NECHAKO RIVER TECHNICAL COMMITTEE
DRAFT DECISION RECORD

DATE: APRIL 5, 2002

Decision Record (2002/03-1)

1. In the fall of 2001, the largest return of Chinook spawners to the Nechako River occurred. This has lead the Technical Committee to consider if any specific measures should be adopted in the spring of 2002 with respect to the instream habitat for emergent fry. The following documents the Technical Committee's rationale in reaching a decision on this subject:

Overall survivals for juvenile chinook in the Nechako River can be partitioned into three life history time periods:

- Incubation/emergence success,
- Early emergent rearing (3 weeks after emergence), and,
- Fry rearing (after the initial three week (approximately) period)

The NFCP has conducted monitoring projects that assess emergence success, through a fry-trapping project using IPTs, as well as overall juvenile rearing, using both index sampling and an outmigration project using RST's.

Assessment of relative densities of post emergent fry has not specifically been undertaken nor has habitat been quantified under the NFCP, although modeling of emergent habitat was done in the late 1970's and early 1980's. Given the range of spawners observed over the period that the data has been collected, there has been no indication that spawning habitat capacity has been exceeded, nor has the relationship of spawners to outmigrants indicated rearing habitat capacity bottlenecks.

Spawner returns in 2001 were the highest on record. Existing projects will provide data to index overall emergence success as well as outmigrant success relative to previous years.

Large numbers of emerging fry will require sufficient post emergent habitat to maximize early survivals. In unregulated rivers emergent fry are typically distributed

throughout the length of the river through passive transport, driven by increasing flows from snow melt. Fish are distributed through the rising limb of the hydrograph. In addition, these flow increases provide additional habitats through flooding of low-lying vegetated areas. To date the amount of this type of habitat has not been considered to be limiting, however given the large number of spawners in the upper Nechako River the NFCP Technical Committee (TC) has recognized that there is an opportunity to assess use of these types of habitat.

Previous work conducted by DFO (Bradford, 1994) has suggested that when large numbers of fry are produced in the upper river there is a corresponding reduction in survivals. Although causative factors have not been developed, possibilities include the inability of regulated flows to maximize the distribution of post emergent fry to habitats along the river, away from areas of high spawning densities, or perhaps the general lack of turbidity associated with freshet conditions, which could reduce protection from predators.

Originally the NFCP TC discussed the possibility of increasing spring flows to increase downstream distribution and potential useable habitat. However, the TC also considered that it might be of more scientific benefit to explore the behavior patterns of this large spawning population under the typical flow regime that has been in place through most of the NFCP period. Furthermore, the TC believes that the typical flow regime will not place any undue risk on the overall health of the Nechako River chinook stocks. Rather, it may provide important data to assist the committee with a better understanding of what habitat factors may be limiting under the current flow regime.

J. Hwang

E. Petticrew

for D. Bouillon

D. Cadden

NECHAKO RIVER TECHNICAL COMMITTEE
DRAFT DECISION RECORD

DATE: APRIL 8, 2002

Decision Record (2002/03-2) DL

2 The NFCP received a request from Alcan regarding the operation of the Skins Lake Spillway as follows:

- Alcan is in the process of planning a discharge change at Skins Lake Spillway to increase the water flow to comply with the NFCP Decision Record of December 21, 2001 requiring an average discharge to March 31, 2002 of 31cms. There is no required minimum release in this Decision Record but past practice has permitted Alcan to "saw tooth" the water discharge around the required average, using minimum gate movements of 0.01 m, to avoid discharging excess water, as long as the average discharge was respected. In this year, Alcan planned to increase the discharge when the daily discharge level reached 30.25 m3/s.

- The ambient temperature in the Spillway area has fallen to sub-zero levels and is staying there so the ice on the gate operating mechanism would have to be removed by a de-icing procedure before the gate can be moved, otherwise damage to the gate will result. De-icing procedures require bringing in a crane from Terrace to support the work platform used to operate the de-icing equipment. Consequently, Alcan is requesting an opinion from the NFCP on the urgency of making a gate movement under these conditions.

  The situation is as follows:

  - As of April 3, 2002, the average discharge of water since December 21, 2001 has been 31.23 m3/s. The present rate of discharge is 30.34 m3/s. At the present rate of reservoir elevation recession (-0.03 ft / day) the average discharge from the Spillway will be 31.0 m3/s by April 21, 2002.

  - The real-time rate of discharge on April 21 would be 29.96 m3/s. The original discharge rate proposed for the winter of 2001-2002 was 30.0

m3/s but this was increased to 31.0 m3/s to ensure the NFCP water budget was delivered by March 31, 2002. This was accomplished.

Alcan would prefer to avoid the extra expense of de-icing the gates under the current conditions. If, in the opinion of the NFCP, the water discharge is adequate to support their mandate, Alcan will wait to make a water discharge change until the ice has left the gates naturally within the next couple of weeks. As soon as it is reasonably practicable Alcan will increase the discharge.

If, in the opinion of the NFCP, the water discharge as stated above is inadequate, Alcan will proceed with de-icing the gates as soon as the arrangements for transportation of the crane can be completed.

The NFCP has reviewed this request and determined that the drop in flow over the period in question (for this April) is approximately equal to a 2mm stage difference (based on WSC stage discharge curve) on the Nechako River below Cheslatta Falls. Based on this information, the Technical Committee has accepted Alcan's request on the basis that the small change in flows would not affect the emergent Chinook fry.

3. Given the current weather conditions the normal spring increase in flows would not take place until April 21 or later, dependent on the timing of ice melting around Murray and Cheslatta Lakes. Assuming that the timing of the change is April 21, and further assuming that the Alcan will request that the fall release from the Nechako Reservoir not exceed 30 m^3/s to allow for completion of the Skins Lake Spillway Maintentance Project, Alcan is to be directed to set the spring release from the reservoir at 52.7 m^3/s on or before the end of April 26, 2002 subject only to constraints on the notification of the public.

J. Hwang

E. Pettcrew

for D. Bouillon

D. Cadden

NECHAKO RIVER TECHNICAL COMMITTEE
DECISION RECORD

DATE: September 17, 2002

Decision Record (2002/03-3)

3. The Technical Committee has been made aware of the following:

- releases from the Skins Lake Spillway were decreased to 14.2 m^3/s late on August 18. The purpose of this decrease in release was to initiate the decrease in flows in the Nechako River below Cheslatta Falls from 226m^3/s to the fall chinook spawning flows.
- the predicted recession of the flow in the Nechako River at Cheslatta Falls required the Skins Lake Spillway release to be increased late on September 2 to ensure that the Nechako River flow did not drop below the fall spawning flow.
- As noted on the attached calculation sheet, the average flow of 30.0 m^3/s is to be released from the Skins Lake Spillway from September 3 to March 31 to ensure release of the Annual Water Allocation.

Given the above, the Technical Committee has decided that Alcan be directed to maintain the Skins Lake Spillway release as follows:

- the average Skins Lake Spillway release over this period (September 3, 2002 to March 31, 2003) is at or above 30.0 m^3/s;
- the minimum release from the reservoir is not less than 29.25 m^3/s;

- releases from the Spillway to be managed in a manner to achieve release from the Nechako Reservoir of the annual water allocation without having to spike releases in the last part of the water year; and,
- the running average of the release be calculated and reported monthly to the Technical Committee.

J. Hwang

E. Petticrew

D. Bouillon

D. Cadden

Date: August 30, 2002
Project: 3320; NFCP Annual Water Allocation - Estimated Winter Base Release *

* NOTE: based on an assumed increase to the spring base flow on April 26, 2002 and an adjustment on April 30, 2002

Annual Average Flow Rate = 36.8 m³/s (as per the 1987 Settlement Agreement)

TIME PERIOD (JD)	TIME (Days)	FLOW (m³/s)	Volume (m³/s*Days)
Apr01 (91) to Apr25 (115)	25	31.00	775.0
Apr26 (116) to Apr29 (119)	4	52.70	210.8
Apr30 (120) to Aug17 (229)	110	53.7	5903.7
Aug18 (230) to Sep01 (244)	15	14.16	212.4
Sep02 (245) to Mar 31 (90)	211	X	211X
	365		7,101.9 + 211X

Annual Volume = 36.8*(365) = 13,432 m³/s*Days = 7,101.9 + 211X
X = 30.00 m³/s (1,059 cfs)

The Skins Lake Spillway release required for the 2002 spring flow is 30.00 m³/s (1,059 cfs)

TECHNICAL COMMITTEE
DECISION RECORD

DATE: November 18, 2002

Decision Record (2002/03-04)

4. The Technical Committee has been made aware of the following:

- Alcan implemented the fall and winter flow release of 30 m^3/s from the Nechako Reservoir on September 2, 2002 as approved by the Technical Committee. Further, Alcan was completing construction work at the Skins Lake Spillway between August 20 and October 21, 2002 and had a limit on the reservoir release capacity at this same rate of release during this period.
- Reservoir inflows have been much greater than normal this year. The reservoir level is above normal operating level for this time of year, and a projection of the spring 2003 reservoir level based on the current release and spring inflows could result in forced spill and dam safety issues. Based on this information, Alcan, in consultation with the Comptroller of Water Rights for B.C. proposes to spill additional water during the winter to reduce the risk of the spring reservoir level being above the safe target and potentially requiring the release of large spills next spring.
- Alcan has provided the Technical Committee with additional information that describes both the uncertainty in the predicted winter inflows to the reservoir and the resulting effects on the spring reservoir elevation under alternate release scenarios.

Given these uncertainties, Alcan has proposed that releases from the reservoir be regulated during the winter of 2002/03 based on the following principles:

- Changes in the rate of release that are to be greater than 30 m^3/s will be made in steps such that the maximum change in release per step is not greater than 30 m^3/s;
- Increases in releases from the reservoir following ice formation on the Nechako River should be avoided if possible;

- The time between gate changes will be not less than two weeks recognizing the operational limitations of making gate changes in the winter (de-icing and safety), the uncertainty of predicting increases or decreases of inflow over the winter, and the need to make final decisions that place dam safety and flood protection first;
- The total number of gate changes made during the winter period will be minimized; and,
- Finally, any gate change decisions by Alcan would not decrease the release between March 7, 2003 and May 15, 2003 in the interests of emerging Chinook salmon.

Alcan has further proposed to allow spill releases to attenuate naturally from the spillway as the reservoir decreases over the winter period. As well, Alcan proposes to provide monthly updates to the NFCP Technical Committee of the reservoir level, inflows and outflows so as to keep them apprised of changing conditions throughout the winter period.

The Technical Committee has reviewed this information and recognizes the requirement to spill water. The Technical Committee, however, has a responsibility to ensure that any flow release decision will not risk Nechako chinook production. The Technical Committee has reviewed the proposed flow release scenarios and has concluded that they are unlikely to have a negative effect on Chinook production. The attached Memorandum provides the background information and the rationale for the Technical Committee's decision.

J. Hwang

E. Petticrew

D. Bouillon

D. Cadden

NECHAKO FISHERIES CONSERVATION PROGRAM

A Joint Program of the Government of Canada, Alcan and the Province of British Columbia

TECHNICAL COMMITTEE
DECISION RECORD

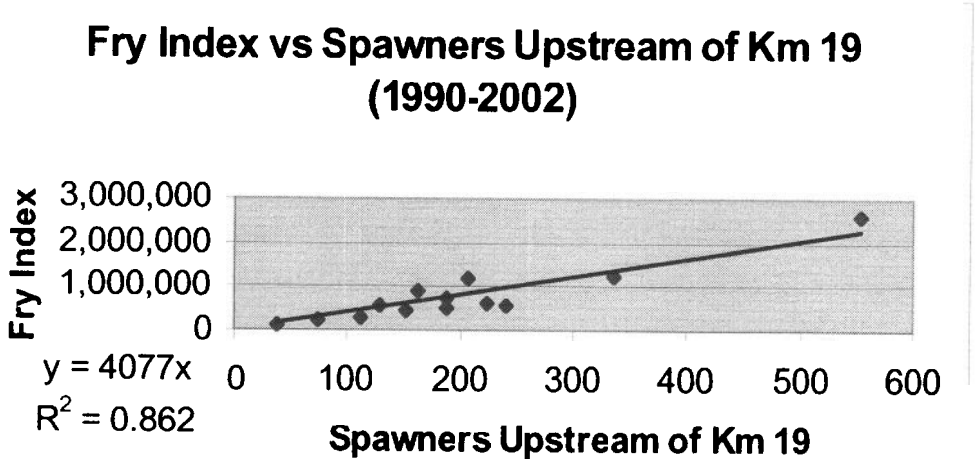
DATE: March 14, 2003

Decision Record (2002/03-05)

5. This Decision Record summarizes discussions of the NFCP Technical Committee on the need to conduct the Fry Emergence Study in 2003. The NFCP Technical Committee has determined from the results and analysis of data collected to date under the program that the project does not have to be carried out in 2003. The rationale for coming to this conclusion is presented below.

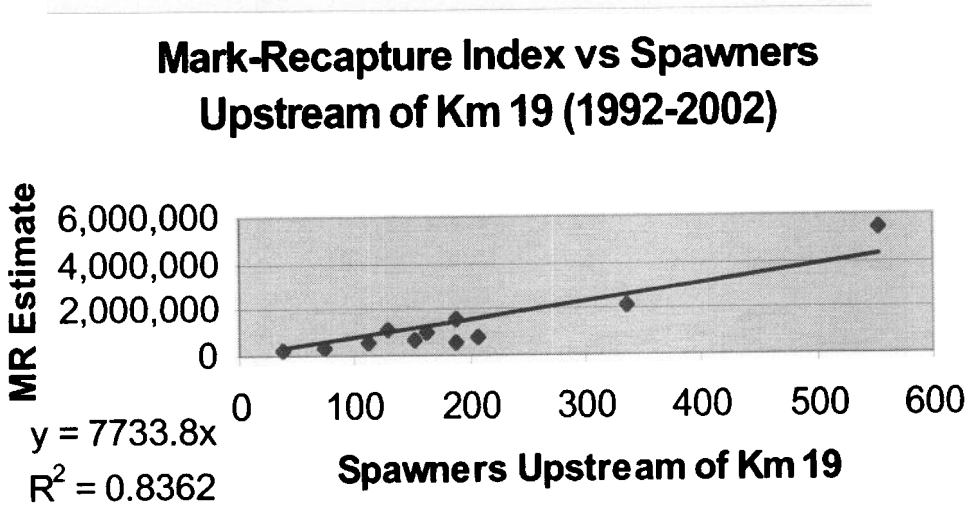
- The NFCP has collected 11 years of mark-recapture data and 13 years of fry index data for the Nechako River. These data indicate that there is a stable relationship between the indices of emergent fry and the number of spawning Chinook in the river upstream from the emergent fry trapping site (See Figures 1 and 2);
- The substrate quality sampling, carried out in 1992 and 2000, indicates that spawning gravel quality in the river has not declined and has the characteristics of good spawning gravel.

Figure 1



P.O.Box 2551, Vanderhoof, B.C. V0J 3A0

Figure 2



The analyses summarized in the figures illustrate that, for the range of spawning populations observed to date, the relationship between the number of spawning Chinook upstream of the sampling site and the indices of emergence is both stable and linear indicating no spawning habitat limitation. Further, with the inclusion of the 2002 data (the number of emergent fry in 2002 was the highest on record) the correlation coefficients for both relationships increased, providing further evidence of the stability of the relationship.

In addition, the NFCP Technical Committee has determined that for the fall and winter of 2002/03 the incubation environment conditions were:

1. Spawning – the number and distribution of spawning Chinook was within the range of that observed in past years and the biological indices of the Chinook adults (egg retention, size, age) were not significantly different from prior years;
2. Water temperatures up to the end of November were similar to prior years;
3. River flows during spawning were essentially the same as prior years (30 – 35 m^3/s);
4. River flows were increased in late October and were held higher than during spawning to the end of December when they were returned to typical winter flows (see Decision Record 2002/03-04).
5. There have not been any abnormal events during 2002 that would contribute an increased sediment load to the river.

As conditions related to the incubation environment during the winter of 2002/03 appear to be within the range of those observed over the past 13 years , and given the relatively constant in-river conditions of the past decade, the Technical Committee has concluded that there is no need to conduct the fry emergence project in 2003. Given the stability of the relationships observed, and the stability of releases from the Skins Lake Spillway, there is no reason to expect that emergent fry production would change significantly in the future except possibly under conditions of significantly changed flows, sediment movement or water temperature changes. The NFCP will continue to annually review the need for this project in the future until a more comprehensive future plan for the NFCP is developed.

J. Hwang

E. Petticrew

D. Bouillon

D. Cadden

TECHNICAL COMMITTEE
DECISION RECORD

DATE: March 28, 2003

Decision Record (2002/03-06)

6. This Decision Record summarizes discussions of the NFCP Technical Committee on proposed changes to the 2003/04 Residence Time Study which is part of the Spawner Enumeration Monitoring Project..

The review of the Nechako Chinook Residence Time Study focused on two elements:

- a technical review of the data collected to date; and,
- a health and safety review.

Technical Review

As a result of the review of technical data for all NFCP Projects undertaken from 1988 to 2000 (NFCP 2002, Draft Technical Data Review), an opportunity was identified to possibly achieve some cost savings by reducing the number of sites used in the annual Chinook Residence Time Study. To address the issues, a technical review of the residence time study was undertaken to determine the effect on the resulting estimate of the size of the annual spawner escapement of removing one of the two data collection sites from the study. The results of this technical data review are presented in the attached graphs and tables:

- Figure 1 presents the total sample size for each year, along with a breakdown of the contribution from the upper and lower sites. In 12 of the 14 years that the project has been run, data has been collected at both the upper and lower sites. In these years, the upper site has consistently contributed more data than the lower site, ranging from 61% to 81% of the total number of fish observed.

- Figure 2 presents the mean residence time of the fish observed at all sites combined, the upper sites only and the lower sites only, for each year the project has been run. In 9 of the 12 years where data

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has been collected at both sites, the 95% confidence bars overlap, indicating that there is no significant difference between the residence time of the fish observed from the upper sites vs. those observed at the lower sites. In the 3 years (1998, 1999, 2000) when the confidence bars do not overlap, the mean residence time at the upper sites was significantly lower than the lower sites.

- Figure 3 presents the escapement estimate for each year, calculated using the mean residence time from all sites and from the upper sites only. In all years when data were collected at the upper sites, the 95% confidence intervals overlap. The difference in the estimates ranged from 15 fish in 1995 and 2001 (0.9% and 0.3%, respectively) to 170 fish in 1998 (9.2%). For the 12 years where data was collected at both sites, the average percentage difference using the mean residence time from the upper sites only vs. both sites is 1.38%.

Although there were differences in mean residence time observed at the upper and lower sites in some years, due to the distribution of the sample, this did not translate into a significant difference in the actual spawner estimate. Thus the Technical Committee has reached a decision to use only the upper site for the determination of the residence time for future spawner enumeration studies.

Health and Safety

The details of the health and safety review are contained in Attachment 1 titled "Nechako Chinook Residence Time Study Task Hazard Analysis". The conclusions from that review are as follows:

1. Observers should work in pairs, not alone.
2. Observers should be equipped with appropriate safety gear, including life jackets.
3. Observation platforms without guardrails should be no more than 2.4 m high and those with guardrails should be no more than 6 m high.

The only major implications to the project result from the first point, since in the past the observers have worked alone.

The Technical Committee had decided to accept the conclusions of the Health and Safety analysis for the residence time study. These recommendations will be incorporated in the Terms of Reference for the 2003/04 study.

J. Hwang

E. Petticrew

D. Bouillon

D. Cadden

Figure 1. 1989 to 2002 Nechako Chinook Residence Time Study Sample Size

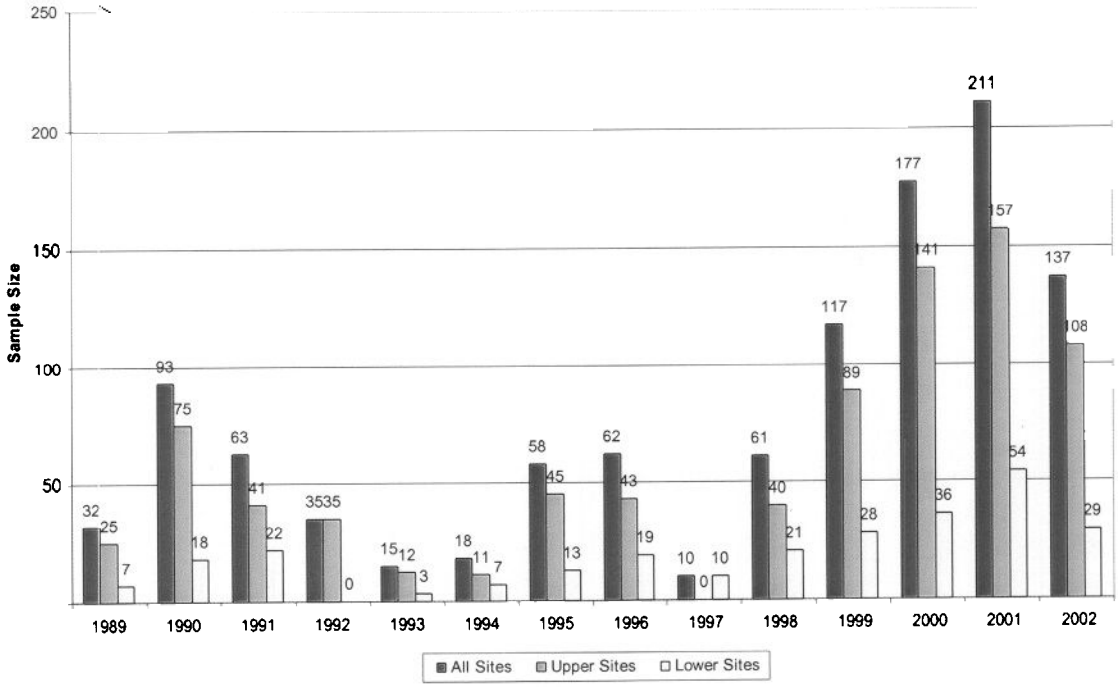


Figure 2. 1989 to 2002 Nechako Chinook Residence Time Study Mean Residence Time

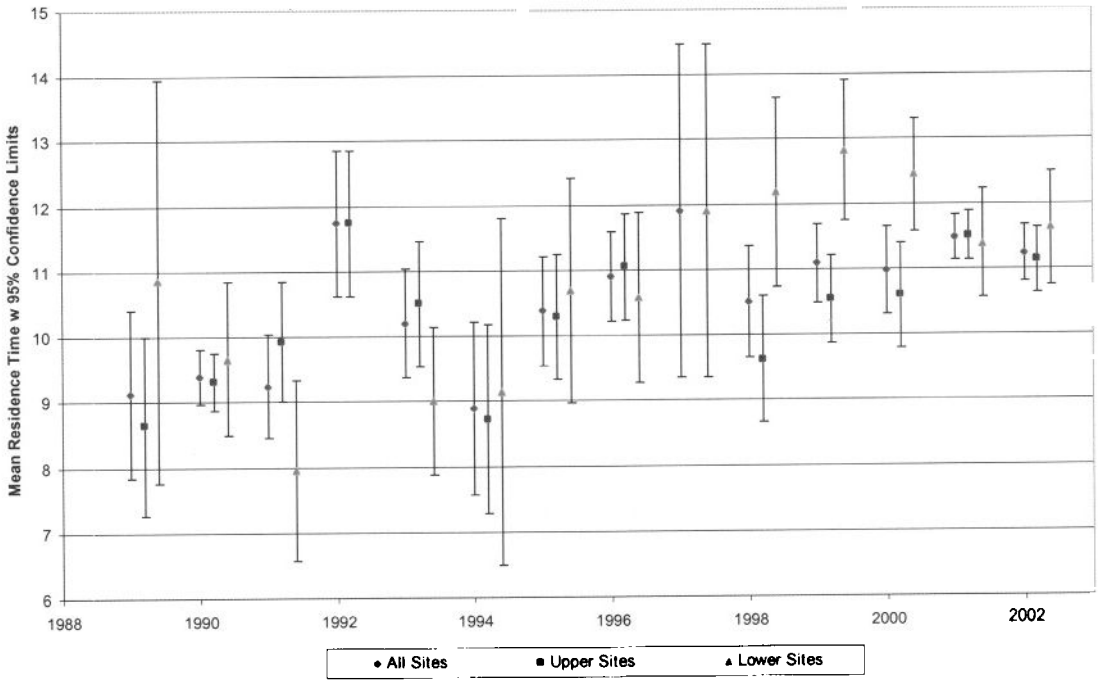
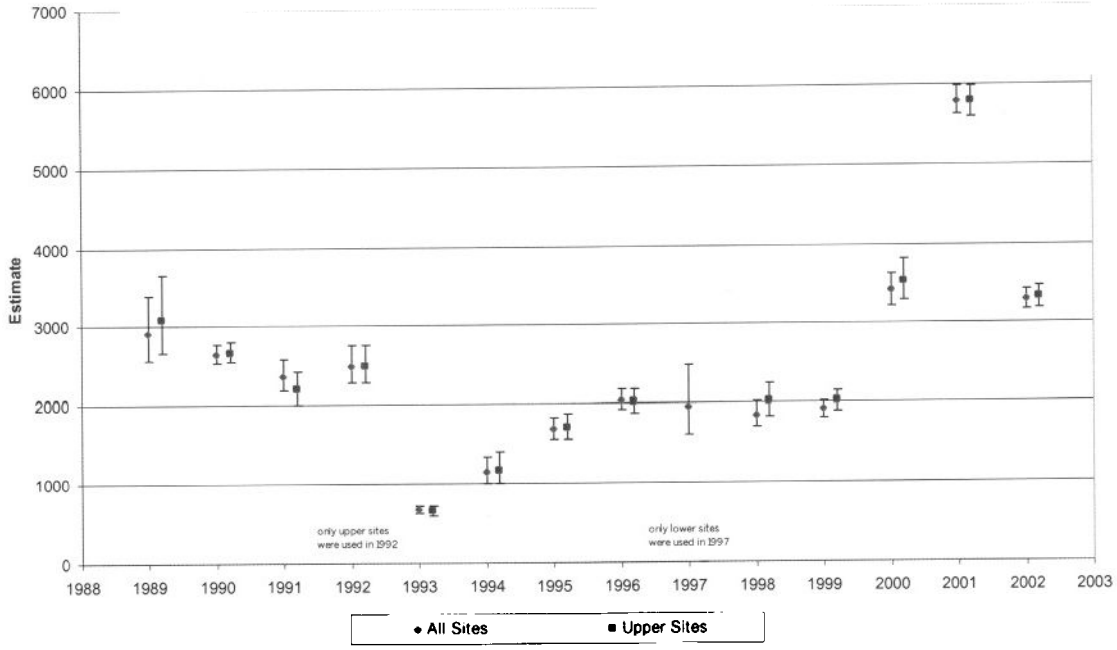


Figure 3. 1989 to 2002 Nechako Chinook Spawner Estimates Calculated Using Mean Residence Time Data from All Sites and from Upper Sites Only for each year.



ATTACHMENT 1

NECHAKO CHINOOK RESIDENCE TIME STUDY TASK HAZARD ANALYSIS

Project Description

The objective of the Nechako Chinook Residence Time Study is to estimate the number of days that a female chinook salmon spends actively spawning, referred to as residence time. This information is a key element of an overall project designed to provide an estimate of the size, timing and distribution of the Nechako River chinook salmon spawning escapement.

In order to collect residence time data, daily observations of selected spawning areas must be made throughout the duration of spawning timing, typically late August to early October. Due to the nature of the project it is necessary for the observers to work in close proximity to, and sometimes within, the river. In order to see into the water, observations must be conducted from an elevated position, either naturally occurring cutbanks or constructed temporary structures.

Health and Safety Considerations

Two primary elements of concern associated with this project have been identified.

- Working Around Water
- Working from Elevated Platforms

Relevant sections of legislation and policy specific to these two elements of concern are paraphrased in the respective sections below.

In addition to the two primary elements of concern, there are two areas of concern associated with this project that are common to most field situations in this area.

- Vehicle Operation
- Creek Walking (including Wildlife Encounters)

Health and safety procedures associated with these common elements are included in the Upper Fraser River Habitat and Enhancement Branch Occupational Health and Safety Plan.

Working Around Water

Canada Labour Code, Part II, Canada Occupational Health and Safety Regulations, Section 12.11: Protection Against Drowning and Treasury Board of Canada Secretariat, Personal Protective Equipment and Clothing Directive, Section 16: Drowning Hazards:

> Where there is a hazard of drowning, the employer shall provide:
> - a life jacket or fall protection system,

- appropriate emergency equipment, and
- a person qualified to operate all the emergency equipment.

Interpretation of the Regulation and Directive is that in most circumstances where staff are required to work around, on or in water there is a risk of drowning.

Working from a Elevated Platform

Canada Labour Code, Part II, Canada Occupational Health and Safety Regulations, Section 12.10: Fall-Protection Systems and Treasury Board of Canada Secretariat, Personal Protective Equipment and Clothing Directive, Section 15: Fall-protection systems and Safety Restraining Devices:

> The employer shall provide a fall-protection system where a person works from:
> - an unguarded structure more than 2.4 m above the nearest permanent safe level, or
> - a guarded temporary structure more than 6 m above a permanent safe level.

The DFO Occupational Safety and Health Loss Control Manual, Chapter 17, Section 17.4:

> In addition to regulatory requirements, DFO employees must not work alone nor be allowed to work alone when carrying out operations involving the climbing of towers, shipmasts, process stacks or other high rise structures without fixed ladders.

Conclusions

Three main conclusions have been drawn from the information provided above.

1. Observers should work in pairs, not alone.
2. Observers should be equipped with appropriate safety gear, including life jackets.
3. Observation platforms without guardrails should be no more than 2.4 m high and those with guardrails should be no more than 6 m high.

Although taller structures could be used in conjunction with appropriate fall-protection systems, it is more appropriate to avoid the hazard where possible. Given the nature of the work, it should be possible to carry out the project utilizing structures that are within the identified parameters. Regardless, all temporary observation platforms should meet the minimum construction requirements identified in *Canada Labour Code*, Part II, Canada Occupational Health and Safety Regulations, Section 3: Temporary Structures and Excavations; and the Treasury Board of Canada Secretariat, Elevated Work Structures Directive.

In addition, as identified above, safety procedures related to Vehicle Operation and Creek Walking (including Wildlife Encounters) as outlined in the Upper Fraser River Habitat and Enhancement Branch Occupational Health and Safety Plan should be implemented.

NECHAKO FISHERIES CONSERVATION PROGRAM

A Joint Program of the Government of Canada, Alcan and the Province of British Columbia

STEERING COMMITTEE MEETING (2002/03-~~1~~ 2)

DATE: October 10, 2002

Members:

Steering Committee

Don Timlick (Alcan Primary Metal Group)
Nancy Wilkin (Provincial Crown)
Susan Farlinger (Federal Crown)

Technical Committee

D. Bouillon (Alcan Primary Metal Group)
D. Cadden (Provincial Crown)
J.Hwang (Federal Crown)
E. Petticrew (Independent Member)

C. Mitchell (Alcan Primary Metal Group)
WO.Rublee (Alcan Primary Metal Group)
K. Conlin (Provincial Crown)
B. Nutton (Federal Crown)

Decision Record

1. The Steering Committee approves the 2002/03 program and budget as set out in the attached table.

S. Farlinger
Director, Habitat Enhancement Branch
Fisheries and Oceans Canada

N. Wilkin
Assistant Deputy Minister
Ministry of Water, Land, and Air Protection

D. Timlick
Director, Energy Products
Alcan Primary Metal Group.

TABLE 1 NECHAKO FISHERIES CONSERVATION PROGRAM PROPOSED 2002/2003 PROGRAM

REMEDIAL MEASURES			DAYS	EXPENSES	
RM02-1	Summer Temperature Management		109.5	$15,910	ALCAN
RM02-2	Instream Habitat Complexing		12	$4,821	ALCAN
RM02-3	Flow Control		22.5	$3,410	ALCAN
RM02-3A	Flow Discrepancy Project		4	$3,000	ALCAN
		SUB TOTAL	148	$27,141	
MONITORING					
M02-1	Enumeration		362	$91,710	DFO
M02-2	Carcass Recovery		102	$14,240	DFO
M02-3	Juvenile Outmigration		541.5	$63,852	ALCAN
M02-4	Physical Data Collection		57	$7,500	DFO
M02-5	Fry Emergence		222	$23,945	ALCAN
M02-7	Substrate Quality and Composition		0	$0	DFO/ALCAN
M02-8	Technical Data Review		0	$10,000	DFO/ALCAN
M02-9	Outstanding NFCP Report Publication				
M02-10	Emergent Fry Habitat Monitoring		72	$10,700	DFO/ALCAN
		SUB TOTAL	1357	$221,947	
APPLIED RESEARCH					
AR99-1	Chinook Ecology		0	$0	DFO
		SUB TOTAL	0	$	
		TOTAL	1505	$249,088	
COMMITTEE OPERATIONS*			**	$96,392	

*Includes Independent Member, Annual Meeting and Report, Technical Report Production,and Committee Meetings

**As required by each party

NECHAKO FISHERIES CONSERVATION PROGRAM

A Joint Program of the Government of Canada, Alcan and the Province of British Columbia

STEERING COMMITTEE MEETING (2002/03-8) DL

DATE: March 28, 2003

Members:

Steering Committee

Don Timlick (Alcan Primary Metal Group)
Nancy Wilkin (Provincial Crown)
Susan Farlinger (Federal Crown)

Technical Committee

D. Bouillon (Alcan Primary Metal Group)
D. Cadden (Provincial Crown)
J.Hwang (Federal Crown)
E. Petticrew (Independent Member)

C. Mitchell (Alcan Primary Metal Group)
WO.Rublee (Alcan Primary Metal Group)
B. Nutton (Federal Crown)

Decision Record

1. The Steering Committee approves the 2003/04 program and budget as set out in the attached table.

S. Farlinger
Director, Habitat Enhancement Branch
Fisheries and Oceans Canada

N. Wilkin
Assistant Deputy Minister
Ministry of Water, Land, and Air Protection

D. Timlick
Director, Energy Products
Alcan Primary Metal Group.

Table 1. Nechako Fisheries Conservation Program Proposed 2003/2004 Program.

REMEDIAL MEASURES		DAYS	EXPENSES	
RM03-2	Summer Temperature Management	109.5	$15,910	ALCAN
RM03-3	Instream Habitat Complexing	12	$4,821	ALCAN
RM03-8	Flow Control	22.5	$3,410	ALCAN
RM03-8A	Flow Discrepancy Project	9	$3,000	ALCAN
	SUBTOTAL	153	$27,141	
MONITORING				
M03-1	Enumeration	357	$90,710	DFO
M03-2	Carcass Recovery	102	$14,240	DFO
M03-3	Juvenile Outmigration	541.5	$67,552	ALCAN
M03-5	Physical Data Collection	57	$5,400	DFO
M03-9	Technical Data Review	18	$32,000	DFO/ALCAN
M03-10	Outstanding NFCP Report Publication	42	$5,000	DFO/ALCAN
M03-11	Emergent Fry Habitat Monitoring	20	$50,000	DFO/ALCAN
	SUB TOTAL	1138	$264,902	
APPLIED RESEARCH				
AR99-1	Chinook Ecology	0	$0	DFO
	SUB TOTAL	0	$	
	TOTAL	1291	$292,043	
COMMITTEE OPERATIONS*		**	$96,392	

* Includes Independent Member, Annual Meeting and Report, Technical Report Production and Committee Meeting

** As required by each party
Production,and Committee Meetings

** As required by each party

** As required by each party