Upper Bulkley River Coho Assessment Fence
Program Report for 2005

Prepared By
Brenda G. Donas, Community Advisor
Oceans, Habitat and Enhancement Northcoast B.C.
Fisheries and Oceans Canada

January 2006

1.0 Executive Summary

The Upper Bulkley River (UBR) Coho Assessment Fence was funded by the Oceans, Habitat and Enhancement Branch in partnership with the District of Houston.

The purpose of this assessment fence was to conduct an enumeration of upstream migrating coho by sex and mark type. The 2005 coho return consisted of wild coho and 2001 and 2002 brood hatchery coho from a fry versus smolt release study. The fry versus smolt release study commenced with 1998 brood UBR coho and will be completed when the four year old return data has been collected from 2001 brood UBR coho.

The fence was installed on August 16'th - 17'th, 2005 and began fishing the evening of August 17'th, 2005. The fence operated daily, 24 hours per day, from August 17'th until October 11'th, 2005. High water and debris levels caused some interruptions in fish counting and sampling from October 11'th to 14'th, 2005. The fence ceased operating the afternoon of October 19'th due to the lack of coho entering the trap and being observed just downstream of the fence.

Incidental catches of steelhead, pink, sockeye and chinook were recorded as part of the daily catch data. DNA samples were taken from 25 sockeye salmon captured at the fence and 50 sockeye were scale sampled for age analysis.

Dorsal fin tagged coho were enumerated and dorsal fin tags were removed and tag color and number were recorded as part of the daily catch data. The dorsal fin tag data contributes to the Bulkley/Morice coho population estimate.

Coded wire tagged adults made up 18% of the return to the fence of which approximately 1 % of the coded wire tagged (CWT) return were coho from the 2001 brood fry releases, 10 % were from 2002 brood UBR coho released as fry to Bulkley Lake and 80 % were from 2002 brood coho that were released as smolts. About 7 % of the adipose clipped adults had lost CWT's and 1% of the adults contained tag codes that were not applied to UBR stock.

A total of 2,508 coho were enumerated through the Upper Bulkley River fence. This is lower than the estimated escapement of 3,103 coho based on biostandard survival rates.

Acknowledgements

The Upper Bulkley River Coho Assessment Fence was installed and operated by Eddie Young, Sharon Hartwell, Shannon Haftner, Andrea Eastman, Christina MacInnes, Kevin Koch and Brenda Donas. Thanks to the fence operations crew for their hard work and enthusiasm especially during inclement weather conditions.

The fence was de-mobilized by Eddie Young, Andrea Eastman, Shannon Haftner, Sharon Hartwell, Kevin Koch, Christina MacInnes and Brenda Donas on Oct 31'st and Nov 1'st, 2005.

Thanks to the District of Houston for assisting with fence installation and de-mobilization and for permitting the storage of the fence components in the District of Houston Works Yard.

Table of Contents

List of Tables

List of Figures

Appendices

2.0 Background Information

Funding for the 2005 UBR Fence Program was provided by the Oceans, Habitat and Enhancment Branch, Fisheries and Oceans Canada. The District of Houston provided in-kind labour and equipment.

The Upper Bulkley River Coho Assessment Fence is located approximately 4 kms upstream from the confluence of the Morice and Upper Bulkley Rivers. Since 2001, fence operations have been linked to the assessment component of the Strategic Stock Enhancement Program (SSEP).

The objective of the SSE program was to protect salmon stocks that were at risk of extirpation. In 1997, the Coho Response Team identified the Upper Bulkley River (UBR) coho stock as a conservation concern. Coho escapements at the Upper Bulkley River fence were as low as 100 spawners in the early to mid 1990's. The purpose of the SSE program on Upper Bulkley River coho was to maintain the genetic integrity of that stock by increasing the number of spawners. To increase the number of spawners, two age classes of releases were conducted, fry and smolt releases. The fry were released into under-utilized habitat within Buck Creek. The fry would be subjected to natural selection pressures that the smolt group would not be subjected to. Smolts were also released into Buck Creek for the 1998 to 2000 brood years. 2001 brood fry were released into Buck Creek and the 2001 brood smolts were released to the Upper Bulkley River.

The 2001 and 2002 brood year fry and smolt release groups were adipose clipped and coded wire tagged. To determine adult contribution by tag code a number of adipose clipped coho adults were sacrificed at the UBR fence.

The 2002 brood UBR coho consisted of two adipose/CWT smolt release groups that were part of a time of release study. Coho tagged with codes 08/03/31 and 08/03/38 were released to the Upper Bulkley River on May 13 – 14, 2004. Coho tagged with codes 08/03/32 and 08/03/39 were released to the Upper Bulkley River on May 27 – 28, 2004.

The UBR fence spans a 24.5 m width of the Upper Bulkley River and allows a fairly complete enumeration of upstream migrating coho adults. All upstream migrating adults must enter the live trap. Once captured, all adults are examined for external marks (adipose, right maxillary and ventral clips and presence of dorsal fin tags), species and sex. Every fifth adipose clipped coho was sacrificed for the head and every eighth wild fish was sampled for scales to a maximum of 150 wild coho.

To assist in determining the number of coho spawning downstream of the fence, redd measurements are usually taken. In 2005, due to high water and poor visibility, redd measurements could not be conducted. Therefore, there is no estimate of the number of coho that spawned downstream of the fence.

2.1 Fence Operations

The Upper Bulkley River Coho Assessment Fence was installed from August 16'th - 17'th, 2005 and the fence was fully operational and fishing by the evening of August 17'th. Due to no coho being counted through the fence and no coho observed downstream of the fence, all top and bottom fence panels were pulled out on October 19'th, 2005.

The fence was installed as per previous years procedures. Tarps were placed along the bottom panels so that flow was forced upwards and through the spacer between the top and bottom panels. The tarps were placed in such a way that most of the flow was forced through the "V" lead-in to the live trap. This assisted in attracting fish into the live trap. Prior to high water, all of the tarps were removed so that both top and bottom panels could be raked or removed for thorough cleaning.

Daily fence operations included taking a water level and water temperature measurement from an established limnology station. Fence panels were cleaned of debris as required. All salmon trapped in the live box were counted and mark type and sex recorded.

Every fifth adipose clipped coho was sacrificed for the head and every eighth unmarked (wild) coho was sampled for scales.

Any dorsal fin tagged coho that were captured were sampled for sex and mark type and the dorsal fin tags were removed. Removal of the dorsal fin tags allowed for re-examination of the fin tag color and number for quality control purposes.

During times of heavy debris load, the fence was attended to as required. During extremely high water and heavy debris loads, the top and bottom fence panels were pulled one at a time to allow for debris cleaning. Fence panels were replaced once cleaning was complete. No fish were observed migrating past the open panel sections during panel cleaning.

During the peak high water/heavy debris event from October 11'th to 14'th, twelve of the top panels were left out to reduce debris level against the fence. During that time, 12 coho were visually counted over the panels. Those 12 coho were apportioned as to mark type and sex based on mean proportions throughout the run timing.

Any adipose clipped coho carcasses that floated against the fence were checked for the presence of a hatchery mark and the heads were removed from the marked coho. All heads were numbered using E-tags and recovery date was recorded.

Fence de-mobilization began on October 19'th, when most of the top and bottom fence panels were pulled. The remaining panels and fence support structure were removed on October 31'st and November 1'st, 2005. Fence components are in storage at the District of Houston Works Yard on Nadina Ave, Houston, BC.

3.0 Results and Discussion

The 2005 coho return consisted of wild and hatchery four year old returns from the 2001 brood year and three year old returns from the 2002 brood year. Hatchery release groups are listed in Table 1 below.

Table 1 : UBR Coho Release Groups Contributing to the 2005 Escapement

Brood Year	Tag Code	Number Released	Stage at Release
2001	08/53/08	42,718	Fry
2001	02/05/09	5,032	Fry
2002	08/11/14	11,156	Fry
2002	08/03/31	11,084	Smolt – early rel
2002	08/03/38	5,157	Smolt – early rel
2002	08/03/32	11,285	Smolt – late rel
2002	08/03/39	5,010	Smolt – late rel

The total number of coho counted through the UBR fence was 2,508 coho. Wild fish made up 82% of the run with a count of 2056 wild coho and hatchery coho made up 18% of the run with a count of 452 hatchery coho. The proportion of males to females was 51% male and 49% female. Refer to Appendix A for all fence capture data.

There were no coho removed for broodstock this year as the UBR coho enhancement program at the Toboggan Creek hatchery was discontinued. However, a total of 82 coho were sacrificed for coded wire tag sampling and this included 37 female coho.

3.1 Estimated Escapements vs. Actual Escapement

It is important to consider a comparison of expected escapements to actual escapements due to straying of UBR coho and possible differences between Toboggan Creek and UBR coho distribution in the Alaskan commercial fisheries. Stray rate has not been precisely defined however, UBR coded wire tagged coho have been recovered at the Toboggan Creek fence and in the Morice River. In 2003, one marked UBR coho was recovered at the Babine River fence.

A difference in distribution in the Alaskan commercial fishery could result in differences in exploitation rates between the Toboggan Creek and UBR coho. A difference in exploitation rate and/or distribution in Alaskan commercial fisheries between those two stocks, would result in an in-accurate escapement estimate when using the Toboggan Creek stock as the index stock. Preliminary data from the 2005 Alaskan fishery CWT recoveries shows that there are slight differences in terms of distribution in the fisheries. In previous years, Toboggan Creek coho were captured in troll, drift net, purse seine and sport fisheries whereas UBR coho were caught only in the troll fishery. In the 2005 return, both stocks were recovered in almost equal numbers in the troll, purse and driftnet fisheries. There were slight differences in catch locations with Upper Bulkley coho being caught in all Quadrant locations and Toboggan Creek coho were caught in three of the four Quadrant locations in the Alaskan fishery. Refer to Appendix B for Alaskan fishery preliminary results.

There are various methods that have been investigated to determine the expected number of marked coho that should return to the Upper Bulkley River fence. This projection has been investigated due to the suspicion that UBR coho stray to other systems. If stray rate can be quantified, then a more accurate survival rate can be determined.

Past survival rate data, based on CWT recoveries in the Alaskan and BC commercial fisheries and fence counts, has shown a difference in smolt to adult survival between Toboggan Creek and UBR coho. Survival rates of the Upper Bulkley smolt group have been consistently lower than the Toboggan Creek coho and some data analysis methods have shown that the UBR coho survive at rates of less than 60% that of the Toboggan Creek coho (personal communication with Barry Finnigan, Stock Assessment Biologist-Northcoast B.C.). These differences have prompted some investigation into how to best estimate expected return to the UBR fence so that survival rate comparisons can be more accurate.

The following methods are being investigated to estimate escapement to the UBR :

- Alaskan tag recoveries – involves a comparison of the Toboggan and UBR coho tags recovered in the Alaskan fishery and then uses the CWT returns to the Toboggan Creek fence to estimate the number of CWT's that should have returned to the UBR fence.
- Use biostandard survival rates to calculate escapement
- Use the Moricetown fishery data to look at the ratio of Toboggan Creek and UBR tags and use the escapement at the Toboggan Creek fence to estimate the number of CWT's that should return to the UBR fence
- Use the numbers of coho counted through the UBR fence only (i.e. use hard numbers with no estimates).

The methods listed above include the following biases and assumptions :

- Estimation of CWT escapement based on Alaskan fishery assumes that the distribution of Toboggan Creek and Upper Bulkley River coho is the same every year and there is no straying of either stock. Previous data from the Alaskan commercial fishery shows that there is a difference in distribution in the troll, seine and driftnet fisheries between the Toboggan Creek and Upper Bulkley River coho. Historical CWT recoveries in Canadian fisheries have shown some UBR coho CWT recoveries in Central Coast fisheries (personal communication with Barry Finnegan, Stock Assessment Biologist – Northcoast B.C.). Coho CWT's are not sampled in Central Coast fisheries therefore it is not possible to identify the proportion of UBR coho in that area.
- Biostandard survival rates tend to be higher than the actual survival rates to the UBR therefore, using biostandard survival rates would over-estimate the number of CWT's that should return.
- Moricetown fishery data may contain sampling biases and the number of CWT heads submitted for tag decoding is sometimes low.
- Using escapement to the fence only does not consider any coho spawning downstream of the fence or UBR coho straying to nearby streams.

Estimtated escapements based on biostandard survival rates and the following criteria are shown in Table 2 :

- Hatchery smolt biostandard survival rate is 2.29% (smolt to adult)
- Hatchery fry biostandard survival rate is 1.2% (fry to adult)
- Wild egg to fry biostandard survival rate is 15%
- Wild fry to adult biostandard survival rate is 1.2%
- The harvest rate used was 37.5% which is the estimated mean harvest rate for Toboggan Creek coho using the years 1997 to 2004 harvest rate data.
- The proportion of four year olds returning from fry releases and from wild coho is 40%.
- Coho released as hatchery smolts all return as three year olds

Total coho escapement to the UBR fence was estimated at 3,103 coho (Table 2). The mark rate was estimated at 21% with an estimated 676 adipose clipped coho expected to return. Actual adipose clip return was 484 coho adults of which 452 adults returned to the UBR fence (18% mark rate) and 32 coho strayed to the Toboggan Creek fence. The wild component of the escapement was estimated at 2,427 coho and the actual wild escapement to the fence was 2056 coho.

A preliminary escapement comparison of 2002 brood year CWT's returning from smolt releases to the UBR fence using Alaskan data, estimates that for every 1 Toboggan Creek coho caught there was 1 UBR coho caught.

A total of 882 marked coho returned to the Toboggan Creek fence of which 21 were UBR coho from smolt releases and 11 were UBR coho from fry releases that strayed to Toboggan Creek. Therefore, a total of 850 TC marked coho from smolt releases returned to the TC Fence. Using the Toboggan Creek fence as the standard and the Alaskan catch ratio of TC/UBR coho, we would expect the same number of 2002 brood UBR CWT coho to escape to the UBR fence. The actual number of 2002 brood hatchery coho returning from smolt releases was 380 coho. This assumes that all smolts from both the Toboggan Creek and UBR systems return as three year old adults.

Table 2 : Estimated Escapement to the UBR in 2005

Projected Wild Returns for 2005

Brood Year	*No. Females*	*Egg Fec*	*Est. Egg Deposition*	*Total Fry Production*	*Total Adult Prod*	*2005 Contributions to Escapem*	
						Three's	*Fours*
2001	1087	3108	3378396	506759	6081	0	1520
2002	432	3108	1342656	201398	2417	906	0

Total Estimated Wild Coho Escapement	2426	
Actual Wild Coho Escapement	2056	
Difference	370	15%

Projected Hatchery Returns for 2005

Brood Year	*No. Fry Release*	*No Smolts Released*	*Total Adult Prod from Fry*	*Total Adult Prod from smolt*	*2005 Contributions to Escapement*		
					3 yr smolt	*3 yr fry*	*4 yr fry*
2001	47750	23220	573	532	0	0	160
2002	11156	32536	134	745	466	50	*0*

Total Estimated Hatchery Coho Escapement	676	
Actual Hatchery Coho Escapement	484	
Difference	192	(28%)

NOTE : Four year old component as determined by age analysis of 155 wild coho was only 1.3%.

		Actual Esc.	*Difference*
Total Estimated Escapement for 2005	***3103***	***2508***	***19%***
		Actual	
Estimated Hatchery Proportion(fence)	***0.22***	***Hatchery***	***0.18***
Estimated Wild Proportion	***0.78***	***Act. Wild***	***0.82***

The actual number of coho counted through the fence was 2,508 coho which is less than the estimated escapement of 3,103 coho. The number of coho estimated to be spawning downstream of the fence could not be calculated due to high water and poor visibility in the river.

A detailed analysis of the methods of estimating expected returns to the Upper Bulkley River fence will not be included in this report. Methods of estimating escapement to the Upper Bulkley River will be included in the Strategic Stock Enhancement Program Final Report (in progress).

3.2 Adipose/CWT Coho

The total number of Ad/CWT UBR coho escaping was 484 coho consisting of 452 hatchery coho that were enumerated at the Upper Bulkley River fence and an additional 32 coho that were enumerated at the Toboggan Creek fence. The breakdown by tag code is shown in Table 3. There were 84 CWT coho sampled at the Toboggan Creek fence of which 1 coho was from an UBR fry release and 2 coho were from the 2002 brood smolt release (both tag code 08/03/31). The expanded number of UBR Ad/CWT coho enumerated at the Toboggan Creek fence is 11 coho from the UBR fry release group (code 08/11/14) and 21 coho from the smolt release group (code 08/03/31).

Table 3

Upper Bulkley River Fence : Expanded CWT Recoveries for the 2005 Return Year

Brood Year	Tag Code	Stage at Release	Expanded No. at Fence	No. Released	Est. Survival to Escapement	Time of Release
n/a	No pins		28			
n/a	18/34/04		6	Robertson Creek Coho		
2001	08/53/08	fry	6	42718	.003	Oct 2 – 4, 2002
2002	08/03/31	smolt	76	11084	0.007	May13-14, 2004
	08/03/32	smolt	182	11285	0.016	May 27-28, 2004
	08/03/38	smolt	39	5157	0.008	May 13-14, 2004
	08/03/39	smolt	83	5010	0.017	May 27-28, 2004
2002	08/11/14	fry	66	11156	*0.006	Sep 3, 2003

* The data for the 2002 brood fry release is incomplete as there will be four year old coho returning in 2006.

The returns of marked coho consisted of releases of 2001 brood fry and 2002 brood releases of fry and smolts. The smolt group consisted of two groups of coho that were released at two distinct times : May 13 – 14, 2004 and May 27 – 28, 2004. Preliminary results of survival to escapement show survival rate of the late release smolt group to be about double that of the early release smolt group.

Age composition of the marked hatchery coho as determined by tag code, showed that 1.3% of the adipose clipped coho at the fence were four year olds and the remainder of the adipose clipped coho to the fence were three year old coho.

The expanded CWT recoveries for 1998 to 2001 brood UBR coho are shown in Table 4. Survival to escapement has been estimated based on UBR fence recoveries only and this data is preliminary. The data does not define or include stray rates of UBR coho in any survival rate calculations.

Preliminary data for the fry and smolt releases shows that the survival rates between the two release groups are quite similar up to the 2002 brood year releases when smolt releases occurred later in May. The later release timing groups show better survival rates to escapement as compared to the earlier brood years when smolts were traditionally released in early May.

The 2002 brood fry group were released to Bulkley Lake whereas in previous years, fry groups were released into under-utilized habitat in Buck Creek. The 2002 brood fry release group shows a very similar survival rate to the early release smolt group from the same brood year.

Fry releases into lakes has been an area of interest since the Owen Creek coho fry were released into Owen Lake (Morice watershed) from 1998 brood year coho. Upper Bulkley River coho fry from the 2003 and 2004 brood years were coded wire tagged and released into Bulkley Lake. Those fry will be returning throughout years 2006 to 2008.

Table 4 : UBR Fence CWT Recoveries for 1998 – 2001 Brood Years and Estimated Survival to Escapement

Brood Year	Tag Code	Stage at Release	Expanded No. at Fence	No. Released	Est. Survival to Escapement
1998	18/34/30	fry	No heads taken for CWT sampling		
	18/34/31	fry	No heads taken for CWT sampling		
Totals			950	80440	0.012
1998	18/36/29	smolt	No heads taken		
	18/36/30	smolt	No heads taken		
	18/36/31	smolt	No heads taken		
Totals			539	36314	0.015
1999	18/30/18	fry	62	20233	0.003
	18/30/19	fry	56	20171	0.003
	18/30/20	fry	50	23533	0.002
	18/43/16	fry	14	5783	0.002
Totals			182	69720	
1999	18/35/39	smolt	19	11173	0.002
	18/35/40	smolt	38	11076	0.003
	18/35/41	smolt	19	11101	0.002
Totals			76	33350	

Table 4 Continued

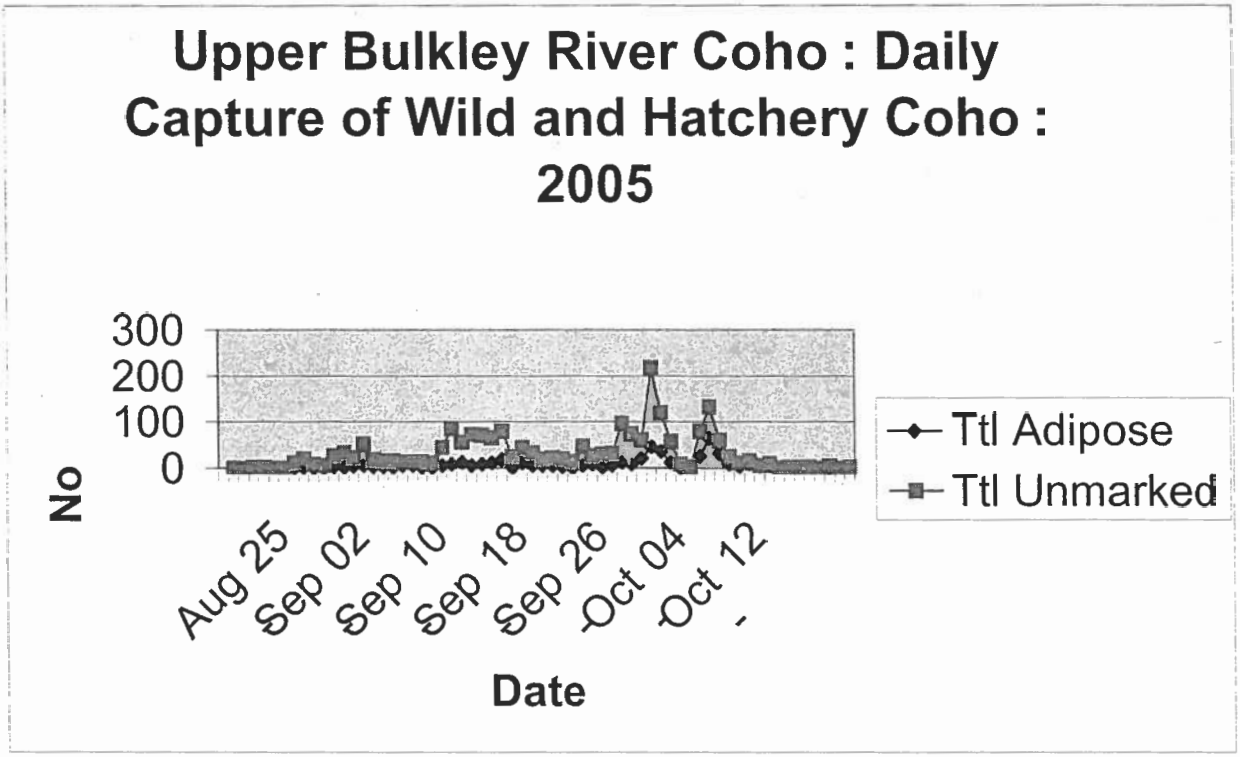
Brood Year	Tag Code	Stage at Release	Expanded No. at Fence	No. Released	Est. Survival to Escapement
2000	18/43/19	fry	5	10087	0.000
	18/43/20	Fry	8	10079	0.001
	18/43/21	fry	16	9805	0.002
Totals			29	29971	
2000	18/48/28	smolt	25	14802	0.002
	18/48/29	smolt	12	14905	0.001
Totals			37	29707	
2001	18/53/08	fry	103	42718	0.002
	02/05/09	fry	0	5032	0
Totals			103	47750	
2001	18/22/08	smolt	18	11030	0.002
	18/22/09	smolt	26	10840	0.002
Totals			44	21870	
2002	08/03/31	smolt	76	11084	.007
	08/03/38	smolt	39	5157	.008
	08/03/32	smolt	182	11285	.016
	08/03/39	smolt	83	5010	.017
	08/11/14	fry	66	11156	.006*

* Return data for 2002 brood fry releases is incomplete as there will be four year old returns in 2006.

The expanded CWT Recovery data in Table 4 does not include an analysis of the data for lost pins and CWT coho from other stocks that strayed to the UBR Fence. A summary of the CWT data is included in Appendix A.

The timing of unmarked and adipose clipped coho was similar as shown in Figure 1.

Figure 1



3.3 Unmarked Coho

A total of 2056 unmarked coho were enumerated at the UBR fence. Of the unmarked coho, 964 (47 %) were females and 1092 (53 %) were males.

Scale sampling was conducted on 154 unmarked (wild) coho at the Upper Bulkley fence. The age class data showed that 96.8 % of the coho sampled were Gilbert-Rich age 32 and 3.2 % were Gilbert-Rich age 43. In previous years, age class data has shown that between 40% and 50% of the run consists of age 43 coho (Gilbert-Rich age).

3.4 Dorsal Fin Tagged Coho

The purpose of the dorsal fin tagging program was to conduct a coho population estimate for the Bulkley/Morice system. Dorsal fin tags were applied to coho captured by seining just downstream of Moricetown Canyon and dorsal fin tagged coho were then re-captured at the Moricetown Canyon First Nations food fishery and at the Toboggan Creek and UBR fences. The population estimate from the dorsal fin tagging program was not available at the time of this report.

A total of 470 dorsal fin tags were recovered at the Upper Bulkley River fence therefore 18.7% of the coho enumerated at the fence were dorsal fin tagged. In comparison, the escapement at the Toboggan Creek coho fence was 4,327 coho of which 20% (875 coho) were dorsal fin tagged.

UBR fence dorsal fin tag recoveries consisted of 213 tags from female coho, 256 dorsal fin tags from male coho and one tag from a coho that was not identified as to sex. This represents a sex ratio of 45% females and 55% males. This is very similar to the overall sex ratio at the fence which was 49% females and 51% males.

Dorsal fin tag recoveries consisted of 50 adipose clipped coho and 420 unmarked coho. Approximately 10.6% of the dorsal fin tagged coho were adipose clipped as compared to an 18% adipose clip rate in the fence count.

Refer to Appendix A for Dorsal Fin Tag Data which includes a summary of dorsal fin tag recovery proportions.

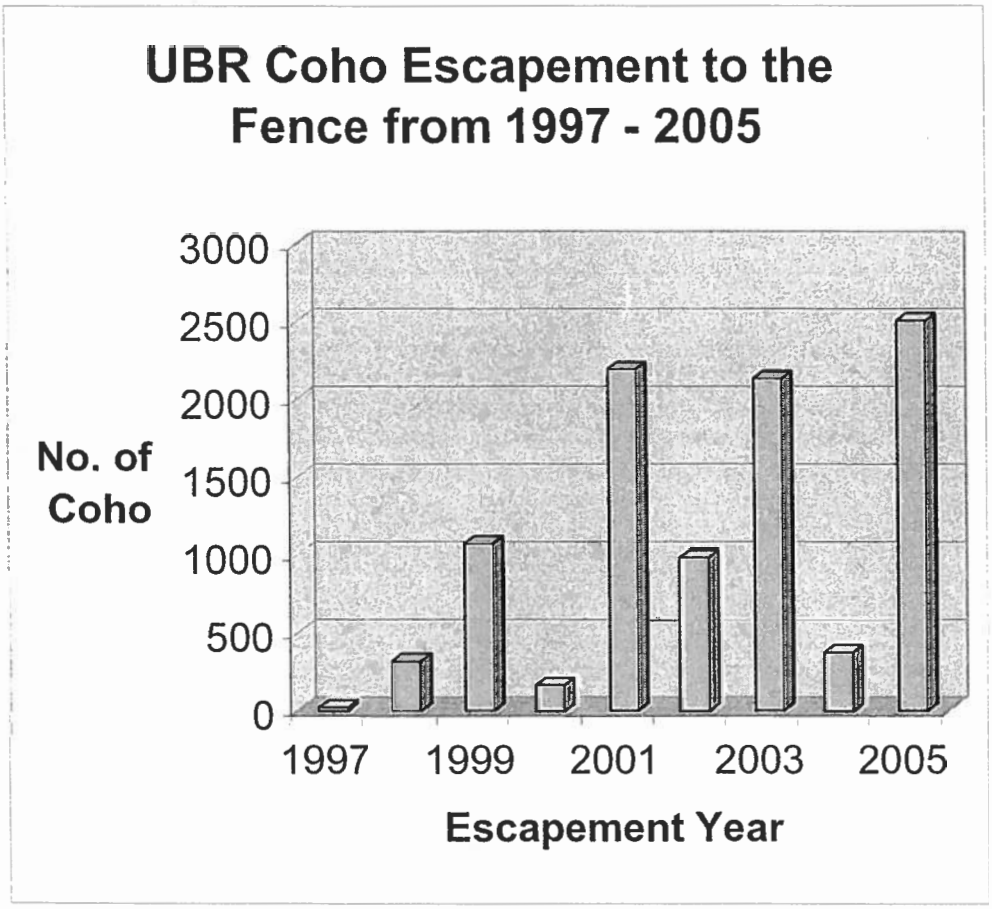
3.5 Redd Measurements

During the 2003 fence operations, snorkel counts, streamwalks and redd measurements were conducted downstream of the fence to estimate the number of coho spawning downstream of the fence. However, during the 2004 and 2005 fence operations, due to extreme high water conditions, downstream counts and redd measurements were not possible.

3.6 Coho Escapement Comparisons

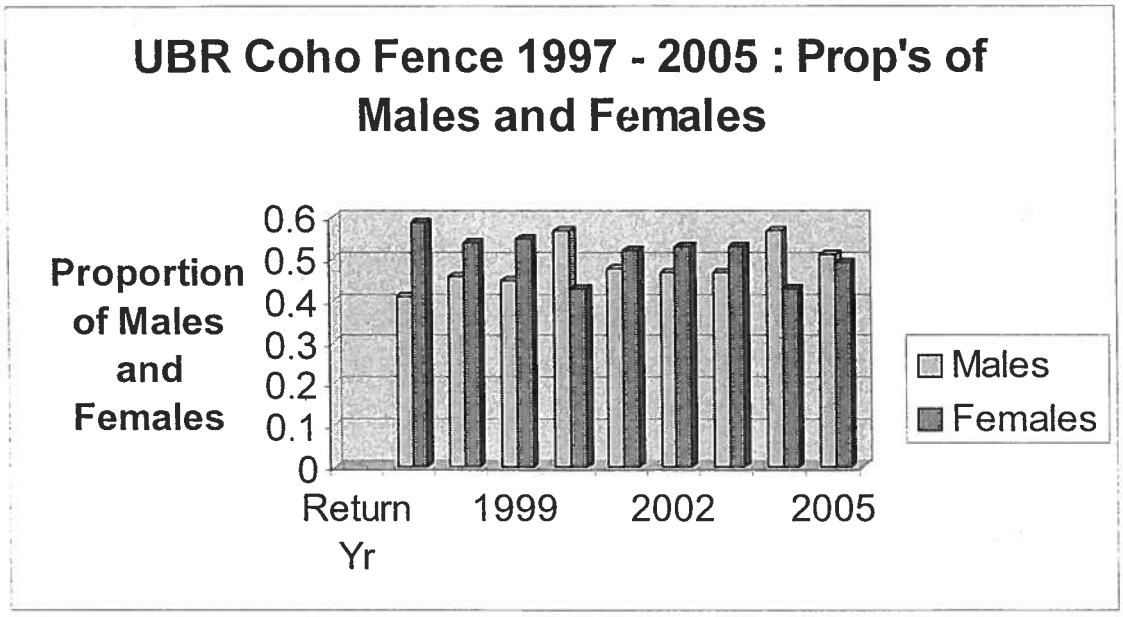
Coho counts at the Upper Bulkley River fence range from a low of 22 adults enumerated in 1997 to 2,508 adults enumerated in 2005. Escapement counts through the Upper Bulkley River fence for 1997 to 2005 are shown in Figure 2. The mean escapement is 1088 coho for 1997 to 2005. The coho escapement goal for the Upper Bulkley River has been estimated at 1500 coho (personal communication with Brian Anderson, OHEB Support Biologist, RHQ Vancouver). The estimated escapement goal has been met or exceeded three times in the last 9 years (1997 to 2005).

Figure 2

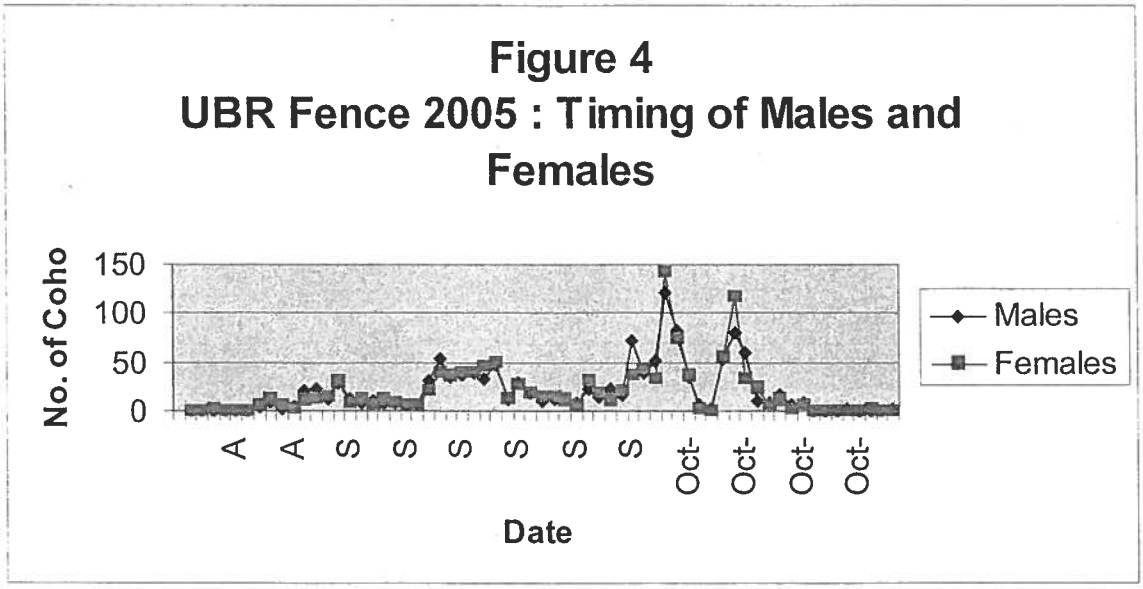


From 1997 to 2004, the mean proportion of females in the escapement has been 51% and the proportion of males has been 49%. Ratio of males to females in 2005 was 51% males and 49% females. Male to female ratio from 1997 to 2005 is shown in Figure 3.

Figure 3

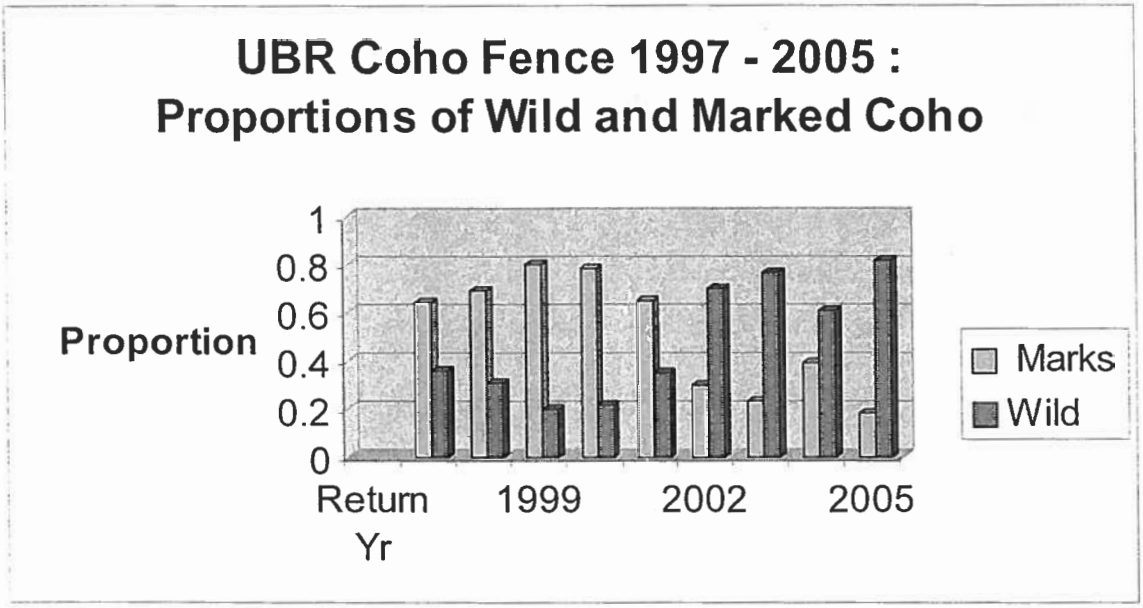


Timing of males and females through the fence has also been similar over the years and was similar in the 2005 escapement. (Figure 4), and the timing between marked and unmarked (wild) coho has also been similar (Appendix A).



The proportion of unmarked(wild) to hatchery coho for 1997 to 2005 is shown in Figure 5. In past years, the proportion of hatchery coho in the escapement has been as high as 80% and the mean proportion of hatchery coho in the escapement(1997 to 2004) is 50%. Since year 2000, the proportion of wild coho in the escapement has been increasing.

Figure 5



3.7 Coho Migration Timing

Coho began entering the live trap on August 20'th, 2005. There were three migration peaks with a small early peak occurring from September 9'th - 14'th. The largest peak migration occurred from Sept 26'th - 30'th and there was a final peak from October 4'th - 6'th, 2005. (Refer to Appendix A for daily capture and summarized data).

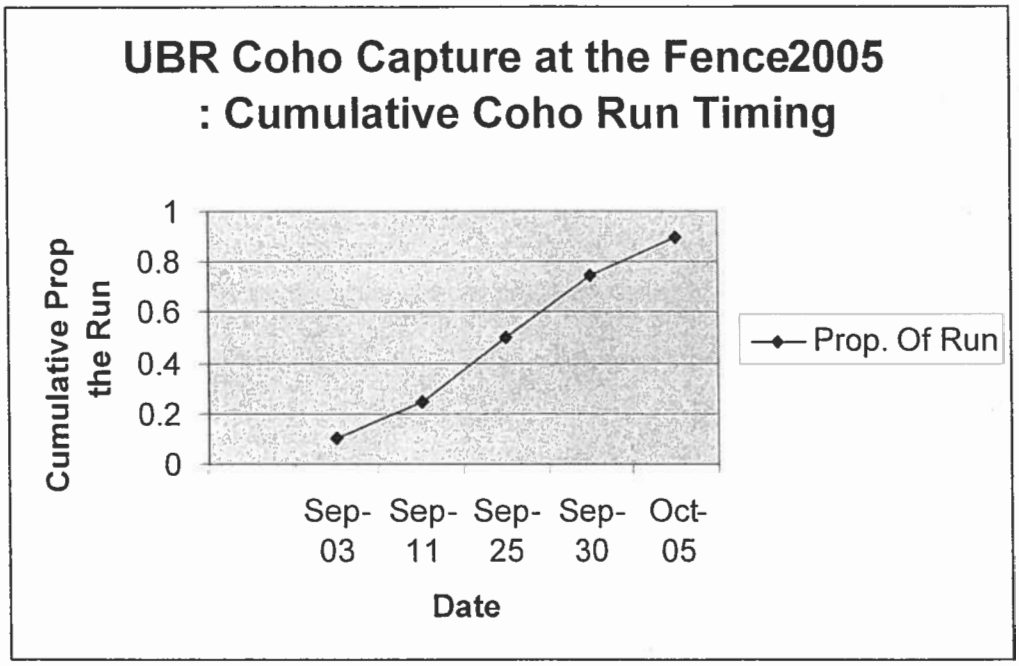
The cumulative frequency curve for coho migration timing for 1998 to 2005 is shown in Table 5.

Table 5: Cumulative Timing for Upper Bulkley Coho 1998 to 2005

Return Yrs	10%	25%	50%	75%	90%
1998 – 2002	Sept 12	Sept 18	Sept 23	Oct 11	Oct 27
2002	Sept 15	Sept 18	Sept 20	Sept 24	Sept 30
2003	Sept 6	Sept 11	Sept 21	Sept 27	Oct 6
2004	Aug 30	Sep 3	Sep 11	Sep 16	Oct 6
2005	Sep 3	Sep 11	Sep 25	Sep 30	Oct 5

The mean cumulative timing for 1998 to 2002 shows that 90% of the coho run is usually through the fence by October 27'th. The 2003 and 2004 data show that 90% of the coho run is through the fence by October 6'th. Based on the migration peaks at the fence during 2003 and 2004, it is unlikely that large numbers of coho migrated through the fence after October 19'th, 2005. Cumulative run timing is shown in Figure 6.

Figure 6



3.8 Natural Egg Deposition and Estimated Returns from 2005 Brood Coho

A total of 224 adipose females and 964 wild females spawned naturally in the fall of 2005. Estimated egg deposition and subsequent adult production are listed in Table 6. The hatchery enhancement program was discontinued in 2005 and there will be no hatchery coho smolts released from 2005 brood coho adults.

Exploitation rate has been set at 37.5 % based on calculated exploitation rates on Toboggan Creek coho and fecundity has been estimated at 3000 eggs per female based on previous years data from Toboggan Creek hatchery incubation records.

Table 6
Upper Bulkley Coho 2005 : Estimates of Egg Deposition and Adult Production

No. Females	Est. Fecundity	Est Egg Dep	Est Fry Prod	Est Adult Prod	Est. 3 yr old Escapement
1188	3000	3564000	534600	6415	2406

Four year old contribution, which would return in 2009 has not been included.

Total escapement for 2008, using biostandard survival rates, an exploitation rate of 37.5 % and a three year old return rate of 60% for wild coho, is estimated at 2,406 coho adults.

4.0 Recommendations

The Upper Bulkley River Coho Assessment Fence is the principle means of determining coho escapement to the Upper Bulkley River.

Although the UBR coho enhancement program ceased in 2005, there will be marked hatchery returns to the fence until 2007. The fence allows monitoring of the proportions of wild (unmarked) and hatchery (marked) coho in the escapement. The fence is required to determine differences in total survival rate between the smolt groups and the fry group being released to Bulkley Lake.

The number of dorsal fin tagged coho captured at the Upper Bulkley River fence can be used as a check against the Bulkley/Morice Population estimate.

Since the Upper Bulkley River coho enhancement program will not continue past the 2004 brood production year, there will be no coded wire tagged coho in the commercial, native or recreational fisheries after year 2007. Therefore, there will be no way to assess UBR coho stock strength except for conducting an escapement enumeration at the UBR fence.

Recommendation #1

Continue to operate the Upper Bulkley River Coho Assessment fence after the 2005 season to continue escapement counts to the river. This will allow a comparison of actual escapement against the estimated spawning escapement goal of 1500 coho.

Recommendation #2

The wood planking on the fence sill requires repair. The wood planks are beginning to lift and consequently the aluminum "A" frames do not fit properly onto the shoes. There are steel planks being stored at the District of Houston Works Yard that should be installed to alleviate this problem.

APPENDIX A

UPPER BULKLEY RIVER FENCE CAPTURE DATA

Upper Bulkley River Coho Assessment Fence : 2005

Daily Coho Capture Summary

Date	Adipose Males	Adipose Females	Total Adipose	Unmarked Males	Unmarked Females	Total Unmarked	Total Daily Capture
Aug-18	0	0	0	0	0	0	0
Aug-19	0	0	0	0	0	0	0
Aug-20	0	1	1	0	1	1	2
Aug-21	0	0	0	0	1	1	1
Aug-22	0	0	0	0	0	0	0
Aug-23	0	0	0	0	0	0	0
Aug-24	0	0	0	4	7	11	11
Aug-25	1	0	1	9	10	19	20
Aug-26	0	0	0	2	6	8	8
Aug-27	0	0	0	4	2	6	6
Aug-28	2	1	3	18	9	27	30
Aug-29	2	0	2	21	13	34	36
Aug-30	1	3	4	11	11	22	26
Aug-31	1	4	5	27	25	52	57
Sep-01	0	3	3	13	5	18	21
Sep-02	2	1	3	6	9	15	18
Sep-03	2	0	2	9	7	16	18
Sep-04	1	4	5	7	6	13	18
Sep-05	2	3	5	7	6	13	18
Sep-06	0	1	1	7	5	12	13
Sep-07	0	1	1	6	5	11	12
Sep-08	3	3	6	27	17	44	50
Sep-09	2	6	8	52	33	85	93
Sep-10	4	8	12	30	26	56	68
Sep-11	3	3	6	35	37	72	78
Sep-12	3	5	8	36	35	71	79
Sep-13	3	8	11	29	37	66	77
Sep-14	5	13	18	43	37	80	98
Sep-15	0	1	1	13	12	25	26
Sep-16	4	7	11	25	19	44	55
Sep-17	3	2	5	16	17	33	38
Sep-18	2	3	5	9	11	20	25
Sep-19	2	3	5	11	12	23	28
Sep-20	1	2	3	12	8	20	23
Sep-21	0	0	0	9	5	14	14
Sep-22	2	4	6	21	26	47	53
Sep-23	3	5	8	12	14	26	34
Sep-24	1	1	2	21	10	31	33
Sep-25	3	3	6	14	18	32	38
Sep-26	5	8	13	66	30	96	109
Sep-27	3	6	9	36	38	74	83
Sep-28	12	9	21	39	23	62	83
Sep-29	15	31	46	107	110	217	263
Sep-30	20	16	36	62	58	120	156
Oct-01	4	9	13	31	26	57	70
Oct-02	0	0	0	7	2	9	9

Oct-03	0	0	0	2	0	2	2
Oct-04	13	14	27	40	40	80	107
Oct-05	23	43	66	57	75	132	198
Oct-06	20	12	32	39	21	60	92
Oct-07	4	4	8	7	18	25	33
Oct-08	2	2	4	7	4	11	15
Oct-09	6	4	10	10	6	16	26
Oct-10	3	1	4	4	2	6	10
Oct-11	3	2	5	5	5	10	15
Oct-12	0	0	0	0	0	0	0
Oct-13	0	0	0	1	0	1	1
Oct-14	0	0	0	0	1	1	1
Oct-15	0	1	1	3	0	3	4
Oct-16	0	0	0	0	0	0	0
Oct-17	0	0	0	1	3	4	4
Oct-18	0	0	0	0	0	0	0
Oct-19	0	0	0	2	0	2	2

Totals	191	261	452	1092	964	2056	2508

% of run	0.076	0.104		0.435	0.384

Fence not fishing from 2:30 Oct 11
to 0830 Oct 12
Fence not fishing from 11:30 am to 2:30 pm Oct 12
Fence not fishing from 11:30 am Oct 13 to 0830 Oct 14
Fence fishing as of Oct 14'th at 0830

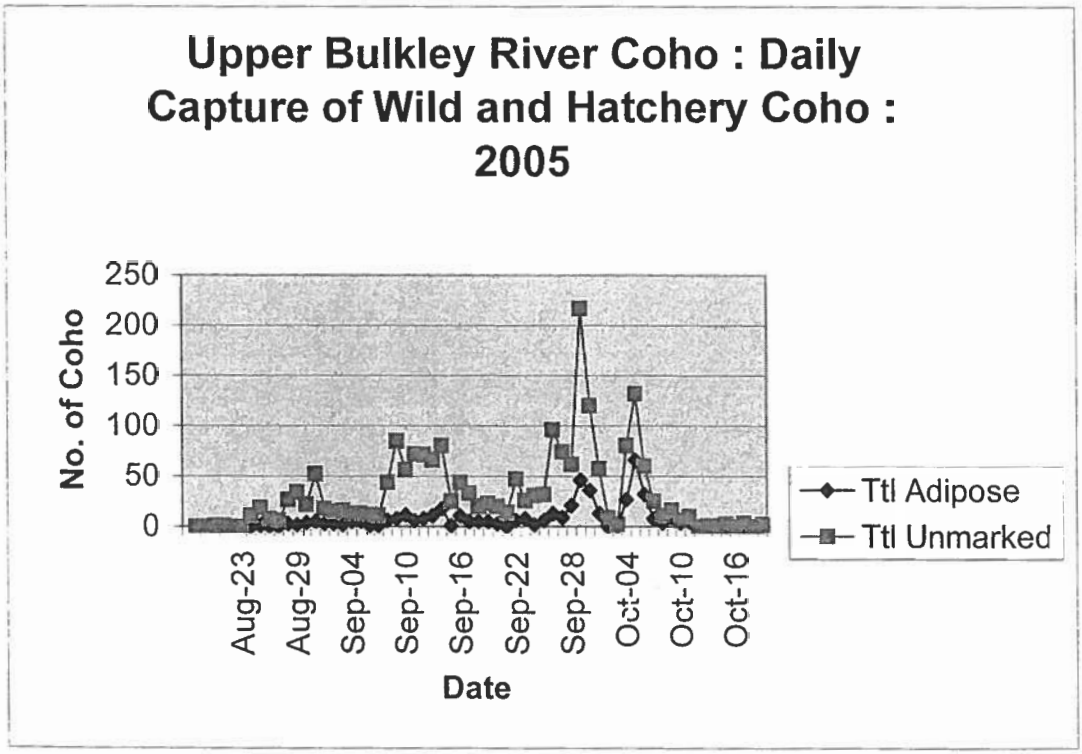
Upper Bulkley River Coho Assessment Fence : 2005

Adipose/CWT Coho Capture Summary

Date	Ttl Adipose	Ttl Unmarked	Daily Ttl	Prop. Ad	Prop Unmarked
Aug-18	0	0	0		
Aug-19	0	0	0		
Aug-20	1	1	2	0.5	0.5
Aug-21	0	1	1	0	1
Aug-22	0	0	0		
Aug-23	0	0	0		
Aug-24	0	11	11	0	1
Aug-25	1	19	20	0.05	0.95
Aug-26	0	8	8	0	1
Aug-27	0	6	6	0	1
Aug-28	3	27	30	0.10	0.90
Aug-29	2	34	36	0.06	0.94
Aug-30	4	22	26	0.15	0.85
Aug-31	5	52	57	0.09	0.91
Sep-01	3	18	21	0.14	0.86
Sep-02	3	15	18	0.17	0.83
Sep-03	2	16	18	0.11	0.89
Sep-04	5	13	18	0.28	0.72
Sep-05	5	13	18	0.28	0.72
Sep-06	1	12	13	0.08	0.92
Sep-07	1	11	12	0.08	0.92
Sep-08	6	44	50	0.12	0.88
Sep-09	8	85	93	0.09	0.91
Sep-10	12	56	68	0.18	0.82
Sep-11	6	72	78	0.08	0.92
Sep-12	8	71	79	0.10	0.90
Sep-13	11	66	77	0.14	0.86
Sep-14	18	80	98	0.18	0.82
Sep-15	1	25	26	0.04	0.96
Sep-16	11	44	55	0.2	0.8
Sep-17	5	33	38	0.13	0.87
Sep-18	5	20	25	0.2	0.8
Sep-19	5	23	28	0.18	0.82
Sep-20	3	20	23	0.13	0.87
Sep-21	0	14	14	0	1
Sep-22	6	47	53	0.11	0.89
Sep-23	8	26	34	0.24	0.76
Sep-24	2	31	33	0.06	0.94
Sep-25	6	32	38	0.16	0.84
Sep-26	13	96	109	0.12	0.88
Sep-27	9	74	83	0.11	0.89
Sep-28	21	62	83	0.25	0.75
Sep-29	46	217	263	0.17	0.83
Sep-30	36	120	156	0.23	0.77
Oct-01	13	57	70	0.19	0.81
Oct-02	0	9	9	0	1
Oct-03	0	2	2	0	1

Oct-04	27	80	107	0.25	0.75
Oct-05	66	132	198	0.33	0.67
Oct-06	32	60	92	0.35	0.65
Oct-07	8	25	33	0.24	0.76
Oct-08	4	11	15	0.27	0.73
Oct-09	10	16	26	0.38	0.62
Oct-10	4	6	10	0.4	0.6
Oct-11	5	10	15	0.33	0.67
Oct-12	0	0	0	0	0
Oct-13	0	1	1	0	1
Oct-14	0	1	1	0	1
Oct-15	1	3	4	0.25	0.75
Oct-16	0	0	0	0	0
Oct-17	0	4	4	0	1
Oct-18	0	0	0	0	0
Oct-19	0	2	2	0	1

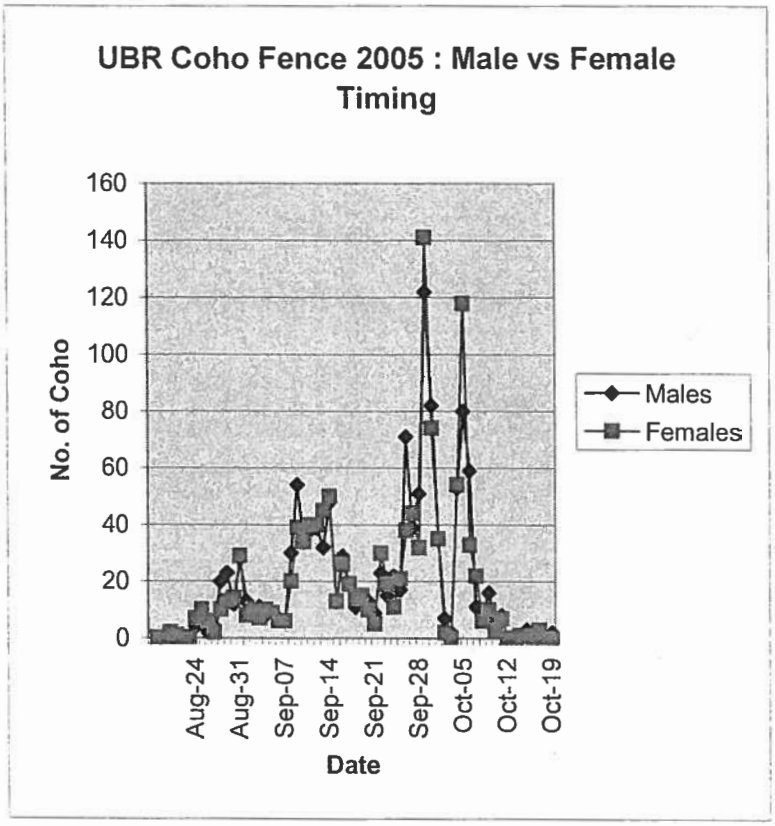
Totals	452	2056	2508	0.180	0.820



Upper Bulkley River Coho Assessment Fence : 2005

Male vs Female Timing Summary

Date	Daily Ttl Males	Daily Ttl Females
Aug-18	0	0
Aug-19	0	0
Aug-20	0	2
Aug-21	0	1
Aug-22	0	0
Aug-23	0	0
Aug-24	4	7
Aug-25	10	10
Aug-26	2	6
Aug-27	4	2
Aug-28	20	10
Aug-29	23	13
Aug-30	12	14
Aug-31	28	29
Sep-01	13	8
Sep-02	8	10
Sep-03	11	7
Sep-04	8	10
Sep-05	9	9
Sep-06	7	6
Sep-07	6	6
Sep-08	30	20
Sep-09	54	39
Sep-10	34	34
Sep-11	38	40
Sep-12	39	40
Sep-13	32	45
Sep-14	48	50
Sep-15	13	13
Sep-16	29	26
Sep-17	19	19
Sep-18	11	14
Sep-19	13	15
Sep-20	13	10
Sep-21	9	5
Sep-22	23	30
Sep-23	15	19
Sep-24	22	11
Sep-25	17	21
Sep-26	71	38
Sep-27	39	44
Sep-28	51	32
Sep-29	122	141
Sep-30	82	74
Oct-01	35	35
Oct-02	7	2
Oct-03	2	0



Oct-04	53	54
Oct-05	80	118
Oct-06	59	33
Oct-07	11	22
Oct-08	9	6
Oct-09	16	10
Oct-10	7	3
Oct-11	8	7
Oct-12	0	0
Oct-13	1	0
Oct-14	0	1
Oct-15	3	1
Oct-16	0	0
Oct-17	1	3
Oct-18	0	0
Oct-19	2	0
Oct-20	0	0

Totals	1283	1225	2508

Prop Fem	0.488437
Prop Male	0.511563

Upper Bulkley River Coho Assessment Fence : 2005

Coho Dorsal Fin Tag Summary

Date	DFT Color	DFT Number	Sex	Mark Type
Aug-21	Green	20230 MS	Female	Unmarked
Aug-24	Green	20912 MS	Male	Unmarked
Aug-25	Blue	3336 MF	Male	Unmarked
Aug-26	Blue	3592 MF	Female	Unmarked
Aug-28	Blue	34047 MF	Female	Unmarked
Aug-28	Blue	4141 MF	Female	Unmarked
Aug-28	Blue	34443 MF	Female	Unmarked
Aug-28	Green	21789 MS	Female	Unmarked
Aug-28	Green	21176 MS	Male	Unmarked
Aug-28	Green	20794 MS	Male	Unmarked
Aug-28	Blue	3449 MF	Male	Unmarked
Aug-29	Green	21904 MS	Female	Unmarked
Aug-29	Blue	3360 MF	Male	Unmarked
Aug-29	Blue	3717 MF	Female	Unmarked
Aug-29	Green	20871 MS	Male	Unmarked
Aug-30	Green	20461 MS	Male	Unmarked
Aug-31	Blue	4647 MF	na	na
Aug-31	Blue	34421 MF	Male	Unmarked
Aug-31	Blue	3905 MF	Male	Unmarked
Aug-31	Green	20836 MS	Male	Unmarked
Aug-31	Blue	4324 MF	Female	Unmarked
Aug-31	Blue	3377 MF	Male	Unmarked
Aug-31	Blue	4627 MF	Male	Unmarked
Aug-31	Blue	4349 MF	Female	Unmarked
Aug-31	Blue	4395 MF	Female	Unmarked
Sep-01	Blue	4971 MF	Male	Unmarked
Sep-01	Green	21585 MS	Male	Unmarked
Sep-02	Blue	34424 MF	Female	Unmarked
Sep-02	Blue	34339 MF	Male	Unmarked
Sep-02	Blue	3269 MF	Male	Unmarked
Sep-02	Blue	34189 MF	Female	Unmarked
Sep-03	Blue	34062 MF	Female	Unmarked
Sep-03	Green	22012 MS	Male	Unmarked
Sep-04	Blue	4649 MF	Male	Unmarked
Sep-04	Blue	3912 MF	Male	Unmarked
Sep-04	Green	21437 MS	Female	Unmarked
Sep-04	Blue	3941 MF	Female	Unmarked
Sep-04	Green	21761 MS	Female	Unmarked
Sep-04	Green	22045 MS	Male	Unmarked
Sep-05	Green	22564 MS	Female	Unmarked
Sep-05	Green	22447 MS	Female	Unmarked
Sep-05	Blue	3688 MF	Male	Unmarked
Sep-05	Green	blank	Male	Unmarked
Sep-06	Blue	34368 MF	Male	Unmarked
Sep-06	Blue	34312 MF	Male	Unmarked
Sep-07	Green	23239 MS	Female	Unmarked
Sep-07	Green	22553 MS	Female	Adipose

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Sep-07	lost tag	na	Female	Unmarked
Sep-08	Blue	5207 MF	Female	Unmarked
Sep-08	Green	21795 MS	Male	Unmarked
Sep-08	Blue	3616 MF	Female	Unmarked
Sep-08	Blue	4031 MF	Male	Unmarked
Sep-08	Blue	4590 MF	Male	Unmarked
Sep-08	Blue	5686 MF	Female	Unmarked
Sep-08	Blue	4431 MF	Male	Unmarked
Sep-08	Green	22422 MS	Female	Unmarked
Sep-08	Blue	34437 MF	Male	Unmarked
Sep-08	Blue	4651 MF	Male	Unmarked
Sep-09	Green	22199 MS	Male	Unmarked
Sep-09	Green	22963 MS	Male	Unmarked
Sep-09	Green	22723 MS	Female	Unmarked
Sep-09	Green	22064 MS	Male	Unmarked
Sep-09	Blue	3084 MF	Male	Unmarked
Sep-09	Green	22876 MS	Female	Unmarked
Sep-09	Blue	3763 MF	Male	Unmarked
Sep-09	Green	23038 MS	Male	Unmarked
Sep-09	Blue	6077 MF	Female	Unmarked
Sep-09	Green	22490 MS	Male	Unmarked
Sep-09	Green	21866 MS	Male	Unmarked
Sep-09	Green	21209 MS	Male	Unmarked
Sep-09	Blue	4269 MF	Female	Unmarked
Sep-09	Green	22872 MS	Male	Unmarked
Sep-09	Green	22119 MS	Female	Unmarked
Sep-09	Blue	4188 MF	Male	Unmarked
Sep-09	Blue	4809 MF	Male	Adipose
Sep-10	Green	23647 MS	Female	Unmarked
Sep-10	Green	23074 MS	Female	Unmarked
Sep-10	Blue	5677 MF	Female	Unmarked
Sep-10	Blue	4841 MF	Male	Unmarked
Sep-10	Blue	5676 MF	Male	Unmarked
Sep-10	Blue	5759 MF	Female	Unmarked
Sep-10	Green	20633 MS	Male	Unmarked
Sep-10	Green	22571 MS	Female	Unmarked
Sep-10	Green	22158 MS	Male	Unmarked
Sep-10	Green	22149 MS	Female	Unmarked
Sep-10	Green	22843 MS	Male	Unmarked
Sep-10	Blue	34414 MF	Female	Unmarked
Sep-10	Blue	4929 MF	Male	Unmarked
Sep-10	Blue	3888 MF	Male	Unmarked
Sep-11	Green	22782 MS	Female	Unmarked
Sep-11	Blue	34059 MF	Female	Unmarked
Sep-11	Green	22308 MS	Male	Unmarked
Sep-11	Green	21696 MS	Female	Adipose
Sep-11	Green	21325 MS	Male	Unmarked
Sep-11	Green	43250 MS	Male	Unmarked
Sep-11	Green	22699 MS	Female	Unmarked
Sep-11	Blue	4797 MF	Female	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Sep-11	Green	23263 MS	Female	Unmarked
Sep-11	Blue	6149 MF	Female	Unmarked
Sep-11	Blue	3088 MF	Male	Unmarked
Sep-11	Green	23492 MS	Male	Adipose
Sep-11	Green	22419 MS	Male	Unmarked
Sep-12	Green	23411 MS	Female	Adipose
Sep-12	Blue	6311 MF	Female	Unmarked
Sep-12	Blue	6124 MF	Male	Unmarked
Sep-12	Blue	4143 MF	Male	Unmarked
Sep-12	Blue	6246 MF	Female	Unmarked
Sep-12	Blue	5747 MF	Male	Unmarked
Sep-12	Green	43238 MS	Female	Unmarked
Sep-12	Green	22652 MS	Female	Unmarked
Sep-12	Green	21511 MS	Female	Unmarked
Sep-12	Green	22342 MS	Male	Unmarked
Sep-12	Blue	5048 MF	Male	Unmarked
Sep-12	Green	20683 MS	Female	Unmarked
Sep-12	Green	22576 MS	Female	Unmarked
Sep-12	Green	22029 MS	Male	Unmarked
Sep-12	Blue	5307 MF	Male	Unmarked
Sep-12	Blue	4510 MF	Male	Unmarked
Sep-13	Blue	4812 MF	Male	Unmarked
Sep-13	Green	21856 MS	Male	Unmarked
Sep-13	Green	43108 MS	Female	Unmarked
Sep-13	Green	21532 MS	Female	Unmarked
Sep-13	Green	43031 MS	Female	Unmarked
Sep-13	Blue	6066 MF	Male	Unmarked
Sep-13	Blue	3691 MF	Male	Unmarked
Sep-13	Blue	3877 MF	Male	Unmarked
Sep-13	Blue	5732 MF	Female	Unmarked
Sep-13	Green	21903 MS	Male	Unmarked
Sep-13	Blue	34179 MF	Female	Adipose
Sep-13	Blue	4930 MF	Female	Adipose
Sep-14	Green	22169 MS	Male	Unmarked
Sep-14	Green	23327 MS	Male	Unmarked
Sep-14	Green	22034 MS	Female	Unmarked
Sep-14	Green	21496 MS	Female	Unmarked
Sep-14	Blue	5888 MF	Female	Unmarked
Sep-14	Blue	6499 MF	Female	Unmarked
Sep-14	Blue	5657 MF	Male	Unmarked
Sep-14	Green	22577 MS	Male	Adipose
Sep-14	Green	23670 MS	Female	Unmarked
Sep-14	Green	21668 MS	Male	Unmarked
Sep-14	Blue	34195 MF	Female	Unmarked
Sep-14	Blue	6879 MF	Female	Unmarked
Sep-14	Blue	5291 MF	Male	Unmarked
Sep-14	Blue	5561 MF	Female	Unmarked
Sep-14	Green	23465 MS	Male	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Sep-14	Blue	6320 MF	Male	Unmarked
Sep-14	Green	22599 MS	Male	Unmarked
Sep-14	Green	23655 MS	Female	Unmarked
Sep-15	Blue	5750 MF	Female	Unmarked
Sep-15	Blue	5818 MF	Female	Unmarked
Sep-15	Blue	4233 MF	Male	Unmarked
Sep-16	Green	22770 MS	Female	Adipose
Sep-16	Blue	6315 MF	Male	Unmarked
Sep-16	Blue	4836 MF	Male	Unmarked
Sep-16	Blue	4889 MF	Female	Unmarked
Sep-16	Blue	5798 MF	Male	Unmarked
Sep-16	Green	23085 MS	Male	Unmarked
Sep-17	Green	40042 MS	Male	Unmarked
Sep-17	Blue	3972 MF	Male	Unmarked
Sep-17	Blue	5765 MF	Male	Unmarked
Sep-17	Blue	6121 MF	Female	Unmarked
Sep-17	Green	22897 MS	Female	Unmarked
Sep-18	Blue	6309 MF	Male	Unmarked
Sep-18	Blue	4892 MF	Male	Unmarked
Sep-18	Blue	6643 MF	Female	Unmarked
Sep-18	Green	43063 MS	Male	Unmarked
Sep-18	Blue	6906 MF	Female	Unmarked
Sep-18	Green	22789 MS	Female	Unmarked
Sep-18	Blue	31871 MF	Female	Unmarked
Sep-18	Blue	6109 MF	Male	Unmarked
Sep-19	Blue	5573 MF	Female	Unmarked
Sep-19	Blue	4511 MF	Male	Unmarked
Sep-19	Green	21025 MS	Male	Unmarked
Sep-20	Orange	61363 MS	Male	Unmarked
Sep-21	Blue	6338 MF	Male	Unmarked
Sep-21	Blue	32010 MF	Male	Unmarked
Sep-21	Blue	34151 MF	Male	Unmarked
Sep-21	Blue	5795 MF	Female	Unmarked
Sep-22	Green	22848 MS	Male	Adipose
Sep-22	Blue	5451 MF	Female	Unmarked
Sep-22	Blue	6111 MF	Male	Adipose
Sep-22	Blue	6342 MF	Male	Unmarked
Sep-22	Blue	6394 MF	Female	Unmarked
Sep-22	Orange	61527 MS	Male	Unmarked
Sep-23	Blue	4226 MF	Female	Unmarked
Sep-23	Green	43226 MS	Female	Unmarked
Sep-23	Blue	5094 MF	Male	Unmarked
Sep-23	Green	43891 MS	Female	Unmarked
Sep-24	Blue	6232 MF	Female	Unmarked
Sep-24	Blue	4043 MF	Male	Unmarked
Sep-24	Green	43614 MS	Male	Unmarked
Sep-24	Green	23511 MS	Male	Unmarked
Sep-24	Green	23428 MS	Male	Unmarked
Sep-24	Blue	5327 MF	Female	Unmarked
Sep-24	Green	22654 MS	Male	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Sep-24	Green	21825 MS	Male	Unmarked
Sep-24	Green	23138 MS	Male	Unmarked
Sep-25	Blue	32526 MF	Female	Unmarked
Sep-25	Green	23684 MS	Male	Unmarked
Sep-25	Green	21887 MS	Female	Unmarked
Sep-25	Green	43269 MS	Male	Unmarked
Sep-25	Blue	5978 MF	Male	Unmarked
Sep-25	Blue	6225 MF	Female	Unmarked
Sep-25	Blue	31987 MF	Female	Unmarked
Sep-25	Blue	5501 MF	Male	Unmarked
Sep-26	Blue	32175MF	Male	Unmarked
Sep-26	Green	43710 MS	Male	Unmarked
Sep-26	Blue	5349 MF	Female	Unmarked
Sep-26	Green	23851 MS	Male	Unmarked
Sep-26	Green	20332 MS	Male	Unmarked
Sep-26	Green	22146 MS	Female	Unmarked
Sep-26	Blue	5178 MF	Male	Unmarked
Sep-26	Green	21978 MS	Male	Unmarked
Sep-26	Blue	5868 MF	Male	Unmarked
Sep-26	Green	43258 MS	Female	Unmarked
Sep-26	Blue	6325 MF	Female	Adipose
Sep-26	Green	22473 MS	Male	Unmarked
Sep-26	Green	22033 MS	Male	Unmarked
Sep-26	Green	23310 MS	Male	Adipose
Sep-26	Blue	5466 MF	Male	Unmarked
Sep-26	Blue	34017 MF	Male	Unmarked
Sep-26	Green	23108 MS	Male	Unmarked
Sep-26	Blue	5720 MF	Female	Unmarked
Sep-26	Green	22961MS	Female	Unmarked
Sep-26	Blue	31854 MF	Male	Unmarked
Sep-26	Green	22785 MS	Male	Unmarked
Sep-26	Blue	6329 MF	Male	Unmarked
Sep-26	Green	41970 MS	Male	Unmarked
Sep-26	Red	2606 Drake Cr	Male	Unmarked
Sep-26	Green	21994 MS	Female	Unmarked
Sep-26	Blue	32411 MF	Male	Unmarked
Sep-27	Green	23162 MS	Male	Unmarked
Sep-27	Blue	32296 MF	Female	Unmarked
Sep-27	Orange	61706 MS	Male	Unmarked
Sep-27	Green	21988 MS	Female	Unmarked
Sep-27	Blue	33033 MF	Female	Unmarked
Sep-27	Green	22681 MS	Female	Unmarked
Sep-27	Blue	6997 MF	Female	Unmarked
Sep-27	Blue	3597 MF	Male	Unmarked
Sep-27	Green	23024 MS	Male	Unmarked
Sep-27	Blue	4293 MF	Female	Unmarked
Sep-27	Green	43520 MS	Female	Unmarked
Sep-27	Blue	6135 MF	Male	Unmarked
Sep-27	Blue	6840 MF	Female	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Sep-27	Green	23242 MS	Male	Unmarked
Sep-27	Blue	4315 MF	Male	Unmarked
Sep-28	Blue	5387 MF	Male	Unmarked
Sep-28	Yellow	1526 Lachmach	Male	Unmarked
Sep-28	Blue	32213 MF	Male	Unmarked
Sep-28	Green	22718 MS	Male	Unmarked
Sep-28	Blue	32387 MF	Male	Unmarked
Sep-28	Blue	4656 MF	Female	Unmarked
Sep-28	Blue	6408 MF	Male	Unmarked
Sep-29	Green	23522 MS	Male	Unmarked
Sep-29	Yellow	1217 Lachmach	Female	Unmarked
Sep-29	Blue	6955 MF	Female	Unmarked
Sep-29	Green	43720 MS	Female	Unmarked
Sep-29	Green	42374 MS	Female	Adipose
Sep-29	Blue	5622 MF	Female	Adipose
Sep-29	Blue	6137 MF	Female	Unmarked
Sep-29	Green	22659 MS	Male	Unmarked
Sep-29	Blue	31859 MF	Male	Unmarked
Sep-29	Green	23560 MS	Female	Unmarked
Sep-29	Lost DFT	na	Female	Unmarked
Sep-29	Green	43773 MS	Male	Unmarked
Sep-29	Orange	61663 MS	Female	Unmarked
Sep-29	Blue	6366 MF	Male	Adipose
Sep-29	Blue	3500 MF	Female	Adipose
Sep-29	Blue	6156 MF	Female	Unmarked
Sep-29	Lost DFT		Male	Unmarked
Sep-29	Blue	5330 MF	Male	Unmarked
Sep-29	Green	21345 MS	Male	Unmarked
Sep-29	Blue	33242 MF	Female	Unmarked
Sep-29	Green	43535 MS	Female	Unmarked
Sep-29	Green	42951 MS	Female	Unmarked
Sep-29	Blue	3511 MF	Male	Unmarked
Sep-29	Green	44274 MS	Female	Unmarked
Sep-29	Yellow	1406 Lachmach	Male	Unmarked
Sep-29	Blue	33283 MF	Male	Unmarked
Sep-29	Blue	6974 MF	Female	Unmarked
Sep-29	Blue	5472 MF	Male	Unmarked
Sep-29	Blue	32017 MF	Male	Unmarked
Sep-29	Blue	32404 MF	Male	Unmarked
Sep-29	Blue	32331 MF	Male	Unmarked
Sep-29	Green	43382 MS	Female	Adipose
Sep-29	Green	43264 MS	Male	Unmarked
Sep-29	Orange	61521 MS	Female	Unmarked
Sep-29	Yellow	1711 Lachmach	Female	Unmarked
Sep-29	Yellow	1653 Lachmach	Female	Unmarked
Sep-29	Blue	6175 MF	Female	Unmarked
Sep-29	Orange	61752 MS	Female	Unmarked
Sep-29	Green	21708 MS	Female	Unmarked
Sep-29	Green	43702 MS	Female	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Sep-29	Green	44385 MS	Female	Unmarked
Sep-30	Blue	31977 MF	Female	Unmarked
Sep-30	Blue	31867 MF	Male	Unmarked
Sep-30	Orange	61366 MS	Female	Unmarked
Sep-30	Blue	32119 MF	Male	Unmarked
Sep-30	Orange	61794 MS	Female	Unmarked
Sep-30	Green	23624 MS	Male	Unmarked
Sep-30	Blue	34359 MF	Male	Unmarked
Sep-30	Green	23078 MS	Male	Unmarked
Sep-30	Orange	61773 MS	Female	Unmarked
Sep-30	Blue	32938 MF	Female	Unmarked
Sep-30	Blue	32093 MF	Female	Unmarked
Sep-30	Yellow	1278 Lachmach	Male	Unmarked
Sep-30	Blue	6697 MF	Male	Unmarked
Sep-30	Blue	32947 MF	Female	Unmarked
Sep-30	Blue	6514 MF	Male	Unmarked
Sep-30	Green	22716 MS	Male	Unmarked
Sep-30	Green	43689 MS	Male	Unmarked
Sep-30	Green	21999 MS	Male	Unmarked
Sep-30	Orange	61670 MS	Male	Unmarked
Sep-30	Blue	4807 MF	Male	Unmarked
Sep-30	Green	23656 MS	Male	Unmarked
Sep-30	Green	22211 MS	Female	Unmarked
Sep-30	Green	42604 MS	Male	Unmarked
Sep-30	Green	23816 MS	Female	Unmarked
Sep-30	Blue	5442 MF	Male	Unmarked
Sep-30	Green	43688 MS	Male	Unmarked
Sep-30	Blue	34191 MS	Male	Unmarked
Sep-30	Green	44335 MS	Female	Unmarked
Sep-30	Green	44221 MS	Male	Unmarked
Sep-30	Green	42913 MS	Female	Unmarked
Sep-30	Blue	32032 MF	Female	Unmarked
Oct-01	Blue	32104 MF	Male	Unmarked
Oct-01	Green	42860 MS	Male	Unmarked
Oct-01	Blue	32462 MF	Female	Unmarked
Oct-01	Orange	61770 MS	Female	Unmarked
Oct-01	Blue	5699 MF	Male	Unmarked
Oct-01	Blue	4425 MF	Male	Unmarked
Oct-01	Green	42555 MS	Male	Unmarked
Oct-01	Orange	61638 MS	Male	Unmarked
Oct-01	Blue	5504 MF	Male	Unmarked
Oct-01	Blue	6810 MF	Male	Adipose
Oct-01	Blue	33568 MF	Male	Unmarked
Oct-01	Lost DFT		Male	Unmarked
Oct-01	Green	23906 MS	Male	Unmarked
Oct-01	Green	44127 MS	Female	Unmarked
Oct-01	Green	43922 MS	Female	Unmarked
Oct-01	Blue	5433 MF	Female	Unmarked
Oct-01	Blue	33414 MF	Male	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Oct-01	Orange	2644 Drake Cr	Male	Unmarked
Oct-01	Green	42339 MS	Female	Adipose
Oct-01	Blue	4677 MF	Male	Unmarked
Oct-01	Green	43257 MS	Female	Unmarked
Oct-01	Green	21845 MS	Male	Unmarked
Oct-02	Green	23584 MS	Male	Unmarked
Oct-02	Green	22868 MS	Male	Unmarked
Oct-04	Yellow	1395 Lachmach	Female	Unmarked
Oct-04	Orange	61583 MS	Female	Unmarked
Oct-04	Green	43984 MS	Male	Unmarked
Oct-04	Orange	61671 MS	Male	Unmarked
Oct-04	Green	43044 MS	Female	Unmarked
Oct-04	Green	44040 MS	Female	Unmarked
Oct-04	Green	43881 MS	Male	Unmarked
Oct-04	Blue	32459 MF	Female	Unmarked
Oct-04	Green	23697 MS	Male	Unmarked
Oct-04	Green	44116 MS	Female	Unmarked
Oct-04	Green	1359 Drake Cr	Female	Adipose
Oct-04	Green	43446 MS	Female	Adipose
Oct-04	Green	43652 MS	Female	Unmarked
Oct-04	Blue	32849 MF	Female	Unmarked
Oct-04	Green	21618 MS	Male	Adipose
Oct-04	Green	42849 MS	Female	Unmarked
Oct-04	Orange	61586 MS	Female	Adipose
Oct-04	Blue	33519 MF	Female	Adipose
Oct-04	Orange	61408 MS	Male	Adipose
Oct-04	Blue	5418 MF	Male	Unmarked
Oct-04	Blue	3205 MF	Female	Unmarked
Oct-04	Blue	5142 MF	Male	Adipose
Oct-04	Green	42795 MS	Female	Unmarked
Oct-04	Green	1378 Drake Cr	Female	Unmarked
Oct-04	Green	43670 MS	Male	Unmarked
Oct-04	Green	41994 MS	Male	Unmarked
Oct-04	Blue	5894 MF	Male	Unmarked
Oct-05	Blue	33024 MF	Male	Unmarked
Oct-05	Green	22700 MS	Male	Unmarked
Oct-05	Green	23220 MS	Female	Unmarked
Oct-05	Orange	61418 MS	Male	Unmarked
Oct-05	Blue	6919 MF	Male	Unmarked
Oct-05	Yellow	1634 Lachmach	Female	Adipose
Oct-05	Green	42955 MS	Female	Unmarked
Oct-05	Blue	4573 MF	Male	Unmarked
Oct-05	Yellow	1814 Lachmach	Male	Unmarked
Oct-05	Blue	33179 MF	Male	Unmarked
Oct-05	Green	23073 MS	Female	Unmarked
Oct-05	Blue	33208 MF	Female	Adipose
Oct-05	Green	22774 MS	Male	Unmarked
Oct-05	Green	43496 MS	Female	Unmarked
Oct-05	Green	43566 MS	Male	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type
Oct-05	Blue	5726 MF	Female	Unmarked
Oct-05	Green	44078 MS	Male	Unmarked
Oct-05	Green	43979 MS	Male	Adipose
Oct-05	Yellow	1906 Lachmach	Female	Unmarked
Oct-05	Green	22430 MS	Male	Adipose
Oct-05	Yellow	1231 Lachmach	Male	Unmarked
Oct-05	Blue	34346 MF	Female	Adipose
Oct-05	Yellow	1924 Lachmach	Male	Unmarked
Oct-05	Green	44195 MS	Female	Unmarked
Oct-05	Green	1402 Drake Cr	Female	Unmarked
Oct-05	Yellow	1509 Lachmach	Female	Unmarked
Oct-05	Green	23818 MS	Male	Unmarked
Oct-05	Blue	32142 MF	Female	Unmarked
Oct-05	Yellow	1637 Lachmach	Female	Unmarked
Oct-05	Blue	5571 MF	Male	Unmarked
Oct-05	Green	42310 MS	Female	Unmarked
Oct-05	Blue	33191 MF	Male	Unmarked
Oct-05	Yellow	1492 Lachmach	Male	Unmarked
Oct-05	Blue	5397 MF	Female	Unmarked
Oct-05	Blue	33633 MF	Male	Unmarked
Oct-05	Blue	33530 MF	Male	Unmarked
Oct-05	Green	22155 MS	Female	Adipose
Oct-05	Blue	6313 MF	Female	Adipose
Oct-05	Blue	5028 MF	Male	Unmarked
Oct-05	Green	44029 MS	Female	Unmarked
Oct-05	Blue	34070 MF	Male	Unmarked
Oct-05	Blue	32522 MF	Female	Adipose
Oct-05	Blue	5969 MF	Female	Unmarked
Oct-05	Pink	1754 Drake Cr	Female	Unmarked
Oct-05	Green	41964 MS	Female	Unmarked
Oct-06	Blue	34134 MF	Female	Unmarked
Oct-06	Blue	33090 MF	Female	Unmarked
Oct-06	Green	44263 MS	Female	Unmarked
Oct-06	Yellow	1172 Lachmach	Male	Adipose
Oct-06	Green	23127 MS	Male	Adipose
Oct-06	Green	43699 MS	Female	Unmarked
Oct-06	Green	42245 MS	Female	Adipose
Oct-06	Green	42579 MS	Male	Adipose
Oct-06	Blue	32376 MF	Male	Adipose
Oct-06	Green	43858 MS	Male	Adipose
Oct-06	Blue	4764 MF	Male	Unmarked
Oct-06	Blue	32651 MF	Male	Unmarked
Oct-06	Blue	4360 MF	Male	Unmarked
Oct-06	Lost DFT	na	Male	Unmarked
Oct-06	Green	44276 MS	Female	Unmarked
Oct-06	Green	42828 MS	Male	Adipose
Oct-06	Green	43913 MS	Male	Unmarked
Oct-06	Green	43365 MS	Male	Unmarked
Oct-06	Green	23457 MS	Female	Unmarked

Upper Bulkley River Coho Assessment Fence : 2005

Date	DFT Color	DFT Number	Sex	Mark Type	
Oct-06	Green	42291 MS	Female	Unmarked	
Oct-06	Green	44171 MS	Male	Unmarked	
Oct-06	Lost DFT	na	Male	Unmarked	
Oct-07	Orange	61416 MS	Male	Unmarked	
Oct-07	Yellow	1488 Lachmach	Female	Unmarked	
Oct-07	Green	22910 MS	Female	Unmarked	
Oct-07	Blue	33495 MF	Female	Unmarked	
Oct-07	Blue	5056 MF	Male	Unmarked	
Oct-07	Orange	61313 MS	Female	Adipose	
Oct-07	Green	41993 MS	Female	Unmarked	
Oct-07	Green	21768 MS	Male	Unmarked	
Oct-08	Green	42449 MS	Female	Unmarked	
Oct-08	Green	23077 MS	Male	Adipose	
Oct-08	Green	23361 MS	Female	Unmarked	
Oct-09	Blue	33766 MF	Female	Unmarked	
Oct-09	Blue	33435 MF	Male	Adipose	
Oct-09	Green	22572 MS	Female	Adipose	
Oct-09	Blue	5233 MF	Male	Adipose	
Oct-09	Green	43400 MS	Male	Unmarked	
Oct-09	Blue	34335 MF	Male	Unmarked	
Oct-09	Green	Lost DFT	Female	Unmarked	
Oct-09	Blue	32326 MF	Male	Unmarked	
Oct-09	Green	21987 MS	Male	Adipose	
Oct-10	Blue	33243 MF	Female	Unmarked	
Oct-10	Green	43086 MS	Male	Unmarked	
Oct-10	Green	42872 MS	Female	Adipose	
Oct-10	Red	Lost DFT	Female	Unmarked	Just a piece of the tag left
Oct-11	Green	42824 MS	Male	Adipose	
Oct-11	Blue	33017 MF	Female	Unmarked	
Oct-14	Yellow	1314 Lachmach	Female	Unmarked	

Dorsal Fin Tag Summary

Color	No. of Tags Recovered
Blue	216
Green	207
Orange	20
Pink	1
Red	2
Yellow	18
Lost	6
Total	**470**

Upper Bulkley River Coho Assessment Fence : 2005

UBR Coho Cumulative Capture

Date	Daily Ttl	Cum Ttl	Cum Prop'n
Aug-18	0	0	0.000
Aug-19	0	0	0.000
Aug-20	2	2	0.001
Aug-21	1	3	0.001
Aug-22	0	3	0.001
Aug-23	0	3	0.001
Aug-24	11	14	0.006
Aug-25	20	34	0.014
Aug-26	8	42	0.017
Aug-27	6	48	0.019
Aug-28	30	78	0.031
Aug-29	36	114	0.045
Aug-30	26	140	0.056
Aug-31	57	197	0.079
Sep-01	21	218	0.087
Sep-02	18	236	0.094
Sep-03	18	254	0.101
Sep-04	18	272	0.108
Sep-05	18	290	0.116
Sep-06	13	303	0.121
Sep-07	12	315	0.126
Sep-08	50	365	0.146
Sep-09	93	458	0.183
Sep-10	68	526	0.210
Sep-11	78	604	0.241
Sep-12	79	683	0.272
Sep-13	77	760	0.303
Sep-14	98	858	0.342
Sep-15	26	884	0.352
Sep-16	55	939	0.374
Sep-17	38	977	0.390
Sep-18	25	1002	0.400
Sep-19	28	1030	0.411
Sep-20	23	1053	0.420
Sep-21	14	1067	0.425
Sep-22	53	1120	0.447
Sep-23	34	1154	0.460
Sep-24	33	1187	0.473
Sep-25	38	1225	0.488
Sep-26	109	1334	0.532
Sep-27	83	1417	0.565
Sep-28	83	1500	0.598
Sep-29	263	1763	0.703
Sep-30	156	1919	0.765
Oct-01	70	1989	0.793
Oct-02	9	1998	0.797
Oct-03	2	2000	0.797

Oct-04	107	2107	0.840
Oct-05	198	2305	0.919
Oct-06	92	2397	0.956
Oct-07	33	2430	0.969
Oct-08	15	2445	0.975
Oct-09	26	2471	0.985
Oct-10	10	2481	0.989
Oct-11	15	2496	0.995
Oct-12	0	2496	0.995
Oct-13	1	2497	0.996
Oct-14	1	2498	0.996
Oct-15	4	2502	0.998
Oct-16	0	2502	0.998
Oct-17	4	2506	0.999
Oct-18	0	2506	0.999
Oct-19	2	2508	1.000
Total		**2508**	

Upper Bulkley River Coho Assessment Fence : 2005

Other Species Captured

	Sockeye		Chinook				Steelhead		Pinks	
Date	Males	Females	Ad Males	Ad Fem	Unmark Male	Unmark Fem	Male	Fem	Male	Fem
Aug-18	0	1	0	0	1	1	0	0	0	1
Aug-19	0	0	0	0	4	1	0	0	1	0
Aug-20	0	1	0	0	7	7	0	0	0	2
Aug-21	0	3	0	1	2	2	0	0	0	0
Aug-22	0	0	0	1	3	9	0	0	1	3
Aug-23	1	0	0	0	2	4	0	0	0	0
Aug-24	1	0	0	0	3	2	0	0	1	1
Aug-25	0	2	0	0	3	5	0	0	0	0
Aug-26	0	0	0	0	0	2	0	0	2	0
Aug-27	0	0	0	0	5	2	0	0	3	1
Aug-28	2	0	0	0	1	3	1	0	1	0
Aug-29	2	2	0	0	0	0	1	0	2	1
Aug-30	1	1	0	0	2	1	0	0	0	0
Aug-31	2	2	0	0	0	1	0	0	0	0
Sep-01	0	3	0	0	0	0	0	0	0	0
Sep-02	4	2	0	0	0	0	0	0	0	0
Sep-03	3	2	0	0	0	0	0	0	0	0
Sep-04	6	7	0	0	1	0	0	0	0	0
Sep-05	4	5	0	0	1	0	0	0	0	0
Sep-06	1	0	0	0	0	0	0	0	0	0
Sep-07	0	1	0	0	0	0	0	0	0	1
Sep-08	1	6	0	0	0	0	0	0	1	0
Sep-09	4	3	0	0	0	0	0	0	0	0
Sep-10	0	4	0	0	1	0	0	0	0	0
Sep-11	2	4	0	0	0	0	0	0	0	0
Sep-12	2	3	0	0	1	0	0	0	0	0
Sep-13	2	3	0	0	0	0	0	0	0	0
Sep-14	2	1	0	0	0	0	0	0	0	0
Sep-15	2	0	0	0	0	0	0	0	0	0
Sep-16	1	0	0	0	0	0	0	0	0	0
Sep-17	4	0	0	0	0	0	0	0	0	0

	Sockeye		Chinook				Steelhead		Pinks	
Date	Males	Females	Ad Males	Ad Fem	Unmark Male	Unmark Fem	Male	Fem	Male	Fem
Sep-18	0	0	0	0	0	0	0	0	0	0
Sep-19	0	0	0	0	0	0	0	0	0	0
Sep-20	0	0	0	0	0	0	0	0	0	0
Sep-21	0	0	0	0	0	0	0	0	0	0
Sep-22	1	0	0	0	0	0	0	0	0	0
Sep-23	0	0	0	0	0	0	0	0	0	0
Sep-24	0	0	0	0	0	0	0	0	0	0
Sep-25	0	0	0	0	0	0	0	0	0	0
Sep-26	0	0	0	0	0	0	0	0	0	0
Sep-27	1	1	0	0	0	0	0	0	0	0
Sep-28	0	0	0	0	0	0	0	0	0	0
Sep-29	0	3	0	0	0	0	0	0	0	0
Sep-30	5	1	0	0	0	0	0	0	0	0
Oct-01	5	4	0	0	0	0	0	0	0	0
Oct-02	0	1	0	0	0	0	0	0	0	0
Oct-03	4	0	0	0	0	0	0	0	0	0
Oct-04	0	0	0	0	0	0	0	0	0	0
Oct-05	1	1	0	0	0	0	0	0	0	0
Oct-06	1	0	0	0	0	0	0	0	0	0
Oct-07	1	2	0	0	0	0	0	0	0	0
Oct-08	1	0	0	0	0	0	0	0	0	0
Oct-09	0	0	0	0	0	0	0	0	0	0
Oct-10	0	0	0	0	0	0	0	0	0	0
Oct-11	0	0	0	0	0	0	0	1	0	0
Oct-12	0	0	0	0	0	0	0	0	0	0
Oct-13	0	0	0	0	0	0	0	3	0	0
Oct-14	0	0	0	0	0	0	0	0	0	0
Oct-15	0	0	0	0	0	0	0	0	0	0
Oct-16	0	0	0	0	0	0	0	0	0	0
Oct-17	1	0	0	0	0	0	0	0	0	0
Oct-18	0	0	0	0	0	0	0	0	0	0
Oct-19	0	1	0	0	0	0	0	0	0	0

Totals	68	70	0	2	37	40	2	4	12	10

Upper Bulkley River Fence : 2005

Sockeye Capture and Sampling Records

Date	Sex	DFT Color	DFT Number	DNA Sample #	Scale Bk Number	Scale Squares	Comments
Aug-18	Male	Orange	61121 MS	None	None	None	
Aug-20	Female	Orange	61107 MS	None	None	None	
Aug-21	Female	None	na	none	45808	1 - 10	
Aug-21	Female	Orange	61139 MS	#1	45808	11 - 20	
Aug-21	Female	Yellow	90229 MF	#2	45808	21 - 30	
Aug-23	Female	none	na	#3	45808	31 - 40	
Aug-24	Male	none	na	#4	45808	41 - 50	
Aug-25	Female	none	na	#5	45809	1 - 10	
Aug-25	Female	Lost tag	na	#6	45809	11 - 20	
Aug-26	na	Orange	61113 MS				Dead on u/s of fence
Aug-28	Male	none	na	#7	45809	21 - 30	
Aug-28	Male	Yellow	90272 MF	#8	45809	31 - 40	
Aug-29	Female	none	na	#9	45809	41 - 50	
Aug-29	Male	Blue	4563 MF	#10	45810	1 -10	
Aug-29	Female	none	na	#11	45810	11 - 20	
Aug-29	Male	none	na	#12	45810	21 - 30	
Aug-30	Female	none	na	#13	45810	31 - 40	
Aug-30	Male	none	na	#14	45810	41 - 50	
Aug-31	Female	none	na	#15	45811	1 - 10	
Aug-31	Male	none	na	#17	45811	11 - 20	
Aug-31	Female	none	na	#18	45811	21 - 30	
Aug-31	Male	none	na	#19	45811	31 - 40	
Sep-01	Female	none	na	#20	45811	41 - 50	
Sep-01	Female	Blue	4547 MF	#21	45812	1 - 10	
Sep-02	Male	none	na	#22	45812	11 -20	
Sep-02	Male	none	na	#23	45812	21 - 30	
Sep-02	Male	none	na	#24	45812	31 - 40	
Sep-02	Male	none	na	#25	45812	41 - 50	
Sep-03	Male	none	na	#16	45834	1 - 10	DNA sampling complete

Date	Sex	DFT Color	DFT Number	DNA Sample #	Scale Bk Number	Scale Squares	Comments
Sep-03	Male	none	na	na	45834	11 - 20	
Sep-03	Male	none	na	na	45834	21 - 30	
Sep-04	Male	none	na	na	45834	31 - 40	
Sep-04	Female	none	na	na	45834	41- 50	
Sep-04	Male	none	na	na	45833	1 - 10	
Sep-04	Female	none	na	na	45833	11 - 20	
Sep-04	Female	none	na	na	45833	21 - 30	
Sep-05	Male	none	na	na	45833	31 - 40	
Sep-05	Male	none	na	na	45833	41 - 50	
Sep-05	Female	Orange	61163 MS	na	na	na	
Sep-07	Female	Yellow	90427 MF	na	45813	1 - 10	
Sep-08	Female	none	na	na	45813	11 - 20	
Sep-08	Male	none	na	na	45813	21 - 30	
Sep-09	Female	none	na	na	45813	31 - 40	
Sep-09	Female	none	na	na	45813	41 - 50	
Sep-10	Female	Yellow	90439 MF	na	na	na	
Sep-10	Female	none	na	na	45814	1 - 10	
Sep-10	Female	none	na	na	45814	11 - 20	
Sep-11	Female	none	na	na	45814	21 - 30	
Sep-12	Male	None	na	na	45814	31 - 40	
Sep-13	Male	none	na	na	45814	41 - 50	
Sep-13	Male	none	na	na	45850	1 - 10	
Sep-14	Female	None	na	na	45850	11 - 20	
Sep-15	Male	None	na	na	45850	21 - 30	
Sep-16	Male	check	90414 MF	na	na	na	
Sep-18	Male	none	na	na	45850	31 - 40	
Sep-18	Male	None	na	na	45850	41 - 50	

Upper Bulkley River Coho Assessment Fence : 2005

Water Level and Temperature Records

Date	° F Water T	Cms W. Level
Aug-18	na	41
Aug-19	na	38
Aug-20	na	39
Aug-21	na	39
Aug-22	na	39
Aug-23	na	39
Aug-24	na	38.5
Aug-25	na	37
Aug-26	na	37
Aug-27	na	36
Aug-28	na	47
Aug-29	na	47
Aug-30	na	50
Aug-31	na	48
Sep-01	na	47
Sep-02	na	49
Sep-03	na	47
Sep-04	na	47
Sep-05	na	47
Sep-06	na	44
Sep-07	50	40
Sep-08	50	37
Sep-09	50	36
Sep-10	50	36
Sep-11	45	37
Sep-12	51	35
Sep-13	52	33
Sep-14	50	34
Sep-15	48	33
Sep-16	46	33
Sep-17	45	33
Sep-18	47	32
Sep-19	43	32
Sep-20	43	32
Sep-21	40	32
Sep-22	41	32
Sep-23	41	32
Sep-24	41	31
Sep-25	44	32
Sep-26	45	34
Sep-27	40	35
Sep-28	45	36
Sep-29	41	40
Sep-30	41	41
Oct-01	39	43
Oct-02	38	42
Oct-03	40	41

Date	° F Water T	Cms W. Level
Oct-04	41	41
Oct-05	42	42
Oct-06	42	43
Oct-07	41	46
Oct-08	41	46
Oct-09	40	48
Oct-10	40	50
Oct-11	39	60
Oct-12	39	62
Oct-13	38	63
Oct-14	37	62
Oct-15	38	61
Oct-16	38	60
Oct-17	39	61
Oct-18	37	62
Oct-19	37	63

UPPER BULKLEY RIVER FENCE : 2005

CWT HEAD RECOVERY RECORD SHEET

Date	Sex	Mark Type	E-Tag Number	Tag Code	Release Stage	Brood Year
Aug-29	Male	Ad	455654E	no pin		
Aug-30	Female	Ad	455655E	8/11/14	fry	2002
Aug-31	Female	Ad	455656E	8/03/39	smolt	2002
Sep-02	Female	Ad	455657E	no pin		
Sep-04	Female	Ad	004200E	8/03/32	smolt	2002
Sep-05	Female	Ad	455658E	8/03/32	smolt	2002
Sep-08	Male	Ad	455659E	8/03/39	smolt	2002
Sep-08	Male	Ad	455660E	8/03/39	smolt	2002
Sep-09	Male	Ad	455661E	18/34/04		
Sep-10	Male	Ad	455662E	8/03/32	smolt	2002
Sep-10	Female	Ad	455663E	8/03/32	smolt	2002
Sep-11	Male	Ad	455664E	8/03/32	smolt	2002
Sep-11	Male	Ad	455665E	8/03/38	smolt	2002
Sep-12	Male	Ad	455666E	8/03/31	smolt	2002
Sep-13	Female	Ad	455667E	8/11/14	fry	2002
Sep-13	Male	Ad	455668E	8/03/32	smolt	2002
Sep-14	Female	Ad	455669E	8/03/31	smolt	2002
Sep-14	Male	Ad	455670E	8/03/39	smolt	2002
Sep-14	Male	Ad	455671E	8/03/32	smolt	2002
Sep-15	Female	Ad	455672E	8/03/31	smolt	2002
Sep-16	Male	Ad	455673E	8/03/39	smolt	2002
Sep-16	Male	Ad	455674E	8/03/39	smolt	2002
Sep-17	Male	Ad	455675E	8/03/39	smolt	2002
Sep-18	Male	Ad	455676E	8/03/31	smolt	2002
Sep-19	Male	Ad	455677E	8/03/38	smolt	2002
Sep-22	Male	Ad	455678E	8/03/32	smolt	2002
Sep-22	Female	Ad	455679E	8/11/14	fry	2002
Sep-23	Female	Ad	455680E	8/03/39	smolt	2002
Sep-24	Female	Ad	455681E	8/03/32	smolt	2002
Sep-24	na	Ad	455682E	8/03/38	smolt	2002
Sep-26	Female	Ad	455683E	8/03/39	smolt	2002
Sep-26	Female	Ad	455684E	8/03/32	smolt	2002
Sep-27	Male	Ad	455685E	8/03/39	smolt	2002
Sep-27	Female	Ad	455686E	8/11/14	fry	2002
Sep-28	Male	Ad	455687E	8/03/32	smolt	2002
Sep-28	Male	Ad	455688E	8/03/32	smolt	2002
Sep-28	Female	Ad	455689E	8/03/39	smolt	2002
Sep-28	Male	Ad	455690E	8/03/32	smolt	2002
Sep-29	Male	Ad	455691E	8/11/14	fry	2002
Sep-29	Female	Ad	455692E	18/53/08	fry	2001
Sep-29	Female	Ad	455693E	no pin		
Sep-29	Male	Ad	455694E	8/03/32	smolt	2002
Sep-29	Female	Ad	455695E	no pin		
Sep-30	Female	Ad	455696E	8/03/32	smolt	2002
Sep-30	Female	Ad	455697E	8/03/38	smolt	2002
Sep-30	Female	Ad	004781E	no pin		

Sep-30	Male	Ad	004782E	8/03/32	smolt	2002
Oct-04	Female	Ad	004783E	8/03/32	smolt	2002
Oct-04	Male	Ad	004784E	8/03/32	smolt	2002
Oct-04	Male	Ad	004785E	8/03/38	smolt	2002
Oct-04	Male	Ad	004786E	8/03/39	smolt	2002
Oct-04	Male	Ad	004787E	8/03/32	smolt	2002
Oct-04	Male	Ad	004788E	8/11/14	fry	2002
Oct-04	Male	Ad	004789E	8/03/31	smolt	2002
Oct-04	Male	Ad	004790E	8/03/39	smolt	2002
Oct-04	Female	Ad	004791E	8/03/32	smolt	2002
Oct-04	Female	Ad	004792E	8/03/31	smolt	2002
Oct-04	Female	Ad	004793E	8/03/31	smolt	2002
Oct-05	Female	Ad	004794E	8/03/32	smolt	2002
Oct-05	Female	Ad	004795E	8/11/14	fry	2002
Oct-05	Female	Ad	004796E	8/03/31	smolt	2002
Oct-05	Male	Ad	004797E	8/03/32	smolt	2002
Oct-05	Male	Ad	004798E	8/03/31	smolt	2002
Oct-05	Female	Ad	004001E	8/03/32	smolt	2002
Oct-05	Female	Ad	004002E	8/03/32	smolt	2002
Oct-05	Male	Ad	004003E	8/03/32	smolt	2002
Oct-05	Female	Ad	004004E	8/03/32	smolt	2002
Oct-05	Male	Ad	004005E	8/03/32	smolt	2002
Oct-05	Female	Ad	004006E	8/03/32	smolt	2002
Oct-05	Female	Ad	004007E	8/03/32	smolt	2002
Oct-06	Male	Ad	004799E	08/11/14	fry	2002
Oct-06	Male	Ad	004800E	08/03/38	smolt	2002
Oct-06	Male	Ad	004008E	08/11/14	fry	2002
Oct-06	Male	Ad	004009E	08/11/14	fry	2002
Oct-06	Female	Ad	004010E	08/03/38	smolt	2002
Oct-06	Male	Ad	004011E	08/03/32	smolt	2002
Oct-06	Male	Ad	004012E	08/03/32	smolt	2002
Oct-07	Male	Ad	004013E	08/03/39	smolt	2002
Oct-08	Male	Ad	004014E	08/03/39	smolt	2002
Oct-09	Male	Ad	004015E	08/03/32	smolt	2002
Oct-09	Female	Ad	004016E	08/03/31	smolt	2002
Oct-15	Female	Ad	004017E	08/03/32	smolt	2002

Tag Code	No Tags	Rel Stage	Brood Year	Prop'n	Expand No	No Rel
no pins	5			0.06	28	
18/34/04	1			0.01	6	unknown
8/53/08	1	fry	2001	0.01	6	42718
8/03/31	10	smolt	2002	0.12	55	11084
8/03/32	33	smolt	2002	0.40	182	11285
8/03/38	7	smolt	2002	0.09	39	5157
8/03/39	15	smolt	2002	0.18	83	5010
8/11/14	10	fry	2002	0.12	55	11156

Total No. Tags **82**
Total No. Ad **452**

Note : 18/34/04 was a Robertson Creek coho

UPPER BULKLEY RIVER FENCE : 2005

Coho Scale Sampling Records

Date	Sex	Scale Book and Number	Gilbert-Rich Age
Aug-24	Male	45826 1 - 10	32
Aug-24	Male	45826 11 - 20	32
Aug-25	Female	45826 21 - 30	32
Aug-26	Female	45826 31- 40	32
Aug-27	Male	45826 41 - 50	32
Aug-27	Female	45827 1 - 10	32
Aug-28	Female	45827 11 - 20	32
Aug-28	Male	45827 21 - 30	32
Aug-28	Male	45827 31 - 40	32
Aug-29	Female	45827 41 - 50	1M
Aug-29	Male	45831 1 - 10	32
Aug-29	Female	45831 11 - 20	32
Aug-29	Male	45831 21 - 30	32
Aug-30	Female	45831 31 - 40	32
Aug-30	Female	45831 41 - 50	32
Aug-30	Male	45828 1 - 10	32
Aug-31	Female	45828 11 - 20	32
Aug-31	Female	45828 21 - 30	32
Aug-31	Female	45828 31 - 40	32
Aug-31	Female	45828 41 - 50	32
Sep-01	Male	45829 1 - 10	32
Sep-02	Female	45829 11 - 20	32
Sep-03	Female	45829 21 - 30	32
Sep-03	Male	45829 31- 40	32
Sep-04	Female	45829 41- 50	32
Sep-05	Female	45830 1 - 10	32
Sep-05	Male	45830 11 - 20	32
Sep-06	Female	45830 21 - 30	32
Sep-07	Male	45830 31 - 40	32
Sep-08	Female	45830 41 - 50	32
Sep-08	Female	45832 1 - 10	32
Sep-08	Male	45832 11 - 20	32
Sep-08	Male	45832 21 - 30	43
Sep-08	Male	45832 31 - 40	32
Sep-08	Male	45832 41 - 50	32
Sep-08	Male	45835 1 - 10	32
Sep-09	Female	45835 11 - 20	32
Sep-09	Male	45835 21 - 30	32
Sep-09	Female	45835 31 - 40	32
Sep-09	Female	45835 41 - 50	32
Sep-09	Male	45836 1 - 10	32
Sep-10	Male	45836 11 - 20	1M
Sep-10	Male	45836 21 - 30	32
Sep-10	Female	45836 31 - 40	32
Sep-10	Female	45836 41 - 50	32
Sep-10	Female	45837 1 - 10	32
Sep-10	Female	45837 11 - 20	32

Date	Sex	Scale Book and Number	Gilbert-Rich Age
Sep-11	Male	45837 21 - 30	32
Sep-11	Female	45837 31 - 40	32
Sep-11	Male	45837 41 - 50	32
Sep-11	Female	45838 1 - 10	32
Sep-11	Male	45838 11 - 20	32
Sep-11	Female	45838 21 - 30	32
Sep-12	Male	45838 31 - 40	32
Sep-12	Male	45838 41 - 50	32
Sep-12	Male	45839 1 - 10	32
Sep-12	Male	45839 11 - 20	32
Sep-12	Female	45839 21 - 30	32
Sep-12	Female	45839 31 - 40	32
Sep-13	Female	45839 41 - 50	32
Sep-13	Female	45842 1 - 10	32
Sep-13	Female	45842 11 - 20	32
Sep-13	Female	45842 21 - 30	32
Sep-13	Female	45842 31 - 40	32
Sep-13	Male	45842 41 - 50	32
Sep-14	Female	45841 1 - 10	32
Sep-14	Male	45841 11 - 20	32
Sep-14	Female	45841 21 - 30	32
Sep-14	Male	45841 31 - 40	32
Sep-14	Male	45841 41 - 50	32
Sep-14	Male	45840 1 - 10	32
Sep-14	Female	45840 11 - 20	32
Sep-14	Male	45840 21 - 30	32
Sep-15	Male	45840 31 - 40	32
Sep-15	Female	45840 41 - 50	32
Sep-16	Female	45843 1 - 10	32
Sep-16	Male	45843 11 - 20	32
Sep-16	Female	45843 21 - 30	32
Sep-16	Male	45843 31 - 40	32
Sep-16	Female	45843 41 - 50	32
Sep-17	Female	45845 1 - 10	1M
Sep-17	Female	45845 11 - 20	32
Sep-17	Female	45845 21 - 30	32
Sep-18	Male	45845 31 - 40	32
Sep-18	Female	45845 41 - 50	32
Sep-19	Female	45844 1 - 10	32
Sep-19	Female	45844 11 - 20	32
Sep-19	Female	45844 21 - 30	32
Sep-20	Female	45844 31 - 40	32
Sep-20	Male	45844 41 - 50	32
Sep-21	Male	45846 1 - 10	32
Sep-21	Female	45846 11 - 20	32
Sep-22	Female	45846 21 - 30	32
Sep-22	Male	45846 31 - 40	32
Sep-22	Male	45846 41 - 50	32
Sep-22	Female	45847 1 - 10	32

Date	Sex	Scale Book and Number	Gilbert-Rich Age
Sep-23	Female	45847 11 - 20	32
Sep-23	Female	45847 21 - 30	32
Sep-24	Female	45847 31 - 40	32
Sep-24	Female	45847 41 - 50	32
Sep-24	Male	45848 1 - 10	1M
Sep-24	Male	45848 11 - 20	32
Sep-25	Female	45848 21 - 30	32
Sep-25	Female	45848 31 - 40	32
Sep-25	Female	45848 41 - 50	32
Sep-25	Female	45776 1 - 10	1M
Sep-25	Male	45776 11 - 20	32
Sep-26	Female	45776 21 - 30	32
Sep-26	Female	45776 31 - 40	32
Sep-26	Female	45776 41 - 50	43
Sep-26	Male	45777 1 - 10	1M
Sep-26	Male	45777 11 - 20	32
Sep-26	Female	45777 21 - 30	32
Sep-26	Male	45777 31 - 40	32
Sep-26	Female	45777 41 - 50	32
Sep-26	Male	45778 1 - 10	32
Sep-26	Male	45778 11 - 20	32
Sep-27	Female	45778 21 - 30	32
Sep-27	Female	45778 31 - 40	32
Sep-27	Female	45778 41 - 50	32
Sep-27	Female	45779 1 - 10	43
Sep-27	Female	45779 11 - 20	32
Sep-27	Female	45779 21 - 30	32
Sep-27	Female	45779 31 - 40	32
Sep-28	Female	45779 41 - 50	32
Sep-28	Female	45780 1 - 10	32
Sep-28	Male	45780 11 - 20	43
Sep-28	Female	45780 21 - 30	32
Sep-28	Female	45780 31 - 40	32
Sep-28	Male	45780 41 - 50	32
Sep-29	Male	45781 1 - 10	32
Sep-29	Female	45781 11 - 20	32
Sep-29	Female	45781 21 - 30	32
Sep-29	Male	45781 31 - 40	32
Sep-29	Male	45781 41 - 50	32
Sep-30	Female	45782 1 - 10	32
Sep-30	Female	45782 11 - 20	32
Sep-30	Male	45782 21 - 30	32
Sep-30	Male	45782 31 - 40	32
Sep-30	Male	45782 41 - 50	32
Sep-30	Female	45783 1 - 10	32
Sep-30	Male	45783 11 - 20	43
Sep-30	Male	45783 21 - 30	32
Sep-30	Male	45783 31 - 40	32
Sep-30	Female	45783 41 - 50	32

Date	Sex	Scale Book and Number	Gilbert-Rich Age
Sep-30	Female	45784 1 - 10	32
Oct-01	Male	45784 11 - 20	32
Oct-01	Male	45784 21 - 30	32
Oct-01	Female	45784 31 - 40	32
Oct-02	Male	45784 41 - 50	32
Oct-02	Male	45785 1 - 10	32
Oct-02	Female	45785 11 - 20	32
Oct-02	Female	45785 21 - 30	32
Oct-02	Male	45785 31 - 40	32
Oct-02	Male	45785 41 - 50	32
Oct-02	Male	45786 1 - 10	32
Oct-02	Male	45786 11 - 20	32
Oct-04	Male	45786 21 - 30	32
Oct-04	Female	45786 31 - 40	32
Oct-04	Male	45786 41 - 50	32

Upper Bulkley River Fence : Expanded CWT Recoveries for 1998 - 2002 Brood Years

Brood Year	Tag Code	Stage at Release	Expanded No. at Fence	No. Released	Est. Survival to Escapement
1998	18/34/30	fry	No heads taken for CWT sampling		
	18/34/31	fry	No heads taken for CWT sampling		
Totals			950	80440	0.012
1998	18/36/29	smolt	No heads taken		
	18/36/30	smolt	No heads taken		
	18/36/31	smolt	No heads taken		
Totals			539	36314	0.015
1999	18/30/18	fry	62	20233	0.003
	18/30/19	fry	56	20171	0.003
	18/30/20	fry	50	23533	0.002
	18/43/16	fry	14	5783	0.002
Totals			182	69720	
1999	18/35/39	smolt	19	11173	0.002
	18/35/40	smolt	38	11076	0.003
	18/35/41	smolt	19	11101	0.002
Totals			76	33350	
2000	18/43/19	fry	5	10087	0.000
	18/43/20	fry	8	10079	0.001
	18/43/21	fry	16	9805	0.002
Totals			29	29971	
2000	18/48/28	smolt	25	14802	0.002
	18/48/29	smolt	12	14905	0.001
Totals			37	29707	
2001	18/53/08	fry	103	42718	0.002
	02/05/09	fry	0	5032	0
Totals			103	47750	
2001	18/22/08	smolt	18	11030	0.002
	18/22/09	smolt	26	10840	0.002
Totals			44	21870	

Upper Bulkley River Fence : Expanded CWT Recoveries for 1998 - 2002 Brood Years

Brood Year	Tag Code	Stage at Release	Expanded No. at Fence	No. Released	Est. Survival to Escapement	Time of Release
2002	08/03/31	smolt*	76	11084	0.007	May13-14, 2004
	08/03/32	smolt	182	11285	0.016	May 27-28, 2004
	08/03/38	smolt	39	5157	0.008	May 13-14, 2004
	08/03/39	smolt	83	5010	0.017	May 27-28, 2004
Totals			380	32536		
2002	08/11/14	fry*	66	11156	0.006	

Note :* includes the CWT's recovered at the Toboggan Creek fence

Projected Return to the UBR Fence Using Biostandard Survival Rates

Projected Wild Returns for 2005

Brood Year	*No. Females*	*Egg Fec*	*Est. Egg Deposition*	*Total Fry Production*	*Total Adult Prod*	*2005 Contributions to Three's*	*Fours*
2001	1087	3108	3378396	506759	6081	0	1520
2002	432	3108	1342656	201398	2417	906	0

Total Estimated Wild Coho Escapement	2427	
Actual Wild Coho Escapement	2056	
Difference	371	15%

Projected Hatchery Returns for 2005

Brood Year	*No. Fry Release*	*No Smolts Released*	*Total Adult Prod from Fry*	*Total Adult Prod from smolt*	*2005 Contributions to Escapement 3 yr smolt*	*3 yr fry*	*4 yr fry*
2001	47750	23220	573	532	0	0	160
2002	11156	32536	134	745	466	50	0

Total Estimated Hatchery Coho Escapement	676	
Actual Hatchery Coho Escapement	484	
Difference	192	28%

NOTE : Four year old component as determined by age analysis of 155 wild coho was only 1.3%.
Age composition used in estimates was 40%

		Actual Esc.	*Difference*
Total Estimated Escapement for 2005	***3103***	***2508***	***19%***
		Actual Hat vs Wild	
Estimated Hatchery Proportion	***0.22***	***0.18***	
Estimated Wild Proportion	***0.78***	***0.82***	

Upper Bulkley River Coho : Estimated Production from 2005 Brood Year Coho

No. Females	Est. Fecundity	Est Egg Dep	Est Fry Prod	Est Adult Prod	3 Year Old Escapement
1188	3000	3564000	534600	6415	2406

UBR Coho Recovered at the TC Fence : 2005

Total No. CWT's Recovered at TC Fence	882
Total No. Coho CWT's sampled at TC Fence	84

No. of UBR fry from 2002 Brood	1
Prop'n of UBR from fry brood 2002	0.011905

No. of UBR smolts from 2002 Brood	2
Prop'n of UBR from smolts brood 2002	0.02381

Expanded number of UBR from fry releases	11

Expanded number of UBR from smolt releases	21

no pins	2
Prop no pins	0.02381
Expanded no of no pins	21

Toboggan Creek CWT Recoveries at the TC Fence

No of 08/03/34	31
Prop of 08/03/34	0.369048
Expanded no of 08/03/84	326

No of 08/03/35	25
Prop's of 08/03/35	0.297619
Expanded no of 08/03/35	263

No of 08/03/36	22
Prop'n of 08/03/36	0.261905
Expanded no of 08/03/36	231

APPENDIX B

CWT RECOVERY DATA FOR UPPER BULKLEY RIVER COHO CAUGHT IN ALASKAN FISHERIES IN 2005

Coho Tag Codes Returning in 2005

Tag Code	Stock	Release Stage	Brood Year	Release Location
20509	UBR	Fry	2001	Buck Creek
185308	UBR	Fry	2001	Buck Creek
182208	UBR	Smolts	2001	Upper Bulkley River
182209	UBR	Smolts	2001	Upper Bulkley River
81114	UBR	Fry	2002	Bulkley Lake
80331	UBR	Smolts	2002	Upper Bulkley River
80332	UBR	Smolts	2002	Upper Bulkley River
80338	UBR	Smolts	2002	Upper Bulkley River
80339	UBR	Smolts	2002	Upper Bulkley River
80334	TC	Smolts	2002	Toboggan Creek
80335	TC	Smolts	2002	Toboggan Creek
80336	TC	Smolts	2002	Toboggan Creek

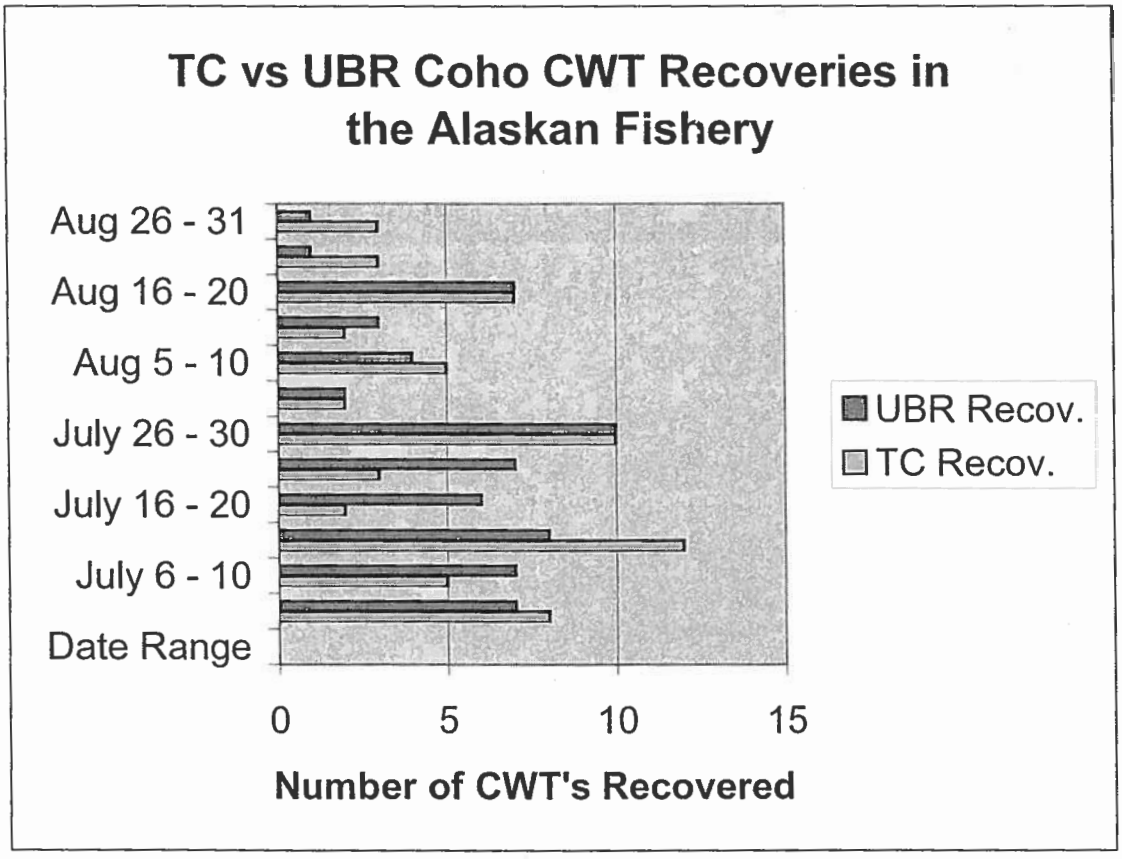
Upper Skeena Coho Records from Alaska Fish and Game CWT Website

Tag Code	Stock	Release Stage	Brood Year	Release Location	Exp Cont as of Oct 26/05	Ttl Cont. by Rel. Stage and Br Yr
20509	UBR	Fry	2001	Buck Creek	3.72	12.1
185308	UBR	Fry	2001	Buck Creek	8.4	
81114	UBR	Fry	2002	Bulkley Lake	23.7	23.7
80331	UBR	Smolts	2002	Upper Bulkley River	56.5	257.7
80332	UBR	Smolts	2002	Upper Bulkley River	124.5	
80338	UBR	Smolts	2002	Upper Bulkley River	34.1	
80339	UBR	Smolts	2002	Upper Bulkley River	42.6	
80334	TC	Smolts	2002	Toboggan Creek	88.1	227.7
80335	TC	Smolts	2002	Toboggan Creek	79.1	
80336	TC	Smolts	2002	Toboggan Creek	60.5	

TC vs UBR CWT in Alaskan Commercial Fishery : 2005

Date Range	TC Recov.	UBR Recov.
July 1 - 5	8	7
July 6 - 10	5	7
July 11 - 15	12	8
July 16 - 20	2	6
July 21 - 25	3	7
July 26 - 30	10	10
July 31 - Aug 4	2	2
Aug 5 - 10	5	4
Aug 11 - 15	2	3
Aug 16 - 20	7	7
Aug 21 - 25	3	1
Aug 26 - 31	3	1
	62	63

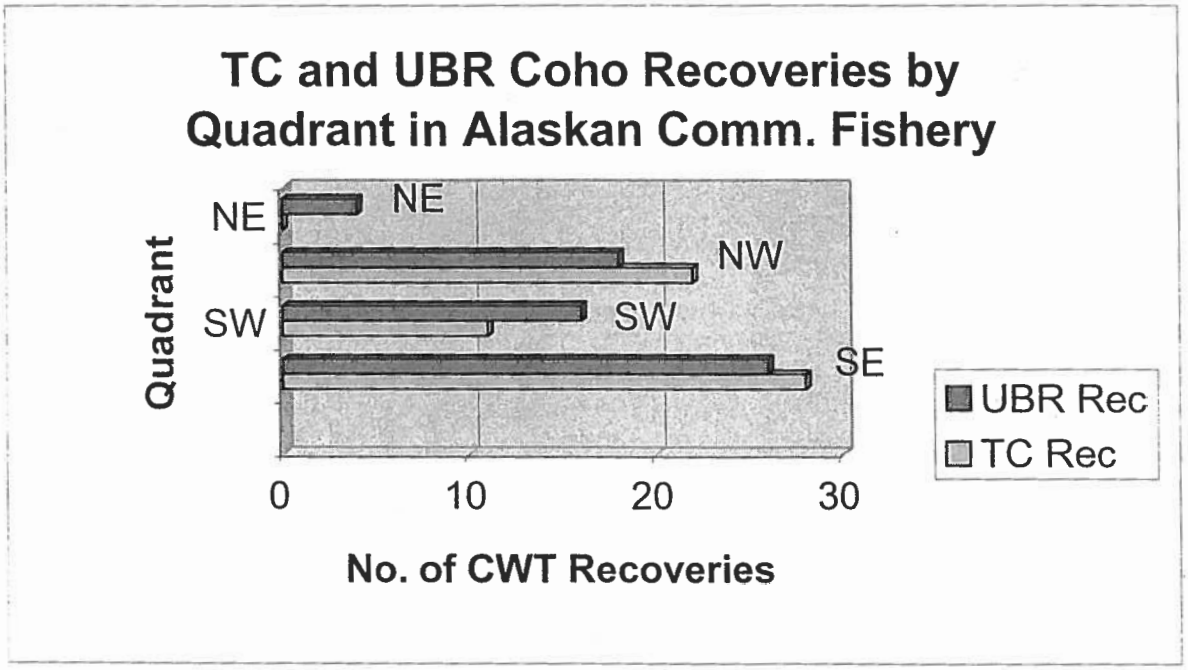
Number of CWT Recoveries in the Alaskan Fishery by Date



** based on data from October 26, 2005 on the Alaskan CWT Recovery web-site

Distribution of TC and UBR CWT Recoveries by Quadrant in the Alaskan Commercial Fishery

Quadrant	TC Rec	UBR Rec
SE	28	26
SW	11	16
NW	22	18
NE	0	4



TC vs UBR CWT Coho Recovered in the Alaskan Fishery : Distribution by Gear Type

Gear Type	TC	UBR
Troll	54	53
Drift	4	4
Purse	2	4
Sport	2	4