Nechako White Sturgeon Broodstock Capture Program: 2006 – 2009 Report

Prepared for the:

Ministry of Environment
4051- 18th Ave
Prince George, B.C.

Nechako White Sturgeon Recovery Initiative
4051-18th Ave
Prince George, B.C.

Prepared by:
Jessica Courtier
British Columbia Conservation Foundation
March 2010

Photograph on front cover: Adult Nechako white sturgeon, April 27, 2010. Credit – Cory Williamson.

EXECUTIVE SUMMARY

The Nechako River supports a small population of white sturgeon genetically distinct from other sturgeon populations within the Fraser River watershed. The Nechako white sturgeon is provincially ranked as a "red-listed" population and is federally designated as an "endangered" species under Schedule 1 of the *Species At Risk Act*. A comprehensive study of the Nechako white sturgeon suggested that the population exhibits low reproductive success and consequently limited natural recruitment of juveniles which may be insufficient to maintain the population (RL&L, 2000a). The Recovery Plan for Nechako White Sturgeon was published in 2004 by the Nechako River White Sturgeon Recovery Initiative (NWSRI). This plan prioritized a conservation fish culture program to address recruitment failure. The Nechako River pilot broodstock capture program was initiated in 2006 and continued until 2009; the program's primary objective was to capture pre-spawning sturgeon for use in the fish culture program. This report summarizes the results of the pilot broodstock capture program.

The Nechako River was typically sampled for white sturgeon during May of each year. Sampling occurred between river kilometres 110 and 140 and was synoptic in nature. Set-lines and angling were employed as capture techniques resulting in the total capture of 211 sturgeon.

Overall, the program was successful in capturing reproductively mature white sturgeon for use in the NWSRI fish culture program. During the 2006 program, 8,320.84 hook-hours of set-line effort and 31.32 rod-hours of angling effort resulted in the capture of 34 sturgeon and three sturgeon, respectively. Of these 37 fish, six sturgeon (2 females, 4 males) were selected as broodstock. 33,294.38 hook-hours and 9.98 rod-hours of effort in 2007 resulted in the capture of 31 sturgeon, 28 on set-lines and 3 on angling gear. Eight sturgeon (4 females and 4 males) were selected as broodstock. In 2008, 64 sturgeon were captured on set-lines (43,018.75 hook-hours) and 10 sturgeon were captured on angling gear (58.67 rod-hours). Nine sturgeon (5 females and 4 males) were selected for broodstock in 2008. In 2009, set-lines captured 67 sturgeon (40,040.6 hook-hours) and angling captured 4 sturgeon (1.33 rod-hours). Three females and two males were selected for broodstock in 2009. All broodstock were transported from Vanderhoof to the Prince George Trout Facility for spawning.

White sturgeon captured in 2006 ranged in fork length from 120 to 230 cm. In 2007, fork lengths ranged from 78 to 257cm. Fish captured in 2008 exhibited a range in fork length from 69.5 cm to 241.5cm. White sturgeon captured in 2009 ranged in fork length from 86.5 cm to 258 cm. The length-frequency distributions were similar between each broodstock year and were dominated by sturgeon with fork lengths between 150 cm and 230 cm. The length-frequency distributions of white sturgeon in the study area were similar to previous studies and continued to show a shift towards larger, older individuals. Linear length-weight regressions were also similar between years and were comparable to those documented in previous studies of white sturgeon in the Nechako River. Sex-ratios were skewed towards males in all years, however the ratio of males to females in 2006 was greater than in any other year.

A total of 48 radio tags were surgically implanted into mature white sturgeon for use in a telemetry and spawn-monitoring program.

ACKNOWLEDGEMENTS

The Nechako white sturgeon broodstock capture program was made possible through funds and in-kind donations received from the Ministry of Environment, Freshwater Fisheries Society of British Columbia, Triton Environmental and from Canada's Aboriginal Funds for Species At Risk and Aboriginal Fisheries Strategy through the Carrier Sekani Tribal Council.

Successful field programs were made possible with the generous support provided by volunteers from Triton Environmental Ltd, the Carrier Sekani Tribal Council, Rio-Tinto Alcan, the District of Vanderhoof, BC Conservation Corps, and the Ministry of Environment. Staff from Freshwater Fisheries Society of BC (FFSBC), with experience in brood capture provided valuable expertise and direction for Ministry of Environment staff. A special thank you to FFSBC staff, Geoff Giesbrecht, Neil Jantz, Mike Keehn, and Mickey McDonald for their efforts in successfully spawning sturgeon captured during this program and for hatching and rearing Nechako white sturgeon larvae for use in other projects.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 Background

In British Columbia, white sturgeon (*Acipenser transmontanus*) inhabit portions of the Fraser, Columbia, Kootenay, and Nechako Rivers. Flows in the latter three rivers are regulated by dams, and white sturgeon populations in these rivers show chronic recruitment failure. In recent years, research has shown that sturgeon population sizes in these drainages have been declining. In April 1990, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) listed the white sturgeon as a species of "special concern" in Canada (COSEWIC, 2003). On November 22, 2003 COSEWIC officially designated white sturgeon as "endangered" (COSEWIC, 2003), a species facing imminent extirpation or extinction. The Nechako white sturgeon, a genetically distinct population within the Fraser River watershed (Nelson et al. 1999; Smith et al. 2002), was provincially ranked as "red listed" or "critically imperilled" by the BC Conservation Data Center in 2002 (BC CDC, 2010). COSEWIC added the Nechako white sturgeon to Schedule 1 of Canada's *Species At Risk Act* in August 2006.

A long-term study (1995-1999) conducted by RL&L (now Golder & Associated Ltd), of which sturgeon throughout the Fraser River drainage indicated that the Nechako River population exhibited low reproductive success (RL&L 2000a). Moreover, RL&L (2000a) proposed that the limited natural recruitment of juveniles may be insufficient to maintain the Nechako River population. This study also suggested that the size of Nechako River White Sturgeon population was low, with an estimated number of less than 600 fish, and was comprised mainly of older fish (RL&L 2000a).

Established in 2000, the Nechako White Sturgeon Recovery Initiative (NWSRI) published the Recovery Plan for the Nechako White Sturgeon in 2004. Conservation fish culture, a program to supplement and maintain the genetic diversity of the Nechako River population until sufficient natural recruitment can be sustained, was prioritized by the recovery plan as one of the short-term recovery activities (NWSRI, 2004). The capture of pre-spawning adults for broodstock was an essential component of the conservation fish culture program. The Nechako River pilot broodstock capture program was initiated in 2006 and continued until 2009. Results from the four years of the broodstock capture program will be reported upon in this document.

1.2 Objectives

The annual objectives of the Nechako white sturgeon pilot broodstock capture program were:

- to capture reproductively mature white sturgeon as broodstock for various programs (summer larval and fall juvenile releases, larval experimentation)
- to determine annual availability, locations, and staging areas of reproductively mature sturgeon (both male and female) to facilitate planning of future operations
- to apply radio transmitters to sturgeon, of known maturity, for use in spawn monitoring and migration studies
- to collect biological data (length, weight, sex, maturity) and samples (DNA, age structures) for population monitoring
- to collect data that can be used in future to aid in the determination of vital rates (maturation periodicity, annual survival) and habitat use of sturgeon

2.0 METHODOLOGY

2.1 Study Area

The broodstock capture program sampled suitable habitats in the section of the Nechako River upstream of Hulatt Rapids to the town of Vanderhoof, British Columbia (river kilometre [rkm] 110 to rkm 140). An overview map of the area is provided in Figure 2.1.

2.2 Study Periods

The broodstock capture program was conducted seasonally over a four year period. The sampling schedule is summarized in Table 2.1. Generally, the capture program ran annually throughout the month of May.

Table 2.1 Summary of sampling schedules for the 2006 – 2009 Nechako white sturgeon broodstock capture program.

Year	Start Date	End Date	Total Number of Days
2006	May 9	May 19	10
2007	May 3	May 19	13
2008	April 29	June 1	23
2009	April 30	May 23	19

2.3 Fish Capture

Two capture techniques were used during the four years of the Nechako white sturgeon broodstock capture program. Set-lines were the primary capture technique employed throughout the duration of the program. Angling was conducted as a supplementary capture technique when time permitted. Set-line and angling locations for 2006 to 2009 are shown in Figure 2.2.

2.3.1 Set-lines

Set-line configuration, deployment and retrieval techniques were similar to the methods used by the Upper Columbia River White Sturgeon broodstock collection program as described in the Upper Columbia River Adult White Sturgeon Capture, Transport and Handling Manual (Golder, 2006).

Set-lines were constructed of 9.5-mm (3/8”) diameter sinking Danline® and steel railway plates were used as weights. A float and buoy-line were attached at both ends. The set-line was secured to the river-bank with a shore-line.

In 2006, set-lines were deployed with a weight at either end and were tied off to shore. In a few instances, captured sturgeon became tangled in the set-line as they were able to move the weights along and/or off the river bottom. In subsequent years, the weight on the offshore/downstream end of the line was replaced with a folding anchor to reduce the possibility of set-line movement and, consequently, fish entanglement. Ten-pound cannonball weights were also attached at points along the length of long set-lines to also reduce entanglement.

Three set-line length and hook configurations were used: short lines (20 m in length, 6 hooks), medium lines (40 m in length, 12 hooks) and long lines (120 m in length, 30 hooks). Physical characteristics of the sampling site dictated which length configuration was deployed. Single, barbed, stainless-steel circle hooks were attached approximately six meters apart along the length of the set-line. Size 16/0 hooks were used almost exclusively to reduce the potential of juvenile sturgeon capture, however some size 12/0 hooks were used in 2006 and 2009 and some size 14/0 hooks were employed in 2006, 2007 and 2008. Hooks were typically baited with sockeye salmon, when available. Other bait types used included rainbow trout, eastern brook trout, whitefish, kokanee, chinook, coho and tuna.

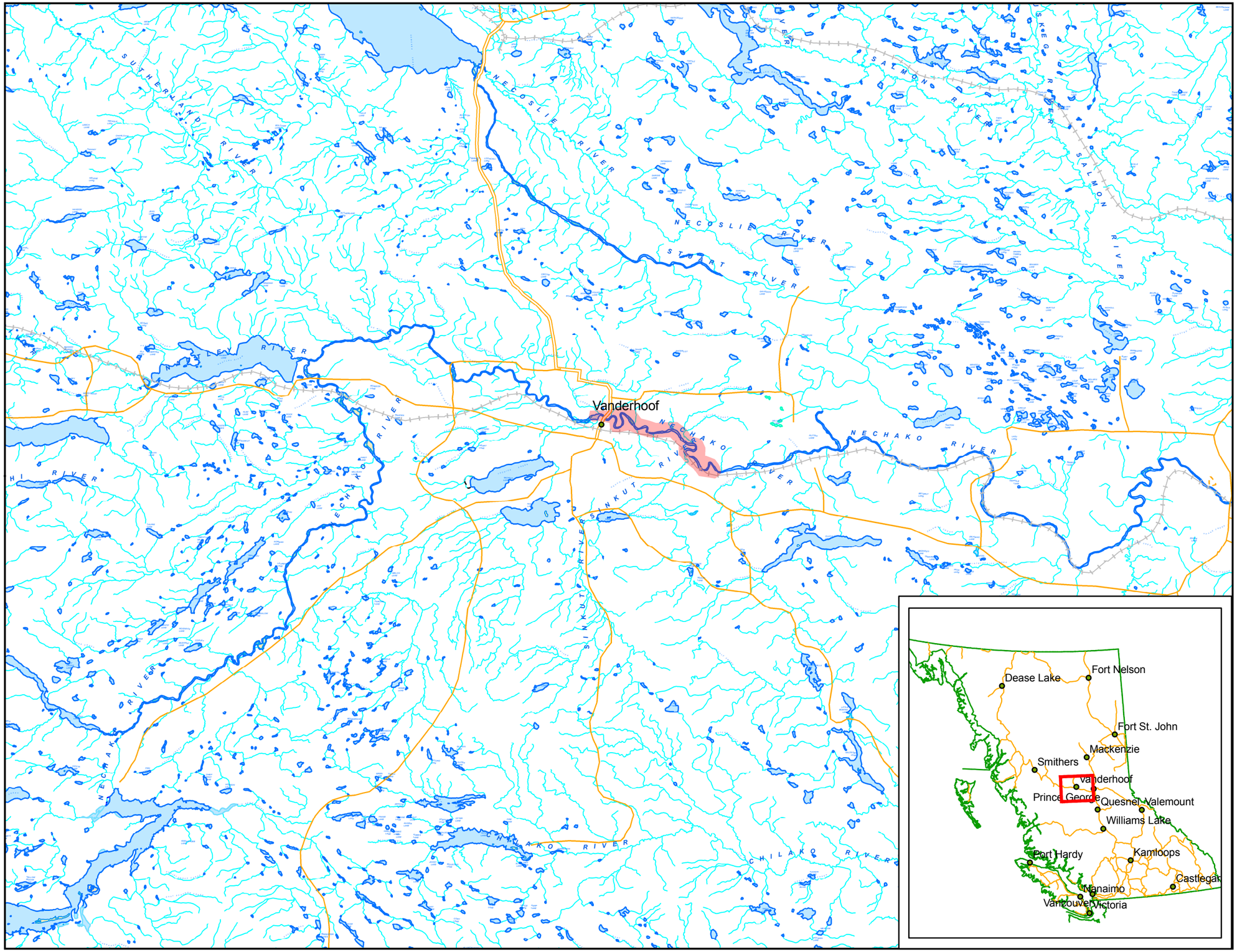
Set-lines were, for the most part, deployed in the afternoon or early evening and retrieved the following morning. In a few instances, set-lines were deployed before 12 pm and were retrieved approximately 24 hours later. Set-lines were deployed in a variety of habitats and flow conditions throughout the study area. Data from each set-line deployment were recorded on a standard data form (Appendix I).

2.3.2 Angling

Angling was conducted from the boat in proximity to set-line locations thus allowing crews to angle during the period of time between set-line deployment and retrieval.

Angling gear consisted of a sturgeon rod equipped with 130 test tuff-line. The line was weighted so that the baited single stainless-steel hook would rest on the river bottom. Sockeye was the most frequently used bait throughout the capture program, however coho and kokanee were also used as angling bait. Data from each angling event were recorded on a standard data form (Appendix I).

Figure 2.1 Overview map of the Nechako white sturgeon broodstock capture study area



Legend

Sampled Area

1:480,000

0 5 10 15 20 25

Kilometers

Data Sources and Notes

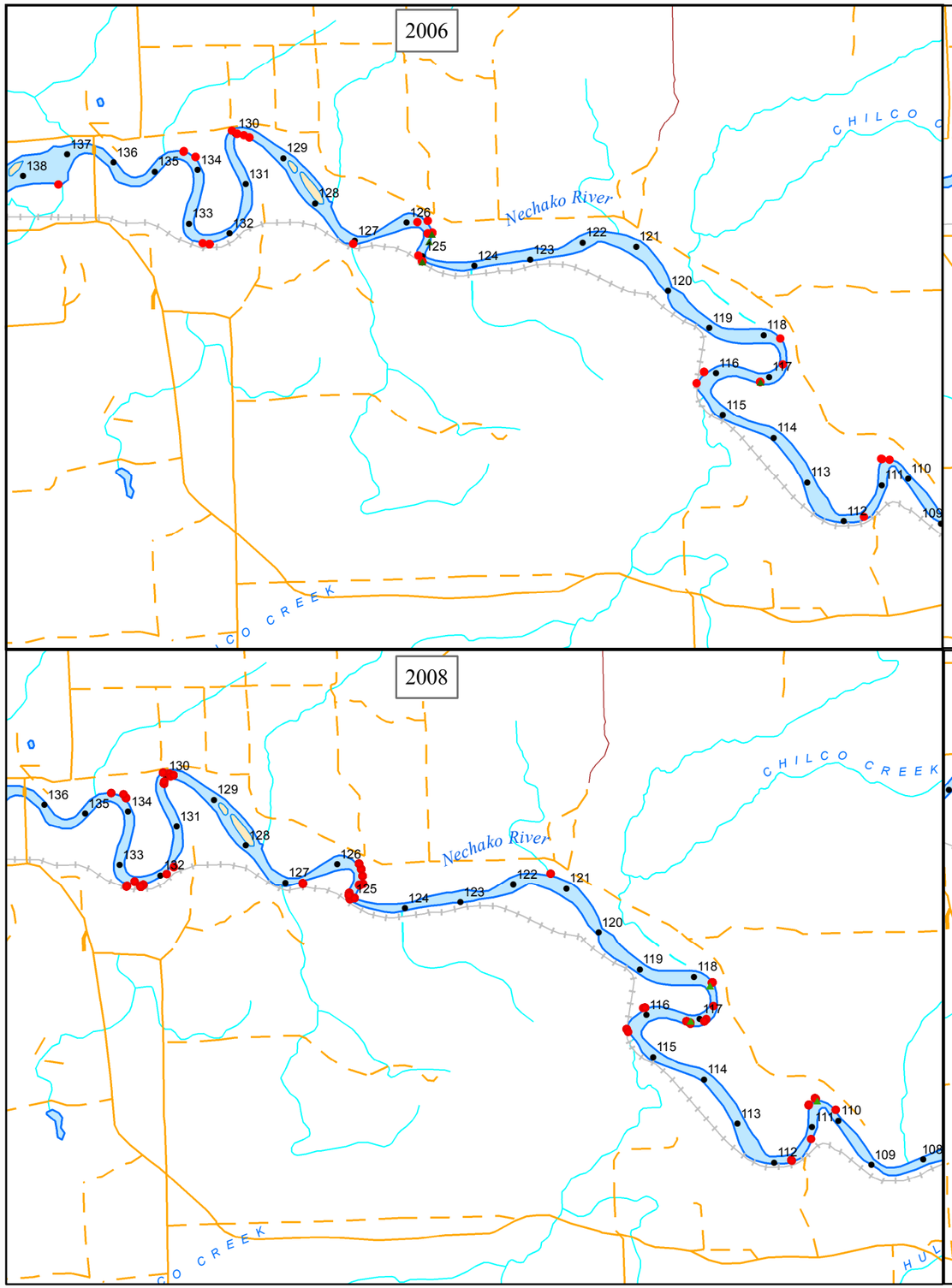
N W E S

Produced for:
NWSRI

Produced by:
BRITISH COLUMBIA
www.gov.bc.ca
Ministry of Environment
Environmental Stewardship Division

Projection/Datum: BC Albers/NAD83
Date Created: 2010-03-07
Created by: Jessica Courtier

Figure 2.2 Nechako white sturgeon broodstock capture program - set-line and angling locations 2006 - 2009



Legend

- Angling Locations
- Set line Locations
- River Kilometers

1:91,208

0 0.4 0.8 1.2 1.6 2

Kilometers

Data Sources and Notes

Produced for: NWSRI

Produced by: British Columbia www.gov.bc.ca

Ministry of Environment

Environmental Stewardship Division

Projection/Datum: BC Albers/NAD83
Date Created: 2010-03-14
Created by: Jessica Courtier

2.4 Fish Sampling

Sturgeon were first examined for evidence of previous capture events, including the presence of tags (PIT, Floy, Radio) and/or other marks (i.e., missing scutes, fin clips, removal of fin rays, and injuries). A full workup was completed on unmarked ("first-time capture") sturgeon. Sturgeon were classified as a "recapture" if tags or marks were observed. If PIT tags or radio tags were found upon capture, the initial year and location of capture was determined for the recaptured sturgeon using the NWSRI Microsoft Access database. Full workups were completed on recaptures unless a sturgeon had been previously captured within a timeframe where an increase in growth would not be detectable.

Biological Measurements, Aging, and Genetics

Sturgeon were measured for total length (TL) and fork length (FL) to the nearest 0.1 cm. Fish were classified as juveniles, sub-adults or adults depending on their fork length: juveniles > 1-m FL, sub-adults 1-m > 1.5-m FL, and adults > 1-m FL. Post-orbital and pre-opercular lengths were measured to the nearest 0.1 cm. Girth, circumference of the body behind the pectoral fins, was measured to the nearest 0.1 cm. Weight was determined by using a 300-pound hanging scale to the nearest pound (weights were converted into kilograms at a later date). A section of the leading-ray on the left pectoral fin was removed for aging purposes. In 2008 and 2009, oxytetracycline (OTC) was administered to a portion of captured sturgeon; OTC provides a detectable mark on a fin ray for future age and growth assessments. A small piece of tissue (two centimetres square) from a fin-tip was removed, from unmarked sturgeon, and preserved in 95% pure ethanol for possible future genetic analysis.

Sex and Maturity

Sex and maturity information was determined for fish visually assessed to be a potential spawner, based on size. First, sturgeon were checked externally with a syringe and catheter to determine if they were ripe males. If milt was not flowing, sturgeon were then examined internally via a surgical incision through the ventral body wall. Surgery techniques were similar to the methods used by the Upper Columbia River White Sturgeon broodstock collection program as described in the Upper Columbia River Adult White Sturgeon Capture, Transport and Handling Manual (Golder, 2006). The sex and maturity stage were classified according to the descriptions in Table 2.2.

Table 2.2 Sex and Maturity codes and associated descriptions for white sturgeon sampled during the Nechako white sturgeon broodstock capture program

Sex	Maturity Code	Developmental State Description
Unknown	97	Gonad not visible; Adult based on size
Unknown	98	Gonad undifferentiated or not visible; Juvenile based on size
Male	01	Non-reproductive, testes appear as thin strips with no pigmentation
Male	02	Maturing; small testes; some folding may be apparent; translucent, smoky pigmentation.
Male	03	Early reproductive; large testes, folds beginning to form lobes; some pigmentation still present; testes more white than cream coloured.
Male	04	Late reproductive; large testes, often filling posterior of body cavity; white with little or no pigmentation.
Male	05	Ripe; milt flowing; large white lobular testes; no pigmentation.
Male	06	Spent; testes pinkish-white, flaccid, and strongly lobed.
Male	10	General unknown maturity
Female	11	Non-reproductive; ovaries small, folded with no visible oocytes; tissue colour white to yellowish.
Female	12	Pre-vitellogenic, moderate size ovary with small eggs present (0.2 to 0.5mm diameter); may have "salt and pepper" appearance.
Female	13	Early vitellogenic; large ovary varying in colour from white to yellowish-cream to light grey; eggs 0.6 to 2.1 mm in diameter.
Female	14	Late vitellogenic; ovaries large with pigmented oocytes still attached to ovarian tissue; eggs 2.2 to 2.9 mm in diameter; sometimes with salt and pepper appearance.
Female	15	Ripe; eggs fully pigmented and easily detached from ovarian tissue; eggs 3.0 to 3.4 mm in diameter.
Female	16	Spent; ovaries are flaccid with some residual full developed eggs.
Female	17	Pre-vitellogenic with attritic oocytes; small eggs (<0.5 mm diameter) present; dark pigmented tissue present that may be reabsorbed eggs.
Female	20	General unknown maturity

Marking and Tagging

Sturgeon were marked in a variety of ways to enable the collection of information such growth rates, movements, and maturation upon recapture. PIT tags were injected subdermally into muscle tissue midway between the dorsal and lateral scutes and immediately posterior to the bones of the skull, if a PIT present was not already present. The second lateral (R2) scute on the right side of the body was also removed. If sturgeon were determined to be sexually maturing/mature (code 04, 05 or 15) during the internal examination and were not selected as broodstock, a Lotek® MCFT-3L coded radio tag was inserted into the abdomen. Radio tags were also surgically implanted into males determined to be mature during external examinations.

The radio tags were implanted opportunistically in mature fish for use in telemetry and spawn-monitoring programs.

2.5 Broodstock

White sturgeon selected as potential broodstock were transported from Vanderhoof to the Prince George Trout Facility by Freshwater Fisheries Society of BC (FFSBC) and Ministry of Environment staff. Sturgeon were transported in a 1.5-m deep holding tank, filled with river water, which was mounted on a flat-deck trailer. The tank was equipped with oxygen tanks and diffusers to provide appropriate oxygen levels during transport.

2.6 Physical and Habitat Parameters

Nechako River discharge information was provided by Environment Canada's Water Survey of Canada. Discharge data were collected at the Water Survey of Canada's hydrometric station 08JC001 located at the Burrard Avenue Bridge in Vanderhoof, British Columbia. Water temperatures were collected, to the nearest 0.1 ^{o}C, by field crews at each sampling site using the onboard depth sounder. General site information, such as minimum and maximum depths (measured to the nearest 0.1 m using the onboard depth sounder), was collected for each sampling event.

3.0 RESULTS

3.1 Catch Rates

A total of 211 white sturgeon were captured throughout the duration of the Nechako white sturgeon broodstock capture program. Thirty-seven sturgeon were captured in 2006, 31 in 2007, 72 in 2008 and 71 in 2009.

3.1.1 Set-lines

Table 3.1 summarizes the total number of set-lines, total number of hooks set, total hook-hours of set-line effort, total number of sturgeon captured and the resulting white sturgeon catch per unit effort (CPUE - fish /100 hook-hours) for the four sampling years. 2009 marked the highest number of sturgeon captured on set-lines, however the highest CPUE was observed in 2006. The lowest CPUE was observed in 2007; this year also marked the lowest total number of sturgeon captured on set-lines.

Table 3.1 Summary of set-line effort during the Nechako white sturgeon broodstock capture program (2006 – 2009)

Year	Total number of Set-lines	Total number of hooks	Total number of hook-hours	Total number of sturgeon	Sturgeon CPUE (fish / 100 hook-hours)
2006	54	523	8872.83	34	0.383
2007	155	1764	33294.38	28	0.084
2008	213	2004	43018.75	62	0.144
2009	134	1973	40040.6	67	0.167

3.1.2 Angling

The total number of rod-hours of angling effort, total number of sturgeon captured and the resulting white sturgeon CPUE (fish / rod-hour) for the four years of broodstock capture are summarized in Table 3.2. The highest angling CPUE was observed in 2009 as a total of four fish were captured during 1.33 rod-hours of effort.

Table 3.2 Summary of angling effort during the Nechako white sturgeon broodstock capture program (2006 – 2009)

Year	Total number of rod-hours	Total number of sturgeon	Sturgeon CPUE (fish / rod hour)
2006	31.32	3	0.096
2007	9.98	3	0.333
2008	58.67	10	0.170
2009	1.333	4	3.00

3.2 White sturgeon captures and recaptures

A summary of first-time captures and recaptures is provided in Table 3.3. During the 2006 program, 15 of the 37 white sturgeon captured were first-time captures (40.5%). One, of the 22 recaptured fish, was a first-time capture during the same year. During the 2007 program, of the 31 white sturgeon that were captured, 22 (71.0%) were first-time captures and nine sturgeon were recaptures from previous years. One of these recaptures (PIT: 50283B6C65) was originally captured in the Fraser River. Of the 72 white sturgeon captured during the 2008 program, 35 (48.6%) were first time captures. Thirty-seven sturgeon were classified as recaptures, however four of these fish were recaptured twice during 2008. Two recaptured sturgeon (PIT: 4125034473, 50283B6C65) were previously captured in the Fraser River. Similarly, during the 2009 program, 31 of the 71 (43.7%) white sturgeon captured were first time captures. The remaining 40 sturgeon were classified as recaptures; one was a first-time capture during the same year, four were recaptured twice during 2009 and two (PIT: 7F7D77302F, 50283B6C65) were originally captured in the Fraser River.

Table 3.3 Summary of first-time captures and recaptures of Nechako white sturgeon during the broodstock capture program (2006-2009)

Year	First –time Capture	Recapture (once / year)	Recapture (first-time capture in same year)	Recapture (twice in same year)	Total number of sturgeon captured
2006	15	21	1	0	37
2007	22	9	0	0	31
2008	35	33	0	4	72
2009	31	35	1	4	71

3.3 Population Dynamics

3.3.1 Juveniles, sub-adults, and adults

In 2006, 91.9% of captured sturgeon were classified as adults by size. In 2007 and 2008, the proportion of adults to juveniles and sub-adults decreased to 74.2% and 71.8%, respectively. In 2009, the proportion of adults increased to 85.9%. The proportion of sub-adults was 5.4% in 2006, 9.7% in 2007, 16.9% in 2008 and 7.04% in 2009. Juveniles accounted for 2.7%, 16.1% 11.3% and 7.04% in 2006, 2007, 2008, and 2009, respectively. Total number of juveniles, sub-adults and adults are presented in Table 3.4.

Table 3.4 Numbers of juvenile, sub-adults and adult (classified by size) Nechako white sturgeon by broodstock capture year

Size	2006	2007	2008	2009
Juvenile (<1 m FL)	0	5	8	5
Sub-adult (1.0 m <1.5 m FL)	2	3	12	5
Adult (>1.5 m FL)	34	23	51	61

3.3.2 Length-Frequency

The length frequency distributions of the white sturgeon catch were similar between each broodstock year (Figure 3.1). Captures in each year were dominated by adult white sturgeon with fork lengths between 150 cm and 230 cm. No fish under 69 cm were captured in any year. Few sub-adults between 100 cm and 150 cm were captured in any broodstock year with the exception of 2008. The smallest fish, in any broodstock year, was captured in 2008 (FL = 73 cm). The longest was an adult male (FL = 258 cm) caught in 2009. The largest sturgeon was an adult female weighing 145.5 kg, captured in 2007 (FL = 257 cm).

3.3.3 Length - Weight

White sturgeon captured in 2006 ranged in fork length from 120 cm to 230 cm (mean 180.17 ± 4.58 cm) and in weight from 12 kg to 109 kg (52.35 ± 3.91 kg). In 2007, fork length ranged from 78 cm to 257 cm (mean 178.7 ± 8.9 cm) and weight from 3.3 kg to 145.5 kg (mean 52.08 ± 6.05 kg). Fish captured in 2008 exhibited a range in fork length from 69.5 cm to 241.5 cm (mean 164.41 ± 5.2 cm) and in weight from 2 kg to 104.5 kg (mean 39.6 ± 2.98 kg). In 2009, fork length ranged from 86.5 cm to 258 cm (mean 174.42 ± 4.7 cm) and weight ranged from 4.25 kg to 129.1 kg (mean 45.43 ± 3.1 kg).

Length weight regressions for white sturgeon captured between 2006 and 2009 are shown in Figure 3.2. Length-weight regression equations (equations 1-4) indicated that the relationship between fork length (cm) and weight (kg) was logarithmic; growth was isometric with respect to length and weight.

Regression equations:

2006: $Log_{10}WT = - 5.1544 + 3.0364(Log_{10}FL)$ ($r^2 = 0.95$, $n = 30$)
2007: $Log_{10}WT = - 5.4905 + 3.1609(Log_{10}FL)$ ($r^2 = 0.9904$, $n = 29$)
2008: $Log_{10}WT = - 5.3013 + 3.075(Log_{10}FL)$ ($r^2 = 0.9857$, $n = 66$)
2009: $Log_{10}WT = - 5.1681 + 3.02(Log_{10}FL)$ ($r^2 = 0.9759$, $n = 71$)

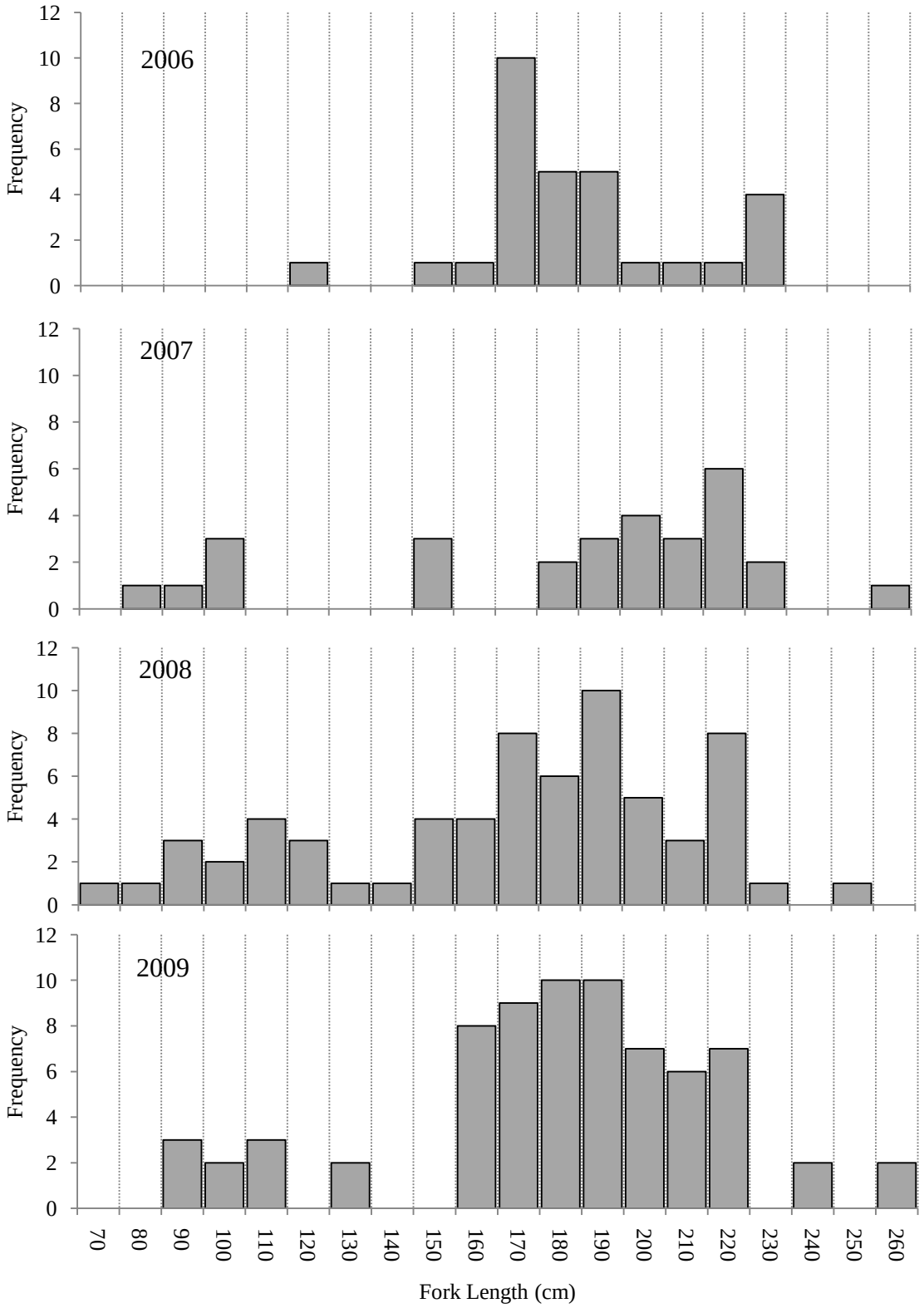


Figure 3.1 Length-frequency distribution of white sturgeon captured in the Nechako River during the broodstock capture program between 2006 and 2009

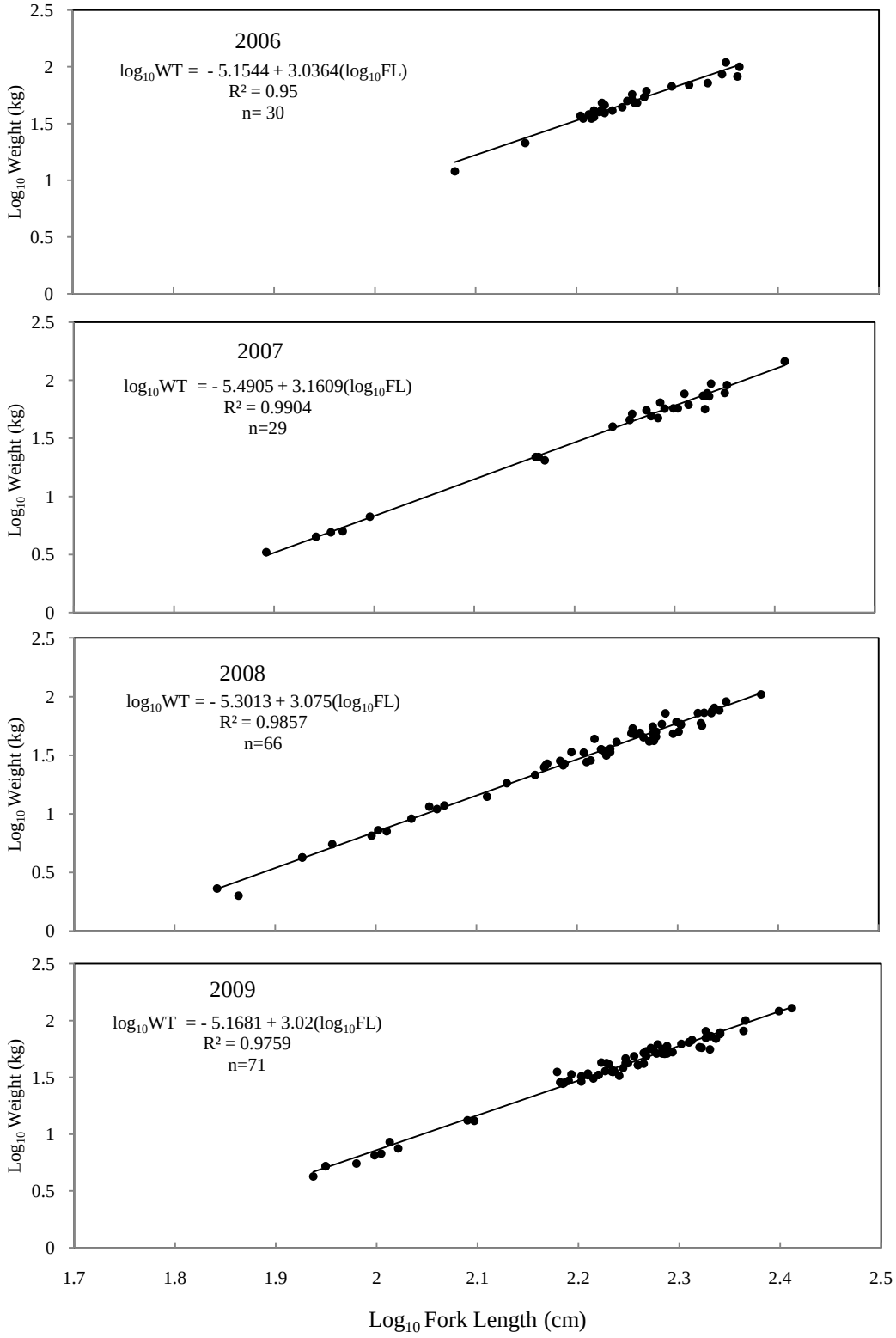


Figure 3.2 Length-weight regression of white sturgeon captured in the Nechako River during the broodstock capture program between 2006 and 2009

3.3.4 Sex and Reproductive Maturity

Between 2006 and 2009, sex and maturity was determined for a total of 164 white sturgeon, either through surgical examination, manual extraction of milt, or past-capture records from 2005 onwards. The resulting annual sex ratios are shown in Table 3.5.

Table 3.5 Sex ratios for white sturgeon captured in the Nechako River during the 2006-2009 broodstock capture program

Year	Number of Males	Number of Females	Sex Ratio (♂ : ♀)
2006	22	8	2.75 : 1
2007	13	12	1.08 : 1
2008	28	18	1.56 : 1
2009	43	19	2.26 : 1

Of the 37 white sturgeon captured in 2006, sex and maturity were determined for 31 fish; 23 were determined to be male and eight were determined to be female. Maturity levels were determined for 22 of the 23 male sturgeon; one fish was known to be male from a previous capture and surgical examination was not completed on this fish in 2008. The remaining six unsexed fish were assessed as sub-adults / adults (code 97) based on size.

Of the 31 white sturgeon captured in 2007, sex was determined for 25 fish; 13 were determined to be male and 12 were determined to be female. Maturity levels were determined for 12 of the 13 male sturgeon; one fish was known to be male from a previous capture and surgical examination was not completed on this fish in 2007. The remaining seven fish were either assessed as juveniles (code 98 – n = 5) or sub-adults / adults (code 97 – n = 2) based on size.

Of the 72 white sturgeon captured in 2008, sex was determined for 47 fish; 28 were determined to be male and 19 were determined to be female. Maturity levels were determined for 26 of 28 males and 17 of 19 females, as four were of known sex from previous capture events and surgical examination was not completed on these fish in 2008. The remaining 25 fish were either assessed as juveniles (code 98 – n = 7) or sub-adults / adults (code 98 – n =18) based on size.

Of the 71 white sturgeon captured in 2009, sex was determined for 61 fish; 42 were determined to be male and 19 were determined to be female. Maturity levels were determined for 41 of 42

males and 17 of 19 females, as three fish were of known sex from previous capture events and surgical examination was not completed on these fish in 2009. The remaining ten fish were either assessed as juveniles (code 98 – n = 5) or sub-adults / adults (code 97 – n = 5) based on size.

The number and relative proportion of sturgeon at each stage of sexual maturity, for each broodstock capture year, are compared in Table 3.6.

Table 3.6 Total number and proportion of white sturgeon captured between 2006 and 2009 at each stage of reproductive maturity

Sex	Maturity Code[a]	2006		2007		2008		2009	
		n	%	n	%	n	%	n	%
Male	2 (maturing)	8	21.6	6	19.4	7	22.58	9	12.68
	3 (early reproductive)	4	10.8	1	3.23	14	45.16	14	19.72
	4 (late reproductive)	1	2.7	1	3.23	0	0	7	9.86
	5 (ripe)	9	24.3	5	16.1	4	12.90	11	15.49
	6 (spent)	0	0	0	0	1	3.23	0	0
	10 (general - unknown)	1	2.7	1	3.23	2	6.45	1	1.41
Female	11 (non-reproductive)	0	0	0	0	0	0	4	5.63
	12 (pre-vitellogenic)	2	5.41	1	3.23	10	32.26	5	7.04
	13 (early-vitellogenic)	3	8.11	1	3.23	0	0	3	4.23
	14 (late-vitellogenic)	0	0	0	0	1	3.23	3	4.23
	15 (ripe)	2	5.41	8	25.8	6	19.35	2	2.82
	16 (spent)	0	0	0	0	1	3.23	0	0
	17 (pre-vitellogenic with attritic eggs)	1	2.7	0	0	0	0	0	0
	20 (general - unknown)	0	0	0	0	1	3.23	2	2.82

[a] See Table 2.2 for definitions of maturity codes

Mean fork lengths at various stages maturity of male and female white sturgeon captured between 2006 and 2009 are presented in Table 3.7. Overall, ripe females (code 15; mean FL of 207.5 cm) were slightly larger than ripe males (code 5; mean FL of 198.76 cm).

Table 3.7 Mean fork lengths of female and male white sturgeon captured between 2006 and 2009 at various stages of sexual maturity

	Maturity code	n	Mean Fork Length (cm)	Minimum Fork Length (cm)	Maximum Fork Length (cm)
Males	2	27	177.37	145	213
	3	32	170.16	115	221
	4	9	190.06	170	219
	5	24	201.65	159.5	258
	6	1	184.5	184.5	184.5
Females	11	4	199.38	172	231
	12	18	186.94	148	229
	13	7	170.57	156	184
	14	4	181.75	151	194
	15	17	206.18	146	257
	16	1	223	223	223
	17	1	178	178	178

3.3.5 Ages

Ages were determined for recaptured white sturgeon based on fin ray aging analysis completed from previous capture events, mainly from the 1995-1999 RL&L study (the accuracy of these ages is unknown). Aging of fin rays taken from sturgeon during the broodstock capture program have not been completed. In 2006, ages were determined for 14 sturgeon. These fish ranged in age from 16 to 99. In 2007, ages were determined for 8 fish and ranged from 16 to 81. In 2008, ages were determined for 24 fish and ranged from 17 to 74. In 2009, ages were determined for 19 fish and ranged from 19 to 74. Overall, the most common age cohort of the catch was 40-45 years old.

3.4 Capture Distribution, Depth, and Timing

3.4.1 Distribution

In each year, sturgeon were captured in a variety of locations between rkm 110 and rkm 140. The highest set-line catch rates were observed in close proximity to rkms 110, 115-117, 125 and 130. The total hook-hours and corresponding sturgeon captures at set-line locations during the broodstock capture program (2006 -2009) are compared in Figure 3.3. The total rod-hours and corresponding sturgeon captures at angling locations during the broodstock capture program (2006 – 2009) are shown in Figures 3.4.

In 2006, the highest numbers of sturgeon were captured on set-lines near rkms 125 and 132; these locations also received the most sampling effort. In 2007, 2008 and 2009, the highest numbers of sturgeon captured on set-lines were in close proximity to rkm 110, even though this area received less effort than other locations. Angling locations differed between years, however successful captures was observed annually in close proximity to rkms 116-117. Sturgeon were also angled close to rkm 125 in 2006 and 2009, and near rkm 110 in 2007.

3.4.2 Capture depth

Set-line average depth was obtained by calculating the arithmetic mean of the minimum set depth and the maximum set depth at each location of capture. In 2006, the average depth of successful set-lines ranged from 4.3 m to 8 m. Average set-line depth ranged 5 m to 10 m in 2007. Similarly, in 2008, the average depth of successful set-lines ranged from 3.95 m to 9.6 m. In 2009, successful set-line average depth ranged from 4.2 m to 10.6 m.

In 2006, sturgeon were angled at a minimum depth of 7m and a maximum of 8m. In 2008, sturgeon were successfully angled in locations ranging from 4 m to 12 m in depth. Angling depths were not recorded in 2007 or 2009.

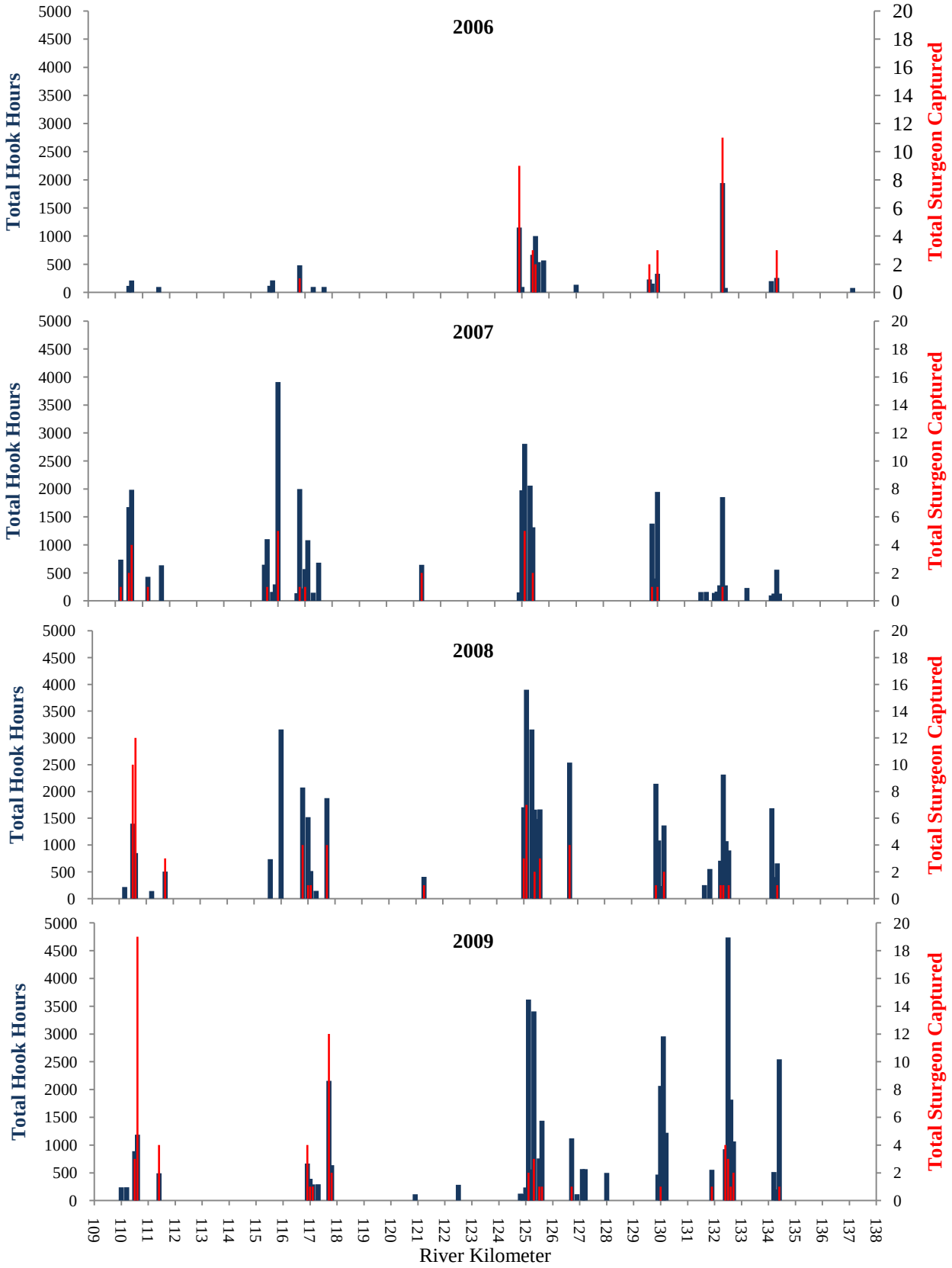


Figure 3.3 Total hook-hours and number of sturgeon captured at set-line locations during the Nechako white sturgeon broodstock capture program (2006 – 2009)

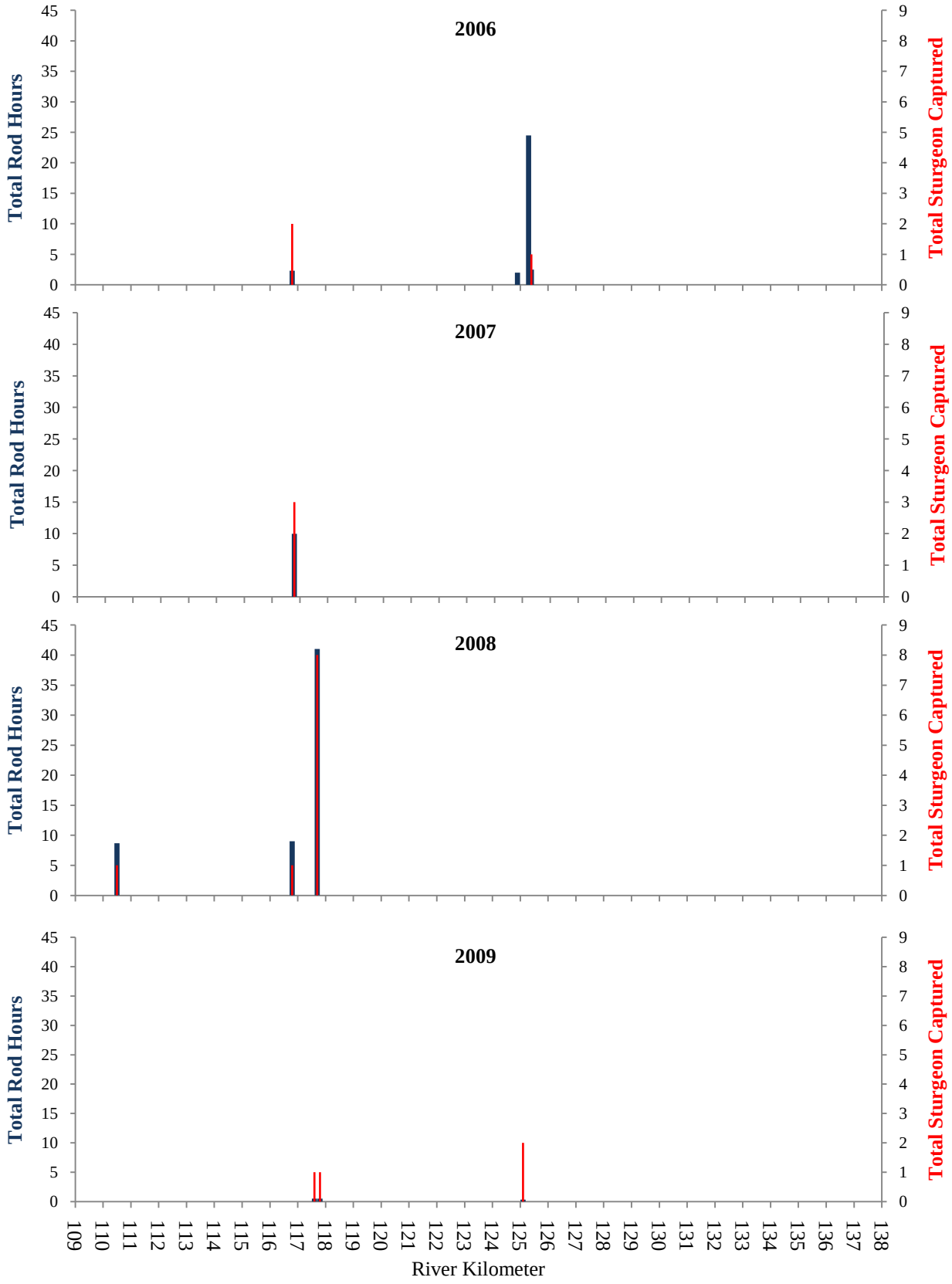


Figure 3.4 Total hook-hours and number of sturgeon captured at angling locations during Nechako white sturgeon broodstock capture program (2006 – 2009)

3.4.3 Capture Timing and Distribution

Figures 3.5, 3.6, 3.7 and 3.8 show the distribution and timing of sturgeon captured during the 2006, 2007, 2008 and 2009 brood capture programs, respectively. In 2006, 2008 and 2009, sturgeon were captured at downstream sampling sites during the first part of the sampling period and more upstream locations (rkm 125 and 132) throughout the entire sampling period. In 2007, sturgeon were captured throughout the sampling area during the first part of the sampling period and more downstream locations (rkm 110) during the latter.

Specifically, in 2006 and 2009, reproductively mature males were captured at downstream sampling locations between approximately May 2nd and 11th and more upstream sampling locations from mid-May onwards. Mature males were captured at only at sampling locations in proximity to rkms 125 and 130 throughout the 2008 sampling period. In 2006, reproductively mature females were captured in close proximity to rkm 132 on May 11th and 18th. Mature females were captured at sampling locations close to rkms 110 and 116 throughout the sampling period during the 2007 broodstock collection program. In 2008, mature females were captured between May 1st and 8th at sampling locations near rkms 110 and 116. In 2009, mature females were captured only at rkms 110 and 116 on May 2nd.

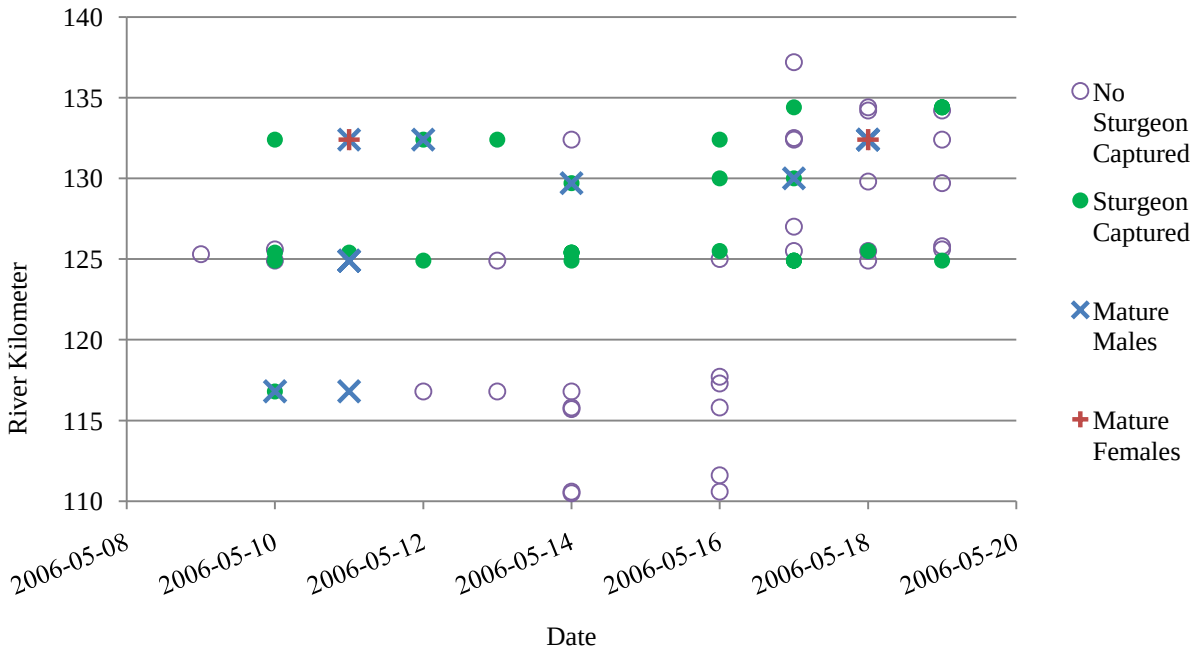


Figure 3.5 Timing and distribution of Nechako white sturgeon captured during the 2006 broodstock capture program (Open circles denote sampling locations where no sturgeon were captured)

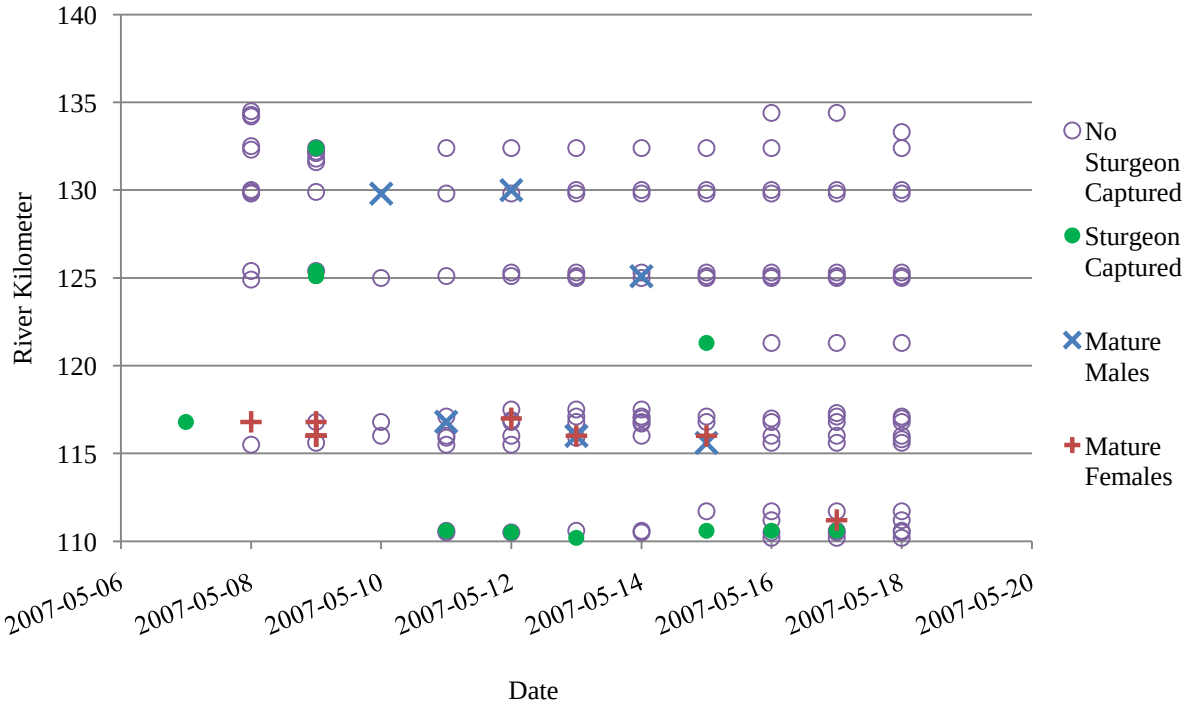


Figure 3.6 Timing and distribution of Nechako white sturgeon captured during the 2007 broodstock capture program (Open circles denote sampling locations where no sturgeon were captured)

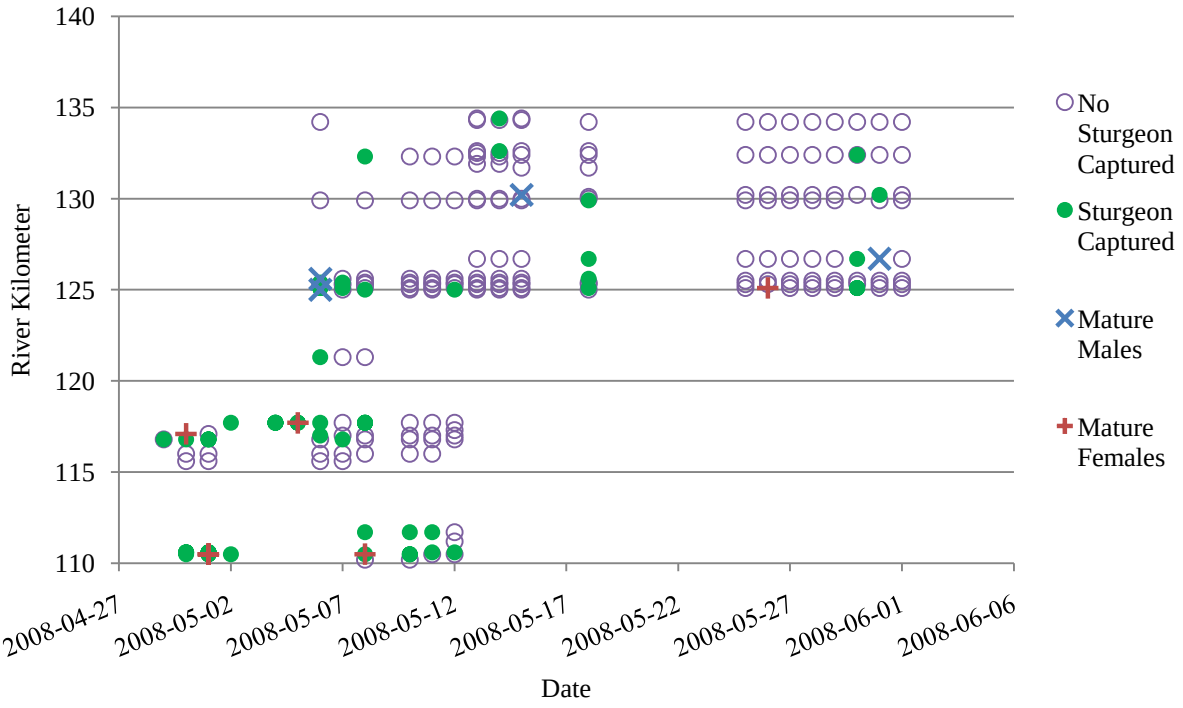


Figure 3.7 Timing and distribution of Nechako white sturgeon captured during the 2008 broodstock capture program (Open circles denote sampling locations where no sturgeon were captured)

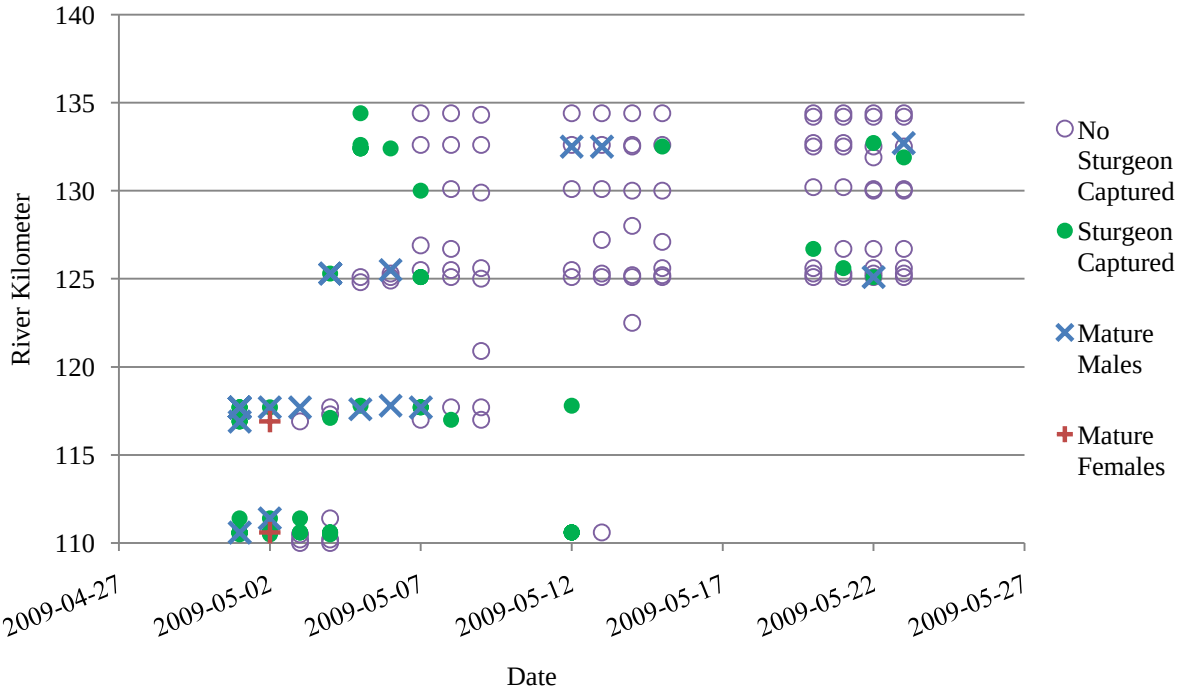


Figure 3.8 Timing and distribution of Nechako white sturgeon captured during the 2009 broodstock capture program (Open circles denote sampling locations where no sturgeon were captured)

3.5 Radio Tags

During four years of the broodstock capture program, a total of 48 white sturgeon were equipped with radio tags. Of these 48 tags, 30 were implanted into unmarked (first-time capture) sturgeon, six were implanted into recaptured fish with no previous radio tag and ten tags were used to replace expired tags in recaptured fish. In 2009, an expired radio tag was removed from a recaptured sturgeon and was replaced with an electromyogram (EMG) tag (Freq. 152.800 code 11). Tables 3.8, 3.9, 3.10 and 3.11 provide details on the white sturgeon equipped with radio tags (and the EMG tag) in 2006, 2007, 2008, and 2009 respectively.

Table 3.8 Capture and life history information for white sturgeon equipped with radio tags during the 2006 broodstock capture program

Capture Date	River km	Sex Code[a]	Fork Length (cm)	Weight (kg)	PIT Tag Number	Radio Tag Frequency	Radio Tag Code
**2006-05-10	116.8	5	182	48	7F7B0B2E51	149.800	56
**2006-05-10	116.8	2	176	44	7F7B0C6578	149.800	48
**2006-05-10	132.4	2	165	36	501F7A3051	149.800	45
*2006-05-10	124.9	3	141	44	7F7D767116	149.800	47
2006-05-10	124.9	3	221	86	4255261C66	148.420	13
2006-05-10	125.4	97	214	72	4527573D3F	149.800	46
2006-05-11	132.4	15	223	109	7F7D767B3B	149.440	1
**2006-05-12	132.4	2	180	51	412515071A	149.800	49
*2006-05-12	132.4	5	205	69	45247E083C	149.800	50
*2006-05-14	124.9	13	168	42	2224172A7D	149.800	53
**2006-05-14	125.4	12	229	82	7F7B031610	149.800	52
2006-05-14	129.7	5	163	38	452A2B4E5F	149.800	51
2006-05-16	130.0	13	168	48	4529766065	149.800	54
2006-05-17	130.0	5	197	67.1	45272B3122	149.800	55
2006-05-18	132.4	5	161	35	4529202777	149.800	58
**2006-05-18	132.4	5	169	46	7F7D7C631A	149.800	59
2006-05-18	132.4	15	230	100	452A4D4A58	149.440	10

* - recapture date, radio tagged for first time; ** - recapture date and expired tag replaced; [a] See Table 2.2 for sex and maturity codes

Table 3.9 Capture and life history information for white sturgeon equipped with radio tags during the 2007 broodstock capture program

Capture Date	River km	Sex Code[a]	Fork Length (cm)	Weight (kg)	PIT Tag Number	Radio Tag Frequency	Radio Tag Code
2007-05-08	116.8	15	204	76.4	45285A7033	149.700	46
2007-05-09	116.0	15	257	145.5	4525163D3D	149.700	48
2007-05-09	116.8	15	195	56.8	452A346367	148.320	11
2007-05-10	129.8	5	224	77.7	424D24192A	149.700	45
2007-05-11	116.8	5	216	72.7	4526754B01	148.320	18
**2007-05-12	117.0	15	217	93.2	22237A1004	148.320	15
2007-05-13	116.0	15	214.5	73.6	45294B4052	149.700	49
2007-05-13	116.0	5	189	49.1	4527094241	148.320	10
2007-05-15	115.6	5	181	51.3	45286C6E35	148.320	16
2007-05-15	116.0	15	146	21.8	4528493E3D	149.800	57
2007-05-17	111.2	15	173	40	4529772D77	148.320	17

** - recapture date and expired tag replaced; [a] See Table 2.2 for sex and maturity codes

Table 3.10 Capture and life history information for white sturgeon equipped with radio tags during the 2008 broodstock capture program

Capture Date	River km	Sex Code[a]	Fork Length (cm)	Weight (kg)	PIT Tag Number	Radio Tag Frequency	Radio Tag Code
2008-04-30	117.1	15	241.5	104.5	4A0C2F5E35	148.320	28
*2008-05-01	110.5	15	183	49.1	7F7D781A4D	148.320	23
**2008-05-01	110.5	15	209	72.3	7F7D7D4E08	148.320	29
2008-05-05	117.7	15	199	60.9	4A0D2C650E	148.320	22
**2008-05-06	117.7	14	190	50	7F7B0C4A60	148.320	20
**2008-05-08	110.5	15	179.5	48.6	7F7B0C6578	148.320	24
*2008-05-14	134.4	3	171	35.9	7F7B0C4D3B	148.320	21
2008-05-15	130.2	5	215.5	72.3	4A0C513B50	148.320	26
2008-05-31	126.7	5	189	41.8	486A1A335B	148.320	27

* - recapture date, radio tagged for first time; ** - recapture date and expired tag replaced; [a] See Table 2.2 for sex and maturity codes

Table 3.11 Capture and life history information for white sturgeon equipped with radio tags during the 2009 broodstock capture program

Capture Date	River km	Sex Code[a]	Fork Length (cm)	Weight (kg)	PIT Tag Number	Radio Tag Frequency	Radio Tag Code
2009-05-01	110.6	5	189.5	51.4	4A0C6E3448	149.800	66
2009-05-01	116.9	5	212	80.5	4A0D3A7D31	149.800	69
2009-05-01	117.7	5	192	51.4	4A0D225D09	148.320	25
**2009-05-02	116.9	15	232	100	452A4D4A58	149.800	63
*2009-05-02	110.6	15	187	57.3	41250F5929	149.800	65
2009-05-04	125.3	5	258	129.1	4A0C0E5F15	149.800	60
2009-05-04	125.3	5	214.5	72.7	4A0C3F0036	149.800	61
2009-05-06	125.5	4	185	53.5	4A0D40122A	149.800	62
**2009-05-07	117.7	5	205.5	67.3	4125005E0C	150.280[b]	11
2009-05-12	132.5	5	214	55.9	4B08452F68	149.800	64
2009-05-13	132.5	5	250.5	120.9	4B07754253	149.800	67

* - recapture date, radio tagged for first time; ** - recapture date and expired tag replaced; [a] See Table 2.2 for sex and maturity codes; [b] - EMG tag

3.6 Broodstock

In 2006, six sturgeon (2 females, 4 males) were retained for broodstock and transported to the Prince George Trout Facility. Five of the broodstock were captured by set-line, the other was angled. Both females were classified as ripe at the time of capture and were spawned successfully. All four males were ripe (flowing milt) at the time of capture; three were spawned successfully and one was held for spawning but was not used. Two separate family groups were successfully created. An additional five ripe males were captured during the program but were not selected as broodstock.

In 2007, eight sturgeon (4 females, 4 males) were retained for brood stock and transported to the Prince George Trout Facility. Six of the broodstock were captured by set-line and two were captured by angling. All females were classified as ripe at the time of capture. Of the four females, three were spawned successfully; the fourth was held for spawning but was not used. All four males were ripe (flowing milt) at the time of capture; three were spawned successfully and one was held for spawning but was not used. Three separate family groups were created, however only two proved to be successful. An additional four mature females and one ripe male were capture during the program but were not selected as broodstock.

In 2008, nine sturgeon (5 females, 4 males) were retained for brood stock and transported to the Prince George Trout Facility. Eight of the broodstock were captured by set-line and one was captured by angling. All females were classified as ripe at the time of capture. Of the five females, four were spawned successfully; the fifth was held for spawning but was not used. All four males were ripe (flowing milt) at the time of capture and all were spawned successfully. Three separate family groups were created. An additional mature female was captured during the program but was not selected as broodstock.

In 2009, five sturgeon (2 females, 3 males) were retained for brood stock and transported to the Prince George Trout Facility. All of the broodstock were captured by set-line. Both females were classified as ripe at the time of capture and were spawned successfully. All three males were ripe (flowing milt) at the time of capture and were spawned successfully. Two separate family groups were successfully created. An additional eight ripe males were capture during the program but were not selected as broodstock.

3.7 Physical Parameters

3.7.1 Discharge

Figure 3.9 displays the daily average discharge information for the Nechako River during the broodstock capture period in 2006 through 2009. Data were collected at the hydrometric station 08JC001 and were provided by Water Survey of Canada (March, 2010). The 2009 data provided were raw and are subject to revision by Water Survey of Canada.

In 2006, daily average discharge increased slowly from approximately 75 m^3/s to 125 m^3/s over the course of the capture period. Increased water releases from the Skins Lake Spillway, due to high snowpack and reservoir levels around the Nechako Reservoir prior to freshet, in the spring of 2007 led to higher than normal discharge; consequently the daily average discharge varied between 427 m^3/s and 493 m^3/s throughout the 2007 capture period. In 2008, daily average discharge increased steadily from 75 m^3/s to 280 m^3/s between April 25 and May 22 and then began to decrease towards the end of the sampling period. Similarly, in 2009, daily average discharge increased from approximately 150 m^3/s to 260 m^3/s and then declined to 221 m^3/s by the end of the sampling period.

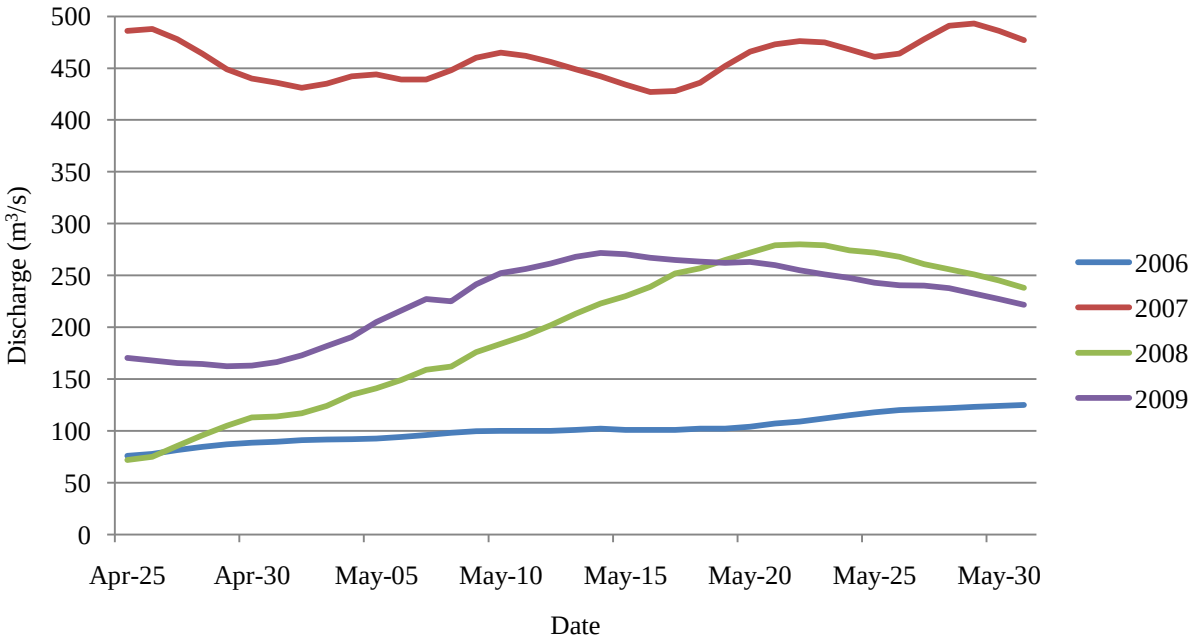


Figure 3.9 Daily average discharge (m^3/s) for the Nechako River at Vanderhoof (Water Survey of Canada hydrometric station 08JC001) from April 25 to May 31, 2006 – 2009.

3.7.2 Water Temperatures

The daily average water temperatures, collected at sampling sites on the Nechako River, are show in Figure 3.10. In 2006, daily average water temperatures rose from 8 ^{o}C to 13.7 ^{o}C between May 9 and 18, 2006. In 2007, an increasing trend in average daily temperatures was observed as temperatures rose to 4.8 ^{o}C to 8.3^{o}C between May 1 and 17, 2007. Water temperatures collected during the 2008 program showed an increased from 5 ^{o}C to 13 ^{o}C between April 24 and May 31, 2008. In 2009, average daily water temperatures showed an upward trend as temperatures increased from 7.52 ^{o}C to 9 ^{o}C between April 30 and May 23, 2009.

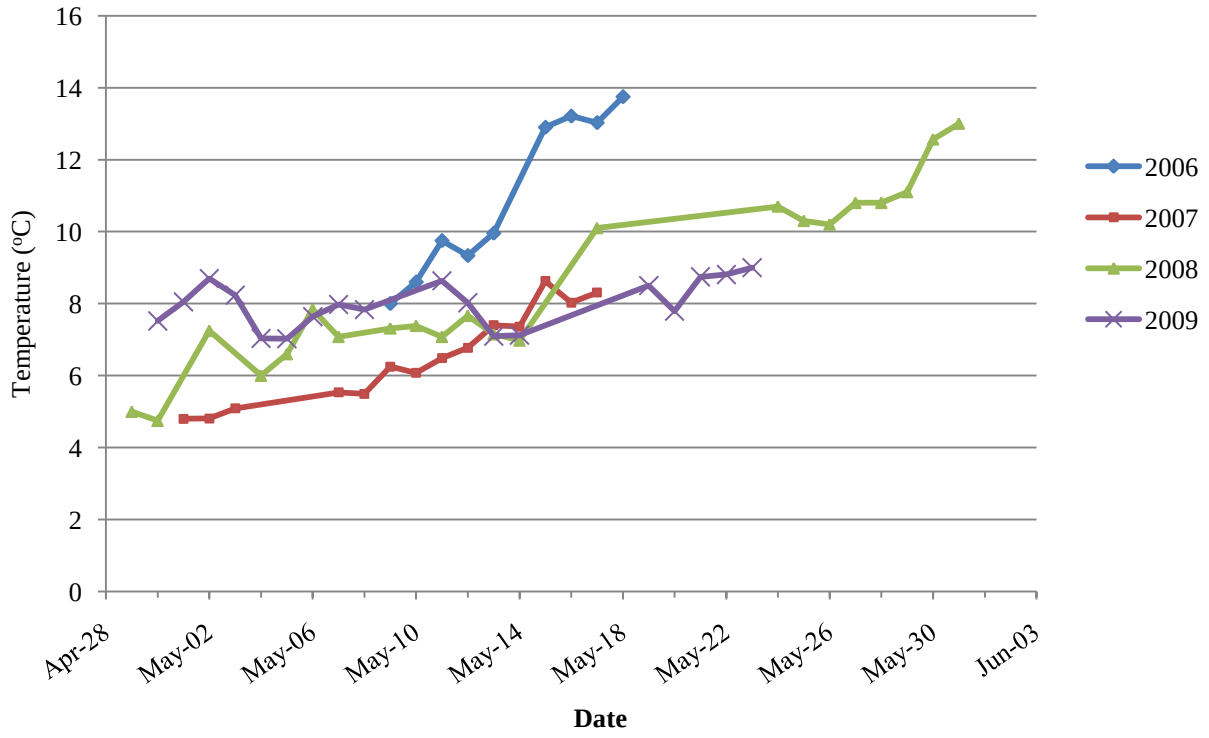


Figure 3.10 Daily average water temperatures (^{o}C) measured by field crews at sampling locations from April 29 to June 1, 2006 -2009

4.0 DISCUSSION

The Recovery Plan for Nechako White Sturgeon published in 2004, by the Nechako River White Sturgeon Recovery Initiative (NWSRI), specified that a conservation fish culture program be established to address recruitment failure within the Nechako River. The Nechako River pilot broodstock capture program was initiated in 2006 and continued annually until 2009 with the primary objective of capturing pre-spawning sturgeon for use in the fish culture program.

Both set-lines and angling were used to capture sturgeon during this program. Set-line catch rates were particularly low in 2007 compared to other years and may be a consequence of the increased water releases from the Skins Lake Spillway during that spring. The highest discharge rates and lowest water temperature (during the first two weeks) were observed during the 2007 sampling period when compared to other years. Conversely, the highest set-line catch-rates were observed during 2006, a year with the lowest discharge rates and warmest water temperatures. The response of white sturgeon to increased discharge rates within the Nechako River is virtually unknown; however, one may presume that these events significantly alter their behaviour as both water temperature and flow regimes are altered by these events. Triton (2008) noted that spawning occurred approximately two weeks later in 2007 than spawning events in 2004 and 2006. It was also suggested that water temperature may be strongly linked to migration towards the spawning area near Vanderhoof (Triton, 2007). As 2007 exhibited the lowest water temperature, it is possible that the relative abundance of sturgeon within the study area during 2007 was lower compared to other years as a consequence of delayed migration towards the spawning area. However, it should be noted that the greatest proportion of reproductively mature female sturgeon were captured in 2007 when compared to other years suggesting that high discharge rates may be a cue for spawning.

Angling was conducted when timing and locations were appropriate, or when crews were not completing set-line sampling, and as such angling effort was highly variable between years. Angling effort was generally directed towards areas known to be frequented by sturgeon, either by visually sightings or past observations. An angling CPUE of three sturgeon per rod-hour was observed in 2009 and likely reflects the increased knowledge of sturgeon locations and greater skill level of anglers compared to previous years.

Overall, white sturgeon caught throughout the broodstock capture program exhibited clumped distributions within the study area. Typically, sturgeon were captured within close proximity to rkms 110, 116-118, 125, and 132. The distribution of white sturgeon from river sections sampled between 2006 and 2009 was similar to distributions documented in previous investigations (RL&L, 1997, 1998, 1999, 2000b). Areas in the vicinity of rkm 116 and between rkm 122 and 125 were described as high-use areas by white sturgeon by RL&L (1997); over-wintering sites have also been documented near rkms 110, 116 and 125. In 2006, 2008, and 2009, sturgeon were captured at the most downstream sampling locations (ie, rkms 110, 116) at the beginning of the sampling period (early May). Sturgeon captures increased at upstream sampling sites (ie, rkm 125, 132) throughout the duration of sampling. However, in 2008 and 2009, downstream sites were not sampled after mid May when catch rates declined and crews moved to other areas; therefore it is unknown if sturgeon were in fact available for capture at those sites in the latter half of the sampling period. The increase in sturgeon captures at upstream locations during the latter half of the sampling periods suggests that sturgeon exhibit upstream movement, possibly in response to increasing river temperatures and discharge. In 2007, sturgeon were captured at downstream sites throughout the whole sampling period (specifically rkm 110) and were not captured at upstream sites after May 15. This may be a consequence of the increased water releases from the Skins Lake Spillway, including lower water temperatures and higher discharge rates, which occurred during the spring of 2007.

The composition of sizes classes recorded in the study area during the four years of broodstock collection indicates that the sampled catch was composed primarily of larger (adult) white sturgeon. The proportion of juvenile and sub-adult white sturgeon in the catch may not be an accurate representation of the actual size-class structure of the Nechako River population as sampling techniques were biased towards the capture of adult fish.

Length-frequency distributions were similar between each broodstock year and were dominated by sturgeon with fork lengths between 150 cm and 230 cm. When compared to the length-frequency distribution developed by RL&L during the 1995-1999 study (RL&L, 2000a) it is evident that current length-frequency distribution of white sturgeon in the study area has shifted towards fish with larger fork lengths suggesting recruitment failure. The length-weight relationships developed for each broodstock capture year were similar between years and were also comparable to those documented in previous studies (RL&L, 2000a).

Unfortunately, aging of fin-ray structures obtained from white sturgeon captured between 2006 and 2009 had not been completed. Ages reported in this document were determined only for recaptured sturgeon based on aging analyses from past capture events (1995 – 1999). Nevertheless, the majority of recaptured fish fell within the 40-45 age cohort.

The sex ratio within the study area is consistently biased towards males but varies year to year. However, these proportions may not accurately represent the sex-ratio of the entire Nechako River population as only sub-adults and adults were assessed. The sex-ratio in 2006 was highly skewed towards males and may reflect the accuracy of identifying the maturity of early stage males and females; early stage female ovaries can resemble male testes where oocytes are imbedded in adipose tissue, which may have been misidentified by relatively inexperienced staff during the first year of the program. Proportions of sexual maturity stages also varied year to year. Typically, the majority of fish examined were in the earlier stages of reproductive development, except for females assessed in 2007. In 2007, 80% of assessed females were ripe; this was substantially higher compared to the proportions of ripe females observed in other years (25% in 2006, 32% in 2008 and 11% in 2009). Higher proportions of ripe males were observed in 2006 and 2007compared to 2008 and 2009.

Overall, the Nechako white sturgeon pilot broodstock capture program was annually successful in the capture of pre-spawning male and female white sturgeon for use in various programs. Progeny of broodstock sturgeon were used 1) to supplement wild recruitment through summer-larval and fall-juvenile releases and 2) in larval experiments investigating possible causes of recruitment failures at early life-history stages and the effects of river substrate on larval behaviour.

5.0 RECOMMENDATIONS

- Continue the Nechako white sturgeon broodstock capture program, and associated conservation fish culture program, in order to supplement the wild population until the causes of natural recruitment are wholly identified and rectified
- Complete aging analysis on fin-ray sections taken during the pilot broodstock capture program to update the age-class composition of the population
- Validate the ages assigned to fish captured in previous studies on the Nechako River to allow comparisons between studies
- Redesign current datasheets to facilitate field data collection and to reduce the potential of errors. An example of the redesigned datasheets are included in Appendix IV.

Future Nechako White Sturgeon Recovery Initiative broodstock program recommendations:

- Set-lines be used as the primary capture technique as they are effective means of capturing mature sturgeon
- Sampling effort be directed towards overwintering holes at rkms 110, 116, 125, and 132 as these sites have been successful in providing reproductively mature sturgeon
- Other areas be investigated as potential sampling sites
- The preference of bait-types be assessed as it was noted in passing that sturgeon appeared to be captured more frequently on set-lines baited with sockeye

6.0 REFERENCES

B.C. Conservation Data Center. 2010. Conservation Status Report: *Acipenser transmontanus* pop. 3. B.C. Ministry of Environment. Available http://a100.gov.bc.ca/pub/eswp/ (accessed Jan 27, 2010).

COSEWIC. 2003. COSEWIC Assessment and update status report on the white sturgeon *Acipenser transmontanus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vii + 51 pp.

Golder Associates Ltd. 2006. Upper Columbia River Adult White Sturgeon Capture, Transport and Handling Manual. Prepared for the Upper Columbia White Sturgeon Recovery Initiative. 20p + app.

Nechako White Sturgeon Recovery Initiative. 2004. Recovery Plan for Nechako White Sturgeon. Prepared by Golder Associates Ltd. 82pp + App.

Nelson, J., C. Smith, E. Rubidge, and B. Koop. 1999. Genetic Analysis of D-Loop Region and Microsatellite DNA of White Sturgeon from British Columbia – Population Structure and Genetic Diversity. Produced for BC Fisheries, Victoria, British Columbia. 42p

RL&L Environmental Services Ltd. 1997. Fraser River White Sturgeon Monitoring Program – Region 7 (Omineca-Peace) 1996 Data Report. Final Report Prepared for BC Ministry of Environment, Lands and Parks. RL&L Report No. 520F: 78p + 7apps.

RL&L Environmental Services Ltd. 1998. Fraser River White Sturgeon Monitoring Program – Region 7 (Omineca-Peace) 1997 Data Report. Final Report Prepared for BC Ministry of Environment, Lands and Parks. RL&L Report No. 565F: 36p + 6apps

RL&L Environmental Services Ltd. 1999. Fraser River White Sturgeon Monitoring Program – Region 7 (Omineca-Peace) 1998 Data Report. Final Report Prepared for BC Ministry of Environment, Lands and Parks. RL&L Report No. 646F: 26p + 6apps.

RL&L Environmental Services Ltd. 2000a. Fraser River White Sturgeon Monitoring Program – Comprehensive Report (1995 to 1999). Final Report Prepared for BC Fisheries. RL&L Report No. 815F: 92p + app.

RL&L Environmental Services Ltd. 2000b. Fraser River White Sturgeon Monitoring Program – Region 7 (Omineca-Peace) 1999 Data Report. Final Report Prepared for BC Ministry of Environment, Lands and Parks. RL&L Report No. 742F: 32p + 5apps

Smith, C.T., R.J. Nelson, S. Pollard, E. Rubidge, S.J. McKay, J. Rodzen, B. May and B. Koop. 2002. Population genetic analysis of white sturgeon (*Acipenser transmontanus*) in the Fraser River. Journal of Applied Ichthyology. 18: 307-312

Triton Environmental Consultants Ltd. 2007. Adult White Sturgeon Monitoring – Nechako River 2007. Final Report Prepared for Alcan Primary Metal. Project N: 3812. 44p + apps

APPENDIX I

Data Sheets

NECHAKO RIVER - WHITE STURGEON SET LINE DATA FORM

PHYSICAL DATA: Page____ of ____

River: _____ Station: _____ River Km: _____ UTM: _____ E _____ N Set Type (circle): Index Synoptic

Personnel: _____ Channel Location: _____ Site Description: _____ Weather: _____

SET: 20____ / ____ / ____ @ _____h Water Temp: _____ °C Visibility: _____ m Depth: Min _____ Max _____

PULL: 20____ / ____ / ____ @ _____h Water Temp: _____ °C Visibility: _____ m Total Effot: _____ h

Gear Type: _____ No. Hooks Set (lost): Size 12 = _____ (_____) Size 14 = _____ (_____) Size 16 = _____ (_____)

Bait Type: _____ No. Hooks Fouled: _____ No. Hooks Bent: _____ Sampling Efficiency (1-4) _____

BIOLOGICAL DATA:

No.	RECAP (Y/N)	DEPTH (m)	HOOK SIZE	SEX MAT. CODE	LENGTH (cm)				GIRTH (cm)	WEIGHT (kg)	SCUTE MARKS @ CAPT	SCUTE MARKS @ REL	TAGS @ CAPT	TAGS @ REL	FIN RAY	TAG NUMBERS					
					Fork	Total	Pre Operc	Post Operc								PIT	RADIO			FLOY	
																	Freq.	Ch.	Cd.	C.	No.
1																					
1																					
2																					
2																					
3																					
3																					
4																					
4																					
5																					
5																					
6																					
6																					
7																					
7																					
8																					
8																					

COMMENTS:

MAP: Show shore configuration, flow patterns, set location , velocity, locations of measurements, substrate type(s), bank habitat, etc.)

INCIDENTAL SP:

SPECIES	LENGTH	WEIGHT	SEX	TAG	CAP CODE	AGE STRUCTURE	FATE	HOOK SIZE	COMMENTS

NECHAKO RIVER - WHITE STURGEON ANGLING DATA FORM

PHYSICAL DATA: Page____ of ____

River: _____ Station: _____ River Km: _____ Channel Location: _____ UTM: _____ E _____ N

Personnel: _____ Site Description: _____ Weather: _____

Date: 20____ / _____ /_____ Water Temp: _____°C Visibility: _____ m Depth: _____ m Boat or Shore: _____

Rod # 1	**Rod # 2**	**Rod # 3**	**Rod # 4**	**Rod # 5**	**Rod # 6**
Start: _____	Start: _____	Start: _____	Start: _____	Start: _____	Start: _____
End: _____	End: _____	End: _____	End: _____	End: _____	End: _____
Bait: _____	Bait: _____	Bait: _____	Bait: _____	Bait: _____	Bait: _____
Hook Size: _____	Hook Size: _____	Hook Size: _____	Hook Size: _____	Hook Size: _____	Hook Size: _____
Baitless: _____	Baitless: _____	Baitless: _____	Baitless: _____	Baitless: _____	Baitless: _____
Fouled: _____	Fouled: _____	Fouled: _____	Fouled: _____	Fouled: _____	Fouled: _____
Lost: _____	Lost: _____	Lost: _____	Lost: _____	Lost: _____	Lost: _____

BIOLOGICAL DATA:

No.	RECAP (Y/N)	DEPTH (m)	HOOK SIZE	SEX MAT. CODE	LENGTH (cm)				GIRTH (cm)	WEIGHT (kg)	SCUTE MARKS @ CAPT	SCUTE MARKS @ REL	TAGS @ CAPT	TAGS @ REL	FIN RAY	TAG NUMBERS					
					Fork	Total	Pre Operc	Post Operc								PIT	RADIO			FLOY	
																	Freq.	Ch.	Cd.	C.	No.
1																					
1																					
2																					
2																					
3																					
3																					
4																					
4																					
5																					
5																					
6																					
6																					
7																					
7																					
8																					
8																					

COMMENTS:

MAP: Show shore configuration, flow patterns, set location, velocity, and location of measurements, etc.)

INCIDENTAL SP:

Rod #	SPECIES	LENGTH	WEIGHT	SEX	TAG	CAP CODE	AGE STRUCTURE	FATE	HOOK SIZE	COMMENTS

APPENDIX II

Capture Data

Appendix II - Table 1 Summary of set-line catch and CPUE (fish/100 hook-hours) during the 2006 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 125.6 L	2006-05-09	17:20	2006-05-10	12:19	18.98	9	170.85	0	0.00
SSL 125.4	2006-05-09	17:34	2006-05-10	10:45	17.18	18	309.30	1	0.32
SSL 124.9 R	2006-05-09	17:41	2006-05-10	12:32	18.85	9	169.65	2	1.18
SSL 132.4 R	2006-05-09	18:16	2006-05-10	9:08	14.87	12	178.40	1	0.56
SSL 116.8	2006-05-10	18:42	2006-05-11	15:00	20.30	6	121.80	1	0.82
SSL 124.9	2006-05-10	19:33	2006-05-11	13:00	17.45	8	139.60	2	1.43
SSL 132.4	2006-05-10	19:53	2006-05-11	9:00	13.12	11	144.28	2	1.39
SSL 116.8 M	2006-05-11	16:20	2006-05-12	11:20	19.00	6	114.00	0	0.00
SSL 124.9	2006-05-11	17:20	2006-05-12	12:35	19.25	7	134.75	1	0.74
SSL 132.4 M	2006-05-11	19:40	2006-05-12	9:50	14.17	12	170.00	3	1.76
SSL 124.9	2006-05-12	17:00	2006-05-13	10:24	17.40	7	121.80	0	0.00
SSL 116.8	2006-05-12	17:00	2006-05-13	10:35	17.58	6	105.50	0	0.00
SSL 132.4	2006-05-12	19:35	2006-05-13	9:21	13.77	13	178.97	1	0.56
SSL 116.8	2006-05-13	17:05	2006-05-14	10:42	17.62	8	140.93	0	0.00
SSL 110.6 L	2006-05-13	18:55	2006-05-14	9:25	14.50	8	116.00	0	0.00
SSL 110.5 L	2006-05-13	19:03	2006-05-14	9:32	14.48	8	115.87	0	0.00
SSL 124.9 M	2006-05-13	19:20	2006-05-14	11:49	16.48	8	131.87	1	0.76
SSL 115.7 R	2006-05-13	19:23	2006-05-14	10:04	14.68	8	117.47	0	0.00
SSL 125.4 M	2006-05-13	19:28	2006-05-14	11:03	15.58	23	358.42	2	0.56
SSL 115.8 R	2006-05-13	19:32	2006-05-14	10:10	14.63	8	117.07	0	0.00
SSL 129.7	2006-05-13	20:50	2006-05-14	9:24	12.57	8	100.53	2	1.99
SSL 132.4 M	2006-05-13	21:40	2006-05-14	9:21	11.68	14	163.57	0	0.00
SSL 110.6 M	2006-05-15	17:47	2006-05-16	9:45	15.97	6	95.80	0	0.00
SSL 111.6 R	2006-05-15	18:00	2006-05-16	10:05	16.08	6	96.50	0	0.00
SSL 115.8 R	2006-05-15	18:15	2006-05-16	10:24	16.15	6	96.90	0	0.00
SSL 117.3	2006-05-15	18:26	2006-05-16	10:40	16.23	6	97.40	0	0.00
SSL 117.7 L	2006-05-15	18:38	2006-05-16	10:52	16.23	6	97.40	0	0.00
SSL 125 R	2006-05-15	20:00	2006-05-16	12:11	16.18	6	97.10	0	0.00
SSL 125.5 L	2006-05-15	20:29	2006-05-16	11:16	14.78	20	295.67	1	0.34
SSL 130 R	2006-05-15	20:30	2006-05-16	10:26	13.93	12	167.20	1	0.60
SSL 132.4 R	2006-05-15	20:57	2006-05-16	9:37	12.67	16	202.67	1	0.49
SSL 124.9	2006-05-16	17:11	2006-05-17	11:30	18.32	8	146.53	2	1.36
SSL 125.5	2006-05-16	17:30	2006-05-17	11:20	17.83	14	249.67	0	0.00
SSL 127	2006-05-16	18:10	2006-05-17	11:13	17.05	8	136.40	0	0.00
SSL 130 L	2006-05-16	18:55	2006-05-17	8:57	14.03	6	84.20	1	1.19
SSL 137.2 R	2006-05-16	19:43	2006-05-17	8:56	13.22	6	79.30	0	0.00
SSL 132.5 R	2006-05-16	20:00	2006-05-17	9:15	13.25	6	79.50	0	0.00
SSL 132.4	2006-05-16	20:04	2006-05-17	8:45	12.68	16	202.93	0	0.00
SSL 130 R	2006-05-16	20:15	2006-05-17	9:36	13.35	6	80.10	1	1.25
SSL 124.9 R	2006-05-17	15:38	2006-05-18	13:04	21.43	8	171.47	0	0.00
SSL 125.5 L	2006-05-17	15:45	2006-05-18	12:52	21.12	7	147.82	0	0.00
SSL 125.5 R	2006-05-17	16:00	2006-05-18	12:33	20.55	15	308.25	1	0.32
SSL 129.8 R	2006-05-17	16:41	2006-05-18	12:12	19.52	8	156.13	0	0.00
SSL 132.4 R	2006-05-17	17:15	2006-05-18	9:25	16.17	20	323.33	3	0.93
SSL 125.6 M	2006-05-17	17:18	2006-05-19	10:10	40.87	9	367.80	0	0.00
SSL 125.8	2006-05-17	17:25	2006-05-19	10:01	40.60	14	568.40	0	0.00

Appendix II – Table 1 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 134.2 L	2006-05-17	18:05	2006-05-18	9:14	15.15	6	90.90	0	0.00
SSL 134.4 R	2006-05-17	18:15	2006-05-18	9:10	14.92	6	89.50	0	0.00
SSL 134.4 L	2006-05-16	19:50	2006-05-17	8:57	13.12	6	78.70	1	1.27
SSL 124.9 R	2006-05-18	17:11	2006-05-19	10:20	17.15	8	137.20	1	0.73
SSL 129.7	2006-05-18	17:36	2006-05-19	9:48	16.20	8	129.60	0	0.00
SSL 132.4 M	2006-05-18	17:50	2006-05-19	9:38	15.80	24	379.20	0	0.00
SSL 134.2 L	2006-05-18	18:00	2006-05-19	9:39	15.65	7	109.55	0	0.00
SSL 134.4 L	2006-05-18	18:14	2006-05-19	9:05	14.85	6	89.10	2	2.24

Appendix II - Table 2 Summary of angling catch and CPUE (fish/hook-hour) during the 2006 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	Number of rods	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
AN 125.3 M	2006-05-09	11:00	2006-05-09	14:30	3.50	7	24.50	0	0.00
AN 124.9 M	2006-05-10	14:00	2006-05-10	14:30	0.50	4	2.00	0	0.00
AN 116.8 M	2006-05-10	-	2006-05-10	-	0.58	4	2.32	2	0.86
AN 125.4	2006-05-11	16:45	2006-05-11	18:00	1.25	2	2.50	1	0.40

Appendix II - Table 3 Summary of set-line catch and CPUE (fish/100 hook-hours) during the 2007 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 129.8 L	2007-05-07	17:00	2007-05-08	9:28	16.47	6	98.80	0	0.00
SSL 129.9 L	2007-05-07	17:10	2007-05-08	9:36	16.43	8	131.47	0	0.00
SSL 130 L	2007-05-07	17:20	2007-05-08	9:43	16.38	7	114.68	0	0.00
SSL 132.3 R	2007-05-07	17:30	2007-05-08	9:53	16.38	17	278.52	0	0.00
SSL 132.5 R	2007-05-07	17:40	2007-05-08	10:01	16.35	17	277.95	0	0.00
SSL 134.2 L	2007-05-07	17:50	2007-05-08	10:16	16.43	6	98.60	0	0.00
SSL 134.3 L	2007-05-07	18:00	2007-05-08	10:22	16.37	8	130.93	0	0.00
SSL 134.5 L	2007-05-07	18:15	2007-05-08	10:28	16.22	8	129.73	0	0.00
SSL 125.4 L	2007-05-07	18:20	2007-05-08	10:03	15.72	29	455.78	0	0.00
SSL 124.9 R	2007-05-07	18:39	2007-05-08	9:55	15.27	10	152.67	0	0.00
SSL 115.5 R	2007-05-07	19:18	2007-05-08	10:56	15.63	12	187.60	0	0.00
AN 116.8 L	2007-05-07	19:41	2007-05-07	20:26	0.75	3	2.25	1	0.44
AN 116.8	2007-05-08	13:32	2007-05-08	15:00	1.47	3	4.40	1	0.23
SSL 116 R	2007-05-08	15:46	2007-05-09	10:15	18.48	12	221.80	2	0.90
SSL 125.4 R	2007-05-08	15:56	2007-05-09	9:30	17.57	16	281.07	2	0.71
SSL 132.4 R	2007-05-08	17:00	2007-05-09	14:10	21.17	17	359.83	0	0.00
SSL 115.6 R	2007-05-08	17:00	2007-05-09	9:48	16.80	12	201.60	0	0.00
SSL 132.2 R	2007-05-08	17:10	2007-05-09	13:59	20.82	8	166.53	0	0.00
SSL 116.8 L	2007-05-08	17:14	2007-05-09	12:13	18.98	8	151.87	0	0.00
SSL 132.1 R	2007-05-08	17:20	2007-05-09	13:42	20.37	7	142.57	0	0.00
SSL 131.8 R	2007-05-08	17:30	2007-05-09	13:34	20.07	8	160.53	0	0.00
SSL 131.6 R	2007-05-08	17:40	2007-05-09	13:26	19.77	8	158.13	0	0.00
SSL 125.1 R	2007-05-08	17:40	2007-05-09	13:00	19.33	12	232.00	3	1.29
SSL 129.9	2007-05-08	17:50	2007-05-09	13:12	19.37	8	154.93	0	0.00
SSL 129.9 L	2007-05-08	18:00	2007-05-09	13:00	19.00	6	114.00	0	0.00
SSL 125.4 R	2007-05-08	18:15	2007-05-09	14:55	20.67	28	578.67	0	0.00
AN 116.8	2007-05-09	19:40	2007-05-09	20:30	0.83	4	3.33	1	0.30
SSL 116 R	2007-05-09	20:42	2007-05-10	11:05	14.38	12	172.60	0	0.00
SSL 116.8 L	2007-05-09	20:50	2007-05-10	11:13	14.38	6	86.30	0	0.00
SSL 125 R	2007-05-09	21:08	2007-05-10	12:09	15.02	12	180.20	0	0.00
SSL 129.8 L	2007-05-09	21:20	2007-05-10	12:27	15.12	8	120.93	1	0.83
SSL 125.1 R	2007-05-10	13:45	2007-05-11	11:01	21.27	11	233.93	1	0.43
SSL 125.1 R	2007-05-10	13:45	2007-05-11	12:20	22.58	11	248.42	0	0.00
SSL 116.8 L	2007-05-10	14:19	2007-05-11	10:00	19.68	7	137.78	1	0.73
SSL 116 R	2007-05-10	14:35	2007-05-11	11:53	21.30	12	255.60	0	0.00
SSL 115.9 R	2007-05-10	14:43	2007-05-11	11:50	21.12	7	147.82	0	0.00
SSL 115.5 L	2007-05-10	14:50	2007-05-11	11:40	20.83	16	333.33	0	0.00
SSL 110.6 L	2007-05-10	15:07	2007-05-11	11:41	20.57	8	164.53	0	0.00
SSL 110.6 L	2007-05-10	15:20	2007-05-11	11:48	20.47	8	163.73	0	0.00
SSL 110.5 R	2007-05-10	15:25	2007-05-11	11:58	20.55	8	164.40	0	0.00
SSL 117.1 L	2007-05-10	15:42	2007-05-11	10:35	18.88	8	151.07	0	0.00
SSL 129.8 R	2007-05-10	16:15	2007-05-11	11:21	19.10	8	152.80	0	0.00
SSL 132.4 L	2007-05-10	16:24	2007-05-11	11:31	19.12	8	152.93	0	0.00
SSL 110.5 L	2007-05-11	12:13	2007-05-12	10:10	21.95	8	175.60	0	0.00
SSL 110.6 R	2007-05-11	12:24	2007-05-12	10:19	21.92	8	175.33	1	0.57
SSL 110.6 L	2007-05-11	12:26	2007-05-12	10:52	22.43	8	179.47	1	0.56

Appendix II – Table 3 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 125.1 R	2007-05-11	15:02	2007-05-12	10:24	19.37	16	309.87	0	0.00
SSL 125.3 L	2007-05-11	15:22	2007-05-12	10:13	18.85	16	301.60	0	0.00
SSL 129.8 R	2007-05-11	15:38	2007-05-12	9:57	18.32	8	146.53	0	0.00
SSL 132.4 L	2007-05-11	15:50	2007-05-12	9:40	17.83	8	142.67	0	0.00
SSL 115.5	2007-05-11	18:10	2007-05-12	12:10	18.00	7	126.00	0	0.00
SSL 116 R	2007-05-11	18:15	2007-05-12	12:15	18.00	25	450.00	0	0.00
SSL 116.8 R	2007-05-11	18:23	2007-05-12	13:02	18.65	7	130.55	0	0.00
SSL 116.9 R	2007-05-11	18:35	2007-05-12	13:09	18.57	12	222.80	0	0.00
SSL 117 R	2007-05-11	18:45	2007-05-12	13:17	18.53	8	148.27	1	0.67
SSL 117.5 R	2007-05-11	19:00	2007-05-12	14:37	19.62	12	235.40	0	0.00
SSL 130	2007-05-11		2007-05-12		24.00	8	192.00	1	0.52
SSL 110.6 R	2007-05-12	11:08	2007-05-13	10:15	23.12	8	184.93	0	0.00
SSL 110.6 R	2007-05-12	11:43	2007-05-13	10:07	22.40	8	179.20	0	0.00
SSL 110.5 R	2007-05-12	11:51	2007-05-13	10:22	22.52	8	180.13	1	0.56
SSL 117.5 R	2007-05-12	14:50	2007-05-13	14:11	23.35	12	280.20	0	0.00
SSL 132.4 R	2007-05-12	16:26	2007-05-13	9:28	17.03	7	119.23	0	0.00
SSL 129.8 R	2007-05-12	16:36	2007-05-13	9:47	17.18	9	154.65	0	0.00
SSL 125.3 L	2007-05-12	16:55	2007-05-13	10:02	17.12	16	273.87	0	0.00
SSL 125.1 R	2007-05-12	17:04	2007-05-13	10:50	17.77	16	284.27	0	0.00
SSL 116 R	2007-05-12	17:06	2007-05-13	11:55	18.82	24	451.60	2	0.44
SSL 115.9 R	2007-05-12	17:20	2007-05-13	11:45	18.42	8	147.33	0	0.00
SSL 125 L	2007-05-12	17:38	2007-05-13	10:34	16.93	16	270.93	0	0.00
SSL 117.1 R	2007-05-12	17:39	2007-05-13	14:05	20.43	8	163.47	0	0.00
SSL 130 L	2007-05-12	17:55	2007-05-13	9:38	15.72	17	267.18	0	0.00
SSL 116.8 R	2007-05-12	21:25	2007-05-13	13:46	16.35	12	196.20	0	0.00
SSL 116.8 R	2007-05-12	21:31	2007-05-13	13:58	16.45	7	115.15	0	0.00
SSL 110.5 R	2007-05-13	10:35	2007-05-14	11:40	25.08	8	200.67	0	0.00
SSL 110.5 R	2007-05-13	11:25	2007-05-14	11:35	24.17	8	193.33	0	0.00
SSL 110.6 R	2007-05-13	11:35	2007-05-14	11:50	24.25	8	194.00	0	0.00
SSL 116.7 R	2007-05-13	15:20	2007-05-14	10:55	19.58	7	137.08	0	0.00
SSL 117.5 R	2007-05-13	15:45	2007-05-14	10:20	18.58	9	167.25	0	0.00
SSL 116 R	2007-05-13	16:00	2007-05-14	11:10	19.17	24	460.00	0	0.00
SSL 117 R	2007-05-13	16:15	2007-05-14	10:37	18.37	8	146.93	0	0.00
SSL 132.4 R	2007-05-13	16:26	2007-05-14	9:15	16.82	8	134.53	0	0.00
SSL 130 L	2007-05-13	16:36	2007-05-14	9:24	16.80	16	268.80	0	0.00
SSL 129.8 R	2007-05-13	16:42	2007-05-14	9:33	16.85	8	134.80	0	0.00
SSL 125.3 L	2007-05-13	16:53	2007-05-14	9:46	16.88	16	270.13	0	0.00
SSL 125.1 R	2007-05-13	17:00	2007-05-14	9:59	16.98	16	271.73	1	0.37
SSL 117.1 R	2007-05-13	17:00	2007-05-14	10:30	17.50	8	140.00	0	0.00
SSL 125 L	2007-05-13	17:08	2007-05-14	10:59	17.85	16	285.60	0	0.00
SSL 116.8 R	2007-05-13	17:10	2007-05-14	11:44	18.57	8	148.53	0	0.00
SSL 110.5 L	2007-05-14	11:55	2007-05-15	15:04	27.15	8	217.20	1	0.46
SSL 110.6 L	2007-05-14	12:00	2007-05-15	14:25	26.42	8	211.33	1	0.47
SSL 110.2 L	2007-05-14	12:18	2007-05-15	13:54	25.60	8	204.80	1	0.49
SSL 111.7 R	2007-05-14	14:03	2007-05-15	13:44	23.68	8	189.47	0	0.00
SSL 115.6 R	2007-05-14	14:30	2007-05-15	13:03	22.55	8	180.40	1	0.55

Appendix II – Table 3 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 116 R	2007-05-14	14:41	2007-05-15	12:06	21.42	26	556.83	1	0.18
SSL 125 L	2007-05-14	14:46	2007-05-15	10:11	19.42	16	310.67	0	0.00
SSL 125.1 R	2007-05-14	14:53	2007-05-15	10:03	19.17	16	306.67	0	0.00
SSL 125.3 L	2007-05-14	14:58	2007-05-15	9:54	18.93	16	302.93	0	0.00
SSL 129.8 R	2007-05-14	15:09	2007-05-15	9:42	18.55	8	148.40	0	0.00
SSL 116.8 L	2007-05-14	15:10	2007-05-15	11:39	20.48	12	245.80	0	0.00
SSL 130 L	2007-05-14	15:14	2007-05-15	9:30	18.27	16	292.27	0	0.00
SSL 132.4 R	2007-05-14	15:23	2007-05-15	9:21	17.97	8	143.73	0	0.00
SSL 117.1 L	2007-05-14	15:24	2007-05-15	11:30	20.10	8	160.80	0	0.00
SSL 117.1 L	2007-05-14	15:33	2007-05-15	11:35	20.03	8	160.27	0	0.00
SSL 121.3 L	2007-05-14	15:47	2007-05-15	10:02	18.25	10	182.50	2	1.10
SSL 110.5 L	2007-05-15	13:20	2007-05-16	13:36	24.27	8	194.13	0	0.00
SSL 110.2 L	2007-05-15	14:04	2007-05-16	11:50	21.77	8	174.13	0	0.00
SSL 110.6 L	2007-05-15	14:50	2007-05-16	12:27	21.62	8	172.93	1	0.58
SSL 111.2 R	2007-05-15	15:44	2007-05-16	11:52	20.13	8	161.07	0	0.00
SSL 111.7 R	2007-05-15	16:00	2007-05-16	11:44	19.73	8	157.87	0	0.00
SSL 115.6 L	2007-05-15	16:10	2007-05-16	11:10	19.00	11	209.00	0	0.00
SSL 134.4 L	2007-05-15	16:15	2007-05-16	9:37	17.37	16	277.87	0	0.00
SSL 132.4	2007-05-15	16:28	2007-05-16	9:47	17.32	16	277.07	0	0.00
SSL 130 L	2007-05-15	16:35	2007-05-16	9:57	17.37	16	277.87	0	0.00
SSL 129.8 R	2007-05-15	16:40	2007-05-16	10:03	17.38	8	139.07	0	0.00
SSL 125.3 L	2007-05-15	16:53	2007-05-16	12:04	19.18	16	306.93	0	0.00
SSL 125.1 R	2007-05-15	17:07	2007-05-16	12:14	19.12	16	305.87	0	0.00
SSL 125 L	2007-05-15	17:11	2007-05-16	12:25	19.23	16	307.73	0	0.00
SSL 117 L	2007-05-15	18:52	2007-05-16	10:40	15.80	7	110.60	0	0.00
SSL 121.3 L	2007-05-15	19:04	2007-05-16	10:24	15.33	10	153.33	0	0.00
SSL 116 L	2007-05-15	21:10	2007-05-16	11:00	13.83	25	345.83	0	0.00
SSL 116.8 R	2007-05-15	21:20	2007-05-16	10:50	13.50	10	135.00	0	0.00
SSL 110.2 L	2007-05-16	12:22	2007-05-17	12:05	23.72	8	189.73	0	0.00
SSL 110.6 L	2007-05-16	12:39	2007-05-17	12:37	23.97	8	191.73	0	0.00
SSL 125 L	2007-05-16	12:55	2007-05-17	11:19	22.40	16	358.40	0	0.00
SSL 125.1 R	2007-05-16	12:59	2007-05-17	11:13	22.23	16	355.73	0	0.00
SSL 125.3 L	2007-05-16	13:06	2007-05-17	11:02	21.93	16	350.93	0	0.00
SSL 110.5 L	2007-05-16	14:03	2007-05-17	12:48	22.75	8	182.00	0	0.00
SSL 111.2 R	2007-05-16	14:18	2007-05-17	10:45	20.45	7	143.15	1	0.70
SSL 111.7 R	2007-05-16	14:30	2007-05-17	10:39	20.15	7	141.05	0	0.00
SSL 115.6 R	2007-05-16	14:40	2007-05-17	10:28	19.80	12	237.60	0	0.00
SSL 116 L	2007-05-16	14:51	2007-05-17	10:20	19.48	24	467.60	0	0.00
SSL 121.3 L	2007-05-16	15:24	2007-05-17	9:45	18.35	8	146.80	0	0.00
SSL 117.3 L	2007-05-16	15:34	2007-05-17	9:54	18.33	8	146.67	0	0.00
SSL 117.1 L	2007-05-16	15:37	2007-05-17	9:58	18.35	8	146.80	0	0.00
SSL 132.4 R	2007-05-16	16:00	2007-05-17	10:03	18.05	16	288.80	1	0.35
SSL 134.4 L	2007-05-16	16:10	2007-05-17	9:39	17.48	16	279.73	0	0.00
SSL 130 L	2007-05-16	16:15	2007-05-17	10:35	18.33	16	293.33	0	0.00
SSL 129.8 R	2007-05-16	16:30	2007-05-17	10:48	18.30	8	146.40	0	0.00
SSL 116.8 L	2007-05-16	20:50	2007-05-17	10:10	13.33	12	160.00	0	0.00

Appendix II – Table 3 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 110.2 L	2007-05-17	12:36	2007-05-18	9:41	21.08	8	168.67	0	0.00
SSL 110.6 L	2007-05-17	12:47	2007-05-18	9:51	21.07	8	168.53	0	0.00
SSL 110.5 R	2007-05-17	12:56	2007-05-18	10:00	21.07	8	168.53	0	0.00
SSL 111.2 R	2007-05-17	13:04	2007-05-18	10:05	21.02	6	126.10	0	0.00
SSL 111.7 R	2007-05-17	13:10	2007-05-18	10:17	21.12	7	147.82	0	0.00
SSL 115.6 R	2007-05-17	13:26	2007-05-18	10:31	21.08	13	274.08	0	0.00
SSL 116 R	2007-05-17	14:23	2007-05-18	10:43	20.33	26	528.67	0	0.00
SSL 115.8 R	2007-05-17	14:29	2007-05-18	10:35	20.10	8	160.80	0	0.00
SSL 116.8 L	2007-05-17	14:40	2007-05-18	11:07	20.45	12	245.40	0	0.00
SSL 116.8 L	2007-05-17	14:46	2007-05-18	11:15	20.48	12	245.80	0	0.00
SSL 121.3 L	2007-05-17	15:07	2007-05-18	11:23	20.27	8	162.13	0	0.00
SSL 117.1 L	2007-05-17	15:15	2007-05-18	11:30	20.25	8	162.00	0	0.00
SSL 117 L	2007-05-17	15:19	2007-05-18	11:41	20.37	8	162.93	0	0.00
SSL 129.8 R	2007-05-17	16:30	2007-05-18	9:50	17.33	8	138.67	0	0.00
SSL 125 L	2007-05-17	18:06	2007-05-18	10:31	16.42	16	262.67	0	0.00
SSL 125.1 R	2007-05-17	18:13	2007-05-18	10:20	16.12	16	257.87	0	0.00
SSL 125.3 L	2007-05-17	18:20	2007-05-18	10:10	15.83	16	253.33	0	0.00
SSL 130 L	2007-05-17	18:35	2007-05-18	9:41	15.10	16	241.60	0	0.00
SSL 132.4 R	2007-05-17	18:43	2007-05-18	9:29	14.77	16	236.27	0	0.00
SSL 133.3 L	2007-05-17	18:52	2007-05-18	9:19	14.45	16	231.20	0	0.00

Appendix II - Table 4 Summary of angling catch and CPUE (fish/hook-hour) during the 2007 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	Number of rods	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
AN 116.8 L	2007-05-07	19:41	2007-05-07	20:26	0.75	3	2.25	1	0.44
AN 116.8	2007-05-08	13:32	2007-05-08	15:00	1.47	3	4.40	1	0.23
AN 116.8	2007-05-09	19:40	2007-05-09	20:30	0.83	4	3.33	1	0.30

Appendix II - Table 5 Summary of set-line catch and CPUE (fish/100 hook-hours) during the 2008 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 110.6 L	2008-04-29	17:45	2008-04-30	11:25	17.67	14	247.33	4	1.62
SSL 110.5	2008-04-29	17:50	2008-04-30	13:53	20.05	6	120.30	1	0.83
SSL 115.6 L	2008-04-29	18:08	2008-04-30	14:38	20.50	4	82.00	0	0.00
SSL 116 L	2008-04-29	18:20	2008-04-30	14:51	20.52	24	492.40	0	0.00
SSL 116.8 R	2008-04-29	18:45	2008-04-30	15:05	20.33	12	244.00	1	0.41
SSL 117.1 L	2008-04-29	19:00	2008-04-30	15:45	20.75	11	228.25	1	0.44
SSL 110.6 L	2008-04-30	17:45	2008-05-01	10:41	16.93	13	220.13	5	2.27
SSL 110.5 L	2008-04-30	17:55	2008-05-01	13:50	19.92	12	239.00	4	1.67
SSL 115.6 R	2008-04-30	18:10	2008-05-01	17:18	23.13	5	115.67	0	0.00
SSL 116 R	2008-04-30	18:20	2008-05-01	17:27	23.12	24	554.80	0	0.00
SSL 116.8 L	2008-04-30	18:30	2008-05-01	17:42	23.20	12	278.40	2	0.72
SSL 117.1 L	2008-04-30	18:40	2008-05-01	18:30	23.83	12	286.00	0	0.00
SSL 115.6 R	2008-05-05	15:43	2008-05-06	13:02	21.32	13	277.12	0	0.00
SSL 116 R	2008-05-05	16:00	2008-05-06	13:14	21.23	23	488.37	0	0.00
SSL 116.8 L	2008-05-05	16:10	2008-05-06	13:30	21.33	12	256.00	0	0.00
SSL 117 L	2008-05-05	16:16	2008-05-06	11:55	19.65	12	235.80	1	0.42
SSL 117.7 L	2008-05-05	16:25	2008-05-06	11:03	18.63	5	93.17	1	1.07
SSL 121.3 L	2008-05-05	16:36	2008-05-06	10:03	17.45	6	104.70	1	0.96
SSL 125 L	2008-05-05	17:09	2008-05-06	15:40	22.52	8	180.13	1	0.56
SSL 125.1 R	2008-05-05	17:19	2008-05-06	15:26	22.12	8	176.93	2	1.13
SSL 125.3 L	2008-05-05	17:29	2008-05-06	14:52	21.38	8	171.07	0	0.00
SSL 125.4 L	2008-05-05	17:38	2008-05-06	14:31	20.88	8	167.07	1	0.60
SSL 125.6 L	2008-05-05	17:48	2008-05-06	14:08	20.33	8	162.67	1	0.61
SSL 129.9 R	2008-05-05	18:06	2008-05-06	13:45	19.65	7	137.55	0	0.00
SSL 134.2 L	2008-05-05	18:23	2008-05-06	13:31	19.13	6	114.80	0	0.00
SSL 121.3 L	2008-05-06	10:54	2008-05-07	13:34	26.67	6	160.00	0	0.00
SSL 115.6 R	2008-05-06	14:11	2008-05-07	11:55	21.73	12	260.80	0	0.00
SSL 116 R	2008-05-06	14:21	2008-05-07	12:13	21.87	23	502.93	0	0.00
SSL 116.8 L	2008-05-06	14:34	2008-05-07	14:34	24.00	12	288.00	1	0.35
SSL 117 L	2008-05-06	14:38	2008-05-07	13:32	22.90	12	274.80	0	0.00
SSL 117.7 L	2008-05-06	14:46	2008-05-07	13:43	22.95	12	275.40	0	0.00
SSL 125 L	2008-05-06	19:50	2008-05-07	12:27	16.62	8	132.93	0	0.00
SSL 125.1 R	2008-05-06	20:25	2008-05-07	12:34	16.15	8	129.20	1	0.77
SSL 125.3 L	2008-05-06	20:30	2008-05-07	13:22	16.87	8	134.93	0	0.00
SSL 125.4 L	2008-05-06	20:36	2008-05-07	13:28	16.87	8	134.93	1	0.74
SSL 125.6 L	2008-05-06	20:41	2008-05-07	14:13	17.53	8	140.27	0	0.00
SSL 125.6 L	2008-05-07	14:36	2008-05-08	12:42	22.10	8	176.80	0	0.00
SSL 125.4 L	2008-05-07	14:40	2008-05-08	12:49	22.15	8	177.20	0	0.00
SSL 125.3 R	2008-05-07	14:44	2008-05-08	13:07	22.38	8	179.07	0	0.00
SSL 125.1 R	2008-05-07	14:49	2008-05-08	13:23	22.57	8	180.53	0	0.00
SSL 125 L	2008-05-07	14:54	2008-05-08	13:31	22.62	8	180.93	1	0.55
SSL 129.9 R	2008-05-07	15:08	2008-05-08	12:18	21.17	8	169.33	0	0.00
SSL 132.3 R	2008-05-07	15:18	2008-05-08	11:16	19.97	6	119.80	1	0.83
SSL 121.3 L	2008-05-07	15:38	2008-05-08	15:09	23.52	6	141.10	0	0.00
SSL 110.2 L	2008-05-07	16:00	2008-05-08	10:14	18.23	6	109.40	0	0.00
SSL 110.5 L	2008-05-07	16:12	2008-05-08	10:40	18.47	13	240.07	2	0.83

Appendix II – Table 5 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 111.7 L	2008-05-07	16:25	2008-05-08	14:28	22.05	6	132.30	1	0.76
SSL 116 R	2008-05-07	16:44	2008-05-08	15:09	22.42	24	538.00	0	0.00
SSL 116.8 L	2008-05-07	16:49	2008-05-08	12:35	19.77	12	237.20	0	0.00
SSL 117 L	2008-05-07	17:00	2008-05-08	12:40	19.67	12	236.00	0	0.00
SSL 117.7 L	2008-05-07	17:01	2008-05-08	13:29	20.47	13	266.07	3	1.13
SSL 110.2 L	2008-05-09	18:29	2008-05-10	12:16	17.78	6	106.70	0	0.00
SSL 110.5 L	2008-05-09	18:42	2008-05-10	12:23	17.68	13	229.88	3	1.31
SSL 111.7 R	2008-05-09	19:00	2008-05-10	14:28	19.47	6	116.80	1	0.86
SSL 116 R	2008-05-09	19:13	2008-05-10	15:14	20.02	23	460.38	0	0.00
SSL 116.8 L	2008-05-09	19:34	2008-05-10	15:30	19.93	12	239.20	0	0.00
SSL 117 L	2008-05-09	19:44	2008-05-10	15:40	19.93	12	239.20	0	0.00
SSL 117.7 L	2008-05-09	19:53	2008-05-10	16:05	20.20	10	202.00	0	0.00
SSL 125 L	2008-05-09	20:14	2008-05-10	13:04	16.83	8	134.67	0	0.00
SSL 125.1 R	2008-05-09	20:20	2008-05-10	12:59	16.65	8	133.20	0	0.00
SSL 125.3 L	2008-05-09	20:24	2008-05-10	12:22	15.97	8	127.73	0	0.00
SSL 125.4 L	2008-05-09	20:29	2008-05-10	12:11	15.70	8	125.60	0	0.00
SSL 125.6 L	2008-05-09	20:34	2008-05-10	12:01	15.45	8	123.60	0	0.00
SSL 129.9 R	2008-05-09	20:44	2008-05-10	11:46	15.03	6	90.20	0	0.00
SSL 132.3 R	2008-05-09	20:56	2008-05-10	11:34	14.63	6	87.80	0	0.00
SSL 110.5 L	2008-05-10	13:28	2008-05-11	9:12	19.73	12	236.80	0	0.00
SSL 110.6 L	2008-05-10	14:05	2008-05-11	9:27	19.37	5	96.83	2	2.07
SSL 111.7 R	2008-05-10	15:05	2008-05-11	10:45	19.67	6	118.00	1	0.85
SSL 125 L	2008-05-10	15:19	2008-05-11	11:58	20.65	8	165.20	0	0.00
SSL 116 R	2008-05-10	15:22	2008-05-11	11:27	20.08	6	120.50	0	0.00
SSL 125.1 R	2008-05-10	15:23	2008-05-11	11:50	20.45	8	163.60	0	0.00
SSL 125.3 L	2008-05-10	15:27	2008-05-11	11:42	20.25	8	162.00	0	0.00
SSL 125.4 L	2008-05-10	15:31	2008-05-11	11:33	20.03	8	160.27	0	0.00
SSL 125.6 L	2008-05-10	15:34	2008-05-11	11:24	19.83	8	158.67	0	0.00
SSL 116.8 L	2008-05-10	15:37	2008-05-11	11:35	19.97	12	239.60	0	0.00
SSL 129.9 R	2008-05-10	15:43	2008-05-11	11:08	19.42	6	116.50	0	0.00
SSL 117 L	2008-05-10	15:45	2008-05-11	11:47	20.03	12	240.40	0	0.00
SSL 132.3 R	2008-05-10	15:51	2008-05-11	10:56	19.08	6	114.50	0	0.00
SSL 117.7 L	2008-05-10	15:55	2008-05-11	11:58	20.05	24	481.20	0	0.00
SSL 110.5 L	2008-05-11	9:19	2008-05-12	10:55	25.60	13	332.80	0	0.00
SSL 110.6 L	2008-05-11	10:28	2008-05-12	10:17	23.82	12	285.80	1	0.35
SSL 111.2 R	2008-05-11	10:41	2008-05-12	10:10	23.48	6	140.90	0	0.00
SSL 111.7 R	2008-05-11	11:10	2008-05-12	10:01	22.85	6	137.10	0	0.00
SSL 116.8 L	2008-05-11	11:40	2008-05-12	11:57	24.28	12	291.40	0	0.00
SSL 117 L	2008-05-11	11:47	2008-05-12	12:15	24.47	12	293.60	0	0.00
SSL 117.7 L	2008-05-11	12:11	2008-05-12	11:25	23.23	24	557.60	0	0.00
SSL 117.3 L	2008-05-11	12:26	2008-05-12	12:30	24.07	6	144.40	0	0.00
SSL 125.1 R	2008-05-11	13:17	2008-05-12	10:52	21.58	8	172.67	0	0.00
SSL 125 L	2008-05-11	13:21	2008-05-12	11:01	21.67	8	173.33	1	0.58
SSL 125.3 L	2008-05-11	13:26	2008-05-12	10:42	21.27	8	170.13	0	0.00
SSL 125.4 L	2008-05-11	13:30	2008-05-12	10:33	21.05	8	168.40	0	0.00
SSL 125.6 L	2008-05-11	13:35	2008-05-12	10:23	20.80	8	166.40	0	0.00

Appendix II – Table 5 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 129.9 R	2008-05-11	13:44	2008-05-12	10:09	20.42	6	122.50	0	0.00
SSL 132.3 R	2008-05-11	13:50	2008-05-12	9:55	20.08	6	120.50	0	0.00
SSL 125 L	2008-05-12	12:51	2008-05-13	12:40	23.82	8	190.53	0	0.00
SSL 125.1 R	2008-05-12	12:55	2008-05-13	12:31	23.60	8	188.80	0	0.00
SSL 125.3 L	2008-05-12	12:59	2008-05-13	12:22	23.38	8	187.07	0	0.00
SSL 125.4 L	2008-05-12	13:03	2008-05-13	12:14	23.18	8	185.47	0	0.00
SSL 125.6 L	2008-05-12	13:07	2008-05-13	12:06	22.98	8	183.87	0	0.00
SSL 129.9 R	2008-05-12	13:17	2008-05-13	11:53	22.60	6	135.60	0	0.00
SSL 132.3 R	2008-05-12	13:24	2008-05-13	11:42	22.30	6	133.80	0	0.00
SSL 126.7 R	2008-05-12	13:33	2008-05-13	9:29	19.93	12	239.20	0	0.00
SSL 130 L	2008-05-12	14:24	2008-05-13	9:51	19.45	12	233.40	0	0.00
SSL 131.9 R	2008-05-12	14:44	2008-05-13	10:10	19.43	12	233.20	0	0.00
SSL 132.5 L	2008-05-12	14:56	2008-05-13	10:21	19.42	24	466.00	0	0.00
SSL 132.6 R	2008-05-12	15:10	2008-05-13	10:40	19.50	12	234.00	0	0.00
SSL 134.3 L	2008-05-12	15:20	2008-05-13	10:56	19.60	5	98.00	0	0.00
SSL 134.4 L	2008-05-12	15:34	2008-05-13	11:04	19.50	6	117.00	0	0.00
SSL 126.7 R	2008-05-13	9:39	2008-05-14	13:59	28.33	12	340.00	0	0.00
SSL 130 L	2008-05-13	9:55	2008-05-14	13:19	27.40	12	328.80	0	0.00
SSL 131.9 R	2008-05-13	10:12	2008-05-14	12:47	26.58	12	319.00	0	0.00
SSL 132.5 L	2008-05-13	10:31	2008-05-14	11:46	25.25	24	606.00	0	0.00
SSL 132.6 R	2008-05-13	10:44	2008-05-14	10:54	24.17	12	290.00	1	0.34
SSL 134.3 R	2008-05-13	10:59	2008-05-14	10:41	23.70	7	165.90	0	0.00
SSL 134.4 R	2008-05-13	11:10	2008-05-14	9:08	21.97	12	263.60	1	0.38
SSL 125 L	2008-05-13	13:24	2008-05-14	15:05	25.68	8	205.47	0	0.00
SSL 125.1 R	2008-05-13	13:28	2008-05-14	14:46	25.30	8	202.40	0	0.00
SSL 125.3 L	2008-05-13	13:33	2008-05-14	14:30	24.95	8	199.60	0	0.00
SSL 125.4 L	2008-05-13	13:37	2008-05-14	14:23	24.77	8	198.13	0	0.00
SSL 125.6 L	2008-05-13	13:41	2008-05-14	14:15	24.57	8	196.53	0	0.00
SSL 129.9 R	2008-05-13	14:03	2008-05-14	13:10	23.12	6	138.70	0	0.00
SSL 132.3 R	2008-05-13	14:14	2008-05-14	12:04	21.83	6	131.00	0	0.00
SSL 134.4 L	2008-05-14	10:35	2008-05-15	9:39	23.07	12	276.80	0	0.00
SSL 134.3 L	2008-05-14	10:50	2008-05-15	9:56	23.10	6	138.60	0	0.00
SSL 132.6 R	2008-05-14	11:40	2008-05-15	10:03	22.38	8	179.07	0	0.00
SSL 132.4 R	2008-05-14	11:50	2008-05-15		12.17	24	292.00	0	0.00
SSL 131.7 R	2008-05-14	13:05	2008-05-15	10:26	21.35	6	128.10	0	0.00
SSL 130.2 R	2008-05-14	13:11	2008-05-15	10:32	21.35	12	256.20	1	0.39
SSL 129.9 R	2008-05-14	13:15	2008-05-15	11:02	21.78	6	130.70	0	0.00
SSL 130 L	2008-05-14	13:30	2008-05-15	11:27	21.95	12	263.40	0	0.00
SSL 126.7 R	2008-05-14	14:10	2008-05-15	11:38	21.47	8	171.73	0	0.00
SSL 125.6 L	2008-05-14	14:15	2008-05-15	10:44	20.48	8	163.87	0	0.00
SSL 125.4 L	2008-05-14	14:25	2008-05-15	10:51	20.43	8	163.47	0	0.00
SSL 125.3 R	2008-05-14	14:35	2008-05-15	10:35	20.00	8	160.00	0	0.00
SSL 125.1 R	2008-05-14	14:56	2008-05-15	10:26	19.50	8	156.00	0	0.00
SSL 125 R	2008-05-14	15:10	2008-05-15	10:18	19.13	8	153.07	0	0.00
SSL 125 R	2008-05-17	16:55	2008-05-18	16:29	23.57	8	188.53	0	0.00
SSL 125.1 R	2008-05-17	17:03	2008-05-18	16:05	23.03	8	184.27	1	0.54

Appendix II – Table 5 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 125.3 L	2008-05-17	17:11	2008-05-18	15:57	22.77	8	182.13	0	0.00
SSL 125.4 L	2008-05-17	17:16	2008-05-18	15:49	22.55	8	180.40	0	0.00
SSL 125.6 L	2008-05-17	17:21	2008-05-18	17:21	24.00	8	192.00	2	1.04
SSL 126.7 R	2008-05-17	17:30	2008-05-18	14:29	20.98	15	314.75	2	0.64
SSL 129.9 R	2008-05-17	17:43	2008-05-18	13:16	19.55	7	136.85	1	0.73
SSL 130 L	2008-05-17	17:49	2008-05-18	12:20	18.52	14	259.23	0	0.00
SSL 130.1 R	2008-05-17	18:04	2008-05-18	12:07	18.05	13	234.65	0	0.00
SSL 131.7 R	2008-05-17	18:22	2008-05-18	11:57	17.58	7	123.08	0	0.00
SSL 132.4 R	2008-05-17	18:43	2008-05-18	11:37	16.90	24	405.60	0	0.00
SSL 132.6 R	2008-05-17	19:02	2008-05-18	11:22	16.33	12	196.00	0	0.00
SSL 134.2 L	2008-05-17	19:11	2008-05-18	11:10	15.98	6	95.90	0	0.00
SSL 125.1 R	2008-05-24	17:05	2008-05-25	11:18	18.22	12	218.60	0	0.00
SSL 125.3 L	2008-05-24	17:18	2008-05-25	11:12	17.90	8	143.20	0	0.00
SSL 125.5 L	2008-05-24	17:26	2008-05-25	11:03	17.62	8	140.93	0	0.00
SSL 126.7 R	2008-05-24	17:35	2008-05-25	10:55	17.33	8	138.67	0	0.00
SSL 129.9 R	2008-05-24	17:51	2008-05-25	10:42	16.85	6	101.10	0	0.00
SSL 130.2 R	2008-05-24	18:02	2008-05-25	10:35	16.55	6	99.30	0	0.00
SSL 132.4 R	2008-05-24	18:10	2008-05-25	9:58	15.80	8	126.40	0	0.00
SSL 134.2 L	2008-05-24	18:20	2008-05-25	9:46	15.43	8	123.47	0	0.00
SSL 125.1 R	2008-05-25	12:10	2008-05-26	11:11	23.02	12	276.20	1	0.36
SSL 125.3 L	2008-05-25	12:15	2008-05-26	11:04	22.82	8	182.53	0	0.00
SSL 125.5 L	2008-05-25	12:18	2008-05-26	10:57	22.65	8	181.20	0	0.00
SSL 126.7 R	2008-05-25	12:22	2008-05-26	10:48	22.43	8	179.47	0	0.00
SSL 129.9 R	2008-05-25	12:30	2008-05-26	10:38	22.13	6	132.80	0	0.00
SSL 130.2 R	2008-05-25	12:34	2008-05-26	10:31	21.95	6	131.70	0	0.00
SSL 132.4 R	2008-05-25	12:42	2008-05-26	10:22	21.67	8	173.33	0	0.00
SSL 134.2 L	2008-05-25	12:47	2008-05-26	10:11	21.40	8	171.20	0	0.00
SSL 134.2 L	2008-05-26	10:16	2008-05-27	10:45	24.48	8	195.87	0	0.00
SSL 132.4 R	2008-05-26	10:26	2008-05-27	10:56	24.50	8	196.00	0	0.00
SSL 130.2 R	2008-05-26	10:36	2008-05-27	11:05	24.48	6	146.90	0	0.00
SSL 129.9 R	2008-05-26	10:43	2008-05-27	11:11	24.47	6	146.80	0	0.00
SSL 126.7 R	2008-05-26	10:53	2008-05-27	11:24	24.52	8	196.13	0	0.00
SSL 125.5 L	2008-05-26	11:01	2008-05-27	11:07	24.10	8	192.80	0	0.00
SSL 125.3 L	2008-05-26	12:00	2008-05-27	11:37	23.62	8	188.93	0	0.00
SSL 125.1 R	2008-05-26	12:25	2008-05-27	11:43	23.30	12	279.60	0	0.00
SSL 134.2 L	2008-05-27	10:52	2008-05-28	9:44	22.87	8	182.93	0	0.00
SSL 132.4 R	2008-05-27	11:00	2008-05-28	9:53	22.88	8	183.07	0	0.00
SSL 130.2 R	2008-05-27	11:07	2008-05-28	10:03	22.93	6	137.60	0	0.00
SSL 129.9 R	2008-05-27	11:16	2008-05-28	10:09	22.88	6	137.30	0	0.00
SSL 126.7 R	2008-05-27	11:28	2008-05-28	10:18	22.83	8	182.67	0	0.00
SSL 125.5 L	2008-05-27	11:35	2008-05-28	10:25	22.83	8	182.67	0	0.00
SSL 125.3 L	2008-05-27	11:40	2008-05-28	10:31	22.85	8	182.80	0	0.00
SSL 125.1 R	2008-05-27	11:50	2008-05-28	10:36	22.77	12	273.20	0	0.00
SSL 134.2 L	2008-05-28	9:47	2008-05-29	10:51	25.07	8	200.53	0	0.00
SSL 132.4 R	2008-05-28	9:55	2008-05-29	11:03	25.13	8	201.07	0	0.00
SSL 130.2 R	2008-05-28	10:06	2008-05-29	11:17	25.18	6	151.10	0	0.00

Appendix II – Table 5 Continued

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 129.9 R	2008-05-28	10:12	2008-05-29	11:25	25.22	6	151.30	0	0.00
SSL 126.7 R	2008-05-28	10:22	2008-05-29	11:37	25.25	8	202.00	0	0.00
SSL 125.5 R	2008-05-28	10:29	2008-05-29	11:48	25.32	8	202.53	0	0.00
SSL 125.3 L	2008-05-28	10:34	2008-05-29	11:57	25.38	8	203.07	0	0.00
SSL 125.1 R	2008-05-28	10:43	2008-05-29	12:07	25.40	12	304.80	0	0.00
SSL 134.2 L	2008-05-29	10:56	2008-05-30	10:27	23.52	8	188.13	0	0.00
SSL 132.4 R	2008-05-29	11:06	2008-05-30	10:38	23.53	8	188.27	1	0.53
SSL 130.2 R	2008-05-29	11:21	2008-05-30	11:15	23.90	6	143.40	0	0.00
SSL 132.4 R	2008-05-29	11:29	2008-05-30	11:23	23.90	6	143.40	0	0.00
SSL 126.7 R	2008-05-29	11:42	2008-05-30	12:16	24.57	8	196.53	1	0.51
SSL 125.5 L	2008-05-29	11:52	2008-05-30	13:52	26.00	8	208.00	0	0.00
SSL 125.3 L	2008-05-29	12:00	2008-05-30	14:00	26.00	8	208.00	0	0.00
SSL 125.1 R	2008-05-29	12:13	2008-05-30	14:11	25.97	12	311.60	2	0.64
SSL 134.2 L	2008-05-30	10:31	2008-05-31	10:46	24.25	8	194.00	0	0.00
SSL 132.4 R	2008-05-30	11:09	2008-05-31	10:59	23.83	8	190.67	0	0.00
SSL 130.2 R	2008-05-30	11:20	2008-05-31	11:11	23.85	6	143.10	1	0.70
SSL 129.9 R	2008-05-30	12:09	2008-05-31	11:51	23.70	6	142.20	0	0.00
SSL 126.7 R	2008-05-30	13:43	2008-05-31	12:06	22.38	8	179.07	1	0.56
SSL 125.5 L	2008-05-30	13:57	2008-05-31	14:22	24.42	8	195.33	0	0.00
SSL 125.3 L	2008-05-30	14:04	2008-05-31	14:32	24.47	8	195.73	0	0.00
SSL 125.1 R	2008-05-30	15:00	2008-05-31	14:46	23.77	12	285.20	0	0.00
SSL 134.2 L	2008-05-31	10:50	2008-06-01	14:13	27.38	8	219.07	0	0.00
SSL 132.4 R	2008-05-31	11:01	2008-06-01	13:57	26.93	8	215.47	0	0.00
SSL 130.2 R	2008-05-31	11:45	2008-06-01	13:47	26.03	6	156.20	0	0.00
SSL 129.9 R	2008-05-31	11:56	2008-06-01	13:36	25.67	6	154.00	0	0.00
SSL 126.7 R	2008-05-31	12:34	2008-06-01	13:24	24.83	8	198.67	0	0.00
SSL 125.5 L	2008-05-31	14:25	2008-06-01	13:12	22.78	8	182.27	0	0.00
SSL 125.3 L	2008-05-31	14:42	2008-06-01	13:03	22.35	8	178.80	0	0.00
SSL 125.1 R	2008-05-31	14:54	2008-06-01	12:45	21.85	12	262.20	0	0.00

Appendix II - Table 6 Summary of angling catch and CPUE (fish/hook-hour) during the 2008 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	Number of rods	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
AN 116.8 M	2008-04-29	12:40	2008-04-29	14:00	1.33	4	5.33	0	0.00
AN 116.8 M	2008-04-29	14:35	2008-04-29	15:30	0.92	4	3.67	1	0.27
AN 110.5 M	2008-05-02	11:30	2008-05-02	13:40	2.17	4	8.67	1	0.12
AN 117.7 M	2008-05-02	17:45	2008-05-02	18:30	0.75	4	3.00	1	0.33
AN 117.7 M	2008-05-04	15:00	2008-05-04	19:00	4.00	5	20.00	4	0.20
AN 117.7 M	2008-05-05	10:00	2008-05-05	14:30	4.50	4	18.00	3	0.17

Appendix II - Table 7 Summary of set-line catch and CPUE (fish/100 hook-hours) during the 2009 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 110.6 L	2009-04-30	17:33	2009-05-01	10:11	16.63	13	216.23	6	2.77
SSL 110.5 L	2009-04-30	17:45	2009-05-01	15:04	21.32	12	255.80	1	0.39
SSL 111.4 R	2009-04-30	18:40	2009-05-01	14:26	19.77	6	118.60	1	0.84
SSL 116.9 L	2009-04-30	18:55	2009-05-01	16:00	21.08	12	253.00	3	1.19
SSL 117.7 M	2009-04-30	19:12	2009-05-01	17:30	22.30	12	267.60	6	2.24
SSL 117.7 M	2009-05-01	20:21	2009-05-02	14:52	18.52	12	222.20	2	0.90
SSL 116.9 L	2009-05-01	20:26	2009-05-02	13:12	16.77	12	201.20	1	0.50
SSL 111.4 R	2009-05-01	20:42	2009-05-02	16:32	19.83	6	119.00	2	1.68
SSL 110.6 L	2009-05-01	20:50	2009-05-02	10:35	13.75	12	165.00	5	3.03
SSL 110.5 L	2009-05-01	20:57	2009-05-02	9:35	12.63	12	151.60	1	0.66
SSL 117.7 M	2009-05-02	16:02	2009-05-03	11:53	19.85	12	238.20	1	0.42
SSL 111.4 R	2009-05-02	17:09	2009-05-03	10:51	17.70	6	106.20	1	0.94
SSL 110.6 L	2009-05-02	17:18	2009-05-03	10:14	16.93	12	203.20	2	0.98
SSL 110.5 L	2009-05-02	17:25	2009-05-03	10:05	16.67	12	200.00	0	0.00
SSL 110.2 L	2009-05-02	17:33	2009-05-03	9:58	16.42	6	98.50	0	0.00
SSL 110 L	2009-05-02	17:40	2009-05-03	9:49	16.15	6	96.90	0	0.00
SSL 116.9 L	2009-05-02	18:04	2009-05-03	11:42	17.63	12	211.60	0	0.00
SSL 110 L	2009-05-03	14:14	2009-05-04	13:39	23.42	6	140.50	0	0.00
SSL 110.2 L	2009-05-03	14:19	2009-05-04	13:41	23.37	6	140.20	0	0.00
SSL 110.5 L	2009-05-03	14:24	2009-05-04	13:49	23.42	12	281.00	1	0.36
SSL 110.6 L	2009-05-03	14:30	2009-05-04	14:10	23.67	12	284.00	2	0.70
SSL 111.4 R	2009-05-03	14:35	2009-05-04	15:02	24.45	6	146.70	0	0.00
SSL 117.1 L	2009-05-03	15:12	2009-05-04	15:23	24.18	12	290.20	1	0.34
SSL 117.3 L	2009-05-03	15:21	2009-05-04	15:43	24.37	12	292.40	0	0.00
SSL 117.7 M	2009-05-03	15:27	2009-05-04	15:45	24.30	12	291.60	0	0.00
SSL 125.3 L	2009-05-03	16:30	2009-05-04	10:41	18.18	24	436.40	3	0.69
SSL 124.8 R	2009-05-04	17:06	2009-05-05	13:44	20.63	6	123.80	0	0.00
SSL 125.1 R	2009-05-04	17:18	2009-05-05	13:28	20.17	12	242.00	0	0.00
SSL 125.1 M	2009-05-04	17:30	2009-05-05	13:18	19.80	30	594.00	0	0.00
SSL 132.4 R	2009-05-04	18:39	2009-05-05	11:15	16.60	30	498.00	3	0.60
SSL 132.6 R	2009-05-04	18:49	2009-05-05	10:30	15.68	12	188.20	1	0.53
SSL 134.4 L	2009-05-04	18:56	2009-05-05	9:42	14.77	6	88.60	1	1.13
SSL 117.8 M	2009-05-05	16:54	2009-05-06	13:15	20.35	12	244.20	1	0.41
SSL 132.4 M	2009-05-05	17:10	2009-05-06	9:32	16.37	26	425.53	1	0.23
SSL 124.9 L	2009-05-05	17:16	2009-05-06	12:54	19.63	6	117.80	0	0.00
SSL 125.1 R	2009-05-05	17:22	2009-05-06	12:41	19.32	12	231.80	0	0.00
SSL 125.3 M	2009-05-05	17:32	2009-05-06	12:28	18.93	27	511.20	0	0.00
SSL 125.5 L	2009-05-05	17:44	2009-05-06	11:30	17.77	12	213.20	1	0.47
SSL 117 L	2009-05-06	17:41	2009-05-07	14:50	21.15	6	126.90	0	0.00
SSL 117.7 R	2009-05-06	17:58	2009-05-07	12:54	18.93	12	227.20	3	1.32
SSL 125.1 R	2009-05-06	18:15	2009-05-07	11:20	17.08	12	205.00	2	0.98
SSL 125.5 L	2009-05-06	18:24	2009-05-07	10:59	16.58	12	199.00	0	0.00
SSL 126.9 L	2009-05-06	18:37	2009-05-07	10:48	16.18	7	113.28	0	0.00
SSL 130 R	2009-05-06	18:45	2009-05-07	10:05	15.33	29	444.67	1	0.22
SSL 132.6 R	2009-05-06	19:09	2009-05-07	9:44	14.58	12	175.00	0	0.00
SSL 134.4 L	2009-05-06	19:15	2009-05-07	9:34	14.32	13	186.12	0	0.00

Appendix II – Table 7 Continued.

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 117 L	2009-05-07	14:55	2009-05-08	11:27	20.53	6	123.20	1	0.81
SSL 126.7 R	2009-05-07	15:40	2009-05-08	10:13	18.55	5	92.75	0	0.00
SSL 117.7 L	2009-05-07	17:00	2009-05-08	11:15	18.25	24	438.00	0	0.00
SSL 125.1 L	2009-05-07	17:26	2009-05-08	10:35	17.15	12	205.80	0	0.00
SSL 125.5 R	2009-05-07	17:31	2009-05-08	10:27	16.93	6	101.60	0	0.00
SSL 130.1 L	2009-05-07	17:56	2009-05-08	9:57	16.02	29	464.48	0	0.00
SSL 132.6 R	2009-05-07	18:02	2009-05-08	9:35	15.55	12	186.60	0	0.00
SSL 134.4 L	2009-05-07	18:10	2009-05-08	9:20	15.17	12	182.00	0	0.00
SSL 117 L	2009-05-08	11:32	2009-05-09	11:00	23.47	6	140.80	0	0.00
SSL 117.7	2009-05-08	15:12	2009-05-09	10:48	19.60	24	470.40	0	0.00
SSL 120.9	2009-05-08	15:50	2009-05-09	10:36	18.77	6	112.60	0	0.00
SSL 125	2009-05-08	16:20	2009-05-09	10:25	18.08	13	235.08	0	0.00
SSL 125.6	2009-05-08	16:32	2009-05-09	9:55	17.38	6	104.30	0	0.00
SSL 129.9 L	2009-05-08	16:48	2009-05-09	9:29	16.68	28	467.13	0	0.00
SSL 132.6	2009-05-08	17:00	2009-05-09	9:18	16.30	12	195.60	0	0.00
SSL 134.3	2009-05-08	17:30	2009-05-09	8:50	15.33	13	199.33	0	0.00
SSL 134.4 L	2009-05-11	15:50	2009-05-12	14:00	22.17	12	266.00	0	0.00
SSL 132.6 L	2009-05-11	16:01	2009-05-12	15:38	23.62	12	283.40	0	0.00
SSL 130.1 L	2009-05-11	16:16	2009-05-12	13:41	21.42	28	599.67	0	0.00
SSL 125.5 L	2009-05-11	16:28	2009-05-12	12:48	20.33	12	244.00	0	0.00
SSL 125.1 R	2009-05-11	16:39	2009-05-12	12:29	19.83	12	238.00	0	0.00
SSL 110.6 L	2009-05-11	17:33	2009-05-12	9:38	16.08	8	128.67	4	3.11
SSL 117.8 R	2009-05-11	20:00	2009-05-12	11:05	15.08	26	392.17	1	0.25
SSL 132.5 L	2009-05-11	20:23	2009-05-12	14:18	17.92	29	519.58	1	0.19
SSL 110.6 L	2009-05-12	10:32	2009-05-13	13:26	26.90	7	188.30	0	0.00
SSL 125.1 L	2009-05-12	12:35	2009-05-13	12:13	23.63	12	283.60	0	0.00
SSL 125.3 L	2009-05-12	13:03	2009-05-13	12:50	23.78	12	285.40	0	0.00
SSL 127.2 L	2009-05-12	13:22	2009-05-13	11:58	22.60	25	565.00	0	0.00
SSL 130.1 R	2009-05-12	13:56	2009-05-13	11:27	21.52	28	602.47	0	0.00
SSL 132.5 L	2009-05-12	15:07	2009-05-13	9:50	18.72	29	542.78	1	0.18
SSL 132.6 R	2009-05-12	15:38	2009-05-13	9:54	18.27	12	219.20	0	0.00
SSL 134.4 L	2009-05-12	16:00	2009-05-13	9:35	17.58	12	211.00	0	0.00
SSL 134.4 L	2009-05-13	9:41	2009-05-14	9:44	24.05	12	288.60	0	0.00
SSL 132.6 R	2009-05-13	9:54	2009-05-14	10:01	24.12	12	289.40	0	0.00
SSL 132.5 L	2009-05-13	11:00	2009-05-14	10:15	23.25	25	581.25	0	0.00
SSL 130 R	2009-05-13	11:40	2009-05-14	10:59	23.32	29	676.18	0	0.00
SSL 125.2 L	2009-05-13	12:25	2009-05-14	12:20	23.92	12	287.00	0	0.00
SSL 125.1 R	2009-05-13	12:55	2009-05-14	12:30	23.58	12	283.00	0	0.00
SSL 122.5 R	2009-05-13	14:59	2009-05-14	12:45	21.77	13	282.97	0	0.00
SSL 128 R	2009-05-13	16:07	2009-05-14	11:15	19.13	26	497.47	0	0.00
SSL 134.4 L	2009-05-14	9:49	2009-05-15	9:03	23.23	12	278.80	0	0.00
SSL 132.6 R	2009-05-14	10:01	2009-05-15	9:16	23.25	12	279.00	0	0.00
SSL 132.5 R	2009-05-14	10:34	2009-05-15	9:30	22.93	25	573.33	1	0.17
SSL 130 R	2009-05-14	11:07	2009-05-15	10:27	23.33	29	676.67	0	0.00
SSL 127.1 L	2009-05-14	12:07	2009-05-15	10:46	22.65	25	566.25	0	0.00
SSL 125.2 L	2009-05-14	12:32	2009-05-15	11:15	22.72	12	272.60	0	0.00

Appendix II – Table 7 Continued.

Station (rKm)	Set		Pull		Duration (hours)	# of hooks set	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
SSL 125.1 R	2009-05-14	12:42	2009-05-15	11:20	22.63	12	271.60	0	0.00
SSL 125.6	2009-05-14	13:17	2009-05-15	11:00	21.72	13	282.32	0	0.00
SSL 134.4 L	2009-05-19	18:05	2009-05-20	13:33	19.47	12	233.60	0	0.00
SSL 132.7 R	2009-05-19	18:15	2009-05-20	13:05	18.83	12	226.00	0	0.00
SSL 132.5 R	2009-05-19	18:27	2009-05-20	11:57	17.50	29	507.50	0	0.00
SSL 130.2 R	2009-05-19	18:41	2009-05-20	11:28	16.78	29	486.72	0	0.00
SSL 126.7 L	2009-05-19	18:53	2009-05-20	10:26	15.55	12	186.60	1	0.54
SSL 125.6 L	2009-05-19	19:04	2009-05-20	10:10	15.10	12	181.20	0	0.00
SSL 125.3 L	2009-05-19	19:13	2009-05-20	9:51	14.63	24	351.20	0	0.00
SSL 125.1 R	2009-05-19	19:24	2009-05-20	9:26	14.03	12	168.40	0	0.00
SSL 134.2 L	2009-05-19	19:44	2009-05-20	13:21	17.62	6	105.70	0	0.00
SSL 125.1 R	2009-05-20	9:39	2009-05-21	11:53	26.23	12	314.80	0	0.00
SSL 125.3 L	2009-05-20	10:01	2009-05-21	12:11	26.17	26	680.33	0	0.00
SSL 125.6 L	2009-05-20	10:17	2009-05-21	12:25	26.13	12	313.60	1	0.32
SSL 126.7 L	2009-05-20	11:00	2009-05-21	13:28	26.47	11	291.13	0	0.00
SSL 130.2 R	2009-05-20	11:39	2009-05-21	13:50	26.18	28	733.13	0	0.00
SSL 132.5 R	2009-05-20	11:57	2009-05-21	14:23	26.43	29	766.57	0	0.00
SSL 132.7 R	2009-05-20	13:14	2009-05-21	14:44	25.50	12	306.00	0	0.00
SSL 134.2 L	2009-05-20	13:25	2009-05-21	14:55	25.50	6	153.00	0	0.00
SSL 134.4 L	2009-05-20	13:38	2009-05-21	15:02	25.40	12	304.80	0	0.00
SSL 125.1 R	2009-05-21	12:02	2009-05-22	12:24	24.37	12	292.40	0	0.00
SSL 125.3 L	2009-05-21	12:17	2009-05-22	12:15	23.97	24	575.20	0	0.00
SSL 125.6 L	2009-05-21	13:05	2009-05-22	11:54	22.82	12	273.80	0	0.00
SSL 126.7 R	2009-05-21	13:31	2009-05-22	11:44	22.22	12	266.60	0	0.00
SSL 130.1 R	2009-05-21	14:01	2009-05-22	10:51	20.83	29	604.17	0	0.00
SSL 130 R	2009-05-21	14:13	2009-05-22	10:54	20.68	6	124.10	0	0.00
SSL 132.5 R	2009-05-21	14:35	2009-05-22	10:14	19.65	29	569.85	0	0.00
SSL 132.7 R	2009-05-21	14:45	2009-05-22	9:39	18.90	13	245.70	1	0.41
SSL 134.2 L	2009-05-21	14:56	2009-05-22	9:28	18.53	6	111.20	0	0.00
SSL 134.4 L	2009-05-21	15:06	2009-05-22	9:18	18.20	12	218.40	0	0.00
SSL 131.9 R	2009-05-21	15:36	2009-05-22	10:39	19.05	13	247.65	0	0.00
SSL 134.4 L	2009-05-22	9:29	2009-05-23	9:13	23.73	12	284.80	0	0.00
SSL 134.2 L	2009-05-22	9:31	2009-05-23	9:20	23.82	6	142.90	0	0.00
SSL 132.7 R	2009-05-22	9:41	2009-05-23	9:32	23.85	12	286.20	1	0.35
SSL 132.5 R	2009-05-22	10:20	2009-05-23	9:40	23.33	29	676.67	0	0.00
SSL 131.9 R	2009-05-22	10:48	2009-05-23	10:20	23.53	13	305.93	1	0.33
SSL 130 R	2009-05-22	11:04	2009-05-23	10:50	23.77	6	142.60	0	0.00
SSL 130.1 R	2009-05-22	11:27	2009-05-23	11:04	23.62	29	684.88	0	0.00
SSL 126.7 R	2009-05-22	11:50	2009-05-23	11:20	23.50	12	282.00	0	0.00
SSL 125.6 L	2009-05-22	12:03	2009-05-23	11:33	23.50	12	282.00	0	0.00
SSL 125.3 L	2009-05-22	12:21	2009-05-23	11:56	23.58	24	566.00	0	0.00
SSL 125.1 R	2009-05-22	12:37	2009-05-23	12:40	24.05	12	288.60	0	0.00

Appendix II - Table 8 Summary of angling catch and CPUE (fish/hook-hour) during the 2009 Nechako white sturgeon broodstock capture program

Station (rKm)	Set		Pull		Duration (hours)	Number of rods	Hook Hours	White sturgeon	
	Date	Time	Date	Time				Catch	CPUE
AN 117.6	2009-05-05	19:26	2009-05-05	19:36	0.17	3	0.50	1	2.00
AN 117.8	2009-05-05	20:06	2009-05-05	20:16	0.17	3	0.50	1	2.00
AN 125.1	2009-05-22	14:40	2009-05-22	14:50	0.17	2	0.33	2	6.00

APPENDIX III

Biological Data

Appendix III - Table 1 Biological data collected from white sturgeon captured during the 2006 broodstock capture program

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
AN 116.8 M	2006-05-10	Yes	5	182	205			70	48	7F7B0B2E51		Pit Radio					149.800	56	Brood Male #5 - Held but not used	testes large should spawn
AN 116.8 M	2006-05-10	Yes	2	176	203			71	44	7F7B0C6578		Pit Radio					149.800	48		testes small/dark smokey/a little white
SSL 132.4 R	2006-05-10	Yes	2	165	186			68	36	501F7A3051	Pit Floy Radio	Pit Floy Radio					149.800	45	Stage set uncertain. Recap from LT 2000 & Golder 2001	
SSL 124.9 R	2006-05-10	Yes	3	141	159			53	21.3	7F7D767116	Pit	Pit Radio					149.800	47	Note: Sex Maturity Code listed as 02-03	ge mark/Rt.; some folding/less 1/3 body cavity
SSL 124.9 R	2006-05-10	No	3	221	247			88	86	4255261C66		Pit Radio					148.420	13		Folding; smoky pigmentation; lobing; black and chite gonads
SSL 125.4	2006-05-10	No	97	214	242			78	72	4527573D3F		Pit Radio		6D			149.800	46		No gonads visible. One small piece of white tissue observed.
AN 125.4	2006-05-11	Yes	2	186	211	16	46	76	61	22240A5F63		Pit							Sex Mat Code uncertain (previously classed as 97 then 12); fin ray mark at capture	
SSL 132.4	2006-05-11	No	4	181	205	21	48	72	48	452711542A		Pit							bad hook tear on mouth; brusing abrasion (red) along mid ventral line and around anal fin	
SSL 132.4	2006-05-11	Yes	15	223	267			92	109	7F7D767B3B		Pit Radio					149.440	1	Brood Female #1	eggs black/grey 3.4mm diameter with bullseye on egg
SSL 116.8	2006-05-11	Yes	5							7F7D7C115E		Pit Radio					149.700	33	Brood Male #3; no biological data recorded as fish was captured during the fall of 2005.	
SSL 124.9	2006-05-11	Yes	5	180	204	43	16	76	57	7F7D784059		Pit							Brood Male #2	
SSL 124.9	2006-05-11	Yes	5							4528394A39		Pit Radio					149.700	41	Brood Male #1; biological info not taken as fish was captured in 2005.	
SSL 132.4 M	2006-05-12	Yes	2	180	209	18	45	69	51	412515071A	Pit Radio	Pit Radio		2R			149.800	49	149.700 code 8 changed to 149.800 code 49.	gonads grey; early 03 not filling body cavity; small
SSL 132.4 M	2006-05-12	Yes	2	185	210	23	50	77	54	41250B2C18	Pit	Pit		2R						gonad smokey grey; reticulated med testes; late 02
SSL 132.4 M	2006-05-12	Yes	5	205	230	23	52	79	69	45247E083C		Pit Radio		2R			149.800	50	No marks; no internal exam; flowing on syringe test; Possible RT fin ray mark	
SSL 124.9	2006-05-12	No	3	165	192	17	40	61	41.2	4529413820		Pit							4th and 6th dorsal scutes torn	no milt observed
SSL 132.4	2006-05-13	No	97	167	188	18	36	58	40			Pit		2R					sharp scute; fin ray taken; no milt from external exam; PIT# on data sheet only 9 digits: 452833368	no visible gonads - adult based on size
SSL 124.9 M	2006-05-14	Yes	13	168	190	17	42	66	42	2224172A7D	Pit	Pit Radio		2R			149.800	53	dorsal fin deformity	two sizes of eggs, white; filling body cavity
SSL 125.4 M	2006-05-14	Yes	12	229	264	26	60	83	82	7F7B031610	Pit	Pit Radio	FR	2R			149.800	52		small oocytes
SSL 125.4 M	2006-05-14	Yes	2							22240A5F63	Pit	Pit							released - caught a few days ago angling.	
SSL 129.7	2006-05-14	No	5	163	181	13	38	60	38	452A2B4E5F		Pit Radio		2R			149.800	51	Really nice shape - flow cf ext. exam.	
SSL 129.7	2006-05-14	No	3	160	178	17	40	60	37	4528342369		Pit		2R						smokey large gonads
SSL 130 R	2006-05-16	No	13	168	191	17	41	67	48	4529766065		Pit Radio		2R			149.800	54		grey eggs two sizes; 1.8mm eggs
SSL 132.4 R	2006-05-16	No	2	172	192	18	41	63	41	4529173846		Pit		2R						small gonad; smokey; both sides visible
SSL 125.5 L	2006-05-16	No	12	164	188	18	41	60	35	4523285E3C		Pit	D8	2R D8 D9					D8 missing; left fin torn; D9 torn and remarked	small clear oocytes in yellow mass
SSL 134.4 L	2006-05-17	Yes	17	178	200	18	42	68	50	7F7D781A4D		Pit		2R					fifth time recapture. last time 2001	very small (0.5mm) eggs, black pigmented possibly reabsorbing; yellow eggs less than 0.5mm; spongy creamy tissue that eggs are embedded in.
SSL 130 R	2006-05-17	Yes	13	169	189	18	40	63	39	412469273C	Pit	Pit							5th dorsal scute damaged; possible surgery scar; Fin ray mark at capture	
SSL 124.9	2006-05-17	Yes	97	120	137	13	28	43	12	413931641C	Pit	Pit							last captured in 1999 (98.5 cm)	lots of fluid in cavity, possibly white gonad
SSL 124.9	2006-05-17	Yes	98							5020145C2D	Pit Radio	Pit Radio					148.380	2	tagged fall of 2004; captured in 2005; not processed. NOTE: original PIT # for this fish was 424F17527D.	

Continued...

Appendix III – Table 1 Continued

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
SSL 130 L	2006-05-17	No	5	197	222	21	44	76	67.1	45272B3122	Pit	Pit Radio					149.800	55	sharp lateral scutes; fin ray sample taken	
SSL 132.4 R	2006-05-18	No	5	161	183	20	42	59	35	4529202777		Pit Radio	D9	2R D9			149.800	58	no milt on external test; D9 was lost during capture	
SSL 132.4 R	2006-05-18	Yes	5	169	194	18	40	68	46	7F7D7C631A	Pit	Pit Radio		2R			149.800	59	one surgery scar; milt (lots) on external test	
SSL 132.4 R	2006-05-18	No	15	230	262	19	50	91	100	452A4D4A58		Pit Radio					149.440	10	Brood Female #2; spawned in hatchery	very ripe
SSL 125.5 R	2006-05-18	No	97							4527360E37		Pit							No data, stressed fish/wrapped up in line; ~160-170cm; ~120 lbs	
SSL 124.9 R	2006-05-19	Yes	2	186	211	16	46	76	61	22240A5FE3	Pit	Pit		2R					fish data from 11/05/2006 Angling data form (fish caught and processed on that date); see sex mat code comments for the angling data form from 05/11/2006	
SSL 134.4 L	2006-05-19	Yes	97							7F7D781A4D	Pit	Pit							recap, not sampled	
SSL 134.4 L	2006-05-19	Yes	10							7F7B0B200A	Pit Radio	Pit Radio					149.700	25	recap, not sampled	

Appendix III - Table 2 Biological data collected from white sturgeon captured during the 2007 broodstock capture program

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
AN 116.8 L	2007-05-07		2																Data not recorded or lost	smokey pigment apparent; Sex mat code listed as 02/03; sex done late pm therefore suspect;
AN 116.8	2007-05-08	No	15	204	235	22	51	78	76.4	45285A7033		Pit Radio					149.700	46	Brood Female #2; fin ray taken	female, black eggs approx 3mm
SSL 125.4 R	2007-05-09	No	3	199	224	19	46	75.5	57.3	423C1F424B		Pit							net found in the nose between the barbels and mouth. Nose is deformed; fin ray taken	Left gonad is white, right smokey grey.
SSL 125.4 R	2007-05-09	Yes	10	214	236	25	54	76	56.4	45247E083C		Pit Floy Radio	2R	2R	R	2089	149.800	50	right fin worn down to the bone. Healed over partially. Age structure.	
SSL 116 R	2007-05-09	Yes	15	225	253		54	82	90.9	7F7B033622		Pit Radio					148.400	6	Brood Female #4; fin ray taken	
SSL 116 R	2007-05-09	No	15	257	291		63	102	145.5	4525163D3D		Pit Radio					149.700	48	Brood Female #3; fin ray taken	
SSL 125.1 R	2007-05-09	No	12	148	170		35	53	34.1	452A03165E	Pit	Pit		2R					sharpest scutes, fin ray taken	
SSL 125.1 R	2007-05-09	No	2	201	230		51	78	91.4	4527276447		Pit		2R					worked up before, left pectoral fin age structure taken/surgery previously, need OTC before reaging	
SSL 125.1 R	2007-05-09	Yes	2	213	244		55	82	87.3	7F7D7D7063	Pit	Pit		2R					Fin ray mark at capture	
AN 116.8	2007-05-09	No	15	195	220	22	49	78	56.8	452A346367		Pit Radio		2R			148.320	11	Brood Female #1; fin ray taken	
SSL 129.8 L	2007-05-10	No	5	224	253.5	24	54	82.5	77.7	424D24192A		Pit Radio					149.700	45	Brood Male #1; fin ray taken	
SSL 116.8 L	2007-05-11	No	5	216	246	18	49	84	72.7	4526754B01		Pit Radio		D8 2R			148.320	18	Brood Male #2; D8 torn at capture and removed; fin ray taken	white gonads both sides filling most of body cavilty
SSL 125.1 R	2007-05-11	Yes	13	180	207	18	42	73.5	45.45	7F7B0C6578	Pit	Pit		2R					previous surgery scar; fin ray taken previously	
SSL 117 R	2007-05-12	Yes	15	217	243	22	53	85.5	93.2	22237A1004	Pit	Pit Radio		2R			148.320	15	transmitter inserted, healed left pect. fin split, torn dorsal fin from hook.	
SSL 110.6 L	2007-05-12	No	98	78	92	10	20	30.5	3.3	452B05415B		Pit		2R					Very clean, well conditioned. No stress indicators. Removed fin ray.	
SSL 110.6 R	2007-05-12	Yes	98	90.5	104	11	24	34.5	4.9	424D3B7366	Pit Radio	Pit Radio					149.700	20	vent was red, scar on left side by anal fin. Showing minor stress.	
SSL 130	2007-05-12	No	5	215	235	18	49	83	77.3	451D364D58		Pit							Brood Male #4; PIT Tag may be 491D364D58; fin ray taken	
SSL 116 R	2007-05-13	No	15	214.5	239	19	49	88	73.6	45294B4052		Pit Radio		2R			149.700	49	Split dorsal; fin ray taken	
SSL 116 R	2007-05-13	No	5	189	218	19	43	70	49.1	4527094241		Pit Radio		2R D7 D5			148.320	10	Brood Male #3; fin ray taken	Surgery not done on boat.
SSL 110.5 R	2007-05-13	No	98	93	106	11	23	34	5	4527132936		Pit		2R						
SSL 125.1 R	2007-05-14	No	4	187	207	20	46	77	55	423C1A2D62		Pit			R	2090			nice clean fish, lively; fin ray taken	
SSL 110.6 L	2007-05-15	No	2	145	164	17	36	54	21.8	45275F7763		Pit		2R					Adult but not positive about sex/mat code	
SSL 110.5 L	2007-05-15	No	98	87.5	98.5	10	22	32.5	4.5	45227F1A49		Pit		2R					Wart on bottom lobe of caudal; fin ray taken	
SSL 110.2 L	2007-05-15	Yes	98	99	112	13	26	36.5	6.7	50283B6C65	Pit	Pit		2R					Fin ray mark at capture	
SSL 115.6 R	2007-05-15	No	5	181	199.5	44	44	76	51.3	45286C6E35		Pit Radio		2R			148.320	16	Fin ray taken; 1st 3 scutes on left are closer together than 1-3 on right; tail wear; flowing on syringe; slight deformity of bottom caudal	
SSL 116 R	2007-05-15	No	15	146	163.5	16	36	58	21.8	4528493E3D		Pit Radio		2R			149.800	57	sharp scutes; left pelvic deformed; fin ray sampled; eggs collected	
SSL 121.3 L	2007-05-15	No	2	206	231	20	50	80.5	61.4	4527246A5C		Pit		2R					sharp scutes	gonads smokey grey, less than 1/3, more grey than white
SSL 121.3 L	2007-05-15	Yes	2	193	218	18	46	80	64.1	22240A5F63	Pit	Pit		2R					recap from '06: old wound by anal fin and above right pectoral fin; calcification on caudal	smokey grey pigmentation thin/< 1/3 body
SSL 110.6 L	2007-05-16	No	97	192	220	20	48	69.5	47.3	4528477E78		Pit		2R RV1					skinny fish, fin ray collected, no visible gonads, sharp scutes	
SSL 111.2 R	2007-05-17	No	15	173	192	18	42	71	40	4529772D77		Pit Radio		2R			148.320	17	missing 1 barbel and right nares is torn	
SSL 132.4 R	2007-05-17	Yes	97	201	230	25	57	73		7F7D782004	Pit Floy Radio	Pit Floy Radio			R	2008	149.700	43	recapture; fin ray taken previously; lively fish; length/weight - incorrect - shorter than at previous recap events	fluids clear with some floaties

Appendix III - Table 3 Biological data collected from white sturgeon captured during the 2008 broodstock capture program

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
AN 116.8 M	2008-04-29	Yes	2	188.5	213	19	47	71.5	48.2	7F7D7C115E	Pit Radio	Pit Radio		2R			149.700	33		some lobes more white than black; late 02
SSL 110.6 L	2008-04-30	Yes	2	180	209.2	20	47	71.5	53.3	7F7B0C4E1D	Pit Radio	Pit Radio		2R			149.700	23		immature testes, male, smokey grey; smooth < 1/3 ventricle (R) - (L) mottled
SSL 110.6 L	2008-04-30	Yes	12	156.5	177.5	15	37	64.5	33.6	4A0C486A5B	Pit Floy	Pit Floy		2R	Y	0077			yellow floy removed. 501F703F2A PIT was missing. New PIT given. Fin ray scar (Left), no surgery scar. Tail bottom lobe folded.	Pre vitellogenic, ovaries small, whole egg < 0.5 mm
SSL 110.6 L	2008-04-30	Yes	3	168.5	189.5	17	42	64	34.5	7F7B03670D	Pit	Pit		2R					left pectoral ageing mark, male. scute removed.	
SSL 110.6 L	2008-04-30	Yes	3	192.5	216	17	45	78	58.2	45272B3122	Pit Radio	Pit Radio	2R	2R			149.800	55	recorded as 05 in 2007	white gonads pigmentation - folding
SSL 110.5	2008-04-30	Yes	3	117	137	14	32	43.5	11.8	45250C6F52	Pit Radio	Pit Radio		2R			149.700	24	extra 10w of dorsal scutes, maturity assessed	
SSL 116.8 R	2008-04-30	Yes	3	181	205.5	18	46	76	47.7	7F7B0C5314	Pit	Pit		2R					applied sutures between 3-4. Possible ageing mark left pect	
SSL 117.1 L	2008-04-30	No	15	241.5	267	24	59	94.5	104.5	4A0C2F5E35		Pit Radio		2R			148.320	28	Brood Female #3. Spawned with 422E70284C, 4A0C513B50 , 486A1A335B	3.4 mm egg diameter
SSL 110.6 L	2008-05-01	Yes	98	90.5	102.5	10	24	33.5	5.5	424D3B7366	Pit Radio	Pit Radio		2R			149.700	20	flacid belly; weiged in bag; clear (no milt); no internal	
SSL 110.6 L	2008-05-01	No	3	115	132.5	12	28	42.5	11	4A0C326F48		Pit		2R					new fish. suture applied to back lip (split on weighing); fin ray taken;	lots of fluid; mostly white posterior [R], salt pepper (anterior right)
SSL 110.6 L	2008-05-01	Yes	12	211	230.5	20	52	76	56.4	7F7D771A4B	Pit Radio	Pit Radio		2R			149.700	7	Old tag removed; maturity rated 12; recorded as female; Left fin ray scar	
SSL 110.6 L	2008-05-01	Yes	12	197.5	226	21	48	69	48.2	7F7D7D373D	Pit	Pit		2R					sharp scutes; old surgery scar; Neil made incision (new scar); eg folds present - early 12 (Cory)	
SSL 110.6 L	2008-05-01	Yes	12	162	186.5	19	42	59	27.7	7F7D7D6601	Pit	Pit		2R					left fin ageing scar; surgery scar; folding; tissue for other FFSC	
SSL 110.5 L	2008-05-01	No	12	189	212.5	17	44	66.5	45	4A0C69110D		Pit		2R					no marks; new fish; right fin ray taken; sharp scutes	
SSL 110.5 L	2008-05-01	No	97	147.5	167.5	16	39	59	25.9	4A0D341A7A		Pit		2R					sharp scutes; new fish; right fin ray taken	lots of fluid, no gonads visible
SSL 110.5 L	2008-05-01	Yes	15	183	206.5	19	44	71	49.1	7F7D781A4D	Pit	Pit Radio	2R	2R			148.320	23	Brood Female #1.Spawned with 442E70284C, 45247E083C, 4A0C513850	brood fish with ~ 3mm eggs
SSL 110.5 L	2008-05-01	Yes	15	209	238	21	51	84	72.3	7F7D7D4E08	Pit	Pit Radio		2R			148.320	19	Brood Female #4. deformed left fin; 149.460 31 (shed tag from 1996); fin ray scar; Spawned with 4A0C513B50, 486A1A335B	egg size 3.2 mm
SSL 116.8 L	2008-05-01	No	98	99	113.5	12	25	35.5	6.5	4A0C03771F		Pit		2R					left fin ray taken	
SSL 116.8 L	2008-05-01	Yes	97	167.5	191	17	44	64	35.4	2223420262	Pit	Pit		2R					previously caught in 1995; left FR scar; no visible gonads; was previously assessed in 97.	
AN 117.7 M	2008-05-02	No	12	216	247	19	52	85	75.4	4A0D234406		Pit		2R					Fin ray taken	small white oocytes visible
AN 110.5 M	2008-05-02	No	2	188.5	214	19	49	78	55.5	4A0D1A2753		Pit		2R					fin ray taken	some folding present; smokey grey
AN 117.7 M	2008-05-04	No	3	194	218	20	49	86	71.8	4A0D1E121B		Pit		2R					caudal tail split; no other marks	left gonad white and half body cavity; right smoky grey
AN 117.7 M	2008-05-04	No	97	148	168	16	39	58	26.8	4A0C001A69		Pit		2R					no obvious marks; no gonads visible; skinny fish - good condition	
AN 117.7 M	2008-05-04	No	3	217	241.5	19	52	85	80	4A0C367D0E		Pit		2R					new fish	
AN 117.7 M	2008-05-04	No	98	84.5	96.5	9	20	31.5	4.25	4A0D312A1F		Pit		2R					juvenile based on size; no internal exam conducted; deformity on R. pectoral; finray marked	
AN 117.7 M	2008-05-05	No	15	199	227	19	48	74.5	60.9	4A0D2C650E		Pit Radio		2R			148.320	22	Brood Female #2; no obvious marks; Brood sent to PG; Spawned with 442E70284C, 45247E083C, 4A0C513850	incision was bleeding quite a lot;
AN 117.7 M	2008-05-05	Yes	2	161	182.5	16	38	66	33.2	501F770257	Pit Floy	Pit Floy		2R	R	2028			left pectoral damage and on head; belly is quite sunken	testes white & somewhat flacid;
AN 117.7 M	2008-05-05	No	98	69.5	80.5	8	18	26	2.3	4A0D3E5C1D		Pit		2R					no obvious marks; juvenile based on size	
SSL 125 L	2008-05-06	No	5	201	226	21	49	76	58.2	422E70284C		Pit		2R					Brood Male #1; Spawned with 7F7D781A4D, 4A0D2C650E, 4A0C2F5E35	
SSL 125.1 R	2008-05-06	No	2	169.5	188.5	18	42	69	31.4	4A0D3F302F		Pit		2R						

Appendix III – Table 3 Continued

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
SSL 125.1 R	2008-05-06	No	97	100.5	116	11	25	38	7.25	4A0D320B4C		Pit		2R						
SSL 125.4 L	2008-05-06	Yes	10							7F7B0C4E1D	Pit	Pit							captured on 2008-04-30; no biological data taken	
SSL 125.6 L	2008-05-06	Yes	5	210.5	239	21	53	76.5	59.1	45247E083C	Pit	Pit							Brood Male #2; Spawned with 7F7D781A4D, 4A0D2C560E	
SSL 117 L	2008-05-06	Yes	2	171	193	18	43	62.5	33.6	7F7B0C3231	Pit	Pit		2R					Left fin ray scar; mouth hook scar bleeding a fair amount	
SSL 117.7 L	2008-05-06	Yes	14	190	216.5	18	46	72	50	7F7B0C4A60	Pit Radio	Pit Radio		2R			148.320	20	OLD TAG 149.320 Cd 24 - REPLACED. Left fin ray previosuly taken; marking on tail; radio tag scar quite angry/red, radio transmitter replaced.	
SSL 121.3 L	2008-05-06	Yes	3	165	188.5	14	40	62.5	43.6	7F7B0C6725	Pit Radio	Pit Radio		2R			149.700	32	floy tag scar; fin ray scar on left side; radio tag exit looks good, not much redness	relatively small gonads, dark pigmentation present on right gonad
SSL 116.8 L	2008-05-07	Yes	12	201	228.5	18	49	72.5	57.3	4529141153	Pit Floy Radio	Pit Radio	D2 D4 D6	D2 D4 D6 2R	P	5034	149.700	28	Floy tag removed (P 5034); radio tag exit looks good	
SSL 125.1 R	2008-05-07	No	97	129	149	13	31	48.5	14	422E256066		Pit		2R					Recovery 3 of 30	
SSL 125.4 L	2008-05-07	No	3	190	218	18	46	73	45.5	422E282050		Pit		2R					Recovery 3 of 3	
SSL 125 L	2008-05-08	No	2	200	228.5	21	49	73.5	50	423C065A5C		Pit		2R					Caught on mouth and on caudal fin (2 hooks), Caudal fin1.5"-2" tear from setline. New fish male.	Gonads smoky pigmentation.
SSL 132.3 R	2008-05-08	No	6	184.5	210	17	44	69	45	422E363F35		Pit		2R					nice clean fish. No marks.	Small gonads, pinkish.
SSL 117.7 L	2008-05-08	Yes	98	84.5	96.5	9	20	31.5	4.25	4A0D312A1F	Pit	Pit	2R	2R					recapture a few days ago	
SSL 117.7 L	2008-05-08	No	12	153.5	174.5	15	38	59	25.9	4A0C714408		Pit		2R					OTC 5.2; belly is orange near incision	
SSL 117.7 L	2008-05-08	Yes	20							50201F7056	Pit Floy	Pit Floy			R	2094			female was hooked on gills; bleeding slightly; large fish; put in recovery bag; released later that day, good colour & no signs of stress; strongly suspected code 15 maturity; no data collected	
SSL 111.7 L	2008-05-08	No	97	152.5	173.5	16	38	59.5	28.2	4A0C39151A		Pit		2R					Adult based on size	
SSL 110.5 L	2008-05-08	Yes	10	154	176.5	16	39	60.5	26.8	7F7D775A36	Pit Radio	Pit Radio		2R			149.700	40	sharp scutes; external check slightly milky but no gonads visible; radio exit moved due to big wound; lower lobe tail bent	
SSL 110.5 L	2008-05-08	Yes	15	179.5	203	18	42	73	48.6	7F7B0C6578	Pit Radio	Pit Radio	2R	2R			148.320	24	Brood Female #5 - release unspawned;rope burn - wrapped in rope at capture; radio tag fallen inside; old tag 149.800 48 removed and 148.320 24 applied	
SSL 111.7 R	2008-05-10	Yes	3	167.5	190	17	42	66	35.5	7F7B0C4C09	Pit	Pit		2R					2 surgery scars; small bleed from right gill 3rd arch	
SSL 110.5 L	2008-05-10	Yes	98							424D3B7366									Recap from '08 - not checked	
SSL 110.5 L	2008-05-10	Yes	3							7F7B03670D									Recap from '08 - not checked	
SSL 110.5 L	2008-05-10	No	3	147	170	16	39	59	25	4A0C2E2279		Pit		2R						
SSL 110.6 L	2008-05-11	Yes	97	108.5	125.5	11	26	40	9.1	45291D1875	Pit Radio	Pit Radio		2R			149.700	21	deformed dorsal; fin ray scar	
SSL 110.6 L	2008-05-11	Yes	97	113	130	12	28	44	11.5	41392C0A2D	Pit	Pit Floy		2R	Y	1456			floy tag removed; extremely sharp scutes; fin ray taken previously	
SSL 111.7 R	2008-05-11	No	98	73	85	10	20	25	2	4A0C326314		Pit		2R					fin ray taken	
SSL 125 L	2008-05-12	Yes	97	144	164	15	35	56	21.4	7F7D773228	Pit	Pit		2R					Fin ray mark at capture	
SSL 110.6 L	2008-05-12	Yes	3	173.5	201	17	41	68.5	40.9	4125034473	Pit	Pit		2R					a little bit stressed; extra row lateral scutes; fin ray mark at capture	left gonad more white; right smoky with some pigmentation; filling less that 1/2 body cavity
SSL 132.6 R	2008-05-14	No	12	163.5	187	15	40	60	28.6	4A0D317B3B		Pit		2R					right operculum deformity; plump fish; fin ray taken	
SSL 134.4 R	2008-05-14	Yes	3	171	199	18	45	65	35.9	7F7B0C4D3B	Pit	Pit Radio		2R			148.320	21	fin ray mark at capture	left gonad some pigmentation; right gonad white very faint pigmentation filling less than 1/3 body cavity; late 03 early 04
SSL 130.2 R	2008-05-15	No	5	215.5	241.5	21	53	83	72.3	4A0C513B50		Pit Radio		2R			148.320	26	Brood Male #3; external exam shows white milt; Fin ray taken; Spawned with 7F7D781A4D, 4A0D2C650E, 4A0C2F5E35	

Appendix III – Table 3 Continued

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
SSL 129.9 R	2008-05-18	No	97																Could not work fish - too big for Hewes craft. (Released) new fish.	
SSL 126.7 R	2008-05-18	Yes	97							41247C4F74	Pit Floy	Pit Floy			R				No work, fish too large	
SSL 126.7 R	2008-05-18	No	97	175.5	200	20	45	70.5		45284E7344		Pit		2R					No surgery work, fish too large; fin ray	
SSL 125.6 L	2008-05-18	Yes	97							412510146B									Released, no work done on fish.	
SSL 125.6 L	2008-05-18	No	97																Released (new fish), too huge, Hewes craft does not have a davot.	
SSL 125.1 R	2008-05-18	Yes	97	102.5	117	14	27	37.5	7.1	50283B6C65	Pit	Pit								
SSL 125.1 R	2008-05-26	No	15	219.5	247.5	25	56	87	76.4	4867360C13		Pit		2R					Timid fish, lots of girth. She had a fishin line sticking out of her anal vent. Trimmed fishing line; fin ray taken	
SSL 132.4 R	2008-05-30	Yes	97	212	238.5	26	56	81	72.7	7F7D7D7063	Pit	Pit	2R	2R					Surface had some scratches from setline. Fish had 2 previous surgery scars; fin ray taken previously	
SSL 126.7 R	2008-05-30	No	16	223	245.5	24	57	92	90.9	4849136B39		Pit		2R					nose deformed (snub, flat). Active fish; fin ray taken	
SSL 125.1 R	2008-05-30	No	12	187	209	22	50	69	41.4	48643E096E		Pit		2R					Pec. fin is rounded at the tip with folds; fin ray taken	
SSL 125.1 R	2008-05-30	No	97	103.5	120.5	13	26	39		4868214C3C		Pit		2R					No weight recorded on datasheet; fin ray taken	
SSL 130.2 R	2008-05-31	No	97	135	159	17	35	52	18.2	4847393069		Pit		2R					Hook pierced through nostril area below eye. Bled badly, active fish. Bleeding stopped; fin ray taken	
SSL 126.7 R	2008-05-31	No	5	189	211.5	22	47	69.5	41.8	486A1A335B		Pit Radio		2R			148.320	27	Brood Male #4. Flowing. Spawned with 4A0C2F5E35 and	

Appendix III - Table 4 Biological data collected from white sturgeon captured during the 2009 broodstock capture program

Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
2009-05-01	Yes	3	125	144	12	29	43.5	13.1	413931641C	Pit Scute	Pit Scute	2R	2R						left gonad small, mostly cream wsith some smoky pigmentation
2009-05-01	Yes	3	152	177	16	39	59.5	28.6	7F7D775A36	Pit Radio	Pit Radio	2R	2R			149.700	40	tag checked	no milt on external exam, sharp scute, testes, small lobed, smokey grey
2009-05-01	Yes	12	194	220	17	46	77.5	51.4	422E282050	Pit Floy	Pit	2R	2R					Finray mark at capture	ovaries small, egg 0.5 mm white/yellow
2009-05-01	No	13	169	190.5	15	42	67	42.3	4A0C59156C		Pit		2R					Finray taken	sharp scutes, eggs yellow
2009-05-01	No	3	168.5	190.5	14	42	64	35.9	4A0D3E5041		Pit		2R					Finray taken	testes black/white
2009-05-01	No	5	189.5	214	19	46		51.4	4A0C6E3448		Pit Radio		2R			149.800	66	Brood Male #1: spawned with 41250F5929, 452A4D4A58	male flowing, external
2009-05-01	No	2	166	189.5	16	42	62	33.2	4A0D35776B		Pit		2R					Finray taken	testes lobed smokey grey, late 02
2009-05-01	Yes	2	185	206	20	50	70	48.6	7F7D772A5C	Pit Floy	Pit Floy		2R	Y	414				testes small with lobing/pigmentation, late 02
2009-05-01	Yes	3	123	142	14	31	45	13.2	45250C6F52	Pit Radio	Pit Radio	2R	2R			149.700	24	Finray mark at capture	small testes, cream (left side only) with small ammount of smokey pigmentation
2009-05-01	No	2	153.5	173	16	40	62.5	28.4	4A0C301060		Pit		2R 3R					Finray taken	testes small smokey pigmentation, some lobing
2009-05-01	No	5	212	236.5	21	52	84.5	80.5	4A0D3A7D31		Pit Radio		2R			149.800	69	Brood Male #2: spawned with 41250F5929, 452A4D4A58	flowing on external exam
2009-05-01	No	97	105	121.5	11	26	39.5	7.5	4A0C304B36		Pit		2R						no visible gonads
2009-05-01	Yes	11	231	252	26	59	83.5	80.9	50201F5930		Pit		2R					Finray mark at capture; caught mouth of Nechako 2000	white eggs visible, flacid belly
2009-05-01	Yes	97	167	190	16	39	65.5	42.7	7F7D77302F	Pit Radio	Pit Radio		2R			148.420	52	Fraser Recap	
2009-05-01	Yes	5	180	204	20	46	71	48.6	7F7D7D2D24	Pit	Pit		D5 2R					Brood Male #3: spawned with 41250F5929, 452A4D4A58	flowing on external exam

Appendix III – Table 4 Continued

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
SSL 117.7 M	2009-05-01	No	5	192	216	17	44	71	51.4	4A0D225D09		Pit Radio		2R			148.320	25	Finray taken	flowing on external exam
SSL 117.7 M	2009-05-01	Yes	5	193	213	21	51	73.5	50.9	4124707E71	Pit Floy	Pit Radio		2R	Y	1490			Finray mark at capture - cut too far from fin articulation (way too far) crease	flowing male
SSL 117.7 M	2009-05-02	No	4	176.5	198	15	40	64.5	42.3	4A0C476122		Pit		2R					Finray taken	large testes, lobing, filling back of cavity likely to spawn
SSL 117.7 M	2009-05-02	No	11	217	241	20	50	76.5	69.5	4A0C2D4B15		Pit		2R 7D					Finray taken	small white oocytes
SSL 116.9 L	2009-05-02	Yes	15	232	261	20	54	92	100	452A4D4A58	Pit Radio	Pit Radio	2R	2R			149.800	63	Finray mark at capture; Brood Female #2: spawned with 4A0C6FE3448, 4A0DA7D31, 7F7D7D2D24; Radio Tag DEAD (149.440 10) - Replaced	3.3mm avg egg
SSL 111.4 R	2009-05-02	Yes	12	212	234	19	50	80.5	70.5	7F7B031A21	Pit Floy	Pit Floy		2R	Y	048			Finray mark at capture	
SSL 111.4 R	2009-05-02	Yes	4	188	206.5	17	46	77.5	55.5	7F7D784059	Pit	Pit		2R					Finray mark at capture	male, large white white testes fliing external body cavity, not flowing with internal exam
SSL 110.6 L	2009-05-02	No	97	174	197	18	44	59	32.7	4A0C312413		Pit		2R D6					caught and tangled, sgtressed out, fins and scutes pink. D5 D6 torn by rope. Sex mat not assessed due to stress	
SSL 110.6 L	2009-05-02	Yes	10	210	237	21	53	74	57.7	45247E083C	Pit Radio	Pit Radio	2R	2R			149.800	50	skinny, not assessed	
SSL 110.6 L	2009-05-02	Yes	98	86.5	98	10	21	32	4.25	4A0D312A1F	Pit	Pit	2R	2R						
SSL 110.6 L	2009-05-02	No	13	156	175	14	38	58.5	33.6	4A0C33214D		Pit	2R	2R					Finray mark at capture; nasty hook scar on head and right pectoral, sutured hook scar	large yellow ovaries, mix white/yellow - mostly yellow eggs
SSL 110.6 L	2009-05-02	Yes	15	187	210.5	17	43	80.5	57.3	41250F5929	Pit	Pit Radio	2R	2R			149.800	65	Finray mark at capture; Brood Female #1: spawned with 4A0C6FE3448, 4A0DA7D31, 7F7D7D2D24	35mm for 10 eggs (3.5mm avg), fish healthy - fat
SSL 110.5 L	2009-05-02	No	3	162	181	18	42	62	34.1	4A0C711C49		Pit		2R					Finray taken	testes white, some pigmentation, small, some lobing
SSL 117.7 M	2009-05-03	Yes	4	219	247.5	23	56	83	78.2	4527573D3F	Pit Radio	Pit Radio	2R	2R			149.800	46	previously caught in 2006 (May 10) @ 125 km, may no	
SSL 111.4 R	2009-05-03	Yes	3	204	228.5	22	51	78.5	64.5	422E473C2C	Pit Radio	Pit Radio	2R D5	2R D5			149.700	47	caught previously in 2007	testes large filling 1/2 body cavity, some pigmentation
SSL 110.6 L	2009-05-03	Yes	20	153	174	16	39	57	27.7	4A0C714408	Pit	Pit	2R	2R					caught 2008 @ 117km, skinny, showing a bit of stress	
SSL 110.6 L	2009-05-03	Yes	97	101	115	14	27	36	6.75	50283B6C65	Pit	Pit	2R	2R					caught 7 times previously (3 times in Nechako 8.25-830 km), Fraser fish	
SSL 110.5 L	2009-05-04	No	12	196.5	221	22	52	76	52.7	4A0D182734		Pit		2R						some eggs visible, small yellow/white
SSL 110.6 L	2009-05-04	Yes	98	89	103	10	22	35.5	5.2	452B05415B	Pit	Pit	2R	2R					Finray mark at capture	
SSL 110.6 L	2009-05-04	No	3	162	186	18	43	59	33	4A0D3C605B		Pit		2R						small testes, cream but very little pigmentation
SSL 117.1 L	2009-05-04	Yes	3	204	228.5	22	51	78.5	64.5	422E473C2C	Pit Radio	Pit Radio	2R 5D	2R 5D			149.700	47	recapture from May 3, 2009, released without further measurements	
SSL 125.3 L	2009-05-04	No	3	190	213	267	52	76	61.8	4A0C480815		Pit		2R						testes small, some pigmentation
SSL 125.3 L	2009-05-04	No	5	258	287	28	65	99.5	129.1	4A0C0E5F15		Pit Radio		2R			149.800	60		flowing male
SSL 125.3 L	2009-05-04	No	5	214.5	245.5	22	53	81	72.7	4A0C3F0036		Pit Radio		2R			149.800	61		flowing male
SSL 132.4 R	2009-05-05	Yes	2	155	175.5	18	41	63	29.5	41246D3805	Pit	Pit		2R					Finray mark at capture	testes small, filling < 1/3 of body cavity, smoky pigmentation
SSL 132.4 R	2009-05-05	No	3	164	184	15	39	60	30.9	4A0D3E4B6E		Pit		2R					Finray taken	testes white, filling 1/2 of body cavity, some pigmentation present on right testis, some lobing
SSL 132.4 R	2009-05-05	Yes	3	171.5	195.5	19	44	61	35.4	7F7B0B3068	Pit	Pit		2R					Finray mark at capture	testes white, some pigmentation
SSL 132.6 R	2009-05-05	Yes	3	181.5	202.5	19	47	67	40.5	7F7B0C4D3B	Pit Radio	Pit Radio	2R	2R			148.320	21	sex mature code 3/4; bleeding heavily from mouth	tests white, some pigmentation present, some lobing filling 1/2 the body cavity,
SSL 134.4 L	2009-05-05	Yes	3	171	195.5	16	39	62.5	35.5	41247A5430	Pit	Pit		2R					Finray mark at capture	testes are small (< 1/2 body cavity), cream with slight pigmentation, some lobing
AN 117.8	2009-05-05	No	14	194	216.5	21	49	78.5	59.5	4A0D381936		Pit		2R					no marks at capture	2.5mm eggs (graphite)
AN 117.6	2009-05-05	No	4	195	219	19	47	72	52.7	4A0D1A4862		Pit		2R						

Appendix III – Table 4 Continued

Station (rKm)	Capture Date	Recap	Sex	Fork Length (cm)	Total Length (cm)	Post-orbital Length (cm)	Pre-Opercular Length (cm)	Girth (cm)	Weight (kg)	PIT Tag Number	Tags at Capture	Tags at Release	Scute Marks at Capture	Scute Marks at Release	Floy Colour	Floy Tag	Radio Tag Freq.	Radio Tag Code	Comments	Surgery Comments
SSL 117.8 M	2009-05-06	No	4	170	189.5	17	44	63.5	41	4A0C364622		Pit		2R						white small testes, cold shrinkage
SSL 125.5 L	2009-05-06	No	4	185	209	16	42	73	53.5	4A0D40122A		Pit Radio		2R			149.800	62	scar on mouth, new fish, D6, 8, 9 missing - possible recap?	no sperm drawn, but white
SSL 132.4 M	2009-05-06	No	2	176.5	189	18	44	72.5	46.4	4A0D3D7031		Pit		2R					sex mat code isted as 02 or 03	sex left teste dark smoky pigmentation, right light some grey
SSL 117.7 R	2009-05-07	Yes	2	175.5	189.5	19	46	65	38.1	420E616F33	Pit	Pit		2R					Finray mark at capture; very sharp scutes	male, testes small, some pigmentation
SSL 117.7 R	2009-05-07	Yes	11	177.5	201	18	47	66	42.3	7F7B0C2938	Pit	Pit		2R					Finray mark at capture; 1998 - caught @ 117	ovaries tight folding, minute rough
SSL 117.7 R	2009-05-07	Yes	5	205.5	228	20	52	81	67.3	4125005E0C	Pit	Pit Radio		2R			150.280	11	1999 - caught @116, EMG 150.280 Code 11, no apparent marks	
SSL 125.1 R	2009-05-07	Yes	14	192	220.3	18	47	75	56.4	7F7D7D4F7C	Pit Floy	Pit Floy		2R	Y	031			Finray mark at capture; 1st capture 1995, captured last in '05	large grey embedded in spongy matter - next year?
SSL 125.1 R	2009-05-07	No	2	171.5	195	16	42	63	36.4	4B0824745C		Pit		2R					Finray taken	testes small, flacid, some lobing, some pigmentation
SSL 130 R	2009-05-07	No	13	184	204	19	46	68.5	41.8	4B08436F7A		Pit	L8	2R L8					Finray taken	large yellow eggs
SSL 117 L	2009-05-08	No	2	159.5	179	16	40	61.5	29	4B0779603F		Pit		2R					Finray taken; angled fish May 8, 2009 @117.7, L fin ray	small testes gray with pigment
SSL 132.5 L	2009-05-12	No	5	214	237	20	51	135	55.9	4B08452F68		Pit Radio		2R			149.800	64	Finray taken	
SSL 117.8 R	2009-05-12	Yes	98	99.5	113	11	25	36	6.5	5020145C2D	Pit Floy Radio	Pit Floy Radio		2R	R	2004	148.380	2		
SSL 110.6 L	2009-05-12	Yes	20	219	242.5	19	52	83	76.4	4A0D234406	Pit	Pit	2R	2R					No assessment, fin ray scar is angry, wrapped in setline	
SSL 110.6 L	2009-05-12	Yes	98	89	103	10	22	35.5	5.2	452B05415B	Pit	Pit	2R	2R					Finray mark at capture; recap from 2009	
SSL 110.6 L	2009-05-12	Yes	97	103	120.5	12	27	8.5	8.5	4868214C3C	Pit	Pit							recap from 2008	
SSL 110.6 L	2009-05-12	Yes	2	166	189.5	16	42	62	33.2	4A0D35776B	Pit	Pit	2R	2R					Finray mark at capture; recap from 2009	
SSL 132.5 L	2009-05-13	No	5	250.5	280	24	60	98	120.9	4B07754253		Pit Radio		2R			149.800	67	Finray taken	flowing male
SSL 132.5 R	2009-05-15	Yes	11	172	194	18	45	64	35.9	4125010F3C	Pit	Pit		2R					Finray mark at capture; previous fin ray sample is too distal, nostril normal, far left barbel missing	lots of fat associated with ovary, few small white oocytes embedded with fat
SSL 126.7 L	2009-05-20	Yes	14	151	171.5	16	38	64.5	35.4	7F7D571949	Pit	Pit		2R					Finray mark at capture	large eggs in fatty matrix, likely to spawn in '10
SSL 125.6 L	2009-05-21	No	12	200.5	223	19	52	80	62.3	4B08197365		Pit		D4 D5 2R					Finray taken	ovaries visible, eggs are small and white
SSL 132.7 R	2009-05-22	No	98	95.5	109	10	23	35	5.5	4B08443453		Pit		2R					Finray taken	
AN 125.1	2009-05-22	Yes	12	184	207	18	44	76.5	51.8	7F7D781A4D	Pit Radio	Pit Radio	2R	2R			148.320	23	recap from 2008, used as brood in 2008	Fat, ovaries at early stage with white eggs
AN 125.1	2009-05-22	Yes	4	209	236	21	52	73	58.2	45247E083C	Pit Radio	Pit Radio	2R	2R			149.800	50	right pec is damaged but healed, dorsal scutes worn away	possibly flowing on external but looks ready to spawn (internal)
SSL 132.7 R	2009-05-23	Yes	5	159.5	184	16	39	64	32.3	7F7B0B200A	Pit Radio	Pit Radio	2R	2R			149.700	25	Finray mark at capture; likely a recap from '06	flowing with external exam, last spawned likely '06
SSL 131.9 R	2009-05-23	Yes	3	181.5	202.5	19	47	67	40.5	7F7B0C4D3B	Pit Radio	Pit Radio	2R	2R			148.320	21	recap from May 5, 2009	

APPENDIX IV

New Data Sheets

Date: _____-____-____

NECHAKO RIVER - WHITE STURGEON SITE DATA FORM

River: _____ Crew: _____ Project: _____ Weather: _____ Page ___of ___

SITE DATA		UTM			Channel Loc.	Set				Depth (m)		Bait Type	Hooks						Pull				Efficiency (1-4)
Gear Type	River km	Zone	Easting	Northing		Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Min	Max		Size	# Set	# Bait-less	# Lost	# Fouled	# Bent	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	
	__ __ __ . __					____-__-__	__ : __												____-__-__	__ : __			

Incidental Catch — Sturgeon Fish ID Numbers (from Biological sheet):

SPECIES	LNGTH (cm)	WGHT (g)	SEX	TAG	AGE STRC Y/N	DNA Y/N	FATE K/R	HOOK SIZE	Comment

Site Description/Comments/ Map:

SITE DATA		UTM			Channel Loc.	Set				Depth (m)		Bait Type	Hooks						Pull				Efficiency (1-4)
Gear Type	River km	Zone	Easting	Northing		Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Min	Max		Size	# Set	# Bait-less	# Lost	# Fouled	# Bent	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	
	__ __ __ . __					____-__-__	__ : __												____-__-__	__ : __			

Incidental Catch — Sturgeon Fish ID Numbers (from Biological sheet):

SPECIES	LNGTH (cm)	WGHT (g)	SEX	TAG	AGE STRC Y/N	DNA Y/N	FATE K/R	HOOK SIZE	Comment

Site Description/Comments/ Map:

SITE DATA		UTM				Set				Depth (m)			Hooks						Pull				
Gear Type	River km	Zone	Easting	Northing	Channel Loc.	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Min	Max	Bait Type	Size	# Set	# Bait-less	# Lost	# Fouled	# Bent	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Efficiency (1-4)
	__ __ __ . __					____-__-__	__ : __												____-__-__	__ : __			

Incidental Catch

Sturgeon Fish ID Numbers (from Biological sheet):

SPECIES	LNGTH (cm)	WGHT (g)	SEX	TAG	AGE STRC Y/N	DNA Y/N	FATE K/R	HOOK SIZE	Comment

Site Description/Comments/ Map:

SITE DATA		UTM				Set				Depth (m)			Hooks						Pull				
Gear Type	River km	Zone	Easting	Northing	Channel Loc.	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Min	Max	Bait Type	Size	# Set	# Bait-less	# Lost	# Fouled	# Bent	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Efficiency (1-4)
	__ __ __ . __					____-__-__	__ : __												____-__-__	__ : __			

Incidental Catch

Sturgeon Fish ID Numbers (from Biological sheet):

SPECIES	LNGTH (cm)	WGHT (g)	SEX	TAG	AGE STRC Y/N	DNA Y/N	FATE K/R	HOOK SIZE	Comment

Site Description/Comments/ Map:

Gear Type:
SSL- Setline
JSSL- Juvenile setline

Length:
S: Short (6 to 8 hooks; 6 m spacing)
M: Med (12 to 14 hooks; 6 m spacing)
L : Long (25 to 30 hooks; 6 m spacing)

Channel Location:
DRR- Downstream Right Bank
Mid- Middle
DRL- Downstream Left Bank

Sampling Efficiency:
1- No Issues fishing well
2- Some fouled hooks, fishing OK
3- Major issues (fouling / tangles)
4- Line not fishing (e.g pulled out of water)

Date: _____-____-____

NECHAKO RIVER - WHITE STURGEON ANGLING DATA FORM

River: _____ Crew: _____ Project: _____ Weather: _____ Page ___of ___

SITE DATA		UTM			Channel Loc.	Start				End		Depth (m)		Bait Type	Rod #	Hooks				Sturgeon	
# of Rods	River km	Zone	Easting	Northing		Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Date yyyy-mm-dd	Time 24 Hr	Min	Max			Hook Size	# Bait-less	# Lost	# Bent	# lost	# captured
	__ __ __ . __					____-__-__	__ : __			____-__-__	__ : __										

Incidental Catch

ROD #	Species	Length (mm)	Wt (g)	Sex	Tag	Age Strc Y/N	DNA Y/N	Fate K/R	Hook Size	Comments

Sturgeon Fish ID Numbers (from Biological sheet):

Site Description/Comments/ Map:

SITE DATA		UTM			Channel Loc.	Start				End		Depth (m)		Bait Type	Rod #	Hooks				Sturgeon	
# of Rods	River km	Zone	Easting	Northing		Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Date yyyy-mm-dd	Time 24 Hr	Min	Max			Hook Size	# Bait-less	# Lost	# Bent	# lost	# captured
	__ __ __ . __					____-__-__	__ : __			____-__-__	__ : __										

Incidental Catch

ROD #	Species	Length (mm)	Wt (g)	Sex	Tag	Age Strc Y/N	DNA Y/N	Fate K/R	Hook Size	Comments

Sturgeon Fish ID Numbers (from Biological sheet):

Site Description/Comments/ Map:

SITE DATA		UTM				Start				End		Depth (m)				Hooks				Sturgeon	
# of Rods	River km	Zone	Easting	Northing	Channel Loc.	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Date yyyy-mm-dd	Time 24 Hr	Min	Max	Bait Type	Rod #	Hook Size	# Bait-less	# Lost	# Bent	# lost	# captured
	__ __ __ . __					____-__-__	__ : __			____-__-__	__ : __										

Incidental Catch

ROD #	Species	Length (mm)	Wt (g)	Sex	Tag	Age Strc Y/N	DNA Y/N	Fate K/R	Hook Size	Comments
								b		

Sturgeon Fish ID Numbers (from Biological sheet):

Site Description/Comments/ Map:

SITE DATA		UTM				Start				End		Depth (m)				Hooks				Sturgeon	
# of Rods	River km	Zone	Easting	Northing	Channel Loc.	Date yyyy-mm-dd	Time 24 Hr	Temp °C	Vis. (m)	Date yyyy-mm-dd	Time 24 Hr	Min	Max	Bait Type	Rod #	Hook Size	# Bait-less	# Lost	# Bent	# lost	# captured
	__ __ __ . __					____-__-__	__ : __			____-__-__	__ : __										

Incidental Catch

ROD #	Species	Length (mm)	Wt (g)	Sex	Tag	Age Strc Y/N	DNA Y/N	Fate K/R	Hook Size	Comments

Sturgeon Fish ID Numbers (from Biological sheet):

Site Description/Comments/ Map:

Channel Location:

DRR- Downstream Right Bank
Mid- Middle
DRL- Downstream Left Bank

Use new form for each day and crew

Nechako White Sturgeon - Biological Data Form

Date: _____ - _____ - ____
yyyy - mmm - dd

Crew: _____

Form # : ___ **of** ___

Project: _____

Fish No.	Gear Type	rkm	RECAP Y/N	HK SIZE	PIT (write "Ø " for 0's ; "d" for D)	FLOY TAG C	FLOY TAG #	TAGS @ CAPT (Y/N) P	TAGS @ CAPT (Y/N) R	TAGS @ CAPT (Y/N) F	SCUTE MRKS @ CAPT	LENGTH (cm) Pre Orb.	LENGTH (cm) Post Oprc	LENGTH (cm) Fork	LENGTH (cm) Total	GIRTH (cm)	WEIGHT (corrected for sling wgt) kg	WEIGHT (corrected for sling wgt) lb	SEX MAT CODE	Otc (cc)/ N	New FIN RAY Taken (Y/N)	New DNA Taken (Y/N)	TAGS @ REL (Y/N) P	TAGS @ REL (Y/N) R	TAGS @ REL (Y/N) FL	SCUTE MRKS @ REL	RADIO APPLIED Freq.	RADIO APPLIED Code	RADIO APPLIED New Y/N
1		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
2		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
3		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
4		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
5		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
6		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
7		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
8		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
9		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													
10		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																													

Gear Type:
ANG- Angling
TR- Cod Trap
GN- Gillnet
SSL- Setline
JSSL- Juvenile setline
CSSL-Combination setline

Comments: Record: Surgery Remarks, Marks and Scars, Previous Finray Taken, Fish Disposition, Photo numbers etc.

Sex Codes:
Males: 01-07; 10 (mat. unk.)
Females: 11-17; 20 (mat unk.)
Juvenile: (< 1-m FL): 98
Adult: (> 1-m FL): 97

Fish No.	Gear Type	rkm	RECAP Y/N	HK SIZE	PIT (write "Ø " for 0's ; "d" for D)	FLOY TAG C	FLOY TAG #	TAGS @ CAPT (Y/N) P	TAGS @ CAPT (Y/N) R	TAGS @ CAPT (Y/N) F	SCUTE MRKS @ CAPT	LENGTH (cm) Pre Orb.	LENGTH (cm) Post Oprc	LENGTH (cm) Fork	LENGTH (cm) Total	GIRTH (cm)	WEIGHT (corrected for sling wgt) kg	WEIGHT (corrected for sling wgt) lb	SEX MAT CODE	Otc (cc)/ N	New FIN RAY Taken (Y/N)	New DNA Taken (Y/N)	TAGS @ REL (Y/N) P	TAGS @ REL (Y/N) R	TAGS @ REL (Y/N) FL	SCUTE MRKS @ REL	RADIO APPLIED Freq.	RADIO APPLIED Code	RADIO APPLIED New Y/N
11		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
12		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
13		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
14		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
15		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
16		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
17		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
18		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
19		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														
20		___.__			__ __ __ __ __ __ __ __ __ __																							___.___		
	Comments:																														

Gear Type: **ANG**- Angling; **TR**- Cod Trap; **GN**- Gillnet; **SSL**- Setline; **JSSL**- Juvenile setline; **CSSL**-Combination setline

Comments: Record: Surgery Remarks, Marks and Scars, Previous Finray Taken, Fish Disposition, Photo numbers etc.

Sex Codes: **Males**: 01-07; 10 (mat. unk.); **Females**: 11-17; 20 (mat unk.); **Juvenile:** (< 1-m FL): 98; **Adult:** (> 1-m FL): 97