0
<b>Type of Habitat(P/R/G)</b>	
<b>P = Pool/R= Riffle</b>	P
<b>G = Glide</b>	

Surface Area = 15.68

**Description of Other Habitat Features**

Rip-rap surrounding pool providing some cover.  
Pool filling in with silt. Flow extremely low.

# 2005/2006 Overwintering Monitoring - Site Description Data

Date

April 18, 2006

Location

Unnamed Cr. on Neilson Road at Hydro Pole 12

## Site Measurements

Length (m)	2.4
Width(m)	1.6
Depth @ Limno	0.3
% Cobble	50
% Fines	48
% Boulders	0
% Small Woody Debris	2
% Large Woody Debris	0
% Canopy Cover	5
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	P
G = Glide	

Surface Area = 3.84

## Description of Other Habitat Features

Site at downstream culvert pool



# 2005/2006 Overwintering Monitoring - Site Description Data

Date

18-Apr-06

Location

Waterfalls Creek - Site 1

## Site Measurements

Length (m)	18
Width(m)	4.5
Depth @ Limno	0.6
% Cobble	0
% Fines	90
% Boulders	0
% Small Woody Debris	10
% Large Woody Debris	0
% Canopy Cover	0
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	G
G = Glide	

Surface Area = 81

## Description of Other Habitat Features

Site attaches to adjacent wetland area

**2005/2006 Overwintering Monitoring - Site Description Data**

Date

18-Apr-06

Location

Waterfalls Creek Site 2

**Site Measurements**

Length (m)	15.7
Width(m)	7.8
Depth @ Limno	0.8
% Cobble	0
% Fines	88
% Boulders	0
% Small Woody Debris	
	10
% Large Woody Debris	
	2
% Canopy Cover	
	0
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	
G = Glide	G

Surface Area = 122.46

**Description of Other Habitat Features**

Site attaches to wetland area.

# 2005/2006 Overwintering Monitoring - Site Description Data

Date

18-Apr-06

Location

Waterfalls Cr. - Site 3

## Site Measurements

Length (m)	10.1
Width(m)	4.6
Depth @ Limno	0.56
% Cobble	25
% Fines	50
% Boulders	23
% Small Woody Debris	2
% Large Woody Debris	0
% Canopy Cover	0
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	
G = Glide	G

Surface Area = 46.46

## Description of Other Habitat Features

# 2005/2006 Overwintering Monitoring - Site Description Data

Date

April 18, 2006

Location

Waterfalls Cr. Site 4

## Site Measurements

Length (m)	7.6
Width(m)	5.3
Depth @ Limno	0.62
% Cobble	75
% Fines	5
% Boulders	5
% Small Woody Debris	
	5
% Large Woody Debris	
	0
% Canopy Cover	
	5
Type of Habitat(P/R/G)	
P = Pool/R= Riffle	P
G = Glide	

Surface Area = 40.28

## Description of Other Habitat Features

Fish swimming in pool, look to be Coho.

**Appendix 3**  
**Fish Capture Data**

# Juvenile Capture and Sampling Summary

Location Barren Creek Culvert

Date 09-Dec-05

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	25	76	106
Rainbow Trout	13	53	130
Total Captured	38		
Prop Coho	0.66		
Prop RBT	0.34		

Coho CPUE Trap #1	9
RBT CPUE Trap #1	6
Coho CPUE Trap #2	14
RBT CPUE Trap #2	6
Coho CPUE Trap #3	2
RBT CPUE Trap #3	1

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	86	6.7	Unmark	1.05
Gee Minnow Trap	1	1	CO	90	7.5	Unmark	1.03
Gee Minnow Trap	1	1	CO	93	8.3	Unmark	1.03
Gee Minnow Trap	1	1	CO	94	8.4	Unmark	1.01
Gee Minnow Trap	1	1	CO	96	9.7	Unmark	1.10
Gee Minnow Trap	1	1	CO	97	10.2	Unmark	1.12
Gee Minnow Trap	1	1	CO	98	9.5	Unmark	1.01
Gee Minnow Trap	1	1	CO	99	9.2	Unmark	0.95
Gee Minnow Trap	1	1	CO	100	10.3	Unmark	1.03
Gee Minnow Trap	1	1	RBT	60	1.9	Unmark	0.88
Gee Minnow Trap	1	1	RBT	88	7.7	Unmark	1.13
Gee Minnow Trap	1	1	RBT	89	7.9	Unmark	1.12
Gee Minnow Trap	1	1	RBT	109	14	Unmark	1.08
Gee Minnow Trap	1	1	RBT	118	18.3	Unmark	1.11
Gee Minnow Trap	1	1	RBT	130	23.5	Unmark	1.07
Gee Minnow Trap	1	2	CO	76	4.8	Unmark	1.09
Gee Minnow Trap	1	2	CO	78	4.9	Unmark	1.03
Gee Minnow Trap	1	2	CO	80	6	Unmark	1.17
Gee Minnow Trap	1	2	CO	83	5.6	Unmark	0.98
Gee Minnow Trap	1	2	CO	85	6.6	Unmark	1.07
Gee Minnow Trap	1	2	CO	92	8.5	Unmark	1.09
Gee Minnow Trap	1	2	CO	94	9.2	Unmark	1.11
Gee Minnow Trap	1	2	CO	95	9.5	Unmark	1.11
Gee Minnow Trap	1	2	CO	97	10.5	Unmark	1.15
Gee Minnow Trap	1	2	CO	98	9.9	Unmark	1.05
Gee Minnow Trap	1	2	CO	99	10.6	Unmark	1.09
Gee Minnow Trap	1	2	CO	99	11.2	Unmark	1.15
Gee Minnow Trap	1	2	CO	106	12.2	Unmark	1.02
Gee Minnow Trap	1	2	CO	106	12.7	Unmark	1.07
Gee Minnow Trap	1	2	RBT	53	1.6	Unmark	1.07
Gee Minnow Trap	1	2	RBT	59	2.4	Unmark	1.17
Gee Minnow Trap	1	2	RBT	65	3.1	Unmark	1.13
Gee Minnow Trap	1	2	RBT	94	8.9	Unmark	1.07
Gee Minnow Trap	1	2	RBT	120	18.5	Unmark	1.07
Gee Minnow Trap	1	2	RBT	123	19.9	Unmark	1.07
Gee Minnow Trap	1	3	CO	88	6.9	Unmark	1.01
Gee Minnow Trap	1	3	CO	98	10	Unmark	1.06
Gee Minnow Trap	1	3	RBT	55	2	Unmark	1.20

**Juvenile Capture and Sampling Summary**

**Location** MacQuarrie Cr @ Hwy 16 culvert  
**Date** 09-Dec-05

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
RBT	27	51	123
Prop RBT	100%		

Coho CPUE Trap #1	0
RBT CPUE Trap #1	7
Coho CPUE Trap # 2	0
RBT CPUE Trap # 2	4
Coho CPUE Trap #3	0
RBT CPUE Trap #3	16

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	RBT	51	1.3	Unmark	0.98
Gee Minnow Trap	1	3	RBT	57	2.3	Unmark	1.24
Gee Minnow Trap	1	2	RBT	60	2	Unmark	0.93
Gee Minnow Trap	1	3	RBT	68	3.3	Unmark	1.05
Gee Minnow Trap	1	1	RBT	80	5.3	Unmark	1.04
Gee Minnow Trap	1	3	RBT	82	6	Unmark	1.09
Gee Minnow Trap	1	1	RBT	85	6.5	Unmark	1.06
Gee Minnow Trap	1	3	RBT	86	6.9	Unmark	1.08
Gee Minnow Trap	1	3	RBT	86	7.2	Unmark	1.13
Gee Minnow Trap	1	1	RBT	89	7.3	Unmark	1.04
Gee Minnow Trap	1	1	RBT	90	7.4	Unmark	1.02
Gee Minnow Trap	1	2	RBT	90	7.1	Unmark	0.97
Gee Minnow Trap	1	3	RBT	91	7.8	Unmark	1.04
Gee Minnow Trap	1	3	RBT	92	8.8	Unmark	1.13
Gee Minnow Trap	1	3	RBT	93	8.8	Unmark	1.09
Gee Minnow Trap	1	3	RBT	94	8.4	Unmark	1.01
Gee Minnow Trap	1	1	RBT	97	9.5	Unmark	1.04
Gee Minnow Trap	1	3	RBT	97	10.6	Unmark	1.16
Gee Minnow Trap	1	1	RBT	100	10.3	Unmark	1.03
Gee Minnow Trap	1	2	RBT	100	10.2	Unmark	1.02
Gee Minnow Trap	1	2	RBT	102	12.2	Unmark	1.15
Gee Minnow Trap	1	3	RBT	107	13.9	Unmark	1.13
Gee Minnow Trap	1	3	RBT	108	13.3	Unmark	1.06
Gee Minnow Trap	1	3	RBT	115	17.5	smolting	1.15
Gee Minnow Trap	1	3	RBT	119	18.7	Unmark	1.11
Gee Minnow Trap	1	3	RBT	121	20	Unmark	1.13
Gee Minnow Trap	1	3	RBT	123	20.3	Unmark	1.09



**Juvenile Capture and Sampling Summary****Location** Byman Cr Culvert  
**Date** 09-Dec-05

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	5	89	95
Rainbow Trout	6	85	113
Total No. Captured	11		
Prop Coho	0.45		
Prop RBT	0.55		

Coho CPUE Trap #1	4
RBT CPUE Trap #1	2
Coho CPUE Trap # 2	1
RBT CPUE Trap # 2	2
Coho CPUE Trap #3	0
RBT CPUE Trap #3	2

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	CO	89	7.3	Unmark	1.04
Gee Minnow Trap	1	1	CO	95	9.2	Unmark	1.07
Gee Minnow Trap	1	1	CO	95	9.1	Unmark	1.06
Gee Minnow Trap	1	1	CO	91	9	Unmark	1.19
Gee Minnow Trap	1	1	RBT	85	6.4	Unmark	1.04
Gee Minnow Trap	1	1	RBT	108	13.3	Unmark	1.06
Gee Minnow Trap	1	2	CO	93	8.9	Unmark	1.11
Gee Minnow Trap	1	2	RBT	93	7.9	Unmark	0.98
Gee Minnow Trap	1	2	RBT	105	14	Unmark	1.21
Gee Minnow Trap	1	3	RBT	105	12.4	Unmark	1.07
Gee Minnow Trap	1	3	RBT	113	16.2	Unmark	1.12

# Juvenile Capture and Sampling Summary

Location Barren Cr. Hwy. 16

Date Jan 24/ 06

Visit #2

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
CO	65	50	107
RBT	8	86	156
DV	0	0	0
Total Cap	73		
Prop Coho	0.89		
Prop RBT	0.11		

Coho CPUE Trap #1	19
RBT CPUE Trap #1	3
Coho CPUE Trap #2	18
RBT CPUE Trap #2	3
Coho CPUE Trap #3	28
RBT CPUE Trap #3	2

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	93	8.2	UNMK	1.02
Gee Minnow Trap	1	1	Coho	85	6.7	UNMK	1.09
Gee Minnow Trap	1	1	Coho	77	4.8	UNMK	1.05
Gee Minnow Trap	1	1	Coho	89	7.7	UNMK	1.09
Gee Minnow Trap	1	1	Coho	83	6.8	UNMK	1.19
Gee Minnow Trap	1	1	Coho	95	9.2	UNMK	1.07
Gee Minnow Trap	1	1	Coho	87	6.9	UNMK	1.05
Gee Minnow Trap	1	1	Coho	86	8.1	UNMK	1.27
Gee Minnow Trap	1	1	Coho	102	11.6	UNMK	1.09
Gee Minnow Trap	1	1	Coho	91	7.9	UNMK	1.05
Gee Minnow Trap	1	1	Coho	98	10.4	UNMK	1.10
Gee Minnow Trap	1	1	Coho	90	7.7	UNMK	1.06
Gee Minnow Trap	1	1	Coho	92	8.7	UNMK	1.12
Gee Minnow Trap	1	1	Coho	91	8.8	UNMK	1.17
Gee Minnow Trap	1	1	Coho	90	7.5	UNMK	1.03
Gee Minnow Trap	1	1	Coho	100	10.7	UNMK	1.07
Gee Minnow Trap	1	1	Coho	90	8.3	UNMK	1.14
Gee Minnow Trap	1	1	Coho	88	7.3	UNMK	1.07
Gee Minnow Trap	1	1	Coho	104	11.2	UNMK	1.00
Gee Minnow Trap	1	1	Rainbow	121	18.6	UNMK	1.05
Gee Minnow Trap	1	1	Rainbow	156	40.5	UNMK	1.07
Gee Minnow Trap	1	1	Rainbow	87	6.4	UNMK	0.97
Gee Minnow Trap	1	2	Coho	92	8.5	UNMK	1.09
Gee Minnow Trap	1	2	Coho	87	6.8	UNMK	1.03
Gee Minnow Trap	1	2	Coho	103	10.2	UNMK	0.93
Gee Minnow Trap	1	2	Coho	107	12.2	UNMK	1.00
Gee Minnow Trap	1	2	Coho	107	12	UNMK	0.98
Gee Minnow Trap	1	2	Coho	89	7.4	UNMK	1.05
Gee Minnow Trap	1	2	Coho	89	7.7	UNMK	1.09
Gee Minnow Trap	1	2	Coho	100	10.1	UNMK	1.01
Gee Minnow Trap	1	2	Coho	96	9.7	UNMK	1.10
Gee Minnow Trap	1	2	Coho	82	6.1	UNMK	1.11
Gee Minnow Trap	1	2	Coho	93	9.2	UNMK	1.14
Gee Minnow Trap	1	2	Coho	94	8.7	UNMK	1.05
Gee Minnow Trap	1	2	Coho	85	5.9	UNMK	0.96
Gee Minnow Trap	1	2	Coho	92	8.5	UNMK	1.09
Gee Minnow Trap	1	2	Coho	95	8.9	UNMK	1.04

Gee Minnow Trap	1	2	Coho	97	10	UNMK	1.10
Gee Minnow Trap	1	2	Coho	90	8.1	UNMK	1.11
Gee Minnow Trap	1	2	Coho	91	8	UNMK	1.06
Gee Minnow Trap	1	2	Rainbow	86	6.4	UNMK	1.01
Gee Minnow Trap	1	2	Rainbow	102	11.1	UNMK	1.05
Gee Minnow Trap	1	2	Rainbow	104	16.2	UNMK	1.44
Gee Minnow Trap	1	3	Coho	100	10.8	UNMK	1.08
Gee Minnow Trap	1	3	Coho	86	6.7	UNMK	1.05
Gee Minnow Trap	1	3	Coho	103	11	UNMK	1.01
Gee Minnow Trap	1	3	Coho	82	5.9	UNMK	1.07
Gee Minnow Trap	1	3	Coho	86	6.1	UNMK	0.96
Gee Minnow Trap	1	3	Coho	84	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	100	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	89	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	94	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	97	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	93	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	50	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	102	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	94	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	93	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	94	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	102	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	99	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	90	NO SCALE	UNMK	NA

**Juvenile Capture and Sampling Summary**

Location MacQuarrie Creek

Date Jan 24/ 06

Visit #2

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
CO	2	47	61
RBT	20	118	49
DV	0	0	0
Total	22		
Prop Coho	0.09		
Prop RBT	0.91		

Coho CPUE Trap #1	0
RBT CPUE Trap #1	8
Coho CPUE Trap #2	0
RBT CPUE Trap #2	1
Coho CPUE Trap #3	2
RBT CPUE Trap #3	11

**Individual Sampling Data**

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Rainbow	49	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	62	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	51	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	98	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	100	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Rainbow	99	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Rainbow	92	8.7	UNMK	1.12
Gee Minnow Trap	1	3	Coho	47	0.8	UNMK	0.77
Gee Minnow Trap	1	3	Coho	61	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	138	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	118	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	57	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	52	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	122	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	77	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	115	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Rainbow	102	NO SCALE	UNMK	NA

**Juvenile Capture and Sampling Summary****Location****Date**

Jan 24/ 06

**Visit #2**

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
CO	5	82	104
RBT	21	55	138
DV	0	0	0
Total Cap	26		
Prop Coho	0.19		
Prop RBT	0.81		

Coho CPUE Trap #1	1
RBT CPUE Trap #1	10
Coho CPUE Trap #2	1
RBT CPUE Trap #2	2
Coho CPUE Trap #3	3
RBT CPUE Trap #3	9

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	94	8.9	UNMK	1.07
Gee Minnow Trap	1	1	Rainbow	116	16.5	UNMK	1.06
Gee Minnow Trap	1	1	Rainbow	75	4.3	UNMK	1.02
Gee Minnow Trap	1	1	Rainbow	92	7.8	UNMK	1.00
Gee Minnow Trap	1	1	Rainbow	108	11.9	UNMK	0.94
Gee Minnow Trap	1	1	Rainbow	124	21.9	UNMK	1.15
Gee Minnow Trap	1	1	Rainbow	138	28	UNMK	1.07
Gee Minnow Trap	1	1	Rainbow	97	9.6	UNMK	1.05
Gee Minnow Trap	1	1	Rainbow	101	10.6	UNMK	1.03
Gee Minnow Trap	1	1	Rainbow	120	18.8	UNMK	1.09
Gee Minnow Trap	1	1	Rainbow	114	15.6	UNMK	1.05
Gee Minnow Trap	1	2	Coho	82	6.3	UNMK	1.14
Gee Minnow Trap	1	2	Rainbow	84	6.3	UNMK	1.06
Gee Minnow Trap	1	2	Rainbow	105	14.6	UNMK	1.26
Gee Minnow Trap	1	3	Coho	94	8.3	UNMK	1.00
Gee Minnow Trap	1	3	Coho	104	11.6	UNMK	1.03
Gee Minnow Trap	1	3	Coho	87	6.9	UNMK	1.05
Gee Minnow Trap	1	3	Rainbow	55	1.8	UNMK	1.08
Gee Minnow Trap	1	3	Rainbow	88	6.9	UNMK	1.01
Gee Minnow Trap	1	3	Rainbow	100	10.6	UNMK	1.06
Gee Minnow Trap	1	3	Rainbow	92	7.8	UNMK	1.00
Gee Minnow Trap	1	3	Rainbow	89	7	UNMK	0.99
Gee Minnow Trap	1	3	Rainbow	118	15.4	UNMK	0.94
Gee Minnow Trap	1	3	Rainbow	109	12.8	UNMK	0.99
Gee Minnow Trap	1	3	Rainbow	114	16.5	UNMK	1.11
Gee Minnow Trap	1	3	Rainbow	131	22.4	UNMK	1.00

**Juvenile Capture and Sampling Summary****Location** Barren Creek Culvert**Date** 13-Feb-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	33	78	106
Rainbow Trout	4	84	110
Total Captured	37		
Prop Coho	0.89		
Prop RBT	0.11		

Coho CPUE Trap #1	4
RBT CPUE Trap #1	0
Coho CPUE Trap #2	9
RBT CPUE Trap #2	2
Coho CPUE Trap #3	20
RBT CPUE Trap #3	2

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	CO	87	7.6	Unmark	1.15
Gee Minnow Trap	1	1	CO	100	10.4	Unmark	1.04
Gee Minnow Trap	1	1	CO	106	12.7	Unmark	1.07
Gee Minnow Trap	1	1	CO	94	9.8	Unmark	1.18
Gee Minnow Trap	1	2	CO	85	6.9	Unmark	1.12
Gee Minnow Trap	1	2	CO	95	9.9	Unmark	1.15
Gee Minnow Trap	1	2	CO	79	5.8	Unmark	1.18
Gee Minnow Trap	1	2	CO	93	8.1	Unmark	1.01
Gee Minnow Trap	1	2	CO	85	6.9	Unmark	1.12
Gee Minnow Trap	1	2	CO	84	6.1	Unmark	1.03
Gee Minnow Trap	1	2	CO	78	5.7	Unmark	1.20
Gee Minnow Trap	1	2	CO	92	8.5	Unmark	1.09
Gee Minnow Trap	1	2	CO	105	11.8	Unmark	1.02
Gee Minnow Trap	1	2	RBT	110	13.9	Unmark	1.04
Gee Minnow Trap	1	2	RBT	101	11.2	Unmark	1.09
Gee Minnow Trap	1	3	CO	92	8.1	Unmark	1.04
Gee Minnow Trap	1	3	CO	99	9.6	Unmark	0.99
Gee Minnow Trap	1	3	CO	86	6.6	Unmark	1.04
Gee Minnow Trap	1	3	CO	97	9.9	Unmark	1.08
Gee Minnow Trap	1	3	CO	86	7.7	Unmark	1.21
Gee Minnow Trap	1	3	CO	94	8.2	Unmark	0.99
Gee Minnow Trap	1	3	CO	85	7.5	Unmark	1.22
Gee Minnow Trap	1	3	CO	96	9.5	Unmark	1.07
Gee Minnow Trap	1	3	CO	95	8.8	Unmark	1.03
Gee Minnow Trap	1	3	CO	102	10.3	Unmark	0.97
Gee Minnow Trap	1	3	CO	90	7.8	Unmark	1.07
Gee Minnow Trap	1	3	CO	102	11	Unmark	1.04
Gee Minnow Trap	1	3	CO	91	7.8	Unmark	1.04
Gee Minnow Trap	1	3	CO	94	9.4	Unmark	1.13
Gee Minnow Trap	1	3	CO	81	6.3	Unmark	1.19
Gee Minnow Trap	1	3	CO	95	9	Unmark	1.05
Gee Minnow Trap	1	3	CO	94	8.5	Unmark	1.02
Gee Minnow Trap	1	3	CO	97	9.4	Unmark	1.03
Gee Minnow Trap	1	3	CO	83	6	Unmark	1.05
Gee Minnow Trap	1	3	CO	91	7.3	Unmark	0.97
Gee Minnow Trap	1	3	RBT	84	6.2	Unmark	1.05
Gee Minnow Trap	1	3	RBT	90	7.2	Unmark	0.99

**Juvenile Capture and Sampling Summary**

**Location** MacQuarrie Cr @ Hwy 16 culvert  
**Date** 13-Feb-06

<u>Species</u>	<u>No. Caught</u>	<u>Min Ln (mm)</u>	<u>Max Ln (mm)</u>
CO	4	46	60
RBT	3	70	104
Total	7		
Prop CO	0.57		
Prop RBT	0.43		

Coho CPUE Trap #1	2
RBT CPUE Trap #1	2
Coho CPUE Trap # 2	1
RBT CPUE Trap # 2	1
Coho CPUE Trap #3	1
RBT CPUE Trap #3	0

**Individual Sampling Data**

<u>Capture Method</u>	<u>Cluster #</u>	<u>Trap #</u>	<u>Species</u>	<u>FL(mm)</u>	<u>Weight(g)</u>	<u>Mark type</u>	<u>FCC</u>
Gee Minnow Trap	1	1	RBT	104	11.8	Unmark	1.05
Gee Minnow Trap	1	1	RBT	83	6	Unmark	1.05
Gee Minnow Trap	1	1	CO	54	1.8	Unmark	1.14
Gee Minnow Trap	1	1	CO	46	1.6	Unmark	1.64
Gee Minnow Trap	1	2	RBT	70	3.7	Unmark	1.08
Gee Minnow Trap	1	2	CO	57	1.8	Unmark	0.97
Gee Minnow Trap	1	3	CO	60	3.7	Unmark	1.71



**Juvenile Capture and Sampling Summary**

**Location** Byman Cr Culvert  
**Date** 13-Feb-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	7	95	105
Rainbow Trout	12	55	110
Total No. Captured	19		
Prop Coho	0.37		
Prop RBT	0.63		

Coho CPUE Trap #1	4
RBT CPUE Trap #1	10
Coho CPUE Trap # 2	3
RBT CPUE Trap # 2	2
Coho CPUE Trap #3	0
RBT CPUE Trap #3	0

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	CO	105	NA	Unmark	NA
Gee Minnow Trap	1	1	CO	95	NA	Unmark	NA
Gee Minnow Trap	1	1	CO	104	NA	Unmark	NA
Gee Minnow Trap	1	1	CO	97	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	74	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	79	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	99	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	55	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	65	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	88	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	110	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	101	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	110	NA	Unmark	NA
Gee Minnow Trap	1	1	RBT	87	NA	Unmark	NA
Gee Minnow Trap	1	2	CO	105	NA	Unmark	NA
Gee Minnow Trap	1	2	CO	95	NA	Unmark	NA
Gee Minnow Trap	1	2	CO	102	NA	Unmark	NA
Gee Minnow Trap	1	2	RBT	109	NA	Unmark	NA
Gee Minnow Trap	1	2	RBT	84	NA	Unmark	NA
Gee Minnow Trap	1	3	NO FISH CAPTURED				

# Juvenile Capture and Sampling Summary

Location Barren Creek Culvert

Date 16-Mar-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	26	80	105
Rainbow Trout	6	53	139
Total Captured	32		
Prop Coho	0.81		
Prop RBT	0.19		

Coho CPUE Trap #1	12
RBT CPUE Trap #1	2
Coho CPUE Trap #2	11
RBT CPUE Trap #2	3
Coho CPUE Trap #3	3
RBT CPUE Trap #3	1

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	90	6.8	Unmark	0.93
Gee Minnow Trap	1	1	Coho	97	8.3	Unmark	0.91
Gee Minnow Trap	1	1	Coho	87		Unmark	0.00
Gee Minnow Trap	1	1	Coho	101		Unmark	0.00
Gee Minnow Trap	1	1	Coho	100		Unmark	0.00
Gee Minnow Trap	1	1	Coho	105		Unmark	0.00
Gee Minnow Trap	1	1	Coho	92		Unmark	0.00
Gee Minnow Trap	1	1	Coho	80		Unmark	0.00
Gee Minnow Trap	1	1	Coho	90	7.5	Unmark	1.03
Gee Minnow Trap	1	1	Coho	92	8.1	Unmark	1.04
Gee Minnow Trap	1	1	Coho	80	5.6	Unmark	1.09
Gee Minnow Trap	1	1	Coho	101	10.1	Unmark	0.98
Gee Minnow Trap	1	2	Coho	95	4	Unmark	0.47
Gee Minnow Trap	1	2	Coho	85	6.3	Unmark	1.03
Gee Minnow Trap	1	2	Coho	88	6.9	Unmark	1.01
Gee Minnow Trap	1	2	Coho	88	6.8	Unmark	1.00
Gee Minnow Trap	1	2	Coho	98	4.5	Unmark	0.48
Gee Minnow Trap	1	2	Coho	95	8.4	Unmark	0.98
Gee Minnow Trap	1	2	Coho	96	8.8	Unmark	0.99
Gee Minnow Trap	1	2	Coho	95	8.6	Unmark	1.00
Gee Minnow Trap	1	2	Coho	105	12	Unmark	1.04
Gee Minnow Trap	1	2	Coho	93	8.1	Unmark	1.01
Gee Minnow Trap	1	2	Coho	103	10.9	Unmark	1.00
Gee Minnow Trap	1	3	Coho	85	6.9	Unmark	1.12
Gee Minnow Trap	1	3	Coho	95	9.2	Unmark	1.07
Gee Minnow Trap	1	3	Coho	97	8.4	Unmark	0.92
Gee Minnow Trap	1	1	Rbt	139	na	Unmark	
Gee Minnow Trap	1	1	Rbt	53	1.7	Unmark	1.14
Gee Minnow Trap	1	2	Rbt	133	23.6	Unmark	1.00
Gee Minnow Trap	1	2	Rbt	96	9.4	Unmark	1.06
Gee Minnow Trap	1	2	Rbt	82	5.9	Unmark	1.07
Gee Minnow Trap	1	3	Rbt	90	7.1	Unmark	0.97

**Juvenile Capture and Sampling Summary****Location** MacQuarrie Cr @ Hwy 16 culvert**Date** 16-Mar-06

<u>Species</u>	<u>No. Caught</u>	<u>Min Ln (mm)</u>	<u>Max Ln (mm)</u>
CO	0		
RBT	23	44	136
Total	23		
Prop CO	0.00		
Prop RBT	1.00		

Coho CPUE Trap #1	0
RBT CPUE Trap #1	5
Coho CPUE Trap # 2	0
RBT CPUE Trap # 2	11
Coho CPUE Trap #3	0
RBT CPUE Trap #3	7

**Individual Sampling Data**

<u>Capture Method</u>	<u>Cluster #</u>	<u>Trap #</u>	<u>Species</u>	<u>FL(mm)</u>	<u>Weight(g)</u>	<u>Mark type</u>	<u>FCC</u>
Gee Minnow Trap	1	2	Rbt	51	0.9	Unmark	0.68
Gee Minnow Trap	1	1	Rbt	55	1.2	Unmark	0.72
Gee Minnow Trap	1	2	Rbt	63	1.9	Unmark	0.76
Gee Minnow Trap	1	3	Rbt	53	1.2	Unmark	0.81
Gee Minnow Trap	1	2	Rbt	55	1.4	Unmark	0.84
Gee Minnow Trap	1	1	Rbt	68	2.8	Unmark	0.89
Gee Minnow Trap	1	3	Rbt	79	4.4	Unmark	0.89
Gee Minnow Trap	1	3	Rbt	52	1.3	Unmark	0.92
Gee Minnow Trap	1	2	Rbt	53	1.4	Unmark	0.94
Gee Minnow Trap	1	1	Rbt	134	23.6	Unmark	0.98
Gee Minnow Trap	1	3	Rbt	96	8.7	Unmark	0.98
Gee Minnow Trap	1	3	Rbt	105	11.5	Unmark	0.99
Gee Minnow Trap	1	2	Rbt	80	5.1	Unmark	1.00
Gee Minnow Trap	1	2	Rbt	136	25.2	Unmark	1.00
Gee Minnow Trap	1	2	Rbt	83	6	Unmark	1.05
Gee Minnow Trap	1	2	Rbt	124	20.1	Unmark	1.05
Gee Minnow Trap	1	2	Rbt	80	5.4	Unmark	1.05
Gee Minnow Trap	1	2	Rbt	59	2.2	Unmark	1.07
Gee Minnow Trap	1	1	Rbt	86	6.9	Unmark	1.08
Gee Minnow Trap	1	1	Rbt	48	1.2	Unmark	1.09
Gee Minnow Trap	1	2	Rbt	83	6.4	Unmark	1.12
Gee Minnow Trap	1	3	Rbt	44	1.3	Unmark	1.53
Gee Minnow Trap	1	3	Rbt	52	2.2	Unmark	1.56

**Juvenile Capture and Sampling Summary****Location** Byman Cr Culvert**Date** 16-Mar-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	3	97	106
Rainbow Trout	6	65	105
Total No. Captured	9		
Prop Coho	0.33		
Prop RBT	0.67		

Coho CPUE Trap #1	0
RBT CPUE Trap #1	4
Coho CPUE Trap # 2	0
RBT CPUE Trap # 2	2
Coho CPUE Trap #3	3
RBT CPUE Trap #3	0

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Rbt	65	2.2	Unmark	0.80
Gee Minnow Trap	1	2	Rbt	84	5.5	Unmark	0.93
Gee Minnow Trap	1	1	Rbt	100	9.7	Unmark	0.97
Gee Minnow Trap	1	1	Rbt	101	10.7	Unmark	1.04
Gee Minnow Trap	1	1	Rbt	105	12.3	Unmark	1.06
Gee Minnow Trap	1	2	Rbt	111	14.9	Unmark	1.09
Gee Minnow Trap	1	3	Coho	97	8.6	Unmark	0.94
Gee Minnow Trap	1	3	Coho	105	10.5	Unmark	0.91
Gee Minnow Trap	1	3	Coho	106	11.9	Unmark	1.00

# Juvenile Capture and Sampling Summary

Location McKinnon #1  
Date 09-Nov-05

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
CO	83	42	110
RBT	13	44	112
DV	3	145	159
CT	6	75	129
Total Cap	105		

Coho CPUE C1 T1	21
RBT CPUE C1 T1	3
DV CPUE C1 T #1	2
CT CPUE C1 T1	1
Coho CPUE C2 T1	8
RBT CPUE C2 T1	4
DV CPUE C2 T #1	0
CT CPUE C2 T1	1
Coho CPUE C3 T1	40
RBT CPUE C3 T1	3
DV CPUE C3 T1	0
CT CPUE C3 T1	1

Coho CPUE C4 T1	14
RBT CPUE C4 T1	3
DV CPUE C4 T1	1
CT CPUE C4 T1	3

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	42	0.9	UNMARK	1.21
Gee Minnow Trap	1	1	CO	43	0.8	UNMARK	1.01
Gee Minnow Trap	1	1	CO	47	1.1	UNMARK	1.06
Gee Minnow Trap	1	1	CO	50	1.3	UNMARK	1.04
Gee Minnow Trap	1	1	CO	50	1.2	UNMARK	0.96
Gee Minnow Trap	1	1	CO	51	1.6	UNMARK	1.21
Gee Minnow Trap	1	1	CO	53	1.5	UNMARK	1.01
Gee Minnow Trap	1	1	CO	53	1.8	UNMARK	1.21
Gee Minnow Trap	1	1	CO	56	2.2	UNMARK	1.25
Gee Minnow Trap	1	1	CO	57	2.5	UNMARK	1.35
Gee Minnow Trap	1	1	CO	58	2.2	UNMARK	1.13
Gee Minnow Trap	1	1	CO	61	2.2	UNMARK	0.97
Gee Minnow Trap	1	1	CO	61	2.6	UNMARK	1.15
Gee Minnow Trap	1	1	CO	72	4.3	UNMARK	1.15
Gee Minnow Trap	1	1	CO	73	4.7	UNMARK	1.21
Gee Minnow Trap	1	1	CO	88	8	UNMARK	1.17
Gee Minnow Trap	1	1	CO	90	8.5	UNMARK	1.17
Gee Minnow Trap	1	1	CO	99	11.2	UNMARK	1.15

Gee Minnow Trap	1	1	1	CO	103	12.6	UNMARK	1.15
Gee Minnow Trap	1	1	1	CO	105	14.8	UNMARK	1.28
Gee Minnow Trap	1	1	1	CO	105	13.4	UNMARK	1.16
Gee Minnow Trap	1	1	1	CT	91	7.5	UNMARK	1.00
Gee Minnow Trap	1	1	1	DV	159	36.6	UNMARK	0.91
Gee Minnow Trap	1	1	1	DV		24.1	UNMARK	NA
Gee Minnow Trap	1	1	1	RBT	90	8.1	UNMARK	1.11
Gee Minnow Trap	1	1	1	RBT	103	12.2	UNMARK	1.12
Gee Minnow Trap	1	1	1	RBT	104	11.4	UNMARK	1.01
Gee Minnow Trap	2	1	1	CO	59	2.4	UNMARK	1.17
Gee Minnow Trap	2	1	1	CO	61	2.8	UNMARK	1.23
Gee Minnow Trap	2	1	1	CO	62	2.6	UNMARK	1.09
Gee Minnow Trap	2	1	1	CO	70	4.2	UNMARK	1.22
Gee Minnow Trap	2	1	1	CO	82	6.1	UNMARK	1.11
Gee Minnow Trap	2	1	1	CO	87	7.9	UNMARK	1.20
Gee Minnow Trap	2	1	1	CO	43	0.9	UNMARK	1.13
Gee Minnow Trap	2	1	1	CO	60	1.8	UNMARK	0.83
Gee Minnow Trap	2	1	1	CT	111	14.5	UNMARK	1.06
Gee Minnow Trap	2	1	1	RBT	70	4	UNMARK	1.17
Gee Minnow Trap	2	1	1	RBT	93	8.5	UNMARK	1.06
Gee Minnow Trap	2	1	1	RBT	112	17.7	UNMARK	1.26
Gee Minnow Trap	2	1	1	RBT	91	7.7	UNMARK	1.02
Gee Minnow Trap	3	1	1	CO	52	1.6	UNMARK	1.14
Gee Minnow Trap	3	1	1	CO	57	2	UNMARK	1.08
Gee Minnow Trap	3	1	1	CO	63	3.1	UNMARK	1.24
Gee Minnow Trap	3	1	1	CO	52	1.3	UNMARK	0.92
Gee Minnow Trap	3	1	1	CO	43	0.9	UNMARK	1.13
Gee Minnow Trap	3	1	1	CO	58	2.5	UNMARK	1.28
Gee Minnow Trap	3	1	1	CO	97	10.6	UNMARK	1.16
Gee Minnow Trap	3	1	1	CO	100	10.3	UNMARK	1.03
Gee Minnow Trap	3	1	1	CO	97	10.1	UNMARK	1.11
Gee Minnow Trap	3	1	1	CO	70	4.5	UNMARK	1.31
Gee Minnow Trap	3	1	1	CO	53	1.8	UNMARK	1.21
Gee Minnow Trap	3	1	1	CO	55	1.8	UNMARK	1.08
Gee Minnow Trap	3	1	1	CO	65	3	UNMARK	1.09
Gee Minnow Trap	3	1	1	CO	62	2.5	UNMARK	1.05
Gee Minnow Trap	3	1	1	CO	68	3.8	UNMARK	1.21

Gee Minnow Trap	3	1	CO	66	3.3	UNMARK	1.15
Gee Minnow Trap	3	1	CO	48	1.3	UNMARK	1.18
Gee Minnow Trap	3	1	CO	59	2.6	UNMARK	1.27
Gee Minnow Trap	3	1	CO	55	2	UNMARK	1.20
Gee Minnow Trap	3	1	CO	57	2.4	UNMARK	1.30
Gee Minnow Trap	3	1	CO	102	11.9	UNMARK	1.12
Gee Minnow Trap	3	1	CO	100	12.3	UNMARK	1.23
Gee Minnow Trap	3	1	CO	57	2.1	UNMARK	1.13
Gee Minnow Trap	3	1	CO	58	2.1	UNMARK	1.08
Gee Minnow Trap	3	1	CO	110	16	UNMARK	1.20
Gee Minnow Trap	3	1	CO	70	4.1	UNMARK	1.20
Gee Minnow Trap	3	1	CO	61	2.6	UNMARK	1.15
Gee Minnow Trap	3	1	CO	49	1.3	UNMARK	1.10
Gee Minnow Trap	3	1	CO	97	9.4	UNMARK	1.03
Gee Minnow Trap	3	1	CO	95	10	UNMARK	1.17
Gee Minnow Trap	3	1	CO	64	3	UNMARK	1.14
Gee Minnow Trap	3	1	CO	71	5.9	UNMARK	1.65
Gee Minnow Trap	3	1	CO	59	2.5	UNMARK	1.22
Gee Minnow Trap	3	1	CO	61	2.6	UNMARK	1.15
Gee Minnow Trap	3	1	CO	51	1.5	UNMARK	1.13
Gee Minnow Trap	3	1	CO	103	12.3	UNMARK	1.13
Gee Minnow Trap	3	1	CO	90	7.8	UNMARK	1.07
Gee Minnow Trap	3	1	CO	62	2.9	UNMARK	1.22
Gee Minnow Trap	3	1	CO	74	5.4	UNMARK	1.33
Gee Minnow Trap	3	1	CO	51	1.4	UNMARK	1.06
Gee Minnow Trap	3	1	CT	75	4.1	UNMARK	0.97
Gee Minnow Trap	3	1	RBT	44	0.9	UNMARK	1.06
Gee Minnow Trap	3	1	RBT	112	16.1	UNMARK	1.15
Gee Minnow Trap	3	1	RBT	96	8.8	UNMARK	0.99
Gee Minnow Trap	4	1	CO	98	11.6	UNMARK	1.23
Gee Minnow Trap	4	1	CO	95	11.4	UNMARK	1.33
Gee Minnow Trap	4	1	CO	59	2.5	UNMARK	1.22
Gee Minnow Trap	4	1	CO	85	8.4	UNMARK	1.37
Gee Minnow Trap	4	1	CO	67	3.3	UNMARK	1.10
Gee Minnow Trap	4	1	CO	53	1.5	UNMARK	1.01
Gee Minnow Trap	4	1	CO	46	1	UNMARK	1.03
Gee Minnow Trap	4	1	CO	46	1.1	UNMARK	1.13

Gee Minnow Trap	4	1	CO	50	1.4	UNMARK	1.12
Gee Minnow Trap	4	1	CO	47	1.2	UNMARK	1.16
Gee Minnow Trap	4	1	CO	54	1.8	UNMARK	1.14
Gee Minnow Trap	4	1	CO	57	2.2	UNMARK	1.19
Gee Minnow Trap	4	1	CO	58	2.1	UNMARK	1.08
Gee Minnow Trap	4	1	CO	54	1.6	UNMARK	1.02
Gee Minnow Trap	4	1	CT	129	23	UNMARK	1.07
Gee Minnow Trap	4	1	CT	84	6.3	UNMARK	1.06
Gee Minnow Trap	4	1	CT	82	6.7	UNMARK	1.22
Gee Minnow Trap	4	1	DV	145	31.7	UNMARK	1.04
Gee Minnow Trap	4	1	RBT	83	6.7	UNMARK	1.17
Gee Minnow Trap	4	1	RBT	89	7.1	UNMARK	1.01
Gee Minnow Trap	4	1	RBT	92	8.8	UNMARK	1.13



# Juvenile Capture and Sampling Summary

Location Unnamed at Hydro pole #12  
Date 09-Nov-05

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
CO	5	98	115
RBT	4	89	104
DV	0	NA	NA
CT	10	79	118
Total Cap	19		

Co C1 T1	1	Co C1 T2	4
RBT C1 T1	2	RBT C1 T2	2
DV C1 T1	0	DV C1 T2	0
CT C1 T1	2	CT C1 T2	8

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	115	16.6	UNMARK	1.09
Gee Minnow Trap	1	1	CT	80	5.3	UNMARK	1.04
Gee Minnow Trap	1	1	CT	93	8.9	UNMARK	1.11
Gee Minnow Trap	1	1	RBT	104	11.2	UNMARK	1.00
Gee Minnow Trap	1	1	RBT	102	15.8	UNMARK	1.49
Gee Minnow Trap	1	2	CO	100	11.2	UNMARK	1.12
Gee Minnow Trap	1	2	CO	100	12.7	UNMARK	1.27
Gee Minnow Trap	1	2	CO	99	10.6	UNMARK	1.09
Gee Minnow Trap	1	2	CO	98	11.7	UNMARK	1.24
Gee Minnow Trap	1	2	CT	79	5	UNMARK	1.01
Gee Minnow Trap	1	2	CT	118	15.5	UNMARK	0.94
Gee Minnow Trap	1	2	CT	114	15	UNMARK	1.01
Gee Minnow Trap	1	2	CT	101	10.2	UNMARK	0.99
Gee Minnow Trap	1	2	CT	95	8.2	UNMARK	0.96
Gee Minnow Trap	1	2	CT	82	5.9	UNMARK	1.07
Gee Minnow Trap	1	2	CT	95	8.4	UNMARK	0.98
Gee Minnow Trap	1	2	CT	100	9.5	UNMARK	0.95
Gee Minnow Trap	1	2	RBT	89	7	UNMARK	0.99
Gee Minnow Trap	1	2	RBT	99	10.4	UNMARK	1.07

**Juvenile Capture and Sampling Summary****Location** Husky Rd Creek**Date** 09-Nov-05

<u>Species</u>	<u>No. Caught</u>	<u>Min Ln (mm)</u>	<u>Max Ln (mm)</u>
CO	1	110	110
RBT	4	50	68
DV	0	NA	NA
CT	1	101	101

**Individual Sampling Data**

<u>Capture Method</u>	<u>Cluster #</u>	<u>Trap #</u>	<u>Species</u>	<u>FL(mm)</u>	<u>Weight(g)</u>	<u>Mark type</u>	<u>FCC</u>
Gee Minnow Trap	1	1	CO	110	15.7	UNMARK	1.18
Gee Minnow Trap	1	1	RBT	63	2.5		1.00
Gee Minnow Trap	1	1	CT	101	10.4		1.01
Gee Minnow Trap	1	2	RBT	50	1.4		1.12
Gee Minnow Trap	1	2	RBT	68	3.3		1.05
Gee Minnow Trap	1	2	RBT	56	1.9		1.08

# Juvenile Capture and Sampling Summary

Location  
Date

McKinnon Cr @ Whalen Rd  
15-Dec-05

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	33	48	102
Rainbow Trout	7	78	112
Cutthroat trout	9	97	140
Total Captured	49		
Prop Coho	0.67		
Prop RBT	0.14		
Prop CT	0.18		

## Individual Sampling Data

Co C1 T1	2	Co C2 T1	7
RBT C1 T1	2	RBT C2 T1	2
DV C1 T1	0	DV C2 T1	0
CT C1 T1	4	CT C2 T1	0
Co C1 T2	17	Co C2 T2	7
RBT C1 T2	3	RBT C2 T2	0
DV C1 T2	0	DV C2 T2	0
CT C1 T2	4	CT C2 T2	1

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	2	1	CO	55	1.9	Unmark	1.14
Gee Minnow Trap	2	1	CO	61	2.4	Unmark	1.06
Gee Minnow Trap	2	1	CT	126	18.9	Unmark	0.94
Gee Minnow Trap	2	1	CT	99	10.4	Unmark	1.07
Gee Minnow Trap	2	1	CT	120	16.2	Unmark	0.94
Gee Minnow Trap	2	1	CT	123	17.9	Unmark	0.96
Gee Minnow Trap	2	1	RBT	96	8.5	Unmark	0.96
Gee Minnow Trap	2	1	RBT	91	7.8	Unmark	1.04
Gee Minnow Trap	2	2	CO	62	2.5	Unmark	1.05
Gee Minnow Trap	2	2	CO	61	2.7	Unmark	1.19
Gee Minnow Trap	2	2	CO	58	2.3	Unmark	1.18
Gee Minnow Trap	2	2	CO	50	1.4	Unmark	1.12
Gee Minnow Trap	2	2	CO	52	2.1	Unmark	1.49
Gee Minnow Trap	2	2	CO	61	2.6	Unmark	1.15
Gee Minnow Trap	2	2	CO	60	2.6	Unmark	1.20
Gee Minnow Trap	2	2	CO	58	2.4	Unmark	1.23
Gee Minnow Trap	2	2	CO	69	3.8	Unmark	1.16
Gee Minnow Trap	2	2	CO	50	1.3	Unmark	1.04
Gee Minnow Trap	2	2	CO	55	1.9	Unmark	1.14
Gee Minnow Trap	2	2	CO	65	3.1	Unmark	1.13
Gee Minnow Trap	2	2	CO	59	2.4	Unmark	1.17
Gee Minnow Trap	2	2	CO	59	2.5	Unmark	1.22

Gee Minnow Trap	2	2	CO	48	1.1	Unmark	0.99
Gee Minnow Trap	2	2	CO	102	11.8	Unmark	1.11
Gee Minnow Trap	2	2	CO	55	1.8	Unmark	1.08
Gee Minnow Trap	2	2	CT	140	26	Unmark	0.95
Gee Minnow Trap	2	2	CT	97	8.3	Unmark	0.91
Gee Minnow Trap	2	2	CT	105	11	Unmark	0.95
Gee Minnow Trap	2	2	CT	112	13.8	Unmark	0.98
Gee Minnow Trap	2	2	RBT	100	10	Unmark	1.00
Gee Minnow Trap	2	2	RBT	78	4.8	Unmark	1.01
Gee Minnow Trap	2	2	RBT	112	15	Unmark	1.07
Gee Minnow Trap	1	1	CO	100	10.9	Unmark	1.09
Gee Minnow Trap	1	1	CO	84	6.7	Unmark	1.13
Gee Minnow Trap	1	1	CO	91	8.6	Unmark	1.14
Gee Minnow Trap	1	1	CO	79	6.1	Unmark	1.24
Gee Minnow Trap	1	1	CO	62	3	Unmark	1.26
Gee Minnow Trap	1	1	CO	88	7.9	Unmark	1.16
Gee Minnow Trap	1	1	CO	72	4.2	Unmark	1.13
Gee Minnow Trap	1	1	RBT	108	12	Unmark	0.95
Gee Minnow Trap	1	1	RBT	97	9.7	Unmark	1.06
Gee Minnow Trap	1	2	CO	60	2.7	Unmark	1.25
Gee Minnow Trap	1	2	CO	98	10.7	Unmark	1.14
Gee Minnow Trap	1	2	CO	101	11.8	Unmark	1.15
Gee Minnow Trap	1	2	CO	100	11.9	Unmark	1.19
Gee Minnow Trap	1	2	CO	60	2.7	Unmark	1.25
Gee Minnow Trap	1	2	CO	71	4.4	Unmark	1.23
Gee Minnow Trap	1	2	CO	60	2.6	Unmark	1.20
Gee Minnow Trap	1	2	CT	101	10.6	Unmark	1.03

**Juvenile Capture and Sampling Summary**

**Location** Unnamed Cr at Hydro Pole #12  
**Date** 15-Dec-05

<u>Species</u>	<u>No. Caught</u>	<u>Min Ln (mm)</u>	<u>Max Ln (mm)</u>
Coho	0	na	na
Rainbow Trout	2	41	80
Cutthroat trout	2	88	102
Total Captured	4		
Prop Coho	0.00		
Prop RBT	0.50		
Prop CT	0.50		

**Individual Sampling Data**

<u>Capture Method</u>	<u>Cluster #</u>	<u>Trap #</u>	<u>Species</u>	<u>FL(mm)</u>	<u>Weight(g)</u>	<u>Mark type</u>	<u>FCC</u>
Gee Minnow Trap	1	1	CT	102	9.8	Unmark	0.92
Gee Minnow Trap	1	1	CT	88	7.1	Unmark	1.04
Gee Minnow Trap	1	1	RBT	80	5.2	Unmark	1.02
Gee Minnow Trap	1	2	RBT	41	0.6	Unmark	0.87

# Juvenile Capture and Sampling Summary

Location McKinnon Cr./ Slack Rd. culvert  
Date Jan. 20, 06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	66	43	110
Dolly varden char	0	0	0
Cutthroat trout	1	120	120
Rainbow	13	75	129
Total Captured	80		
Prop Coho	0.83		
Prop DV	0.00		
Prop CT	0.01		
Prop RB	0.16		

Co C1 T1	21	Co C2 T1	10
RBT C1 T5		RBT C2 T3	
DV C1 T1	0	DV C2 T1	0
CT C1 T1	0	CT C2 T1	0
Co C1 T2	18	Co C2 T2	17
RBT C1 T25		RBT C2 T20	
DV C1 T2	0	DV C2 T2	0
CT C1 T2	1	CT C2 T2	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	66	3	UNMARK	1.09
Gee Minnow Trap	1	1	Coho	60	2.4	UNMARK	1.11
Gee Minnow Trap	1	1	Coho	59	2.4	UNMARK	1.17
Gee Minnow Trap	1	1	Coho	66	3.1	UNMARK	1.08
Gee Minnow Trap	1	1	Coho	73	3.9	UNMARK	1.00
Gee Minnow Trap	1	1	Coho	52	1.9	UNMARK	1.35
Gee Minnow Trap	1	1	Coho	71	3.7	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	59	2.2	UNMARK	1.07
Gee Minnow Trap	1	1	Coho	96	10.4	UNMARK	1.18
Gee Minnow Trap	1	1	Coho	57	2.1	UNMARK	1.13
Gee Minnow Trap	1	1	Coho	60	2.3	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	53	1.8	UNMARK	1.21
Gee Minnow Trap	1	1	Coho	79	4.9	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	61	2.6	UNMARK	1.15
Gee Minnow Trap	1	1	Coho	59	2.3	UNMARK	1.12
Gee Minnow Trap	1	1	Coho	56	2	UNMARK	1.14
Gee Minnow Trap	1	1	Coho	61	2.5	UNMARK	1.10
Gee Minnow Trap	1	1	Coho	69	3.7	UNMARK	1.13
Gee Minnow Trap	1	1	Coho	53	1.7	UNMARK	1.14

Gee Minnow Trap	1	1		Coho	72	4.3	UNMARK	1.15
Gee Minnow Trap	1	1		Coho	60	2.8	UNMARK	1.30
Gee Minnow Trap	1	1		Rainbow	129	19.8	UNMARK	0.92
Gee Minnow Trap	1	1		Rainbow	75	4.3	UNMARK	1.02
Gee Minnow Trap	1	1		Rainbow	77	4.9	UNMARK	1.07
Gee Minnow Trap	1	1		Rainbow	75	4	UNMARK	0.95
Gee Minnow Trap	1	1		Rainbow	104	11.5	UNMARK	1.02
Gee Minnow Trap	1	2		Coho	60	2.7	UNMARK	1.25
Gee Minnow Trap	1	2		Coho	87	8.1	UNMARK	1.23
Gee Minnow Trap	1	2		Coho	69	2.5	UNMARK	0.76
Gee Minnow Trap	1	2		Coho	76	6.1	UNMARK	1.39
Gee Minnow Trap	1	2		Coho	82	7	UNMARK	1.27
Gee Minnow Trap	1	2		Coho	110	13	UNMARK	0.98
Gee Minnow Trap	1	2		Coho	50	1.5	UNMARK	1.20
Gee Minnow Trap	1	2		Coho	71	5.5	UNMARK	1.54
Gee Minnow Trap	1	2		Coho	52	2.5	UNMARK	1.78
Gee Minnow Trap	1	2		Coho	63	3.1	UNMARK	1.24
Gee Minnow Trap	1	2		Coho	61	2.6	UNMARK	1.15
Gee Minnow Trap	1	2		Coho	47	1.8	UNMARK	1.73
Gee Minnow Trap	1	2		Coho	62	2.8	UNMARK	1.17
Gee Minnow Trap	1	2		Coho	74	4.8	UNMARK	1.18
Gee Minnow Trap	1	2		Coho	64	3.3	UNMARK	1.26
Gee Minnow Trap	1	2		Coho	67	4.2	UNMARK	1.40
Gee Minnow Trap	1	2		Coho	72	4.2	UNMARK	1.13
Gee Minnow Trap	1	2		Coho	68	3.8	UNMARK	1.21
Gee Minnow Trap	1	2		Cutthroat	120	15.8	UNMARK	0.91
Gee Minnow Trap	1	2		Rainbow	112	15.8	UNMARK	1.12
Gee Minnow Trap	1	2		Rainbow	115	13.2	UNMARK	0.87
Gee Minnow Trap	1	2		Rainbow	109	12.3	UNMARK	0.95
Gee Minnow Trap	1	2		Rainbow	99	6.5	UNMARK	0.67
Gee Minnow Trap	1	2		Rainbow	97	9.5	UNMARK	1.04
Gee Minnow Trap	2	1		Coho	57	2.3	UNMARK	1.24
Gee Minnow Trap	2	1		Coho	56	2.6	UNMARK	1.48
Gee Minnow Trap	2	1		Coho	50	2.2	UNMARK	1.76
Gee Minnow Trap	2	1		Coho	59	3.1	UNMARK	1.51
Gee Minnow Trap	2	1		Coho	55	2.6	UNMARK	1.56
Gee Minnow Trap	2	1		Coho	59	3.1	UNMARK	1.51

Gee Minnow Trap	2	1	Coho	56	3.4	UNMARK	1.94
Gee Minnow Trap	2	1	Coho	55	3	UNMARK	1.80
Gee Minnow Trap	2	1	Coho	105	13.7	UNMARK	1.18
Gee Minnow Trap	2	1	Coho	102	12.6	UNMARK	1.19
Gee Minnow Trap	2	1	Rainbow	105	12.5	UNMARK	1.08
Gee Minnow Trap	2	1	Rainbow	110	12.9	UNMARK	0.97
Gee Minnow Trap	2	1	Rainbow	92	8.9	UNMARK	1.14
Gee Minnow Trap	2	2	Coho	47	1.5	UNMARK	1.44
Gee Minnow Trap	2	2	Coho	52	2.4	UNMARK	1.71
Gee Minnow Trap	2	2	Coho	62	3.3	UNMARK	1.38
Gee Minnow Trap	2	2	Coho	48	2.1	UNMARK	1.90
Gee Minnow Trap	2	2	Coho	51	1.9	UNMARK	1.43
Gee Minnow Trap	2	2	Coho	48	1.4	UNMARK	1.27
Gee Minnow Trap	2	2	Coho	54	2.4	UNMARK	1.52
Gee Minnow Trap	2	2	Coho	45	1.7	UNMARK	1.87
Gee Minnow Trap	2	2	Coho	87	7.6	UNMARK	1.15
Gee Minnow Trap	2	2	Coho	50	1.6	UNMARK	1.28
Gee Minnow Trap	2	2	Coho	56	2	UNMARK	1.14
Gee Minnow Trap	2	2	Coho	49	1.6	UNMARK	1.36
Gee Minnow Trap	2	2	Coho	60	2.5	UNMARK	1.16
Gee Minnow Trap	2	2	Coho	50	1.6	UNMARK	1.28
Gee Minnow Trap	2	2	Coho	54	2.4	UNMARK	1.52
Gee Minnow Trap	2	2	Coho	43	1.6	UNMARK	2.01
Gee Minnow Trap	2	2	Coho	48	1.6	UNMARK	1.45



Gee Minnow Trap	1	1	Dolly V.	107	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	96	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	92	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	129	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	124	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	96	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	98	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	101	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	101	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	91	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Cutthroat	90	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	75	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	57	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	90	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	73	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	58	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	63	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	65	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	76	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	63	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	55	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	54	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	71	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	89	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	60	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	90	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	81	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	83	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	80	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	51	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	74	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	71	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	91	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	98	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	70	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	51	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	93	NO SCALE	UNMK	
TRAP #2 COUNTED BUT NOT SAMPLED:			Coho	24			
			Dolly V.	5			
TRAP #3 COUNTED BUT NOT SAMPLED:			Coho	40			
			Dolly V.	14			

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. Site#2

Date 23-Feb-06

CPUE

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	12	83	109
Rainbow Trout	0	na	na
Dolly Varden	55	84	153
Cutthroat Trout	0	na	na

Co C1 T1	8
DV C1 T1	11
CT C1 T1	0
Co C1 T2	1
DV C1 T2	42
CT C1 T2	0
Co C1 T3	3
DV C1 T3	2
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	98	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	86	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	83	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	142	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	92	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	104	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	113	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	92	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	94	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	134	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	120	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	122	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	153	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	93	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	135	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	113	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	96	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	89	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	101	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	140	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	147	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	84	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	124	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	125	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	119	NO SCALE	UNMK	NA

Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	136	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	123	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	99	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	120	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	134	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	134	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	102	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	128	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	138	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	125	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	135	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	124	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	124	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	101	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	132	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	108	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	152	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	109	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	103	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Dolly V.	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Dolly V.	100	NO SCALE	UNMK	NA

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. Site #3  
Date 23-Feb-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	3	78	85
Rainbow Trout	0	na	na
Dolly Varden	39	83	158
Cutthroat Trout	0	na	na

## CPUE

Co C1 T1	2
DV C1 T1	4
CT C1 T1	0
Co C1 T2	1
DV C1 T2	35
CT C1 T2	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	84	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	85	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	83	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	94	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	128	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	121	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	78	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	140	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	122	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	134	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	129	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	121	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	127	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	151	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	141	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	121	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	113	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	114	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	102	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	144	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	155	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	128	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	142	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	158	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	109	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	112	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	116	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	120	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	
TRAP #2 COUNTED BUT NOT SAMPLED:			Dolly V.	7			

**Juvenile Capture and Sampling Summary****Location** Water Falls Cr. Site #4  
**Date** 23-Feb-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	3	56	78
Rainbow Trout	0	na	na
Dolly Varden	11	95	143
Cutthroat Trout	0	na	na
Total Captured	14		
Prop Coho	0.21		
Prop DV	0.79		
Prop CT	0.00		

**CPUE**

Co C1 T1	3
DV C1 T1	11
CT C1 T1	0

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	78	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	64	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	56	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	98	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	112	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	132	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	126	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	143	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	112	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	143	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	114	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	102	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	128	NO SCALE	UNMK	NA

# Juvenile Capture and Sampling Summary

Location Water Fall Cr. #1  
Date 14-Mar-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	42	57	110
Rainbow Trout	0		
Dolly Varden	53	76	166
Cutthroat Trout	3	83	116
Total Captured	98		
Prop Coho	0.43		
Prop DV	0.54		
Prop CT	0.03		

## CPUE

Co C1 T1	18
DV C1 T1	30
CT C1 T1	0
Co C1 T2	18
DV C1 T2	20
CT C1 T2	2
Co C1 T3	6
DV C1 T3	3
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	75	3.8	UNMK	0.90
Gee Minnow Trap	1	1	Coho	102	10.1	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	96	6.9	UNMK	0.78
Gee Minnow Trap	1	1	Dolly V.	110	11.7	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	117	14.8	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	125	14.9	UNMK	0.76
Gee Minnow Trap	1	1	Dolly V.	132	20.4	UNMK	0.89
Gee Minnow Trap	1	1	Dolly V.	133	20.2	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	139	23.4	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	165	43.6	UNMK	0.97
Gee Minnow Trap	1	1	Dolly V.	166	38.1	UNMK	0.83
Gee Minnow Trap	1	1	Coho	73	3.7	UNMK	0.95
Gee Minnow Trap	1	1	Coho	76	4.1	UNMK	0.93
Gee Minnow Trap	1	1	Coho	90	7.7	UNMK	1.06
Gee Minnow Trap	1	1	Coho	110	12.1	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	94	7.2	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	98	8.9	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	103	9.5	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	136	22.1	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	153	30.7	UNMK	0.86
Gee Minnow Trap	1	1	Coho	64	2.4	UNMK	0.92
Gee Minnow Trap	1	1	Coho	64	2.4	UNMK	0.92
Gee Minnow Trap	1	1	Coho	73	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	90	6.9	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	90	6.8	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	95	5.7	UNMK	0.66
Gee Minnow Trap	1	1	Dolly V.	135	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	137	24.8	UNMK	0.96
Gee Minnow Trap	1	1	Dolly V.	137	27.7	UNMK	1.08
Gee Minnow Trap	1	1	Dolly V.	165	36.1	UNMK	0.80
Gee Minnow Trap	1	1	Coho	108	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	128	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	140	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	72	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	74	3.8	UNMK	0.94

Gee Minnow Trap	1	1	Coho	78	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	96	7.8	UNMK	0.88
Gee Minnow Trap	1	1	Coho	104	9.4	UNMK	0.84
Gee Minnow Trap	1	1	Dolly V.	135	20.5	UNMK	0.83
Gee Minnow Trap	1	1	Dolly V.	138	23.8	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	160	37.8	UNMK	0.92
Gee Minnow Trap	1	1	Coho	94	8.1	UNMK	0.98
Gee Minnow Trap	1	1	Coho	100	9.2	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	108	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	120	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	125	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	133	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	142	26.5	UNMK	0.93
Gee Minnow Trap	1	2	Coho	64	2.4	UNMK	0.92
Gee Minnow Trap	1	2	Coho	58	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	2	Coho	58	1.9	UNMK	0.97
Gee Minnow Trap	1	2	Dolly V.	76	4.3	UNMK	0.98
Gee Minnow Trap	1	2	Coho	73	8.6	UNMK	2.21
Gee Minnow Trap	1	2	CT	83	4.9	UNMK	0.86
Gee Minnow Trap	1	2	Coho	100	9.1	UNMK	0.91
Gee Minnow Trap	1	2	Dolly V.	91	7.5	UNMK	1.00
Gee Minnow Trap	1	2	CT	96	8.1	UNMK	0.92
Gee Minnow Trap	1	2	Dolly V.	84	4.9	UNMK	0.83
Gee Minnow Trap	1	2	Dolly V.	121	15.7	UNMK	0.89
Gee Minnow Trap	1	2	Coho	57	1.7	UNMK	0.92
Gee Minnow Trap	1	2	Coho	57	1.7	UNMK	0.92
Gee Minnow Trap	1	2	Coho	61	2.1	UNMK	0.93
Gee Minnow Trap	1	2	Coho	61	1.8	UNMK	0.79
Gee Minnow Trap	1	2	Coho	63	2.6	UNMK	1.04
Gee Minnow Trap	1	2	Coho	65	2.7	UNMK	0.98
Gee Minnow Trap	1	2	Coho	74	3.5	UNMK	0.86
Gee Minnow Trap	1	2	Coho	74	3.8	UNMK	0.94
Gee Minnow Trap	1	2	Coho	75	4.1	UNMK	0.97
Gee Minnow Trap	1	2	Coho	75	3.8	UNMK	0.90
Gee Minnow Trap	1	2	Coho	80	4.6	UNMK	0.90
Gee Minnow Trap	1	2	Coho	85	5.3	UNMK	0.86
Gee Minnow Trap	1	2	Coho	87	6.6	UNMK	1.00
Gee Minnow Trap	1	2	CT	116	no scale	UNMK	
TRAP #2 COUNTED BUT NOT SAMPLED:			Coho	0			
			Dolly V.	16			
TRAP #3 COUNTED BUT NOT SAMPLED:			Coho	6			
			Dolly V.	3			

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. Site#2  
Date 14-Mar-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	3	93	105
Rainbow Trout	0		
Dolly Varden	10	97	163
Cutthroat Trout	0		
Total Captured	13		
Prop Coho	0.23		
Prop DV	0.77		
Prop CT	0.00		

## CPUE

Co C1 T1	3
DV C1 T1	9
CT C1 T1	0
Co C1 T2	0
DV C1 T2	1
CT C1 T2	0
Co C1 T3	0
DV C1 T3	0
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	105	10.6	UNMK	0.92
Gee Minnow Trap	1	1	Coho	94	8.2	UNMK	0.99
Gee Minnow Trap	1	1	Coho	93	7.9	UNMK	0.98
Gee Minnow Trap	1	1	Dolly V.	118	14.5	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	97	8.5	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	162	36.3	UNMK	0.85
Gee Minnow Trap	1	1	Dolly V.	140	27.2	UNMK	0.99
Gee Minnow Trap	1	1	Dolly V.	147	29.7	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	155	33.7	UNMK	0.90
Gee Minnow Trap	1	1	Dolly V.	163	41.9	UNMK	0.97
Gee Minnow Trap	1	1	Dolly V.	150	26.8	UNMK	0.79
Gee Minnow Trap	1	1	Dolly V.	135	21.2	UNMK	0.86
Gee Minnow Trap	1	2	Dolly V.	144	26.8	UNMK	0.90
Gee Minnow Trap	1	3	no fish			UNMK	NA



# Juvenile Capture and Sampling Summary

Location Water Falls Cr. Site #3  
Date 14-Mar-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	38	57	107
Rainbow Trout	0		
Dolly Varden	46	83	167
Cutthroat Trout	0		
Total Captured	84		
Prop Coho	0.45		
Prop DV	0.55		
Prop CT	0.00		

## CPUE

Co C1 T1	27
DV C1 T1	46
CT C1 T1	
Co C1 T2	9
DV C1 T2	10
CT C1 T2	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	82	5.1	UNMK	0.92
Gee Minnow Trap	1	1	Coho	100	9.4	UNMK	0.94
Gee Minnow Trap	1	1	Coho	99	9.3	UNMK	0.96
Gee Minnow Trap	1	1	Dolly V.	132	21	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	120	15.7	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	101	9.7	UNMK	0.94
Gee Minnow Trap	1	1	Dolly V.	133	21.4	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	95	8.6	UNMK	1.00
Gee Minnow Trap	1	1	Dolly V.	163	35.8	UNMK	0.83
Gee Minnow Trap	1	1	Dolly V.	134	22.2	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	129	20.4	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	110	12.7	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	120	15.5	UNMK	0.90
Gee Minnow Trap	1	1	Coho	93	8	UNMK	0.99
Gee Minnow Trap	1	1	Coho	86	6.3	UNMK	0.99
Gee Minnow Trap	1	1	Coho	99	9.1	UNMK	0.94
Gee Minnow Trap	1	1	Coho	95	7.9	UNMK	0.92
Gee Minnow Trap	1	1	Coho	70	3.9	UNMK	1.14
Gee Minnow Trap	1	1	Coho	85	no scale	UNMK	
Gee Minnow Trap	1	1	Coho	93	7.4	UNMK	0.92
Gee Minnow Trap	1	1	Coho	92	7.4	UNMK	0.95
Gee Minnow Trap	1	1	Coho	82	4.7	UNMK	0.85
Gee Minnow Trap	1	1	Dolly V.	139	23.2	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	104	10.4	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	135	23	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	135	22.3	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	137	21.7	UNMK	0.84
Gee Minnow Trap	1	1	Dolly V.	123	18.5	UNMK	0.99
Gee Minnow Trap	1	1	Dolly V.	85	5.3	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	92	6.9	UNMK	0.89
Gee Minnow Trap	1	1	Dolly V.	97	8.3	UNMK	0.91
Gee Minnow Trap	1	1	Coho	100	8.7	UNMK	0.87
Gee Minnow Trap	1	1	Coho	64	2.5	UNMK	0.95
Gee Minnow Trap	1	1	Coho	65	2.6	UNMK	0.95
Gee Minnow Trap	1	1	Coho	95	8.2	UNMK	0.96

Gee Minnow Trap	1	1	Coho	107	11.9	UNMK	0.97
Gee Minnow Trap	1	1	Coho	60	2.1	UNMK	0.97
Gee Minnow Trap	1	1	Coho	62	2.2	UNMK	0.92
Gee Minnow Trap	1	1	Coho	100	9.1	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	84	5.4	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	110	12.6	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	123	17.8	UNMK	0.96
Gee Minnow Trap	1	1	Dolly V.	139	25.2	UNMK	0.94
Gee Minnow Trap	1	1	Dolly V.	130	19.4	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	167	41.9	UNMK	0.90
Gee Minnow Trap	1	1	Coho	87	6.7	UNMK	1.02
Gee Minnow Trap	1	1	Coho	97	8.1	UNMK	0.89
Gee Minnow Trap	1	1	Coho	94	8.8	UNMK	1.06
Gee Minnow Trap	1	1	Coho	96	8.1	UNMK	0.92
Gee Minnow Trap	1	1	Coho	67	3.1	UNMK	1.03
Gee Minnow Trap	1	1	Coho	82	5	UNMK	0.91
Gee Minnow Trap	1	1	Coho	65	3.1	UNMK	1.13
Gee Minnow Trap	1	1	Coho	57	1.9	UNMK	1.03
Gee Minnow Trap	1	1	Coho	76	4.6	UNMK	1.05
Gee Minnow Trap	1	1	Dolly V.	102	8.9	UNMK	0.84
Gee Minnow Trap	1	1	Dolly V.	127	20	UNMK	0.98
Gee Minnow Trap	1	1	Dolly V.	139	24.6	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	124	22.7	UNMK	1.19
Gee Minnow Trap	1	1	Dolly V.	94	7.4	UNMK	0.89
Gee Minnow Trap	1	1	Dolly V.	83	5.3	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	139	25.4	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	105	10.9	UNMK	0.94
Gee Minnow Trap	1	1	Dolly V.	90	6.3	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	108	10.9	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	99	8.8	UNMK	0.91
Gee Minnow Trap	1	2	Coho	99	9.3	UNMK	0.96
Gee Minnow Trap	1	2	Coho	102	10.7	UNMK	1.01
Gee Minnow Trap	1	2	Coho	90	6.9	UNMK	0.95
TRAP #2 COUNTED BUT NOT SAMPLED:			Dolly V.	10			
TRAP #2 COUNTED BUT NOT SAMPLED:			Coho	6			

**Juvenile Capture and Sampling Summary**

**Location** Unnamed Cr. At hydro pole 12  
**Date** Jan. 20, 06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	2	48	52
Dolly varden char	0		
Cutthroat trout	1	106	106
Rainbow	0		
Total Captured	3		
Prop Coho	0.67		
Prop DV	0.00		
Prop CT	0.33		
Prop RB	0.00		

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	48	1.1	UNMARK	0.99
Gee Minnow Trap	1	1	Cutthroat	106	11.4	UNMARK	0.96
Gee Minnow Trap	1	2	Coho	52	1.4	UNMARK	1.00

# Juvenile Capture and Sampling Summary

Location McKinnon Cr./ Slack Rd. culvert  
Date 14-Feb-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	15	48	98
Dolly varden char	4	143	161
Cutthroat trout	3	94	108
Rainbow	5	45	109
Total Captured	27		
Prop Coho	0.56		
Prop DV	0.15		
Prop CT	0.11		
Prop RB	0.19		

Co C1 T1	1	Co C2 T1	5
RBT C1 T1	0	RBT C2 T1	1
DV C1 T1	1	DV C2 T1	0
CT C1 T1	0	CT C2 T1	0
Co C1 T2	2	Co C2 T2	7
RBT C1 T2	2	RBT C2 T2	2
DV C1 T2	3	DV C2 T2	0
CT C1 T2	3	CT C2 T2	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	2	1	CO	69	4.8	UNMARK	1.46
Gee Minnow Trap	2	1	CO	50	1.3	UNMARK	1.04
Gee Minnow Trap	2	1	CO	50	2	UNMARK	1.60
Gee Minnow Trap	2	1	CO	54	3.2	UNMARK	2.03
Gee Minnow Trap	2	1	CO	78	6.9	UNMARK	1.45
Gee Minnow Trap	2	1	RBT	109	11.8	UNMARK	0.91
Gee Minnow Trap	2	2	CO	75	4.1	UNMARK	0.97
Gee Minnow Trap	2	2	CO	69	3.9	UNMARK	1.19
Gee Minnow Trap	2	2	CO	61	3.1	UNMARK	1.37
Gee Minnow Trap	2	2	CO	60	3.6	UNMARK	1.67
Gee Minnow Trap	2	2	CO	51	2.1	UNMARK	1.58
Gee Minnow Trap	2	2	CO	49	1.5	UNMARK	1.27
Gee Minnow Trap	2	2	CO	48	1.6	UNMARK	1.45
Gee Minnow Trap	2	2	RBT	102	11	UNMARK	1.04
Gee Minnow Trap	2	2	RBT	45	2	UNMARK	2.19
Gee Minnow Trap	1	1	CO	74	4.7	UNMARK	1.16
Gee Minnow Trap	1	1	DV	149	30.1	UNMARK	0.91
Gee Minnow Trap	1	2	CO	98	7.7	UNMARK	0.82
Gee Minnow Trap	1	2	CO	59	3.2	UNMARK	1.56
Gee Minnow Trap	1	2	CT	108	12.3	UNMARK	0.98
Gee Minnow Trap	1	2	CT	94	7.5	UNMARK	0.90
Gee Minnow Trap	1	2	CT	106	11.7	UNMARK	0.98
Gee Minnow Trap	1	2	DV	145	25.9	UNMARK	0.85
Gee Minnow Trap	1	2	DV	143	27.6	UNMARK	0.94
Gee Minnow Trap	1	2	DV	161	42.3	UNMARK	1.01
Gee Minnow Trap	1	2	RBT	98	8.9	UNMARK	0.95
Gee Minnow Trap	1	2	RBT	106	8.9	UNMARK	0.75

**Juvenile Capture and Sampling Summary****Location** Unnamed Cr. At hydro pole 12**Date** 15-Feb-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	1	41	41
Dolly varden char	0		
Cutthroat trout	1	97	97
Rainbow	0		
Total Captured	2		
Prop Coho	0.50		
Prop DV	0.00		
Prop CT	0.50		
Prop RB	0.00		

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	CO	41	1.6	UNMARK	2.32
Gee Minnow Trap	1	1	CT	97	8.9	UNMARK	0.98

**Juvenile Capture and Sampling Summary**

**Location** McKinnon Cr./ Slack Rd. culvert  
**Date** 15-Mar-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	12	51	76
Dolly varden char	0	94	104
Cutthroat trout	1	77	77
Rainbow	2	94	104
Total Captured	15		
Prop Coho	0.80		
Prop DV	0.00		
Prop CT	0.07		
Prop RB	0.13		

Co C1 T1	n/a	Co C2 T1	6
RBT C1 T1	n/a	RBT C2 T1	1
DV C1 T1	n/a	DV C2 T1	0
CT C1 T1	n/a	CT C2 T1	0
Co C1 T2	n/a	Co C2 T2	6
RBT C1 T2	n/a	RBT C2 T2	1
DV C1 T2	n/a	DV C2 T2	0
CT C1 T2	n/a	CT C2 T2	1

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	2	1	CO	52	1.2	UNMARK	0.85
Gee Minnow Trap	2	1	CO	76	4.7	UNMARK	1.07
Gee Minnow Trap	2	1	CO	64	2.6	UNMARK	0.99
Gee Minnow Trap	2	1	CO	59	2.3	UNMARK	1.12
Gee Minnow Trap	2	1	CO	68	2.9	UNMARK	0.92
Gee Minnow Trap	2	1	CO	63	3.3	UNMARK	1.32
Gee Minnow Trap	2	1	RBT	104	11.6	UNMARK	1.03
Gee Minnow Trap	2	2	CT	77	4.2	UNMARK	0.92
Gee Minnow Trap	2	2	CO	67	3.7	UNMARK	1.23
Gee Minnow Trap	2	2	RBT	94	7.6	UNMARK	0.92
Gee Minnow Trap	2	2	CO	55	2.2	UNMARK	1.32
Gee Minnow Trap	2	2	CO	50	1.5	UNMARK	1.20
Gee Minnow Trap	2	2	CO	62	2.4	UNMARK	1.01
Gee Minnow Trap	2	2	CO	67	3.4	UNMARK	1.13
Gee Minnow Trap	2	2	CO	51	1.3	UNMARK	0.98

# Juvenile Capture and Sampling Summary

Location WFC #1  
Date 15-Dec-05

## CPUE

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	94	49	102
Dolly varden char	14	86	140
Cutthroat trout	5	71	139
Total Captured	113		
Prop Coho	0.83		
Prop DV	0.12		
Prop CT	0.04		

Co C1 T1	50
DV C1 T1	12
CT C1 T1	0
Co C1 T2	26
DV C1 T2	1
CT C1 T2	1
Co C1 T3	18
DV C1 T3	1
CT C1 T3	4

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	85	5.6	Unmark	0.91
Gee Minnow Trap	1	1	CO	57	1.7	Unmark	0.92
Gee Minnow Trap	1	1	CO	67	2.8	Unmark	0.93
Gee Minnow Trap	1	1	CO	100	9.4	Unmark	0.94
Gee Minnow Trap	1	1	CO	53	1.4	Unmark	0.94
Gee Minnow Trap	1	1	CO	92	7.4	Unmark	0.95
Gee Minnow Trap	1	1	CO	80	4.9	Unmark	0.96
Gee Minnow Trap	1	1	CO	52	1.4	Unmark	1.00
Gee Minnow Trap	1	1	CO	97	9.1	Unmark	1.00
Gee Minnow Trap	1	1	CO	76	4.4	Unmark	1.00
Gee Minnow Trap	1	1	CO	62	2.4	Unmark	1.01
Gee Minnow Trap	1	1	CO	70	3.5	Unmark	1.02
Gee Minnow Trap	1	1	CO	56	1.8	Unmark	1.02
Gee Minnow Trap	1	1	CO	96	9.1	Unmark	1.03
Gee Minnow Trap	1	1	CO	77	4.7	Unmark	1.03
Gee Minnow Trap	1	1	CO	50	1.3	Unmark	1.04
Gee Minnow Trap	1	1	CO	75	4.4	Unmark	1.04
Gee Minnow Trap	1	1	CO	93	8.4	Unmark	1.04
Gee Minnow Trap	1	1	CO	102	11.1	Unmark	1.05
Gee Minnow Trap	1	1	CO	94	8.7	Unmark	1.05
Gee Minnow Trap	1	1	CO	87	6.9	Unmark	1.05
Gee Minnow Trap	1	1	CO	68	3.3	Unmark	1.05
Gee Minnow Trap	1	1	CO	97	9.6	Unmark	1.05
Gee Minnow Trap	1	1	CO	92	8.2	Unmark	1.05
Gee Minnow Trap	1	1	CO	52	1.5	Unmark	1.07
Gee Minnow Trap	1	1	CO	64	2.8	Unmark	1.07
Gee Minnow Trap	1	1	CO	64	2.8	Unmark	1.07
Gee Minnow Trap	1	1	CO	88	7.3	Unmark	1.07
Gee Minnow Trap	1	1	CO	72	4	Unmark	1.07
Gee Minnow Trap	1	1	CO	58	2.1	Unmark	1.08
Gee Minnow Trap	1	1	CO	55	1.8	Unmark	1.08
Gee Minnow Trap	1	1	CO	68	3.5	Unmark	1.11
Gee Minnow Trap	1	1	CO	59	2.3	Unmark	1.12
Gee Minnow Trap	1	1	CO	59	2.3	Unmark	1.12
Gee Minnow Trap	1	1	CO	57	2.1	Unmark	1.13
Gee Minnow Trap	1	1	CO	53	1.7	Unmark	1.14
Gee Minnow Trap	1	1	CO	68	3.6	Unmark	1.14

Gee Minnow Trap	1	1	CO	69	3.8	Unmark	1.16
Gee Minnow Trap	1	1	CO	59	2.4	Unmark	1.17
Gee Minnow Trap	1	1	CO	68	3.7	Unmark	1.18
Gee Minnow Trap	1	1	CO	52	1.7	Unmark	1.21
Gee Minnow Trap	1	1	CO	52	1.7	Unmark	1.21
Gee Minnow Trap	1	1	CO	61	2.8	Unmark	1.23
Gee Minnow Trap	1	1	CO	56	2.2	Unmark	1.25
Gee Minnow Trap	1	1	CO	68	4	Unmark	1.27
Gee Minnow Trap	1	1	CO	58	2.6	Unmark	1.33
Gee Minnow Trap	1	1	CO	51	1.8	Unmark	1.36
Gee Minnow Trap	1	1	CO	49	1.6	Unmark	1.36
Gee Minnow Trap	1	1	CO	61	3.2	Unmark	1.41
Gee Minnow Trap	1	1	CO	49	1.7	Unmark	1.44
Gee Minnow Trap	1	1	DV	108	10.2	Unmark	0.81
Gee Minnow Trap	1	1	DV	134	20.4	Unmark	0.85
Gee Minnow Trap	1	1	DV	88	6	Unmark	0.88
Gee Minnow Trap	1	1	DV	86	5.8	Unmark	0.91
Gee Minnow Trap	1	1	DV	114	13.7	Unmark	0.92
Gee Minnow Trap	1	1	DV	111	12.9	Unmark	0.94
Gee Minnow Trap	1	1	DV	100	9.7	Unmark	0.97
Gee Minnow Trap	1	1	DV	120	16.8	Unmark	0.97
Gee Minnow Trap	1	1	DV	130	22.2	Unmark	1.01
Gee Minnow Trap	1	1	DV	140	27.8	Unmark	1.01
Gee Minnow Trap	1	1	DV	102	11	Unmark	1.04
Gee Minnow Trap	1	1	DV	103	11.5	Unmark	1.05
Gee Minnow Trap	1	2	CT	139	26.8	Unmark	1.00
Gee Minnow Trap	1	2	DV	132	23.5	Unmark	1.02
Gee Minnow Trap	1	3	CT	92	7.3	Unmark	0.94
Gee Minnow Trap	1	3	CT	82	5.5	Unmark	1.00
Gee Minnow Trap	1	3	CT	77	4.2	Unmark	0.92
Gee Minnow Trap	1	3	CT	71	3.6	Unmark	1.01
Gee Minnow Trap	1	3	DV	93	7.3	Unmark	0.91

Also captured      Trap #2      26 coho  
                          Trap #3      18 coho



# Juvenile Capture and Sampling Summary

Location Waterfalls Creek Site #2  
Date 15-Dec-05

## CPUE

Co C1 T1	5
DV C1 T1	14
CT C1 T1	0
Co C1 T2	9
DV C1 T2	32
CT C1 T2	0
Co C1 T3	12
DV C1 T3	17
CT C1 T3	0

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	26	63	103
Dolly varden char	64	78	164
Cutthroat trout	0		
Total Captured	90		
Prop Coho	0.29		
Prop DV	0.71		
Prop CT	0.00		

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	91	7.5	Unmark	1.00
Gee Minnow Trap	1	1	CO	92	8.7	Unmark	1.12
Gee Minnow Trap	1	1	CO	92	7.6	Unmark	0.98
Gee Minnow Trap	1	1	CO	94	8.8	Unmark	1.06
Gee Minnow Trap	1	1	CO	102	11.1	Unmark	1.05
Gee Minnow Trap	1	1	DV	103	11.8	Unmark	1.08
Gee Minnow Trap	1	1	DV	103	9.9	Unmark	0.91
Gee Minnow Trap	1	1	DV	104	11.2	Unmark	1.00
Gee Minnow Trap	1	1	DV	109	12.8	Unmark	0.99
Gee Minnow Trap	1	1	DV	110	13	Unmark	0.98
Gee Minnow Trap	1	1	DV	114	15	Unmark	1.01
Gee Minnow Trap	1	1	DV	115	16	Unmark	1.05
Gee Minnow Trap	1	1	DV	117	15.9	Unmark	0.99
Gee Minnow Trap	1	1	DV	120	16.4	Unmark	0.95
Gee Minnow Trap	1	1	DV	123	18.6	Unmark	1.00
Gee Minnow Trap	1	1	DV	123	19.6	Unmark	1.05
Gee Minnow Trap	1	1	DV	130	22.8	Unmark	1.04
Gee Minnow Trap	1	1	DV	137	26.2	Unmark	1.02
Gee Minnow Trap	1	1	DV	137	27.1	Unmark	1.05
Gee Minnow Trap	1	1	DV	144	28	Unmark	0.94
Gee Minnow Trap	1	2	CO	92	7.9	Unmark	1.01
Gee Minnow Trap	1	2	CO	93	9.5	Unmark	1.18
Gee Minnow Trap	1	2	CO	95	9	Unmark	1.05
Gee Minnow Trap	1	2	CO	98	9.9	Unmark	1.05
Gee Minnow Trap	1	2	CO	101	11.1	Unmark	1.08
Gee Minnow Trap	1	2	CO	103	12	Unmark	1.10
Gee Minnow Trap	1	2	DV	78	NA	Unmark	
Gee Minnow Trap	1	2	DV	92	6.3	Unmark	0.81
Gee Minnow Trap	1	2	DV	95	NA	Unmark	
Gee Minnow Trap	1	2	DV	97	9.3	Unmark	1.02
Gee Minnow Trap	1	2	DV	99	8.7	Unmark	0.90
Gee Minnow Trap	1	2	DV	104	11.2	Unmark	1.00
Gee Minnow Trap	1	2	DV	108	11.9	Unmark	0.94
Gee Minnow Trap	1	2	DV	111	NA	Unmark	
Gee Minnow Trap	1	2	DV	116	15.1	Unmark	0.97
Gee Minnow Trap	1	2	DV	119	17.3	Unmark	1.03
Gee Minnow Trap	1	2	DV	123	NA	Unmark	

Gee Minnow Trap	1	2	DV	124	17.2	Unmark	0.90
Gee Minnow Trap	1	2	DV	125	NA	Unmark	
Gee Minnow Trap	1	2	DV	127	21	Unmark	1.03
Gee Minnow Trap	1	2	DV	127	20	Unmark	0.98
Gee Minnow Trap	1	2	DV	130	NA	Unmark	
Gee Minnow Trap	1	2	DV	137	24.6	Unmark	0.96
Gee Minnow Trap	1	2	DV	140	28.2	Unmark	1.03
Gee Minnow Trap	1	2	DV	164	37.2	Unmark	0.84
Gee Minnow Trap	1	3	CO	63	2.4	Unmark	0.96
Gee Minnow Trap	1	3	CO	87	6.9	Unmark	1.05
Gee Minnow Trap	1	3	CO	87	8.2	Unmark	1.25
Gee Minnow Trap	1	3	CO	88	7.2	Unmark	1.06
Gee Minnow Trap	1	3	CO	89	7.9	Unmark	1.12
Gee Minnow Trap	1	3	CO	89	7.9	Unmark	1.12
Gee Minnow Trap	1	3	CO	91	8.7	Unmark	1.15
Gee Minnow Trap	1	3	CO	92	8.7	Unmark	1.12
Gee Minnow Trap	1	3	CO	92	8.2	Unmark	1.05
Gee Minnow Trap	1	3	CO	94	8.9	Unmark	1.07
Gee Minnow Trap	1	3	CO	95	8.9	Unmark	1.04
Gee Minnow Trap	1	3	CO	101	10.8	Unmark	1.05

Also captured the following fish that were not individually sampled :

<b>Trap #</b>	<b># Coho</b>	<b># Dolly V.</b>
2	3	13
3	0	17

# Juvenile Capture and Sampling Summary

Location Waterfalls Cr Site #3  
Date 15-Dec-05

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	43	61	97
Dolly varden char	40	55	165
Cutthroat trout	1	na	na
Total Captured	84		
Prop Coho	0.51		
Prop DV	0.48		
Prop CT	0.01		

## CPUE

Co C1 T1	24
DV C1 T1	32
CT C1 T1	0
Co C1 T2	19
DV C1 T2	8
CT C1 T2	1

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	61	na	Unmark	
Gee Minnow Trap	1	1	CO	68	4.5	Unmark	1.43
Gee Minnow Trap	1	1	CO	69	na	Unmark	
Gee Minnow Trap	1	1	CO	73	na	Unmark	
Gee Minnow Trap	1	1	CO	78	5.4	Unmark	1.14
Gee Minnow Trap	1	1	CO	80	4.8	Unmark	0.94
Gee Minnow Trap	1	1	CO	83	5.4	Unmark	0.94
Gee Minnow Trap	1	1	CO	84	na	Unmark	
Gee Minnow Trap	1	1	CO	86	8.5	Unmark	1.34
Gee Minnow Trap	1	1	CO	88	na	Unmark	
Gee Minnow Trap	1	1	CO	89	7.3	Unmark	1.04
Gee Minnow Trap	1	1	CO	90	na	Unmark	
Gee Minnow Trap	1	1	CO	91	na	Unmark	
Gee Minnow Trap	1	1	CO	92	8.5	Unmark	1.09
Gee Minnow Trap	1	1	CO	92	na	Unmark	
Gee Minnow Trap	1	1	CO	93	7.9	Unmark	0.98
Gee Minnow Trap	1	1	CO	95	9.5	Unmark	1.11
Gee Minnow Trap	1	1	CO	95	na	Unmark	
Gee Minnow Trap	1	1	CO	97	na	Unmark	
Gee Minnow Trap	1	1	DV	55	na	Unmark	
Gee Minnow Trap	1	1	DV	85	6.8	Unmark	1.11
Gee Minnow Trap	1	1	DV	87	na	Unmark	
Gee Minnow Trap	1	1	DV	89	na	Unmark	
Gee Minnow Trap	1	1	DV	95	8.6	Unmark	1.00
Gee Minnow Trap	1	1	DV	100	na	Unmark	
Gee Minnow Trap	1	1	DV	101	na	Unmark	
Gee Minnow Trap	1	1	DV	106	na	Unmark	
Gee Minnow Trap	1	1	DV	110	na	Unmark	
Gee Minnow Trap	1	1	DV	115	16	Unmark	1.05
Gee Minnow Trap	1	1	DV	120	na	Unmark	
Gee Minnow Trap	1	1	DV	120	na	Unmark	
Gee Minnow Trap	1	1	DV	122	na	Unmark	
Gee Minnow Trap	1	1	DV	122	na	Unmark	
Gee Minnow Trap	1	1	DV	123	na	Unmark	
Gee Minnow Trap	1	1	DV	125	na	Unmark	
Gee Minnow Trap	1	1	DV	126	na	Unmark	
Gee Minnow Trap	1	1	DV	126	na	Unmark	

Gee Minnow Trap	1	1	DV	127	na	Unmark	
Gee Minnow Trap	1	1	DV	129	na	Unmark	
Gee Minnow Trap	1	1	DV	136	na	Unmark	
Gee Minnow Trap	1	1	DV	138	26.7	Unmark	1.02
Gee Minnow Trap	1	1	DV	148	na	Unmark	
Gee Minnow Trap	1	1	DV	151	na	Unmark	
Gee Minnow Trap	1	1	DV	165	na	Unmark	

Also captured but not individually sampled :

<u>Trap #</u>	<u># Coho</u>	<u># DV</u>	<u># CT</u>
1	5	7	0
2	19	8	1

# Juvenile Capture and Sampling Summary

Location Waterfalls Cr Site #4  
Date 15-Dec-05

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	6	61	70
Dolly varden char	18	83	157
Cutthroat trout	0		
Total Captured	24		
Prop Coho	0.25		
Prop DV	0.75		
Prop CT	0.00		

## Individual Sampling Data

CPUE	
Co C1 T1	3
DV C1 T1	16
CT C1 T1	0
Co C1 T2	2
DV C1 T2	1
CT C1 T2	0
Co C1 T3	1
DV C1 T3	1
CT C1 T3	0

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	CO	61	3.1	Unmark	1.37
Gee Minnow Trap	1	1	CO	62	na	Unmark	
Gee Minnow Trap	1	1	CO	70	3.6	Unmark	1.05
Gee Minnow Trap	1	1	DV	83	5.7	Unmark	1.00
Gee Minnow Trap	1	1	DV	98	8.5	Unmark	0.90
Gee Minnow Trap	1	1	DV	101	11	Unmark	1.07
Gee Minnow Trap	1	1	DV	121	18.2	Unmark	1.03
Gee Minnow Trap	1	1	DV	121	16	Unmark	0.90
Gee Minnow Trap	1	1	DV	122	na	Unmark	
Gee Minnow Trap	1	1	DV	123	17.6	Unmark	0.95
Gee Minnow Trap	1	1	DV	124	na	Unmark	
Gee Minnow Trap	1	1	DV	131	20.2	Unmark	0.90
Gee Minnow Trap	1	1	DV	131	na	Unmark	
Gee Minnow Trap	1	1	DV	135	na	Unmark	
Gee Minnow Trap	1	1	DV	138	na	Unmark	
Gee Minnow Trap	1	1	DV	142	25.3	Unmark	0.88
Gee Minnow Trap	1	1	DV	150	32.8	Unmark	0.97
Gee Minnow Trap	1	1	DV	151	33.5	Unmark	0.97
Gee Minnow Trap	1	1	DV	157	29.6	Unmark	0.76
Gee Minnow Trap	1	2	CO	65	na	Unmark	
Gee Minnow Trap	1	2	CO	71	na	Unmark	
Gee Minnow Trap	1	2	DV	110	na	Unmark	
Gee Minnow Trap	1	3	CO	62	na	Unmark	
Gee Minnow Trap	1	3	DV	131	na	Unmark	

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. #1  
Date Jan. 20, 06

CPUE

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	124	54	105
Dolly varden char	2	93	146
Cutthroat trout	5	71	92
Total Captured	131		
Prop Coho	0.95		
Prop DV	0.02		
Prop CT	0.04		

Co C1 T1	54
DV C1 T1	0
CT C1 T1	0
Co C1 T2	27
DV C1 T2	1
CT C1 T2	1
Co C1 T3	43
DV C1 T3	1
CT C1 T3	4

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	90	6.7	UNMARK	0.92
Gee Minnow Trap	1	1	Coho	82	5.2	UNMARK	0.94
Gee Minnow Trap	1	1	Coho	75	4.1	UNMARK	0.97
Gee Minnow Trap	1	1	Coho	69	3.4	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	65	3.1	UNMARK	1.13
Gee Minnow Trap	1	1	Coho	70	3.4	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	63	2.6	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	82	5.2	UNMARK	0.94
Gee Minnow Trap	1	1	Coho	90	7.2	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	95	8.8	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	78	4.8	UNMARK	1.01
Gee Minnow Trap	1	1	Coho	60	2.4	UNMARK	1.11
Gee Minnow Trap	1	1	Coho	62	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Coho	100	10.4	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	95	8.6	UNMARK	1.00
Gee Minnow Trap	1	1	Coho	94	8.2	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	89	7.1	UNMARK	1.01
Gee Minnow Trap	1	1	Coho	64	2.6	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	65	3.2	UNMARK	1.17
Gee Minnow Trap	1	1	Coho	79	5.2	UNMARK	1.05
Gee Minnow Trap	1	1	Coho	67	3	UNMARK	1.00
Gee Minnow Trap	1	1	Coho	60	2.2	UNMARK	1.02
Gee Minnow Trap	1	1	Coho	82	5.2	UNMARK	0.94
Gee Minnow Trap	1	1	Coho	74	4.4	UNMARK	1.09
Gee Minnow Trap	1	1	Coho	55	1.6	UNMARK	0.96
Gee Minnow Trap	1	1	Coho	61	2.4	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	77	4.9	UNMARK	1.07
Gee Minnow Trap	1	1	Coho	85	6.3	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	64	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Coho	58	2.2	UNMARK	1.13
Gee Minnow Trap	1	1	Coho	66	3.1	UNMARK	1.08
Gee Minnow Trap	1	1	Coho	65	2.6	UNMARK	0.95
Gee Minnow Trap	1	1	Coho	93	7.9	UNMARK	0.98
Gee Minnow Trap	1	1	Coho	65	2.9	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	54	1.6	UNMARK	1.02
Gee Minnow Trap	1	1	Coho	62	2.6	UNMARK	1.09
Gee Minnow Trap	1	1	Coho	70	3.3	UNMARK	0.96

Gee Minnow Trap	1	1	Coho	61	2.2	UNMARK	0.97
Gee Minnow Trap	1	1	Coho	74	4	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	58	2.7	UNMARK	1.38
Gee Minnow Trap	1	1	Coho	105	12	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	93	8.3	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	85	5.7	UNMARK	0.93
Gee Minnow Trap	1	1	Coho	65	2.6	UNMARK	0.95
Gee Minnow Trap	1	1	Coho	72	4	UNMARK	1.07
Gee Minnow Trap	1	1	Coho	61	2.5	UNMARK	1.10
Gee Minnow Trap	1	1	Coho	67	3	UNMARK	1.09
Gee Minnow Trap	1	1	Coho	59	2.4	UNMARK	0.96
Gee Minnow Trap	1	1	Coho	76	4.1	UNMARK	0.97
Gee Minnow Trap	1	1	Coho	65	2.9	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	66	3.2	UNMARK	1.38
Gee Minnow Trap	1	1	Coho	73	4	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	103	10.7	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	87	6.6	UNMARK	0.93
Gee Minnow Trap	1	2	Cutthroat	88	6.4	UNMARK	0.94
Gee Minnow Trap	1	2	Dolly V.	146	32.7	UNMARK	1.05
Gee Minnow Trap	1	3	Cutthroat	92	7.3	UNMARK	0.94
Gee Minnow Trap	1	3	Cutthroat	82	5.5	UNMARK	1.00
Gee Minnow Trap	1	3	Cutthroat	77	4.2	UNMARK	0.92
Gee Minnow Trap	1	3	Cutthroat	71	3.6	UNMARK	1.01
Gee Minnow Trap	1	3	Dolly V.	93	9.3	UNMARK	1.16

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. #2

Date Jan. 20, 06

Visit #2

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	31	69	110
Dolly varden char	67	94	166
Cutthroat trout	2	79	96
Total Captured	100		
Prop Coho	0.31		
Prop DV	0.67		
Prop CT	0.02		

## CPUE

Co C1T1	14
DV C1 T1	33
CT C1 T1	0
Co C1 T2	5
DV C1 T2	17
CT C1 T2	1
Co C1 T3	12
DV C1 T3	17
CT C1 T3	1

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	99	9.1	UNMARK	0.94
Gee Minnow Trap	1	1	Coho	85	6.6	UNMARK	1.07
Gee Minnow Trap	1	1	Coho	98	9.3	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	96	9.3	UNMARK	1.05
Gee Minnow Trap	1	1	Coho	94	8.3	UNMARK	1.00
Gee Minnow Trap	1	1	Coho	105	12.3	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	105	11.6	UNMARK	1.00
Gee Minnow Trap	1	1	Coho	100	10.5	UNMARK	1.05
Gee Minnow Trap	1	1	Coho	89	6.9	UNMARK	0.98
Gee Minnow Trap	1	1	Coho	88	7.4	UNMARK	1.09
Gee Minnow Trap	1	1	Coho	110	13.2	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	90	7.6	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	95	8.4	UNMARK	0.98
Gee Minnow Trap	1	1	Coho	97	9	UNMARK	0.99
Gee Minnow Trap	1	1	Dolly V.	100	9.2	UNMARK	0.92
Gee Minnow Trap	1	1	Dolly V.	134	21.7	UNMARK	0.90
Gee Minnow Trap	1	1	Dolly V.	130	21.6	UNMARK	0.98
Gee Minnow Trap	1	1	Dolly V.	130	21.2	UNMARK	0.96
Gee Minnow Trap	1	1	Dolly V.	141	24.1	UNMARK	0.86
Gee Minnow Trap	1	1	Dolly V.	134	21.8	UNMARK	0.91
Gee Minnow Trap	1	1	Dolly V.	132	23.4	UNMARK	1.02
Gee Minnow Trap	1	1	Dolly V.	100	9.4	UNMARK	0.94
Gee Minnow Trap	1	1	Dolly V.	145	30.8	UNMARK	1.01
Gee Minnow Trap	1	1	Dolly V.	135	24.1	UNMARK	0.98
Gee Minnow Trap	1	1	Dolly V.	100	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	148	33.5	UNMARK	1.03
Gee Minnow Trap	1	1	Dolly V.	157	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	134	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	134	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	138	N/A	UNMARK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	136	26.1	UNMARK	1.04
Gee Minnow Trap	1	1	Dolly V.	153	36.1	UNMARK	1.01
Gee Minnow Trap	1	1	Dolly V.	123	17.7	UNMARK	0.95
Gee Minnow Trap	1	1	Dolly V.	129	20.3	UNMARK	0.95
Gee Minnow Trap	1	1	Dolly V.	119	17.9	UNMARK	1.06
Gee Minnow Trap	1	1	Dolly V.	100	9.5	UNMARK	0.95



Gee Minnow Trap	1	1	Dolly V.	142	26.1	UNMARK	0.91
Gee Minnow Trap	1	1	Dolly V.	136	23.5	UNMARK	0.93
Gee Minnow Trap	1	1	Dolly V.	142	27.9	UNMARK	0.97
Gee Minnow Trap	1	1	Dolly V.	124	20.1	UNMARK	1.05
Gee Minnow Trap	1	1	Dolly V.	101	10.5	UNMARK	1.02
Gee Minnow Trap	1	1	Dolly V.	94	8.2	UNMARK	0.99
Gee Minnow Trap	1	1	Dolly V.	151	35.5	UNMARK	1.03
Gee Minnow Trap	1	1	Dolly V.	133	22.6	UNMARK	0.96
Gee Minnow Trap	1	1	Dolly V.	151	33.1	UNMARK	0.96
Gee Minnow Trap	1	1	Dolly V.	122	17.1	UNMARK	0.94
Gee Minnow Trap	1	1	Dolly V.	131	20.6	UNMARK	0.92
Gee Minnow Trap	1	2	Coho	92	5.1	UNMARK	0.65
Gee Minnow Trap	1	2	Coho	90	8	UNMARK	1.10
Gee Minnow Trap	1	2	Cutthroat	79	5.1	UNMARK	1.03
Gee Minnow Trap	1	2	Dolly V.	116	15.1	UNMARK	0.97
Gee Minnow Trap	1	2	Dolly V.	145	28.4	UNMARK	0.93
Gee Minnow Trap	1	2	Dolly V.	121	19	UNMARK	1.07
Gee Minnow Trap	1	2	Dolly V.	166	36.8	UNMARK	0.80
Gee Minnow Trap	1	3	Coho	81	5.3	UNMARK	1.00
Gee Minnow Trap	1	3	Coho	88	7.1	UNMARK	1.04
Gee Minnow Trap	1	3	Coho	91	8.3	UNMARK	1.10
Gee Minnow Trap	1	3	Coho	82	5.7	UNMARK	1.03
Gee Minnow Trap	1	3	Coho	95	9.6	UNMARK	1.12
Gee Minnow Trap	1	3	Coho	95	9.5	UNMARK	1.11
Gee Minnow Trap	1	3	Coho	69	3.3	UNMARK	1.00
Gee Minnow Trap	1	3	Coho	91	7.8	UNMARK	1.04
Gee Minnow Trap	1	3	Coho	90	7.6	UNMARK	1.04
Gee Minnow Trap	1	3	Coho	109	12.5	UNMARK	0.97
Gee Minnow Trap	1	3	Coho	97	9.4	UNMARK	1.03
Gee Minnow Trap	1	3	Coho	91	8.3	UNMARK	1.10
Gee Minnow Trap	1	3	Cutthroat	96	8.4	UNMARK	0.95

Captured and not sampled :

Trap #	No Coho	No DV
Trap 2	3	13
Trap 3	0	17

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. #3

Date Jan. 20, 06

Visit #2

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	54	49	101
Dolly varden char	67	58	169
Cutthroat trout	0	0	0
Total Captured	121		
Prop Coho	0.45		
Prop DV	0.55		
Prop CT	0.00		

## CPUE

Co C1 T1	25
DV C1 T1	19
CT C1 T1	0
Co C1 T2	8
DV C1 T2	20
CT C1 T2	0
Co C1 T3	21
DV C1 T3	28
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	64	2.9	UNMARK	1.11
Gee Minnow Trap	1	1	Coho	84	6.8	UNMARK	1.15
Gee Minnow Trap	1	1	Coho	99	10	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	88	6.6	UNMARK	0.97
Gee Minnow Trap	1	1	Coho	101	10.5	UNMARK	1.02
Gee Minnow Trap	1	1	Coho	90	8	UNMARK	1.10
Gee Minnow Trap	1	1	Coho	72	3.9	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	70	3.8	UNMARK	1.11
Gee Minnow Trap	1	1	Coho	57	2	UNMARK	1.08
Gee Minnow Trap	1	1	Coho	61	2.4	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	71	3.7	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	75	4.1	UNMARK	0.97
Gee Minnow Trap	1	1	Coho	65	2.9	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	71	3.6	UNMARK	1.01
Gee Minnow Trap	1	1	Coho	77	4.9	UNMARK	1.07
Gee Minnow Trap	1	1	Coho	95	9.1	UNMARK	1.06
Gee Minnow Trap	1	1	Coho	98	9.3	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	61	2.7	UNMARK	1.19
Gee Minnow Trap	1	1	Coho	69	3.6	UNMARK	1.10
Gee Minnow Trap	1	1	Coho	92	8.4	UNMARK	1.08
Gee Minnow Trap	1	1	Coho	80	5.4	UNMARK	1.05
Gee Minnow Trap	1	1	Coho	90	7.6	UNMARK	1.04
Gee Minnow Trap	1	1	Coho	85	6.1	UNMARK	0.99
Gee Minnow Trap	1	1	Coho	85	6.3	UNMARK	1.03
Gee Minnow Trap	1	1	Coho	90	7.7	UNMARK	1.06
Gee Minnow Trap	1	1	Dolly V.	96	8.3	UNMARK	0.94
Gee Minnow Trap	1	1	Dolly V.	120	15.4	UNMARK	0.89
Gee Minnow Trap	1	1	Dolly V.	121	15.3	UNMARK	0.86
Gee Minnow Trap	1	1	Dolly V.	126	19.5	UNMARK	0.97
Gee Minnow Trap	1	1	Dolly V.	108	12.1	UNMARK	0.96
Gee Minnow Trap	1	1	Dolly V.	120	20.3	UNMARK	1.17
Gee Minnow Trap	1	1	Dolly V.	85	6.2	UNMARK	1.01
Gee Minnow Trap	1	1	Dolly V.	87	5.9	UNMARK	0.90
Gee Minnow Trap	1	1	Dolly V.	142	25.3	UNMARK	0.88
Gee Minnow Trap	1	1	Dolly V.	158	33.2	UNMARK	0.84
Gee Minnow Trap	1	1	Dolly V.	97	8.3	UNMARK	0.91

Gee Minnow Trap	1	1	Dolly V.	95	8.6	UNMARK	1.00
Gee Minnow Trap	1	1	Dolly V.	119	16.4	UNMARK	0.97
Gee Minnow Trap	1	1	Dolly V.	112	14	UNMARK	1.00
Gee Minnow Trap	1	1	Dolly V.	94	7.5	UNMARK	0.90
Gee Minnow Trap	1	1	Dolly V.	80	5.3	UNMARK	1.04
Gee Minnow Trap	1	1	Dolly V.	124	17.6	UNMARK	0.92
Gee Minnow Trap	1	1	Dolly V.	131	19.5	UNMARK	0.87
Gee Minnow Trap	1	1	Dolly V.	113	14	UNMARK	0.97

#### Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	2	Coho	91	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	87	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	60	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	100	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	65	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	101	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	60	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Coho	55	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	127	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	121	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	169	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	87	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	147	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	129	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	112	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	98	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	104	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	92	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	95	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	94	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	82	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	100	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	2	Dolly V.	169	NO SCALE	UNMARK	NA

#### Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	3	Coho	87	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	68	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	56	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	60	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	83	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	84	NO SCALE	UNMARK	NA

Gee Minnow Trap	1	3	Coho	62	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	72	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	76	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	94	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	92	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	74	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	81	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	84	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	58	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	93	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	81	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	65	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	76	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	49	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Coho	49	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	58	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	85	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	130	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	135	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	94	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	93	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	115	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	115	NO SCALE	Caudal clip	NA
Gee Minnow Trap	1	3	Dolly V.	84	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	132	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	125	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	121	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	128	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	107	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	110	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	93	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	127	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	128	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	102	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	102	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	122	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	96	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	56	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	90	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	106	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	121	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	110	NO SCALE	UNMARK	NA
Gee Minnow Trap	1	3	Dolly V.	121	NO SCALE	UNMARK	NA

**Juvenile Capture and Sampling Summary****Location** Water Falls Cr. #4**Date** Jan. 20, 06

Visit #2

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	3	55	75
Dolly varden char	5	109	162
Cutthroat trout	0	0	0
Total Captured	8		
Prop Coho	0.38		
Prop DV	0.63		
Prop CT	0.00		

**CPUE**

Co C1 T1	3
DV C1 T1	4
CT C1 T1	0
Co C1 T2	0
DV C1 T2	1
CT C1 T2	0

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	75	4.5	UNMARK	1.07
Gee Minnow Trap	1	1	Coho	55	1.8	UNMARK	1.08
Gee Minnow Trap	1	1	Coho	63	2.6	UNMARK	1.04
Gee Minnow Trap	1	1	Dolly V.	121	15.4	UNMARK	0.87
Gee Minnow Trap	1	1	Dolly V.	134	23.2	UNMARK	0.96
Gee Minnow Trap	1	1	Dolly V.	115	15.4	UNMARK	1.01
Gee Minnow Trap	1	1	Dolly V.	162	36.3	UNMARK	0.85
Gee Minnow Trap	1	2	Dolly V.	109	11.4	UNMARK	0.88

# Juvenile Capture and Sampling Summary

Location Water Fall Cr. #1

Date 23-Feb-06

CPUE

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	116	49	112
Rainbow Trout	0	na	na
Dolly Varden	42	91	159
Cutthroat Trout	1	90	90

Co C1 T1	27
DV C1 T1	22
CT C1 T1	1
Co C1 T2	49
DV C1 T2	6
CT C1 T2	0
Co C1 T3	40
DV C1 T3	14
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	49	1.2	UNMK	1.02
Gee Minnow Trap	1	1	Coho	84	6.8	UNMK	1.15
Gee Minnow Trap	1	1	Coho	63	3.3	UNMK	1.32
Gee Minnow Trap	1	1	Coho	76	4.6	UNMK	1.05
Gee Minnow Trap	1	1	Coho	60	2.1	UNMK	0.97
Gee Minnow Trap	1	1	Coho	55	1.3	UNMK	0.78
Gee Minnow Trap	1	1	Coho	58	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	58	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	56	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	50	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	65	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	112	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	99	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	64	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	75	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	68	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	98	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	77	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	86	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	102	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	64	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	61	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	66	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	61	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	65	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	72	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	106	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	113	14.2	UNMK	0.98
Gee Minnow Trap	1	1	Dolly V.	145	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	115	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	103	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	93	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	132	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	124	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	128	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	132	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	141	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	159	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	141	NO SCALE	UNMK	

Gee Minnow Trap	1	1	Dolly V.	107	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	96	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	92	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	129	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	124	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	96	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	98	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	101	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	101	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	91	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Cutthroat	90	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	75	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	57	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	90	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	73	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	58	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	63	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	65	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	76	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	63	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	55	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	54	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	71	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	89	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	60	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	90	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	81	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	83	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	80	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	51	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	74	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	71	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	91	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	98	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	70	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	51	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	93	NO SCALE	UNMK	
TRAP #2 COUNTED BUT NOT SAMPLED:			Coho	24			
			Dolly V.	5			
TRAP #3 COUNTED BUT NOT SAMPLED:			Coho	40			
			Dolly V.	14			

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. Site#2

Date 23-Feb-06

CPUE

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	12	83	109
Rainbow Trout	0	na	na
Dolly Varden	55	84	153
Cutthroat Trout	0	na	na

Co C1 T1	8
DV C1 T1	11
CT C1 T1	0
Co C1 T2	1
DV C1 T2	42
CT C1 T2	0
Co C1 T3	3
DV C1 T3	2
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	98	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	86	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	83	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	91	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	142	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	92	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	104	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	113	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	85	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	92	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	94	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	134	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	120	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	122	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	153	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	93	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	135	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	113	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	96	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	89	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	101	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	140	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	147	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	84	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	124	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	125	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	119	NO SCALE	UNMK	NA



Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	136	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	123	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	99	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	120	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	134	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	134	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	102	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	128	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	138	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	125	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	130	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	135	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	124	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	124	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	101	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	132	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	108	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	2	Dolly V.	152	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	109	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	103	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Coho	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Dolly V.	105	NO SCALE	UNMK	NA
Gee Minnow Trap	1	3	Dolly V.	100	NO SCALE	UNMK	NA

# Juvenile Capture and Sampling Summary

Location Water Falls Cr. Site #3  
Date 23-Feb-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	3	78	85
Rainbow Trout	0	na	na
Dolly Varden	39	83	158
Cutthroat Trout	0	na	na

## CPUE

Co C1 T1	2
DV C1 T1	4
CT C1 T1	0
Co C1 T2	1
DV C1 T2	35
CT C1 T2	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	84	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Coho	85	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	83	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	94	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	128	NO SCALE	UNMK	
Gee Minnow Trap	1	1	Dolly V.	121	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Coho	78	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	115	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	110	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	140	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	122	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	134	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	129	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	121	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	127	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	151	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	141	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	121	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	113	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	114	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	102	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	144	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	155	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	128	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	142	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	158	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	109	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	112	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	133	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	116	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	120	NO SCALE	UNMK	
Gee Minnow Trap	1	2	Dolly V.	126	NO SCALE	UNMK	
TRAP #2 COUNTED BUT NOT SAMPLED:			Dolly V.	7			

**Juvenile Capture and Sampling Summary**

**Location** Water Falls Cr. Site #4  
**Date** 23-Feb-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	3	56	78
Rainbow Trout	0	na	na
Dolly Varden	11	95	143
Cutthroat Trout	0	na	na
Total Captured	14		
Prop Coho	0.21		
Prop DV	0.79		
Prop CT	0.00		

**CPUE**

Co C1 T1	3
DV C1 T1	11
CT C1 T1	0

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	78	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	64	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Coho	56	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	98	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	112	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	132	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	126	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	143	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	112	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	143	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	114	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	95	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	102	NO SCALE	UNMK	NA
Gee Minnow Trap	1	1	Dolly V.	128	NO SCALE	UNMK	NA

# Juvenile Capture and Sampling Summary

Location Water Fall Cr. #1  
Date 14-Mar-06

Species	No. Caught	Min Ln (mm)	Max Ln (mm)
Coho	42	57	110
Rainbow Trout	0		
Dolly Varden	53	76	166
Cutthroat Trout	3	83	116
Total Captured	98		
Prop Coho	0.43		
Prop DV	0.54		
Prop CT	0.03		

## CPUE

Co C1 T1	18
DV C1 T1	30
CT C1 T1	0
Co C1 T2	18
DV C1 T2	20
CT C1 T2	2
Co C1 T3	6
DV C1 T3	3
CT C1 T3	0

## Individual Sampling Data

Capture Method	Cluster #	Trap #	Species	FL(mm)	Weight(g)	Mark type	FCC
Gee Minnow Trap	1	1	Coho	75	3.8	UNMK	0.90
Gee Minnow Trap	1	1	Coho	102	10.1	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	96	6.9	UNMK	0.78
Gee Minnow Trap	1	1	Dolly V.	110	11.7	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	117	14.8	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	125	14.9	UNMK	0.76
Gee Minnow Trap	1	1	Dolly V.	132	20.4	UNMK	0.89
Gee Minnow Trap	1	1	Dolly V.	133	20.2	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	139	23.4	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	165	43.6	UNMK	0.97
Gee Minnow Trap	1	1	Dolly V.	166	38.1	UNMK	0.83
Gee Minnow Trap	1	1	Coho	73	3.7	UNMK	0.95
Gee Minnow Trap	1	1	Coho	76	4.1	UNMK	0.93
Gee Minnow Trap	1	1	Coho	90	7.7	UNMK	1.06
Gee Minnow Trap	1	1	Coho	110	12.1	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	94	7.2	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	98	8.9	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	103	9.5	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	136	22.1	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	153	30.7	UNMK	0.86
Gee Minnow Trap	1	1	Coho	64	2.4	UNMK	0.92
Gee Minnow Trap	1	1	Coho	64	2.4	UNMK	0.92
Gee Minnow Trap	1	1	Coho	73	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	90	6.9	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	90	6.8	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	95	5.7	UNMK	0.66
Gee Minnow Trap	1	1	Dolly V.	135	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	137	24.8	UNMK	0.96
Gee Minnow Trap	1	1	Dolly V.	137	27.7	UNMK	1.08
Gee Minnow Trap	1	1	Dolly V.	165	36.1	UNMK	0.80
Gee Minnow Trap	1	1	Coho	108	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	128	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	140	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	72	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	74	3.8	UNMK	0.94

Gee Minnow Trap	1	1	Coho	78	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Coho	96	7.8	UNMK	0.88
Gee Minnow Trap	1	1	Coho	104	9.4	UNMK	0.84
Gee Minnow Trap	1	1	Dolly V.	135	20.5	UNMK	0.83
Gee Minnow Trap	1	1	Dolly V.	138	23.8	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	160	37.8	UNMK	0.92
Gee Minnow Trap	1	1	Coho	94	8.1	UNMK	0.98
Gee Minnow Trap	1	1	Coho	100	9.2	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	108	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	120	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	125	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	133	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	1	Dolly V.	142	26.5	UNMK	0.93
Gee Minnow Trap	1	2	Coho	64	2.4	UNMK	0.92
Gee Minnow Trap	1	2	Coho	58	no scale	UNMK	#VALUE!
Gee Minnow Trap	1	2	Coho	58	1.9	UNMK	0.97
Gee Minnow Trap	1	2	Dolly V.	76	4.3	UNMK	0.98
Gee Minnow Trap	1	2	Coho	73	8.6	UNMK	2.21
Gee Minnow Trap	1	2	CT	83	4.9	UNMK	0.86
Gee Minnow Trap	1	2	Coho	100	9.1	UNMK	0.91
Gee Minnow Trap	1	2	Dolly V.	91	7.5	UNMK	1.00
Gee Minnow Trap	1	2	CT	96	8.1	UNMK	0.92
Gee Minnow Trap	1	2	Dolly V.	84	4.9	UNMK	0.83
Gee Minnow Trap	1	2	Dolly V.	121	15.7	UNMK	0.89
Gee Minnow Trap	1	2	Coho	57	1.7	UNMK	0.92
Gee Minnow Trap	1	2	Coho	57	1.7	UNMK	0.92
Gee Minnow Trap	1	2	Coho	61	2.1	UNMK	0.93
Gee Minnow Trap	1	2	Coho	61	1.8	UNMK	0.79
Gee Minnow Trap	1	2	Coho	63	2.6	UNMK	1.04
Gee Minnow Trap	1	2	Coho	65	2.7	UNMK	0.98
Gee Minnow Trap	1	2	Coho	74	3.5	UNMK	0.86
Gee Minnow Trap	1	2	Coho	74	3.8	UNMK	0.94
Gee Minnow Trap	1	2	Coho	75	4.1	UNMK	0.97
Gee Minnow Trap	1	2	Coho	75	3.8	UNMK	0.90
Gee Minnow Trap	1	2	Coho	80	4.6	UNMK	0.90
Gee Minnow Trap	1	2	Coho	85	5.3	UNMK	0.86
Gee Minnow Trap	1	2	Coho	87	6.6	UNMK	1.00
Gee Minnow Trap	1	2	CT	116	no scale	UNMK	
TRAP #2 COUNTED BUT NOT SAMPLED:			Coho	0			
			Dolly V.	16			
TRAP #3 COUNTED BUT NOT SAMPLED:			Coho	6			
			Dolly V.	3			

**Juvenile Capture and Sampling Summary****Location** Water Falls Cr. Site#2**Date** 14-Mar-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	3	93	105
Rainbow Trout	0		
Dolly Varden	10	97	163
Cutthroat Trout	0		
Total Captured	13		
Prop Coho	0.23		
Prop DV	0.77		
Prop CT	0.00		

**CPUE**

Co C1 T1	3
DV C1 T1	9
CT C1 T1	0
Co C1 T2	0
DV C1 T2	1
CT C1 T2	0
Co C1 T3	0
DV C1 T3	0
CT C1 T3	0

**Individual Sampling Data**

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	105	10.6	UNMK	0.92
Gee Minnow Trap	1	1	Coho	94	8.2	UNMK	0.99
Gee Minnow Trap	1	1	Coho	93	7.9	UNMK	0.98
Gee Minnow Trap	1	1	Dolly V.	118	14.5	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	97	8.5	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	162	36.3	UNMK	0.85
Gee Minnow Trap	1	1	Dolly V.	140	27.2	UNMK	0.99
Gee Minnow Trap	1	1	Dolly V.	147	29.7	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	155	33.7	UNMK	0.90
Gee Minnow Trap	1	1	Dolly V.	163	41.9	UNMK	0.97
Gee Minnow Trap	1	1	Dolly V.	150	26.8	UNMK	0.79
Gee Minnow Trap	1	1	Dolly V.	135	21.2	UNMK	0.86
Gee Minnow Trap	1	2	Dolly V.	144	26.8	UNMK	0.90
Gee Minnow Trap	1	3	no fish			UNMK	NA

# Juvenile Capture and Sampling Summary

**Location** Water Falls Cr. Site #3  
**Date** 14-Mar-06

<b>Species</b>	<b>No. Caught</b>	<b>Min Ln (mm)</b>	<b>Max Ln (mm)</b>
Coho	38	57	107
Rainbow Trout	0		
Dolly Varden	46	83	167
Cutthroat Trout	0		
Total Captured	84		
Prop Coho	0.45		
Prop DV	0.55		
Prop CT	0.00		

## CPUE

Co C1 T1	27
DV C1 T1	46
CT C1 T1	
Co C1 T2	9
DV C1 T2	10
CT C1 T2	0

## Individual Sampling Data

<b>Capture Method</b>	<b>Cluster #</b>	<b>Trap #</b>	<b>Species</b>	<b>FL(mm)</b>	<b>Weight(g)</b>	<b>Mark type</b>	<b>FCC</b>
Gee Minnow Trap	1	1	Coho	82	5.1	UNMK	0.92
Gee Minnow Trap	1	1	Coho	100	9.4	UNMK	0.94
Gee Minnow Trap	1	1	Coho	99	9.3	UNMK	0.96
Gee Minnow Trap	1	1	Dolly V.	132	21	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	120	15.7	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	101	9.7	UNMK	0.94
Gee Minnow Trap	1	1	Dolly V.	133	21.4	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	95	8.6	UNMK	1.00
Gee Minnow Trap	1	1	Dolly V.	163	35.8	UNMK	0.83
Gee Minnow Trap	1	1	Dolly V.	134	22.2	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	129	20.4	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	110	12.7	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	120	15.5	UNMK	0.90
Gee Minnow Trap	1	1	Coho	93	8	UNMK	0.99
Gee Minnow Trap	1	1	Coho	86	6.3	UNMK	0.99
Gee Minnow Trap	1	1	Coho	99	9.1	UNMK	0.94
Gee Minnow Trap	1	1	Coho	95	7.9	UNMK	0.92
Gee Minnow Trap	1	1	Coho	70	3.9	UNMK	1.14
Gee Minnow Trap	1	1	Coho	85	no scale	UNMK	
Gee Minnow Trap	1	1	Coho	93	7.4	UNMK	0.92
Gee Minnow Trap	1	1	Coho	92	7.4	UNMK	0.95
Gee Minnow Trap	1	1	Coho	82	4.7	UNMK	0.85
Gee Minnow Trap	1	1	Dolly V.	139	23.2	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	104	10.4	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	135	23	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	135	22.3	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	137	21.7	UNMK	0.84
Gee Minnow Trap	1	1	Dolly V.	123	18.5	UNMK	0.99
Gee Minnow Trap	1	1	Dolly V.	85	5.3	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	92	6.9	UNMK	0.89
Gee Minnow Trap	1	1	Dolly V.	97	8.3	UNMK	0.91
Gee Minnow Trap	1	1	Coho	100	8.7	UNMK	0.87
Gee Minnow Trap	1	1	Coho	64	2.5	UNMK	0.95
Gee Minnow Trap	1	1	Coho	65	2.6	UNMK	0.95
Gee Minnow Trap	1	1	Coho	95	8.2	UNMK	0.96

Gee Minnow Trap	1	1	Coho	107	11.9	UNMK	0.97
Gee Minnow Trap	1	1	Coho	60	2.1	UNMK	0.97
Gee Minnow Trap	1	1	Coho	62	2.2	UNMK	0.92
Gee Minnow Trap	1	1	Coho	100	9.1	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	84	5.4	UNMK	0.91
Gee Minnow Trap	1	1	Dolly V.	110	12.6	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	123	17.8	UNMK	0.96
Gee Minnow Trap	1	1	Dolly V.	139	25.2	UNMK	0.94
Gee Minnow Trap	1	1	Dolly V.	130	19.4	UNMK	0.88
Gee Minnow Trap	1	1	Dolly V.	167	41.9	UNMK	0.90
Gee Minnow Trap	1	1	Coho	87	6.7	UNMK	1.02
Gee Minnow Trap	1	1	Coho	97	8.1	UNMK	0.89
Gee Minnow Trap	1	1	Coho	94	8.8	UNMK	1.06
Gee Minnow Trap	1	1	Coho	96	8.1	UNMK	0.92
Gee Minnow Trap	1	1	Coho	67	3.1	UNMK	1.03
Gee Minnow Trap	1	1	Coho	82	5	UNMK	0.91
Gee Minnow Trap	1	1	Coho	65	3.1	UNMK	1.13
Gee Minnow Trap	1	1	Coho	57	1.9	UNMK	1.03
Gee Minnow Trap	1	1	Coho	76	4.6	UNMK	1.05
Gee Minnow Trap	1	1	Dolly V.	102	8.9	UNMK	0.84
Gee Minnow Trap	1	1	Dolly V.	127	20	UNMK	0.98
Gee Minnow Trap	1	1	Dolly V.	139	24.6	UNMK	0.92
Gee Minnow Trap	1	1	Dolly V.	124	22.7	UNMK	1.19
Gee Minnow Trap	1	1	Dolly V.	94	7.4	UNMK	0.89
Gee Minnow Trap	1	1	Dolly V.	83	5.3	UNMK	0.93
Gee Minnow Trap	1	1	Dolly V.	139	25.4	UNMK	0.95
Gee Minnow Trap	1	1	Dolly V.	105	10.9	UNMK	0.94
Gee Minnow Trap	1	1	Dolly V.	90	6.3	UNMK	0.86
Gee Minnow Trap	1	1	Dolly V.	108	10.9	UNMK	0.87
Gee Minnow Trap	1	1	Dolly V.	99	8.8	UNMK	0.91
Gee Minnow Trap	1	2	Coho	99	9.3	UNMK	0.96
Gee Minnow Trap	1	2	Coho	102	10.7	UNMK	1.01
Gee Minnow Trap	1	2	Coho	90	6.9	UNMK	0.95
TRAP #2 COUNTED BUT NOT SAMPLED:			Dolly V.	10			
TRAP #2 COUNTED BUT NOT SAMPLED:			Coho	6			