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Report Title: *Small Fish Surveys in the Peace & Halfway Rivers (2006)*
Project: Peace River Site C Hydro Project
Prepared By: Mainstream Aquatics
Prepared for: BC Hydro

NOTE TO READER:

This is a report on a study commissioned toward the development of engineering, environmental and technical work conducted to further define the potential Site C project.

For environmental studies, the focus is on the development of an environmental and socio-economic baseline around the area of the potential Site C Project. Baseline studies are generally a survey of existing conditions within a project study area.

This report and other information may be used for future planning work or an environmental assessment or regulatory applications related to the potential Site C Project.

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SMALL FISH SURVEYS IN THE PEACE AND HALFWAY RIVERS (2006)

-FINAL-

Prepared for

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EXECUTIVE SUMMARY

The purpose of the small fish surveys in the Halfway River and Peace River were to update previous data that described small fish populations and to provide a basis for future decisions related to water use planning and possible hydroelectric developments in the region. The objectives of the study were to determine the species composition, distribution and relative abundance of small fish utilizing the study area, and to identify and characterize critical rearing habitats.

The Halfway River study area included 40 km from the confluence with the Peace River to the confluence with the Cameron River. The study area in the Peace River included 145 km from the British Columbia/Alberta boundary to the Hudson Hope area. Sampling in the Peace River occurred in eight sections that were distributed within the overall Peace River study area.

The Halfway River small fish survey was completed during a 5-day period from 10 to 14 August, 2006. The small fish survey on the Peace River was completed during an 8-day period from 11 to 18 October. Water levels and moderate to high water clarity provided optimal sampling conditions during the field programs.

Four fish capture methods were used to sample a representative number of habitats. Methods included small-fish boat electrofisher, backpack electrofisher, beach seine and gill net (gill net used only in the Peace River). Of the four methods used, only gill net was ineffective, which was likely due primarily to fluctuations in water level.

Halfway River

The fish community in the Halfway River in August was comprised of 16 species, which included sportfish, suckers, minnows and sculpins. Suckers and minnows were the dominant fish groups. Longnose sucker, redside shiner and longnose dace were most important numerically. Mountain whitefish was the only abundant sportfish species. All other sportfish including Arctic grayling, bull trout and rainbow trout were scarce.

No distinct differences in species distribution between the Upper and Lower Sections of the Halfway River were noted; most species were widespread. The few Arctic grayling, bull trout and rainbow trout that were encountered, occurred most often in the Upper Section.

There was a trend towards higher catch rates in the Lower Section compared to the Upper Section for some species. These included longnose dace and redside shiner (backpack electrofisher), longnose sucker, largescale sucker, mountain whitefish, redside shiner, slimy sculpin (boat electrofisher) and longnose sucker (beach seine).

Critical habitats were not identified in either the Lower or Upper Sections of the Halfway River study area; however, there was a spatial difference in young-of-the-year (YOY) mountain whitefish abundance. The YOY mean catch rate in the Lower Section was more than twice that in the Upper Section.

In summary, most sportfish species except mountain whitefish were not abundant in the Halfway River study area. The Halfway River study area is used extensively by sucker, minnow and sculpin species. The results also indicated that YOY mountain whitefish were more abundant in the Lower Section of the Halfway River study area.

Peace River

In total, 19 fish species were encountered in the Peace River study area during sampling in October. These included 8 sportfish, 3 sucker, 6 minnow and 2 sculpin species. Sportfish were the most numerous group, but only mountain whitefish was abundant with much lower numbers of all other sportfish species. Suckers, minnows and sculpins also were present in the study area. From an individual species perspective, mountain whitefish, redside shiner and longnose sucker were the numerically dominant species of small fish in the Peace River study area during the October field program.

Mountain whitefish, longnose sucker, lake chub, redside shiner and slimy sculpin were widely distributed. Arctic grayling, longnose dace and spottail shiner were absent from the upper sections, while prickly sculpin was absent from the lower sections. Rainbow trout and kokanee were recorded primarily in the three upper sections; trout-perch were recorded only in the lower sections. Bull trout, lake whitefish, northern pike, yellow perch, largescale sucker and white sucker exhibited limited distributions. Species diversity did not differ between the eight study sections. However, there were more minnow species in the lower sections compared to the upper sections.

The following general findings for the Peace River small fish survey are as follows:

- Several species were entirely absent from Section 1, which indicates that it may not be used extensively for rearing.
- Arctic grayling catch rates were highest in Section 6, which was immediately downstream of the Pine River confluence.

- The pattern of prickly sculpin catch rates suggested that the population resides in the upstream portion of the study area.
- Mountain whitefish were abundant throughout the study area. Mean catch rates for this species were an order of magnitude higher than catch rates for all other species.
- Longnose dace and longnose sucker catch rates increased from upstream to downstream.
- Tributary confluences were concentration points for several species in the sucker and minnow groups.
- Lake whitefish, northern pike and yellow perch were associated primarily with protected Back Channel habitats.
- Arctic grayling YOY were widely distributed suggesting that this species uses the mainstem river for overwintering purposes.
- Bull trout YOY were not recorded in the Peace River during the small fish survey.
- Mountain whitefish and longnose sucker YOY were widely distributed suggesting that rearing habitats for these species populations were widespread.
- Rainbow trout YOY were recorded in the mainstem Peace River, which was not expected.

In summary, a wide variety of small-fish species and younger age-groups of large-fish species were recorded in the Peace River study area. Most species were not abundant, with the exception of mountain whitefish, longnose sucker and redside shiner. There were spatial patterns in fish abundance recorded for some species, as well as habitat preferences recorded for others.

ACKNOWLEDGEMENTS

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The following Mainstream Aquatics Ltd. personnel participated in the program:

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1.0 INTRODUCTION

1.1 BACKGROUND

BC Hydro is continuing fisheries studies in the Peace River area to support water use planning and provide baseline information that will allow replication during future studies. Fisheries studies planned for 2006 included small fish surveys in the Halfway River and Peace River (Component 1), small fish surveys in Peace River tributaries (Component 2) and radio tagging of adult fish in the Pine and Sukunka rivers (Component 3).

Mainstream Aquatics Ltd. was contracted by B. C. Hydro to complete Component 1 of the 2006 fisheries studies. This report summarizes the results of the study.

1.2 PURPOSE AND OBJECTIVES

The purpose of the study was to update previous data that described small fish populations and to provide baseline data for future decisions related to water use planning and possible hydroelectric developments in the region. For the purposes of this assessment, small fish are defined as all small-fish species and younger age-groups of large-fish species. The upper size limit of a small fish was arbitrarily defined as 200 mm fork length.

The objectives of the study, as specified in the Terms of Reference, were as follows:

1. To determine the species composition, distribution and relative abundance of small fish utilizing the study area.
2. To identify and characterize critical rearing habitats.

Critical habitat was defined as specific habitat types or areas that contained higher numbers of a fish of a particular species compared to other sampled habitat types or areas.

1.3 STUDY AREA

The study area was delineated based on requirements of the Terms of Reference. Specifically, sites should be established that complement and expand upon sites established in 2005 by AMEC and LGL (2006). The study area in the Halfway River should extend at least 28 km upstream from the Peace River. The study area in the Peace River should extend from the Peace Canyon Dam to the British Columbia/Alberta boundary. It should be related to the biophysically discrete reach designations presented by AMEC and

LGL (2006). Finally a representative number of mainstem pools, nearshore habitats and side channels should be sampled to provide estimates of relative abundance.

The Halfway River study area included 40 km from the confluence with the Peace River to the confluence with the Cameron River (Table 1.1 and Figure 1.1). This corresponded to the river section inventoried by AMEC and LGL in (2006) (see Maps 6 to 10 in AMEC and LGL [2006]). The study area was stratified into a Lower Section (Km 0.0 to Km 13.0) and an Upper Section (Km 13.0 to 40.0).

Table 1.1 Sections sampled in the Halfway River and Peace River during small fish surveys, 2006.

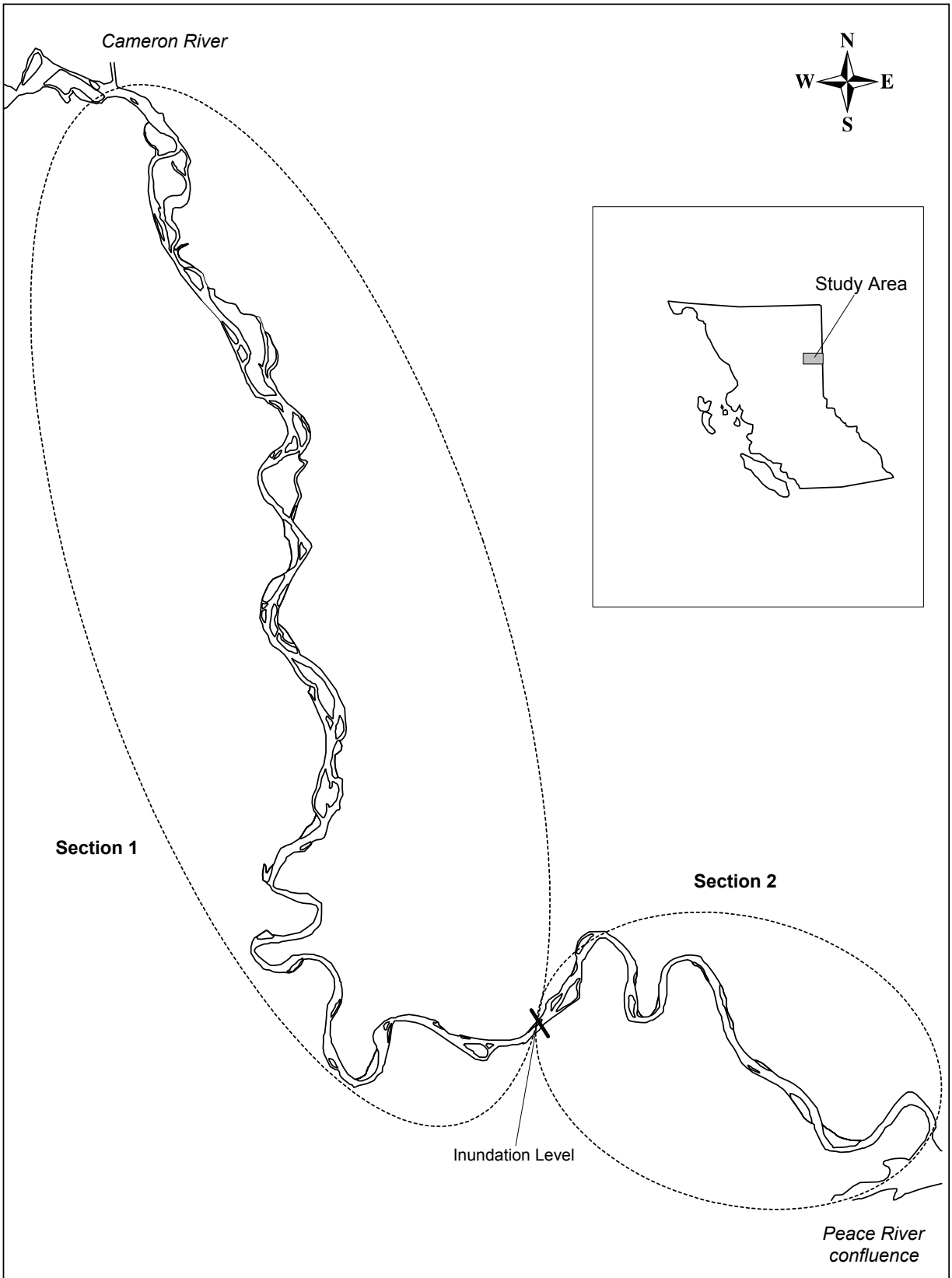
River	Label	Description	Location	Length (km)
Halfway River	Upper	Cameron River to Inundation Level	Km 40.0 to 13.0	27.0
	Lower	Inundation Level to Peace River confluence	Km 13.0 to 0.0	13.0
Peace River	1	Hudson Hope area to Lynx Creek	Km 145.2 to 136.2	9.0
	2	Farrell Creek to Halfway River	Km 127.2 to 114.2	13.0
	3	Halfway River to Cache Creek	Km 104.0 to 87.4	16.6
	4	Cache Creek to Moberly River	Km 87.4 to 70.0	17.4
	5	Moberly River to Pine River	Km 65.2 to 54.3	10.9
	6	Pine River to Beatton River	Km 46.8 to 35.7	11.1
	7	Beatton River to Kiskatinaw River	Km 26.7 to 13.6	13.1
	8	Kiskatinaw River to Alberta boundary	Km 12.6 to 1.8	10.8

The study area in the Peace River included 145 km from the British Columbia/Alberta boundary to the Hudson Hope area (Table 1.1 and Figure 1.2). Sampling was stratified into eight sections; the spatial distribution and location of each section was based on designations specified in AMEC and LGL (2006) (see Section 2.3.1 and Figure 2 in AMEC and LGL [2006]). The specific location and length of each section was based on the existence of suspected small fish habitats and logistical constraints.

Appendix Table A1 and Figures A1 to A18 identify site locations within each study section.

1.4 STUDY PERIOD

The Halfway River small fish survey was completed during a 5-day period from 10 to 14 August, 2006. The small fish survey on the Peace River was completed during an 8-day period from 11 to 18 October, 2006. As recommended in the proposal by Mainstream Aquatics Ltd. and agreed to by the client, the survey on the Peace River was intentionally deferred from the summer period until mid-fall. This approach was adopted in order to provide sufficient time for younger age-groups of Arctic grayling and possibly bull trout to enter the Peace River from summer rearing tributaries.



Inundation Level: from AMEC and LGL (2006)

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Figure 1.1
Halfway River Small Fish Survey
Study Area, 2006.

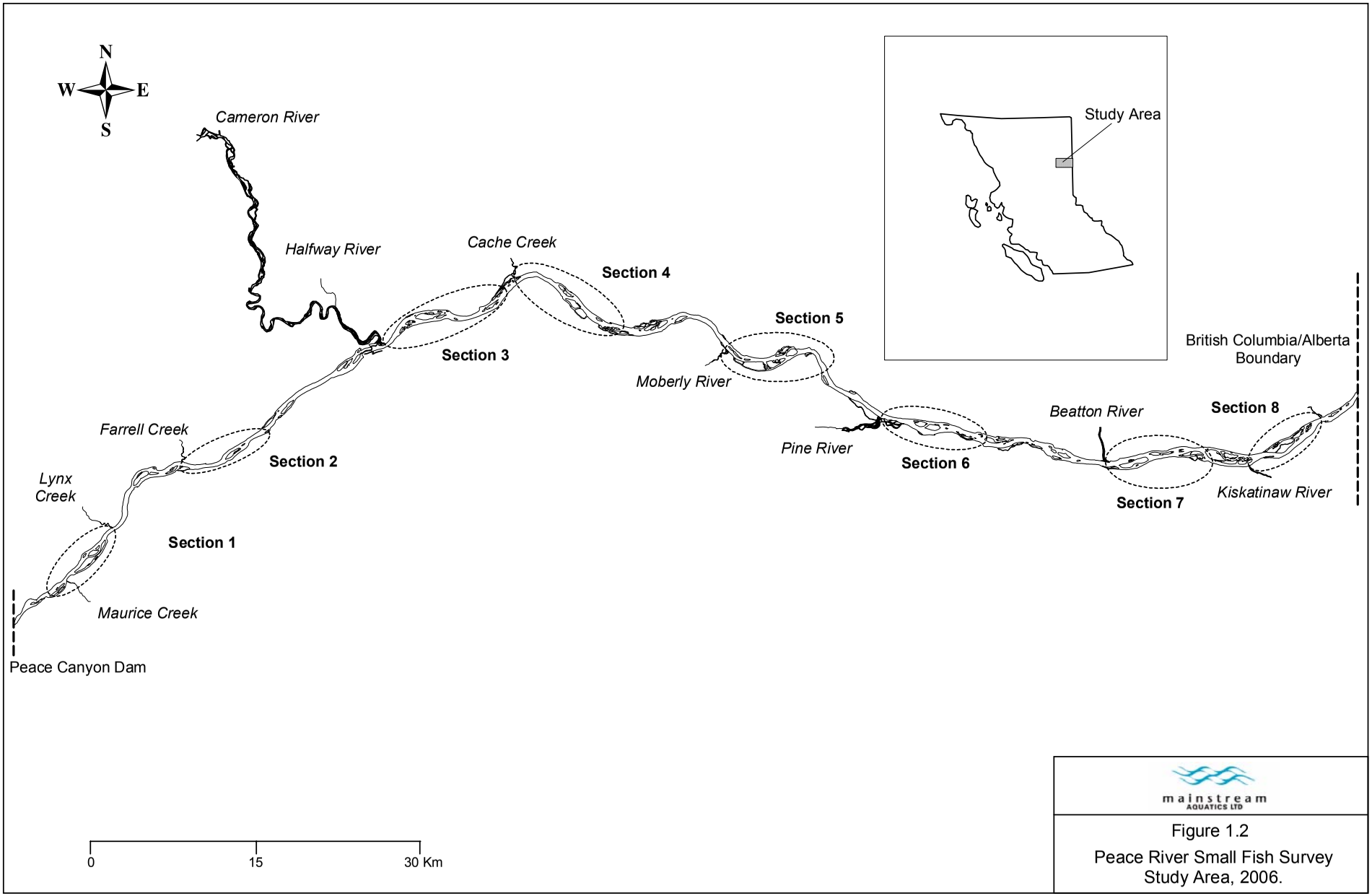

Figure 1.2
Peace River Small Fish Survey
Study Area, 2006.

2.0 METHODS

2.1 FISH CAPTURE

General Approach

Two crews completed the field program and four capture methods were used to sample small fish in potential rearing habitats. These were boat electrofisher, backpack electrofisher, beach seine and gill net. The method used was dependent on the physical characteristics of the area to be sampled. Boat electrofisher was used to sample nearshore, shallow-water areas (i.e., <0.5 m water depth) with water velocities and water depths that prevented effective sampling by other methods. Multiple habitat types were incorporated into each boat electrofisher site. A backpack electrofisher was used to sample discrete habitats containing rock substrate that could be effectively sampled by wading. A beach seine was used to sample discrete habitats having low to zero water velocities that could be waded. Gill netting was not a standard fish capture method during the field program. The method was used in selected deep-water areas (i.e., stillwater, back channels having water depths >1.5 m) that could not be sampled by other methods.

Sample Effort

The amount and distribution of sample effort is summarized in Table 2.1. The number of sites sampled in each section was based on section length and the type and number of available small fish habitats. In the Halfway River, 27 sites were sampled in the Lower Section compared to 35 sites in the Upper Section. Based on section length these numbers represent 2.1 sites per km in the Lower Section and 1.3 sites per km in the Upper Section. In the Peace River 17 to 21 sites were sampled in each section.

Table 2.1 Number of sites sampled by capture method in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Section	Number of Sites				
		Boat Electrofish	Backpack Electrofish	Beach Seine	Gill Net	Total
Halfway River	Lower	11	13	3		**27**
	Upper	14	16	5		**35**
	Total	**25**	**29**	**8**	**-**	**62**
Peace River	1	8	3	7		**18**
	2	10	4	7		**21**
	3	9	3	6	1	**19**
	4	7	2	7	1	**17**
	5	9	3	5	1	**18**
	6	9	3	6	1	**19**
	7	8	3	6	1	**18**
	8	8	3	5	1	**17**
	Total	**68**	**24**	**49**	**6**	**147**

Attempts were made to sample a representative number of habitat types present within each section. Each fish capture method was used primarily to sample specific habitat types based on sampling effectiveness. Table 2.2 summarizes the number of habitat types sampled by capture method in the Halfway River and Peace River. Backpack electrofisher generally was used to sample Flat, Riffle/Rapid and Run habitats. A beach seine was generally used to sample Backwater and Back Channel habitats. Boat electrofisher generally was used to sample river sections dominated by Run habitats.

Table 2.2 Number of sites sampled by habitat and capture method in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Capture Method	Habitat Type[a]						
		Backwater	**Flat**	**Riffle**	**Run**	**Back Channel**	**Tributary Confluence**	**Total**
Halfway River	Backpack Electrofish	2	8	6	13			**29**
	Beach Seine	1	2			5		**8**
	Boat Electrofish	3	2	1	19			**25**
	Total	**6**	**12**	**7**	**32**	**5**	**-**	**62**
Peace River	Backpack Electrofish	3			17		4	**24**
	Beach Seine	17	3		2	21	6	**49**
	Boat Electrofish		2		57	1	8	**68**
	Gill Net					6		**6**
	Total	**20**	**5**	**-**	**76**	**28**	**18**	**147**

[a] See Appendix B1 for habitat type definitions.

Boat Electrofisher

The boat electrofisher consisted of a double-bowed, inflatable drift boat equipped with a Smith-Root Type VIA electrofisher system, two fixed boom anodes on the bow and a cathode wire array on the stern. Electrofisher settings were maintained at an amperage output of 4.5 to 6.0 A, pulsed DC current. Voltage frequency was adjusted based on conductivity and sampling effectiveness. A frequency of 60 Hz was used for the Peace River (conductivity of approximately 190 μ*s*/cm), while 100 Hz was used for the Halfway River (conductivity of approximately 375 μ*s*/cm).

The sampling procedure involved an operator positioning the boat perpendicular to the channel margin while drifting downstream and outputting a continuous current of electricity. A single netter positioned at the bow of the boat captured the temporarily immobilized fish and placed them in a 30 L live well. The netter was equipped with a net having a mesh size of 0.5 cm. The netter was instructed not to bias their catch towards a particular species in order to provide a representative sample of the fish community. Sampled length of each site consisted of a single pass of approximately 1000 m.

Backpack Electrofisher

Two types of backpack electrofishers were used during the survey. A Halltech H2-2000 high output backpack electrofisher was used on the Halfway River. Settings were maintained at an output of 100-150 VDC, 5-7 ms and a frequency of 100 Hz. Sampling on the Peace River was completed using a Smith–Root Type XII high output backpack electrofisher. Settings were maintained at an output of 300-400 VDC, 6 ms and a frequency of 60 Hz.

The backpack electrofisher operator waded upstream along the channel margin and sampled suspected fish holding areas. The netter, who was positioned in close proximity to the electrofisher operator, collected immobilized fish and placed them in a holding bucket. A single pass was used at each site; sampled length was approximately 100 m.

Beach Seine

A beach seine was used in low velocity areas not effectively sampled with a backpack electrofisher (e.g., backwater). The beach seine was 4.5 m wide and 1.5 m high with a stretched mesh size of 5.0 mm (the depth of the capture bag was 1.4 m). A two-person crew sampled perpendicular to the channel margin for a predetermined distance (usually 30 m) before turning into shore. Captured fish were placed in a holding bucket for processing. Typically, one seine haul was conducted at each site. If sample effectiveness was low (e.g., snagged net), the site was sampled a second time.

Gill Net

Small mesh nylon gill nets were used to sample deep water areas in back channels (1.0 to 3.0 m deep) that could not be effectively sampled by other methods. The gill net panel measured 15.2 m x 2.4 m and stretched mesh size was 1.9 cm. A single gill net panel was set perpendicular to the channel margin at each site. To minimize capture mortality gill net set times were kept to a minimum (from 3 to 6 h).

2.2 MEASURED PARAMETERS

Data recorded for most captured fish included species and fork length (to the nearest mm). Total lengths were measured for fish less than 20 mm, sculpin species and burbot. When the catch exceeded 10 individuals per species a sub-sample was measured. The first 10 individuals of each species were measured, while the remaining fish were identified and enumerated before release.

Fish that could not be identified in the field were assigned a unique identifier and a subsample preserved for future identification. These fish were assigned a species label based on laboratory identifications.

Young-of-the-year sucker, sculpin and cyprinid spp. could not be identified to species using this method because a unique identifier could not be assigned in the field. For these fish, the following method was employed. The percent composition of identified species in the sample was calculated. The calculated percentage for each species was then applied to the sample of unidentified fish at a particular site. For example, if 56% of the identified sucker sample in the Halfway River consisted of longnose suckers, 35 fish in a sample of 62 unidentified suckers were designated longnose sucker. The numbers of unidentified fish that were assigned a species was as follows:

Group	Halfway River	Peace River
Sportfish	0	0
Suckers	505	15
Minnows/Trout-perch	62	0
Sculpins	0	17

Each fish identified to species was assigned a four-letter species label (Mackay *et al.* 1990). The common name, scientific name and label of all fish species mentioned in this report are presented in Table 2.3.

Table 2.3 Nomenclature and abbreviations used for fish species recorded in the Halfway River and Peace River during small fish surveys, 2006.

Group	Common Name	Scientific Name	Abbreviation
Sportfish	Arctic grayling	*Thymallus arcticus*	ARGR
	Bull trout	*Salvelinus confluentus*	BLTR
	Kokanee	*Oncorhynchus nerka*	KOKA
	Lake whitefish	*Coregonus clupeaformis*	LKWH
	Mountain whitefish	*Prosopium williamsoni*	MNWH
	Rainbow trout	*Oncorhynchus mykiss*	RNTR
	Burbot	*Lota lota*	BURB
	Northern pike	*Esox lucius*	NRPK
	Yellow perch	*Perca flavescens*	YLPR
Sucker	Largecale sucker	*Catostomus macrocheilus*	LSSC
	Longnose sucker	*Catostomus catostomus*	LNSC
	White sucker	*Catostomus commersoni*	WHSC
Minnow/Trout-perch	Flathead chub	*Platygobio gracilis*	FLCH
	Lake chub	*Couesius plumbeus*	LKCH
	Longnose dace	*Rhinichthys cataractae*	LNDC
	Northern pikeminnow	*Ptychocheilus oregonensis*	NRPM
	Redside shiner	*Richardsonius balteatus*	RDSH
	Spottail shiner	*Notropis hudsonius*	SPSH
	Trout-perch	*Percopsis omiscomaycus*	TRPR
Sculpin	Prickly sculpin	*Cottus asper*	PRSC
	Slimy sculpin	*Cottus cognatus*	SLSC

A non-lethal ageing structure (scale) was collected from a sub-sample of collected sportfish to confirm the age class (young-of-the year or juvenile). Structures were placed in labeled envelopes and air-dried before storage.

Parameters measured at each fish sample site were as follows:

- Date and time
- Geodetic location
- Sample method settings
- Sample effort (seconds/meters/width)
- Water conductivity (microseimens)
- Water temperature (^{o}C)
- Water clarity (low, moderate, high)
- Water depth (cm) and velocity (m/s)
- Channel type (side or main)
- Mesohabitat type
- Instream habitat type
- Bank habitat type
- Substrate type (%)
- Available fish cover (%)
- Algal cover (%)
- D90 (cm)
- Substrate embeddedness (low, moderate, high)
- Substrate compaction (low, moderate, high)

Definitions of habitat types are presented in Appendix B1; the Plates section provides illustrations of selected habitat types.

Note that habitat specific parameters (e.g., water depth, water velocity and D90) were not recorded at boat electrofisher sites due to variable conditions (i.e., multiple habitats were sampled). Mesohabitat type was measured only at boat electrofisher sites in the Peace River because fish habitat in this system has been successfully characterized in the past (Mainstream and Gazey 2006). Parameter definitions are presented in Appendix B2.

2.3 DATA ANALYSES

Quality Assurance and Quality Control

All data collected in the field were recorded on standardized forms. Forms were checked daily for errors or omissions. Data were entered into standardized data entry spreadsheets using Microsoft Excel™. These data were visually compared to the field forms for errors and subjected to several summary analyses including graphical examination to identify errors and outliers. The checked data were then imported into a single Microsoft Access™ data management file for data management and storage.

Mapping

Geodetic location information (UTM coordinates) were tabulated and plotted onto geo-referenced base maps (BC TRIM, scale 1:20,000 for Halfway River and NTS, scale 1:50,000 for Peace River) using MapInfo Professional™. River kilometre locations were then plotted on base maps. Km 0 for the Halfway

River was arbitrarily assigned as the confluence with the Peace River. The British Columbia/Alberta boundary was assigned Km 0 for the Peace River.

Fish Biological Characteristics

Structures from selected sportfish species were aged to ascertain the range in length of Age 0 and Age 1 fish in sample populations. Ageing procedures followed those described in Mackay *et al.* (1990). Scales were cleaned and placed on a microscope slide for viewing. All structures were read in house by two experienced individuals. If a discrepancy occurred between readers a third person examined the structure and a consensus reached as to the age of the structure.

Length frequency distributions of sample populations were generated and age-groups assigned based on modal peaks illustrated by the length distributions and length-at-age data. Where age structures were not available, age-groups were assigned using length frequency distributions. Age-groups delineated were Age 0, or young-of-the year (YOY) and Age 1 juvenile. Table 2.4 describes age-group designations.

Table 2.4 Age-groups fork length ranges of sportfish and suckers sampled from the Halfway River (August) and Peace River (October) during small fish surveys, 2006.

River	Group	Species	Young-of-the-year		Juvenile	
			Length Range (mm)	Sample Size	Length Range (mm)	Sample Size
Halfway River	Sportfish	Arctic grayling	-		156 -199	8
		Bull trout	-		168 - 237	6
		Burbot	-		182 - 210	2
		Mountain whitefish	33 - 103	279	112 - 163	99
		Northern pike	-		162 - 170	2
	Sucker	Largescale sucker	18 - 66	38	76 - 145	72
		Longnose sucker	19 - 59	156	61 - 149	209
Peace River	Sportfish	Arctic grayling	119 - 154	30	157 - 207	34
		Bull trout	-		261 - 283	4
		Kokanee	55 - 72	4	147 - 159	3
		Lake whitefish	126	1	-	
		Mountain whitefish	52 - 148	637	154 - 199	75
		Northern pike	-		147 - 168	3
		Rainbow trout	41 - 76	8	142 - 195	3
	Sucker	Largescale sucker	29 - 59	22	122 - 132	2
		Longnose sucker	22 - 84	262	101 - 192	5

Catch Rate

Catch rate or catch-per-unit-effort (CPUE) of fish was calculated for each site by dividing the number of fish captured by sampling effort.

CPUE was expressed as follows:

Boat electrofisher -	Number of fish/km
Backpack electrofisher -	Number of fish/m
Beach seine -	Number fish/m^2
Gill net -	Number fish/m^2/h

Summary values represent mean catch rate ± standard error (SE).

Spatial Distribution

Spatial distribution and habitat preference were assessed by comparing catch rate estimates by section and habitat. For these assessments a list of species was selected based on availability of appropriate catch rate data for specific habitat types. Selection was based on variance associated with the catch rate estimate, sample size, consistency in physical characteristics among habitat types and predicted habitat preference of each species. Samples from groups of habitat types were combined for analyses.

Habitat Preference

Summary statistics were calculated for selected physical characteristics and habitat types. Comparisons between catch rate and selected habitat parameters were made to ascertain whether a habitat characteristic was preferred by fish.

Habitat preference could not be established at the habitat type level because capture methods used and sample sizes were not consistent across habitat types (Table 2.2). As such, habitat preference was assessed by examining correlations between species catch rate and specific habitat parameters.

2.4 STATISTICAL ANALYSES

Statistical analyses were completed using SPSS® 13.0 for Windows. Unless otherwise stated, statistical analyses followed procedures described in Sokal and Rohlf (1981) and statistical significance was accepted at $P \leq 0.10$. To meet the assumptions required for parametric statistical analyses data were transformed where appropriate.

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3.0 RESULTS AND DISCUSSION

3.1 HALFWAY RIVER

3.1.1 Sampling Conditions

Moderate to high water clarity and low water levels created optimal conditions for the capture of fish during the August field program (Appendix C1). River discharge ranged from 22.1 to 25.5 m^3/s (Water Survey of Canada Station 07FA006).

Sampling conditions were considered atypical during the field program for two reasons. Firstly, water clarity typically is very low in the Halfway River in August. Secondly, river discharge during the field program was close to base flow, which is exceptional because it was approximately one quarter of the long-term average for the month of August (Water Survey of Canada Station 07FA006). In addition, water temperatures during the field program where high (up to 21.9 ^oC) and approached the critical tolerance thresholds for several species including bull trout, mountain whitefish and rainbow trout (EMA 1992, Haas 2001). These conditions may have influenced the fish community, which in turn could have influenced the results of the small fish survey in the Halfway River.

3.1.2 Species Composition

In total, 3737 fish were recorded during the small fish survey in the Halfway River in August 2006 (Table 3.1). The sample consisted of 16 species, which included 6 sportfish, 2 sucker, 6 minnow and 2 sculpin species. Sportfish accounted for 11.1% of the total sample. Mountain whitefish was the only sportfish species in the group that could be considered numerous (10.5%). All remaining sportfish species were scarce (<1.0%).

Suckers accounted for approximately one third of the total sample (31.7%). Longnose sucker was most abundant (24.3%), although largescale sucker was well represented (7.4%). White sucker was absent from the small fish sample in the Halfway River.

Minnows were the dominant group in the total sample (50.5%). However, only two species in this group were considered abundant: longnose dace (21.1%) and redside shiner (23.5%). The remaining minnow species each accounted for <3.5% of the total sample.

The sculpin group accounted for 6.6% of the total sample. Of the two species recorded, slimy sculpin was the dominant species (6.3%), while prickly sculpin was scarce (0.3%).

Table 3.1 Number and percent composition of fish species recorded in the Lower and Upper Sections of the Halfway River during the small fish survey, August 2006.

Group	Species	Lower		Upper		Total	
		Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Sportfish	Arctic grayling	2	0.1	6	0.3	8	0.2
	Bull trout	1	0.1	5	0.2	6	0.2
	Burbot	1	0.1	1	<0.1	2	0.1
	Mountain whitefish	234	13.7	160	7.9	394	10.5
	Northern pike	2	0.1	1	<0.1	3	0.1
	Rainbow trout	0	0.0	1	<0.1	1	<0.1
	Subtotal	*240*	*14.1*	*174*	*8.6*	*414*	*11.1*
Suckers	Longnose sucker	479	28.1	430	21.2	909	24.3
	Largescale sucker	151	8.8	126	6.2	277	7.4
	Subtotal	*630*	*36.9*	*556*	*27.4*	*1186*	*31.7*
Minnows	Flathead chub	2	0.1	2	0.1	4	0.1
	Lake chub	45	2.6	87	4.3	132	3.5
	Longnose dace	369	21.6	420	20.7	789	21.1
	Northern pikeminnow	24	1.4	52	2.6	76	2.0
	Redside shiner	298	17.5	581	28.6	879	23.5
	Spottail shiner	8	0.5	1	<0.1	9	0.2
	Subtotal	*746*	*43.7*	*1143*	*56.3*	*1889*	*50.5*
Sculpins	Prickly sculpin	0	0.0	13	0.6	13	0.3
	Slimy sculpin	91	5.3	144	7.1	235	6.3
	Subtotal	*91*	*5.3*	*157*	*7.7*	*248*	*6.6*
Total		**1707**	**100.0**	**2030**	**100.0**	**3737**	**100.0**

From an individual species perspective, longnose sucker, redside shiner, longnose dace and mountain whitefish were the numerically dominant species of small fish in the Halfway River during the August field program.

3.1.3 Distribution

Percent composition values for most species recorded during the small fish survey indicated no distinct differences in distribution between the Upper and Lower Sections of the Halfway River (Table 3.1). However, distributions of some species appeared to differ between sections. In the sportfish group, Arctic grayling, bull trout and rainbow trout were encountered more often in the Upper Section compared to the Lower Section. In the sculpin group, prickly sculpin were recorded only in the Upper Section. These differences in distribution could be related to changes in habitat availability and/or river characteristics. However, low numbers of these species made it difficult to make conclusions.

Mountain whitefish was the only species that appeared to be more numerous in the Lower Section compared to the Upper Section. The percent composition of mountain whitefish was 13.7% and 7.9%, respectively.

3.1.4 Catch Rate

The three gear types used during the survey were effective fish capture methods, but catch rates varied according to fish group or species (Figure 3.1; Appendix D1). Sportfish were recorded only during boat electrofishing. Sucker species and minnows were recorded using all three methods, but beach seining and boat electrofishing appeared to be most effective. The only exception to this trend was longnose dace in the minnow group. Backpack electrofisher produced high catch rates for this species. Sculpins appeared to be most numerous at backpack electrofisher sites.

Most sportfish species, except mountain whitefish, were not abundant. The sucker group catch rates of longnose sucker were higher than largescale sucker in all sections. Longnose dace and redside shiner exhibited the highest catch rates in the minnow group, as did slimy sculpin in the sculpin group.

Low catch rates and high variation around catch rate estimates for many species precluded an assessment of spatial differences in abundance or habitat preference. For these assessments, a list of species was selected based on availability of sufficient catch rate data for specific habitat types sampled as follows:

Capture Method	Habitat Types	Species
Boat electrofisher	• Run • Flat • Riffle/Rapid	• Mountain whitefish • Longnose sucker • Largescale sucker • Redside shiner • Slimy sculpin
Beach seine	• Back Channel • Backwater • Flat	• Longnose sucker • Largescale sucker • Lake chub • Redside shiner
Backpack electrofisher	• Run • Flat • Riffle/Rapid	• Longnose sucker • Longnose dace • Redside shiner • Slimy sculpin

Selection was based on catch rate (Figure 3.1), sample size (Table 2.2), consistency in physical characteristics among habitat types (Table 3.2), and predicted habitat preference of each species.

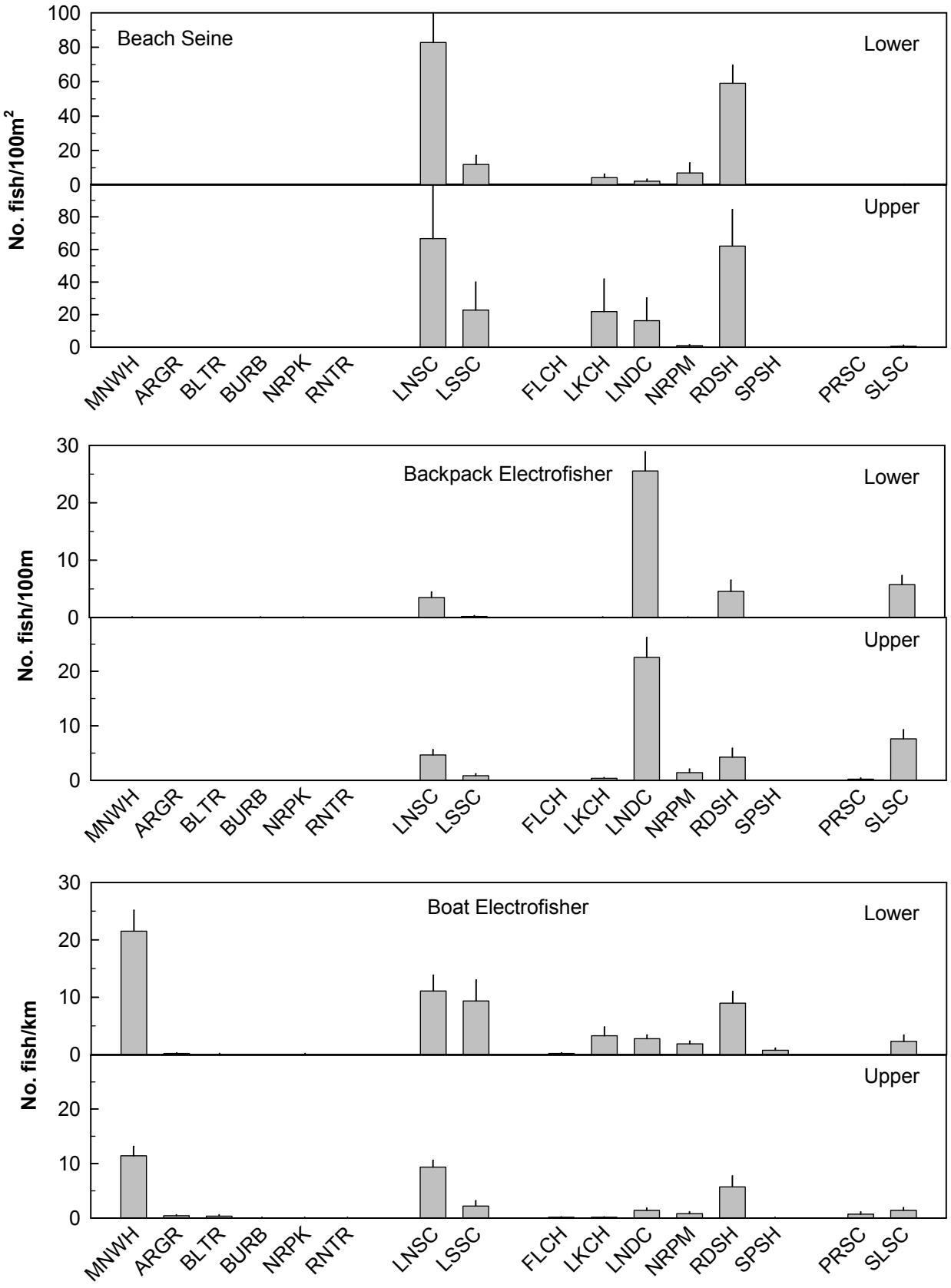


Figure 3.1 Mean catch rates of fish species using three capture methods in Lower and Upper sections during the small fish survey in the Halfway River, August 2006.

Table 3.2 summarizes information for selected habitat parameters to illustrate similarities/differences among habitat types. Raw habitat data are presented in Appendix C3. In general, Backwater and Back Channel habitats were dominated by smaller substrates, lower water velocities and deeper water. Flat habitat had lower velocities. Larger substrates and higher velocities occurred in Riffle/Rapid and Run habitats.

Table 3.2 Summary statistics for selected habitat parameters measured at backpack electrofisher and beach seine sites during the small fish survey in the Halfway River, August 2006.

Habitat Type	Sample Size	Substrate (%)		D90 (cm)	Average Velocity (m/s)	Average Depth (m)
		Rock[a]	Fines			
Backwater	3	100		11.7 ± 4.3	0.05 ± 0.05	0.24 ± 0.06
Flat	10	100		16.1 ± 4.1	0.07 ± 0.03	0.30 ± 0.02
Riffle	6	100		26.2 ± 2.7	0.45 ± 0.02	0.22 ± 0.02
Run	13	100		19.2 ± 2.5	0.28 ± 0.04	0.25 ± 0.01
Back Channel	5		100	<0.1	0.00	0.50 ± 0.08

[a] Rock substrate consisted of gravels, cobbles and boulders. See Appendix C1 for percentages.

Spatial Patterns

Differences in catch rate estimates were recorded for several fish species (Table 3.3). There was a trend towards higher catch rates in the Lower Section compared to the Upper Section for some species. These included longnose dace and redside shiner (backpack electrofisher), longnose sucker, largescale sucker, mountain whitefish, redside shiner and slimy sculpin (boat electrofisher) and longnose sucker (beach seine). Despite this trend, most differences were not statistically significant except for mountain whitefish and redside shiner. The lack of significance for the other species likely was related to small differences in catch rate estimates between sections and large sample variation.

Habitat Preference

Backpack electrofisher and beach seine catch rate data were used to examine habitat preference. Boat electrofisher data were not habitat specific, and therefore, were not used in the analyses.

Backpack electrofisher catch rates for some species were significantly correlated with specific habitat parameters (Table 3.4). Longnose dace and slimy sculpin catch rates were positively correlated to the percent rock (includes gravel, cobble and boulder), which suggested a preference for this habitat attribute. Longnose sucker catch rates were positively correlated to the amount of algal cover, which may be food related.

Table 3.3 Comparison of catch rates of selected species in Upper and Lower Sections of the Halfway River during the small fish survey, August 2006.

Method	Species	Mean Catch Rate[a] ± SE				Significance[b]
		Lower	*n*	Upper	*n*	
Backpack Electrofisher[c]	Longnose dace	26.0 ± 3.6	12	23.3 ± 3.9	15	0.613
	Longnose sucker	3.7 ± 1.0	12	4.3 ± 1.0	15	0.673
	Redside shiner	4.5 ± 2.2	12	3.1 ± 1.3	15	0.566
	Slimy sculpin	5.8 ± 1.8	12	8.0 ± 1.8	15	0.383
Boat Electrofisher[d]	Longnose sucker	11.1 ± 2.8	11	9.4 ± 1.3	14	0.549
	Largescale sucker	9.4 ± 3.7	11	2.2 ± 1.0	14	**0.086**
	Mountain whitefish	21.5 ± 3.7	11	11.4 ± 1.7	14	**0.026**
	Redside shiner	9.0 ± 2.0	11	5.7 ± 2.0	14	0.276
	Slimy sculpin	2.3 ± 1.1	11	1.4 ± 0.5	14	0.453
Beach Seine[e]	Lake chub	4.2 ± 2.1	3	21.9 ± 19.9	5	0.531
	Longnose sucker	82.9 ± 59.7	3	66.7 ± 60.1	5	0.865
	Largescale sucker	11.8 ± 5.3	3	22.8 ± 17.2	5	0.654
	Redside shiner	59.0 ± 10.5	3	62.1 ± 22.4	5	0.906

[a] Catch Rate: Backpack electrofisher No. fish/100 m; Boat Electrofisher No. fish/km; Beach seine No. fish/100 m^2.
[b] Based on independent samples t-test; significance accepted at $P \leq 0.10$.
[c] Includes sites designated as Run, Flat, or Riffle/Rapid habitat.
[d] Includes sites designated as Run, Flat, or Riffle/Rapid habitat.
[e] Includes sites designated as Back Channel, Backwater, or Flat.

Table 3.4 Correlation between catch rate and selected habitat parameters for selected species in the Halfway River during the small fish survey, August 2006.

Method	Species	Pearson Correlation Coefficient and Significance[a]				
		Percent Algae	Velocity	Depth	D90	Percent Rock
Backpack Electrofisher[b]	Longnose dace	-0.203	0.205	-0.014	-0.096	**0.356***
	Longnose sucker	**0.371***	0.024	-0.005	-0.164	0.138
	Redside shiner	-0.079	-0.309	0.239	0.320	-0.305
	Slimy sculpin	-0.094	0.070	-0.109	**0.414***	**0.541***
Beach Seine[c]	Lake chub	0.706	-	**0.686***	-0.449	0.200
	Longnose sucker	0.368	-	0.440	-0.934	-0.162
	Largescale sucker	-0.053	-	0.499	-0.973	0.173
	Redside shiner	**-0.982***	-	**-0.704***	0.360	-0.528

[a] Significance accepted at $P \leq 0.10$ and designated by an asterisk.
[b] Includes sites designated as Run, Flat, or Riffle/Rapid habitat; sample size equals 27.
[c] Includes sites designated as Back Channel, Backwater, or Flat; sample size equals 8.

Beach seine results indicated that lake chub catch rates were positively related to water depth; however, the opposite was true for redside shiner. Caution should be used when interpreting the beach seine data due to the small sample size ($n = 8$).

Critical Habitats

Critical habitats were defined as specific areas that contained large concentrations of fish. No unique locations were identified that met this criterion in the Lower or Upper Sections of the study area during

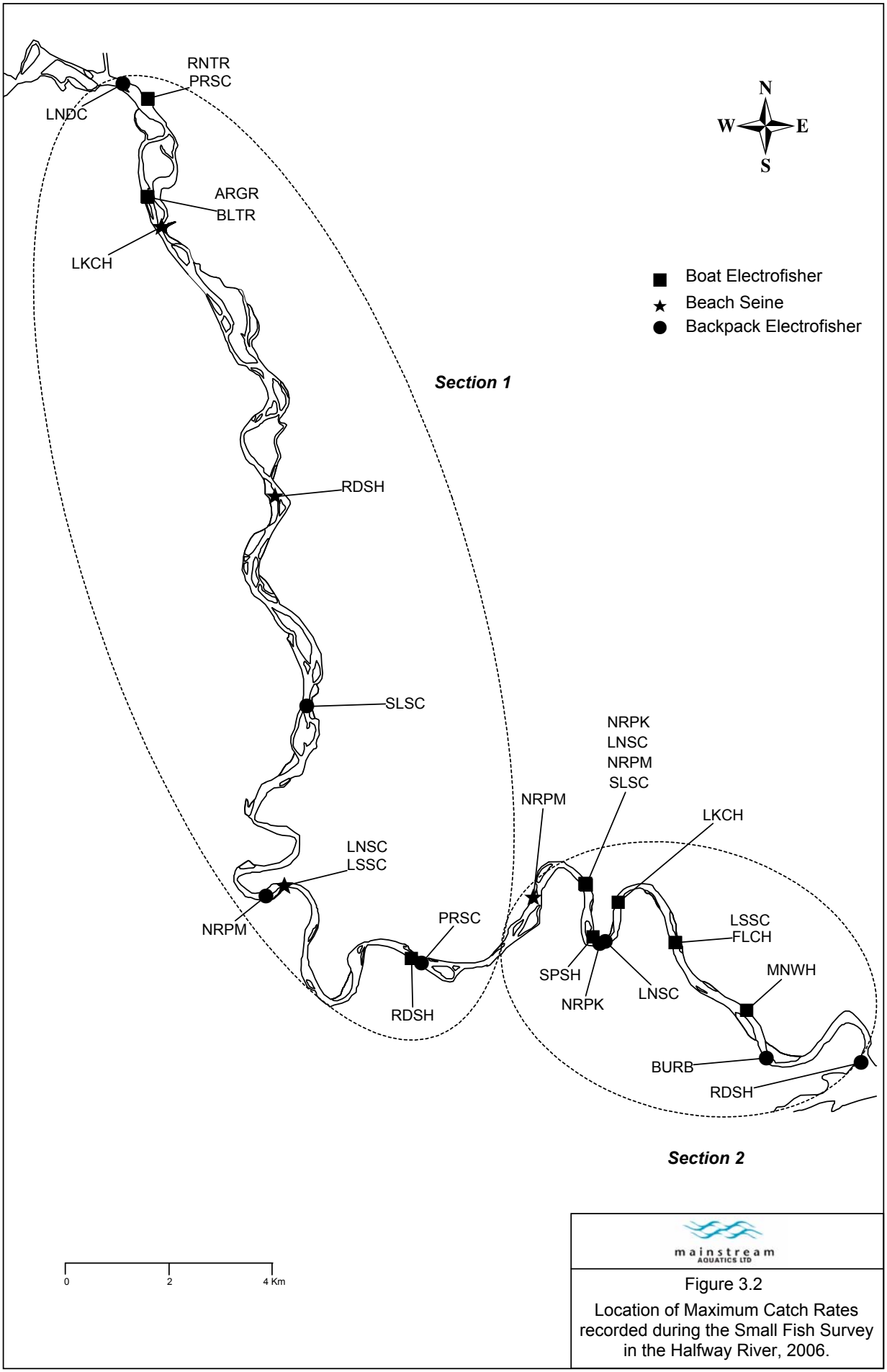
the August survey. However, the catch rate data could be used to illustrate sample sites and habitat types where maximum catch rates were recorded for each species (Figure 3.2 and Table 3.5).

Table 3.5 Maximum catch rates of species recorded in the Halfway River during the small fish survey, August 2006.

Capture Method	Species	Section	Site	Catch Rate[a]	Habitat Type[b]
Backpack Electrofisher	Longnose dace	Upper	EF01	60.0	Run
	Redside shiner	Lower	EF29	26.7	Flat
	Slimy sculpin	Upper	EF07	25.0	Run
	Longnose sucker	Lower	EF20	13.8	Flat
	Northern pikeminnow	Upper	EF12	8.0	Run
	Prickly sculpin	Upper	EF15	3.3	Riffle
	Burbot	Lower	EF26	1.0	Riffle
	Northern pike	Lower	EF19	0.8	Riffle
Beach Seine	Longnose sucker	Upper	BS06	306.7	Back Channel
	Redside shiner	Upper	BS03	120.0	Back Channel
	Lake chub	Upper	BS01	101.7	Back Channel
	Largescale sucker	Upper	BS06	91.7	Back Channel
	Longnose dace	Upper	BS01	71.7	Back Channel
	Northern pikeminnow	Lower	BS06	18.8	Back Channel
Boat Electrofisher	Mountain whitefish	Lower	ES22	43.0	Run
	Largescale sucker	Upper	ES02	42.0	Backwater
	Longnose sucker	Lower	ES16	35.0	Run
	Redside shiner	Upper	ES14	25.0	Run
	Lake chub	Lower	ES18	18.0	Flat
	Slimy sculpin	Lower	ES16	13.0	Run
	Prickly sculpin	Upper	ES02	6.0	Run
	Northern pikeminnow	Lower	ES16	5.0	Run
	Spottail shiner	Lower	ES17	4.0	Run
	Bull trout	Upper	ES03	3.0	Run
	Arctic grayling	Upper	ES03	2.0	Run
	Flathead chub	Lower	ES20	1.0	Backwater
	Northern pike	Lower	ES16	1.0	Run
	Rainbow trout	Upper	ES02	1.0	Run

[a] Catch Rate: Backpack electrofisher No. fish/100 m; Boat electrofisher No. fish/km; Beach seine No. fish/100 m^2.
[b] Boat electrofisher habitat type represents dominant habitat within sample site, not a discrete habitat type.

When all species were considered as a group, 13 of the 28 occurrences of maximum catch rate were recorded in the Lower Section (all methods combined). This is of interest because the Lower Section was shorter in length than the Upper Section. The frequency of occurrence was significantly different from expected (Chi-square test: $Chi^2 = 3.12$, $P = 0.078$).



mainstream AQUATICS LTD

Figure 3.2

Location of Maximum Catch Rates recorded during the Small Fish Survey in the Halfway River, 2006.

Mountain whitefish was the most abundant sportfish in the Halfway River study area during the August survey and catch rates were higher in the Lower Section compared to the Upper Section (Table 3.3). The mountain whitefish catch consisted primarily of YOY (Age 0) and juvenile (Age 1) fish (Figure 3.3, Appendix E1). The abundance of these two age-groups can provide an indication of the relative importance of the two sections in terms of rearing habitat for mountain whitefish. A comparison of age-group catch rates indicated that there was a spatial difference for YOY mountain whitefish, but not for juvenile mountain whitefish (Table 3.6).

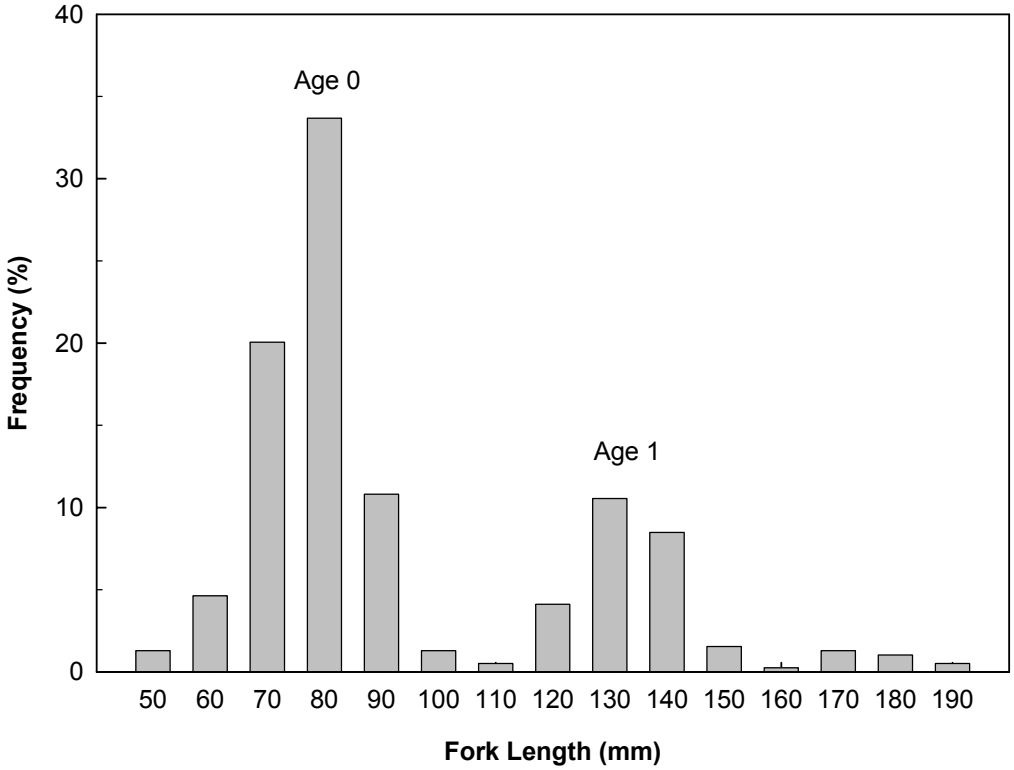


Figure 3.3 Length frequency distribution of mountain whitefish sampled during the small fish survey in the Halfway River, August 2006.

Table 3.6 Comparison of boat electrofishing catch rates of young-of-the-year and juvenile mountain whitefish in Upper and Lower Sections of the Halfway River during the small fish survey, August 2006.

Age-class	Mean Catch Rate[a] ± SE				Significance[b]
	Lower	*n*	Upper	*n*	
Young-of-the-year	17.0 ± 3.0	11	6.7 ± 1.6	14	**0.008**
Juvenile	4.7 ± 1.3	10	5.0 ± 1.1	13	0.854

[a] No. fish/km.
[b] Based on independent samples t-test; significance accepted at $P \leq 0.10$.

The YOY mean catch rate in the Lower Section (17.0 fish/km) was more than twice that in the Upper Section (6.7 fish/km); this difference was statistically significant. Catch rates of juvenile mountain whitefish not only were not different between the two sections, but also did not differ from the YOY catch rate in the Upper Section (One way analysis of variance; $F = 0.676$, $P = 0.515$).

These results suggested that the Lower Section of the Halfway River may be more important rearing habitat for YOY mountain whitefish, but not for juvenile mountain whitefish. One alternative explanation includes differential movement patterns of YOY and juveniles (e.g., YOY drift downstream more rapidly than juveniles in fall). A second explanation is that mountain whitefish spawning activity is higher in the Lower Section compared to the Upper Section.

3.2 PEACE RIVER

3.2.1 Sampling Conditions

Sampling conditions were optimal during the October field program (Appendix C2). Water clarity was high. Discharge of this regulated river ranged from approximately 310 to 1200 m^3/s (Water Survey of Canada Station 07FD002); however, water levels were high during actual sampling. Water temperatures in the mainstem river ranged from 7.3 to 12.3 ^oC.

3.2.2 Species Composition

In total, 3590 fish were recorded during the small fish survey in the Peace River in October 2006 (Table 3.7). The sample consisted of 19 species, which included 8 sportfish, 3 sucker, 6 minnow and 2 sculpin species. Sportfish accounted for 52.5% of the total sample. Mountain whitefish were very numerous (49.7%) compared to all other sportfish. Of the remaining sportfish species, only Arctic grayling accounted for more than 1% of the total sample.

Suckers accounted for approximately 10.5% of the total sample. Longnose sucker was most common (9.6%) followed by very lower percentages of largsecale sucker and white sucker (<1.0%). After sportfish, minnows were the second most abundant group in the total sample (29.7%). Within this group, redside shiner (17.6%), spottail shiner (5.3%) and longnose dace (4.4%) were considered most abundant. The sculpin group accounted for 7.4% of the total sample. Of the two species recorded, slimy sculpin (4.7%) was more common than prickly sculpin (2.7%).

Table 3.7 Number and percent composition of fish species recorded in the Peace River during the small fish survey, October 2006.

Group	Species	Number	Percent
Sportfish	Arctic grayling	66	1.8
	Bull trout	5	0.1
	Kokanee	7	0.2
	Lake whitefish	1	0.0
	Mountain whitefish	1783	49.7
	Northern pike	5	0.1
	Rainbow trout	11	0.3
	Yellow perch	6	0.2
	Subtotal	*1884*	*52.5*
Suckers	Longnose sucker	346	9.6
	Largescale sucker	24	0.7
	White sucker	7	0.2
	Subtotal	*377*	*10.5*
Minnows/Trout-perch	Lake chub	22	0.6
	Longnose dace	158	4.4
	Northern pikeminnow	8	0.2
	Redside shiner	631	17.6
	Spottail shiner	189	5.3
	Trout-perch	57	1.6
	Subtotal	*1065*	*29.7*
Sculpins	Prickly sculpin	96	2.7
	Slimy sculpin	168	4.7
	Subtotal	*264*	*7.4*
Total		**3590**	**100.0**

From an individual species perspective, mountain whitefish, redside shiner and longnose sucker were the most numerous species of small fish in the Peace River during the October field program.

3.2.3 Distribution

Several species were recorded in each of the eight sample sections, which indicated that they were widely distributed in the Peace River study area (Table 3.8). These included mountain whitefish in the sportfish group, longnose sucker in the sucker group, lake chub and redside shiner in the minnow group, and slimy sculpin in the sculpin group. Other species also were widely distributed but did not occur in all sections. These included Arctic grayling, longnose dace and spottail shiner, which were absent from the upper sections and prickly sculpin, which was absent from the lower sections.

Three species were restricted to specific regions. Rainbow trout and kokanee were recorded primarily in the three upper sections; trout-perch were recorded only in the lower sections. The remaining species (bull trout, lake whitefish, northern pike, yellow perch, largescale sucker and white sucker) exhibited a very limited distribution (one or two sections). This may have been a reflection of the limited number of fish captured rather than the true distribution pattern of these species.

Table 3.8 Distribution of species recorded in the Peace River during the small fish survey, October 2006.

Group	Species	Section							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Sportfish	Arctic grayling		+	+	+	+	+	+	+
	Bull trout					+	+		
	Kokanee	+	+	+			+		
	Lake whitefish							+	
	Mountain whitefish	+	+	+	+	+	+	+	+
	Northern pike						+		
	Rainbow trout	+	+	+				+	
	Yellow perch						+		
Suckers	Longnose sucker	+	+	+	+	+	+	+	+
	Largescale sucker		+			+	+		
	White sucker	+							+
Minnows/ Trout-perch	Lake chub	+	+	+	+	+	+	+	+
	Longnose dace		+	+	+	+	+	+	+
	Northern pikeminnow	+			+	+			+
	Redside shiner	+	+	+	+	+	+	+	+
	Spottail shiner		+		+	+	+	+	+
	Trout-perch						+	+	+
Sculpins	Prickly sculpin	+	+	+	+	+	+	+	
	Slimy sculpin	+	+	+	+	+	+	+	+
Total Number of Species		**10**	**12**	**10**	**10**	**12**	**15**	**12**	**11**

The number of species recorded within each section did not substantially differ between sections; 10 to 15 species were encountered in each section (Table 3.8). However, the species assemblage appeared to change from upstream to downstream. Minnow species were more numerous in the lowermost section (6 species) compared to the upper section (3 species).

3.2.4 Catch Rate

Three of four gear types used during the survey were effective fish capture methods. These were boat electrofisher, backpack electrofisher and beach seine. Catch rates using gill nets were very low (Appendix D2), and therefore, will not be discussed. Differences in catch rate suggested that capture method effectiveness was related to fish group or species (Figure 3.4). Sportfish were recorded only during boat electrofishing. Sucker species were recorded using all three methods, but backpack electrofisher and boat electrofisher appeared to be most effective. In the minnow group backpack electrofisher appeared to be an effective capture method for most species. Exceptions included redside shiner and spottail shiner, which exhibited high beach seine catch rates. Sculpin catch rates were highest using backpack electrofisher and boat electrofisher.

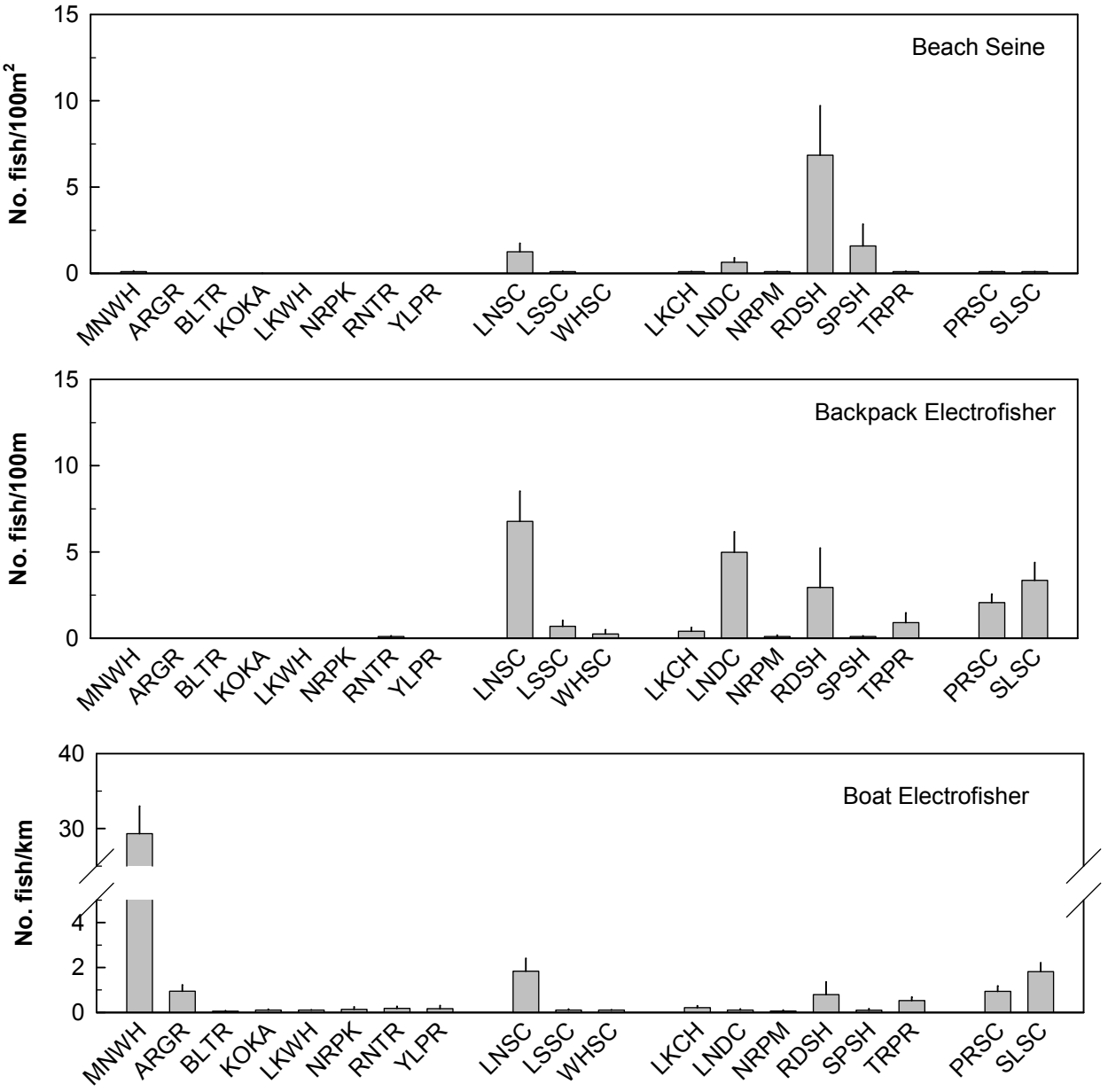


Figure 3.4 Mean catch rate of fish species using three capture methods during the small fish survey in the Peace River, October 2006.

Low catch rates and high variation around catch rate estimates for many species precluded an assessment of spatial differences in fish abundance or habitat preferences. For these assessments a list of species was selected based on availability of sufficient catch rate data for specific habitat types as follows:

Capture Method	Habitat Types	Species
Boat electrofisher	• Run	• Mountain whitefish • Arctic grayling • Longnose sucker • Prickly sculpin • Slimy sculpin
Beach seine	• Back Channel • Backwater	• Longnose sucker • Redside shiner
Backpack electrofisher	• Run	• Longnose sucker • Longnose dace • Prickly sculpin • Slimy sculpin

Selection was based on catch rate (Figure 3.4) sample size (Table 2.2), consistency in physical characteristics among habitat types (Table 3.9) and predicted habitat preference of each species.

Information for selected habitat parameters illustrates similarities/differences among habitat types (Table 3.9, Appendix C4). In general, Backwater and Back Channel habitats were dominated by fine substrates (i.e., sands and silts), lower water velocities and deeper water. Larger rocks substrates (cobbles) and higher velocities occurred in Run habitats.

Table 3.9 Summary statistics for selected habitat parameters measured at backpack electrofisher and beach seine sites during the small fish survey in the Peace River, October 2006.

Habitat Type	Sample Size	Substrate (%)		D90 (cm)	Average Velocity (m/s)	Average Depth (m)
		Rock[a]	Fines			
Backwater	20	40	60	11.8 ± 1.9	0.02 ± 0.01	0.36 ± 0.03
Flat	3	33	67	13.7 ± 6.8	0.05 ± 0.02	0.33 ± 0.08
Run	19	89	11	15.9 ± 1.0	0.14 ± 0.02	0.26 ± 0.03
Back Channel	21	43	57	11.5 ± 1.5	0.01 ± 0.00	0.52 ± 0.05
Tributary confluence	10	70	30	21.3 ± 7.0	0.03 ± 0.02	0.45 ± 0.07

[a] Rock substrate consisted of gravels, cobbles and boulders. See Appendix C2 for percentages.

Spatial Patterns

Spatial patterns in catch rate estimates were recorded for several fish species (Figure 3.5). These patterns were represented by trends (i.e., increases or decreases in abundance) and/or large differences in catch rate between sections. The following highlights patterns for selected fish species.

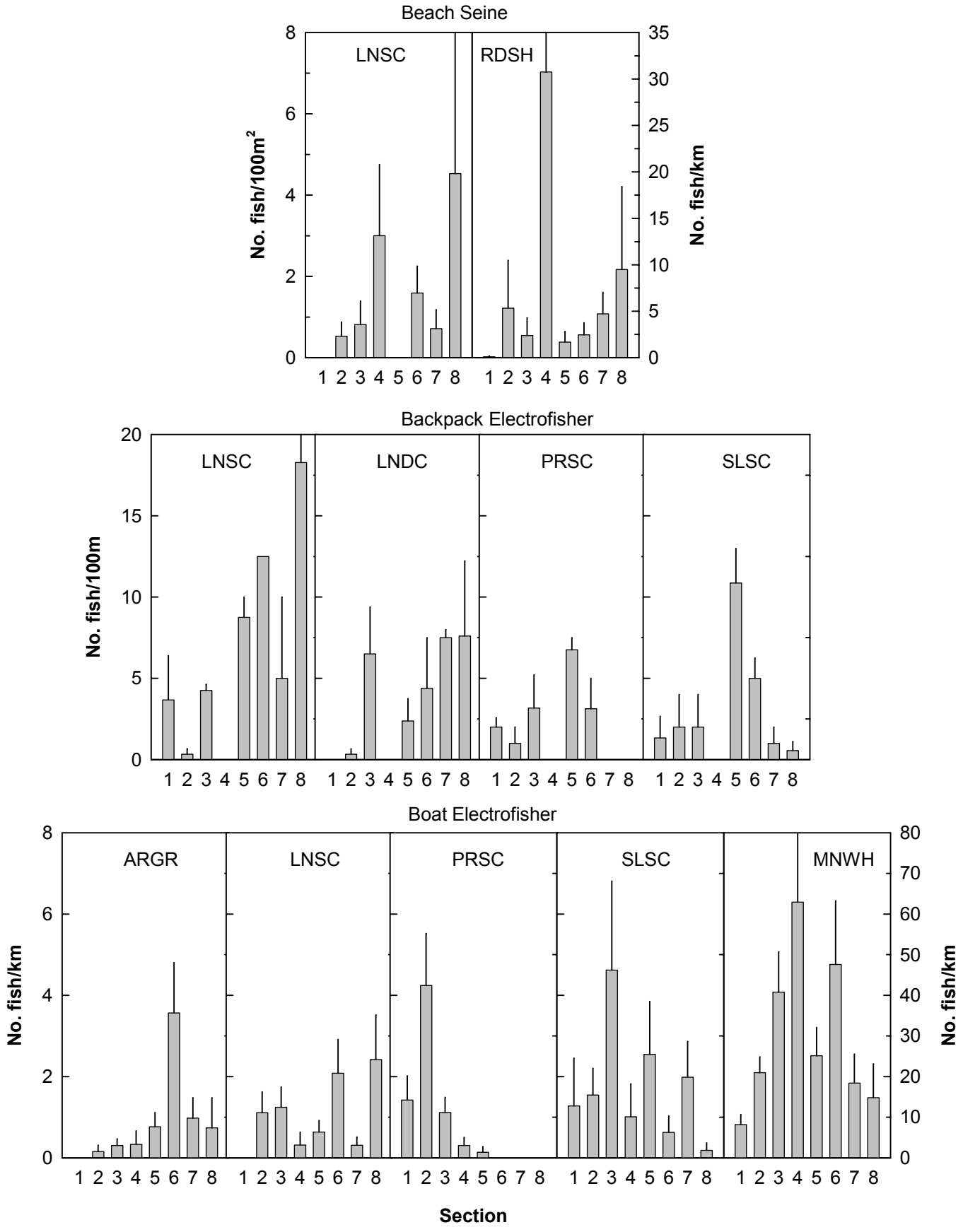


Figure 3.5 Mean catch rates of selected fish species in sampled sections during the small fish survey in the Peace River, October 2006.

Boat Electrofisher

Arctic grayling catch rates progressively increased from 0 fish/km in Section 1 to a high of 3.6 fish/km in Section 6. Catch rates then decreased to a low of 0.7 fish/km in Section 8. The highest catch rate was in Section 6, which was immediately downstream of the Pine River confluence. It is possible that these fish originated from this major tributary of the Peace River. The Arctic grayling catch in Section 6 (n = 41) was comprised of young-of-the year and juvenile fish (39% and 61%, respectively; Appendix E2).

Longnose sucker catch rates showed a disjunct distribution. Higher catch rates were recorded in Sections 2, 3, 6 and 8, compared to low or zero catch rates in Sections 1, 4, 5 and 7. In sections with high catch rates, values increased from upstream to downstream. The disjunct distribution may reflect locations of major spawning tributaries for this species. These would be Farrell Creek (Section 2), Halfway River (Section 3), Pine River (Section 6) and Beatton River (Section 7). The trend of increasing abundance may have reflected an increase in the quality of longnose sucker rearing habitat.

Prickly sculpin catch rates exhibited a distinct spatial trend. Catch rates were highest in Section 2 (4.2 fish/km), but decreased to 0.1 fish/km in Section 5 and 0 fish/km in Sections 6 through 8. These data suggested that the prickly sculpin population resided in the upstream portion of the study area.

Slimy sculpin catch rates were variable. High values were recorded in Sections 3, 5 and 7. These results may reflect an influx of fish from tributaries, which could be the Halfway River (Section 3) and Moberly River (Section 5). In addition, slimy sculpin catch rates declined from upstream to downstream in the study area.

Mountain whitefish were very abundant in the study area. Mean catch rates ranged from 8.2 fish/km to 62.9 fish/km. These values represented an order of magnitude increase compared to catch rates for all other species. The data suggested an increase in mountain whitefish abundance from Sections 1 to 4 and then a decrease in abundance from Sections 4 to 8. Highest values were recorded in Sections 3, 4 and 6 (>40 fish/km). The reduced catch rate in Section 5 is not consistent with results from the three other sections. Nor is it consistent with previous work done in the area. In September 2005, the mean catch rate of mountain whitefish in Section 5 was 45.2 fish/km (Mainstream and Gazey 2006).

Backpack Electrofisher

Backpack electrofisher catch rate data for longnose sucker, prickly sculpin and slimy sculpin, although more variable, exhibited similar spatial patterns as the boat electrofisher data. Longnose sucker catch rates generally increased from upstream (3.7 fish/100 m) to downstream (18.3 fish/100 m). Prickly sculpin

were absent from downstream sections. The backpack electrofisher results indicated the presence of this species in Section 6; prickly sculpin were recorded only as far downstream as Section 5 with the boat electrofisher. Slimy sculpins were present throughout the study area, but catch rates generally decreased from upstream to downstream.

Longnose dace were not encountered in Section 1 (data were not collected from Run habitats in Section 4). With the exception of a high mean catch rate in Section 3 (6.5 fish/100 m), values increased from upstream to downstream. Mean values were highest in Sections 7 and 8 (>7.5 fish/100 m). The results suggested that this species primarily resides downstream of the Halfway River.

Beach Seine

Beach seine catch rate data were highly variable as evidenced by the high standard error around the estimates. Despite these limitations, patterns were present for both longnose suckers and redside shiner. Longnose sucker catch rates tended to increase from upstream to downstream. The highest value was recorded in Section 8 (4.5 fish/100 m^2). This was consistent with results for boat electrofisher and backpack electrofisher.

Redside shiners were absent from Section 1. Mean catch rates were low in most upstream sections (2 to 6). The one exception was a very high catch rate in Section 4 (30.8 fish/100 m^2), which was caused by a single data point (128.9 fish/100 m^2). If the results for Section 4 were omitted, redside shiner catch rates exhibited a gradual and constant increase from upstream to downstream. The highest mean value was recorded in Section 8 (9.5 fish/100 m^2).

Habitat Preference

Habitat preference could not be established at the habitat type level because capture methods were not consistent across all habitat types (Table 2.2). Attempts were made to examine habitat preference by examining correlations between species catch rate and specific habitat parameters. Habitat characteristics were similar among sites that were sampled with a particular capture method (see Table 3.9), which precluded use of correlations.

The analyses of habitat preference focused habitat use at the mesohabitat level using boat electrofisher data (see Appendix B3 for definitions). The mesohabitat types sampled during the field program were as follows:

Mesohabitat Type	Description	Number of sites
SFC	• shallow-fast-cover	28
SFN	• shallow-fast-no cover	25
SSN	• shallow-slow-no cover	6

Based on this information, habitat preference was examined by comparing catch rates generated in mesohabitats with physical cover (SFC) to those without physical cover (SFN and SSN). To reduce variation in the catch rate data only sections having reasonably high catch rates for a particular species were used in the analyses as follows (see Appendix D2 for catch rates in each section):

Species	Sections	Mean Catch Rate
Arctic grayling	• 5, 6 and 7	≥ 0.75 fish/km
Longnose sucker	• 2, 3, 6 and 8	≥ 1.1 fish/km
Prickly sculpin	• 1, 2 and 3	≥ 1.1 fish/km
Slimy sculpin	• 2, 3, 5 and 7	≥ 1.3 fish/km
Mountain whitefish	• 3, 4 and 6	≥ 40.0 fish/km

The analyses suggested that there could be differences in microhabitat use by some species. Arctic grayling and mountain whitefish exhibited higher catch rates in sites having mesohabitat with no physical cover compared to those with physical cover (Table 3.10). These differences were not statistically significant.

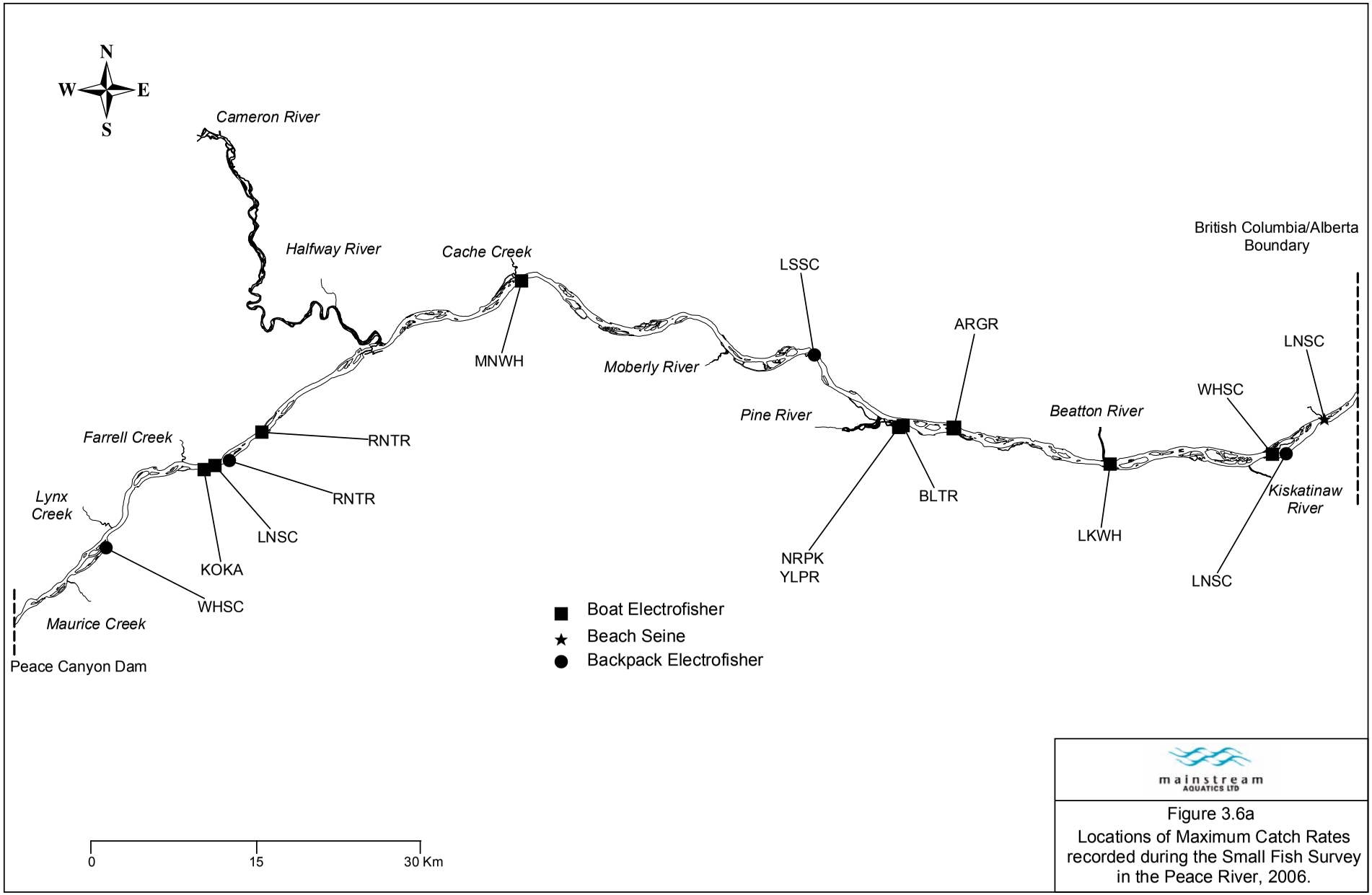
Table 3.10 Comparison of boat electrofishing catch rates of selected fish species in mesohabitats with cover (SFC) compared to mesohabitat without physical cover (SFN and SSN) in the Peace River during the small fish survey, October 2006.

Species	**Mean Catch Rate[a] ± SE**				**Significance[b]**
	SFC	***n***	**SFN and SSN**	***n***	
Arctic grayling	1.3 ± 0.4	11	2.2 ± 0.9	12	0.374
Longnose sucker	1.6 ± 0.5	15	1.7 ± 0.6	16	0.796
Prickly sculpin	2.5 ± 0.9	11	2.1 ± 0.7	12	0.723
Slimy sculpin	2.8 ± 1.0	17	2.7 ± 1.2	15	0.992
Mountain whitefish	35.2 ± 7.5	10	59.2 ± 13.5	12	0.157

[a] No. fish/km.
[b] Based on independent samples t-test; significance accepted at $P = 0.10$.

Critical Habitats

Critical habitats were defined as specific habitats or areas that contained higher concentrations of small fish compared to other habitats or areas. No unique locations were identified that met this criterion in the Peace River during the October survey. However, the catch rate data was used to illustrate sample sites and habitat types where maximum catch rates were recorded for each species (Table 3.11 and Figure 3.6).



mainstream AQUATICS LTD

Figure 3.6a
Locations of Maximum Catch Rates recorded during the Small Fish Survey in the Peace River, 2006.

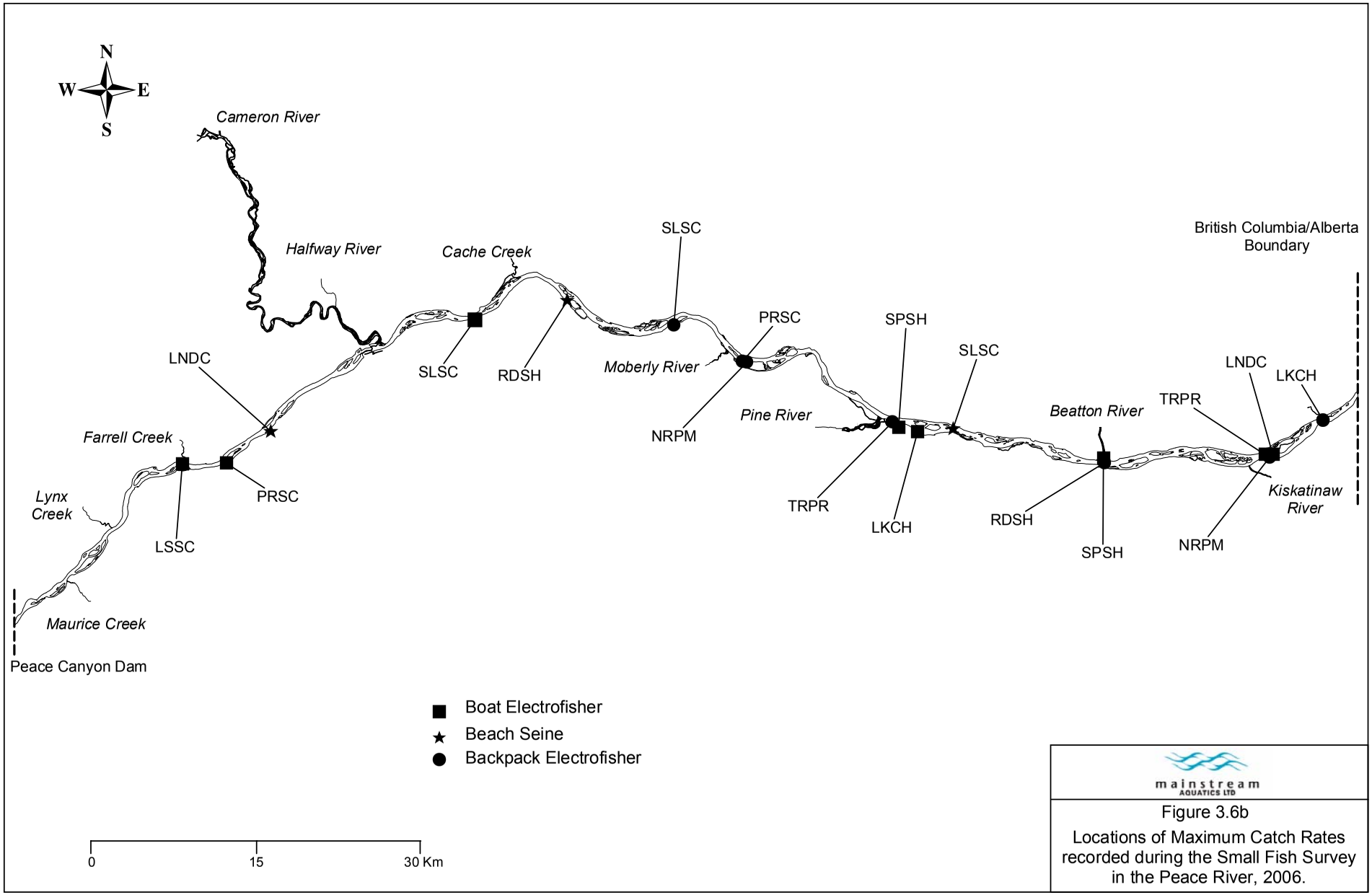


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Figure 3.6b

Locations of Maximum Catch Rates recorded during the Small Fish Survey in the Peace River, 2006.

Tributary confluences were unique areas in the Peace River study area. They provided depositional habitat, which was limited in amount and distribution (RL&L 2001). These areas typically provided higher habitat diversity and may be concentration points for fish populations that use the tributaries for spawning and rearing.

Table 3.11 Maximum catch rates of species recorded in Peace River during the small fish survey, October 2006.

Capture Method	Species	Site	Section	Catch Rate[a]	Habitat Type[b]
Backpack Electrofisher	Redside shiner	EF0701	7	55.0	Tributary confluence
	Longnose sucker	EF0802	8	35.6	Run
	Longnose dace	EF0803	8	25.0	Tributary confluence
	Slimy sculpin	EF0401	4	20.0	Backwater
	Trout-perch	EF0601	6	12.0	Tributary confluence
	Largescale sucker	EF0503	5	8.0	Run
	Prickly sculpin	EF0502	5	7.5	Run
	White sucker	EF0103	1	6.0	Run
	Lake chub	EF0803	8	3.8	Tributary confluence
	Northern pikeminnow	EF0801	8	2.0	Run
	Rainbow trout	EF0203	2	1.0	Run
Beach Seine	Redside shiner	BS0407	4	128.9	Back channel
	Spottail shiner	BS0701	7	60.9	Backwater
	Longnose sucker	BS0804	8	20.6	Backwater
	Longnose dace	BS0207	2	8.9	Back channel
	Slimy sculpin	BS0604	6	0.6	Backwater
Boat Electrofisher	Mountain whitefish	ES0401	4	150.0	Run
	Redside shiner	ES0701	7	38.9	Run
	Longnose sucker	ES0205	2	36.0	Tributary confluence
	Slimy sculpin	ES0309	3	15.7	Run
	Arctic grayling	ES0606	6	12.7	Back Channel
	Prickly sculpin	ES0206	2	10.0	Run
	Yellow perch	ES0601	6	10.0	Run
	Northern pike	ES0601	6	8.0	Run
	Trout-perch	ES0803	8	6.4	Flat
	Rainbow trout	ES0210	2	5.0	Run
	Spottail shiner	ES0601	6	4.0	Run
	Longnose dace	ES0804	8	3.3	Run
	Lake chub	ES0604	6	3.0	Run
	Northern pikeminnow	ES0503	5	2.5	Run
	Largescale sucker	ES0202	2	2.0	Run
	Bull trout	ES0602	6	1.8	Run
	Kokanee	ES0204	2	1.7	Run
	Lake whitefish	ES0702	7	1.1	Run
	White sucker	ES0804	8	1.1	Run

[a] Catch Rate: Backpack electrofisher No. fish/100 m; Boat electrofisher No. fish/km; Beach seine No.fish/100m^2.

[b] Boat electrofisher habitat type represents dominant habitat within sample site, not a discrete habitat type.

The results of the survey suggested that tributary confluences were concentration points for several species in the sucker and minnow groups. Lake chub, longnose dace, redside shiner, trout-perch and longnose sucker exhibited maximum catch rates in this habitat type (Table 3.11). Tributary confluences did not appear to be concentration points for sportfish species during the small fish survey in October.

The distribution of YOY fish indicated the presence of potential critical habitats in the mainstem Peace River (Table 3.12). Arctic grayling YOY were widely distributed; they were recorded in most areas except Section 1. The presence of these fish, which belonged to populations that likely spawned in tributaries, indicated that the mainstem river could be used for overwintering purposes by young fish.

Table 3.12 Distribution of young-of-the-year of selected species recorded in the Peace River during the small fish survey, October 2006.

Group	Species	Section							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Sportfish	Arctic grayling		+	+	+	+	+	+	+
	Bull trout								
	Kokanee	+		+			+		
	Lake whitefish							+	
	Mountain whitefish	+	+	+	+	+	+	+	+
	Northern pike								
	Rainbow trout	+	+	+					
	Yellow perch								
Suckers	Longnose sucker	+	+	+	+	+	+	+	+
	Largescale sucker		+			+	+		
	White sucker								

YOY bull trout were not recorded in the Peace River during the small fish survey. These results were consistent with findings by Mainstream and Gazey (2006), which documented only Age 1 and older bull trout during a small fish survey in 2005.

Mountain whitefish and longnose sucker YOY fish were widely distributed. These results indicated that rearing habitats for these populations were widespread rather than being restricted to one region of the study area.

Samples of three species (lake whitefish, northern pike and yellow perch) either did not contain YOY fish or illustrated very limited distributions. All three species were associated with protected Back Channel habitats. The only YOY lake whitefish captured was recorded immediately downstream of a Back Channel complex next to the Beatton River (Section 7) whereas the northern pike and yellow perch were

recorded in a Back Channel associated with the Pine River (Section 6). Fish of the latter two species were juveniles or adults (Appendix E2).

YOY rainbow trout were recorded in Sections 1, 2 and 3 of the mainstem Peace River. These results were not expected given that rainbow trout populations in the Peace River were thought to rear in tributaries and/or were maintained by entrainment from populations upstream of the Peace Canyon Dam (see RL&L 2001 for review).

Two alternate explanations exist. First, YOY rainbow trout may have dispersed from rearing tributaries into the mainstem Peace River. Second, rainbow trout may spawn in the mainstem Peace River. It should be noted that all rainbow trout recorded during the small fish survey were located immediately downstream from mainstem areas containing suitable spawning substrates. Additional evidence for the second hypothesis was the presence of YOY rainbow trout upstream of the Maurice Creek confluence in August 2006. Two rainbow trout (22 mm and 24 mm, respectively) were captured in a side channel immediately adjacent to an area containing suitable spawning substrate (Rick Pattenden, personal observation).

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4.0 SUMMARY

The purpose of the small fish surveys in the Halfway River and Peace River were to augment previous data that described small fish populations to provide a basis for future decisions related to water use planning and possible hydroelectric developments in the region. The objectives of the study were to determine the species composition, distribution and relative abundance of small fish utilizing the study area and to identify and characterize critical rearing habitats.

The Halfway River study area included 40 km from the confluence with the Peace River to the confluence with the Cameron River. The study area in the Peace River included 145 km from the British Columbia/Alberta boundary to the Hudson Hope area. Sampling in the Peace River occurred in eight sections that were distributed within the overall Peace River study area.

The Halfway River small fish survey was completed during a 5-day period from 10 to 14 August, 2006. The small fish survey on the Peace River was completed during an 8-day period from 11 to 18 October.

Sampling conditions were optimal in both the Halfway River and Peace River. The conditions in the Halfway River were considered atypical due to very low water levels, high water clarity and high water temperatures.

Four fish capture methods were used to sample a representative number of habitats. Methods included small-fish boat electrofisher, backpack electrofisher, beach seine and gill net (only in the Peace River). Of the four methods used, only gill net was ineffective, which was likely due primarily to fluctuations in water level. The effectiveness of each of the first three methods tended to be specific to certain fish groups or species. Boat electrofisher was the only effective capture method for sportfish, backpack electrofisher appeared to work best for sculpins and longnose dace. Beach seine worked well for most minnow species. Species in the sucker group were captured using all three methods.

4.1 HALFWAY RIVER

The fish community in the Halfway River was comprised of 16 species, which included sportfish, suckers, minnows and sculpins. Suckers and minnows were the dominant fish groups. Longnose sucker, redside shiner and longnose dace were most important numerically. Mountain whitefish was the only abundant sportfish species. All other sportfish including Arctic grayling, bull trout and rainbow trout were scarce.

No distinct differences in distribution between the Upper and Lower Sections of the Halfway River were noted during the study. However, the few Arctic grayling, bull trout and rainbow trout that were encountered, occurred most often in the Upper Section. Mountain whitefish was the one species that was more numerous in the Lower Section compared to the Upper Section.

Low catch rates and high variation around catch rate estimates for many species precluded an assessment of spatial differences in abundance and habitat preference. There was a trend towards higher catch rates in the Lower Section compared to the Upper Section for some species. These included longnose dace and redside shiner (backpack electrofisher), longnose sucker, largescale sucker, mountain whitefish, redside shiner and slimy sculpin (boat electrofisher) and longnose sucker (beach seine).

Catch rates for some species were significantly correlated with specific habitat parameters. Longnose dace and slimy sculpin catch rates were positively correlated to the percent rock cover (included gravel, cobble and boulder), which suggested a preference for this habitat attribute. Longnose sucker catch rates were positively correlated to the amount of algal cover, which may be food related.

Based on concentrations of fish, no critical habitats were identified in either the Lower or Upper Sections of the Halfway River study area. Maximum catch rate values were recorded more frequently in the Lower Section.

Section catch rates of two mountain whitefish age-groups (young-of-the-year and juvenile) were compared. There was a spatial difference for YOY mountain whitefish, but not for juvenile mountain whitefish. The YOY mean catch rate in the Lower Section was more than twice that in the Upper Section, but catch rates of juvenile mountain whitefish did not differ between the two sections.

In summary, most sportfish species except mountain whitefish were not abundant in the Halfway River study area. The Halfway River study area was used extensively by sucker, minnow and sculpin species. The results also indicated that YOY mountain whitefish were more abundant in the Lower Section of the Halfway River study area.

4.2 PEACE RIVER

In total, 19 fish species were encountered in the Peace River study area during sampling in October. These included 8 sportfish, 3 sucker, 6 minnow and 2 sculpin species. Sportfish were the most numerous group followed by suckers, minnows and sculpins. The sportfish group was dominated by

mountain whitefish with much lower numbers of all other sportfish species. From an individual species perspective, mountain whitefish, redside shiner and longnose sucker were the numerically dominant species of small fish in the Peace River study area during the October field program.

Several species were widely distributed in the Peace River study area. These included mountain whitefish, longnose sucker, lake chub, redside shiner and slimy sculpin. Other species also were widely distributed but did not occur in all sections. These included Arctic grayling, longnose dace and spottail shiner, which were absent from the upper sections and prickly sculpin, which was absent from the lower sections. Three species were restricted to specific regions. Rainbow trout and kokanee were recorded primarily in the three upper sections; trout-perch were recorded only in the lower sections. Bull trout, lake whitefish, northern pike, yellow perch, largescale sucker and white sucker exhibited limited distributions.

Species diversity did not substantially differ between the eight study sections. However, the species assemblage appeared to change from upstream to downstream. There were more minnow species in the lower sections compared to the upper sections.

Similar to the results for the Halfway River, low catch rates and high variation around catch rate estimates for many species precluded an assessment of spatial differences in fish abundance or habitat preferences.

Spatial patterns in catch rate estimates were recorded for some species. Several species were entirely absent from Section 1, which indicates that it may not be used extensively for rearing. Arctic grayling catch rates were highest in Section 6, which was immediately downstream of the Pine River confluence. These fish may have originated from this major tributary of the Peace River. Longnose sucker catch rates exhibited two patterns: higher catch rates were recorded in sections containing potential spawning tributaries and catch rates increased from upstream to downstream. Prickly sculpin catch rates suggested that the prickly sculpin population in the Peace River resides in the upstream portion of the study area. Mountain whitefish were abundant throughout the study area. Mean catch rates for this species were an order of magnitude higher than catch rates for all other species.

Longnose dace were not encountered in Section 1. With the exception of a high mean catch rate in Section 3 (6.5 fish/100 m), values increased from upstream to downstream. Mean values were highest in Sections 7 and 8 (>7.5 fish/100 m). The results suggested that this species primarily resides downstream of the Halfway River.

Habitat preference by small fish in the Peace River was examined by comparing catch rates generated in mesohabitats with physical cover to those without physical cover. The analyses suggested that there could be differences in mesohabitat use by some species. Arctic grayling and mountain whitefish exhibited higher catch rates in sites having no physical cover compared to those with physical cover. However, these differences were not statistically significant.

High concentrations of fish were not recorded in the Peace River study area during the October survey; therefore, no critical habitats were identified. Results of the survey did suggest that tributary confluences were concentration points for several species in the sucker and minnow groups, but this unique habitat did not contain elevated numbers of sportfish species. Also, three species (lake whitefish, northern pike and yellow perch) were associated primarily with protected Back Channel habitats.

The distribution of YOY fish indicated the presence of potential critical habitats in the mainstem Peace River. Arctic grayling YOY were widely distributed suggesting that this species population uses the mainstem river for overwintering purposes. YOY bull trout were not recorded in the Peace River during the small fish survey. Mountain whitefish and longnose sucker YOY were widely distributed suggesting that rearing habitats for these populations were widespread.

YOY rainbow trout also were recorded in the mainstem Peace River. The presence of these fish may have resulted from dispersal from rearing tributaries or from rainbow trout spawning in the mainstem Peace River proper.

In summary, a wide variety of small-fish species and younger age-groups of large-fish species were recorded in the Peace River study area. Most species were not abundant, with the exception of mountain whitefish, longnose sucker and redside shiner. There were spatial patterns in fish abundance recorded for some species, as well as habitat preferences recorded for others.

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Appendix A
Site Information

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Appendix A Table A1. Sampled sites, UTM locations (NAD 83; Zone 10), and river kilometres in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Area	Method	Site Label	Upper Easting	Upper Northing	Upper Kilometre	Lower Easting	Lower Northing	Lower Kilometre
Peace River	**1**								
		Backpack Electrofish							
			EF0101	568574	6209927	142.1			
			EF0102	570621	6212156	139.1			
			EF0103	571516	6212418	138.3			
		Beach Seine							
			BS0101	566928	6207888	144.9			
			BS0102	567522	6208857	143.6			
			BS0103	568007	6209233	141.1			
			BS0104	569978	6211333	140.1			
			BS0105	571232	6212581	138.4			
			BS0106	571295	6211801	138.8			
			BS0107	572221	6214016	136.6			
		Boat Electrofish							
			ES0101	566489	6207772	145.2	567949	6208844	143.3
			ES0102	568565	6209783	142.2	569105	6210233	141.4
			ES0105	571835	6213253	137.4	572305	6213673	136.7
			ES0107	568048	6209364	143.1	568480	6209769	142.4
			ES0108	569275	6210393	141.2	570005	6211283	140.1
			ES0109	569105	6210233	139.7	570795	6212143	138.9
			ES0112	571325	6212643	138.3	571685	6213013	137.7
			ES0113	572505	6213763	136.5	572765	6213943	136.2
Peace River	**2**								
		Backpack Electrofish							
			EF0201	577639	6219760	127.2			
			EF0202	578741	6220049	126.1			
			EF0203	582863	6220404	122.0			
			EF0204	583974	6221607	120.3			
		Beach Seine							
			BS0201	578724	6220057	126.1			
			BS0202	580990	6219866	123.9			
			BS0203	581743	6219719	123.2			
			BS0204	584019	6221354	120.4			
			BS0205	583798	6221372	120.9			
			BS0206	587701	6225160	114.2			
			BS0207	586672	6223095	117.2			
		Boat Electrofish							
			ES0201	577472	6219393	127.6	577821	6219627	127.1
			ES0202	578532	6220102	126.3	578925	6220013	125.8
			ES0203	579537	6219558	125.3	580515	6219571	124.4
			ES0204	580520	6219573	124.4	581090	6219638	123.8
			ES0205	581540	6219953	123.3	581975	6220150	122.8
			ES0206	582580	6220195	122.3	583028	6220499	121.7
			ES0207	583299	6220436	121.6	583907	6220985	120.7
			ES0208	584109	6221205	120.5	584423	6221541	119.9
			ES0209	584686	6221767	119.4	584832	6221991	119.1
			ES0210	585848	6223014	117.9	586490	6223442	117.1
Peace River	**3**								
		Backpack Electrofish							
			EF0301	596779	6230559	103.7			

Appendix A Table A1. Sampled sites, UTM locations (NAD 83; Zone 10), and river kilometres in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Area	Method	Site Label	Upper			Lower		
				Easting	Northing	Kilometre	Easting	Northing	Kilometre
			EF0302	602707	6233473	96.2			
			EF0303	606217	6234215	91.7			
		Beach Seine							
			BS0301	596885	6230599	103.6			
			BS0302	598743	6232445	101.0			
			BS0303	600270	6232878	99.2			
			BS0304	602753	6233797	96.1			
			BS0305	605205	6233561	93.4			
			BS0306	609586	6236894	87.3			
		Boat Electrofish							
			ES0301	599955	6233463	99.2	601113	6233133	97.8
			ES0302	601125	6233136	97.8	601835	6233873	97.1
			ES0303	603295	6233493	95.4	604185	6233213	94.3
			ES0304	606225	6233723	92.1	607105	6234123	91.2
			ES0305	607135	6234133	91.2	607815	6234823	90.2
			ES0306	596512	6230625	104.0	596963	6230630	103.2
			ES0307	598384	6231725	101.4	598537	6232294	100.8
			ES0308	602123	6233044	96.9	602804	6233238	95.2
			ES0309	605327	6233296	92.8	605758	6233428	92.1
		Gill Net							
			GN0301	600399	6232842	98.5			
Peace River	**4**								
		Backpack Electrofish							
			EF0401	623577	6232845	71.4			
			EF0402	618847	6232546	76.6			
		Beach Seine							
			BS0401	624976	6233346	70.0			
			BS0402	623834	6233565	71.1			
			BS0403	622434	6232390	72.7			
			BS0404	620591	6232069	74.6			
			BS0405	615720	6233499	79.8			
			BS0406	615218	6234261	81.0			
			BS0407	613829	6235102	82.8			
		Boat Electrofish							
			ES0401	609645	6236882	87.4	609954	6237191	87.1
			ES0402	610463	6237408	86.5	611248	6237380	85.7
			ES0403	612492	6236328	84.2	613532	6235299	82.3
			ES0404	613877	6235313	82.2	614804	6234990	81.2
			ES0405	615455	6233944	80.1	616286	6233000	78.9
			ES0406	616692	6233072	78.8	617301	6232881	78.0
			ES0407	617403	6232921	78.0	617623	6232813	77.6
		Gill Net							
			GN0401	619786	6231824	75.6			
Peace River	**5**								
		Backpack Electrofish							
			EF0501	628905	6230114	64.8			
			EF0502	629856	6229508	63.8			
			EF0503	636415	6230082	56.7			
		Beach Seine							
			BS0501	632534	6228583	60.9			

Appendix A Table A1. Sampled sites, UTM locations (NAD 83; Zone 10), and river kilometres in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Area	Method	Site Label	Upper			Lower		
				Easting	Northing	Kilometre	Easting	Northing	Kilometre
			BS0502	633561	6229151	60.0			
			BS0503	632592	6229768	60.6			
			BS0504	628875	6230107	64.7			
			BS0505	636118	6230507	57.1			
		Boat Electrofish							
			ES0501	628496	6230512	65.2	629039	6229902	64.2
			ES0502	629165	6229761	64.1	630031	6229291	63.3
			ES0503	630257	6229438	63.3	630567	6229557	62.9
			ES0504	630767	6229702	62.7	631664	6229575	61.8
			ES0505	632326	6229360	61.3	633131	6229516	60.3
			ES0506	633805	6229863	59.4	634315	6229656	58.8
			ES0507	634577	6229666	58.8	635406	6230008	57.4
			ES0508	635409	6230006	57.4	636236	6230166	56.9
			ES0509	637111	6228843	55.4	637439	6228101	54.3
		Gill Net							
			GN0501	632976	6228769	60.5			
Peace River	**6**								
		Backpack Electrofish							
			EF0601	643611	6223958	46.9			
			EF0602	646526	6222822	41.7			
			EF0603	650230	6222783	39.9			
		Beach Seine							
			BS0601	648127	6223354	42.0			
			BS0602	643576	6223968	46.8			
			BS0603	647187	6222897	43.0			
			BS0604	649141	6223347	41.0			
			BS0605	652184	6221563	37.7			
			BS0606	654306	6222259	35.7			
		Boat Electrofish							
			ES0601	644155	6223461	46.7	644507	6223580	46.2
			ES0602	644574	6223608	45.9	645299	6223393	44.8
			ES0603	645301	6223385	44.8	645894	6223052	44.2
			ES0604	645896	6223053	44.2	647260	6222609	43.2
			ES0605	647542	6222848	43.1	648694	6223115	41.9
			ES0606	649239	6223382	41.2	650318	6223000	40.1
			ES0607	650512	6222685	40.0	651222	6222380	39.2
			ES0608	651170	6222420	39.0	652017	6222186	38.2
			ES0609	652290	6221880	37.7	653326	6221432	36.2
		Gill Net							
			GN0601	647053	6223654	43.1			
Peace River	**7**								
		Backpack Electrofish							
			EF0701	663003	6220213	26.6			
			EF0702	664822	6220353	24.6			
			EF0703	673717	6220052	15.2			
		Beach Seine							
			BS0701	662944	6220683	26.6			
			BS0702	665774	6220369	23.8			
			BS0703	666476	6219891	22.4			
			BS0704	670837	6221242	18.5			

Appendix A Table A1. Sampled sites, UTM locations (NAD 83; Zone 10), and river kilometres in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Area	Method	Site Label	Upper Easting	Upper Northing	Upper Kilometre	Lower Easting	Lower Northing	Lower Kilometre
			BS0705	672232	6220663	16.8			
			BS0706	675153	6219968	13.6			
		Boat Electrofish							
			ES0701	662949	6220633	26.7	663542	6220077	25.8
			ES0702	663541	6220077	25.8	664513	6220427	24.9
			ES0703	664507	6220415	24.9	665405	6220562	23.7
			ES0704	665896	6220459	23.5	666246	6220505	23.0
			ES0705	666997	6220810	22.3	668129	6220745	21.2
			ES0706	668121	6220742	21.2	668850	6220754	20.3
			ES0707	669599	6220686	19.7	670972	6221070	18.2
			ES0708	672115	6221227	17.1	672777	6220395	16.3
		Gill Net							
			GN0701	666938	6220015	22.4			
Peace River	**8**								
		Backpack Electrofish							
			EF0801	678154	6220733	10.3			
			EF0802	679672	6221024	8.8			
			EF0803	683068	6224121	4.0			
		Beach Seine							
			BS0801	676413	6219735	12.3			
			BS0802	680610	6222015	7.3			
			BS0803	682040	6223759	5.0			
			BS0804	683197	6224185	3.9			
			BS0805	685092	6225041	1.8			
		Boat Electrofish							
			ES0801	676428	6219548	12.6	676714	6219984	12.2
			ES0802	676712	6219986	12.2	677314	6220359	11.3
			ES0803	677731	6220978	10.8	678446	6220990	9.7
			ES0804	678446	6220981	9.7	679496	6220966	8.8
			ES0805	679494	6220966	8.8	680130	6221417	7.9
			ES0806	681607	6222537	7.8	682015	6222924	6.7
			ES0807	680703	6221577	6.2	681219	6221947	5.2
			ES0808	682036	6222928	5.2	682415	6223449	4.5
		Gill Net							
			GN0801	682274	6223847	5.0			
Halfway River	**Lower**								
		Backpack Electrofish							
			EF17	590969	6234853	10.5			
			EF18	591241	6234601	10.2			
			EF19	591521	6233428	8.9			
			EF20	591630	6233470	8.7			
			EF21	591893	6234303	7.8			
			EF22	592574	6234390	7.0			
			EF23	592948	6233514	6.0			
			EF24	593111	6233049	5.6			
			EF25	593828	6232294	4.5			
			EF26	594740	6231218	3.0			
			EF27	595005	6231109	2.9			
			EF28	595900	6231562	1.8			
			EF29	596574	6231128	0.2			

Appendix A Table A1. Sampled sites, UTM locations (NAD 83; Zone 10), and river kilometres in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Area	Method	Site Label	Upper			Lower		
				Easting	Northing	Kilometre	Easting	Northing	Kilometre
		Beach Seine							
			BS07	590238	6234324	11.6			
			BS08	594633	6231350	3.2			
			BS09	595347	6231146	2.5			
		Boat Electrofish							
			ES15	589714	6233435	12.7	590342	6234304	11.6
			ES16	591259	6234562	10.1	591389	6233551	9.1
			ES17	591389	6233551	9.1	591879	6234222	7.9
			ES18	591879	6234222	7.9	592661	6234281	6.9
			ES19	592661	6234281	6.9	592986	6233436	5.9
			ES20	592986	6233436	5.9	593464	6232516	4.9
			ES21	593464	6232516	4.9	594356	6232135	4.0
			ES22	594356	6232135	4.0	594727	6231265	3.1
			ES23	594727	6231265	3.1	595524	6231283	2.3
			ES24	595524	6231283	2.3	596348	6231936	1.1
			ES25	596406	6231918	1.0	596644	6231163	0.2
Halfway River	**Upper**								
		Backpack Electrofish							
			EF01	582307	6250035	39.9			
			EF02	582910	6249359	39.0			
			EF03	584800	6244960	34.0			
			EF04	585308	6243729	32.6			
			EF05	584904	6241072	29.7			
			EF06	585945	6239267	27.5			
			EF07	585860	6238008	26.3			
			EF08	585846	6238415	26.7			
			EF09	585684	6236839	25.1			
			EF10	585112	6235667	23.3			
			EF11	585611	6235101	22.3			
			EF12	585074	6234348	20.4			
			EF13	585820	6233186	18.2			
			EF14	586511	6232302	17.0			
			EF15	588075	6233051	14.5			
			EF16	589321	6233146	13.2			
		Beach Seine							
			BS01	583053	6247273	36.9			
			BS02	583808	6246248	35.6			
			BS03	585248	6242062	30.8			
			BS04	585054	6240112	28.7			
			BS06	585425	6234541	19.9			
		Boat Electrofish							
			ES01	582003	6249991	40.2	582791	6249751	39.4
			ES02	582791	6249751	39.4	582787	6247835	37.5
			ES03	582787	6247835	37.5	583699	6246239	35.6
			ES04	584148	6246230	35.4	584743	6245344	34.4
			ES05	584843	6244413	33.4	585268	6243192	32.0
			ES06	585327	6242294	31.0	585012	6241246	29.9
			ES07	584701	6240516	29.2	585669	6239706	28.0
			ES08	586084	6238877	27.1	585958	6237869	26.1
			ES09	585698	6236986	25.3	584915	6236280	24.2

Appendix A Table A1. Sampled sites, UTM locations (NAD 83; Zone 10), and river kilometres in the Halfway River and Peace River during small fish surveys, 2006.

Waterbody	Area	Method	Site Label	Upper			Lower		
				Easting	Northing	Kilometre	Easting	Northing	Kilometre
			ES10	585300	6235700	23.2	585472	6234972	22.2
			ES11	584502	6234627	21.0	585452	6234592	19.9
			ES12	586034	6233969	19.0	585782	6232806	17.9
			ES13	586519	6232299	17.0	587029	6233437	15.7
			ES14	587883	6233131	14.7	588886	6233046	13.7

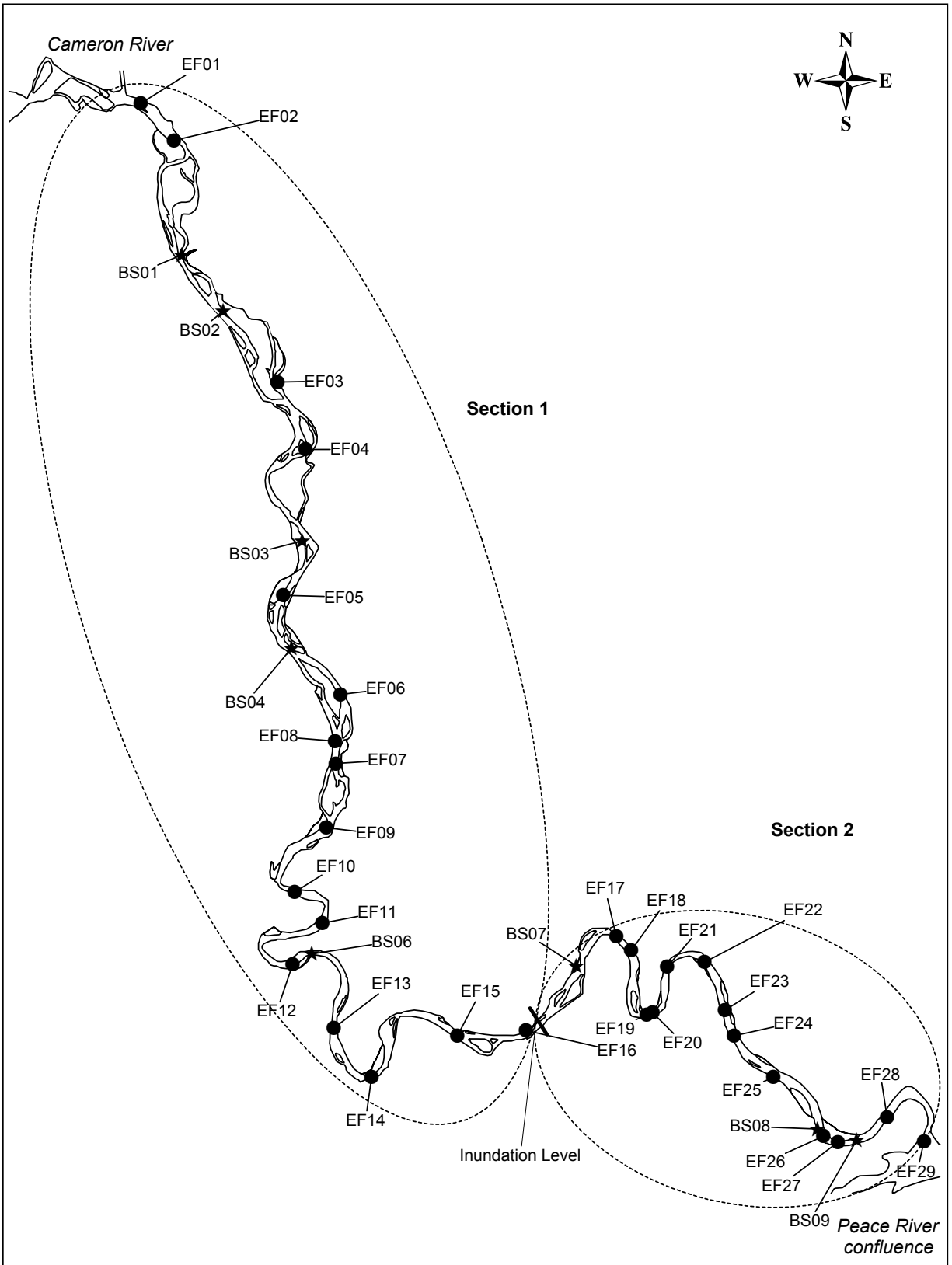

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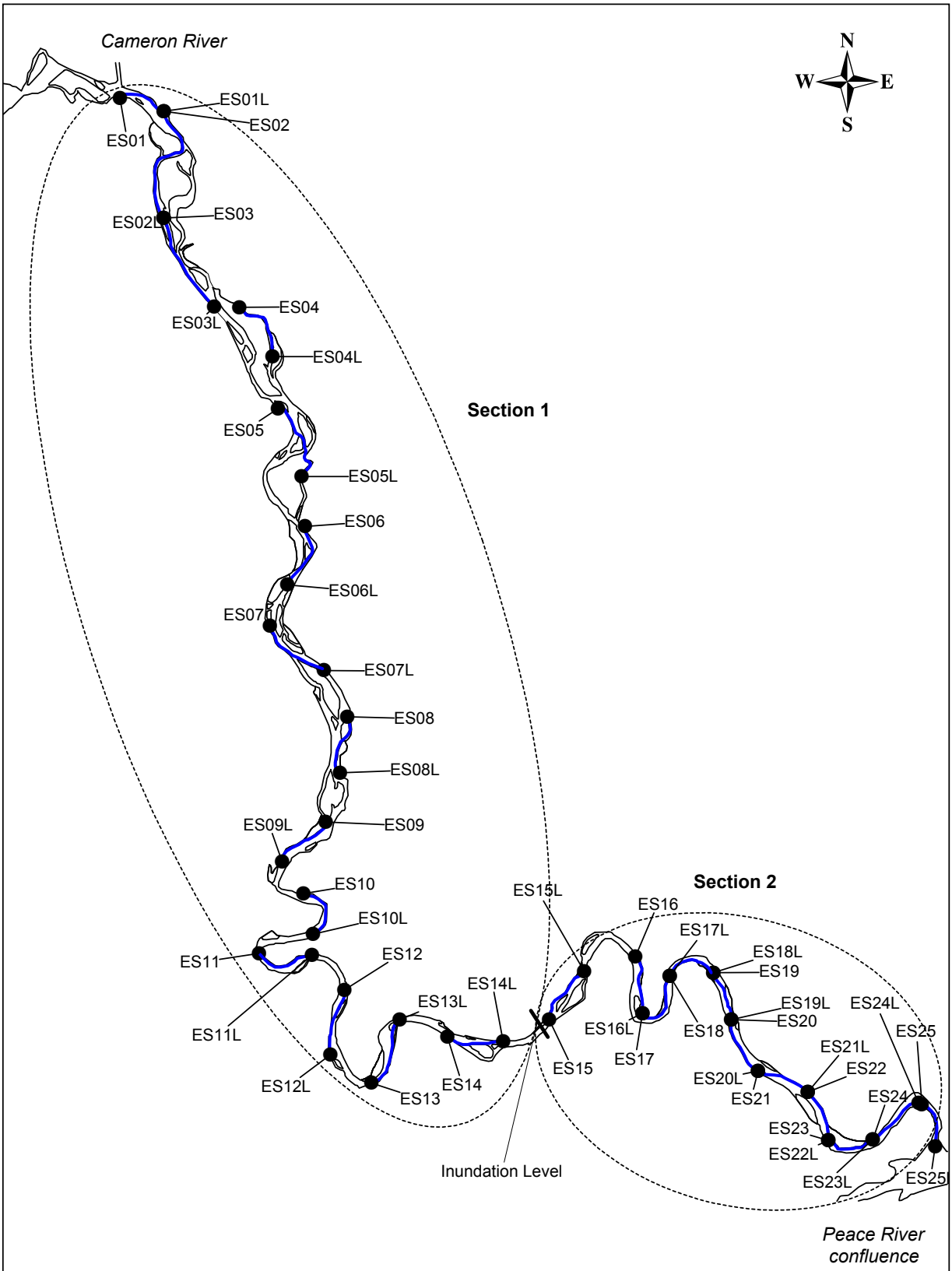
Figure A1

Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, Halfway River, 2006.

Inundation Level: from AMEC and LGL 2006



Inundation Level: from AMEC and LGL 2006

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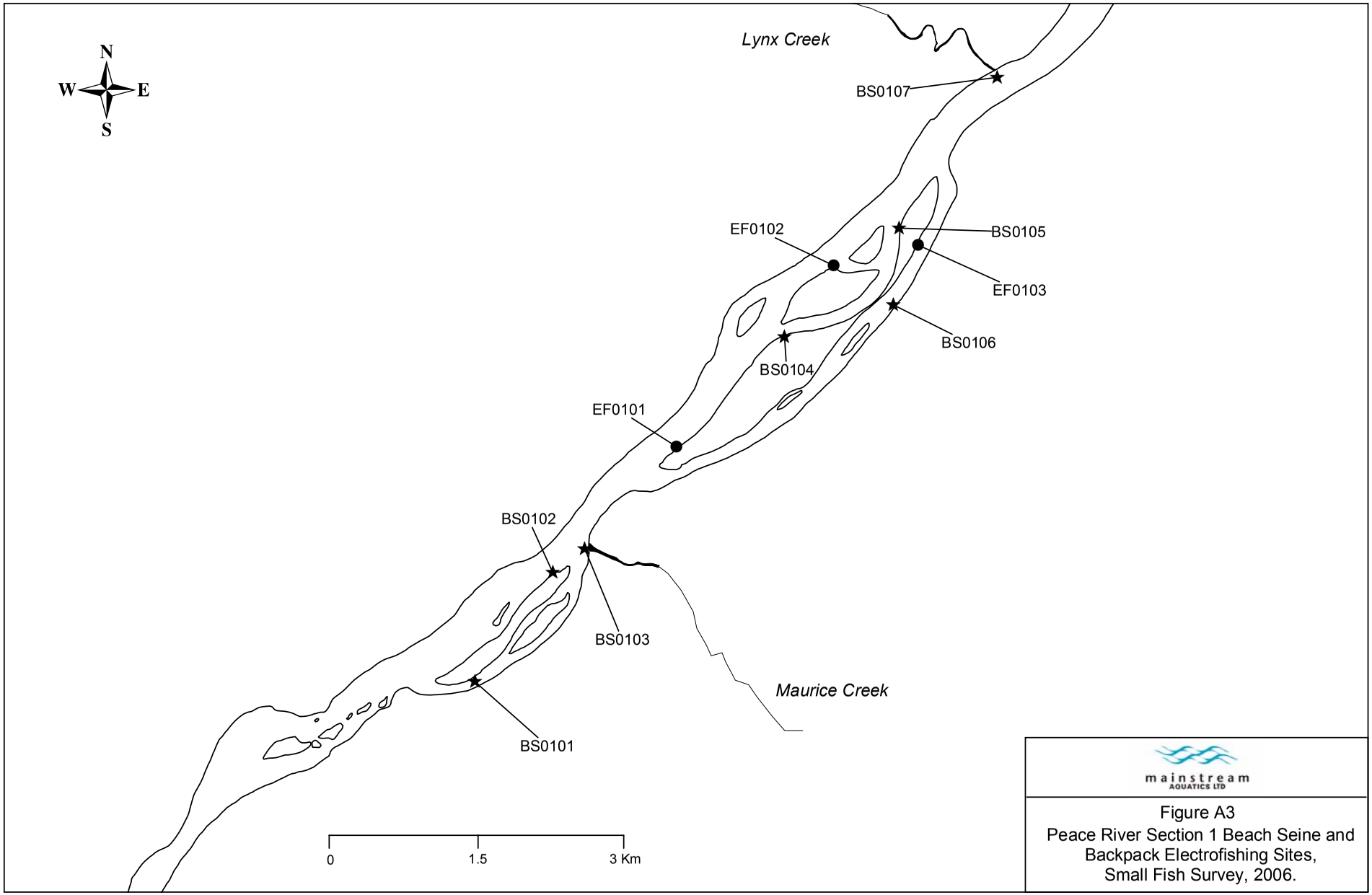
Figure A2

Halfway River Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A3
Peace River Section 1 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.

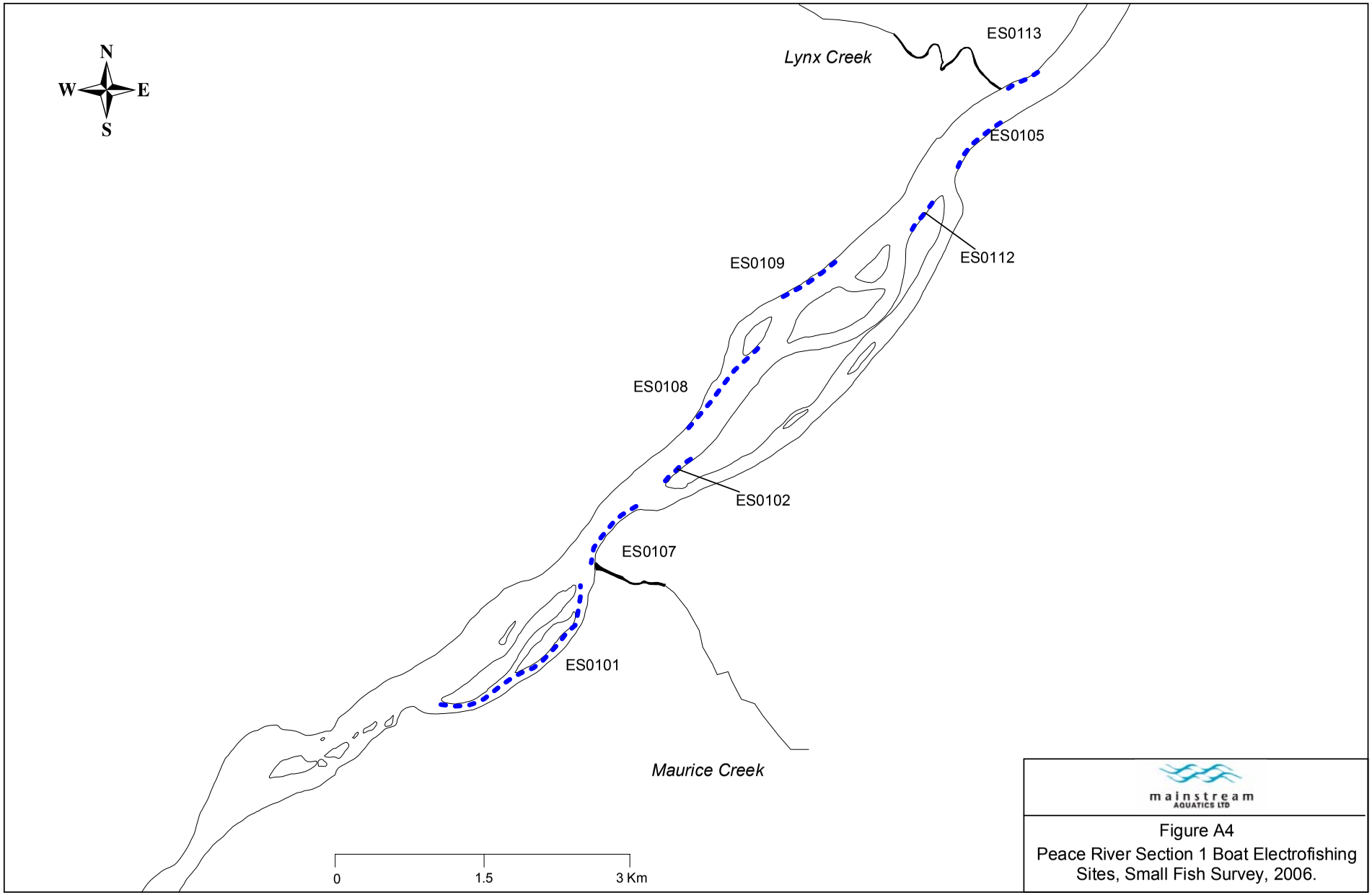


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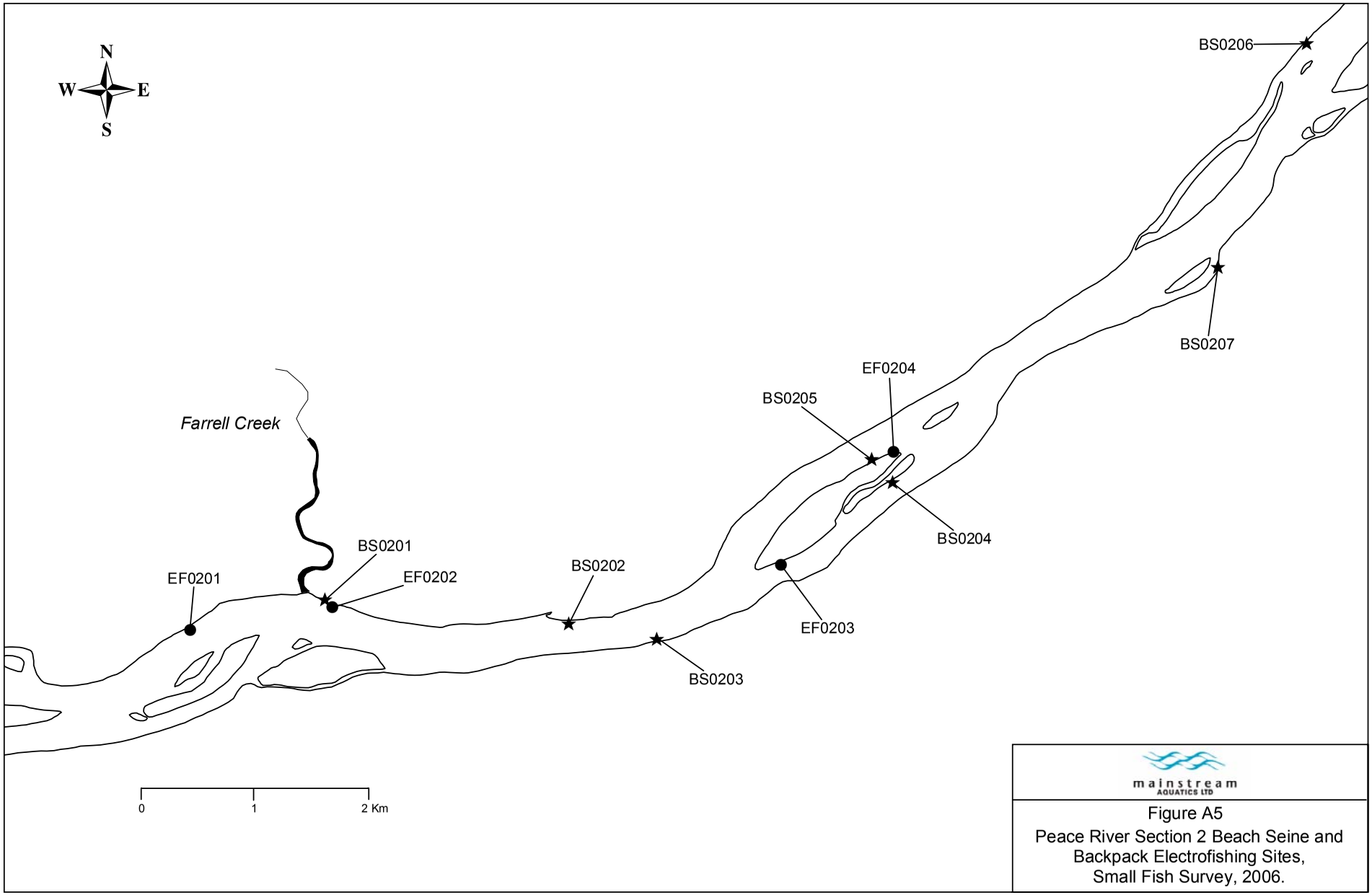
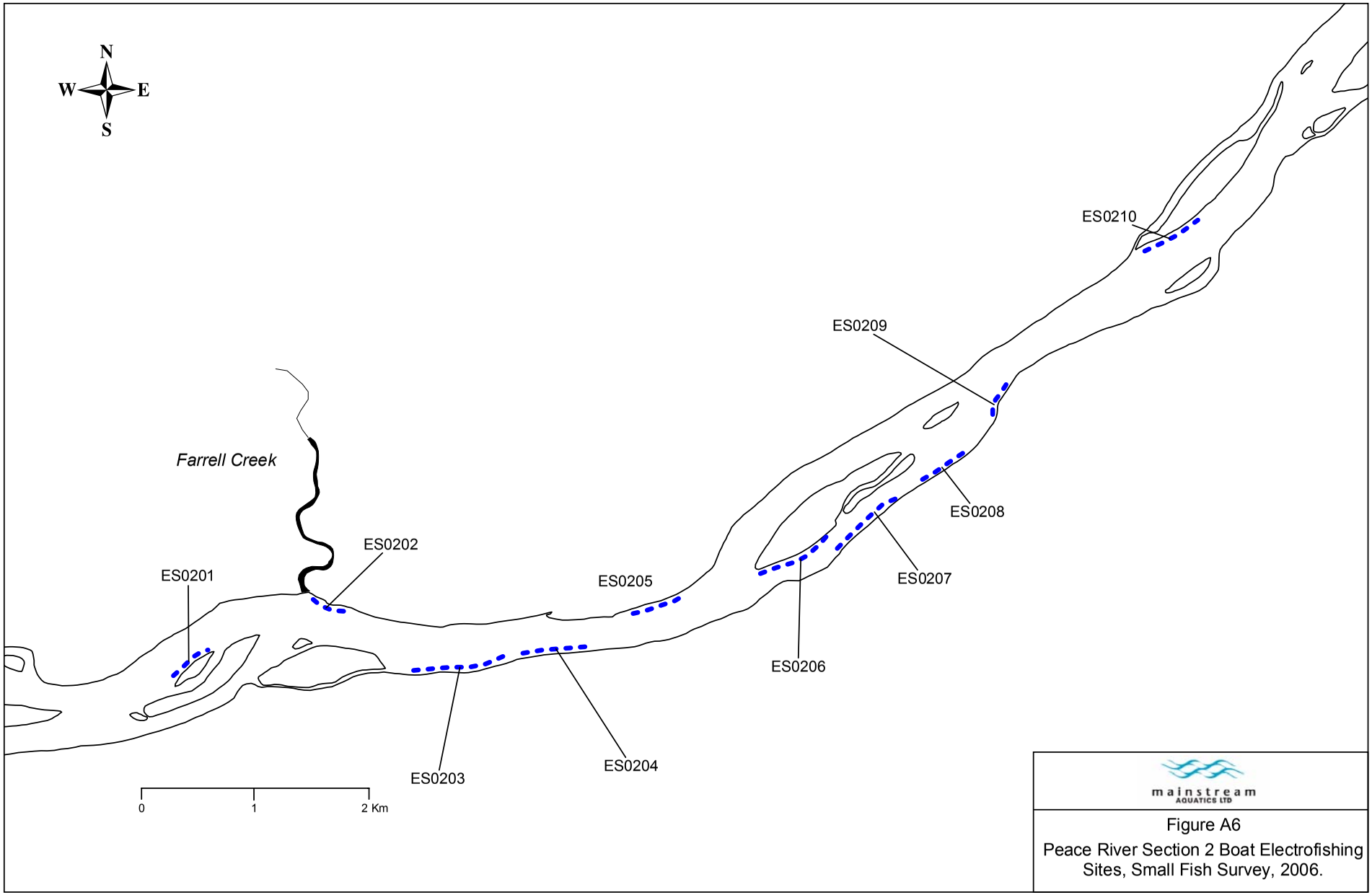
Figure A4
Peace River Section 1 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

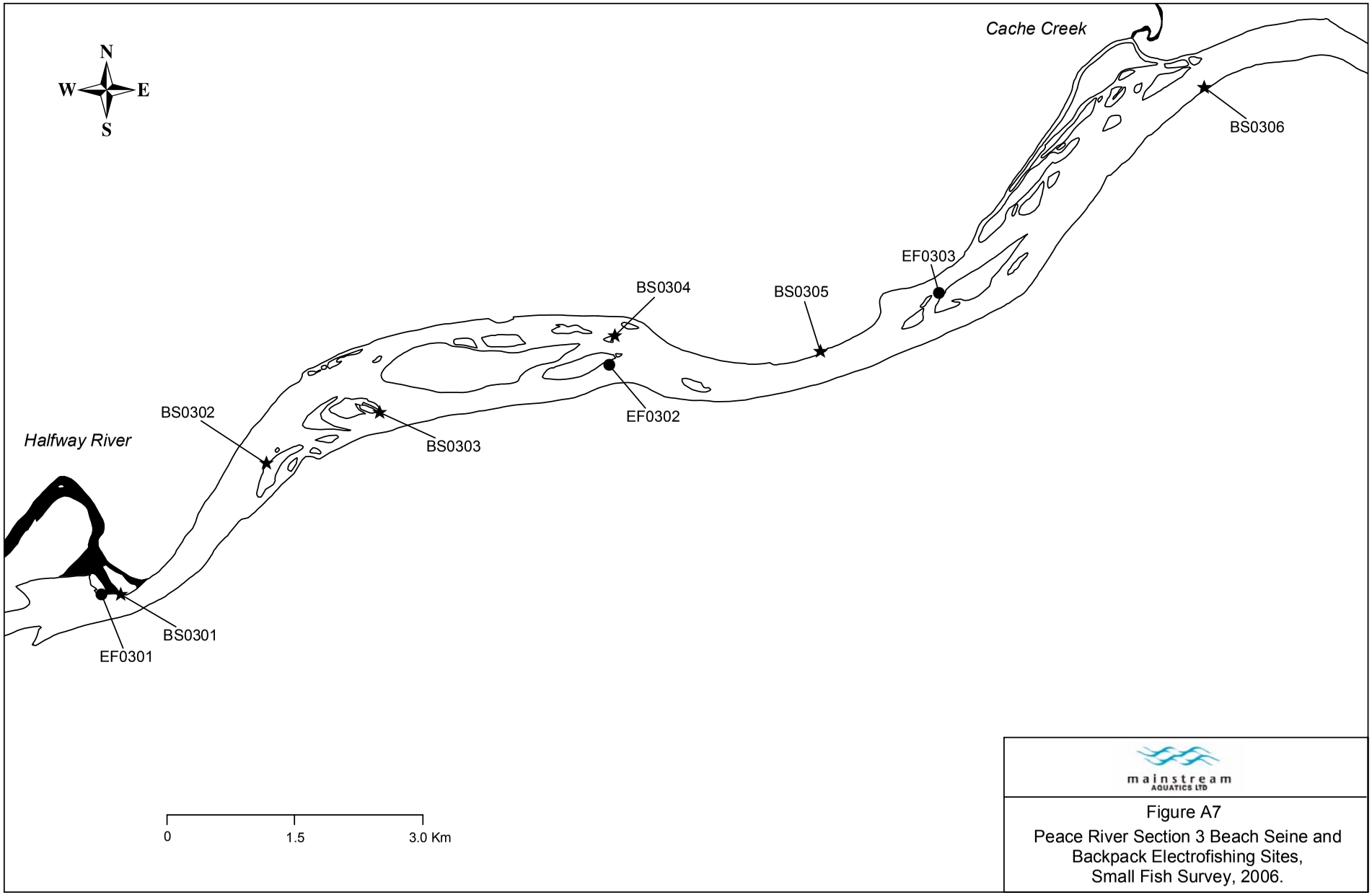
Figure A5
Peace River Section 2 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A6

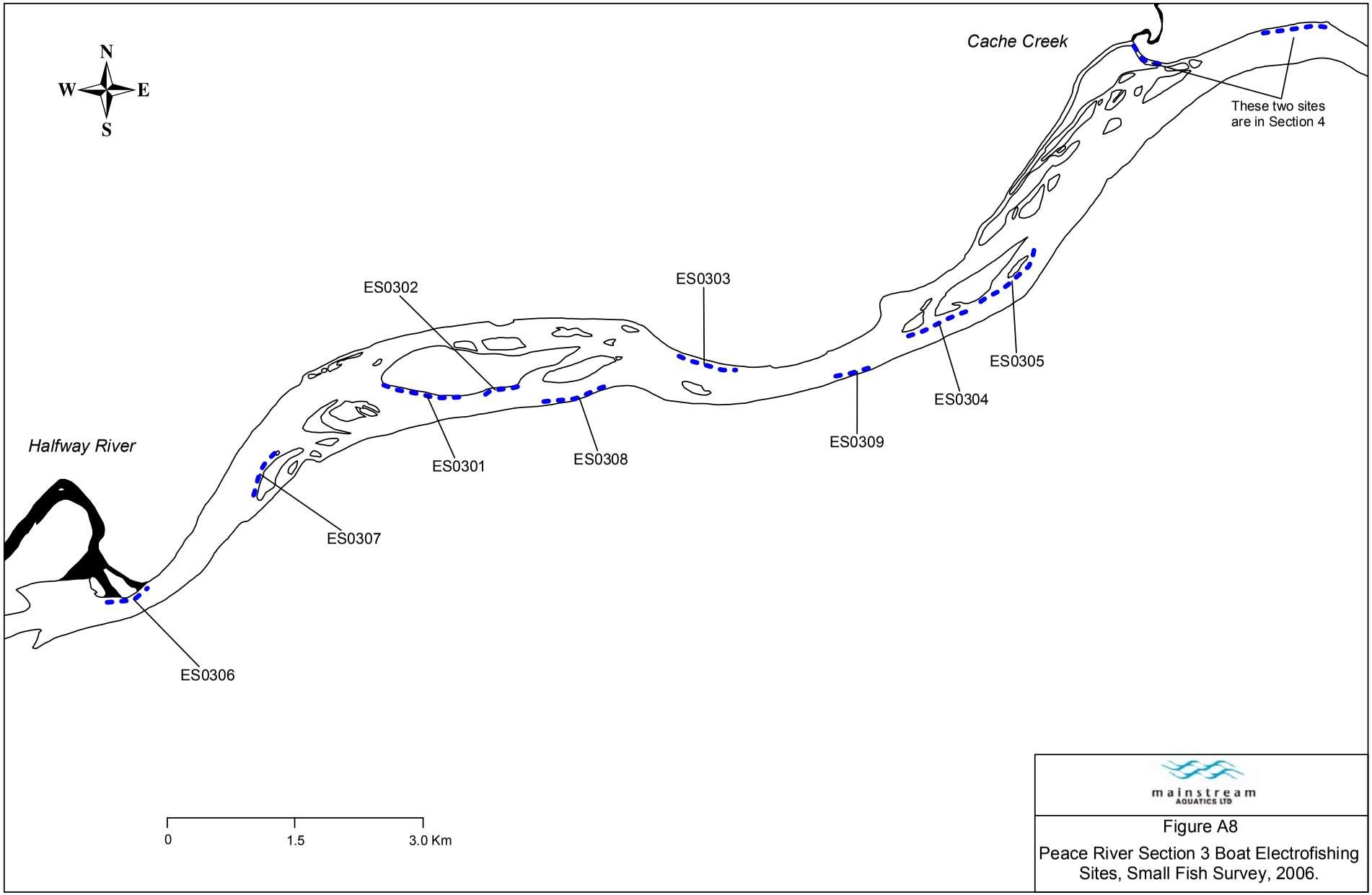
Peace River Section 2 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A7

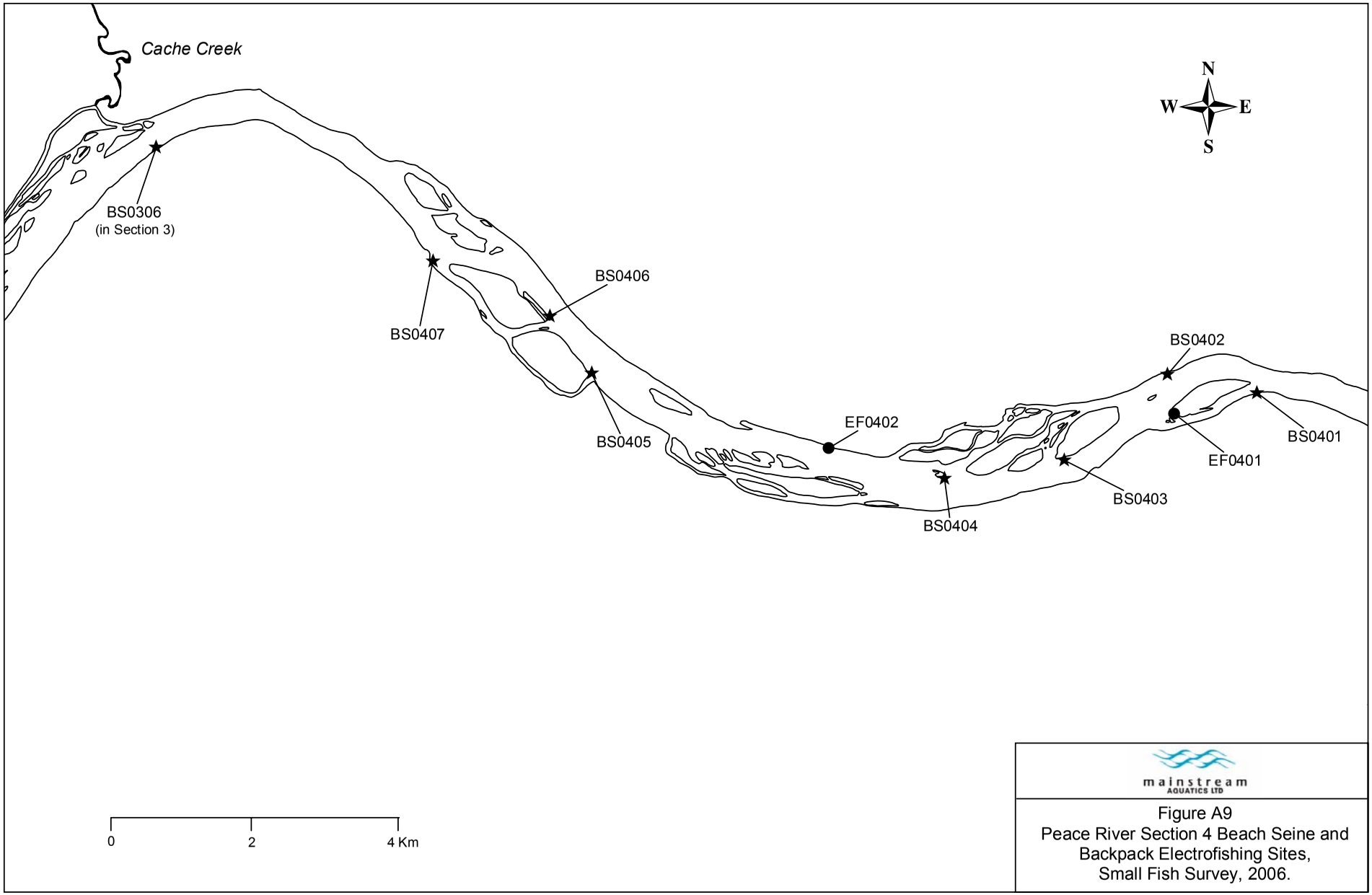
Peace River Section 3 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

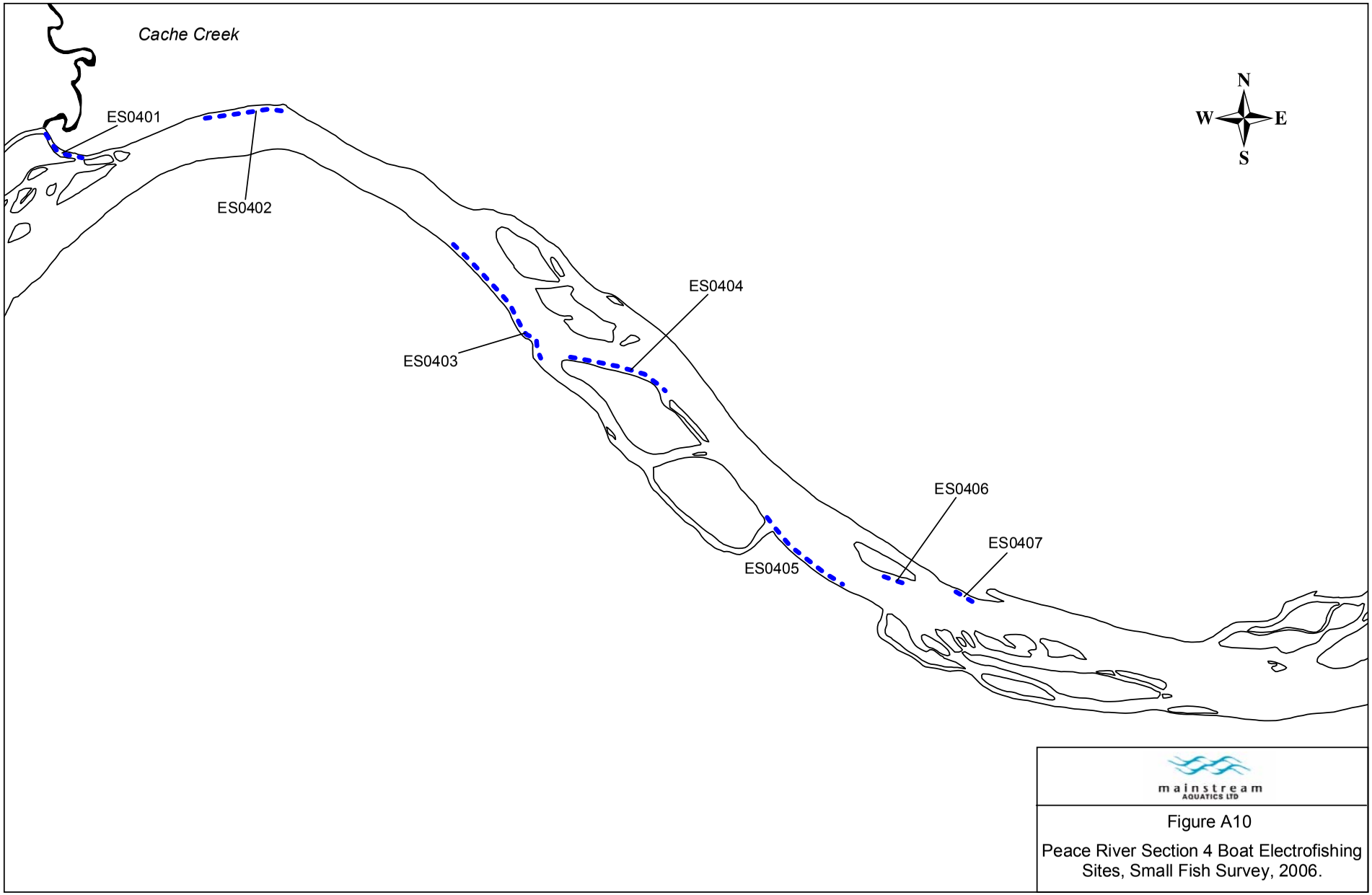
Figure A8

Peace River Section 3 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

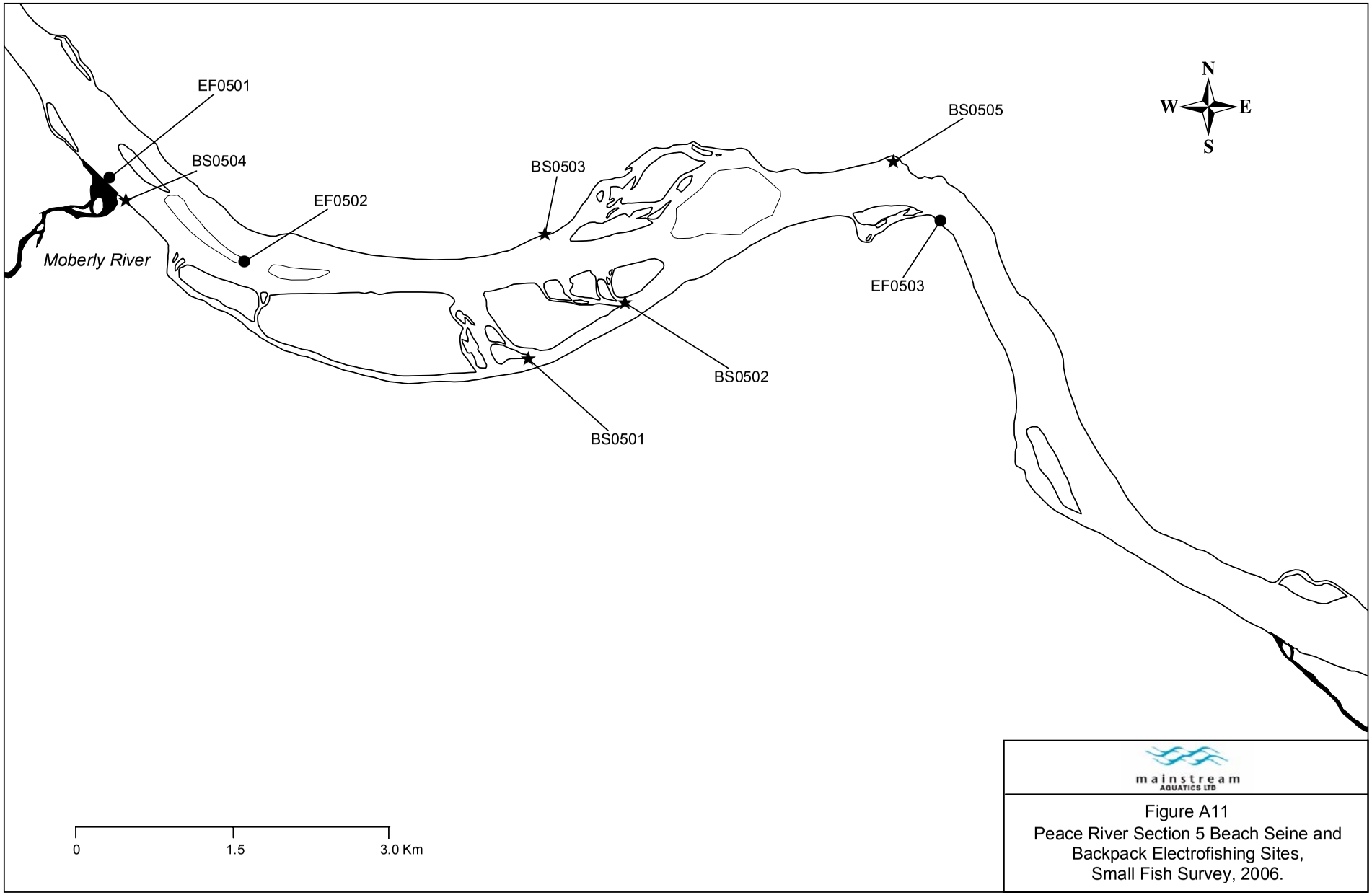
Figure A9
Peace River Section 4 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

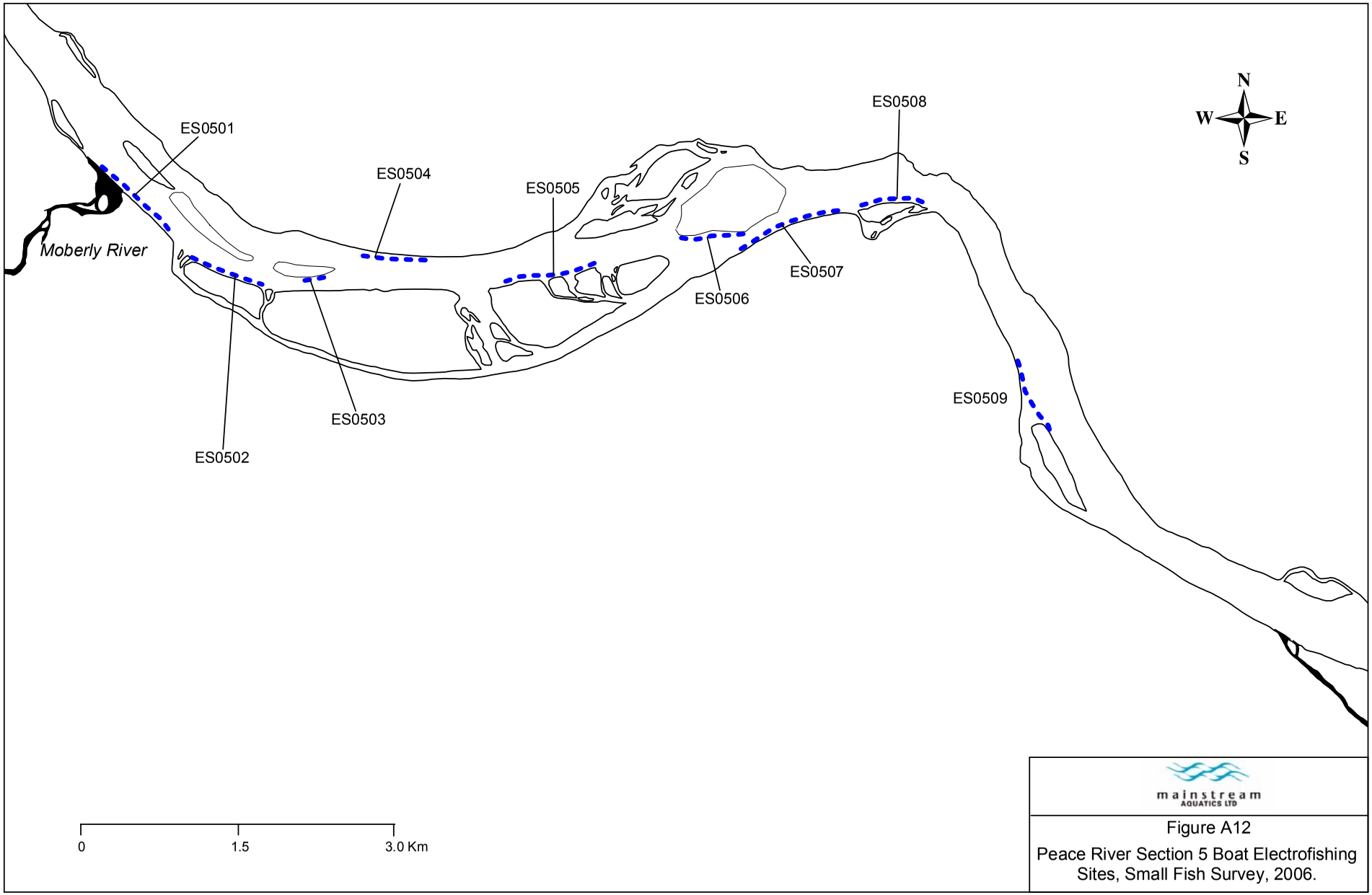
Figure A10

Peace River Section 4 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

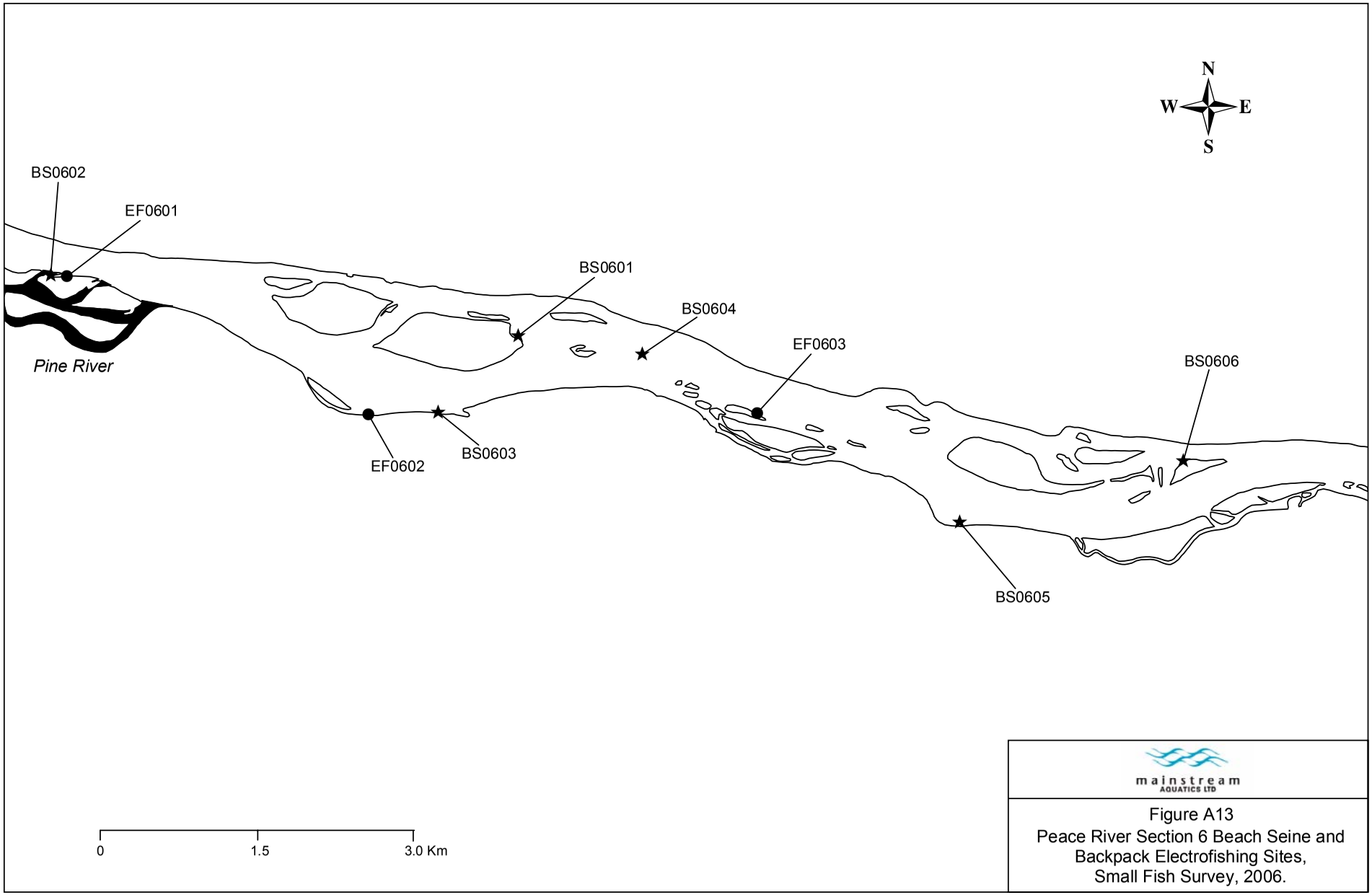
Figure A11
Peace River Section 5 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

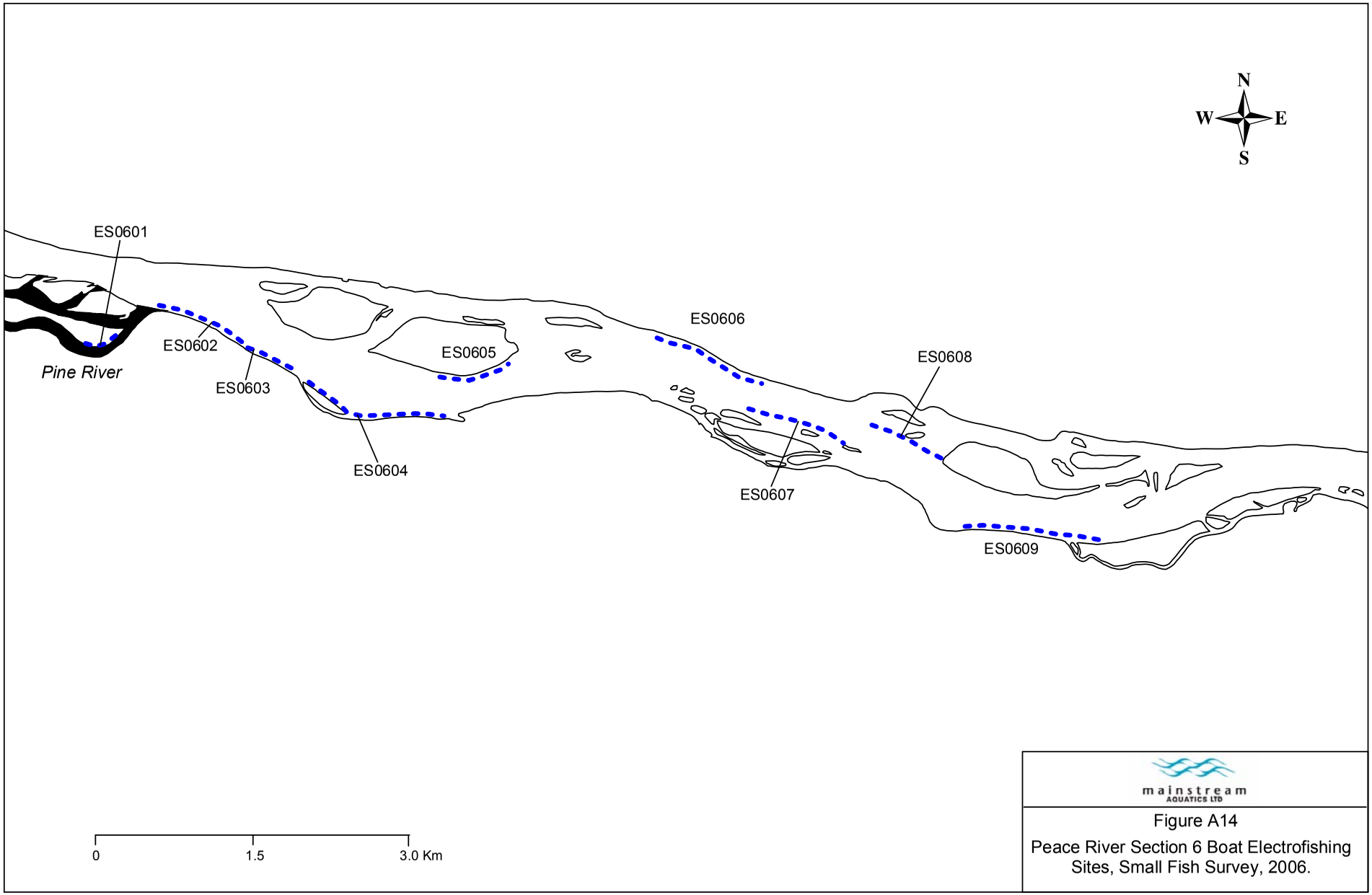
Figure A12

Peace River Section 5 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

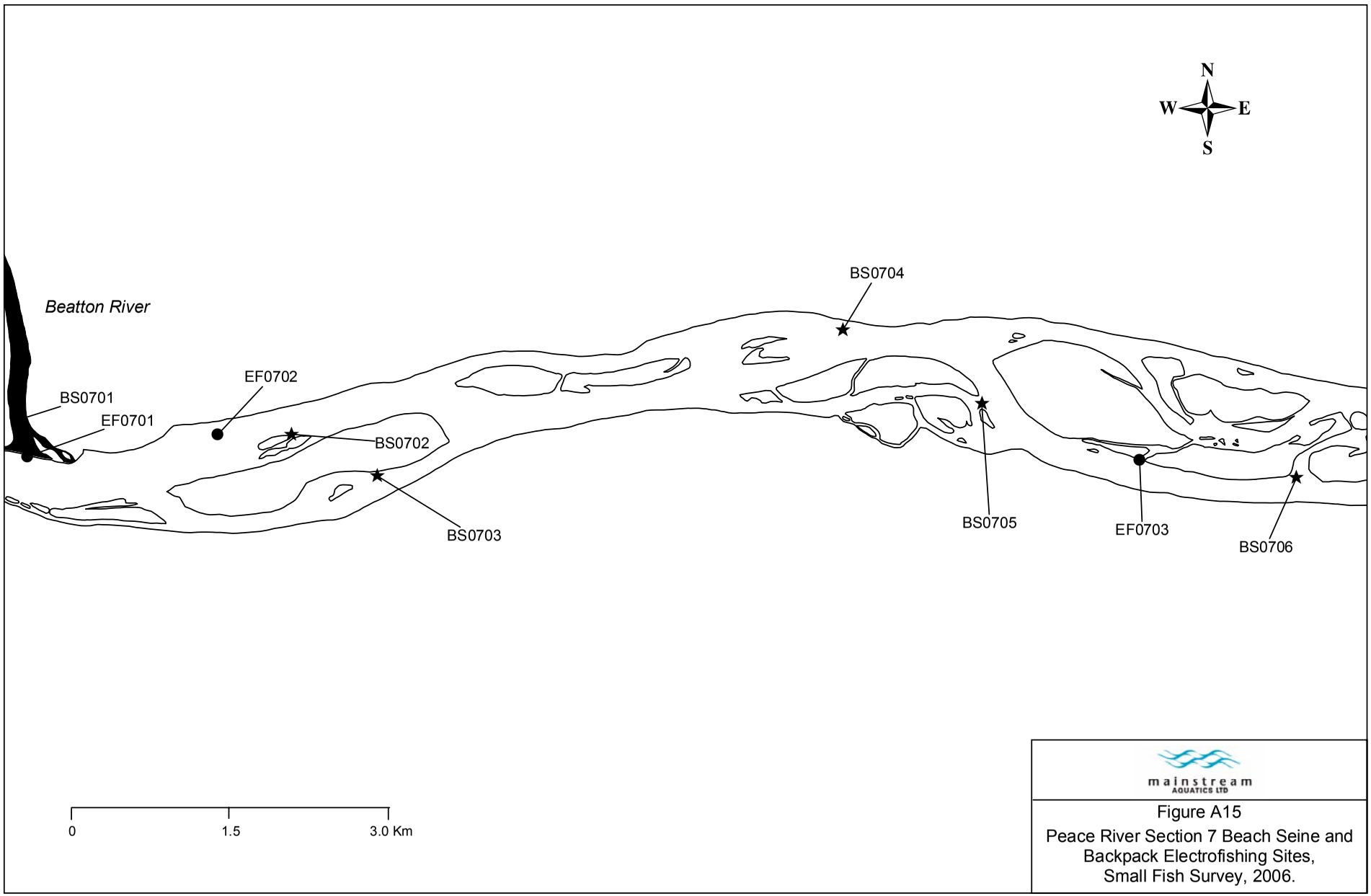
Figure A13
Peace River Section 6 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A14

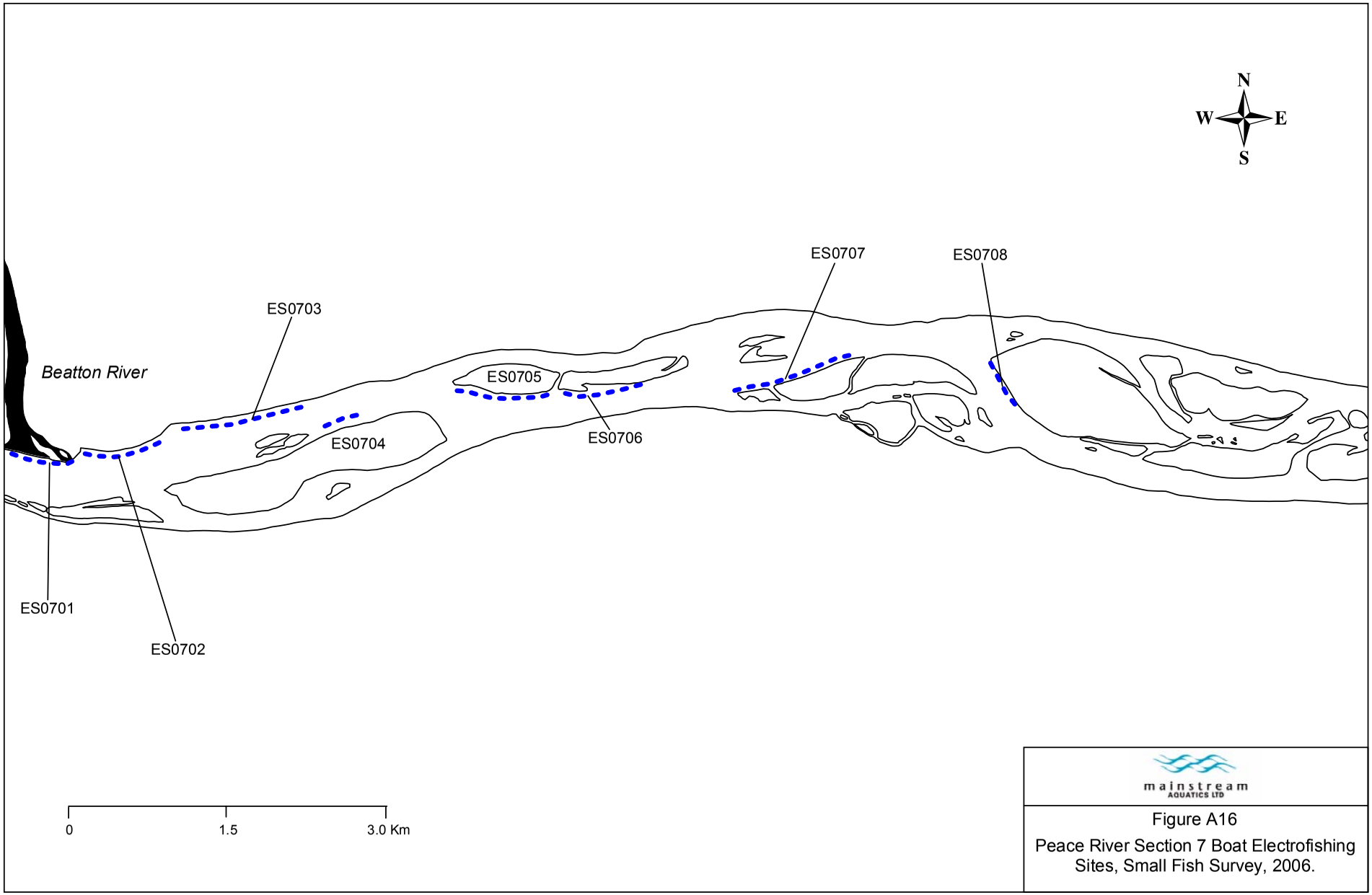
Peace River Section 6 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A15

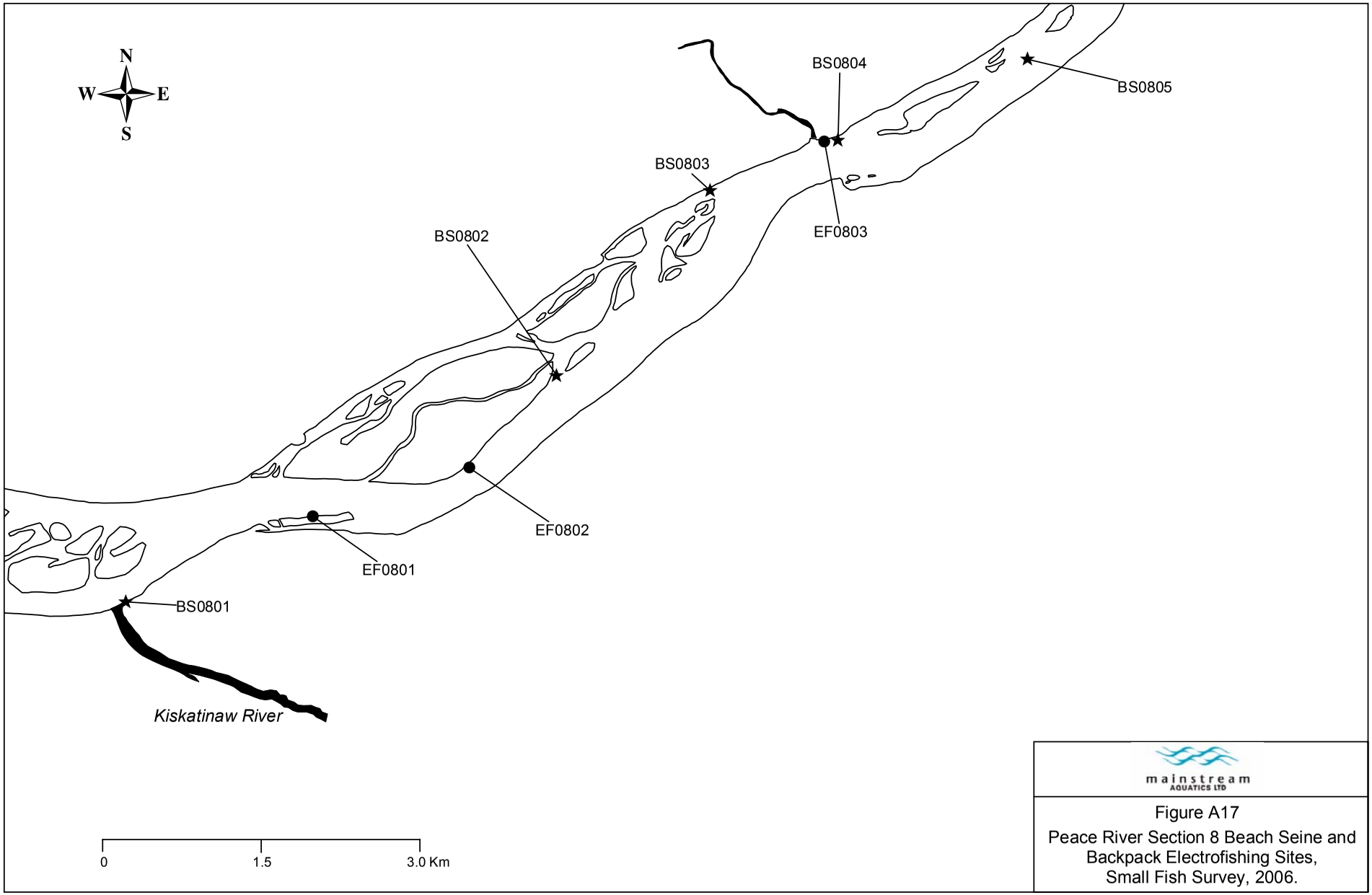
Peace River Section 7 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A16

Peace River Section 7 Boat Electrofishing Sites, Small Fish Survey, 2006.



mainstream AQUATICS LTD

Figure A17

Peace River Section 8 Beach Seine and Backpack Electrofishing Sites, Small Fish Survey, 2006.

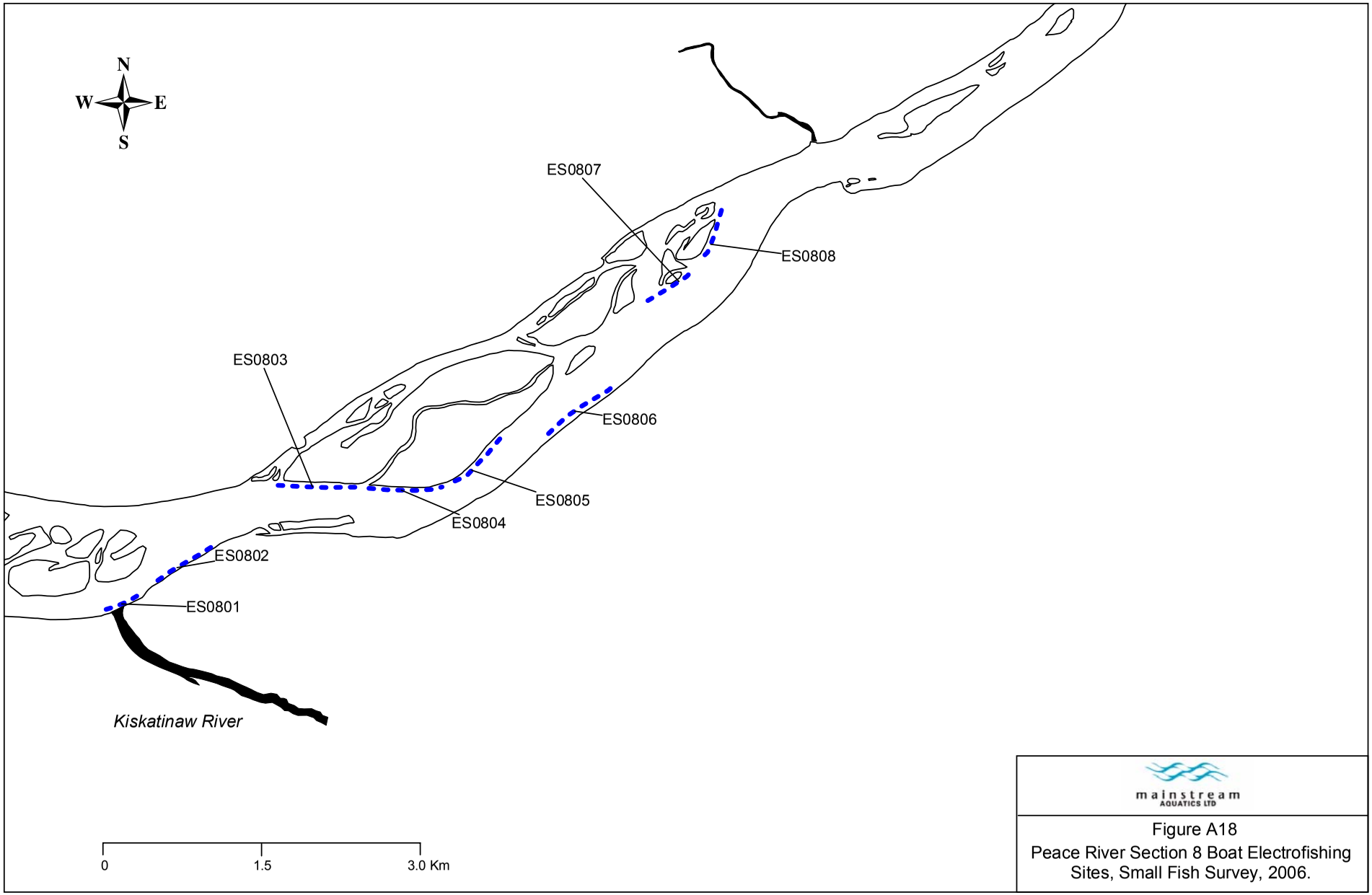


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Figure A18
Peace River Section 8 Boat Electrofishing Sites, Small Fish Survey, 2006.

Appendix B
Habitat Classification

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Habitat Classification Systems

Instream Habitat (modified from RL&L Environmental Services Ltd.)

Provides a qualitative assessment of the physical characteristics of a stream and its potential as fish habitat.

Riffle - Portion of channel with increased velocity relative to Run and Pool habitat types; broken water surface due to effects of submerged or exposed bed materials; shallow (less than 25 cm). Limited value as habitat for larger juveniles and adults (i.e., feeding), but may be used extensively by young-of-the-year and small juveniles.

RF - Typical riffle habitat type; provides limited cover for all life stages.

RF/BG - Riffle habitat type with abundance of large cobble and boulder substrates. Limited cover for juveniles and adults; but, may be used extensively by young-of-the-year fish.

Rapids (RA) - Portion of channel with highest velocity relative to other habitat types. Deep (>25 cm); often formed by channel constriction. Substrate extremely coarse; dominated by large cobble and boulder substrates. Habitat provided for juveniles and adults in pocket eddies associated with substrate.

Run - Portion of channel characterized by moderate to high current velocity relative to Pool and Flat habitats; water surface largely unbroken. Potentially high habitat value for all life stages. Can be differentiated into five types based on depth and cover.

R1 - Maximum depth exceeding 1.5 m; average depth 1.0 m. High cover at all flow conditions. Highest quality habitat for larger juveniles and adults; limited value for young-of-the-year-fish.

R2/BG - Maximum depth reaching 1.0 m and generally exceeding 0.75 m; presence of large cobble or boulder substrates in channel. High cover at all flows. Moderate to high quality habitat for larger juveniles and adults.

R2 - Maximum depth reaching 1.0 m and generally exceeding 0.75 m. High cover during most flows, but not during base flows. Moderate quality habitat for juveniles and adults; limited value for young-of-the-year-fish.

R3/BG - Maximum depth of 0.75 m, but averaging <0.50 m; presence of large cobble or boulder substrates in channel. Moderate cover at all flows. Moderate quality habitat for juveniles and adults; but, the value to young-of-the-year-fish is potentially high.

R3 - Maximum depth of 0.75 m, but averaging <0.50 m. Low cover at all flows. Lowest quality habitat for juveniles and adults; but, the value to young-of-the-year-fish is potentially high.

Flat - Area of channel characterized by low current velocities (relative to RF and Run cover types); near-laminar (i.e., non-turbulent) flow. Depositional area dominated sand/silt substrates. Differentiated from Pool habitat type by high channel uniformity and lack of direct association with riffle/run complex. Potential habitat value for all life stages is moderate to high. Can be differentiated into five types based on depth and cover.

F1 - Maximum depth exceeding 1.5 m; average depth 1.0 m or greater. High cover at all flows. Highest quality habitat for larger juveniles and adults; limited value for young-of-the-year-fish.

F2/BG - Maximum depth reaching 1.0 m and generally exceeding 0.75 m; presence of large cobble or boulder substrates in channel. High cover at all flows. Moderate to high quality habitat for larger juveniles and adults.

F2 - Maximum depth exceeding 1.0 m; generally exceeding 0.75 m. High cover during most flows, but not during base flows. Moderate quality habitat for juveniles and adults; limited value for young-of-the-year-fish.

F3/BG - Maximum depth of 0.75 m, but averaging <0.50 m; presence of large cobble or boulder substrates in channel. Moderate cover at all flows. Moderate quality habitat for juveniles and adults; but, the value to young-of-the-year-fish is potentially high.

F3 - Maximum depth of 0.75 m, averaging less than 0.50 m. Low cover at all flows. Lowest quality habitat for juveniles and adults; but, the value to young-of-the-year-fish is potentially high.

Pool - Discrete portion of channel featuring increased depth and reduced velocity (downstream oriented) relative to Riffle and Run habitat types. Normally featuring Riffle/Run associations. Principal habitat value for all life stages is cover. When in close association with Riffle/Run habitats, value can be very high. Can be differentiated into three types based on depth.

P1 - Maximum depth exceeding 1.5 m; average depth 1.0 m or greater; high cover at all flow conditions. Often intergrades with deep-slow type of R1. Highest quality habitat for larger juveniles and adults; limited value for young-of-the-year-fish.

P2 - Maximum depth reaching or exceeding 1.0 m, generally exceeding 0.75 m. High cover at all but base flows. Moderate quality habitat for juveniles and adults; limited value for young-of-the-year-fish.

P3 - Maximum depth of 0.75 m, averaging <0.50 m. Low instream cover; includes small pocket eddies. Lowest quality habitat for all life stages.

Special Features - Includes the following instream features:

Ledges (LG) - Areas of bedrock intrusion into the channel; often creates Chutes and Pool habitat.

Falls (FAL) - Channel section exhibiting distinct vertical falls over boulder and bedrock. Often a barrier to fish.

Cascade (CAS) - Area of channel exhibiting distinct drop over boulder and bedrock, but, no defined falls. Often a barrier to fish.

Tributary Confluence (TC)) - Area of main river channel directly affected by tributary confluence.

Back Channel (BC) - Well-defined back channel not subjected to mainstem currents.

Backwater (BW) - Well-defined zone of zero or reverse flow water velocity associated with a large bank irregularity.

Bank Habitat (modified from RL&L Environmental Services Ltd.)

The zone within the immediate hydraulic influence of the bank-water interface. Typically extends from the annual high-water to low-water mark.

Armoured
Bank is stable and is composed of armoured cobble to boulder substrates that are not subjected to movement during annual floods; can be differentiated into categories based on the amount of bank roughness.
(A1 very rough, A2 moderately rough, A3 not rough)

Canyon
Bank is stable, is near vertical, and is composed of boulder to bedrock substrates; can be differentiated into categories based on the amount of bank roughness (C1 very rough, C2 moderately rough, C3 not rough).

Depositional
Bank exhibits low relief and is composed of silt to cobble substrates; characterized by high substrate mobility and low bank roughness (D1 cobble; D2 gravel; D3 sand and silts). Differentiated into tributary (TD) and mainstem (MD) depositional zones.

Erosional
Bank is dominated silt to gravel substrates that exhibit evidence of active erosion; note that large rock substrates can be present; can be differentiated into categories based on the amount of bank roughness
(E1 very rough, E2 moderately rough, E3 not rough).

Substrate Classification System

Modified Wentworth classification for substrate particle sizes
(from Cummins 1962)

Category	Particle Size Range (mm)
Bedrock	-
Boulder	>256
Cobble	32 - 256
Gravel	1 - 32
Sand	0.0625 - 0.2-1
Silt	0.0039-0.0625
Clay	<0.0039
Organics	-

Habitat categories sampled during Halfway River and Peace River during small fish surveys, 2006.

Habitat Category	Bank Habitat[a]	Instream Habitat	Water Velocity[b]	Bank Configuration[b]	Physical Cover	Dominant Substrate
SFN	A3	Run	Moderate to High	Gradual Slope/ Shallow Water	Absent	Rock
SFC	A1/A2	Run	Moderate to High	Gradual Slope/ Shallow Water	Present	Rock

[a] Habitat types defined in RL&L (2001).
[b] Based on subjective measure by experienced habitat (P&E and Gazey, 2003).

Appendix - B2
Parameter Definitions

- Date and time: Recorded as Day/Month/Year and Mountain Standard Time.
- Geodetic location: NAD 83, Northing and Easting.
- Sample effort: Dependent on sample method. Boat and backpack electrofishing effort measured in seconds, beach seine effort measured in meters (length and width).
- Water conductivity (microseimens): Measured with Hanna HI98311 EC/TDS meter.
- Water temperature (^{o}C): Measured with alcohol thermometer.
- Water clarity (low, moderate, high): Low = <0.50 m; Moderate = 0.50 to 1.0 m; High = >1.0 m.
- Water depth (cm) and velocity (m/s): Measured with Swoffer Model 2100 velocity meter and rod.
- Channel type: Refers to mainstem river (main channel) or channel behind island or bar (side channel).
- Mesohabitat type: Refers to two discrete habitat categories (SFC and SFN). The SFC and SFN habitat categories were defined based on the physical characteristics established during previous studies conducted on the Peace River (P&E 2002): bank slope/depth, water velocity, and the presence or absence of physical instream cover.
- Instream habitat type: See Appendix B1 for definitions.
- Bank habitat type: See Appendix B1 for definitions.
- Substrate type (%): Refers to substrate composition and is based on a modified Wentworth Classification (see Appendix B1).
- Available fish cover (%): Cover is defined as instream areas that provide protection from predators or adverse environmental conditions such as high current velocities. Cover includes aquatic vegetation, boulders, woody debris, undercuts, overhanging vegetation and certain channel features (i.e., depth and water turbulence).
- Algal cover (%): Refers to the amount of algae present on substrate or other debris as cover for fish.
- D90 (cm): Refers to diameter of the bed material particle which is larger than 90% of the remaining material.
- Substrate embeddedness: Rates the degree that larger substrates (boulder, cobble, gravel) are surrounded or covered by fine sediment (low, moderate, high).
- Substrate compaction: Refers to the relative density or looseness of bed material (low, moderate, high).

Appendix B. Table B3. Mesohabitat Classification System (from P&E 2002).

Habitat Category	Bank Habitat[a]	Instream Habitat	Velocity[b]	Bank Configuration[b]	Physical Instream Cover	Substrate
SFN	A3	Run	Moderate to High	Gradual Slope/ Shallow Water	Absent	Rock
SFC	A1/A2	Run	Moderate to High	Gradual Slope/ Shallow Water	Present	Rock
SLN	A3	Flat	Low	Steep Slope/ Deep Water	Absent	Rock or Sand
SLC	A1/A2	Flat	Low	Steep Slope/ Deep Water	Present	Rock or Sand
CON	D2	Tributary Confluence	Low	Steep Slope/ Deep Water	--	Sand
BAC	A3/D2	Back Channel	Nil	Steep Slope/ Deep Water	--	Silt

[a] Habitat types defined in RL&L (2001).
[b] Based on subjective measure by experienced fish habitat biologist.

Citations

P&E Environmental Consultants Ltd. 2002. Peace River Fish Community Indexing Program - Phase I Studies. Prepared for B.C. Hydro. P&E Report No. 01005F: 76 p. + Appendices.

R.L.&L. Environmental Services Ltd. 2001. Peace River fish habitat utilization study. Prepared for BC Hydro - Environmental Services, Burnaby, BC. RL&L Report No. 725F: 72 p. + Appendices.

Appendix C

Habitat Data

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Appendix C Table C1. Sampling conditions during the small fish survey in the Halfway River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%)						Bank Habitat (%)					Channel Type	Effort			Electrofisher			
						Pool	Run	Flat	RfRa	BW	Snye	A1	A2	A3	D1	D2		Wid (m)	Dist (m)	Seconds	MIS	A	Hz	V
Lower																								
Backpack Electrofish																								
EF17	08/13/06	387	19.4	8.5	H					100					100		M	3.0	100	324			100	150
EF18	08/13/06	387	19.4	8.5	M				100			+02					M	8.0	88	480			100	150
EF19	08/13/06	387	19.4	8.5	M				100						100		M	5.0	130	438			100	150
EF20	08/13/06	387	19.4	8.5	H			100							100		M	5.0	94	370			100	150
EF21	08/13/06	387	19.4	8.5	M				100						100		M	5.0	115	391			100	150
EF22	08/13/06	387	19.4	8.5	M		100								100		M	3.0	100	380			100	150
EF23	08/13/06	387	19.4	8.5	M			100							100		M	7.0	65	298			100	150
EF24	08/13/06	387	19.4	8.5	M			100							100		M	7.0	124	501			100	150
EF25	08/13/06	387	19.4	8.5	M		100								100		M	5.0	95	372			100	150
EF26	08/14/06	387	19.6	8.6	M				100			+02					M	5.0	100	468			100	150
EF27	08/14/06	387	19.6	8.6	H			100							100		M	5.0	100	477			100	150
EF28	08/14/06	387	19.6	8.6	M			100							100		M	5.0	100	389			100	150
EF29	08/14/06	380	19.5	8.5	M			100							100		M	5.0	45	379			100	150
Beach Seine																								
BS07	08/12/06	432	18.5	8.3	L						100				100		S	4.0	20					
BS08	08/14/06	687	18.1	7.7	H						100					100	S	4.0	35					
BS09	08/14/06	401	21.3	8.4	H					100					100		S	4.0	35					
Boat Electrofish																								
ES15	08/12/06	326	20.9	8.7	H		100								100		M	6.0	1000	940		4.5	120	354
ES16	08/13/06	330	19.5	8.5	M		80	20							100		M	6.0	1000	1461		4.5	120	354
ES17	08/13/06	330	19.5	8.5	M		85	15							100		M	6.0	1000	1723		4.5	120	354
ES18	08/13/06	330	19.5	8.5	M		10	90							100		M	6.0	1000	1734		4.5	120	354
ES19	08/13/06	330	19.5	8.5	M		50			50					100		M	6.0	800	1083		4.5	120	354
ES20	08/13/06	330	19.5	8.5	M		50			50		50			50		M	6.0	1000	1479		4.5	120	354
ES21	08/13/06	326	21.9	8.7	M		100					50			50		M	6.0	1000	906		4.5	120	354
ES22	08/14/06	337	20.4	8.7	M		80		20						100		M	6.0	1000	1993		4.5	120	354
ES23	08/14/06	337	20.4	8.7	M		40	60							100		M	6.0	1000	2776		4.5	120	354
ES24	08/14/06	337	20.4	8.7	M		100								100		M	6.0	1000	1371		4.5	120	354
ES25	08/14/06	327	20.7	8.7	M		50		50						100		M	6.0	900	974		4.5	120	354

See Appendix B for definitions

Appendix C Table C1. Sampling conditions during the small fish survey in the Halfway River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Effort Wid (m)	Dist (m)	Seconds	Electrofisher MIS	A	Hz	V
Upper																								
Backpack Electrofish																								
EF01	08/10/06	430	19.4	8.3	H		100								100		M	5.0	100	648			100	100
EF02	08/10/06	396	19.2	8.5	L		100								100		M	5.0	100	616			100	150
EF03	08/11/06	417	18.9	8.1	H		100								100		M	5.0	100	406			100	150
EF04	08/11/06	395	16.8	8.5	L		100								100		S	5.0	100	337			100	150
EF05	08/11/06	392	18.9	8.5	L		100								100		S	5.0	100	341			100	150
EF06	08/11/06	392	18.9	8.5	M		100								100		M	5.0	90	334			100	150
EF07	08/11/06	411	19.4	8.5	L		100								100		M	5.0	100	488			100	150
EF08	08/11/06	411	19.4	8.5	H			100							100		S	5.0	100	327			100	150
EF09	08/12/06	387	19.4	8.5	H		100								100		M	5.0	100	319			100	150
EF10	08/12/06	387	16.5	8.5	H					100					100		S	5.0	100	365			100	150
EF11	08/12/06	387	16.8	8.5	H		100								100		M	5.0	95	342			100	150
EF12	08/12/06	387	16.8	8.5	H		100								100		M	5.0	100	331			100	150
EF13	08/12/06	387	16.8	8.5	M			100							100		M	5.0	90	438			100	150
EF14	08/12/06	387	19.8	8.5	H				100						100		M	5.0	100	332			100	150
EF15	08/13/06	387	19.4	8.5	H				100						100		S	5.0	92	488			100	150
EF16	08/13/06	387	19.4	8.5	L		100								100		M	5.0	100	362			100	150
Beach Seine																								
BS01	08/10/06	416	19.1	8.5	L						100							4.0	15					
BS02	08/11/06	432	16	8.0	H			100							100		S	4.0	50					
BS03	08/11/06	432	16	8.0	M						100						S	4.0	30					
BS04	08/11/06	439	18.4	8.1	H			100							100		S	4.0	30					
BS06	08/12/06	208	18.5	8.3	L						100				100		S	4.0	15					
Boat Electrofish																								
ES01	08/10/06	335	18.8	8.7	H		100								100		M	6.0	1000	703		4	120	354
ES02	08/10/06	335	18.8	8.7	H		100								100		M	6.0	1000	2044		4	120	354
ES03	08/10/06	335	18.8	8.7	H		100								100		M	6.0	1000	2116		4	120	354
ES04	08/11/06	335	18.8	8.7	H		100								100		M	6.0	1000	1228		4	120	354
ES05	08/11/06	335	18.8	8.7	H		100								100		M	6.0	1000	1366		4	120	354
ES06	08/11/06	335	18.8	8.7	H		100								100		M	6.0	1000	1304		4	120	354
ES07	08/11/06	339	17.5	8.7	H		100								100		M	6.0	1000	1632		4	120	354
ES08	08/11/06	339	17.5	8.7	H		100								100		M	6.0	1000	1093		4	120	354
ES09	08/11/06	339	17.5	8.7	H		100								100		M	6.0	1000	1189		4	120	354
ES10	08/12/06	318	17.5	8.7	H		90	10							100		M	6.0	1000	1269		4.5	120	354
ES11	08/12/06	318	17.5	8.7	H		100								100		M	6.0	1000	1801		4.5	120	354

See Appendix B for definitions

Appendix C Table C1. Sampling conditions during the small fish survey in the Halfway River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%)						Bank Habitat (%)					Channel Type	Effort			Electrofisher			
						Pool	Run	Flat	RfRa	BW	Snye	A1	A2	A3	D1	D2		Wid (m)	Dist (m)	Seconds	MIS	A	Hz	V
Upper																								
ES12	08/12/06	318	21.1	8.4	H		80			20					100		M	6.0	1000	1456		4.5	120	354
ES13	08/12/06	318	21.1	8.4	H		50			50					100		M	6.0	1000	1736		4.5	120	354
ES14	08/12/06	318	21.1	8.4	H		100					50			50		M	6.0	1000			4.5	120	354

See Appendix B for definitions

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAC	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
1																													
Backpack Electrofish																													
EF0101	10/11/20	189	12.3	8.3	H		100							100			M						3.0	100	897	6		60	300
EF0102	10/11/20	183	11.4	8.6	H		100							100			M						3.0	100	963	6		60	400
EF0103	10/12/20	178	10.1	8.4	H		100							100			S						3.0	100	946	6		60	300
Beach Seine																													
BS0101	10/11/20	180	9.2	7.8	H					100				100			S						4.5	33					
BS0102	10/11/20	181	9.3	8.2	H						100			100			M						4.5	74					
BS0103	10/11/20	227	10.4	8.4	H										100		M						4.5	52					
BS0104	10/11/20	183	11.4		H			100						100			M						4.5	74					
BS0105	10/11/20	183	11.4		H					100				100			M						4.5	81					
BS0106	10/11/20	183	11.4		H						100			100			S						4.5	85					
BS0107	10/12/20	183	11.4		H											100	M						4.5	65					
Boat Electrofish																													
ES0101	10/11/20	168	10	6.4	H		100										S	100					6.0	1900	940		5.5	60	530
ES0102	10/11/20	168	10		H		100											100					6.0	800	592		5.5	60	530
ES0105	10/11/20	181	7.3		H													100					6.0	900	1055		5.5	60	530
ES0107	10/11/20	167	11.4	6.2	H																	100	6.0	300	304		5.5	60	530
ES0108	10/11/20	168	10		H		100												100				6.0	700			5.5	60	530
ES0109	10/11/20	227	10.4		H																	100	6.0	700	491		5.5	60	707
ES0112	10/11/20	181	7.3		H															100			6.0	1000			5.5	60	530
ES0113	10/11/20	181	7.3		H														100				6.0	900	1069		5.5	60	530

See Appendix B for definitions

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAC	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
2																													
Backpack Electrofish																													
EF0201	10/12/20	174	11.4		H					100				100			M						5.0	65	666	6		60	300
EF0202	10/12/20	174	11.4		H		100								100		M						8.0	55	487	6		60	300
EF0203	10/12/20	174	11.4		H		100							100			M						5.0	100	1043	6		60	400
EF0204	10/13/20	174	11.4	8.5	H		100							100			S						4.0	100	846	6		60	400
Beach Seine																													
BS0201	10/12/20	174	11.4	8.3	H										50	50	M						4.5	70					
BS0202	10/12/20	174	11.4		H			100						100			M						4.5	50					
BS0203	10/12/20	174	11.4		H					100				100			M						4.5	35					
BS0204	10/12/20	174	11.4		H						100			100			M						4.5	50					
BS0205	10/12/20	174	11.4		H		100							100			S						4.5	50					
BS0206	10/12/20	174	11.4		H						100				100		M						4.5	30					
BS0207	10/13/20	174	11.4		H						100			100			M						4.5	30					
Boat Electrofish																													
ES0201	10/12/20	168	10		H		100											50	50				6.0	1100	858		5.5	60	530
ES0202	10/12/20	168	10		H		100												100				6.0	800	413		5.5	60	530
ES0203	10/12/20	168	10		H		100													100			6.0	600			5.5	60	530
ES0204	10/12/20	230	10	6.0	H		100											100					6.0	500	379		5.5	60	530
ES0205	10/12/20	165	11.4		H																	100	6.0	500	569		5.5	60	530
ES0206	10/12/20	165	11.4		H		100										M		100				6.0	900	586		5.5	60	530
ES0207	10/12/20	165	11.4		H		100										M		100				6.0	600	377		5.5	60	530
ES0208	10/12/20	165	11.4		H			100									M			100			6.0	500	752		5.5	60	530
ES0209	10/12/20	181	7.3		H														100				6.0	1100	511		5.5	60	530
ES0210	10/12/20	181	7.3		H													100					6.0	700	341		5.5	60	530

See Appendix B for definitions

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAC	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
3																													
Backpack Electrofish																													
EF0301	10/13/20	438	7.4	8.6	H		100								100		M						3.0	100	983	6		60	400
EF0302	10/13/20	194	11.3		H		100							100			M						3.0	80	1107	6		60	300
EF0303	10/14/20	194	11.3		H		100							100			S						5.0	80	653	6		60	400
Beach Seine																													
BS0301	10/13/20	166	11.2		H					100						100	M						4.5	35					
BS0302	10/13/20	166	11.2		H					100				100			M						4.5	45					
BS0303	10/13/20	193	11	8.3	H						100			100			M						4.5	40					
BS0304	10/13/20	174	11.9	8.4	H						100			100			S						4.5	75					
BS0305	10/13/20	174	11.9		H					100				100			M						4.5	30					
BS0306	10/14/20	194	11.3	8.5	H											100	M						4.5	50					
Boat Electrofish																													
ES0301	10/13/20	165	11.4		H		100											100					6.0	600	835		5.5	60	530
ES0302	10/13/20	165	11.4		H		100												100				6.0	900	726		5.5	60	530
ES0303	10/13/20	165	11.4		H		100													100			6.0	300	658		5.5	60	530
ES0304	10/13/20	165	11.4		H		100											100					6.0	600	453		5.5	60	530
ES0305	10/13/20	165	11.4		H		100												100				6.0	800	773		5.5	60	530
ES0306	10/13/20	166	11.2		H		100												100				6.0	1400	744		5.5	60	530
ES0307	10/13/20	166	11.2		H		100											100					6.0	700	473		5.5	60	530
ES0308	10/13/20	166	11.2		H		100											100					6.0	900	971		5.5	60	530
ES0309	10/13/20	166	11.2		H		100												100				6.0	1100	845		5.5	60	530
Gill Net																													
GN0301	10/14/20	194	11.3		H						100			100			M						2.4	15	11700				

See Appendix B for definitions

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAC	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
4																													
Backpack Electrofish																													
EF0401	10/14/20	180	10.2		H					100				100			M						10.0	40	646	6		60	300
EF0402	10/16/20	180	10.2		H										100		M						3.0	40	457	6		60	300
Beach Seine																													
BS0401	10/14/20	184	8.9	8.5	H						100			100			M						4.5	65					
BS0402	10/14/20	180	10.2		H						100			100			M						4.5	75					
BS0403	10/14/20	180	10.2		H					100				100			M						4.5	30					
BS0404	10/14/20	180	10.2		H					100				100			M						4.5	30					
BS0405	10/14/20	180	10.2		H						100			100			M						4.5	25					
BS0406	10/14/20	180	10.2		M						100			100			M						4.5	40					
BS0407	10/16/20	180	10.2	8.5	H						100				100		M						4.5	30					
Boat Electrofish																													
ES0401	10/14/20	166	11.2		H		100											100					6.0	1000	906		5.5	60	530
ES0402	10/14/20	166	11.2		H												M					100	6.0	800	644		5.5	60	354
ES0403	10/14/20	438	7.4		H		100										M	100					6.0	600	538		5.5	60	530
ES0404	10/14/20	166	11.2		H		100												100				6.0	1700	683		5.5	60	530
ES0405	10/14/20	166	11.2		H		100												100				6.0	700	579		5.5	60	530
ES0406	10/14/20	184	8.9		H																	100	6.0	300	549		5.5	60	530
ES0407	10/14/20	184	8.9		H		100												100				6.0	800	528		5.5	60	530
Gill Net																													
GN0401	10/16/20	180	10.2		H						100			100			M						2.4	15	14400				

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAR	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
5																													
Backpack Electrofish																													
EF0501	10/16/20	245	6.3	8.5	H					100					100		M						6.0	60	774	6		60	300
EF0502	10/16/20	192	9.5		H		100							100			M						6.0	80	857	6		60	300
EF0503	10/15/20	192	9.5		H		100							100			M						3.0	100	780	6		60	300
Beach Seine																													
BS0501	10/16/20	312	4.8	8.2	H						100			100			M						4.5	40					
BS0502	10/16/20	192	9.5		H						100			100			M						4.5	40					
BS0503	10/16/20	192	9.5		H						100			100			M						4.5	70					
BS0504	10/16/20	192	9.5		H										100		M						4.5	35					
BS0505	10/15/20	192	9.5		H					100				100			M						4.5	45					
Boat Electrofish																													
ES0501	10/16/20	184	8.9		H		100												100				6.0	1900	1277		5.5	60	530
ES0502	10/16/20	184	8.9		H		100											100					6.0	1000	859		5.5	60	530
ES0503	10/16/20	184	8.9		H		100												100				6.0	1200	686		5.5	60	530
ES0504	10/16/20	184	8.9		H		100											100					6.0	800	497		5.5	60	530
ES0505	10/16/20	184	8.9		H		100											100					6.0	400	276		5.5	60	530
ES0506	10/16/20	192	9.5		H																	100	6.0	1000	928		5.5	60	530
ES0507	10/16/20	192	9.5		H		100												100				6.0	800	579		5.5	60	530
ES0508	10/16/20	192	9.5		H		100											100					6.0	400	287		5.5	60	530
ES0509	10/16/20	192	9.5		H		100												100				6.0	900	798		5.5	60	530
Gill Net																													
GN0501	10/15/20	192	9.5		H						100			100			M						2.4	15	14688				

See Appendix B for definitions

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area	Method	Cond.	Temp	pH	Clarity	Instream Habitat (%)						Bank Habitat (%)					Channel	Mesohabitat (%)				Effort			Electrofisher			
Site	Date	(us/cm	(C)			Pool	Run	Flat	RfRa	BW	Snye	A1	A2	A3	D1	D2	Type	SFN	SFC	SSN	BACCON	Width	Dist.	Sec	MIS	A	Hz	V
6																												
Backpack Electrofish																												
EF0601	10/15/20	307	6.4	8.4	H											100	M					8.0	75	977	6		60	300
EF0602	10/15/20	187	8.8		H		100							100			M					5.0	80	653	6		60	300
EF0603	10/18/20	187	8.8		H		100							100			M					6.0	80	646	6		60	300
Beach Seine																												
BS0601	10/15/20	192	9.5	8.4	H						100			100			S					4.5	50					
BS0602	10/15/20	307	6.4	8.4	H											100	M					4.5	15					
BS0603	10/15/20	187	8.8	8.7	H					100				100			M					4.5	40					
BS0604	10/15/20	187	8.8		H					100				100			M					4.5	40					
BS0605	10/15/20	187	8.8		H					100				100			M					4.5	40					
BS0606	10/18/20	187	8.8		H						100			100			M					4.5	75					
Boat Electrofish																												
ES0601	10/15/20	192	9.5		H		100											100				6.0	1000	603		5.5	60	530
ES0602	10/15/20	192	9.5		H		100											100				6.0	600	581		5.5	60	530
ES0603	10/15/20	192	9.5		H		100												100			6.0	1400	844		5.5	60	530
ES0604	10/15/20	192	9.5		H		100											100				6.0	500	598		5.5	60	530
ES0605	10/15/20	192	9.5		H		100											100				6.0	1100	693		5.5	60	530
ES0606	10/15/20	187	8.8		H		100				100										100	6.0	500	689		5.5	60	530
ES0607	10/15/20	187	8.8		H		100												100			6.0	1100	618		5.5	60	530
ES0608	10/15/20	187	8.8		H		100											100				6.0	600	661		5.5	60	530
ES0609	10/15/20	187	8.8		H		100												100			6.0	1000	1312		5.5	60	530
Gill Net																												
GN0601	10/18/20	187	8.8		H						100			100			S					2.4	15	19800				

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAC	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
7																													
Backpack Electrofish																													
EF0701	10/18/20	190	8.3		H										100		M						3.0	60	596	6		60	400
EF0702	10/18/20	190	8.3	8.6	H		100							100			M						3.0	100	778	6		60	400
EF0703	10/17/20	186	9.1	8.8	H		100							100			M						4.0	100	774	6		60	400
Beach Seine																													
BS0701	10/18/20	455	1.5		H					100					100		M						4.5	50					
BS0702	10/17/20	190	8.3		H						100			100			M						4.5	50					
BS0703	10/18/20	176	8.9		H					100				100			S						4.5	45					
BS0704	10/18/20	176	8.9		H		100							100			S						4.5	50					
BS0705	10/18/20	176	8.9		H						100					100	M						4.5	45					
BS0706	10/18/20	176	8.9		H			100						100			M						4.5	30					
Boat Electrofish																													
ES0701	10/18/20	187	8.8		H		100											100					6.0	1200	912		5.5	60	530
ES0702	10/18/20	187	8.8		H		100												100				6.0	1100	678		5.5	60	530
ES0703	10/18/20	187	8.8		H		100													100			6.0	800	732		5.5	60	530
ES0704	10/18/20	187	8.8		H		100											100					6.0	800	585		5.5	60	530
ES0705	10/18/20	187	8.8		H		100												100				6.0	1500	904		5.5	60	530
ES0706	10/18/20	455	1.5		H																	100	6.0	900	1330		5.5	60	530
ES0707	10/18/20	176	8.9		H		100												100				6.0	900	859		5.5	60	530
ES0708	10/18/20	176	8.9		H		100												100				6.0	1200	736		5.5	60	530
Gill Net																													
GN0701	10/17/20	190	8.3		H						100			100									2.4	15	12600				

See Appendix B for definitions

Appendix C Table C2. Sampling conditions during the small fish survey in the Peace River, 2006.

Area / Site	Method / Date	Cond. (us/cm)	Temp (C)	pH	Clarity	Instream Habitat (%) Pool	Run	Flat	RfRa	BW	Snye	Bank Habitat (%) A1	A2	A3	D1	D2	Channel Type	Mesohabitat (%) SFN	SFC	SSN	BAC	CON	Effort Width	Dist.	Sec	Electrofisher MIS	A	Hz	V
8																													
Backpack Electrofish																													
EF0801	10/17/20	212	6.6	8.6	H		100							100			M						3.0	100	676	6		60	400
EF0802	10/17/20	191	8		H		100							100			M						6.0	90	794	6		60	400
EF0803	10/13/20	191	8	8.5	H										100		M						5.0	80	666	6		60	400
Beach Seine																													
BS0801	10/17/20	473	1.2		H					100					100		M						4.5	40					
BS0802	10/17/20	191	8		H						100			100			M						4.5	50					
BS0803	10/17/20	191	8		H						100			100			M						4.5	65					
BS0804	10/17/20	191	8		H					100						100	M						4.5	55					
BS0805	10/11/20	191	8		H					100				100			M						4.5	30					
Boat Electrofish																													
ES0801	10/16/20	176	8.9		H		100											100					6.0	500	316		5.5	60	530
ES0802	10/16/20	176	8.9		H		100											100					6.0	1100	1033		5.5	60	530
ES0803	10/16/20	176	8.9		H			100												100			6.0	900			5.5	60	530
ES0804	10/16/20	176	8.9		H		100												100				6.0	1500	1142		5.5	60	530
ES0805	10/16/20	176	8.9		H		100												100				6.0	800	823		5.5	60	530
ES0806	10/16/20	181	7.3		H		100											100					6.0	900	686		5.5	60	530
ES0807	10/16/20	473	1.2		H																	100	6.0	400	900		5.5	60	354
ES0808	10/16/20	181	7.3		H		100												100				6.0	1100	542		5.5	60	530
Gill Net																													
GN0801	10/11/20	191	8		H						100			100			M						2.4	15	9288				

See Appendix B for definitions

Appendix C Table C3. Habitat parameters measured during the small fish survey in the Halfway River, 2006.

Area / Site	Method	Substrate (%)							Cover (%)					Algal Cover	D90 (cm)	Embed	Compaction	Depth (m)			Velocity (m/s)		
		Om	Si	Sa	Gr	Co	Bo	Be	Ovh	Rock	Turb	LOD	AqV					Near	Mid	Far	Near	Mid	Far
Lower																							
	Backpack Electrofis																						
EF17					35	65				5					16	H	H	0.16	0.27	0.37	0.00	0.14	0.27
EF18						70	30			45					35	L	H	0.12	0.26	0.41	0.10	0.37	0.79
EF19					10	70	20			25					25	M	H	0.08	0.15	0.22	0.44	0.31	0.47
EF20				20	65	15				1					6	H	M	0.12	0.20	0.30	0.06	0.19	0.32
EF21						75	25			50					27	M	H	0.17	0.23	0.36	0.15	0.63	0.71
EF22				5	20	65	10			15					22	H	H	0.14	0.31	0.43	0.29	0.40	0.31
EF23				5		60	35			60					40	H	H	0.14	0.28	0.42	0.00	0.00	0.01
EF24				20	60	20				1				1	6	H	H	0.17	0.27	0.35	0.05	0.16	0.26
EF25				35	10	50	5			5					22	H	H	0.12	0.26	0.38	0.06	0.18	0.34
EF26				5	30	50	15			20					18	M	M	0.12	0.22	0.36	0.15	0.41	0.61
EF27				20	70	10				1					5	H	M	0.19	0.26	0.34	0.11	0.10	0.14
EF28				50		40	10			2					8	H	M	0.14	0.24	0.30	0.17	0.20	0.32
EF29					5	30	65			40					38	L	L	0.13	0.30	0.37	0.00	0.02	0.06
	Beach Seine																						
BS07				50	10	40				5	5							0.26	0.36	0.44	0.00	0.00	0.00
BS08			100											65				0.38	0.44	0.35	0.00	0.00	0.00
BS09				60	35	5				1					3	H	H	0.26	0.33	0.38	0.00	0.00	0.00

See Appendix B for definitions

Appendix C Table C3. Habitat parameters measured during the small fish survey in the Halfway River, 2006.

Area / Site	Method	Substrate (%)							Cover (%)					Algal Cover	D90 (cm)	Embed	Compaction	Depth (m)			Velocity (m/s)		
		Om	Si	Sa	Gr	Co	Bo	Be	Ovh	Rock	Turb	LOD	AqV					Near	Mid	Far	Near	Mid	Far
Upper																							
Backpack Electrofis																							
EF01				5	15	80				5					15	M	L	0.10	0.21	0.30	0.18	0.37	0.35
EF02				5	10	50	35			35				1	30	L	L	0.17	0.26	0.34	0.18	0.23	0.34
EF03				5	10	70	15			15					8	L	L	0.13	0.20	0.27	0.41	0.44	0.50
EF04			5		15	50	30			15					15	L	L	0.18	0.21	0.35	0.31	0.42	0.67
EF05					10	85	5			10				1	7	L	L	0.19	0.20	0.30	0.15	0.33	0.46
EF06				20	50	30				2				1	6	H	L	0.19	0.23	0.37	0.00	0.04	0.04
EF07					5	35	60			60					26	L	L	0.23	0.26	0.30	0.17	0.27	0.32
EF08			40		15	30	15			1					20	H	L	0.16	0.34	0.42	0.00	0.00	0.00
EF09					40	40	10			15					16	L	L	0.24	0.32	0.29	0.35	0.43	0.55
EF10				25		75				5					16	H	H	0.12	0.11	0.17	0.00	0.00	0.00
EF11					10	75	15			25					22	L	L	0.10	0.24	0.38	0.07	0.17	0.29
EF12				10	40	20	30			25					35	H	H	0.17	0.25	0.28	0.24	0.34	0.46
EF13					15	75	25			10					16	M	M	0.34	0.35	0.48	0.00	0.01	0.00
EF14					40	60				35					20	L	L	0.15	0.24	0.26	0.44	0.56	0.57
EF15					10	65	25			40					32	L	L	0.19	0.21	0.19	0.42	0.50	0.39
EF16				5	10	70	15								25	L	L	0.15	0.24	0.27	0.03	0.08	0.28
Beach Seine																							
BS01			10	90									80	75				1.20	0.80	0.20	0.00	0.00	0.00
BS02				20	10	70							80	85	12	L	M	0.39	0.47	0.49	0.00	0.00	0.00
BS03			90			10							5	20				0.30	0.35	0.45	0.00	0.00	0.00
BS04				5	10	80	5			5				20	10	L	L	0.20	0.35	0.40	0.00	0.00	0.00
BS06				100							30							0.58	0.82	0.64	0.00	0.00	0.00

See Appendix B for definitions

Appendix C Table C4. Habitat parameters measured during the small fish survey in the Peace River, 2006.

Area / Site	Method	Substrate (%)							Cover (%)					Algal Cover	D90 (cm)	Embed	Compaction	Depth (m)			Velocity (m/s)		
		Om	Si	Sa	Gr	Co	Bo	Be	Ovh	Rock	Turb	LOD	AqV					Near	Mid	Far	Near	Mid	Far
1																							
	Backpack Electrofis																						
EF0101				10	40	50							2		25	M	H	0.13	0.20	0.35	0.12	0.16	0.30
EF0102					5	80	15			15					24	L	H	0.16	0.28	0.46	0.02	0.23	0.28
EF0103		10			40	50							10		17			0.17	0.30	0.45	0.00	0.06	0.10
	Beach Seine																						
BS0101				85	5	10							2	5	14	H	H	0.22	0.35	0.28	0.00	0.00	0.00
BS0102				5	15	75	5						15	5	18	L	M	0.62	0.98	0.95	0.00	0.00	0.01
BS0103				10	30	50	10			15				5	26	H	H	0.66	0.75	0.95	0.00	0.00	0.01
BS0104				20	15	60	5			5			50	5	20	M	H	0.37	0.41	0.64	0.03	0.00	0.01
BS0105		5		10	20	60	5			2			30	5	23	M	M	0.23	0.37	0.52	0.00	0.00	0.00
BS0106		80				15	5						15	5	28	H	H	0.78	0.78	0.53	0.00	0.00	0.00
BS0107				40	10	40	10			25		30		5	80			0.62	0.88	0.70	0.00	0.00	0.00
2																							
	Backpack Electrofis																						
EF0201				5	20	70	5			2					22	L	M	0.30	0.20	0.10	0.23	0.12	0.09
EF0202				5	30	60	5						5		16	M	L	0.31	0.38	0.17	0.12	0.30	0.14
EF0203		20			5	70	5						30		24			0.12	0.30	0.55	0.07	0.12	0.36
EF0204		15		5	30	45	5								18	M	M	0.17	0.35	0.44	0.05	0.24	0.37
	Beach Seine																						
BS0201				45	10	40	5							5	26	M	H	0.50	0.54	0.45	0.00	0.02	0.01
BS0202		10	70	15		5							2	5	21	H	H	0.12	0.20	0.27	0.05	0.03	0.05
BS0203		10	80	10								10	20	5		H	H	0.25	0.75	0.40	0.00	0.00	0.00
BS0204				15	20	60	5						10	5	17	M	H	0.95	1.05	1.04	0.03	0.01	0.00
BS0205				15	20	65							2	5	13	H	H	0.73	0.77	0.85	0.11	0.21	0.22
BS0206				10	30	60							2	5	10	L	L	0.26	0.66	1.18	0.00	0.05	0.19
BS0207				85	5	10							15	5	8	H	H	0.51	0.63	0.56	0.00	0.00	0.00

See Appendix B for definitions

Appendix C Table C4. Habitat parameters measured during the small fish survey in the Peace River, 2006.

Area / Site	Method	Substrate (%)							Cover (%)					Algal Cover	D90 (cm)	Embed	Compaction	Depth (m)			Velocity (m/s)		
		Om	Si	Sa	Gr	Co	Bo	Be	Ovh	Rock	Turb	LOD	AqV					Near	Mid	Far	Near	Mid	Far
3																							
	Backpack Electrofis																						
EF0301					75	20	5			5				20	15	L	L	0.14	0.24	0.37	0.01	0.08	0.18
EF0302				5	30	65							40	5	14	L	L	0.13	0.22	0.30	0.24	0.30	0.44
EF0303				5	35	60							5		15	M	M	0.11	0.10	0.16	0.03	0.05	0.05
	Beach Seine																						
BS0301				65		35								5	16	H	H	0.26	0.34	0.38	0.01	0.00	0.00
BS0302		5			20	70	5			5				20	27	L	H	0.23	0.27	0.31	0.05	0.10	0.22
BS0303		30			10	60							40	5	10	M	H	0.17	0.13	0.13	0.02	0.01	0.05
BS0304				5	20	75							20	5	8	L	M	0.34	0.40	0.42	0.01	0.00	0.00
BS0305			80	20									30	5		H	H	0.16	0.25	0.38	0.03	0.03	0.09
BS0306			65	10	10	15							10	5	8	H	H	0.52	0.84	0.67	0.00	0.01	0.02
	Gill Net																						
GN0301				60	20	20								5		H	H	1.30	1.50	1.80			
4																							
	Backpack Electrofis																						
EF0401					20	80									14	L	M	0.20	0.26	0.27	0.03	0.05	0.04
EF0402			30	20		50						5			11	H	H	0.25	0.37	0.30	0.00	0.00	0.00
	Beach Seine																						
BS0401			10	55		35							2	20	11	M	H	0.33	0.36	0.42	0.01	0.01	0.02
BS0402				65	10	25								5	12	M	H	0.49	0.60	0.60	0.00	0.01	0.02
BS0403			50	30	20								15	5	11	H	H	0.44	0.56	0.64	0.01	0.01	0.01
BS0404			75	10		15						2	15	5	12	H	H	0.36	0.46	0.55	0.00	0.01	0.01
BS0405			75	25								5	40	5		H	H	0.46	0.68	0.96	0.00	0.00	0.11
BS0406					40	60							5	5	11	L	M	0.46	0.44	0.44	0.00	0.00	0.00
BS0407				5	20	75						10	20	5	11	L	L	0.30	0.48	0.53	0.00	0.00	0.00
	Gill Net																						
GN0401			70	30									10	5				0.30	0.80	0.40			

See Appendix B for definitions

Appendix C Table C4. Habitat parameters measured during the small fish survey in the Peace River, 2006.

Area / Site	Method	Substrate (%)							Cover (%)					Algal Cover	D90 (cm)	Embed	Compaction	Depth (m)			Velocity (m/s)		
		Om	Si	Sa	Gr	Co	Bo	Be	Ovh	Rock	Turb	LOD	AqV					Near	Mid	Far	Near	Mid	Far
5																							
	Backpack Electrofis																						
	EF0501			5	15	80								20	9	M	L	0.13	0.09	0.07	0.00	0.00	0.00
	EF0502			10	25	65								5	13	L	L	0.14	0.16	0.23	0.04	0.02	0.23
	EF0503			10	20	70								20	14	M	M	0.18	0.26	0.29	0.02	0.01	0.03
	Beach Seine																						
	BS0501		25	75									10	5		H	H	0.50	0.80	0.95	0.00	0.00	0.00
	BS0502		20	75		5							10	5	12	H	H	0.59	0.73	0.93	0.00	0.00	0.00
	BS0503			10	20	65	5			5			2	5	22	M	M	0.30	0.37	0.37	0.00	0.00	0.00
	BS0504			10	20	70						2		5		M	L	0.54	0.44	0.53	0.01	0.01	0.02
	BS0505			20	25	55							5	20	13	M	M	0.49	0.49	0.57	0.00	0.00	0.00
	Gill Net																						
	GN0501		25	75										5		H	H	1.90		2.20			
6																							
	Backpack Electrofis																						
	EF0601			15	15	70				5				5	19	M	M	0.18	0.24	0.32	0.05	0.33	0.34
	EF0602				35	65								20	12	L	M	0.14	0.18	0.24	0.04	0.08	0.17
	EF0603			10	30	60								5	14	L	M	0.12	0.08	0.22	0.03	0.15	0.13
	Beach Seine																						
	BS0601		60	10	10	20							2	5	9	H	H	0.25	0.35	0.50	0.00	0.00	0.01
	BS0602		70	25		5						20		5	7	H	H	0.30	0.44	0.54	0.00	0.00	0.00
	BS0603		20	80									2	5		H	H	0.27	0.37	0.36	0.00	0.00	0.00
	BS0604			10	40	50							2	5	9	M	M	0.22	0.32	0.30	0.02	0.00	0.00
	BS0605		20	80										5		H	H	0.15	0.64	0.49	0.00	0.00	0.00
	BS0606		25	75									2	5		H	H	0.26	0.43	0.48	0.00	0.00	0.00
	Gill Net																						
	GN0601		70	10										5				1.00		2.00			

See Appendix B for definitions

Appendix C Table C4. Habitat parameters measured during the small fish survey in the Peace River, 2006.

Area / Site	Method	Substrate (%)							Cover (%)					Algal Cover	D90 (cm)	Embed	Compaction	Depth (m)			Velocity (m/s)		
		Om	Si	Sa	Gr	Co	Bo	Be	Ovh	Rock	Turb	LOD	AqV					Near	Mid	Far	Near	Mid	Far
7																							
	Backpack Electrofis																						
EF0701					20	80								5	18	L	L	0.07	0.15	0.16	0.03	0.09	0.03
EF0702					40	60								5	11	L	L	0.07	0.24	0.40	0.00	0.13	0.17
EF0703				10	40	50								5		M	M	0.38	0.30	0.16	0.38	0.25	0.21
	Beach Seine																						
BS0701			10	10	30	50								5	17	M	M	0.58	0.36	0.37	0.00	0.00	0.00
BS0702			70	10		20								5	13	H	H	0.30	0.42	0.48	0.00	0.01	0.02
BS0703			10	55	20	15								5	10	M	M	0.44	0.77	0.96	0.08	0.01	0.00
BS0704			50	10	10	30								5	11	M	M	0.11	0.23	0.38	0.03	0.08	0.12
BS0705			70	10		20							2	5	15	H	M	0.20	0.16	0.13	0.00	0.00	0.00
BS0706			70	30										5		H	H	0.22	0.30	0.47	0.03	0.08	0.16
	Gill Net																						
GN0701														5				3.00		3.00			
8																							
	Backpack Electrofis																						
EF0801				5	10	85								5	13	L	M	0.06	0.13	0.20	0.00	0.09	0.13
EF0802			60	5	5	30							2	5	17	H	H	0.11	0.17	0.23	0.10	0.11	0.15
EF0803			15	5	10	55	5			5				5	18	M	L	0.15	0.23	0.33	0.00	0.00	0.00
	Beach Seine																						
BS0801			45	5	10	35	5			2				5	22	M	M	0.50	0.50	0.31	0.10	0.05	0.00
BS0802			40	5	5	50						5		5	15	M	M	0.22	0.16	0.43	0.00	0.00	0.00
BS0803			80	10		10							10	5	11	H	H	0.37	0.81	0.65	0.00	0.00	0.00
BS0804			70	30									10	5		H	H	0.05	0.28	0.18	0.00	0.00	0.02
BS0805			60	15	5	20								5	16	H	H	0.28	0.30	0.30	0.01	0.00	0.00
	Gill Net																						
GN0801				70		25		5						5		H	H	1.30		1.70			

See Appendix B for definitions

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Appendix D
Fish Catch Rates

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Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Lower									
	Backpack Electrofish								
		EF17	8/13/2006	3.0	100	324			
							Longnose dace	20	20.00
							Longnose sucker	1	1.00
							Redside shiner	5	5.00
							Slimy sculpin	5	5.00
		EF18	8/13/2006	8.0	88	480			
							Longnose dace	31	35.23
							Longnose sucker	5	5.68
							Redside shiner	7	7.95
							Slimy sculpin	4	4.55
		EF19	8/13/2006	5.0	130	438			
							Longnose dace	41	31.54
							Longnose sucker	5	3.85
							Northern pike	1	0.77
							Slimy sculpin	16	12.31
		EF20	8/13/2006	5.0	94	370			
							Longnose dace	26	27.66
							Longnose sucker	13	13.83
							Redside shiner	2	2.13
							Slimy sculpin	2	2.13
		EF21	8/13/2006	5.0	115	391			
							Longnose dace	25	21.74
							Longnose sucker	5	4.35
							Mountain whitefish	1	0.87
							Slimy sculpin	3	2.61
		EF22	8/13/2006	3.0	100	380			
							Lake chub	1	1.00
							Longnose dace	57	57.00
							Longnose sucker	4	4.00
							Redside shiner	4	4.00
							Slimy sculpin	2	2.00
		EF23	8/13/2006	7.0	65	298			
							Largescale sucker	1	1.54
							Longnose dace	2	3.08
							Longnose sucker	1	1.54
							Slimy sculpin	2	3.08
		EF24	8/13/2006	7.0	124	501			
							Longnose dace	33	26.61
							Longnose sucker	4	3.23
							Northern pikeminnow	1	0.81
							Redside shiner	8	6.45
							Slimy sculpin	3	2.42
		EF25	8/13/2006	5.0	95	372			
							Largescale sucker	1	1.05
							Longnose dace	22	23.16
							Longnose sucker	1	1.05
							Redside shiner	1	1.05
							Slimy sculpin	6	6.32

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Lower									
	Backpack Electrofish								
		EF26	8/14/2006	5.0	100	468			
							Burbot	1	1.00
							Longnose dace	19	19.00
							Longnose sucker	4	4.00
							Redside shiner	4	4.00
							Slimy sculpin	8	8.00
		EF27	8/14/2006	5.0	100	477			
							Longnose dace	23	23.00
							Longnose sucker	1	1.00
							Redside shiner	2	2.00
							Slimy sculpin	4	4.00
		EF28	8/14/2006	5.0	100	389			
							Longnose dace	20	20.00
							Longnose sucker	2	2.00
		EF29	8/14/2006	5.0	45	379			
							Longnose dace	11	24.44
							Redside shiner	12	26.67
							Slimy sculpin	10	22.22
	Beach Seine								
		BS07	8/12/2006	4.0	20				
							Lake chub	5	6.25
							Largescale sucker	1	1.25
							Longnose sucker	20	25.00
							Northern pikeminnow	15	18.75
							Redside shiner	52	65.00
		BS08	8/14/2006	4.0	35				
							Largescale sucker	23	16.43
							Longnose dace	3	2.14
							Longnose sucker	283	202.14
							Northern pikeminnow	3	2.14
							Redside shiner	103	73.57
							Slimy sculpin	1	0.71
		BS09	8/14/2006	4.0	35				
							Lake chub	9	6.43
							Largescale sucker	25	17.86
							Longnose dace	6	4.29
							Longnose sucker	30	21.43
							Redside shiner	54	38.57
	Boat Electrofish								
		ES15	8/12/2006	6.0	1000	940			
							Lake chub	1	1.00
							Largescale sucker	4	4.00
							Longnose dace	5	5.00
							Longnose sucker	7	7.00
							Mountain whitefish	20	20.00
							Northern pikeminnow	3	3.00
							Redside shiner	20	20.00
							Slimy sculpin	1	1.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Lower									
	Boat Electrofish								
							Spottail shiner	1	1.00
		ES16	8/13/2006	6.0	1000	1461			
							Arctic grayling	1	1.00
							Lake chub	2	2.00
							Largescale sucker	2	2.00
							Longnose dace	3	3.00
							Longnose sucker	35	35.00
							Mountain whitefish	34	34.00
							Northern pike	1	1.00
							Northern pikeminnow	5	5.00
							Redside shiner	5	5.00
							Slimy sculpin	13	13.00
		ES17	8/13/2006	6.0	1000	1723			
							Lake chub	4	4.00
							Longnose dace	4	4.00
							Longnose sucker	19	19.00
							Mountain whitefish	25	25.00
							Northern pikeminnow	1	1.00
							Redside shiner	6	6.00
							Slimy sculpin	2	2.00
							Spottail shiner	4	4.00
		ES18	8/13/2006	6.0	1000	1734			
							Bull trout	1	1.00
							Flathead chub	1	1.00
							Lake chub	18	18.00
							Largescale sucker	8	8.00
							Longnose dace	1	1.00
							Longnose sucker	9	9.00
							Mountain whitefish	23	23.00
							Northern pikeminnow	1	1.00
							Redside shiner	5	5.00
		ES19	8/13/2006	6.0	800	1083			
							Lake chub	4	5.00
							Largescale sucker	7	8.75
							Longnose dace	1	1.25
							Longnose sucker	6	7.50
							Mountain whitefish	12	15.00
							Northern pikeminnow	2	2.50
							Redside shiner	2	2.50
							Spottail shiner	1	1.25
		ES20	8/13/2006	6.0	1000	1479			
							Flathead chub	1	1.00
							Lake chub	1	1.00
							Largescale sucker	42	42.00
							Longnose dace	1	1.00
							Longnose sucker	3	3.00
							Mountain whitefish	10	10.00
							Northern pikeminnow	2	2.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Lower									
	Boat Electrofish								
							Redside shiner	4	4.00
		ES21	8/13/2006	6.0	1000	906			
							Arctic grayling	1	1.00
							Lake chub	1	1.00
							Largescale sucker	1	1.00
							Longnose dace	6	6.00
							Longnose sucker	13	13.00
							Mountain whitefish	32	32.00
							Redside shiner	5	5.00
							Slimy sculpin	1	1.00
		ES22	8/14/2006	6.0	1000	1993			
							Largescale sucker	7	7.00
							Longnose dace	2	2.00
							Longnose sucker	5	5.00
							Mountain whitefish	43	43.00
							Redside shiner	4	4.00
							Slimy sculpin	3	3.00
		ES23	8/14/2006	6.0	1000	2776			
							Lake chub	2	2.00
							Largescale sucker	10	10.00
							Longnose sucker	8	8.00
							Mountain whitefish	4	4.00
							Northern pikeminnow	4	4.00
							Redside shiner	15	15.00
							Slimy sculpin	1	1.00
							Spottail shiner	1	1.00
		ES24	8/14/2006	6.0	1000	1371			
							Lake chub	2	2.00
							Largescale sucker	19	19.00
							Longnose dace	6	6.00
							Longnose sucker	12	12.00
							Mountain whitefish	25	25.00
							Northern pikeminnow	1	1.00
							Redside shiner	11	11.00
							Slimy sculpin	2	2.00
		ES25	8/14/2006	6.0	900	974			
							Largescale sucker	1	1.11
							Longnose dace	1	1.11
							Longnose sucker	3	3.33
							Mountain whitefish	5	5.56
							Northern pikeminnow	1	1.11
							Redside shiner	19	21.11
							Slimy sculpin	2	2.22
							Spottail shiner	1	1.11
Upper									
	Backpack Electrofish								
		EF01	8/10/2006	5.0	100	648			
							Largescale sucker	1	1.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort			Species	Number	CPUE
				Wid (m)	Dist (m)	Seconds			
Upper									
	Backpack Electrofish								
							Longnose dace	60	60.00
							Longnose sucker	1	1.00
							Northern pikeminnow	1	1.00
							Slimy sculpin	3	3.00
		EF02	8/10/2006	5.0	100	616			
							Lake chub	1	1.00
							Largescale sucker	5	5.00
							Longnose dace	19	19.00
							Longnose sucker	12	12.00
							Redside shiner	1	1.00
							Slimy sculpin	16	16.00
		EF03	8/11/2006	5.0	100	406			
							Lake chub	1	1.00
							Longnose dace	25	25.00
							Longnose sucker	5	5.00
							Redside shiner	1	1.00
							Slimy sculpin	6	6.00
		EF04	8/11/2006	5.0	100	337			
							Largescale sucker	1	1.00
							Longnose dace	15	15.00
							Redside shiner	2	2.00
							Slimy sculpin	8	8.00
		EF05	8/11/2006	5.0	100	341			
							Longnose dace	5	5.00
							Longnose sucker	12	12.00
							Redside shiner	3	3.00
							Slimy sculpin	4	4.00
		EF06	8/11/2006	5.0	90	334			
							Longnose dace	19	21.11
							Longnose sucker	2	2.22
		EF07	8/11/2006	5.0	100	488			
							Largescale sucker	1	1.00
							Longnose dace	18	18.00
							Longnose sucker	7	7.00
							Slimy sculpin	25	25.00
		EF08	8/11/2006	5.0	100	327			
							Longnose dace	2	2.00
		EF09	8/12/2006	5.0	100	319			
							Longnose dace	35	35.00
							Longnose sucker	4	4.00
							Slimy sculpin	10	10.00
		EF10	8/12/2006	5.0	100	365			
							Lake chub	1	1.00
							Largescale sucker	1	1.00
							Longnose dace	12	12.00
							Longnose sucker	9	9.00
							Northern pikeminnow	6	6.00
							Redside shiner	21	21.00

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Upper									
	Backpack Electrofish								
							Slimy sculpin	1	1.00
		EF11	8/12/2006	5.0	95	342			
							Lake chub	1	1.05
							Longnose dace	23	24.21
							Longnose sucker	2	2.11
							Northern pikeminnow	6	6.32
							Redside shiner	16	16.84
							Slimy sculpin	6	6.32
		EF12	8/12/2006	5.0	100	331			
							Lake chub	1	1.00
							Longnose dace	5	5.00
							Longnose sucker	3	3.00
							Northern pikeminnow	8	8.00
							Redside shiner	9	9.00
							Slimy sculpin	1	1.00
		EF13	8/12/2006	5.0	90	438			
							Longnose dace	35	38.89
							Longnose sucker	7	7.78
							Redside shiner	9	10.00
							Slimy sculpin	5	5.56
		EF14	8/12/2006	5.0	100	332			
							Longnose dace	21	21.00
							Longnose sucker	1	1.00
							Slimy sculpin	11	11.00
		EF15	8/13/2006	5.0	92	488			
							Longnose dace	33	35.87
							Longnose sucker	1	1.09
							Prickly sculpin	3	3.26
							Redside shiner	1	1.09
							Slimy sculpin	9	9.78
		EF16	8/13/2006	5.0	100	362			
							Lake chub	1	1.00
							Largescale sucker	4	4.00
							Longnose dace	24	24.00
							Longnose sucker	7	7.00
							Northern pikeminnow	1	1.00
							Redside shiner	3	3.00
							Slimy sculpin	15	15.00
	Beach Seine								
		BS01	8/10/2006	4.0	15				
							Lake chub	61	101.67
							Largescale sucker	3	5.00
							Longnose dace	43	71.67
							Longnose sucker	13	21.67
							Redside shiner	1	1.67
		BS02	8/11/2006	4.0	50				
							Lake chub	11	5.50
							Largescale sucker	5	2.50

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Upper									
	Beach Seine								
							Longnose sucker	7	3.50
							Redside shiner	86	43.00
		BS03	8/11/2006	4.0	30				
							Largescale sucker	7	5.83
							Longnose sucker	2	1.67
							Redside shiner	144	120.00
		BS04	8/11/2006	4.0	30				
							Lake chub	1	0.83
							Largescale sucker	11	9.17
							Northern pikeminnow	2	1.67
							Redside shiner	129	107.50
							Slimy sculpin	4	3.33
		BS06	8/12/2006	4.0	15				
							Lake chub	1	1.67
							Largescale sucker	55	91.67
							Longnose dace	6	10.00
							Longnose sucker	184	306.67
							Northern pikeminnow	2	3.33
							Redside shiner	23	38.33
	Boat Electrofish								
		ES01	8/10/2006	6.0	1000	703			
							Longnose sucker	6	6.00
							Mountain whitefish	16	16.00
							Prickly sculpin	1	1.00
							Redside shiner	1	1.00
		ES02	8/10/2006	6.0	1000	2044			
							Arctic grayling	1	1.00
							Bull trout	2	2.00
							Longnose dace	2	2.00
							Longnose sucker	17	17.00
							Mountain whitefish	11	11.00
							Northern pikeminnow	2	2.00
							Prickly sculpin	6	6.00
							Rainbow trout	1	1.00
		ES03	8/10/2006	6.0	1000	2116			
							Arctic grayling	2	2.00
							Bull trout	3	3.00
							Flathead chub	1	1.00
							Largescale sucker	2	2.00
							Longnose dace	1	1.00
							Longnose sucker	11	11.00
							Mountain whitefish	21	21.00
							Redside shiner	8	8.00
		ES04	8/11/2006	6.0	1000	1228			
							Longnose sucker	3	3.00
							Mountain whitefish	10	10.00
							Prickly sculpin	1	1.00
							Slimy sculpin	1	1.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Upper									
	Boat Electrofish								
		ES05	8/11/2006	6.0	1000	1366			
							Longnose sucker	12	12.00
							Mountain whitefish	11	11.00
							Northern pikeminnow	1	1.00
							Prickly sculpin	1	1.00
							Slimy sculpin	3	3.00
		ES06	8/11/2006	6.0	1000	1304			
							Arctic grayling	1	1.00
							Largescale sucker	1	1.00
							Longnose sucker	7	7.00
							Mountain whitefish	5	5.00
							Redside shiner	2	2.00
		ES07	8/11/2006	6.0	1000	1632			
							Largescale sucker	5	5.00
							Longnose sucker	15	15.00
							Mountain whitefish	6	6.00
							Redside shiner	6	6.00
							Slimy sculpin	3	3.00
		ES08	8/11/2006	6.0	1000	1093			
							Largescale sucker	2	2.00
							Longnose sucker	8	8.00
							Mountain whitefish	4	4.00
							Redside shiner	6	6.00
							Slimy sculpin	1	1.00
		ES09	8/11/2006	6.0	1000	1189			
							Arctic grayling	1	1.00
							Largescale sucker	2	2.00
							Longnose dace	2	2.00
							Longnose sucker	2	2.00
							Mountain whitefish	3	3.00
							Northern pike	1	1.00
							Redside shiner	2	2.00
		ES10	8/12/2006	6.0	1000	1269			
							Largescale sucker	3	3.00
							Longnose dace	1	1.00
							Longnose sucker	6	6.00
							Mountain whitefish	15	15.00
							Redside shiner	1	1.00
							Slimy sculpin	1	1.00
		ES11	8/12/2006	6.0	1000	1801			
							Arctic grayling	1	1.00
							Burbot	1	1.00
							Lake chub	1	1.00
							Longnose dace	4	4.00
							Longnose sucker	10	10.00
							Mountain whitefish	16	16.00
							Slimy sculpin	6	6.00

Appendix D Table D1 Sampling effort, catch, and catch-per-unit-effort in the Halfway River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
Upper									
	Boat Electrofish								
		ES12	8/12/2006	6.0	1000	1456			
							Flathead chub	1	1.00
							Longnose dace	4	4.00
							Longnose sucker	9	9.00
							Mountain whitefish	8	8.00
							Northern pikeminnow	1	1.00
							Prickly sculpin	1	1.00
							Redside shiner	12	12.00
							Slimy sculpin	4	4.00
							Spottail shiner	1	1.00
		ES13	8/12/2006	6.0	1000	1736			
							Lake chub	1	1.00
							Largescale sucker	2	2.00
							Longnose dace	3	3.00
							Longnose sucker	8	8.00
							Mountain whitefish	25	25.00
							Northern pikeminnow	2	2.00
							Redside shiner	17	17.00
		ES14	8/12/2006	6.0	1000				
							Largescale sucker	14	14.00
							Longnose dace	3	3.00
							Longnose sucker	17	17.00
							Mountain whitefish	9	9.00
							Northern pikeminnow	5	5.00
							Redside shiner	25	25.00
							Slimy sculpin	1	1.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
1									
	Backpack Electrofish								
		EF0101	10/11/2006	3.0	100	897			
							Longnose sucker	2	2.00
							Prickly sculpin	1	1.00
		EF0102	10/11/2006	3.0	100	963			
							Prickly sculpin	3	3.00
		EF0103	10/12/2006	3.0	100	946			
							Lake chub	1	1.00
							Longnose sucker	9	9.00
							Prickly sculpin	2	2.00
							Slimy sculpin	4	4.00
							White sucker	6	6.00
	Beach Seine								
		BS0101	10/11/2006	4.5	33				
							None	0	0.00
		BS0102	10/11/2006	4.5	74				
							Kokanee	1	0.30
		BS0103	10/11/2006	4.5	52				
							None	0	0.00
		BS0104	10/11/2006	4.5	74				
							None	0	0.00
		BS0105	10/11/2006	4.5	81				
							None	0	0.00
		BS0106	10/11/2006	4.5	85				
							None	0	0.00
		BS0107	10/12/2006	4.5	65				
							None	0	0.00
	Boat Electrofish								
		ES0101	10/11/2006	6.0	1900	940			
							Mountain whitefish	17	8.95
							Prickly sculpin	1	0.53
							Slimy sculpin	1	0.53
		ES0102	10/11/2006	6.0	800	592			
							Kokanee	1	1.25
							Mountain whitefish	13	16.25
		ES0105	10/11/2006	6.0	900	1055			
							Kokanee	1	1.43
							Lake chub	2	2.86
							Mountain whitefish	2	2.86
							Prickly sculpin	2	2.86
							Rainbow trout	2	2.86
							Slimy sculpin	5	7.14
		ES0107	10/11/2006	6.0	300	304			
							Longnose sucker	6	8.57
							Northern pikeminnow	1	1.43
							Rainbow trout	1	1.43
							Redside shiner	3	4.29
		ES0108	10/11/2006	6.0	700				
							Kokanee	1	0.91

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
1									
	Boat Electrofish								
							Mountain whitefish	16	14.55
							Prickly sculpin	2	1.82
		ES0109	10/11/2006	6.0	700	491			
							Mountain whitefish	8	10.00
							Prickly sculpin	5	6.25
							Rainbow trout	1	1.25
							Slimy sculpin	2	2.50
		ES0112	10/11/2006	6.0	1000				
							Mountain whitefish	2	3.33
							Prickly sculpin	2	3.33
		ES0113	10/11/2006	6.0	900	1069			
							Mountain whitefish	1	3.33
2									
	Backpack Electrofish								
		EF0201	10/12/2006	5.0	65	666			
							None	0	0.00
		EF0202	10/12/2006	8.0	55	487			
							Largescale sucker	1	1.82
		EF0203	10/12/2016	5.0	100	1043			
							Longnose dace	1	1.00
							Longnose sucker	1	1.00
							Prickly sculpin	3	3.00
							Rainbow trout	1	1.00
							Slimy sculpin	6	6.00
							Spottail shiner	1	1.00
		EF0204	10/13/2006	4.0	100	846			
							None	0	0.00
	Beach Seine								
		BS0201	10/12/2006	4.5	70				
							None	0	0.00
		BS0202	10/12/2006	4.5	50				
							None	0	0.00
		BS0203	10/12/2006	4.5	35				
							Longnose dace	6	3.81
							Longnose sucker	1	0.63
							Prickly sculpin	2	1.27
							Redside shiner	1	0.63
		BS0204	10/12/2006	4.5	50				
							None	0	0.00
		BS0205	10/12/2006	4.5	50				
							None	0	0.00
		BS0206	10/12/2006	4.5	30				
							None	0	0.00
		BS0207	10/13/2006	4.5	30				
							Longnose dace	12	8.89
							Longnose sucker	2	1.48
							Redside shiner	28	20.74
							Spottail shiner	3	2.22

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort			Species	Number	CPUE
				Wid (m)	Dist (m)	Seconds			
2									
	Boat Electrofish								
		ES0201	10/12/2006	6.0	1100	858			
							Mountain whitefish	13	26.00
							Prickly sculpin	1	2.00
		ES0202	10/12/2006	6.0	800	413			
							Largescale sucker	1	2.00
							Mountain whitefish	2	4.00
		ES0203	10/12/2006	6.0	600				
							Longnose sucker	1	1.11
							Mountain whitefish	15	16.67
							Prickly sculpin	4	4.44
		ES0204	10/12/2006	6.0	500	379			
							Kokanee	1	1.67
							Mountain whitefish	21	35.00
		ES0205	10/12/2006	6.0	500	569			
							Longnose sucker	18	36.00
							Mountain whitefish	4	8.00
							Prickly sculpin	1	2.00
							Redside shiner	1	2.00
							Slimy sculpin	2	4.00
		ES0206	10/12/2006	6.0	900	586			
							Longnose sucker	2	3.33
							Mountain whitefish	10	16.67
							Prickly sculpin	6	10.00
							Slimy sculpin	2	3.33
		ES0207	10/12/2006	6.0	600	377			
							Longnose sucker	1	1.11
							Mountain whitefish	33	36.67
							Prickly sculpin	6	6.67
							Redside shiner	2	2.22
							Slimy sculpin	4	4.44
		ES0208	10/12/2006	6.0	500	752			
							Mountain whitefish	9	15.00
							Slimy sculpin	2	3.33
		ES0209	10/12/2006	6.0	1100	511			
							Longnose sucker	1	3.33
							Mountain whitefish	6	20.00
							Prickly sculpin	1	3.33
							Slimy sculpin	1	3.33
		ES0210	10/12/2006	6.0	700	341			
							Arctic grayling	1	1.25
							Mountain whitefish	10	12.50
							Prickly sculpin	6	7.50
							Rainbow trout	4	5.00
							Slimy sculpin	1	1.25
3									
	Backpack Electrofish								
		EF0301	10/13/2006	3.0	100	983			
							Longnose dace	7	7.00

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
3									
	Backpack Electrofish								
							Longnose sucker	4	4.00
							Prickly sculpin	7	7.00
							Redside shiner	5	5.00
							Slimy sculpin	6	6.00
		EF0302	10/13/2006	3.0	80	1107			
							Longnose dace	9	11.25
							Longnose sucker	3	3.75
		EF0303	10/14/2006	5.0	80	653			
							Longnose dace	1	1.25
							Longnose sucker	4	5.00
							Prickly sculpin	2	2.50
	Beach Seine								
		BS0301	10/13/2006	4.5	35				
							Longnose dace	1	0.63
							Redside shiner	1	0.63
		BS0302	10/13/2006	4.5	45				
							None	0	0.00
		BS0303	10/13/2006	4.5	40				
							Longnose sucker	2	1.11
							Redside shiner	18	10.00
		BS0304	10/13/2006	4.5	75				
							Longnose dace	2	0.59
							Mountain whitefish	1	0.30
							Redside shiner	2	0.59
		BS0305	10/13/2006	4.5	30				
							Longnose dace	4	2.96
							Longnose sucker	4	2.96
							Redside shiner	1	0.74
		BS0306	10/14/2006	4.5	50				
							Longnose sucker	1	0.44
							Mountain whitefish	1	0.44
							Redside shiner	3	1.33
	Boat Electrofish								
		ES0301	10/13/2006	6.0	600	835			
							Mountain whitefish	132	94.29
							Prickly sculpin	1	0.71
							Slimy sculpin	11	7.86
		ES0302	10/13/2006	6.0	900	726			
							Mountain whitefish	23	32.86
		ES0303	10/13/2006	6.0	300	658			
							Arctic grayling	1	0.91
							Mountain whitefish	79	71.82
							Prickly sculpin	3	2.73
							Slimy sculpin	2	1.82
		ES0304	10/13/2006	6.0	600	453			
							Longnose sucker	2	2.22
							Mountain whitefish	51	56.67

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
3									
	Boat Electrofish								
		ES0305	10/13/2006	6.0	800	773			
							Longnose sucker	1	1.00
							Mountain whitefish	47	47.00
							Prickly sculpin	1	1.00
		ES0306	10/13/2006	6.0	1400	744			
							Arctic grayling	1	1.25
							Longnose sucker	2	2.50
							Mountain whitefish	1	1.25
							Prickly sculpin	1	1.25
		ES0307	10/13/2006	6.0	700	473			
							Mountain whitefish	17	28.33
							Slimy sculpin	9	15.00
		ES0308	10/13/2006	6.0	900	971			
							Arctic grayling	1	0.59
							Kokanee	1	0.59
							Longnose sucker	2	1.18
							Mountain whitefish	40	23.53
							Prickly sculpin	5	2.94
							Rainbow trout	1	0.59
							Slimy sculpin	2	1.18
		ES0309	10/13/2006	6.0	1100	845			
							Lake chub	1	1.43
							Longnose sucker	3	4.29
							Mountain whitefish	8	11.43
							Prickly sculpin	1	1.43
							Slimy sculpin	11	15.71
	Gill Net								
		GN0301	10/14/2006	2.4	15	11700			
							Mountain whitefish	2	1.71
4									
	Backpack Electrofish								
		EF0401	10/14/2006	10.0	40	646			
							Longnose dace	3	7.50
							Prickly sculpin	2	5.00
							Slimy sculpin	8	20.00
		EF0402	10/16/2006	3.0	40	457			
							Lake chub	1	2.50
							Longnose dace	4	10.00
							Longnose sucker	9	22.50
							Redside shiner	2	5.00
	Beach Seine								
		BS0401	10/14/2006	4.5	65				
							Longnose sucker	3	1.03
							Redside shiner	69	23.59
							Spottail shiner	33	11.28
		BS0402	10/14/2006	4.5	75				
							None	0	0.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort			Species	Number	CPUE
				Wid (m)	Dist (m)	Seconds			
4									
	Beach Seine								
		BS0403	10/14/2006	4.5	30				
							Longnose dace	1	0.74
							Longnose sucker	7	5.19
							Mountain whitefish	3	2.22
							Redside shiner	36	26.67
							Spottail shiner	4	2.96
		BS0404	10/14/2006	4.5	30				
							Longnose sucker	3	2.22
							Redside shiner	42	31.11
		BS0405	10/14/2006	4.5	25				
							Redside shiner	5	4.44
		BS0406	10/14/2006	4.5	40				
							Redside shiner	1	0.56
		BS0407	10/16/2006	4.5	30				
							Longnose sucker	17	12.59
							Northern pikeminnow	2	1.48
							Redside shiner	174	128.89
	Boat Electrofish								
		ES0401	10/14/2006	6.0	1000	906			
							Mountain whitefish	45	150.00
		ES0402	10/14/2006	6.0	800	644			
							Mountain whitefish	48	60.00
		ES0403	10/14/2006	6.0	600	538			
							Longnose sucker	3	1.58
							Mountain whitefish	59	31.05
							Prickly sculpin	1	0.53
							Slimy sculpin	8	4.21
		ES0404	10/14/2006	6.0	1700	683			
							Mountain whitefish	46	46.00
							Prickly sculpin	1	1.00
		ES0405	10/14/2006	6.0	700	579			
							Arctic grayling	2	1.67
							Mountain whitefish	69	57.50
							Slimy sculpin	1	0.83
		ES0406	10/14/2006	6.0	300	549			
							Longnose sucker	2	2.50
							Mountain whitefish	13	16.25
		ES0407	10/14/2006	6.0	800	528			
							Mountain whitefish	12	30.00
							Spottail shiner	1	2.50
	Gill Net								
		GN0401	10/16/2006	2.4	15	14400			
							None	0	0.00
5									
	Backpack Electrofish								
		EF0501	10/16/2006	6.0	60	774			
							Largescale sucker	1	1.67
							Longnose dace	2	3.33

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
5									
	Backpack Electrofish								
							Prickly sculpin	2	3.33
							Slimy sculpin	5	8.33
		EF0502	10/16/2006	6.0	80	857			
							Longnose dace	3	3.75
							Longnose sucker	6	7.50
							Prickly sculpin	6	7.50
							Slimy sculpin	7	8.75
		EF0503	10/15/2006	3.0	100	780			
							Largescale sucker	8	8.00
							Longnose dace	1	1.00
							Longnose sucker	10	10.00
							Prickly sculpin	6	6.00
							Slimy sculpin	13	13.00
	Beach Seine								
		BS0501	10/16/2006	4.5	40				
							Redside shiner	1	0.56
		BS0502	10/16/2006	4.5	40				
							Redside shiner	2	1.11
		BS0503	10/16/2006	4.5	70				
							Largescale sucker	5	1.59
							Northern pikeminnow	1	0.32
							Redside shiner	16	5.08
							Spottail shiner	1	0.32
		BS0504	10/16/2006	4.5	35				
							None	0	0.00
		BS0505	10/15/2006	4.5	45				
							Prickly sculpin	1	0.49
	Boat Electrofish								
		ES0501	10/16/2006	6.0	1900	1277			
							Mountain whitefish	18	18.00
		ES0502	10/16/2006	6.0	1000	859			
							Arctic grayling	2	2.50
							Longnose sucker	1	1.25
							Mountain whitefish	18	22.50
							Redside shiner	1	1.25
		ES0503	10/16/2006	6.0	1200	686			
							Mountain whitefish	3	7.50
							Northern pikeminnow	1	2.50
		ES0504	10/16/2006	6.0	800	497			
							Longnose sucker	2	2.22
							Mountain whitefish	10	11.11
							Prickly sculpin	1	1.11
							Slimy sculpin	1	1.11
		ES0505	10/16/2006	6.0	400	276			
							Mountain whitefish	32	32.00
							Slimy sculpin	1	1.00
		ES0506	10/16/2006	6.0	1000	928			
							Longnose sucker	2	3.33

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
5									
	Boat Electrofish								
							Mountain whitefish	38	63.33
							Slimy sculpin	2	3.33
		ES0507	10/16/2006	6.0	800	579			
							Arctic grayling	1	0.71
							Longnose sucker	1	0.71
							Mountain whitefish	14	10.00
							Redside shiner	1	0.71
							Slimy sculpin	9	6.43
		ES0508	10/16/2006	6.0	400	287			
							Arctic grayling	1	2.00
							Mountain whitefish	34	68.00
							Slimy sculpin	5	10.00
		ES0509	10/16/2006	6.0	900	798			
							Arctic grayling	1	0.91
							Bull trout	1	0.91
							Longnose sucker	1	0.91
							Mountain whitefish	35	31.82
							Slimy sculpin	2	1.82
	Gill Net								
		GN0501	10/15/2006	2.4	15	14688			
							Bull trout	1	0.68
							Spottail shiner	6	4.08
6									
	Backpack Electrofish								
		EF0601	10/15/2006	8.0	75	977			
							Lake chub	2	2.67
							Largescale sucker	1	1.33
							Longnose dace	6	8.00
							Longnose sucker	6	8.00
							Prickly sculpin	1	1.33
							Redside shiner	2	2.67
							Slimy sculpin	1	1.33
							Trout perch	9	12.00
		EF0602	10/15/2006	5.0	80	653			
							Largescale sucker	2	2.50
							Longnose dace	1	1.25
							Longnose sucker	10	12.50
							Prickly sculpin	4	5.00
							Slimy sculpin	3	3.75
		EF0603	10/18/2006	6.0	80	646			
							Largescale sucker	1	1.25
							Longnose dace	6	7.50
							Longnose sucker	10	12.50
							Prickly sculpin	1	1.25
							Slimy sculpin	5	6.25
							Trout perch	4	5.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
6									
	Beach Seine								
		BS0601	10/15/2006	4.5	50				
							Redside shiner	16	7.11
		BS0602	10/15/2006	4.5	15				
							None	0	0.00
		BS0603	10/15/2006	4.5	40				
							Lake chub	1	0.56
							Longnose dace	1	0.56
							Longnose sucker	6	3.33
							Redside shiner	4	2.22
		BS0604	10/15/2006	4.5	40				
							Longnose sucker	2	1.11
							Slimy sculpin	1	0.56
		BS0605	10/15/2006	4.5	40				
							Longnose sucker	1	0.56
							Trout perch	2	1.11
		BS0606	10/18/2006	4.5	75				
							Largescale sucker	1	0.30
							Longnose sucker	10	2.96
							Redside shiner	10	2.96
	Boat Electrofish								
		ES0601	10/15/2006	6.0	1000	603			
							Longnose sucker	1	2.00
							Northern pike	4	8.00
							Redside shiner	1	2.00
							Spottail shiner	2	4.00
							Yellow perch	5	10.00
		ES0602	10/15/2006	6.0	600	581			
							Arctic grayling	8	7.27
							Bull trout	2	1.82
							Longnose sucker	2	1.82
							Mountain whitefish	34	30.91
							Northern pike	1	0.91
							Trout perch	1	0.91
		ES0603	10/15/2006	6.0	1400	844			
							Arctic grayling	2	3.33
							Largescale sucker	1	1.67
							Longnose sucker	2	3.33
							Mountain whitefish	46	76.67
							Trout perch	3	5.00
		ES0604	10/15/2006	6.0	500	598			
							Arctic grayling	10	10.00
							Kokanee	1	1.00
							Lake chub	3	3.00
							Largescale sucker	1	1.00
							Longnose sucker	7	7.00
							Mountain whitefish	26	26.00
							Redside shiner	1	1.00
							Trout perch	4	4.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort			Species	Number	CPUE
				Wid (m)	Dist (m)	Seconds			
6									
	Boat Electrofish								
							Yellow perch	1	1.00
		ES0605	10/15/2006	6.0	1100	693			
							Arctic grayling	4	3.33
							Longnose sucker	3	2.50
							Mountain whitefish	73	60.83
							Slimy sculpin	3	2.50
		ES0606	10/15/2006	6.0	500	689			
							Arctic grayling	14	12.73
							Lake chub	2	1.82
							Longnose sucker	12	10.91
							Mountain whitefish	75	68.18
							Trout perch	1	0.91
		ES0607	10/15/2006	6.0	1100	618			
							Mountain whitefish	6	7.50
							Redside shiner	1	1.25
		ES0608	10/15/2006	6.0	600	661			
							Arctic grayling	1	1.25
							Largescale sucker	1	1.25
							Mountain whitefish	110	137.50
							Slimy sculpin	2	2.50
		ES0609	10/15/2006	6.0	1000	1312			
							Arctic grayling	5	3.33
							Bull trout	1	0.67
							Lake chub	2	1.33
							Mountain whitefish	62	41.33
							Trout perch	5	3.33
	Gill Net								
		GN0601	10/18/2006	2.4	15	19800			
							Mountain whitefish	2	1.01
							Redside shiner	1	0.51
7									
	Backpack Electrofish								
		EF0701	10/18/2006	3.0	60	596			
							Longnose dace	1	1.67
							Longnose sucker	2	3.33
							Prickly sculpin	1	1.67
							Redside shiner	33	55.00
		EF0702	10/18/2006	3.0	100	778			
							Longnose dace	7	7.00
							Redside shiner	1	1.00
		EF0703	10/17/2006	4.0	100	774			
							Longnose dace	8	8.00
							Longnose sucker	10	10.00
							Slimy sculpin	2	2.00
	Beach Seine								
		BS0701	10/18/2006	4.5	50				
							Longnose dace	8	3.56
							Redside shiner	24	10.67

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort Wid (m)	Effort Dist (m)	Effort Seconds	Species	Number	CPUE
7									
	Beach Seine								
							Spottail shiner	137	60.89
		BS0702	10/17/2006	4.5	50				
							Longnose sucker	2	0.89
							Redside shiner	13	5.78
							Trout perch	2	0.89
		BS0703	10/18/2006	4.5	45				
							Longnose sucker	4	1.98
							Redside shiner	5	2.47
		BS0704	10/18/2006	4.5	50				
							Longnose dace	1	0.44
							Longnose sucker	1	0.44
		BS0705	10/18/2006	4.5	45				
							None	0	0.00
		BS0706	10/18/2006	4.5	30				
							None	0	0.00
	Boat Electrofish								
		ES0701	10/18/2006	6.0	1200	912			
							Redside shiner	35	38.89
							Trout perch	1	1.11
		ES0702	10/18/2006	6.0	1100	678			
							Lake whitefish	1	1.11
							Mountain whitefish	40	44.44
							Trout perch	2	2.22
		ES0703	10/18/2006	6.0	800	732			
							Arctic grayling	1	0.83
							Mountain whitefish	26	21.67
							Trout perch	2	1.67
		ES0704	10/18/2006	6.0	800	585			
							Slimy sculpin	1	2.00
		ES0705	10/18/2006	6.0	1500	904			
							Arctic grayling	1	0.91
							Longnose sucker	1	0.91
							Mountain whitefish	7	6.36
							Rainbow trout	1	0.91
							Slimy sculpin	4	3.64
		ES0706	10/18/2006	6.0	900	1330			
							Longnose sucker	1	1.11
							Mountain whitefish	7	7.78
							Slimy sculpin	3	3.33
							Trout perch	2	2.22
		ES0707	10/18/2006	6.0	900	859			
							Arctic grayling	2	1.33
							Longnose dace	1	0.67
							Mountain whitefish	21	14.00
							Slimy sculpin	3	2.00
							Trout perch	2	1.33
		ES0708	10/18/2006	6.0	1200	736			
							Arctic grayling	3	3.75

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort			Species	Number	CPUE
				Wid (m)	Dist (m)	Seconds			
7									
	Boat Electrofish								
							Lake chub	1	1.25
							Longnose dace	1	1.25
							Longnose sucker	1	1.25
							Mountain whitefish	34	42.50
							Slimy sculpin	5	6.25
	Gill Net								
		GN0701	10/17/2006	2.4	15	12600			
							None	0	0.00
8									
	Backpack Electrofish								
		EF0801	10/17/2006	3.0	100	676			
							Longnose dace	3	3.00
							Longnose sucker	1	1.00
							Northern pikeminnow	2	2.00
							Redside shiner	2	2.00
		EF0802	10/17/2006	6.0	90	794			
							Longnose dace	11	12.22
							Longnose sucker	32	35.56
							Slimy sculpin	1	1.11
		EF0803	10/13/2006	5.0	80	666			
							Lake chub	3	3.75
							Longnose dace	20	25.00
							Longnose sucker	12	15.00
							Trout perch	4	5.00
	Beach Seine								
		BS0801	10/17/2006	4.5	40				
							Longnose sucker	1	0.56
							Redside shiner	1	0.56
		BS0802	10/17/2006	4.5	50				
							None	0	0.00
		BS0803	10/17/2006	4.5	65				
							Northern pikeminnow	1	0.34
							Redside shiner	4	1.37
		BS0804	10/17/2006	4.5	55				
							Longnose dace	20	8.08
							Longnose sucker	51	20.61
							Redside shiner	1	0.40
							Spottail shiner	1	0.40
		BS0805	10/11/2006	4.5	30				
							Longnose dace	2	1.48
							Longnose sucker	2	1.48
							Redside shiner	61	45.19
	Boat Electrofish								
		ES0801	10/16/2006	6.0	500	316			
							Longnose sucker	1	2.50
		ES0802	10/16/2006	6.0	1100	1033			
							Longnose dace	1	1.11
							Longnose sucker	6	6.67

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix D Table D2. Sampling effort, catch, and catch-per-unit-effort in the Peace River during the small fish survey, 2006.

Area	Method	Site	Date	Effort			Species	Number	CPUE
				Wid (m)	Dist (m)	Seconds			
8									
	Boat Electrofish								
							Mountain whitefish	9	10.00
							Slimy sculpin	1	1.11
		ES0803	10/16/2006	6.0	900				
							Longnose sucker	2	1.82
							Mountain whitefish	48	43.64
							Trout perch	7	6.36
		ES0804	10/16/2006	6.0	1500	1142			
							Arctic grayling	4	4.44
							Longnose dace	3	3.33
							Longnose sucker	4	4.44
							Mountain whitefish	49	54.44
							Trout perch	3	3.33
							White sucker	1	1.11
		ES0805	10/16/2006	6.0	800	823			
							Mountain whitefish	15	16.67
							Trout perch	3	3.33
		ES0806	10/16/2006	6.0	900	686			
							Lake chub	3	2.73
							Longnose sucker	1	0.91
							Mountain whitefish	7	6.36
		ES0807	10/16/2006	6.0	400	900			
							Mountain whitefish	4	4.00
		ES0808	10/16/2006	6.0	1100	542			
							Mountain whitefish	1	1.43
	Gill Net								
		GN0801	10/11/2006	2.4	15	9288			
							None	0	0.00

Boat electrofish CPUE = No. fish/km; Backpack electrofish CPUE = No. fish/100 m; Beach seine CUE = No. fish/100 m2

Appendix E
Fish Life History

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Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES01	1	Longnose sucker	119				0
Upper	ES01	2	Mountain whitefish	135				0
Upper	ES01	3	Mountain whitefish	93				0
Upper	ES01	4	Longnose sucker	105				0
Upper	ES01	5	Longnose sucker	68				0
Upper	ES01	6	Longnose sucker	75				0
Upper	ES01	7	Longnose sucker	85				0
Upper	ES01	8	Mountain whitefish	136		SC	1	0
Upper	ES01	9	Mountain whitefish	80		SC	0	0
Upper	ES01	10	Mountain whitefish	71		SC	0	0
Upper	ES01	11	Mountain whitefish	125		SC	1	0
Upper	ES01	12	Mountain whitefish	84		SC		0
Upper	ES01	13	Mountain whitefish	80		SC		0
Upper	ES01	14	Mountain whitefish	79		SC	0	0
Upper	ES01	15	Mountain whitefish	70		SC	0	0
Upper	ES01	16	Mountain whitefish	61		SC	0	0
Upper	ES01	17	Mountain whitefish	80		SC		0
Upper	ES01	18	Mountain whitefish	65				0
Upper	ES01	19	Mountain whitefish	33				0
Upper	ES01	20	Mountain whitefish	68				0
Upper	ES01	21	Mountain whitefish	75				0
Upper	ES01	22	Prickly sculpin	80				0
Upper	ES01	23	Redside shiner	82				0
Upper	ES01	24	Longnose sucker	95				0
Upper	ES02	25	Arctic grayling	199	104	SC	1	0
Upper	ES02	26	Bull trout	228	142	SC	2	0
Upper	ES02	27	Mountain whitefish	163	50	SC	1	0
Upper	ES02	28	Rainbow trout	208	124	SC	2	0
Upper	ES02	29	Longnose sucker	91				0
Upper	ES02	30	Mountain whitefish	141	32	SC	1	0
Upper	ES02	31	Mountain whitefish	142	30	SC	1	0
Upper	ES02	32	Longnose sucker	114				0
Upper	ES02	33	Mountain whitefish	91		SC		0
Upper	ES02	34	Mountain whitefish	73		SC	0	0
Upper	ES02	35	Mountain whitefish	131	34	SC		0
Upper	ES02	36	Longnose sucker	131				0
Upper	ES02	37	Longnose sucker	112				0
Upper	ES02	38	Northern pikeminnow	77				0
Upper	ES02	39	Northern pikeminnow	225				0
Upper	ES02	40	Bull trout	204	98	SC	2	0
Upper	ES02	41	Mountain whitefish	127	28	SC	1	0
Upper	ES02	42	Mountain whitefish	76		SC	0	0
Upper	ES02	43	Mountain whitefish	138	28	SC		0
Upper	ES02	44	Longnose sucker	109				0
Upper	ES02	45	Longnose sucker	110				0
Upper	ES02	46	Longnose sucker	189				0
Upper	ES02	47	Mountain whitefish	135	28	SC		0
Upper	ES02	48	Longnose dace	77				0
Upper	ES02	49	Longnose sucker	121				0
Upper	ES02	50	Longnose sucker	109				0
Upper	ES02	51	Mountain whitefish	214				0
Upper	ES02	52	Prickly sculpin	73				0
Upper	ES02	53	Longnose sucker	97				0
Upper	ES02	54	Prickly sculpin	68				0
Upper	ES02	55	Prickly sculpin	79				0
Upper	ES02	56	Prickly sculpin	68				0
Upper	ES02	57	Longnose dace	77				0
Upper	ES02	58	Prickly sculpin	92				0
Upper	ES02	59	Prickly sculpin	66				0
Upper	ES03	67	Bull trout	237	140	SC	2	0
Upper	ES03	68	Bull trout	201	90	SC	1	0
Upper	ES03	69	Bull trout	213	102	SC	2	0
Upper	ES03	70	Arctic grayling	171	56	SC	1	0
Upper	ES03	71	Arctic grayling	169	62	SC	1	0
Upper	ES03	72	Mountain whitefish	176	60	SC	2	0
Upper	ES03	73	Mountain whitefish	143	30	SC		0
Upper	ES03	74	Mountain whitefish	134	22	SC		0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES03	75	Mountain whitefish	170	50	SC	2	0
Upper	ES03	76	Mountain whitefish	124	20	SC		0
Upper	ES03	77	Mountain whitefish	176	62	SC	2	0
Upper	ES03	78	Mountain whitefish	85	62	SC	0	0
Upper	ES03	79	Mountain whitefish	83		SC		0
Upper	ES03	80	Mountain whitefish	139	30	SC	1	0
Upper	ES03	81	Mountain whitefish	136	30	SC		0
Upper	ES03	82	Mountain whitefish	81		SC	0	0
Upper	ES03	83	Mountain whitefish	126	30			0
Upper	ES03	84	Mountain whitefish	144	40			0
Upper	ES03	85	Mountain whitefish	123	26			0
Upper	ES03	86	Mountain whitefish	122	24			0
Upper	ES03	87	Mountain whitefish	129	28			0
Upper	ES03	88	Mountain whitefish	132	26			0
Upper	ES03	89	Mountain whitefish	128	24			0
Upper	ES03	90	Mountain whitefish	123	26			0
Upper	ES03	91	Mountain whitefish	81				0
Upper	ES03	92	Mountain whitefish	83				0
Upper	ES03	93	Longnose sucker	161				0
Upper	ES03	94	Longnose sucker	161				0
Upper	ES03	95	Longnose sucker	136				0
Upper	ES03	96	Flathead chub	128				0
Upper	ES03	97	Longnose sucker	107				0
Upper	ES03	98	Longnose sucker	124				0
Upper	ES03	99	Longnose sucker	108				0
Upper	ES03	100	Redside shiner	75				0
Upper	ES03	101	Longnose sucker	79				0
Upper	ES03	102	Longnose sucker	95				0
Upper	ES03	103	Redside shiner	70				0
Upper	ES03	104	Redside shiner	84				0
Upper	ES03	105	Redside shiner	71				0
Upper	ES03	106	Redside shiner	66				0
Upper	ES03	107	Longnose sucker	112				0
Upper	ES03	108	Longnose sucker	93				0
Upper	ES03	109	Largescale sucker	86				0
Upper	ES03	110	Longnose sucker	90				0
Upper	ES03	111	Redside shiner	72				0
Upper	ES03	112	Redside shiner	74				0
Upper	ES03	113	Redside shiner	72				0
Upper	ES03	114	Longnose sucker	116				0
Upper	ES03	115	Longnose dace	61				0
Upper	ES04	116	Slimy sculpin	68				0
Upper	ES04	117	Prickly sculpin	99				0
Upper	ES04	118	Mountain whitefish	135		SC	1	0
Upper	ES04	119	Mountain whitefish	134		SC		0
Upper	ES04	120	Mountain whitefish	134		SC		0
Upper	ES04	121	Mountain whitefish	148		SC	1	0
Upper	ES04	122	Mountain whitefish	121		SC	1	0
Upper	ES04	123	Mountain whitefish	129		SC	1	0
Upper	ES04	124	Mountain whitefish	78		SC	0	0
Upper	ES04	125	Mountain whitefish	89		SC	0	0
Upper	ES04	126	Longnose sucker	77				0
Upper	ES04	127	Mountain whitefish	86		SC		0
Upper	ES04	128	Mountain whitefish	57		SC	0	0
Upper	ES04	129	Longnose sucker	148				0
Upper	ES04	130	Longnose sucker	67				0
Upper	ES05	131	Mountain whitefish	133		SC		0
Upper	ES05	132	Northern pikeminnow	223				0
Upper	ES05	133	Longnose sucker	167				0
Upper	ES05	134	Longnose sucker	178				0
Upper	ES05	135	Longnose sucker	149				0
Upper	ES05	136	Mountain whitefish	127		SC		0
Upper	ES05	137	Longnose sucker	104				0
Upper	ES05	138	Mountain whitefish	65		SC	0	0
Upper	ES05	139	Mountain whitefish	82		SC		0
Upper	ES05	140	Longnose sucker	59				0
Upper	ES05	141	Mountain whitefish	69		SC	0	0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES05	142	Longnose sucker	87				0
Upper	ES05	143	Mountain whitefish	134		SC	1	0
Upper	ES05	144	Longnose sucker	143				0
Upper	ES05	145	Mountain whitefish	124		SC	1	0
Upper	ES05	146	Slimy sculpin	78				0
Upper	ES05	147	Prickly sculpin	69				0
Upper	ES05	148	Mountain whitefish	132		SC		0
Upper	ES05	149	Longnose sucker	129				0
Upper	ES05	150	Mountain whitefish	94		SC	0	0
Upper	ES05	151	Slimy sculpin	78				0
Upper	ES05	152	Longnose sucker	181				0
Upper	ES05	153	Mountain whitefish	112		SC	1	0
Upper	ES05	154	Mountain whitefish	137				0
Upper	ES05	155	Slimy sculpin	73				0
Upper	ES05	156	Longnose sucker	51				0
Upper	ES05	157	Longnose sucker	61				0
Upper	ES05	158	Longnose sucker	44				0
Upper	ES06	159	Longnose sucker	271				0
Upper	ES06	160	Mountain whitefish	145		SC	1	0
Upper	ES06	161	Arctic grayling	162		SC	1	0
Upper	ES06	162	Mountain whitefish	117				0
Upper	ES06	163	Mountain whitefish	133		SC	1	0
Upper	ES06	165	Longnose sucker	152				0
Upper	ES06	166	Longnose sucker	102				0
Upper	ES06	167	Redside shiner	90				0
Upper	ES06	168	Longnose sucker	135				0
Upper	ES06	169	Longnose sucker	102				0
Upper	ES06	170	Mountain whitefish	90		SC		0
Upper	ES06	171	Largescale sucker	103				0
Upper	ES06	172	Longnose sucker	97				0
Upper	ES06	173	Mountain whitefish	82		SC		0
Upper	ES06	174	Longnose sucker	74				0
Upper	ES07	175	Longnose sucker	213				0
Upper	ES07	176	Longnose sucker	103				0
Upper	ES07	177	Longnose sucker	127				0
Upper	ES07	178	Longnose sucker	168				0
Upper	ES07	179	Largescale sucker	188				0
Upper	ES07	180	Largescale sucker	158				0
Upper	ES07	181	Largescale sucker	164				0
Upper	ES07	182	Largescale sucker	136				0
Upper	ES07	183	Longnose sucker	135				0
Upper	ES07	184	Longnose sucker	92				0
Upper	ES07	185	Slimy sculpin	71				0
Upper	ES07	186	Redside shiner	89				0
Upper	ES07	187	Redside shiner	93				0
Upper	ES07	188	Redside shiner	28				0
Upper	ES07	189	Redside shiner	109				0
Upper	ES07	190	Longnose sucker	96				0
Upper	ES07	191	Longnose sucker	108				0
Upper	ES07	192	Longnose sucker	106				0
Upper	ES07	193	Longnose sucker	68				0
Upper	ES07	194	Longnose sucker	116				0
Upper	ES07	195	Slimy sculpin	73				0
Upper	ES07	196	Redside shiner	106				0
Upper	ES07	197	Mountain whitefish	59		SC	0	0
Upper	ES07	198	Mountain whitefish	86		SC	0	0
Upper	ES07	199	Mountain whitefish	144		SC		0
Upper	ES07	200	Mountain whitefish	181		SC	2	0
Upper	ES07	201	Mountain whitefish	85		SC		0
Upper	ES07	202	Longnose sucker	96				0
Upper	ES07	203	Largescale sucker	82				0
Upper	ES07	204	Longnose sucker	76				0
Upper	ES07	205	Longnose sucker	103				0
Upper	ES07	206	Longnose sucker	97				0
Upper	ES07	207	Mountain whitefish	77		SC	0	0
Upper	ES07	208	Redside shiner	91				0
Upper	ES07	209	Slimy sculpin	80				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES08	210	Largescale sucker	351				0
Upper	ES08	211	Largescale sucker	220				0
Upper	ES08	212	Longnose sucker	98				0
Upper	ES08	213	Redside shiner	86				0
Upper	ES08	214	Redside shiner	92				0
Upper	ES08	215	Longnose sucker	166				0
Upper	ES08	216	Longnose sucker	159				0
Upper	ES08	217	Mountain whitefish	82		SC	0	0
Upper	ES08	218	Redside shiner	101				0
Upper	ES08	219	Redside shiner	126				0
Upper	ES08	220	Mountain whitefish	90		SC	0	0
Upper	ES08	221	Longnose sucker	86				0
Upper	ES08	222	Longnose sucker	141				0
Upper	ES08	223	Longnose sucker	107				0
Upper	ES08	224	Longnose sucker	86				0
Upper	ES08	225	Mountain whitefish	85		SC		0
Upper	ES08	226	Longnose sucker	83				0
Upper	ES08	227	Redside shiner	93				0
Upper	ES08	228	Mountain whitefish	84		SC	0	0
Upper	ES08	229	Redside shiner	74				0
Upper	ES08	230	Slimy sculpin	99				0
Upper	ES09	231	Northern pike	695				0
Upper	ES09	232	Arctic grayling	175		SC	1	0
Upper	ES09	233	Mountain whitefish	173		SC		0
Upper	ES09	234	Longnose sucker	144				0
Upper	ES09	235	Mountain whitefish	138		SC	1	0
Upper	ES09	236	Largescale sucker	98				0
Upper	ES09	237	Largescale sucker	89				0
Upper	ES09	238	Longnose sucker	84				0
Upper	ES09	239	Mountain whitefish	93		SC	0	0
Upper	ES09	241	Longnose dace	74				0
Upper	ES09	242	Redside shiner	76				0
Upper	ES09	243	Longnose dace	77				0
Upper	ES10	244	Largescale sucker	277				0
Upper	ES10	245	Mountain whitefish	261		SC	3	0
Upper	ES10	246	Mountain whitefish	183		SC	2	0
Upper	ES10	247	Mountain whitefish	188		SC	2	0
Upper	ES10	248	Mountain whitefish	136		SC		0
Upper	ES10	249	Mountain whitefish	128		SC		0
Upper	ES10	250	Mountain whitefish	75		SC	0	0
Upper	ES10	251	Largescale sucker	119				0
Upper	ES10	252	Mountain whitefish	75		SC	0	0
Upper	ES10	253	Mountain whitefish	79		SC	0	0
Upper	ES10	254	Mountain whitefish	91		SC	0	0
Upper	ES10	255	Mountain whitefish	77		SC	0	0
Upper	ES10	256	Longnose sucker	79				0
Upper	ES10	257	Mountain whitefish	86				0
Upper	ES10	258	Mountain whitefish	84				0
Upper	ES10	259	Longnose sucker	104				0
Upper	ES10	260	Longnose sucker	81				0
Upper	ES10	261	Mountain whitefish	79				0
Upper	ES10	262	Longnose sucker	70				0
Upper	ES10	263	Longnose sucker	71				0
Upper	ES10	264	Largescale sucker	66				0
Upper	ES10	265	Mountain whitefish	69				0
Upper	ES10	266	Mountain whitefish	70				0
Upper	ES10	267	Longnose dace	52				0
Upper	ES10	268	Redside shiner	33				0
Upper	ES10	269	Slimy sculpin	55				0
Upper	ES10	270	Longnose sucker	71				0
Upper	ES11	271	Mountain whitefish	132		SC	1	0
Upper	ES11	272	Mountain whitefish	131		SC		0
Upper	ES11	273	Arctic grayling	161		SC	1	0
Upper	ES11	274	Mountain whitefish	129		SC		0
Upper	ES11	275	Mountain whitefish	133		SC		0
Upper	ES11	276	Longnose sucker	174				0
Upper	ES11	277	Slimy sculpin	78				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES11	278	Mountain whitefish	86		SC		0
Upper	ES11	279	Longnose sucker	88				0
Upper	ES11	280	Longnose dace	67				0
Upper	ES11	281	Mountain whitefish	85		SC		0
Upper	ES11	282	Lake chub	66				0
Upper	ES11	283	Longnose sucker	68				0
Upper	ES11	284	Mountain whitefish	75		SC	0	0
Upper	ES11	285	Mountain whitefish	89		SC		0
Upper	ES11	286	Longnose sucker	69				0
Upper	ES11	287	Mountain whitefish	66		SC	0	0
Upper	ES11	288	Longnose dace	59				0
Upper	ES11	289	Longnose sucker	79				0
Upper	ES11	290	Mountain whitefish	87		SC	0	0
Upper	ES11	291	Mountain whitefish	79				0
Upper	ES11	292	Mountain whitefish	83				0
Upper	ES11	293	Mountain whitefish	67				0
Upper	ES11	294	Longnose sucker	44				0
Upper	ES11	295	Longnose sucker	171				0
Upper	ES11	296	Burbot	210				0
Upper	ES11	297	Mountain whitefish	133				0
Upper	ES11	298	Mountain whitefish	79				0
Upper	ES11	299	Longnose sucker	73				0
Upper	ES11	300	Mountain whitefish	75				0
Upper	ES11	301	Slimy sculpin	100				0
Upper	ES11	302	Longnose sucker	139				0
Upper	ES11	303	Slimy sculpin	74				0
Upper	ES11	304	Slimy sculpin	90				0
Upper	ES11	305	Slimy sculpin	75				0
Upper	ES11	306	Slimy sculpin	78				0
Upper	ES11	307	Longnose dace	51				0
Upper	ES11	308	Longnose dace	64				0
Upper	ES11	309	Longnose sucker	69				0
Upper	ES12	310	Redside shiner	85				0
Upper	ES12	311	Redside shiner	86				0
Upper	ES12	312	Redside shiner	101				0
Upper	ES12	313	Redside shiner	101				0
Upper	ES12	314	Longnose sucker	182				0
Upper	ES12	315	Longnose sucker	101				0
Upper	ES12	316	Longnose sucker	100				0
Upper	ES12	317	Longnose sucker	116				0
Upper	ES12	318	Redside shiner	104				0
Upper	ES12	319	Flathead chub	100				0
Upper	ES12	320	Spottail shiner	75				0
Upper	ES12	321	Slimy sculpin	85				0
Upper	ES12	322	Slimy sculpin	71				0
Upper	ES12	323	Northern pikeminnow	64				0
Upper	ES12	324	Longnose sucker	98				0
Upper	ES12	325	Slimy sculpin	72				0
Upper	ES12	326	Longnose sucker	183				0
Upper	ES12	327	Slimy sculpin	75				0
Upper	ES12	328	Redside shiner	87				0
Upper	ES12	329	Longnose sucker	106				0
Upper	ES12	330	Mountain whitefish	136		SC		0
Upper	ES12	331	Mountain whitefish	138		SC		0
Upper	ES12	332	Mountain whitefish	136		SC		0
Upper	ES12	333	Mountain whitefish	82		SC		0
Upper	ES12	334	Mountain whitefish	87		SC		0
Upper	ES12	335	Longnose dace	77				0
Upper	ES12	336	Mountain whitefish	78		SC	0	0
Upper	ES12	337	Mountain whitefish	92		SC	0	0
Upper	ES12	338	Redside shiner	15				0
Upper	ES12	339	Longnose dace	75				0
Upper	ES12	340	Mountain whitefish	88		SC	0	0
Upper	ES12	341	Redside shiner	38				0
Upper	ES12	342	Redside shiner	108				0
Upper	ES12	343	Longnose sucker	49				0
Upper	ES12	344	Redside shiner	27				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES12	345	Redside shiner	35				0
Upper	ES12	346	Redside shiner	30				0
Upper	ES12	347	Longnose sucker	90				0
Upper	ES12	348	Longnose dace	32				0
Upper	ES12	349	Longnose dace	65				0
Upper	ES12	350	Prickly sculpin	86				0
Upper	ES13	351	Redside shiner	104				0
Upper	ES13	352	Redside shiner	113				0
Upper	ES13	353	Redside shiner	92				0
Upper	ES13	354	Redside shiner	117				0
Upper	ES13	355	Redside shiner	96				0
Upper	ES13	356	Redside shiner	82				0
Upper	ES13	357	Northern pikeminnow	195				0
Upper	ES13	358	Redside shiner	105				0
Upper	ES13	359	Redside shiner	96				0
Upper	ES13	360	Redside shiner	101				0
Upper	ES13	361	Northern pikeminnow	117				0
Upper	ES13	362	Redside shiner	102				0
Upper	ES13	363	Redside shiner	89				0
Upper	ES13	364	Longnose sucker	165				0
Upper	ES13	365	Longnose sucker	171				0
Upper	ES13	366	Redside shiner	92				0
Upper	ES13	367	Redside shiner	76				0
Upper	ES13	368	Redside shiner	94				0
Upper	ES13	369	Redside shiner	93				0
Upper	ES13	370	Redside shiner	87				0
Upper	ES13	371	Longnose sucker	111				0
Upper	ES13	372	Longnose sucker	126				0
Upper	ES13	373	Longnose sucker	126				0
Upper	ES13	374	Largescale sucker	112				0
Upper	ES13	375	Redside shiner	77				0
Upper	ES13	376	Largescale sucker	115				0
Upper	ES13	377	Longnose sucker	72				0
Upper	ES13	378	Longnose dace	66				0
Upper	ES13	379	Longnose sucker	85				0
Upper	ES13	380	Lake chub	102				0
Upper	ES13	381	Mountain whitefish	130		SC		0
Upper	ES13	382	Mountain whitefish	151		SC	1	0
Upper	ES13	383	Mountain whitefish	81		SC		0
Upper	ES13	384	Mountain whitefish	83		SC		0
Upper	ES13	385	Mountain whitefish	88		SC		0
Upper	ES13	386	Mountain whitefish	88		SC		0
Upper	ES13	387	Longnose sucker	47				0
Upper	ES13	388	Mountain whitefish	82		SC		0
Upper	ES13	389	Mountain whitefish	81		SC		0
Upper	ES13	390	Mountain whitefish	90		SC		0
Upper	ES13	391	Mountain whitefish	88				0
Upper	ES13	392	Mountain whitefish	85				0
Upper	ES13	393	Mountain whitefish	77				0
Upper	ES13	394	Mountain whitefish	76				0
Upper	ES13	395	Mountain whitefish	83				0
Upper	ES13	396	Mountain whitefish	84				0
Upper	ES13	397	Mountain whitefish	74				0
Upper	ES13	398	Longnose dace	77				0
Upper	ES13	399	Mountain whitefish	81				0
Upper	ES13	400	Mountain whitefish	76				0
Upper	ES13	401	Mountain whitefish	71				0
Upper	ES13	402	Mountain whitefish	67				0
Upper	ES13	403	Mountain whitefish	70				0
Upper	ES13	404	Mountain whitefish	72				0
Upper	ES13	405	Mountain whitefish	62				0
Upper	ES13	406	Mountain whitefish	73				0
Upper	ES13	407	Mountain whitefish	80				0
Upper	ES13	408	Longnose dace	50				0
Upper	ES14	409	Northern pikeminnow	205				0
Upper	ES14	410	Largescale sucker	192				0
Upper	ES14	411	Largescale sucker	214				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES14	412	Northern pikeminnow	219				0
Upper	ES14	413	Largescale sucker	301				0
Upper	ES14	414	Largescale sucker	212				0
Upper	ES14	415	Largescale sucker	193				0
Upper	ES14	416	Largescale sucker	225				0
Upper	ES14	417	Longnose sucker	134				0
Upper	ES14	418	Redside shiner	112				0
Upper	ES14	419	Redside shiner	108				0
Upper	ES14	420	Redside shiner	111				0
Upper	ES14	421	Redside shiner	101				0
Upper	ES14	422	Redside shiner	85				0
Upper	ES14	423	Redside shiner	92				0
Upper	ES14	424	Redside shiner	79				0
Upper	ES14	425	Longnose sucker	119				0
Upper	ES14	426	Redside shiner	105				0
Upper	ES14	427	Redside shiner	103				0
Upper	ES14	428	Largescale sucker	114				0
Upper	ES14	429	Redside shiner	109				0
Upper	ES14	430	Redside shiner	91				0
Upper	ES14	431	Redside shiner	93				0
Upper	ES14	432	Redside shiner	94				0
Upper	ES14	433	Longnose sucker	108				0
Upper	ES14	434	Redside shiner	103				0
Upper	ES14	435	Largescale sucker	92				0
Upper	ES14	436	Redside shiner	74				0
Upper	ES14	437	Redside shiner	108				0
Upper	ES14	438	Mountain whitefish	138				0
Upper	ES14	439	Mountain whitefish	182				0
Upper	ES14	440	Mountain whitefish	136				0
Upper	ES14	441	Northern pikeminnow	196				0
Upper	ES14	442	Longnose sucker	169				0
Upper	ES14	443	Largescale sucker	115				0
Upper	ES14	444	Largescale sucker	115				0
Upper	ES14	445	Redside shiner	113				0
Upper	ES14	446	Longnose sucker	127				0
Upper	ES14	447	Longnose sucker	147				0
Upper	ES14	448	Longnose sucker	104				0
Upper	ES14	449	Longnose dace	104				0
Upper	ES14	450	Longnose sucker	81				0
Upper	ES14	451	Redside shiner	94				0
Upper	ES14	452	Redside shiner	83				0
Upper	ES14	453	Redside shiner	128				0
Upper	ES14	454	Longnose dace	51				0
Upper	ES14	455	Largescale sucker	227				0
Upper	ES14	456	Northern pikeminnow	226				0
Upper	ES14	457	Longnose sucker	122				0
Upper	ES14	458	Largescale sucker	122				0
Upper	ES14	459	Longnose sucker	121				0
Upper	ES14	460	Mountain whitefish	95				0
Upper	ES14	461	Mountain whitefish	137				0
Upper	ES14	462	Mountain whitefish	74				0
Upper	ES14	463	Longnose sucker	112				0
Upper	ES14	464	Redside shiner	99				0
Upper	ES14	465	Redside shiner	82				0
Upper	ES14	466	Redside shiner	73				0
Upper	ES14	467	Redside shiner	90				0
Upper	ES14	468	Longnose sucker	204				0
Upper	ES14	469	Largescale sucker	175				0
Upper	ES14	470	Longnose sucker	109				0
Upper	ES14	471	Northern pikeminnow	169				0
Upper	ES14	472	Mountain whitefish	89				0
Upper	ES14	473	Redside shiner	114				0
Upper	ES14	474	Longnose sucker	183				0
Upper	ES14	475	Largescale sucker	162				0
Upper	ES14	476	Mountain whitefish	79				0
Upper	ES14	477	Mountain whitefish	68				0
Upper	ES14	478	Longnose sucker	151				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	ES14	479	Longnose dace	99				0
Upper	ES14	480	Longnose sucker	117				0
Upper	ES14	481	Slimy sculpin	45				0
Upper	ES14	482	Longnose sucker	130				0
Lower	ES15	483	Mountain whitefish	270				0
Lower	ES15	484	Redside shiner	122				0
Lower	ES15	485	Mountain whitefish	137				0
Lower	ES15	486	Redside shiner	112				0
Lower	ES15	487	Mountain whitefish	134				0
Lower	ES15	488	Longnose sucker	110				0
Lower	ES15	489	Redside shiner	112				0
Lower	ES15	490	Redside shiner	112				0
Lower	ES15	491	Largescale sucker	130				0
Lower	ES15	492	Redside shiner	102				0
Lower	ES15	493	Redside shiner	124				0
Lower	ES15	494	Mountain whitefish	91				0
Lower	ES15	495	Redside shiner	94				0
Lower	ES15	496	Redside shiner	103				0
Lower	ES15	497	Redside shiner	98				0
Lower	ES15	498	Redside shiner	95				0
Lower	ES15	499	Northern pikeminnow	104				0
Lower	ES15	500	Redside shiner	94				0
Lower	ES15	501	Redside shiner	115				0
Lower	ES15	502	Redside shiner	98				0
Lower	ES15	503	Longnose sucker	121				0
Lower	ES15	504	Mountain whitefish	92				0
Lower	ES15	505	Mountain whitefish	89				0
Lower	ES15	506	Mountain whitefish	82				0
Lower	ES15	507	Mountain whitefish	79				0
Lower	ES15	508	Redside shiner	87				0
Lower	ES15	509	Mountain whitefish	76				0
Lower	ES15	510	Redside shiner	83				0
Lower	ES15	511	Mountain whitefish	79				0
Lower	ES15	512	Mountain whitefish	88				0
Lower	ES15	513	Redside shiner	67				0
Lower	ES15	514	Redside shiner	98				0
Lower	ES15	515	Mountain whitefish	78				0
Lower	ES15	516	Redside shiner	75				0
Lower	ES15	517	Mountain whitefish	71				0
Lower	ES15	518	Mountain whitefish	57				0
Lower	ES15	519	Mountain whitefish	140				0
Lower	ES15	520	Mountain whitefish	156				0
Lower	ES15	521	Mountain whitefish	82				0
Lower	ES15	522	Mountain whitefish	54				0
Lower	ES15	523	Lake chub	95				0
Lower	ES15	524	Largescale sucker	122				0
Lower	ES15	525	Northern pikeminnow	212				0
Lower	ES15	526	Mountain whitefish	135				0
Lower	ES15	527	Mountain whitefish	76				0
Lower	ES15	528	Spottail shiner	112				0
Lower	ES15	529	Slimy sculpin	82				0
Lower	ES15	530	Largescale sucker	126				0
Lower	ES15	531	Northern pikeminnow	170				0
Lower	ES15	532	Longnose sucker	80				0
Lower	ES15	533	Largescale sucker	145				0
Lower	ES15	534	Longnose sucker	131				0
Lower	ES15	535	Longnose sucker	154				0
Lower	ES15	536	Longnose sucker	121				0
Lower	ES15	537	Longnose dace	51				0
Lower	ES15	538	Longnose dace	51				0
Lower	ES15	539	Longnose sucker	71				0
Lower	ES15	540	Longnose dace	80				0
Lower	ES15	541	Longnose dace	75				0
Lower	ES15	542	Longnose dace	29				0
Lower	ES16	545	Redside shiner	104				0
Lower	ES16	546	Longnose sucker	115				0
Lower	ES16	547	Longnose sucker	106				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES16	548	Longnose sucker	171				0
Lower	ES16	549	Longnose sucker	106				0
Lower	ES16	550	Mountain whitefish	154		SC	1	0
Lower	ES16	551	Longnose sucker	147				0
Lower	ES16	552	Northern pike	170		SC	1	0
Lower	ES16	553	Longnose sucker	182				0
Lower	ES16	554	Longnose dace	80				0
Lower	ES16	555	Slimy sculpin	81				0
Lower	ES16	556	Longnose sucker	119				0
Lower	ES16	557	Longnose sucker	102				0
Lower	ES16	558	Longnose sucker	82				0
Lower	ES16	559	Redside shiner	91				0
Lower	ES16	560	Longnose sucker	82				0
Lower	ES16	561	Northern pikeminnow	207				0
Lower	ES16	562	Longnose sucker	247				0
Lower	ES16	563	Longnose sucker	213				0
Lower	ES16	564	Northern pikeminnow	204				0
Lower	ES16	565	Northern pikeminnow	233				0
Lower	ES16	566	Arctic grayling	156		SC	1	0
Lower	ES16	567	Longnose sucker	131				0
Lower	ES16	568	Redside shiner	114				0
Lower	ES16	569	Redside shiner	91				0
Lower	ES16	570	Longnose sucker	118				0
Lower	ES16	571	Longnose sucker	109				0
Lower	ES16	572	Longnose sucker	92				0
Lower	ES16	573	Longnose sucker	98				0
Lower	ES16	574	Northern pikeminnow	217				0
Lower	ES16	575	Redside shiner	122				0
Lower	ES16	576	Mountain whitefish	157		SC	1	0
Lower	ES16	577	Lake chub	104				0
Lower	ES16	578	Longnose dace	82				0
Lower	ES16	579	Mountain whitefish	83		SC		0
Lower	ES16	580	Northern pikeminnow	211				0
Lower	ES16	581	Largescale sucker	119				0
Lower	ES16	582	Mountain whitefish	147		SC	1	0
Lower	ES16	583	Mountain whitefish	147		SC		0
Lower	ES16	584	Mountain whitefish	78		SC	0	0
Lower	ES16	585	Mountain whitefish	83		SC		0
Lower	ES16	586	Mountain whitefish	89		SC		0
Lower	ES16	587	Mountain whitefish	85		SC		0
Lower	ES16	588	Mountain whitefish	95		SC		0
Lower	ES16	589	Mountain whitefish	84		SC		0
Lower	ES16	590	Slimy sculpin	94				0
Lower	ES16	591	Slimy sculpin	78				0
Lower	ES16	592	Slimy sculpin	85				0
Lower	ES16	593	Slimy sculpin	65				0
Lower	ES16	594	Slimy sculpin	44				0
Lower	ES16	595	Slimy sculpin	66				0
Lower	ES16	596	Slimy sculpin	87				0
Lower	ES16	597	Slimy sculpin	71				0
Lower	ES16	598	Slimy sculpin	66				0
Lower	ES16	599	Mountain whitefish	86				0
Lower	ES16	600	Mountain whitefish	91				0
Lower	ES16	601	Mountain whitefish	80				0
Lower	ES16	602	Mountain whitefish	81				0
Lower	ES16	603	Mountain whitefish	89				0
Lower	ES16	604	Mountain whitefish	85				0
Lower	ES16	605	Mountain whitefish	81				0
Lower	ES16	606	Mountain whitefish	82				0
Lower	ES16	607	Mountain whitefish	92				0
Lower	ES16	608	Mountain whitefish	91				0
Lower	ES16	609	Mountain whitefish	82				0
Lower	ES16	610	Mountain whitefish	79				0
Lower	ES16	611	Mountain whitefish	80				0
Lower	ES16	612	Mountain whitefish	79				0
Lower	ES16	613	Mountain whitefish	72				0
Lower	ES16	614	Mountain whitefish	76				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES16	615	Mountain whitefish	87				0
Lower	ES16	616	Mountain whitefish	82				0
Lower	ES16	617	Mountain whitefish	71				0
Lower	ES16	618	Mountain whitefish	72				0
Lower	ES16	619	Mountain whitefish	80				0
Lower	ES16	620	Mountain whitefish	83				0
Lower	ES16	621	Mountain whitefish	83				0
Lower	ES16	622	Lake chub	72				0
Lower	ES16	623	Longnose dace	72				0
Lower	ES16	624	Slimy sculpin	40				0
Lower	ES16	625	Largescale sucker	109				0
Lower	ES16	626	Slimy sculpin	64				0
Lower	ES16	627	Slimy sculpin	40				0
Lower	ES17	646	Spottail shiner	80				0
Lower	ES17	647	Longnose sucker	105				0
Lower	ES17	648	Northern pikeminnow	200				0
Lower	ES17	649	Longnose sucker	173				0
Lower	ES17	650	Longnose sucker	136				0
Lower	ES17	651	Longnose sucker	106				0
Lower	ES17	652	Longnose sucker	80				0
Lower	ES17	653	Longnose sucker	95				0
Lower	ES17	654	Longnose sucker	115				0
Lower	ES17	655	Longnose sucker	92				0
Lower	ES17	656	Longnose sucker	81				0
Lower	ES17	657	Redside shiner	100				0
Lower	ES17	658	Redside shiner	105				0
Lower	ES17	659	Spottail shiner	75				0
Lower	ES17	660	Longnose sucker	92				0
Lower	ES17	661	Longnose sucker	78				0
Lower	ES17	662	Longnose sucker	85				0
Lower	ES17	663	Longnose sucker	75				0
Lower	ES17	664	Spottail shiner	75				0
Lower	ES17	665	Redside shiner	82				0
Lower	ES17	666	Lake chub	88				0
Lower	ES17	667	Slimy sculpin	91				0
Lower	ES17	668	Redside shiner	64				0
Lower	ES17	669	Mountain whitefish	143		SC		0
Lower	ES17	670	Mountain whitefish	75		SC	0	0
Lower	ES17	671	Mountain whitefish	95		SC		0
Lower	ES17	672	Mountain whitefish	82		SC	0	0
Lower	ES17	673	Mountain whitefish	74		SC	0	0
Lower	ES17	674	Mountain whitefish	80		SC		0
Lower	ES17	675	Mountain whitefish	75		SC	0	0
Lower	ES17	676	Mountain whitefish	90		SC	0	0
Lower	ES17	677	Mountain whitefish	86		SC		0
Lower	ES17	678	Mountain whitefish	84		SC		0
Lower	ES17	679	Mountain whitefish	82				0
Lower	ES17	680	Mountain whitefish	84				0
Lower	ES17	681	Lake chub	70				0
Lower	ES17	682	Mountain whitefish	77				0
Lower	ES17	683	Mountain whitefish	83				0
Lower	ES17	684	Mountain whitefish	82				0
Lower	ES17	685	Mountain whitefish	85				0
Lower	ES17	686	Mountain whitefish	83				0
Lower	ES17	687	Mountain whitefish	86				0
Lower	ES17	688	Mountain whitefish	86				0
Lower	ES17	689	Mountain whitefish	85				0
Lower	ES17	690	Mountain whitefish	76				0
Lower	ES17	691	Mountain whitefish	74				0
Lower	ES17	692	Mountain whitefish	88				0
Lower	ES17	693	Mountain whitefish	86				0
Lower	ES17	694	Longnose dace	79				0
Lower	ES17	695	Spottail shiner	70				0
Lower	ES17	696	Lake chub	90				0
Lower	ES17	697	Lake chub	89				0
Lower	ES17	698	Redside shiner	60				0
Lower	ES17	699	Slimy sculpin	76				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES17	700	Mountain whitefish	82				0
Lower	ES17	701	Redside shiner	27				0
Lower	ES17	702	Longnose dace	45				0
Lower	ES17	703	Longnose dace	73				0
Lower	ES17	704	Longnose dace	29				0
Lower	ES18	711	Northern pikeminnow	188				0
Lower	ES18	712	Largescale sucker	130				0
Lower	ES18	713	Flathead chub	144				0
Lower	ES18	714	Lake chub	94				0
Lower	ES18	715	Redside shiner	105				0
Lower	ES18	716	Longnose sucker	105				0
Lower	ES18	717	Lake chub	90				0
Lower	ES18	719	Lake chub	100				0
Lower	ES18	720	Longnose dace	101				0
Lower	ES18	721	Lake chub	96				0
Lower	ES18	722	Largescale sucker	105				0
Lower	ES18	723	Lake chub	101				0
Lower	ES18	724	Lake chub	89				0
Lower	ES18	725	Longnose sucker	99				0
Lower	ES18	726	Longnose sucker	95				0
Lower	ES18	727	Longnose sucker	93				0
Lower	ES18	728	Lake chub	86				0
Lower	ES18	729	Lake chub	86				0
Lower	ES18	730	Lake chub	83				0
Lower	ES18	731	Bull trout	168				0
Lower	ES18	732	Redside shiner	107		SC	1	0
Lower	ES18	733	Redside shiner	75				0
Lower	ES18	734	Redside shiner	108				0
Lower	ES18	735	Redside shiner	96				0
Lower	ES18	736	Largescale sucker	105				0
Lower	ES18	737	Largescale sucker	92				0
Lower	ES18	738	Largescale sucker	141				0
Lower	ES18	739	Longnose sucker	124				0
Lower	ES18	740	Largescale sucker	101				0
Lower	ES18	741	Longnose sucker	76				0
Lower	ES18	742	Longnose sucker	88				0
Lower	ES18	743	Largescale sucker	90				0
Lower	ES18	744	Mountain whitefish	83				0
Lower	ES18	745	Mountain whitefish	84		SC		0
Lower	ES18	746	Mountain whitefish	77		SC		0
Lower	ES18	747	Mountain whitefish	98		SC	0	0
Lower	ES18	748	Mountain whitefish	77		SC	0	0
Lower	ES18	749	Mountain whitefish	72		SC	0	0
Lower	ES18	750	Mountain whitefish	83		SC	0	0
Lower	ES18	751	Mountain whitefish	80		SC		0
Lower	ES18	752	Mountain whitefish	86		SC		0
Lower	ES18	753	Mountain whitefish	76		SC		0
Lower	ES18	754	Mountain whitefish	84		SC	0	0
Lower	ES18	755	Mountain whitefish	75				0
Lower	ES18	756	Mountain whitefish	91				0
Lower	ES18	757	Mountain whitefish	66				0
Lower	ES18	758	Mountain whitefish	74				0
Lower	ES18	759	Mountain whitefish	81				0
Lower	ES18	760	Mountain whitefish	90				0
Lower	ES18	761	Mountain whitefish	82				0
Lower	ES18	762	Mountain whitefish	74				0
Lower	ES18	763	Mountain whitefish	75				0
Lower	ES18	764	Mountain whitefish	76				0
Lower	ES18	765	Mountain whitefish	69				0
Lower	ES18	766	Longnose sucker	94				0
Lower	ES18	767	Longnose sucker	104				0
Lower	ES18	768	Mountain whitefish	79				0
Lower	ES18	777	Largescale sucker	191				0
Lower	ES19	778	Largescale sucker	111				0
Lower	ES19	779	Redside shiner	111				0
Lower	ES19	780	Redside shiner	115				0
Lower	ES19	781	Largescale sucker	102				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES19	782	Largescale sucker	113				0
Lower	ES19	783	Longnose sucker	117				0
Lower	ES19	784	Longnose sucker	78				0
Lower	ES19	785	Longnose sucker	102				0
Lower	ES19	786	Longnose sucker	101				0
Lower	ES19	787	Lake chub	102				0
Lower	ES19	788	Lake chub	91				0
Lower	ES19	789	Lake chub	86				0
Lower	ES19	790	Mountain whitefish	96		SC		0
Lower	ES19	791	Mountain whitefish	86		SC		0
Lower	ES19	792	Mountain whitefish	83		SC		0
Lower	ES19	793	Mountain whitefish	157		SC	1	0
Lower	ES19	794	Mountain whitefish	143		SC	1	0
Lower	ES19	795	Mountain whitefish	85		SC		0
Lower	ES19	796	Mountain whitefish	94		SC		0
Lower	ES19	797	Mountain whitefish	86		SC		0
Lower	ES19	798	Mountain whitefish	83		SC	0	0
Lower	ES19	799	Mountain whitefish	141		SC		0
Lower	ES19	800	Northern pikeminnow	136				0
Lower	ES19	801	Largescale sucker	95				0
Lower	ES19	802	Northern pikeminnow	212				0
Lower	ES19	803	Largescale sucker	107				0
Lower	ES19	804	Longnose sucker	104				0
Lower	ES19	805	Lake chub	62				0
Lower	ES19	806	Longnose sucker	110				0
Lower	ES19	807	Largescale sucker	142				0
Lower	ES19	808	Longnose dace	52				0
Lower	ES19	809	Spottail shiner	86				0
Lower	ES19	810	Mountain whitefish	100				0
Lower	ES19	811	Mountain whitefish	92				0
Lower	ES19	812	Largescale sucker	109				0
Lower	ES20	813	Largescale sucker	200				0
Lower	ES20	814	Largescale sucker	206				0
Lower	ES20	815	Largescale sucker	177				0
Lower	ES20	816	Largescale sucker	191				0
Lower	ES20	817	Northern pikeminnow	188				0
Lower	ES20	818	Northern pikeminnow	206				0
Lower	ES20	819	Largescale sucker	166				0
Lower	ES20	820	Largescale sucker	152				0
Lower	ES20	821	Largescale sucker	198				0
Lower	ES20	822	Largescale sucker	115				0
Lower	ES20	823	Largescale sucker	121				0
Lower	ES20	824	Redside shiner	134				0
Lower	ES20	825	Largescale sucker	122				0
Lower	ES20	826	Longnose sucker	117				0
Lower	ES20	827	Redside shiner	73				0
Lower	ES20	828	Redside shiner	102				0
Lower	ES20	829	Lake chub	115				0
Lower	ES20	830	Flathead chub	137				0
Lower	ES20	831	Mountain whitefish	99		SC	0	0
Lower	ES20	832	Mountain whitefish	66		SC	0	0
Lower	ES20	833	Mountain whitefish	89		SC		0
Lower	ES20	834	Mountain whitefish	77		SC	0	0
Lower	ES20	835	Mountain whitefish	87		SC		0
Lower	ES20	836	Mountain whitefish	88		SC		0
Lower	ES20	837	Mountain whitefish	84		SC	0	0
Lower	ES20	838	Mountain whitefish	140		SC	1	0
Lower	ES20	839	Mountain whitefish	243		SC	3	0
Lower	ES20	840	Mountain whitefish	62		SC	0	0
Lower	ES20	841	Longnose sucker	190				0
Lower	ES20	842	Redside shiner	102				0
Lower	ES20	843	Longnose sucker	126				0
Lower	ES20	844	Longnose dace	78				0
Lower	ES21	877	Arctic grayling	158		SC	1	0
Lower	ES21	878	Redside shiner	94				0
Lower	ES21	879	Longnose sucker	93				0
Lower	ES21	880	Redside shiner	98				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES21	881	Longnose sucker	108				0
Lower	ES21	882	Longnose sucker	120				0
Lower	ES21	883	Largescale sucker	112				0
Lower	ES21	884	Longnose sucker	113				0
Lower	ES21	885	Longnose sucker	91				0
Lower	ES21	886	Redside shiner	112				0
Lower	ES21	887	Redside shiner	102				0
Lower	ES21	888	Longnose dace	100				0
Lower	ES21	889	Mountain whitefish	143		SC		0
Lower	ES21	890	Mountain whitefish	140		SC		0
Lower	ES21	891	Mountain whitefish	135		SC	1	0
Lower	ES21	892	Mountain whitefish	139				0
Lower	ES21	893	Mountain whitefish	140				0
Lower	ES21	894	Mountain whitefish	79		SC	0	0
Lower	ES21	895	Mountain whitefish	93		SC	0	0
Lower	ES21	896	Mountain whitefish	125		SC		0
Lower	ES21	897	Mountain whitefish	80		SC	0	0
Lower	ES21	898	Mountain whitefish	131		SC	1	0
Lower	ES21	899	Mountain whitefish	76		SC	0	0
Lower	ES21	900	Lake chub	95				0
Lower	ES21	901	Mountain whitefish	75				0
Lower	ES21	902	Longnose dace	60				0
Lower	ES21	903	Mountain whitefish	95				0
Lower	ES21	904	Redside shiner	91				0
Lower	ES21	905	Mountain whitefish	96				0
Lower	ES21	906	Longnose sucker	80				0
Lower	ES21	907	Mountain whitefish	79				0
Lower	ES21	908	Mountain whitefish	81				0
Lower	ES21	909	Mountain whitefish	85				0
Lower	ES21	910	Mountain whitefish	92				0
Lower	ES21	911	Mountain whitefish	81				0
Lower	ES21	912	Mountain whitefish	78				0
Lower	ES21	913	Mountain whitefish	86				0
Lower	ES21	914	Mountain whitefish	87				0
Lower	ES21	915	Mountain whitefish	86				0
Lower	ES21	916	Mountain whitefish	80				0
Lower	ES21	917	Mountain whitefish	72				0
Lower	ES21	918	Mountain whitefish	81				0
Lower	ES21	919	Mountain whitefish	141				0
Lower	ES21	920	Mountain whitefish	82				0
Lower	ES21	921	Mountain whitefish	79				0
Lower	ES21	922	Mountain whitefish	81				0
Lower	ES21	923	Longnose sucker	101				0
Lower	ES21	924	Longnose sucker	82				0
Lower	ES21	925	Longnose sucker	75				0
Lower	ES21	926	Longnose sucker	106				0
Lower	ES21	927	Mountain whitefish	130				0
Lower	ES21	928	Longnose dace	86				0
Lower	ES21	929	Longnose dace	65				0
Lower	ES21	930	Slimy sculpin	85				0
Lower	ES21	931	Longnose dace	24				0
Lower	ES21	932	Longnose dace	48				0
Lower	ES21	933	Mountain whitefish	88		SC		0
Lower	ES22	937	Mountain whitefish	195		SC	2	0
Lower	ES22	938	Mountain whitefish	144		SC		0
Lower	ES22	939	Mountain whitefish	76		SC	0	0
Lower	ES22	940	Mountain whitefish	102		SC	0	0
Lower	ES22	941	Mountain whitefish	79		SC	0	0
Lower	ES22	942	Mountain whitefish	74		SC	0	0
Lower	ES22	943	Mountain whitefish	139		SC	1	0
Lower	ES22	944	Mountain whitefish	144		SC	1	0
Lower	ES22	945	Mountain whitefish	84		SC		0
Lower	ES22	946	Mountain whitefish	85		SC		0
Lower	ES22	947	Mountain whitefish	140				0
Lower	ES22	948	Mountain whitefish	71				0
Lower	ES22	949	Mountain whitefish	82				0
Lower	ES22	950	Mountain whitefish	95				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES22	951	Mountain whitefish	93				0
Lower	ES22	952	Mountain whitefish	91				0
Lower	ES22	953	Mountain whitefish	146				0
Lower	ES22	954	Mountain whitefish	147				0
Lower	ES22	955	Mountain whitefish	141				0
Lower	ES22	956	Mountain whitefish	136				0
Lower	ES22	957	Mountain whitefish	150				0
Lower	ES22	958	Mountain whitefish	91				0
Lower	ES22	959	Mountain whitefish	82				0
Lower	ES22	960	Mountain whitefish	82				0
Lower	ES22	961	Mountain whitefish	70				0
Lower	ES22	962	Mountain whitefish	98				0
Lower	ES22	963	Mountain whitefish	80				0
Lower	ES22	964	Mountain whitefish	92				0
Lower	ES22	965	Mountain whitefish	86				0
Lower	ES22	966	Mountain whitefish	74				0
Lower	ES22	967	Mountain whitefish	92				0
Lower	ES22	968	Mountain whitefish	87				0
Lower	ES22	969	Mountain whitefish	85				0
Lower	ES22	970	Mountain whitefish	85				0
Lower	ES22	971	Mountain whitefish	102				0
Lower	ES22	972	Mountain whitefish	94				0
Lower	ES22	973	Mountain whitefish	92				0
Lower	ES22	974	Redside shiner	114				0
Lower	ES22	975	Redside shiner	113				0
Lower	ES22	976	Redside shiner	104				0
Lower	ES22	977	Redside shiner	113				0
Lower	ES22	978	Largescale sucker	132				0
Lower	ES22	979	Largescale sucker	121				0
Lower	ES22	980	Largescale sucker	116				0
Lower	ES22	981	Largescale sucker	91				0
Lower	ES22	982	Longnose sucker	78				0
Lower	ES22	983	Longnose sucker	87				0
Lower	ES22	984	Mountain whitefish	141				0
Lower	ES22	985	Longnose sucker	101				0
Lower	ES22	986	Mountain whitefish	142				0
Lower	ES22	987	Longnose sucker	114				0
Lower	ES22	988	Longnose sucker	97				0
Lower	ES22	989	Mountain whitefish	82				0
Lower	ES22	990	Mountain whitefish	197				0
Lower	ES22	991	Largescale sucker	137				0
Lower	ES22	992	Largescale sucker	161				0
Lower	ES22	993	Largescale sucker	141				0
Lower	ES22	994	Mountain whitefish	90				0
Lower	ES22	995	Slimy sculpin	69				1
Lower	ES22	996	Slimy sculpin	72				1
Lower	ES22	997	Mountain whitefish	81				0
Lower	ES22	998	Longnose dace	83				0
Lower	ES22	999	Longnose dace	55				0
Lower	ES22	1000	Slimy sculpin	40				0
Lower	ES23	1001	Mountain whitefish	249				0
Lower	ES23	1002	Mountain whitefish	171		SC	1	0
Lower	ES23	1003	Redside shiner	90				0
Lower	ES23	1004	Redside shiner	91				0
Lower	ES23	1005	Redside shiner	97				0
Lower	ES23	1006	Redside shiner	104				0
Lower	ES23	1007	Redside shiner	109				0
Lower	ES23	1008	Redside shiner	126				0
Lower	ES23	1009	Redside shiner	77				0
Lower	ES23	1010	Redside shiner	94				0
Lower	ES23	1011	Redside shiner	92				0
Lower	ES23	1012	Redside shiner	111				0
Lower	ES23	1013	Spottail shiner	78				0
Lower	ES23	1014	Longnose sucker	54				0
Lower	ES23	1015	Largescale sucker	106				0
Lower	ES23	1016	Lake chub	101				1
Lower	ES23	1017	Lake chub	91				1

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES23	1018	Largescale sucker	106				0
Lower	ES23	1019	Longnose sucker	78				0
Lower	ES23	1020	Longnose sucker	80				0
Lower	ES23	1021	Longnose sucker	82				0
Lower	ES23	1022	Longnose sucker	77				0
Lower	ES23	1023	Northern pikeminnow	92				1
Lower	ES23	1024	Northern pikeminnow	67				0
Lower	ES23	1025	Mountain whitefish	85		SC	0	0
Lower	ES23	1026	Largescale sucker	130				0
Lower	ES23	1027	Largescale sucker	112				0
Lower	ES23	1028	Largescale sucker	109				0
Lower	ES23	1029	Longnose sucker	85				0
Lower	ES23	1030	Largescale sucker	93				0
Lower	ES23	1031	Northern pikeminnow	91				1
Lower	ES23	1032	Largescale sucker	184				0
Lower	ES23	1033	Largescale sucker	113				0
Lower	ES23	1034	Northern pikeminnow	97				0
Lower	ES23	1035	Largescale sucker	97				0
Lower	ES23	1036	Largescale sucker	110				0
Lower	ES23	1037	Slimy sculpin	75				0
Lower	ES23	1038	Mountain whitefish	70		SC	0	0
Lower	ES23	1039	Longnose sucker	80				0
Lower	ES23	1040	Longnose sucker	34				0
Lower	ES24	1046	Largescale sucker	259				0
Lower	ES24	1047	Longnose sucker	119				0
Lower	ES24	1048	Largescale sucker	145				0
Lower	ES24	1049	Largescale sucker	175				0
Lower	ES24	1050	Longnose sucker	141				0
Lower	ES24	1051	Longnose sucker	145				0
Lower	ES24	1052	Largescale sucker	114				0
Lower	ES24	1053	Largescale sucker	116				0
Lower	ES24	1054	Longnose sucker	100				0
Lower	ES24	1055	Longnose sucker	88				0
Lower	ES24	1056	Longnose sucker	71				0
Lower	ES24	1057	Longnose dace	96				0
Lower	ES24	1058	Lake chub	91				0
Lower	ES24	1059	Redside shiner	110				0
Lower	ES24	1060	Redside shiner	94				0
Lower	ES24	1061	Redside shiner	101				0
Lower	ES24	1062	Redside shiner	102				0
Lower	ES24	1063	Redside shiner	53				0
Lower	ES24	1064	Mountain whitefish	145		SC		0
Lower	ES24	1065	Mountain whitefish	130		SC	1	0
Lower	ES24	1066	Mountain whitefish	139		SC	1	0
Lower	ES24	1067	Mountain whitefish	144		SC		0
Lower	ES24	1068	Mountain whitefish	87		SC		0
Lower	ES24	1069	Mountain whitefish	92		SC	0	0
Lower	ES24	1070	Mountain whitefish	103		SC	0	0
Lower	ES24	1071	Mountain whitefish	96		SC	0	0
Lower	ES24	1072	Mountain whitefish	86		SC		0
Lower	ES24	1073	Mountain whitefish	68		SC	0	0
Lower	ES24	1074	Largescale sucker	89				0
Lower	ES24	1075	Longnose sucker	127				0
Lower	ES24	1076	Mountain whitefish	149				0
Lower	ES24	1077	Mountain whitefish	76				0
Lower	ES24	1078	Mountain whitefish	89				0
Lower	ES24	1079	Mountain whitefish	66				0
Lower	ES24	1080	Longnose dace	64				0
Lower	ES24	1081	Largescale sucker	116				0
Lower	ES24	1082	Longnose sucker	122				0
Lower	ES24	1083	Longnose sucker	107				0
Lower	ES24	1084	Longnose dace	86				0
Lower	ES24	1085	Longnose dace	78				0
Lower	ES24	1086	Redside shiner	106				0
Lower	ES24	1087	Longnose dace	60				0
Lower	ES24	1088	Longnose dace	90				0
Lower	ES24	1089	Largescale sucker	341				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	ES24	1090	Largescale sucker	197				0
Lower	ES24	1091	Largescale sucker	174				0
Lower	ES24	1092	Longnose sucker	122				0
Lower	ES24	1093	Redside shiner	96				0
Lower	ES24	1094	Redside shiner	117				0
Lower	ES24	1095	Redside shiner	99				0
Lower	ES24	1096	Redside shiner	102				0
Lower	ES24	1097	Lake chub	84				0
Lower	ES24	1098	Largescale sucker	85				0
Lower	ES24	1099	Northern pikeminnow	182				0
Lower	ES24	1100	Mountain whitefish	87				0
Lower	ES24	1101	Mountain whitefish	89				0
Lower	ES24	1102	Mountain whitefish	142				0
Lower	ES24	1103	Mountain whitefish	84				0
Lower	ES24	1104	Mountain whitefish	80				0
Lower	ES24	1105	Mountain whitefish	67				0
Lower	ES24	1106	Mountain whitefish	77				0
Lower	ES24	1107	Mountain whitefish	77				0
Lower	ES24	1108	Mountain whitefish	76				0
Lower	ES24	1109	Mountain whitefish	146				0
Lower	ES24	1110	Mountain whitefish	84				0
Lower	ES24	1111	Slimy sculpin	41				0
Lower	ES24	1112	Slimy sculpin	66				0
Lower	ES25	1124	Redside shiner	83				0
Lower	ES25	1125	Redside shiner	94				0
Lower	ES25	1126	Northern pikeminnow	101				0
Lower	ES25	1127	Redside shiner	101				0
Lower	ES25	1128	Redside shiner	98				0
Lower	ES25	1129	Redside shiner	102				0
Lower	ES25	1130	Redside shiner	95				0
Lower	ES25	1131	Redside shiner	93				0
Lower	ES25	1132	Redside shiner	99				0
Lower	ES25	1133	Redside shiner	78				0
Lower	ES25	1134	Redside shiner	103				0
Lower	ES25	1135	Redside shiner	109				0
Lower	ES25	1136	Redside shiner	95				0
Lower	ES25	1137	Mountain whitefish	77		SC	0	0
Lower	ES25	1138	Redside shiner	111				0
Lower	ES25	1139	Mountain whitefish	142		SC		0
Lower	ES25	1140	Redside shiner	94				0
Lower	ES25	1141	Longnose sucker	112				0
Lower	ES25	1142	Spottail shiner	81				0
Lower	ES25	1143	Longnose sucker	89				0
Lower	ES25	1144	Longnose dace	89				0
Lower	ES25	1145	Mountain whitefish	100		SC	0	0
Lower	ES25	1146	Longnose sucker	82				0
Lower	ES25	1147	Mountain whitefish	84		SC		0
Lower	ES25	1148	Mountain whitefish	142		SC		0
Lower	ES25	1149	Largescale sucker	97				0
Lower	ES25	1150	Slimy sculpin	53				0
Lower	ES25	1151	Slimy sculpin	53				0
Upper	EF01	1157	Longnose dace	32				0
Upper	EF01	1158	Longnose dace	30				0
Upper	EF01	1159	Longnose dace	27				0
Upper	EF01	1160	Longnose dace	36				0
Upper	EF01	1161	Longnose dace	23				0
Upper	EF01	1162	Longnose sucker	52				0
Upper	EF01	1163	Longnose dace	31				0
Upper	EF01	1164	Longnose dace	24				0
Upper	EF01	1165	Longnose dace	17				0
Upper	EF01	1166	Longnose dace	21				0
Upper	EF01	1167	Longnose dace	32				0
Upper	EF01	1168	Longnose dace	33				0
Upper	EF01	1169	Largescale sucker	37				0
Upper	EF01	1170	Northern pikeminnow	41				0
Upper	EF01	1171	Slimy sculpin	37				0
Upper	EF01	1172	Slimy sculpin	31				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF01	1173	Slimy sculpin	32				0
Upper	EF02	1223	Slimy sculpin	87				0
Upper	EF02	1224	Redside shiner	62				0
Upper	EF02	1225	Slimy sculpin	78				0
Upper	EF02	1226	Slimy sculpin	74				0
Upper	EF02	1227	Slimy sculpin	69				0
Upper	EF02	1228	Slimy sculpin	70				0
Upper	EF02	1229	Slimy sculpin	32				0
Upper	EF02	1230	Longnose dace	33				0
Upper	EF02	1231	Slimy sculpin	72				0
Upper	EF02	1232	Longnose dace	34				0
Upper	EF02	1233	Longnose sucker	47				0
Upper	EF02	1234	Slimy sculpin	37				0
Upper	EF02	1235	Slimy sculpin	69				0
Upper	EF02	1236	Longnose sucker	64				0
Upper	EF02	1237	Slimy sculpin	72				0
Upper	EF02	1238	Longnose sucker	76				0
Upper	EF02	1239	Longnose sucker	81				0
Upper	EF02	1240	Largescale sucker	80				0
Upper	EF02	1241	Largescale sucker	80				0
Upper	EF02	1242	Largescale sucker	62				0
Upper	EF02	1243	Longnose sucker	22				0
Upper	EF02	1244	Longnose sucker	59				0
Upper	EF02	1245	Longnose sucker	87				0
Upper	EF02	1246	Largescale sucker	56				0
Upper	EF02	1247	Longnose dace	66				0
Upper	EF02	1248	Longnose dace	71				0
Upper	EF02	1249	Largescale sucker	62				0
Upper	EF02	1250	Longnose dace	53				0
Upper	EF02	1251	Longnose dace	44				0
Upper	EF02	1252	Longnose sucker	70				0
Upper	EF02	1253	Longnose dace	61				0
Upper	EF02	1254	Longnose dace	22				0
Upper	EF02	1255	Longnose dace	21				0
Upper	EF02	1256	Lake chub	77				0
Upper	EF02	1257	Longnose dace	22				0
Upper	EF02	1258	Longnose dace	23				0
Upper	EF03	1277	Longnose dace	57				0
Upper	EF03	1278	Slimy sculpin	71				0
Upper	EF03	1279	Slimy sculpin	80				0
Upper	EF03	1280	Redside shiner	28				0
Upper	EF03	1281	Slimy sculpin	38				0
Upper	EF03	1282	Longnose dace	21				0
Upper	EF03	1283	Lake chub	62				0
Upper	EF03	1284	Longnose sucker	65				0
Upper	EF03	1285	Slimy sculpin	37				0
Upper	EF03	1286	Longnose dace	59				0
Upper	EF03	1287	Longnose dace	26				0
Upper	EF03	1288	Longnose dace	27				0
Upper	EF03	1289	Longnose dace	22				0
Upper	EF03	1290	Longnose sucker	42				0
Upper	EF03	1291	Longnose sucker	37				0
Upper	EF03	1292	Longnose dace	28				0
Upper	EF03	1293	Slimy sculpin	35				0
Upper	EF03	1294	Longnose sucker	29				0
Upper	EF03	1295	Longnose dace	25				0
Upper	EF03	1296	Longnose dace	30				0
Upper	EF03	1297	Longnose dace	29				0
Upper	EF03	1298	Longnose sucker	43				0
Upper	EF03	1299	Slimy sculpin	31				0
Upper	EF04	1315	Slimy sculpin	66				0
Upper	EF04	1316	Slimy sculpin	77				0
Upper	EF04	1317	Slimy sculpin	33				0
Upper	EF04	1318	Slimy sculpin	72				0
Upper	EF04	1319	Longnose dace	64				0
Upper	EF04	1320	Longnose dace	58				0
Upper	EF04	1321	Slimy sculpin	67				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF04	1322	Longnose dace	23				0
Upper	EF04	1323	Longnose dace	56				0
Upper	EF04	1324	Longnose dace	62				0
Upper	EF04	1325	Slimy sculpin	68				0
Upper	EF04	1326	Slimy sculpin	46				0
Upper	EF04	1327	Largescale sucker	47				0
Upper	EF04	1328	Longnose dace	32				0
Upper	EF04	1329	Redside shiner	20				0
Upper	EF04	1330	Slimy sculpin	36				0
Upper	EF04	1331	Redside shiner	36				0
Upper	EF04	1332	Longnose dace	32				0
Upper	EF04	1333	Longnose dace	28				0
Upper	EF04	1334	Longnose dace	27				0
Upper	EF04	1335	Longnose dace	23				0
Upper	EF05	1341	Longnose dace	72				0
Upper	EF05	1342	Longnose dace	70				0
Upper	EF05	1343	Longnose sucker	63				0
Upper	EF05	1344	Slimy sculpin	73				0
Upper	EF05	1345	Slimy sculpin	79				0
Upper	EF05	1346	Longnose sucker	72				0
Upper	EF05	1347	Longnose dace	46				0
Upper	EF05	1348	Longnose sucker	29				0
Upper	EF05	1349	Redside shiner	26				0
Upper	EF05	1350	Redside shiner	18				0
Upper	EF05	1351	Redside shiner	33				0
Upper	EF05	1352	Longnose sucker	41				0
Upper	EF05	1353	Longnose sucker	30				0
Upper	EF05	1354	Longnose sucker	27				0
Upper	EF05	1355	Longnose dace	28				0
Upper	EF05	1356	Longnose dace	45				0
Upper	EF05	1357	Longnose sucker	33				0
Upper	EF05	1358	Longnose sucker	29				0
Upper	EF05	1359	Longnose sucker	26				0
Upper	EF05	1360	Longnose sucker	28				0
Upper	EF05	1361	Longnose sucker	27				0
Upper	EF05	1362	Longnose sucker	28				0
Upper	EF05	1363	Slimy sculpin	36				0
Upper	EF05	1364	Slimy sculpin	34				0
Upper	EF06	1365	Longnose dace	22				0
Upper	EF06	1366	Longnose dace	23				0
Upper	EF06	1367	Longnose dace	27				0
Upper	EF06	1368	Longnose dace	28				0
Upper	EF06	1369	Longnose dace	30				0
Upper	EF06	1370	Longnose dace	23				0
Upper	EF06	1371	Longnose dace	19				0
Upper	EF06	1372	Longnose sucker	32				0
Upper	EF06	1373	Longnose sucker	32				0
Upper	EF06	1374	Longnose dace	22				0
Upper	EF06	1375	Longnose dace	16				0
Upper	EF06	1376	Longnose dace	22				0
Upper	EF06	1377	Longnose dace	21				0
Upper	EF06	1378	Longnose dace	22				0
Upper	EF06	1379	Longnose dace	20				0
Upper	EF06	1380	Longnose dace	24				0
Upper	EF06	1381	Longnose dace	26				0
Upper	EF06	1382	Longnose dace	28				0
Upper	EF06	1383	Longnose dace	19				0
Upper	EF06	1384	Longnose dace	20				0
Upper	EF06	1385	Longnose dace	16				0
Upper	EF07	1386	Slimy sculpin	98				0
Upper	EF07	1387	Slimy sculpin	67				0
Upper	EF07	1388	Slimy sculpin	83				0
Upper	EF07	1389	Slimy sculpin	76				0
Upper	EF07	1390	Slimy sculpin	94				0
Upper	EF07	1391	Slimy sculpin	72				0
Upper	EF07	1392	Slimy sculpin	73				0
Upper	EF07	1393	Slimy sculpin	74				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF07	1394	Slimy sculpin	72				0
Upper	EF07	1395	Slimy sculpin	80				0
Upper	EF07	1396	Slimy sculpin	67				0
Upper	EF07	1397	Slimy sculpin	74				0
Upper	EF07	1398	Longnose sucker	78				0
Upper	EF07	1399	Longnose sucker	82				0
Upper	EF07	1400	Largescale sucker	78				0
Upper	EF07	1401	Longnose sucker	93				0
Upper	EF07	1402	Longnose sucker	65				0
Upper	EF07	1403	Longnose sucker	88				0
Upper	EF07	1404	Slimy sculpin	57				0
Upper	EF07	1405	Slimy sculpin	74				0
Upper	EF07	1406	Slimy sculpin	68				0
Upper	EF07	1407	Slimy sculpin	69				0
Upper	EF07	1408	Slimy sculpin	82				0
Upper	EF07	1409	Longnose sucker	74				0
Upper	EF07	1410	Slimy sculpin	34				0
Upper	EF07	1411	Slimy sculpin	36				0
Upper	EF07	1412	Slimy sculpin	37				0
Upper	EF07	1413	Slimy sculpin	38				0
Upper	EF07	1414	Longnose dace	24				0
Upper	EF07	1415	Longnose dace	28				0
Upper	EF07	1416	Longnose dace	27				0
Upper	EF07	1417	Longnose dace	19				0
Upper	EF07	1418	Longnose dace	22				0
Upper	EF07	1419	Longnose dace	26				0
Upper	EF07	1420	Longnose dace	23				0
Upper	EF07	1421	Longnose dace	24				0
Upper	EF07	1422	Longnose dace	23				0
Upper	EF07	1423	Longnose dace	22				0
Upper	EF07	1424	Slimy sculpin	36				0
Upper	EF07	1425	Slimy sculpin	36				0
Upper	EF07	1426	Slimy sculpin	34				0
Upper	EF07	1427	Longnose sucker	42				0
Upper	EF07	1428	Slimy sculpin	38				0
Upper	EF08	1437	Longnose dace	27				0
Upper	EF08	1438	Longnose dace	24				0
Upper	EF09	1439	Slimy sculpin	69				0
Upper	EF09	1440	Slimy sculpin	74				0
Upper	EF09	1441	Slimy sculpin	72				0
Upper	EF09	1442	Longnose sucker	85				0
Upper	EF09	1443	Slimy sculpin	36				0
Upper	EF09	1444	Slimy sculpin	39				0
Upper	EF09	1445	Slimy sculpin	65				0
Upper	EF09	1446	Slimy sculpin	39				0
Upper	EF09	1447	Longnose sucker	36				0
Upper	EF09	1448	Longnose dace	26				0
Upper	EF09	1449	Longnose dace	27				0
Upper	EF09	1450	Slimy sculpin	30				0
Upper	EF09	1451	Longnose dace	21				0
Upper	EF09	1452	Longnose dace	19				0
Upper	EF09	1453	Longnose dace	26				0
Upper	EF09	1454	Longnose dace	25				0
Upper	EF09	1455	Longnose dace	22				0
Upper	EF09	1456	Longnose sucker	77				0
Upper	EF09	1457	Longnose dace	30				0
Upper	EF09	1458	Slimy sculpin	34				0
Upper	EF09	1459	Longnose dace	25				0
Upper	EF09	1460	Longnose dace	29				0
Upper	EF09	1461	Longnose dace	21				0
Upper	EF09	1462	Longnose dace	19				0
Upper	EF09	1463	Slimy sculpin	37				0
Upper	EF09	1464	Longnose dace	22				0
Upper	EF09	1465	Longnose sucker	36				0
Upper	EF10	1488	Largescale sucker	104				0
Upper	EF10	1489	Longnose sucker	84				0
Upper	EF10	1490	Redside shiner	33				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF10	1491	Northern pikeminnow	78				0
Upper	EF10	1492	Northern pikeminnow	69				0
Upper	EF10	1493	Northern pikeminnow	67				0
Upper	EF10	1494	Longnose dace	54				0
Upper	EF10	1495	Longnose sucker	23				0
Upper	EF10	1496	Northern pikeminnow	69				0
Upper	EF10	1497	Northern pikeminnow	67				0
Upper	EF10	1498	Longnose sucker	33				0
Upper	EF10	1499	Longnose sucker	39				0
Upper	EF10	1500	Lake chub	19				0
Upper	EF10	1501	Redside shiner	31				0
Upper	EF10	1502	Redside shiner	27				0
Upper	EF10	1503	Redside shiner	28				0
Upper	EF10	1504	Redside shiner	30				0
Upper	EF10	1505	Northern pikeminnow	27				0
Upper	EF10	1506	Longnose dace	24				0
Upper	EF10	1507	Redside shiner	27				0
Upper	EF10	1508	Redside shiner	24				0
Upper	EF10	1509	Redside shiner	21				0
Upper	EF10	1510	Redside shiner	21				0
Upper	EF10	1511	Redside shiner	31				0
Upper	EF10	1512	Longnose dace	26				0
Upper	EF10	1513	Redside shiner	27				0
Upper	EF10	1514	Longnose dace	22				0
Upper	EF10	1515	Longnose dace	29				0
Upper	EF10	1516	Longnose dace	27				0
Upper	EF10	1517	Redside shiner	26				0
Upper	EF10	1518	Redside shiner	22				0
Upper	EF10	1519	Longnose sucker	22				0
Upper	EF10	1520	Longnose dace	18				0
Upper	EF10	1521	Longnose sucker	39				0
Upper	EF10	1522	Longnose dace	27				0
Upper	EF10	1523	Longnose dace	23				0
Upper	EF10	1524	Longnose sucker	24				0
Upper	EF10	1525	Redside shiner	31				0
Upper	EF10	1526	Longnose sucker	25				0
Upper	EF10	1527	Longnose dace	18				0
Upper	EF10	1528	Longnose sucker	22				0
Upper	EF10	1529	Redside shiner	18				0
Upper	EF10	1530	Redside shiner	21				0
Upper	EF10	1531	Longnose dace	22				0
Upper	EF10	1532	Redside shiner	17				0
Upper	EF10	1533	Slimy sculpin	32				0
Upper	EF10	1534	Longnose dace	20				0
Upper	EF11	1539	Longnose dace	24				0
Upper	EF11	1540	Northern pikeminnow	66				0
Upper	EF11	1541	Slimy sculpin	72				0
Upper	EF11	1542	Northern pikeminnow	70				0
Upper	EF11	1543	Longnose dace	23				0
Upper	EF11	1544	Northern pikeminnow	92				0
Upper	EF11	1545	Longnose sucker	44				0
Upper	EF11	1546	Redside shiner	24				0
Upper	EF11	1547	Northern pikeminnow	37				0
Upper	EF11	1548	Longnose dace	26				0
Upper	EF11	1549	Northern pikeminnow	58				0
Upper	EF11	1550	Longnose dace	64				0
Upper	EF11	1551	Longnose dace	28				0
Upper	EF11	1552	Longnose dace	28				0
Upper	EF11	1553	Redside shiner	26				0
Upper	EF11	1554	Slimy sculpin	38				0
Upper	EF11	1555	Longnose sucker	38				0
Upper	EF11	1556	Redside shiner	26				0
Upper	EF11	1557	Slimy sculpin	64				0
Upper	EF11	1558	Longnose dace	63				0
Upper	EF11	1559	Longnose dace	27				0
Upper	EF11	1560	Slimy sculpin	39				0
Upper	EF11	1561	Slimy sculpin	36				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF11	1562	Slimy sculpin	36				0
Upper	EF11	1563	Longnose dace	27				0
Upper	EF11	1564	Longnose dace	33				0
Upper	EF11	1565	Redside shiner	27				0
Upper	EF11	1566	Redside shiner	24				0
Upper	EF11	1567	Redside shiner	19				0
Upper	EF11	1568	Redside shiner	26				0
Upper	EF11	1569	Redside shiner	26				0
Upper	EF11	1570	Lake chub	19				0
Upper	EF11	1571	Northern pikeminnow	31				0
Upper	EF11	1572	Redside shiner	38				0
Upper	EF11	1573	Redside shiner	37				0
Upper	EF11	1574	Redside shiner	31				0
Upper	EF11	1575	Redside shiner	32				0
Upper	EF11	1576	Redside shiner	34				0
Upper	EF11	1577	Redside shiner	34				0
Upper	EF11	1578	Redside shiner	35				0
Upper	EF12	1593	Longnose sucker	44				0
Upper	EF12	1594	Longnose sucker	96				0
Upper	EF12	1595	Northern pikeminnow	91				0
Upper	EF12	1596	Northern pikeminnow	85				0
Upper	EF12	1597	Slimy sculpin	87				0
Upper	EF12	1598	Northern pikeminnow	97				0
Upper	EF12	1599	Northern pikeminnow	98				0
Upper	EF12	1600	Northern pikeminnow	84				0
Upper	EF12	1601	Redside shiner	33				0
Upper	EF12	1602	Northern pikeminnow	29				0
Upper	EF12	1603	Longnose dace	22				0
Upper	EF12	1604	Longnose dace	23				0
Upper	EF12	1605	Northern pikeminnow	17				0
Upper	EF12	1606	Northern pikeminnow	18				0
Upper	EF12	1607	Redside shiner	26				0
Upper	EF12	1608	Redside shiner	54				0
Upper	EF12	1609	Redside shiner	37				0
Upper	EF12	1610	Redside shiner	27				0
Upper	EF12	1611	Redside shiner	35				0
Upper	EF12	1612	Redside shiner	44				0
Upper	EF12	1613	Redside shiner	27				0
Upper	EF12	1614	Redside shiner	35				0
Upper	EF12	1615	Lake chub	33				0
Upper	EF12	1616	Longnose dace	36				0
Upper	EF12	1617	Longnose dace	33				0
Upper	EF12	1618	Longnose dace	24				0
Upper	EF12	1619	Longnose sucker	27				0
Upper	EF13	1620	Slimy sculpin	77				0
Upper	EF13	1621	Slimy sculpin	64				0
Upper	EF13	1622	Slimy sculpin	68				0
Upper	EF13	1623	Longnose dace	36				0
Upper	EF13	1624	Longnose dace	37				0
Upper	EF13	1625	Longnose dace	28				0
Upper	EF13	1626	Redside shiner	24				0
Upper	EF13	1627	Longnose sucker	44				0
Upper	EF13	1628	Redside shiner	25				0
Upper	EF13	1629	Redside shiner	18				0
Upper	EF13	1630	Longnose sucker	82				0
Upper	EF13	1631	Longnose dace	27				0
Upper	EF13	1632	Longnose dace	29				0
Upper	EF13	1633	Longnose dace	28				0
Upper	EF13	1634	Longnose sucker	48				0
Upper	EF13	1635	Longnose sucker	45				0
Upper	EF13	1636	Longnose dace	24				0
Upper	EF13	1637	Redside shiner	19				0
Upper	EF13	1638	Redside shiner	25				0
Upper	EF13	1639	Longnose dace	24				0
Upper	EF13	1640	Longnose dace	25				0
Upper	EF13	1641	Longnose sucker	35				0
Upper	EF13	1642	Longnose sucker	28				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF13	1643	Longnose dace	32				0
Upper	EF13	1644	Slimy sculpin	36				0
Upper	EF13	1645	Redside shiner	23				0
Upper	EF13	1646	Redside shiner	19				0
Upper	EF13	1647	Longnose sucker	31				0
Upper	EF13	1648	Redside shiner	17				0
Upper	EF13	1649	Slimy sculpin	32				0
Upper	EF13	1650	Redside shiner	19				0
Upper	EF14	1676	Slimy sculpin	74				0
Upper	EF14	1677	Longnose dace	59				0
Upper	EF14	1678	Slimy sculpin	67				0
Upper	EF14	1679	Slimy sculpin	39				0
Upper	EF14	1680	Longnose dace	46				0
Upper	EF14	1681	Slimy sculpin	67				0
Upper	EF14	1682	Longnose dace	69				0
Upper	EF14	1683	Longnose dace	76				0
Upper	EF14	1684	Longnose sucker	82				0
Upper	EF14	1685	Longnose dace	59				0
Upper	EF14	1686	Longnose dace	84				0
Upper	EF14	1687	Longnose dace	32				0
Upper	EF14	1688	Longnose dace	29				0
Upper	EF14	1689	Slimy sculpin	38				0
Upper	EF14	1690	Longnose dace	60				0
Upper	EF14	1691	Slimy sculpin	36				0
Upper	EF14	1692	Slimy sculpin	41				0
Upper	EF14	1693	Slimy sculpin	37				0
Upper	EF14	1694	Longnose dace	27				0
Upper	EF14	1695	Slimy sculpin	37				0
Upper	EF14	1696	Slimy sculpin	35				0
Upper	EF14	1697	Slimy sculpin	38				0
Upper	EF15	1709	Longnose dace	98				0
Upper	EF15	1710	Slimy sculpin	80				0
Upper	EF15	1711	Prickly sculpin	86				0
Upper	EF15	1712	Slimy sculpin	98				0
Upper	EF15	1713	Longnose dace	106				0
Upper	EF15	1714	Slimy sculpin	56				0
Upper	EF15	1715	Longnose dace	70				0
Upper	EF15	1716	Prickly sculpin	75				0
Upper	EF15	1717	Prickly sculpin	84				0
Upper	EF15	1718	Slimy sculpin	69				0
Upper	EF15	1719	Slimy sculpin	44				0
Upper	EF15	1720	Longnose dace	50				0
Upper	EF15	1721	Longnose dace	52				0
Upper	EF15	1722	Longnose dace	72				0
Upper	EF15	1723	Longnose dace	82				0
Upper	EF15	1724	Slimy sculpin	68				0
Upper	EF15	1725	Redside shiner	23				0
Upper	EF15	1726	Slimy sculpin	36				0
Upper	EF15	1727	Slimy sculpin	26				0
Upper	EF15	1728	Longnose dace	87				0
Upper	EF15	1729	Slimy sculpin	35				0
Upper	EF15	1730	Longnose dace	32				0
Upper	EF15	1731	Longnose dace	36				0
Upper	EF15	1732	Longnose dace	30				0
Upper	EF15	1733	Longnose dace	34				0
Upper	EF15	1734	Longnose sucker	23				0
Upper	EF16	1756	Slimy sculpin	87				0
Upper	EF16	1757	Largescale sucker	76				0
Upper	EF16	1758	Longnose sucker	68				0
Upper	EF16	1759	Slimy sculpin	36				0
Upper	EF16	1760	Slimy sculpin	63				0
Upper	EF16	1761	Slimy sculpin	37				0
Upper	EF16	1762	Slimy sculpin	35				0
Upper	EF16	1763	Slimy sculpin	39				0
Upper	EF16	1764	Largescale sucker	49				0
Upper	EF16	1765	Longnose dace	27				0
Upper	EF16	1766	Longnose dace	38				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	EF16	1767	Longnose sucker	47				0
Upper	EF16	1768	Slimy sculpin	34				0
Upper	EF16	1769	Slimy sculpin	36				0
Upper	EF16	1770	Longnose sucker	32				0
Upper	EF16	1771	Longnose dace	27				0
Upper	EF16	1772	Redside shiner	21				0
Upper	EF16	1773	Lake chub	18				0
Upper	EF16	1774	Longnose sucker	39				0
Upper	EF16	1775	Slimy sculpin	36				0
Upper	EF16	1776	Largescale sucker	37				0
Upper	EF16	1777	Slimy sculpin	32				0
Upper	EF16	1778	Longnose dace	23				0
Upper	EF16	1779	Longnose dace	25				0
Upper	EF16	1780	Redside shiner	26				0
Upper	EF16	1781	Longnose dace	32				0
Upper	EF16	1782	Longnose dace	26				0
Upper	EF16	1783	Longnose dace	22				0
Upper	EF16	1784	Longnose sucker	24				0
Upper	EF16	1785	Northern pikeminnow	20				0
Upper	EF16	1786	Longnose dace	27				0
Upper	EF16	1787	Longnose dace	24				0
Upper	EF16	1788	Longnose sucker	54				0
Upper	EF16	1789	Slimy sculpin	36				0
Upper	EF16	1790	Slimy sculpin	37				0
Upper	EF16	1791	Largescale sucker	46				0
Upper	EF16	1792	Redside shiner	30				0
Upper	EF16	1793	Longnose sucker	42				0
Lower	EF17	1811	Longnose dace	27				0
Lower	EF17	1812	Slimy sculpin	61				0
Lower	EF17	1813	Slimy sculpin	33				0
Lower	EF17	1814	Longnose dace	21				0
Lower	EF17	1815	Longnose dace	33				0
Lower	EF17	1816	Redside shiner	18				0
Lower	EF17	1817	Longnose dace	28				0
Lower	EF17	1818	Longnose dace	29				0
Lower	EF17	1819	Redside shiner	17				0
Lower	EF17	1820	Redside shiner	18				0
Lower	EF17	1821	Longnose dace	24				0
Lower	EF17	1822	Longnose dace	18				0
Lower	EF17	1823	Longnose dace	26				0
Lower	EF17	1824	Longnose dace	31				0
Lower	EF17	1825	Redside shiner	18				0
Lower	EF17	1826	Longnose dace	27				0
Lower	EF17	1827	Longnose sucker	32				0
Lower	EF17	1828	Slimy sculpin	31				0
Lower	EF17	1829	Redside shiner	17				0
Lower	EF17	1830	Slimy sculpin	33				0
Lower	EF17	1831	Slimy sculpin	37				0
Lower	EF18	1842	Slimy sculpin	69				0
Lower	EF18	1843	Redside shiner	25				0
Lower	EF18	1844	Longnose dace	24				0
Lower	EF18	1845	Redside shiner	24				0
Lower	EF18	1846	Redside shiner	25				0
Lower	EF18	1847	Longnose dace	24				0
Lower	EF18	1848	Longnose dace	23				0
Lower	EF18	1849	Longnose dace	23				0
Lower	EF18	1850	Longnose dace	34				0
Lower	EF18	1851	Slimy sculpin	36				0
Lower	EF18	1852	Longnose dace	25				0
Lower	EF18	1853	Longnose dace	30				0
Lower	EF18	1854	Longnose sucker	29				0
Lower	EF18	1855	Redside shiner	19				0
Lower	EF18	1856	Redside shiner	19				0
Lower	EF18	1857	Longnose dace	62				0
Lower	EF18	1858	Longnose sucker	46				0
Lower	EF18	1859	Longnose dace	31				0
Lower	EF18	1860	Longnose dace	28				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	EF18	1861	Longnose dace	32				0
Lower	EF18	1862	Redside shiner	24				0
Lower	EF18	1863	Longnose dace	77				0
Lower	EF18	1864	Longnose sucker	45				0
Lower	EF18	1865	Redside shiner	20				0
Lower	EF18	1866	Slimy sculpin	70				0
Lower	EF18	1867	Slimy sculpin	34				0
Lower	EF18	1868	Longnose sucker	49				0
Lower	EF18	1869	Longnose dace	59				0
Lower	EF18	1870	Longnose sucker	42				0
Lower	EF19	1889	Northern pike	162		SC	1	0
Lower	EF19	1890	Slimy sculpin	78				0
Lower	EF19	1891	Longnose dace	28				0
Lower	EF19	1892	Longnose dace	92				0
Lower	EF19	1893	Longnose dace	94				0
Lower	EF19	1894	Slimy sculpin	38				0
Lower	EF19	1895	Slimy sculpin	38				0
Lower	EF19	1896	Longnose dace	74				0
Lower	EF19	1897	Slimy sculpin	37				0
Lower	EF19	1898	Longnose dace	58				0
Lower	EF19	1899	Longnose dace	28				0
Lower	EF19	1900	Longnose sucker	74				0
Lower	EF19	1901	Slimy sculpin	39				0
Lower	EF19	1902	Longnose dace	62				0
Lower	EF19	1903	Slimy sculpin	34				0
Lower	EF19	1904	Slimy sculpin	38				0
Lower	EF19	1905	Longnose dace	26				0
Lower	EF19	1906	Slimy sculpin	67				0
Lower	EF19	1907	Longnose sucker	47				0
Lower	EF19	1908	Slimy sculpin	30				0
Lower	EF19	1909	Longnose dace	24				0
Lower	EF19	1910	Longnose dace	62				0
Lower	EF19	1911	Slimy sculpin	33				0
Lower	EF19	1912	Longnose sucker	44				0
Lower	EF19	1913	Longnose sucker	39				0
Lower	EF19	1914	Longnose sucker	34				0
Lower	EF20	1952	Longnose sucker	52				0
Lower	EF20	1953	Longnose sucker	38				0
Lower	EF20	1954	Longnose sucker	34				0
Lower	EF20	1955	Longnose sucker	26				0
Lower	EF20	1956	Longnose dace	24				0
Lower	EF20	1957	Redside shiner	27				0
Lower	EF20	1958	Longnose dace	49				0
Lower	EF20	1959	Slimy sculpin	40				0
Lower	EF20	1960	Longnose sucker	32				0
Lower	EF20	1961	Longnose sucker	31				0
Lower	EF20	1962	Longnose dace	32				0
Lower	EF20	1963	Longnose dace	24				0
Lower	EF20	1964	Longnose dace	22				0
Lower	EF20	1965	Longnose sucker	28				0
Lower	EF20	1966	Longnose dace	23				0
Lower	EF20	1967	Longnose dace	25				0
Lower	EF20	1968	Longnose dace	32				0
Lower	EF20	1969	Longnose dace	31				0
Lower	EF20	1970	Longnose dace	27				0
Lower	EF20	1971	Longnose dace	26				0
Lower	EF20	1972	Longnose sucker	26				0
Lower	EF20	1973	Longnose sucker	31				0
Lower	EF20	1974	Longnose sucker	27				0
Lower	EF20	1975	Slimy sculpin	37				0
Lower	EF20	1976	Redside shiner	29				0
Lower	EF20	1977	Longnose sucker	26				0
Lower	EF20	1978	Longnose sucker	24				0
Lower	EF20	1979	Longnose sucker	27				0
Lower	EF21	1995	Longnose sucker	103				0
Lower	EF21	1996	Mountain whitefish	90				0
Lower	EF21	1997	Longnose dace	68				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	EF21	1998	Slimy sculpin	62				0
Lower	EF21	1999	Longnose dace	78				0
Lower	EF21	2000	Slimy sculpin	76				0
Lower	EF21	2001	Longnose dace	67				0
Lower	EF21	2002	Longnose dace	68				0
Lower	EF21	2003	Longnose dace	64				0
Lower	EF21	2004	Longnose dace	31				0
Lower	EF21	2005	Longnose dace	22				0
Lower	EF21	2006	Longnose dace	28				0
Lower	EF21	2007	Longnose dace	31				0
Lower	EF21	2008	Longnose dace	27				0
Lower	EF21	2009	Longnose dace	26				0
Lower	EF21	2010	Longnose sucker	34				0
Lower	EF21	2011	Longnose sucker	36				0
Lower	EF21	2012	Slimy sculpin	39				0
Lower	EF21	2013	Longnose sucker	39				0
Lower	EF21	2014	Longnose sucker	42				0
Lower	EF22	2029	Longnose dace	83				0
Lower	EF22	2030	Longnose sucker	81				0
Lower	EF22	2031	Longnose dace	24				0
Lower	EF22	2032	Longnose dace	22				0
Lower	EF22	2033	Longnose dace	52				0
Lower	EF22	2034	Slimy sculpin	41				0
Lower	EF22	2035	Redside shiner	16				0
Lower	EF22	2036	Longnose dace	59				0
Lower	EF22	2037	Longnose sucker	51				0
Lower	EF22	2038	Longnose dace	65				0
Lower	EF22	2039	Redside shiner	23				0
Lower	EF22	2040	Longnose dace	48				0
Lower	EF22	2041	Longnose dace	22				0
Lower	EF22	2042	Longnose sucker	42				0
Lower	EF22	2043	Longnose dace	35				0
Lower	EF22	2044	Slimy sculpin	42				0
Lower	EF22	2045	Redside shiner	28				0
Lower	EF22	2046	Longnose dace	28				0
Lower	EF22	2047	Redside shiner	17				0
Lower	EF22	2048	Lake chub	18				0
Lower	EF22	2049	Longnose sucker	30				0
Lower	EF23	2097	Largescale sucker	88				0
Lower	EF23	2098	Longnose dace	23				0
Lower	EF23	2099	Longnose dace	28				0
Lower	EF23	2100	Longnose sucker	42				0
Lower	EF23	2101	Slimy sculpin	40				0
Lower	EF23	2102	Slimy sculpin	37				0
Lower	EF24	2103	Slimy sculpin	97				0
Lower	EF24	2104	Longnose sucker	54				0
Lower	EF24	2105	Longnose dace	23				0
Lower	EF24	2106	Longnose dace	34				0
Lower	EF24	2107	Longnose dace	25				0
Lower	EF24	2108	Redside shiner	27				0
Lower	EF24	2109	Slimy sculpin	37				0
Lower	EF24	2110	Longnose sucker	27				0
Lower	EF24	2111	Longnose sucker	25				0
Lower	EF24	2112	Northern pikeminnow	19				0
Lower	EF24	2113	Redside shiner	17				0
Lower	EF24	2114	Redside shiner	24				0
Lower	EF24	2115	Longnose sucker	32				0
Lower	EF24	2116	Longnose dace	27				0
Lower	EF24	2117	Redside shiner	28				0
Lower	EF24	2118	Redside shiner	29				0
Lower	EF24	2119	Longnose dace	24				0
Lower	EF24	2120	Redside shiner	22				0
Lower	EF24	2121	Longnose dace	22				0
Lower	EF24	2122	Longnose dace	21				0
Lower	EF24	2123	Longnose dace	26				0
Lower	EF24	2124	Longnose dace	25				0
Lower	EF24	2125	Slimy sculpin	37				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	EF24	2126	Redside shiner	17				0
Lower	EF24	2127	Redside shiner	19				0
Lower	EF24	2128	Longnose dace	28				0
Lower	EF25	2152	Slimy sculpin	85				0
Lower	EF25	2153	Slimy sculpin	69				0
Lower	EF25	2154	Largescale sucker	41				0
Lower	EF25	2155	Longnose sucker	21				0
Lower	EF25	2156	Longnose dace	21				0
Lower	EF25	2157	Longnose dace	21				0
Lower	EF25	2158	Redside shiner	25				0
Lower	EF25	2159	Longnose dace	22				0
Lower	EF25	2160	Longnose dace	24				0
Lower	EF25	2161	Longnose dace	27				0
Lower	EF25	2162	Longnose dace	20				0
Lower	EF25	2163	Longnose dace	22				0
Lower	EF25	2164	Longnose dace	27				0
Lower	EF25	2165	Slimy sculpin	35				0
Lower	EF25	2166	Slimy sculpin	34				0
Lower	EF25	2167	Longnose dace	31				0
Lower	EF25	2168	Longnose dace	27				0
Lower	EF25	2169	Slimy sculpin	42				0
Lower	EF25	2170	Slimy sculpin	38				0
Lower	EF26	2183	Longnose dace	65				0
Lower	EF26	2184	Longnose dace	22				0
Lower	EF26	2185	Redside shiner	29				0
Lower	EF26	2186	Longnose sucker	51				0
Lower	EF26	2187	Slimy sculpin	90				0
Lower	EF26	2188	Slimy sculpin	91				0
Lower	EF26	2189	Slimy sculpin	66				0
Lower	EF26	2190	Slimy sculpin	67				0
Lower	EF26	2191	Slimy sculpin	83				0
Lower	EF26	2192	Slimy sculpin	65				0
Lower	EF26	2193	Slimy sculpin	65				0
Lower	EF26	2194	Slimy sculpin	34				0
Lower	EF26	2195	Burbot	182				0
Lower	EF26	2196	Longnose sucker	25				0
Lower	EF26	2197	Redside shiner	23				0
Lower	EF26	2198	Longnose dace	27				0
Lower	EF26	2199	Longnose sucker	30				0
Lower	EF26	2200	Longnose dace	25				0
Lower	EF26	2201	Longnose dace	22				0
Lower	EF26	2202	Longnose dace	21				0
Lower	EF26	2203	Longnose dace	24				0
Lower	EF26	2204	Longnose dace	22				0
Lower	EF26	2205	Redside shiner	19				0
Lower	EF26	2206	Longnose dace	64				0
Lower	EF26	2207	Longnose sucker	42				0
Lower	EF26	2208	Redside shiner	25				0
Lower	EF26	2209	Longnose dace	28				0
Lower	EF27	2219	Longnose dace	21				0
Lower	EF27	2220	Longnose dace	31				0
Lower	EF27	2221	Longnose dace	22				0
Lower	EF27	2222	Longnose dace	30				0
Lower	EF27	2223	Longnose dace	29				0
Lower	EF27	2224	Longnose sucker	28				0
Lower	EF27	2225	Redside shiner	22				0
Lower	EF27	2226	Longnose dace	32				0
Lower	EF27	2227	Slimy sculpin	96				0
Lower	EF27	2228	Slimy sculpin	62				0
Lower	EF27	2229	Slimy sculpin	60				0
Lower	EF27	2230	Slimy sculpin	31				0
Lower	EF27	2231	Redside shiner	28				0
Lower	EF27	2232	Longnose dace	22				0
Lower	EF27	2233	Longnose dace	23				0
Lower	EF27	2234	Longnose dace	26				0
Lower	EF27	2235	Longnose dace	28				0
Lower	EF28	2249	Longnose sucker	108				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	EF28	2250	Longnose dace	25				0
Lower	EF28	2251	Longnose dace	30				0
Lower	EF28	2252	Longnose dace	24				0
Lower	EF28	2253	Longnose sucker	41				0
Lower	EF28	2254	Longnose dace	29				0
Lower	EF28	2255	Longnose dace	25				0
Lower	EF28	2256	Longnose dace	27				0
Lower	EF28	2257	Longnose dace	19				0
Lower	EF28	2258	Longnose dace	32				0
Lower	EF28	2259	Longnose dace	31				0
Lower	EF29	2271	Slimy sculpin	84				0
Lower	EF29	2272	Slimy sculpin	65				0
Lower	EF29	2273	Slimy sculpin	72				0
Lower	EF29	2274	Slimy sculpin	67				0
Lower	EF29	2275	Slimy sculpin	68				0
Lower	EF29	2276	Slimy sculpin	66				0
Lower	EF29	2277	Slimy sculpin	66				0
Lower	EF29	2278	Slimy sculpin	62				0
Lower	EF29	2279	Slimy sculpin	53				0
Lower	EF29	2280	Slimy sculpin	60				0
Lower	EF29	2281	Redside shiner	36				0
Lower	EF29	2282	Redside shiner	19				0
Lower	EF29	2283	Longnose dace	23				0
Lower	EF29	2284	Longnose dace	32				0
Lower	EF29	2285	Longnose dace	28				0
Lower	EF29	2286	Redside shiner	23				0
Lower	EF29	2287	Redside shiner	22				0
Lower	EF29	2288	Redside shiner	26				0
Lower	EF29	2289	Redside shiner	20				0
Lower	EF29	2290	Redside shiner	23				0
Lower	EF29	2291	Redside shiner	27				0
Lower	EF29	2292	Longnose dace	17				0
Lower	EF29	2293	Longnose dace	22				0
Lower	EF29	2294	Longnose dace	25				0
Lower	EF29	2295	Redside shiner	22				0
Lower	EF29	2296	Longnose dace	26				0
Lower	EF29	2297	Redside shiner	23				0
Lower	EF29	2298	Redside shiner	24				0
Lower	EF29	2299	Longnose dace	22				0
Lower	EF29	2300	Longnose dace	26				0
Lower	EF29	2301	Longnose dace	23				0
Lower	EF29	2302	Longnose dace	25				0
Lower	EF29	2303	Redside shiner	16				0
Upper	BS01	2304	Largescale sucker	97				0
Upper	BS01	2305	Lake chub	29				0
Upper	BS01	2306	Lake chub	23				0
Upper	BS01	2307	Lake chub	23				0
Upper	BS01	2308	Lake chub	22				0
Upper	BS01	2309	Lake chub	22				0
Upper	BS01	2310	Lake chub	32				0
Upper	BS01	2311	Lake chub	28				0
Upper	BS01	2312	Lake chub	24				0
Upper	BS01	2313	Lake chub	22				0
Upper	BS01	2314	Lake chub	31				0
Upper	BS01	2315	Lake chub	30				0
Upper	BS01	2316	Longnose sucker	27				0
Upper	BS01	2317	Largescale sucker	65				0
Upper	BS01	2318	Longnose sucker	24				0
Upper	BS01	2319	Largescale sucker	33				0
Upper	BS01	2321	Longnose dace	23				0
Upper	BS01	2322	Redside shiner	42				0
Upper	BS01	2323	Longnose sucker	33				0
Upper	BS01	2324	Longnose sucker	37				0
Upper	BS01	2325	Longnose sucker	32				0
Upper	BS01	2326	Longnose dace	22				0
Upper	BS01	2327	Longnose sucker	34				0
Upper	BS01	2328	Longnose sucker	82				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	BS01	2329	Longnose sucker	35				0
Upper	BS01	2330	Longnose sucker	31				0
Upper	BS01	2331	Longnose dace	21				0
Upper	BS01	2332	Longnose dace	28				0
Upper	BS02	2425	Largescale sucker	105				0
Upper	BS02	2426	Largescale sucker	93				0
Upper	BS02	2427	Largescale sucker	155				0
Upper	BS02	2428	Largescale sucker	87				0
Upper	BS02	2429	Redside shiner	34				0
Upper	BS02	2430	Redside shiner	29				0
Upper	BS02	2431	Redside shiner	33				0
Upper	BS02	2432	Lake chub	35				0
Upper	BS02	2433	Lake chub	26				0
Upper	BS02	2434	Redside shiner	29				0
Upper	BS02	2435	Redside shiner	31				0
Upper	BS02	2436	Redside shiner	34				0
Upper	BS02	2437	Longnose sucker	31				0
Upper	BS02	2438	Lake chub	25				0
Upper	BS02	2439	Redside shiner	30				0
Upper	BS02	2440	Redside shiner	35				0
Upper	BS02	2441	Redside shiner	34				0
Upper	BS02	2442	Redside shiner	25				0
Upper	BS02	2443	Redside shiner	38				0
Upper	BS02	2444	Largescale sucker	76				0
Upper	BS02	2445	Lake chub	36				0
Upper	BS02	2446	Longnose sucker	30				0
Upper	BS02	2447	Longnose sucker	29				0
Upper	BS02	2448	Lake chub	35				0
Upper	BS02	2449	Longnose sucker	31				0
Upper	BS02	2450	Lake chub	25				0
Upper	BS02	2451	Lake chub	21				0
Upper	BS02	2452	Lake chub	24				0
Upper	BS02	2453	Lake chub	25				0
Upper	BS02	2454	Lake chub	21				0
Upper	BS02	2455	Redside shiner	19				0
Upper	BS02	2456	Redside shiner	16				0
Upper	BS02	2457	Redside shiner	18				0
Upper	BS02	2458	Lake chub	23				0
Upper	BS02	2459	Longnose sucker	30				0
Upper	BS02	2460	Longnose sucker	42				0
Upper	BS02	2461	Longnose sucker	34				0
Upper	BS03	2534	Redside shiner	28				0
Upper	BS03	2535	Redside shiner	30				0
Upper	BS03	2536	Redside shiner	33				0
Upper	BS03	2537	Redside shiner	35				0
Upper	BS03	2538	Redside shiner	21				0
Upper	BS03	2539	Redside shiner	22				0
Upper	BS03	2540	Redside shiner	21				0
Upper	BS03	2541	Longnose sucker	23				0
Upper	BS03	2542	Redside shiner	21				0
Upper	BS03	2543	Redside shiner	23				0
Upper	BS03	2544	Largescale sucker	27				0
Upper	BS03	2545	Redside shiner	17				0
Upper	BS03	2546	Redside shiner	31				0
Upper	BS03	2547	Largescale sucker	63				0
Upper	BS03	2548	Largescale sucker	38				0
Upper	BS03	2549	Largescale sucker	30				0
Upper	BS03	2550	Largescale sucker	28				0
Upper	BS03	2551	Largescale sucker	39				0
Upper	BS03	2552	Longnose sucker	56				0
Upper	BS03	2553	Largescale sucker	30				0
Upper	BS04	2687	Northern pikeminnow	59				0
Upper	BS04	2688	Redside shiner	22				0
Upper	BS04	2689	Redside shiner	19				0
Upper	BS04	2690	Redside shiner	35				0
Upper	BS04	2691	Largescale sucker	39				0
Upper	BS04	2692	Largescale sucker	36				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Upper	BS04	2693	Largescale sucker	29				0
Upper	BS04	2694	Largescale sucker	29				0
Upper	BS04	2695	Largescale sucker	27				0
Upper	BS04	2696	Largescale sucker	24				0
Upper	BS04	2697	Redside shiner	29				0
Upper	BS04	2698	Redside shiner	33				0
Upper	BS04	2699	Largescale sucker	27				0
Upper	BS04	2700	Redside shiner	24				0
Upper	BS04	2701	Largescale sucker	28				0
Upper	BS04	2702	Redside shiner	29				0
Upper	BS04	2703	Redside shiner	30				0
Upper	BS04	2704	Redside shiner	26				0
Upper	BS04	2705	Redside shiner	24				0
Upper	BS04	2706	Redside shiner	16				0
Upper	BS04	2707	Lake chub	19				0
Upper	BS04	2708	Redside shiner	35				0
Upper	BS04	2709	Redside shiner	22				0
Upper	BS04	2710	Redside shiner	28				0
Upper	BS04	2711	Largescale sucker	21				0
Upper	BS04	2712	Largescale sucker	28				0
Upper	BS04	2713	Northern pikeminnow	21				0
Upper	BS04	2714	Redside shiner	21				0
Upper	BS04	2715	Redside shiner	15				0
Upper	BS04	2716	Largescale sucker	59				0
Upper	BS06	2834	Largescale sucker	199				0
Upper	BS06	2835	Largescale sucker	168				0
Upper	BS06	2836	Largescale sucker	24				0
Upper	BS06	2837	Redside shiner	27				0
Upper	BS06	2838	Largescale sucker	24				0
Upper	BS06	2839	Largescale sucker	23				0
Upper	BS06	2840	Largescale sucker	24				0
Upper	BS06	2841	Largescale sucker	22				0
Upper	BS06	2842	Redside shiner	24				0
Upper	BS06	2843	Largescale sucker	18				0
Upper	BS06	2844	Largescale sucker	27				0
Upper	BS06	2845	Northern pikeminnow	25				0
Upper	BS06	2846	Longnose sucker	31				0
Upper	BS06	2847	Redside shiner	28				0
Upper	BS06	2848	Longnose sucker	25				0
Upper	BS06	2849	Longnose sucker	27				0
Upper	BS06	2850	Redside shiner	27				0
Upper	BS06	2851	Redside shiner	30				0
Upper	BS06	2852	Redside shiner	28				0
Upper	BS06	2853	Redside shiner	25				0
Upper	BS06	2854	Longnose dace	26				0
Upper	BS06	2855	Redside shiner	28				0
Upper	BS06	2856	Redside shiner	29				0
Upper	BS06	2857	Redside shiner	22				0
Upper	BS06	2858	Redside shiner	23				0
Upper	BS06	2859	Redside shiner	27				0
Upper	BS06	2860	Redside shiner	28				0
Upper	BS06	2861	Redside shiner	18				0
Upper	BS06	2862	Longnose dace	20				0
Upper	BS06	2863	Longnose dace	24				0
Upper	BS06	2864	Redside shiner	26				0
Upper	BS06	2865	Longnose dace	19				0
Upper	BS06	2866	Redside shiner	21				0
Upper	BS06	2867	Redside shiner	27				0
Upper	BS06	2868	Lake chub	17				0
Upper	BS06	2869	Longnose dace	23				0
Upper	BS06	2870	Northern pikeminnow	20				0
Upper	BS06	2871	Longnose dace	26				0
Lower	BS07	3105	Northern pikeminnow	199				0
Lower	BS07	3106	Redside shiner	87				0
Lower	BS07	3107	Redside shiner	78				0
Lower	BS07	3108	Longnose sucker	117				0
Lower	BS07	3109	Redside shiner	89				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	BS07	3110	Redside shiner	92				0
Lower	BS07	3111	Largescale sucker	179				0
Lower	BS07	3112	Redside shiner	88				0
Lower	BS07	3113	Redside shiner	102				0
Lower	BS07	3114	Redside shiner	81				0
Lower	BS07	3115	Redside shiner	76				0
Lower	BS07	3116	Redside shiner	72				0
Lower	BS07	3117	Northern pikeminnow	112				0
Lower	BS07	3118	Redside shiner	79				0
Lower	BS07	3119	Northern pikeminnow	109				0
Lower	BS07	3120	Northern pikeminnow	101				0
Lower	BS07	3121	Northern pikeminnow	107				0
Lower	BS07	3122	Longnose sucker	83				0
Lower	BS07	3123	Longnose sucker	97				0
Lower	BS07	3124	Longnose sucker	76				0
Lower	BS07	3125	Northern pikeminnow	97				0
Lower	BS07	3126	Northern pikeminnow	88				0
Lower	BS07	3127	Longnose sucker	58				0
Lower	BS07	3128	Longnose sucker	27				0
Lower	BS07	3129	Longnose sucker	28				0
Lower	BS07	3130	Lake chub	24				0
Lower	BS07	3131	Redside shiner	23				0
Lower	BS07	3132	Redside shiner	25				0
Lower	BS07	3133	Northern pikeminnow	34				0
Lower	BS07	3134	Lake chub	26				0
Lower	BS07	3135	Lake chub	31				0
Lower	BS07	3136	Lake chub	26				0
Lower	BS07	3137	Longnose sucker	24				0
Lower	BS07	3138	Northern pikeminnow	31				0
Lower	BS07	3139	Northern pikeminnow	22				0
Lower	BS07	3140	Lake chub	22				0
Lower	BS07	3141	Northern pikeminnow	28				0
Lower	BS07	3142	Northern pikeminnow	29				0
Lower	BS07	3143	Longnose sucker	29				0
Lower	BS07	3144	Northern pikeminnow	27				0
Lower	BS07	3145	Longnose sucker	25				0
Lower	BS07	3146	Northern pikeminnow	29				0
Lower	BS07	3147	Longnose sucker	28				0
Lower	BS07	3148	Northern pikeminnow	18				0
Lower	BS07	3149	Longnose sucker	21				0
Lower	BS07	3150	Longnose sucker	32				0
Lower	BS08	3198	Redside shiner	29				0
Lower	BS08	3199	Redside shiner	32				0
Lower	BS08	3200	Redside shiner	24				0
Lower	BS08	3201	Redside shiner	25				0
Lower	BS08	3202	Longnose sucker	28				0
Lower	BS08	3203	Longnose sucker	34				0
Lower	BS08	3204	Longnose sucker	38				0
Lower	BS08	3205	Longnose sucker	47				0
Lower	BS08	3206	Longnose sucker	37				0
Lower	BS08	3207	Longnose sucker	34				0
Lower	BS08	3208	Redside shiner	20				0
Lower	BS08	3209	Longnose sucker	33				0
Lower	BS08	3210	Longnose sucker	34				0
Lower	BS08	3211	Longnose sucker	27				0
Lower	BS08	3212	Redside shiner	32				0
Lower	BS08	3213	Longnose sucker	24				0
Lower	BS08	3214	Longnose sucker	28				0
Lower	BS08	3215	Longnose sucker	24				0
Lower	BS08	3216	Longnose sucker	24				0
Lower	BS08	3217	Longnose sucker	38				0
Lower	BS08	3218	Longnose sucker	42				0
Lower	BS08	3219	Longnose sucker	38				0
Lower	BS08	3220	Northern pikeminnow	30				0
Lower	BS08	3221	Northern pikeminnow	22				0
Lower	BS08	3222	Redside shiner	20				0
Lower	BS08	3223	Redside shiner	21				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E1. Biological characteristics data for fish sampled in the Halfway River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Weight (gm)	Age Structure	Age	Capture Code
Lower	BS08	3224	Redside shiner	21				0
Lower	BS08	3225	Redside shiner	23				0
Lower	BS08	3226	Longnose dace	22				0
Lower	BS08	3227	Longnose dace	24				0
Lower	BS08	3228	Redside shiner	32				0
Lower	BS08	3229	Redside shiner	31				0
Lower	BS08	3230	Northern pikeminnow	29				0
Lower	BS08	3231	Redside shiner	24				0
Lower	BS08	3232	Longnose dace	24				0
Lower	BS08	3233	Slimy sculpin	38				0
Lower	BS09	3614	Lake chub	84				0
Lower	BS09	3615	Lake chub	100				0
Lower	BS09	3616	Lake chub	75				0
Lower	BS09	3617	Lake chub	64				0
Lower	BS09	3618	Redside shiner	64				0
Lower	BS09	3619	Longnose sucker	19				0
Lower	BS09	3620	Lake chub	80				0
Lower	BS09	3621	Lake chub	88				0
Lower	BS09	3622	Redside shiner	59				0
Lower	BS09	3623	Largescale sucker	89				0
Lower	BS09	3624	Lake chub	56				0
Lower	BS09	3625	Lake chub	78				0
Lower	BS09	3626	Redside shiner	60				0
Lower	BS09	3627	Redside shiner	56				0
Lower	BS09	3628	Redside shiner	69				0
Lower	BS09	3629	Lake chub	59				0
Lower	BS09	3630	Redside shiner	53				0
Lower	BS09	3631	Longnose sucker	29				0
Lower	BS09	3632	Longnose sucker	26				0
Lower	BS09	3633	Longnose dace	25				0
Lower	BS09	3634	Redside shiner	26				0
Lower	BS09	3635	Longnose sucker	29				0
Lower	BS09	3636	Longnose sucker	24				0
Lower	BS09	3637	Longnose sucker	24				0
Lower	BS09	3638	Longnose sucker	27				0
Lower	BS09	3639	Redside shiner	25				0
Lower	BS09	3640	Longnose sucker	23				0
Lower	BS09	3641	Longnose sucker	26				0
Lower	BS09	3642	Redside shiner	27				0
Lower	BS09	3643	Longnose dace	26				0
Lower	BS09	3644	Longnose dace	24				0
Lower	BS09	3645	Longnose sucker	28				0
Lower	BS09	3646	Longnose sucker	28				0
Lower	BS09	3647	Longnose sucker	26				0
Lower	BS09	3648	Redside shiner	22				0
Lower	BS09	3649	Redside shiner	21				0
Lower	BS09	3650	Redside shiner	26				0
Lower	BS09	3651	Redside shiner	24				0
Lower	BS09	3652	Redside shiner	23				0
Lower	BS09	3653	Redside shiner	29				0
Lower	BS09	3654	Redside shiner	27				0
Lower	BS09	3655	Longnose dace	23				0
Lower	BS09	3656	Longnose dace	20				0
Lower	BS09	3657	Longnose dace	27				0
Lower	BS09	3658	Longnose sucker	48				0
Lower	BS09	3659	Largescale sucker	41				0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
1	ES0101	3738	Mountain whitefish	129	SC	0	0
1	ES0101	3739	Mountain whitefish	124	SC	0	0
1	ES0101	3740	Mountain whitefish	118	SC	0	0
1	ES0101	3741	Mountain whitefish	114	SC	0	0
1	ES0101	3742	Mountain whitefish	122	SC	0	0
1	ES0101	3743	Mountain whitefish	116	SC	0	0
1	ES0101	3744	Mountain whitefish	126	SC	0	0
1	ES0101	3745	Mountain whitefish	121	SC	0	0
1	ES0101	3746	Mountain whitefish	109	SC	0	0
1	ES0101	3747	Mountain whitefish	128	SC	0	0
1	ES0101	3748	Mountain whitefish	136			0
1	ES0101	3749	Mountain whitefish	131			0
1	ES0101	3750	Mountain whitefish	132			0
1	ES0101	3751	Mountain whitefish	122			0
1	ES0101	3752	Mountain whitefish	111			0
1	ES0101	3753	Mountain whitefish	126			0
1	ES0101	3754	Mountain whitefish	119			0
1	ES0101	3755	Slimy sculpin	108			0
1	ES0101	3756	Prickly sculpin	76			0
1	ES0102	3757	Mountain whitefish	113	SC	0	0
1	ES0102	3758	Mountain whitefish	117	SC	0	0
1	ES0102	3759	Mountain whitefish	123	SC	0	0
1	ES0102	3760	Mountain whitefish	121	SC	0	0
1	ES0102	3761	Mountain whitefish	107	SC	0	0
1	ES0102	3762	Mountain whitefish	118	SC	0	0
1	ES0102	3763	Mountain whitefish	108	SC	0	0
1	ES0102	3764	Mountain whitefish	113	SC	0	0
1	ES0102	3765	Mountain whitefish	134	SC	0	0
1	ES0102	3766	Mountain whitefish	124	SC	0	0
1	ES0102	3767	Mountain whitefish	117			0
1	ES0102	3768	Kokanee	147	SC	1	0
1	ES0102	3769	Mountain whitefish	118			0
1	ES0102	3770	Mountain whitefish	116			0
1	ES0113	3771	Mountain whitefish	113			0
1	ES0105	3772	Kokanee	154			0
1	ES0105	3773	Mountain whitefish	168			0
1	ES0105	3774	Rainbow trout	74			0
1	ES0105	3775	Rainbow trout	41			0
1	ES0105	3776	Lake chub	62			0
1	ES0105	3777	Lake chub	52			0
1	ES0105	3778	Mountain whitefish	89			0
1	ES0105	3779	Prickly sculpin	87			0
1	ES0105	3780	Prickly sculpin	102			0
1	ES0105	3781	Slimy sculpin	103			0
1	ES0105	3782	Slimy sculpin	92			0
1	ES0105	3783	Slimy sculpin	90			0
1	ES0105	3784	Slimy sculpin	102			0
1	ES0105	3785	Slimy sculpin	86			0
1	ES0107	3786	Rainbow trout	142	SC	2	0
1	ES0107	3787	Longnose sucker	48			0
1	ES0107	3788	Longnose sucker	48			0
1	ES0107	3789	Longnose sucker	49			0
1	ES0107	3790	Longnose sucker	52			0
1	ES0107	3791	Northern pikeminnow	44			0
1	ES0107	3792	Longnose sucker	50			0
1	ES0107	3793	Redside shiner	34			0
1	ES0107	3794	Redside shiner	36			0
1	ES0107	3795	Longnose sucker	45			0
1	ES0107	3796	Redside shiner	35			0
1	ES0108	3797	Kokanee	61	SC	0	0
1	ES0108	3798	Mountain whitefish	116			0
1	ES0108	3799	Mountain whitefish	110			0
1	ES0108	3800	Mountain whitefish	131			0
1	ES0108	3801	Mountain whitefish	132			0
1	ES0108	3802	Mountain whitefish	133			0
1	ES0108	3803	Mountain whitefish	135			0
1	ES0108	3804	Mountain whitefish	119			0
1	ES0108	3805	Mountain whitefish	103			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
1	ES0108	3806	Mountain whitefish	118			0
1	ES0108	3807	Mountain whitefish	118			0
1	ES0108	3808	Mountain whitefish	115			0
1	ES0108	3809	Mountain whitefish	107			0
1	ES0108	3810	Mountain whitefish	118			0
1	ES0108	3811	Mountain whitefish	122			0
1	ES0108	3812	Mountain whitefish	114			0
1	ES0108	3813	Mountain whitefish	115			0
1	ES0108	3814	Prickly sculpin	56			0
1	ES0108	3815	Prickly sculpin	35			0
1	ES0109	3816	Rainbow trout	176	SC	1	0
1	ES0109	3817	Mountain whitefish	126			0
1	ES0109	3818	Mountain whitefish	118			0
1	ES0109	3819	Mountain whitefish	123			0
1	ES0109	3820	Mountain whitefish	114			0
1	ES0109	3821	Mountain whitefish	128			0
1	ES0109	3822	Mountain whitefish	112			0
1	ES0109	3823	Mountain whitefish	116			0
1	ES0109	3824	Mountain whitefish	99			0
1	ES0109	3825	Prickly sculpin	106			0
1	ES0109	3826	Slimy sculpin	100			0
1	ES0109	3827	Prickly sculpin	83			0
1	ES0109	3828	Prickly sculpin	74			0
1	ES0109	3829	Prickly sculpin	101			0
1	ES0109	3830	Prickly sculpin	84			0
1	ES0109	3831	Slimy sculpin	102			0
1	ES0112	3832	Mountain whitefish	117			0
1	ES0112	3833	Mountain whitefish	113			0
1	ES0112	3834	Prickly sculpin	66			0
1	ES0112	3835	Prickly sculpin	65			0
2	ES0201	3836	Mountain whitefish	112	SC	0	0
2	ES0201	3837	Mountain whitefish	117	SC	0	0
2	ES0201	3838	Mountain whitefish	112	SC	0	0
2	ES0201	3839	Mountain whitefish	108	SC	0	0
2	ES0201	3840	Mountain whitefish	113	SC	0	0
2	ES0201	3841	Mountain whitefish	112	SC	0	0
2	ES0201	3842	Mountain whitefish	107	SC	0	0
2	ES0201	3843	Mountain whitefish	108	SC	0	0
2	ES0201	3844	Mountain whitefish	106	SC	0	0
2	ES0201	3845	Mountain whitefish	108	SC	0	0
2	ES0201	3846	Mountain whitefish	103			0
2	ES0201	3847	Mountain whitefish	108			0
2	ES0201	3848	Mountain whitefish	103			0
2	ES0201	3849	Prickly sculpin	37			0
2	ES0202	3850	Mountain whitefish	188			0
2	ES0202	3851	Mountain whitefish	123			0
2	ES0202	3852	Largescale sucker	49			0
2	ES0203	3853	Mountain whitefish	118	SC	0	0
2	ES0203	3854	Mountain whitefish	122	SC	0	0
2	ES0203	3855	Mountain whitefish	109	SC	0	0
2	ES0203	3856	Mountain whitefish	109	SC	0	0
2	ES0203	3857	Mountain whitefish	110	SC	0	0
2	ES0203	3858	Mountain whitefish	105	SC	0	0
2	ES0203	3859	Mountain whitefish	113	SC	0	0
2	ES0203	3860	Mountain whitefish	112	SC	0	0
2	ES0203	3861	Mountain whitefish	112	SC	0	0
2	ES0203	3862	Mountain whitefish	132	SC	0	0
2	ES0203	3863	Mountain whitefish	187			0
2	ES0203	3864	Mountain whitefish	179			0
2	ES0203	3865	Mountain whitefish	184			0
2	ES0203	3866	Mountain whitefish	175			0
2	ES0203	3867	Mountain whitefish	173			0
2	ES0203	3868	Prickly sculpin	77			0
2	ES0203	3869	Prickly sculpin	92			0
2	ES0203	3870	Prickly sculpin	92			0
2	ES0203	3871	Prickly sculpin	67			0
2	ES0203	3872	Longnose sucker	67			0
2	ES0204	3873	Kokanee	159	SC	1	0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
2	ES0204	3874	Mountain whitefish	122			0
2	ES0204	3875	Mountain whitefish	112			0
2	ES0204	3876	Mountain whitefish	113			0
2	ES0204	3877	Mountain whitefish	92			0
2	ES0204	3878	Mountain whitefish	116			0
2	ES0204	3879	Mountain whitefish	123			0
2	ES0204	3880	Mountain whitefish	104			0
2	ES0204	3881	Mountain whitefish	94			0
2	ES0204	3882	Mountain whitefish	97			0
2	ES0204	3883	Mountain whitefish	107			0
2	ES0204	3884	Mountain whitefish	106			0
2	ES0204	3885	Mountain whitefish	117			0
2	ES0204	3886	Mountain whitefish	108			0
2	ES0204	3887	Mountain whitefish	112			0
2	ES0204	3888	Mountain whitefish	92			0
2	ES0204	3889	Mountain whitefish	113			0
2	ES0204	3890	Mountain whitefish	110			0
2	ES0204	3891	Mountain whitefish	117			0
2	ES0204	3892	Mountain whitefish	93			0
2	ES0204	3893	Mountain whitefish	87			0
2	ES0204	3894	Mountain whitefish	84			0
2	ES0205	3895	Mountain whitefish	200			0
2	ES0205	3896	Mountain whitefish	187			0
2	ES0205	3897	Mountain whitefish	175			0
2	ES0205	3898	Mountain whitefish	125			0
2	ES0205	3899	Longnose sucker	47			0
2	ES0205	3900	Longnose sucker	52			0
2	ES0205	3901	Longnose sucker	55			0
2	ES0205	3902	Longnose sucker	63			0
2	ES0205	3903	Longnose sucker	57			0
2	ES0205	3904	Longnose sucker	66			0
2	ES0205	3905	Longnose sucker	54			0
2	ES0205	3906	Longnose sucker	46			0
2	ES0205	3907	Longnose sucker	66			0
2	ES0205	3908	Longnose sucker	61			0
2	ES0205	3909	Redside shiner	32			0
2	ES0205	3910	Longnose sucker	45			0
2	ES0205	3911	Longnose sucker	53			0
2	ES0205	3912	Longnose sucker	73			0
2	ES0205	3913	Longnose sucker	69			0
2	ES0205	3914	Longnose sucker	57			0
2	ES0205	3915	Longnose sucker	48			0
2	ES0205	3916	Longnose sucker	65			0
2	ES0205	3917	Longnose sucker	74			0
2	ES0205	3918	Slimy sculpin	87			0
2	ES0205	3919	Slimy sculpin	85			0
2	ES0205	3920	Prickly sculpin	60			0
2	ES0206	3921	Mountain whitefish	176			0
2	ES0206	3922	Mountain whitefish	161			0
2	ES0206	3923	Mountain whitefish	181			0
2	ES0206	3924	Mountain whitefish	119			0
2	ES0206	3925	Mountain whitefish	129			0
2	ES0206	3926	Mountain whitefish	118			0
2	ES0206	3927	Mountain whitefish	115			0
2	ES0206	3928	Mountain whitefish	131			0
2	ES0206	3929	Mountain whitefish	130			0
2	ES0206	3930	Mountain whitefish	98			0
2	ES0206	3931	Longnose sucker	55			0
2	ES0206	3932	Longnose sucker	52			0
2	ES0206	3933	Prickly sculpin	65			0
2	ES0206	3934	Prickly sculpin	65			0
2	ES0206	3935	Slimy sculpin	78			0
2	ES0206	3936	Prickly sculpin	60			0
2	ES0206	3937	Prickly sculpin	55			0
2	ES0206	3938	Slimy sculpin	81			0
2	ES0206	3939	Prickly sculpin	66			0
2	ES0206	3940	Prickly sculpin	64			0
2	ES0207	3941	Mountain whitefish	181			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
2	ES0207	3942	Mountain whitefish	170			0
2	ES0207	3943	Mountain whitefish	161			0
2	ES0207	3944	Mountain whitefish	110			0
2	ES0207	3945	Mountain whitefish	100			0
2	ES0207	3946	Mountain whitefish	121			0
2	ES0207	3947	Mountain whitefish	118			0
2	ES0207	3948	Mountain whitefish	112			0
2	ES0207	3949	Mountain whitefish	106			0
2	ES0207	3950	Mountain whitefish	132			0
2	ES0207	3951	Mountain whitefish	113			0
2	ES0207	3952	Mountain whitefish	118			0
2	ES0207	3953	Mountain whitefish	135			0
2	ES0207	3954	Mountain whitefish	136			0
2	ES0207	3955	Mountain whitefish	133			0
2	ES0207	3956	Mountain whitefish	116			0
2	ES0207	3957	Mountain whitefish	99			0
2	ES0207	3958	Mountain whitefish	96			0
2	ES0207	3959	Mountain whitefish	120			0
2	ES0207	3960	Mountain whitefish	99			0
2	ES0207	3961	Mountain whitefish	109			0
2	ES0207	3962	Mountain whitefish	114			0
2	ES0207	3963	Mountain whitefish	104			0
2	ES0207	3964	Mountain whitefish	108			0
2	ES0207	3965	Mountain whitefish	127			0
2	ES0207	3966	Mountain whitefish	107			0
2	ES0207	3967	Mountain whitefish	118			0
2	ES0207	3968	Mountain whitefish	118			0
2	ES0207	3969	Mountain whitefish	112			0
2	ES0207	3970	Mountain whitefish	102			0
2	ES0207	3971	Mountain whitefish	100			0
2	ES0207	3972	Mountain whitefish	101			0
2	ES0207	3973	Mountain whitefish	121			0
2	ES0207	3974	Slimy sculpin	103			0
2	ES0207	3975	Prickly sculpin	89			0
2	ES0207	3976	Prickly sculpin	98			0
2	ES0207	3977	Prickly sculpin	93			0
2	ES0207	3978	Slimy sculpin	82			0
2	ES0207	3979	Slimy sculpin	88			0
2	ES0207	3980	Prickly sculpin	87			0
2	ES0207	3981	Slimy sculpin	86			0
2	ES0207	3982	Prickly sculpin	52			0
2	ES0207	3983	Prickly sculpin	61			0
2	ES0207	3984	Longnose sucker	79			0
2	ES0207	3985	Redside shiner	39			0
2	ES0207	3986	Redside shiner	36			0
2	ES0208	3987	Mountain whitefish	94			0
2	ES0208	3988	Mountain whitefish	128			0
2	ES0208	3989	Mountain whitefish	108			0
2	ES0208	3990	Mountain whitefish	101			0
2	ES0208	3991	Mountain whitefish	117			0
2	ES0208	3992	Mountain whitefish	98			0
2	ES0208	3993	Mountain whitefish	102			0
2	ES0208	3994	Mountain whitefish	96			0
2	ES0208	3995	Mountain whitefish	92			0
2	ES0208	3996	Slimy sculpin	96			0
2	ES0208	3997	Slimy sculpin	58			0
2	ES0209	3998	Mountain whitefish	171			0
2	ES0209	3999	Mountain whitefish	178			0
2	ES0209	4000	Mountain whitefish	132			0
2	ES0209	4001	Mountain whitefish	103			0
2	ES0209	4002	Mountain whitefish	94			0
2	ES0209	4003	Mountain whitefish	98			0
2	ES0209	4004	Longnose sucker	48			0
2	ES0209	4005	Prickly sculpin	53			0
2	ES0209	4006	Slimy sculpin	66			0
2	ES0210	4007	Mountain whitefish	122			0
2	ES0210	4008	Mountain whitefish	121			0
2	ES0210	4009	Mountain whitefish	108			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
2	ES0210	4010	Mountain whitefish	113			0
2	ES0210	4011	Mountain whitefish	106			0
2	ES0210	4012	Mountain whitefish	108			0
2	ES0210	4013	Mountain whitefish	117			0
2	ES0210	4014	Mountain whitefish	108			0
2	ES0210	4015	Mountain whitefish	112			0
2	ES0210	4016	Mountain whitefish	111			0
2	ES0210	4017	Arctic grayling	141	SC	0	0
2	ES0210	4018	Rainbow trout	48			0
2	ES0210	4019	Rainbow trout	44			0
2	ES0210	4020	Rainbow trout	76			0
2	ES0210	4021	Rainbow trout	67			0
2	ES0210	4022	Prickly sculpin	72			0
2	ES0210	4023	Prickly sculpin	62			0
2	ES0210	4024	Prickly sculpin	69			0
2	ES0210	4025	Prickly sculpin	47			0
2	ES0210	4026	Prickly sculpin	64			0
2	ES0210	4027	Prickly sculpin	61			0
2	ES0210	4028	Slimy sculpin	32			0
3	ES0301	4029	Mountain whitefish	103			0
3	ES0301	4030	Mountain whitefish	97			0
3	ES0301	4031	Mountain whitefish	125			0
3	ES0301	4032	Mountain whitefish	114			0
3	ES0301	4033	Mountain whitefish	106			0
3	ES0301	4034	Mountain whitefish	101			0
3	ES0301	4035	Mountain whitefish	110			0
3	ES0301	4036	Mountain whitefish	106			0
3	ES0301	4037	Mountain whitefish	96			0
3	ES0301	4038	Mountain whitefish	126			0
3	ES0301	4039	Slimy sculpin	80			0
3	ES0301	4040	Slimy sculpin	82			0
3	ES0301	4041	Slimy sculpin	53			0
3	ES0301	4042	Slimy sculpin	66			0
3	ES0301	4043	Slimy sculpin	71			0
3	ES0301	4044	Slimy sculpin	71			0
3	ES0301	4045	Slimy sculpin	64			0
3	ES0301	4046	Slimy sculpin	60			0
3	ES0301	4047	Prickly sculpin	74			0
3	ES0301	4048	Slimy sculpin	66			0
3	ES0301	4049	Slimy sculpin	64			0
3	ES0301	4050	Slimy sculpin	37			0
3	ES0302	4173	Mountain whitefish	125			0
3	ES0302	4174	Mountain whitefish	183			0
3	ES0302	4175	Mountain whitefish	148			0
3	ES0302	4176	Mountain whitefish	102			0
3	ES0302	4177	Mountain whitefish	99			0
3	ES0302	4178	Mountain whitefish	113			0
3	ES0302	4179	Mountain whitefish	92			0
3	ES0302	4180	Mountain whitefish	90			0
3	ES0302	4181	Mountain whitefish	100			0
3	ES0302	4182	Mountain whitefish	107			0
3	ES0304	4196	Mountain whitefish	112			0
3	ES0304	4197	Mountain whitefish	111			0
3	ES0304	4198	Mountain whitefish	115			0
3	ES0304	4199	Mountain whitefish	94			0
3	ES0304	4200	Mountain whitefish	87			0
3	ES0304	4201	Mountain whitefish	106			0
3	ES0304	4202	Mountain whitefish	107			0
3	ES0304	4203	Mountain whitefish	108			0
3	ES0304	4204	Mountain whitefish	109			0
3	ES0304	4205	Mountain whitefish	94			0
3	ES0304	4206	Longnose sucker	42			0
3	ES0304	4207	Longnose sucker	37			0
3	ES0303	4249	Mountain whitefish	115			0
3	ES0303	4250	Mountain whitefish	107			0
3	ES0303	4251	Mountain whitefish	96			0
3	ES0303	4252	Mountain whitefish	118			0
3	ES0303	4253	Mountain whitefish	122			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
3	ES0303	4254	Mountain whitefish	119			0
3	ES0303	4255	Mountain whitefish	107			0
3	ES0303	4256	Mountain whitefish	99			0
3	ES0303	4257	Mountain whitefish	128			0
3	ES0303	4258	Mountain whitefish	115			0
3	ES0303	4259	Arctic grayling	137	SC	0	0
3	ES0303	4260	Prickly sculpin	66			0
3	ES0303	4261	Slimy sculpin	71			0
3	ES0303	4262	Prickly sculpin	67			0
3	ES0303	4263	Slimy sculpin	72			0
3	ES0303	4264	Prickly sculpin	65			0
3	ES0305	4334	Mountain whitefish	102			0
3	ES0305	4335	Mountain whitefish	112			0
3	ES0305	4336	Mountain whitefish	97			0
3	ES0305	4337	Mountain whitefish	108			0
3	ES0305	4338	Mountain whitefish	99			0
3	ES0305	4339	Mountain whitefish	116			0
3	ES0305	4340	Mountain whitefish	107			0
3	ES0305	4341	Mountain whitefish	113			0
3	ES0305	4342	Mountain whitefish	105			0
3	ES0305	4343	Mountain whitefish	108			0
3	ES0305	4344	Longnose sucker	37			0
3	ES0305	4345	Prickly sculpin	61			0
3	ES0306	4383	Arctic grayling	240	SC	2	0
3	ES0306	4384	Mountain whitefish	163			0
3	ES0306	4385	Longnose sucker	84			0
3	ES0306	4386	Longnose sucker	48			0
3	ES0306	4387	Prickly sculpin	70			0
3	ES0307	4388	Mountain whitefish	182			0
3	ES0307	4389	Mountain whitefish	183			0
3	ES0307	4390	Mountain whitefish	181			0
3	ES0307	4391	Mountain whitefish	173			0
3	ES0307	4392	Mountain whitefish	193			0
3	ES0307	4393	Mountain whitefish	176			0
3	ES0307	4394	Mountain whitefish	187			0
3	ES0307	4395	Mountain whitefish	97	SC	0	0
3	ES0307	4396	Mountain whitefish	106	SC	0	0
3	ES0307	4397	Mountain whitefish	110	SC	0	0
3	ES0307	4398	Mountain whitefish	111	SC	0	0
3	ES0307	4399	Mountain whitefish	109	SC	0	0
3	ES0307	4400	Mountain whitefish	100	SC	0	0
3	ES0307	4401	Mountain whitefish	109	SC	0	0
3	ES0307	4402	Mountain whitefish	109	SC	0	0
3	ES0307	4403	Mountain whitefish	114	SC	0	0
3	ES0307	4404	Mountain whitefish	97	SC	0	0
3	ES0307	4405	Slimy sculpin	87			0
3	ES0307	4406	Slimy sculpin	76			0
3	ES0307	4407	Slimy sculpin	92			0
3	ES0307	4408	Slimy sculpin	74			0
3	ES0307	4409	Slimy sculpin	78			0
3	ES0307	4410	Slimy sculpin	88			0
3	ES0307	4411	Slimy sculpin	79			0
3	ES0307	4412	Slimy sculpin	78			0
3	ES0307	4413	Slimy sculpin	84			0
3	ES0308	4414	Rainbow trout	69			0
3	ES0308	4415	Mountain whitefish	108			0
3	ES0308	4416	Mountain whitefish	89			0
3	ES0308	4417	Mountain whitefish	103			0
3	ES0308	4418	Mountain whitefish	122			0
3	ES0308	4419	Mountain whitefish	105			0
3	ES0308	4420	Mountain whitefish	117			0
3	ES0308	4421	Mountain whitefish	96			0
3	ES0308	4422	Mountain whitefish	123			0
3	ES0308	4423	Mountain whitefish	109			0
3	ES0308	4424	Mountain whitefish	86			0
3	ES0308	4425	Kokanee	64	SC	0	0
3	ES0308	4426	Arctic grayling	207			0
3	ES0308	4427	Longnose sucker	49			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
3	ES0308	4428	Longnose sucker	79			0
3	ES0308	4429	Prickly sculpin	98			0
3	ES0308	4430	Slimy sculpin	98			0
3	ES0308	4431	Slimy sculpin	61			0
3	ES0308	4432	Prickly sculpin	65			0
3	ES0308	4433	Prickly sculpin	54			0
3	ES0308	4434	Prickly sculpin	27			0
3	ES0308	4435	Prickly sculpin	27			0
3	ES0309	4466	Mountain whitefish	106			0
3	ES0309	4467	Mountain whitefish	107			0
3	ES0309	4468	Mountain whitefish	114			0
3	ES0309	4469	Mountain whitefish	122			0
3	ES0309	4470	Mountain whitefish	113			0
3	ES0309	4471	Mountain whitefish	106			0
3	ES0309	4472	Mountain whitefish	105			0
3	ES0309	4473	Longnose sucker	58			0
3	ES0309	4474	Longnose sucker	72			0
3	ES0309	4475	Longnose sucker	51			0
3	ES0309	4476	Lake chub	60			0
3	ES0309	4477	Slimy sculpin	83			0
3	ES0309	4478	Slimy sculpin	88			0
3	ES0309	4479	Slimy sculpin	87			0
3	ES0309	4480	Slimy sculpin	78			0
3	ES0309	4481	Slimy sculpin	88			0
3	ES0309	4482	Slimy sculpin	81			0
3	ES0309	4483	Slimy sculpin	82			0
3	ES0309	4484	Slimy sculpin	87			0
3	ES0309	4485	Slimy sculpin	85			0
3	ES0309	4486	Prickly sculpin	71			0
4	ES0401	4490	Mountain whitefish	107			0
4	ES0401	4491	Mountain whitefish	113			0
4	ES0401	4492	Mountain whitefish	98			0
4	ES0401	4493	Mountain whitefish	96			0
4	ES0401	4494	Mountain whitefish	119			0
4	ES0401	4495	Mountain whitefish	95			0
4	ES0401	4496	Mountain whitefish	97			0
4	ES0401	4497	Mountain whitefish	94			0
4	ES0401	4498	Mountain whitefish	102			0
4	ES0401	4499	Mountain whitefish	105			0
4	ES0401	4500	Mountain whitefish	176			0
4	ES0402	4535	Mountain whitefish	121	SC	0	0
4	ES0402	4536	Mountain whitefish	106	SC	0	0
4	ES0402	4537	Mountain whitefish	115	SC	0	0
4	ES0402	4538	Mountain whitefish	121	SC	0	0
4	ES0402	4539	Mountain whitefish	132	SC	0	0
4	ES0402	4540	Mountain whitefish	102	SC	0	0
4	ES0402	4541	Mountain whitefish	118	SC	0	0
4	ES0402	4542	Mountain whitefish	104	SC	0	0
4	ES0402	4543	Mountain whitefish	115	SC	0	0
4	ES0402	4544	Mountain whitefish	98	SC	0	0
4	ES0402	4545	Mountain whitefish	113			0
4	ES0402	4546	Mountain whitefish	121			0
4	ES0402	4547	Mountain whitefish	123			0
4	ES0402	4548	Mountain whitefish	117			0
4	ES0402	4549	Mountain whitefish	98			0
4	ES0402	4550	Mountain whitefish	105			0
4	ES0402	4551	Mountain whitefish	104			0
4	ES0402	4552	Mountain whitefish	117			0
4	ES0402	4553	Mountain whitefish	108			0
4	ES0402	4554	Mountain whitefish	103			0
4	ES0402	4555	Mountain whitefish	109			0
4	ES0402	4556	Mountain whitefish	116			0
4	ES0402	4557	Mountain whitefish	113			0
4	ES0402	4558	Mountain whitefish	96			0
4	ES0402	4559	Mountain whitefish	99			0
4	ES0402	4560	Mountain whitefish	62			0
4	ES0402	4561	Mountain whitefish	27			0
4	ES0402	4562	Mountain whitefish	71			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
4	ES0403	4583	Mountain whitefish	121			0
4	ES0403	4584	Mountain whitefish	107			0
4	ES0403	4585	Mountain whitefish	114			0
4	ES0403	4586	Mountain whitefish	134			0
4	ES0403	4587	Mountain whitefish	119			0
4	ES0403	4588	Mountain whitefish	114			0
4	ES0403	4589	Mountain whitefish	109			0
4	ES0403	4590	Mountain whitefish	113			0
4	ES0403	4591	Mountain whitefish	119			0
4	ES0403	4592	Mountain whitefish	108			0
4	ES0403	4593	Mountain whitefish	104			0
4	ES0403	4594	Mountain whitefish	123			0
4	ES0403	4595	Mountain whitefish	132			0
4	ES0403	4596	Mountain whitefish	107			0
4	ES0403	4597	Mountain whitefish	102			0
4	ES0403	4598	Mountain whitefish	108			0
4	ES0403	4599	Mountain whitefish	131			0
4	ES0403	4600	Mountain whitefish	117			0
4	ES0403	4601	Mountain whitefish	123			0
4	ES0403	4602	Mountain whitefish	130			0
4	ES0403	4603	Longnose sucker	72			0
4	ES0403	4604	Longnose sucker	46			0
4	ES0403	4605	Longnose sucker	61			0
4	ES0403	4606	Slimy sculpin	42			0
4	ES0403	4607	Slimy sculpin	71			0
4	ES0403	4608	Slimy sculpin	66			0
4	ES0403	4609	Slimy sculpin	74			0
4	ES0403	4610	Slimy sculpin	72			0
4	ES0403	4611	Slimy sculpin	63			0
4	ES0403	4612	Slimy sculpin	68			0
4	ES0403	4613	Slimy sculpin	61			0
4	ES0403	4614	Prickly sculpin	34			0
4	ES0404	4654	Mountain whitefish	94			0
4	ES0404	4655	Mountain whitefish	121			0
4	ES0404	4656	Mountain whitefish	109			0
4	ES0404	4657	Mountain whitefish	117			0
4	ES0404	4658	Mountain whitefish	120			0
4	ES0404	4659	Mountain whitefish	105			0
4	ES0404	4660	Mountain whitefish	116			0
4	ES0404	4661	Mountain whitefish	133			0
4	ES0404	4662	Mountain whitefish	128			0
4	ES0404	4663	Mountain whitefish	107			0
4	ES0404	4664	Mountain whitefish	177			0
4	ES0404	4665	Mountain whitefish	94			0
4	ES0404	4666	Prickly sculpin	73			0
4	ES0405	4701	Mountain whitefish	165			0
4	ES0405	4702	Mountain whitefish	119			0
4	ES0405	4703	Mountain whitefish	116			0
4	ES0405	4704	Mountain whitefish	96			0
4	ES0405	4705	Mountain whitefish	114			0
4	ES0405	4706	Mountain whitefish	106			0
4	ES0405	4707	Mountain whitefish	104			0
4	ES0405	4708	Mountain whitefish	113			0
4	ES0405	4709	Mountain whitefish	116			0
4	ES0405	4710	Mountain whitefish	113			0
4	ES0405	4711	Mountain whitefish	103			0
4	ES0405	4712	Mountain whitefish	96			0
4	ES0405	4713	Mountain whitefish	102			0
4	ES0405	4714	Mountain whitefish	132			0
4	ES0405	4715	Mountain whitefish	128			0
4	ES0405	4716	Mountain whitefish	109			0
4	ES0405	4717	Mountain whitefish	186			0
4	ES0405	4718	Mountain whitefish	179			0
4	ES0405	4719	Mountain whitefish	81			0
4	ES0405	4720	Slimy sculpin	68			0
4	ES0405	4721	Arctic grayling	137	SC	0	0
4	ES0405	4722	Arctic grayling	138	SC	0	0
4	ES0406	4773	Mountain whitefish	108			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
4	ES0406	4774	Mountain whitefish	186			0
4	ES0406	4775	Mountain whitefish	119			0
4	ES0406	4776	Mountain whitefish	136			0
4	ES0406	4777	Mountain whitefish	130			0
4	ES0406	4778	Mountain whitefish	104			0
4	ES0406	4779	Mountain whitefish	125			0
4	ES0406	4780	Mountain whitefish	129			0
4	ES0406	4781	Mountain whitefish	104			0
4	ES0406	4782	Mountain whitefish	115			0
4	ES0406	4783	Mountain whitefish	109			0
4	ES0406	4784	Mountain whitefish	121			0
4	ES0406	4785	Mountain whitefish	126			0
4	ES0406	4786	Longnose sucker	50			0
4	ES0406	4787	Longnose sucker	38			0
4	ES0407	4788	Mountain whitefish	78			0
4	ES0407	4789	Mountain whitefish	114			0
4	ES0407	4790	Mountain whitefish	112			0
4	ES0407	4791	Mountain whitefish	109			0
4	ES0407	4792	Mountain whitefish	118			0
4	ES0407	4793	Mountain whitefish	110			0
4	ES0407	4794	Mountain whitefish	114			0
4	ES0407	4795	Mountain whitefish	117			0
4	ES0407	4796	Mountain whitefish	101			0
4	ES0407	4797	Mountain whitefish	187			0
4	ES0407	4798	Mountain whitefish	185			0
4	ES0407	4799	Mountain whitefish	166			0
4	ES0407	4800	Spottail shiner	69			0
5	ES0501	4801	Mountain whitefish	184			0
5	ES0501	4802	Mountain whitefish	181			0
5	ES0501	4803	Mountain whitefish	163			0
5	ES0501	4804	Mountain whitefish	189			0
5	ES0501	4805	Mountain whitefish	176			0
5	ES0501	4806	Mountain whitefish	162			0
5	ES0501	4807	Mountain whitefish	176			0
5	ES0501	4808	Mountain whitefish	162			0
5	ES0501	4809	Mountain whitefish	117			0
5	ES0501	4810	Mountain whitefish	99			0
5	ES0501	4811	Mountain whitefish	119			0
5	ES0501	4812	Mountain whitefish	122			0
5	ES0501	4813	Mountain whitefish	115			0
5	ES0501	4814	Mountain whitefish	121			0
5	ES0501	4815	Mountain whitefish	101			0
5	ES0501	4816	Mountain whitefish	109			0
5	ES0501	4817	Mountain whitefish	87			0
5	ES0501	4818	Mountain whitefish	107			
5	ES0502	4819	Arctic grayling	137	SC	0	0
5	ES0502	4820	Arctic grayling	127	SC	0	0
5	ES0502	4821	Mountain whitefish	117	SC	0	0
5	ES0502	4822	Mountain whitefish	132	SC	0	0
5	ES0502	4823	Mountain whitefish	105	SC	0	0
5	ES0502	4824	Mountain whitefish	112	SC	0	0
5	ES0502	4825	Mountain whitefish	122	SC	0	0
5	ES0502	4826	Mountain whitefish	111	SC	0	0
5	ES0502	4827	Mountain whitefish	118	SC	0	0
5	ES0502	4828	Mountain whitefish	101	SC	0	0
5	ES0502	4829	Mountain whitefish	116	SC	0	0
5	ES0502	4830	Mountain whitefish	117	SC	0	0
5	ES0502	4831	Mountain whitefish	116			0
5	ES0502	4832	Mountain whitefish	115			0
5	ES0502	4833	Mountain whitefish	110			0
5	ES0502	4834	Mountain whitefish	98			0
5	ES0502	4835	Mountain whitefish	106			0
5	ES0502	4836	Mountain whitefish	112			0
5	ES0502	4837	Mountain whitefish	97			0
5	ES0502	4838	Mountain whitefish	176			0
5	ES0502	4839	Redside shiner	61			0
5	ES0502	4840	Longnose sucker	52			0
5	ES0503	4841	Northern pikeminnow	171			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
5	ES0503	4842	Mountain whitefish	161			0
5	ES0503	4843	Mountain whitefish	91			0
5	ES0503	4844	Mountain whitefish	105			0
5	ES0504	4845	Mountain whitefish	106			0
5	ES0504	4846	Mountain whitefish	124			0
5	ES0504	4847	Mountain whitefish	112			0
5	ES0504	4848	Mountain whitefish	103			0
5	ES0504	4849	Mountain whitefish	103			0
5	ES0504	4850	Mountain whitefish	117			0
5	ES0504	4851	Mountain whitefish	97			0
5	ES0504	4852	Mountain whitefish	183			0
5	ES0504	4853	Mountain whitefish	112			0
5	ES0504	4854	Mountain whitefish	93			0
5	ES0504	4855	Slimy sculpin	65			0
5	ES0504	4856	Prickly sculpin	82			0
5	ES0504	4857	Longnose sucker	101			0
5	ES0504	4858	Longnose sucker	84			0
5	ES0505	4859	Mountain whitefish	180			0
5	ES0505	4860	Mountain whitefish	100			0
5	ES0505	4861	Mountain whitefish	107			0
5	ES0505	4862	Mountain whitefish	100			0
5	ES0505	4863	Mountain whitefish	106			0
5	ES0505	4864	Mountain whitefish	117			0
5	ES0505	4865	Mountain whitefish	97			0
5	ES0505	4866	Mountain whitefish	100			0
5	ES0505	4867	Mountain whitefish	111			0
5	ES0505	4868	Mountain whitefish	106			0
5	ES0505	4869	Slimy sculpin	69			0
5	ES0506	4892	Mountain whitefish	104			0
5	ES0506	4893	Mountain whitefish	117			0
5	ES0506	4894	Mountain whitefish	114			0
5	ES0506	4895	Mountain whitefish	94			0
5	ES0506	4896	Mountain whitefish	99			0
5	ES0506	4897	Longnose sucker	178			0
5	ES0506	4898	Mountain whitefish	114			0
5	ES0506	4899	Mountain whitefish	104			0
5	ES0506	4900	Mountain whitefish	117			0
5	ES0506	4901	Mountain whitefish	102			0
5	ES0506	4902	Mountain whitefish	117			0
5	ES0506	4903	Longnose sucker	58			0
5	ES0506	4904	Slimy sculpin	89			0
5	ES0506	4905	Slimy sculpin	87			0
5	ES0507	4934	Arctic grayling	186			0
5	ES0507	4935	Mountain whitefish	106			0
5	ES0507	4936	Mountain whitefish	112			0
5	ES0507	4937	Mountain whitefish	122			0
5	ES0507	4938	Mountain whitefish	114			0
5	ES0507	4939	Mountain whitefish	124			0
5	ES0507	4940	Mountain whitefish	109			0
5	ES0507	4941	Mountain whitefish	124			0
5	ES0507	4942	Mountain whitefish	117			0
5	ES0507	4943	Mountain whitefish	105			0
5	ES0507	4944	Mountain whitefish	94			0
5	ES0507	4945	Mountain whitefish	112			0
5	ES0507	4946	Mountain whitefish	115			0
5	ES0507	4947	Mountain whitefish	110			0
5	ES0507	4948	Redside shiner	72			0
5	ES0507	4949	Slimy sculpin	75			0
5	ES0507	4950	Slimy sculpin	77			0
5	ES0507	4951	Slimy sculpin	84			0
5	ES0507	4952	Slimy sculpin	73			0
5	ES0507	4953	Slimy sculpin	69			0
5	ES0507	4954	Slimy sculpin	36			0
5	ES0507	4955	Slimy sculpin	34			0
5	ES0507	4956	Slimy sculpin	35			0
5	ES0507	4957	Longnose sucker	62			0
5	ES0507	4958	Slimy sculpin	74			0
5	ES0508	4960	Arctic grayling	196			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
5	ES0508	4961	Mountain whitefish	107			0
5	ES0508	4962	Mountain whitefish	122			0
5	ES0508	4963	Mountain whitefish	118			0
5	ES0508	4964	Mountain whitefish	108			0
5	ES0508	4965	Mountain whitefish	111			0
5	ES0508	4966	Mountain whitefish	107			0
5	ES0508	4967	Mountain whitefish	103			0
5	ES0508	4968	Mountain whitefish	117			0
5	ES0508	4969	Mountain whitefish	114			0
5	ES0508	4970	Mountain whitefish	96			0
5	ES0508	4971	Slimy sculpin	82			0
5	ES0508	4972	Slimy sculpin	73			0
5	ES0508	4973	Slimy sculpin	87			0
5	ES0508	4974	Slimy sculpin	81			0
5	ES0508	4975	Slimy sculpin	67			0
5	ES0509	5000	Bull trout	279	SC	3	0
5	ES0509	5001	Arctic grayling	180	SC	2	0
5	ES0509	5002	Mountain whitefish	180			0
5	ES0509	5003	Mountain whitefish	197			0
5	ES0509	5004	Mountain whitefish	171			0
5	ES0509	5005	Mountain whitefish	186			0
5	ES0509	5006	Mountain whitefish	179			0
5	ES0509	5007	Mountain whitefish	172			0
5	ES0509	5008	Mountain whitefish	132			0
5	ES0509	5009	Mountain whitefish	139			0
5	ES0509	5010	Mountain whitefish	116			0
5	ES0509	5011	Mountain whitefish	117			0
5	ES0509	5012	Mountain whitefish	124			0
5	ES0509	5013	Mountain whitefish	100			0
5	ES0509	5014	Mountain whitefish	109			0
5	ES0509	5015	Mountain whitefish	104			0
5	ES0509	5016	Mountain whitefish	123			0
5	ES0509	5017	Mountain whitefish	115			0
5	ES0509	5018	Mountain whitefish	124			0
5	ES0509	5019	Mountain whitefish	102			0
5	ES0509	5020	Mountain whitefish	116			0
5	ES0509	5021	Slimy sculpin	76			0
5	ES0509	5022	Slimy sculpin	76			0
5	ES0509	5023	Longnose sucker	64			0
6	ES0601	5040	Northern pike	147	SC	1	0
6	ES0601	5041	Northern pike	185	SC	2	0
6	ES0601	5042	Northern pike	157	SC	1	0
6	ES0601	5043	Northern pike	168	SC	1	0
6	ES0601	5044	Yellow perch	189	SC	4	0
6	ES0601	5045	Yellow perch	192	SC	4	0
6	ES0601	5046	Yellow perch	191	SC	3	0
6	ES0601	5047	Yellow perch	212	SC	3	0
6	ES0601	5048	Yellow perch	237	SC	3	0
6	ES0601	5049	Longnose sucker	43			0
6	ES0601	5050	Spottail shiner	36			0
6	ES0601	5051	Spottail shiner	28			0
6	ES0601	5052	Redside shiner	27			0
6	ES0602	5053	Northern pike	191	SC	2	0
6	ES0602	5054	Arctic grayling	178	SC	1	0
6	ES0602	5055	Arctic grayling	176	SC	1	0
6	ES0602	5056	Arctic grayling	174	SC	1	0
6	ES0602	5057	Arctic grayling	159	SC	1	0
6	ES0602	5058	Arctic grayling	168	SC	1	0
6	ES0602	5059	Arctic grayling	167	SC	1	0
6	ES0602	5060	Arctic grayling	198	SC	1	0
6	ES0602	5061	Arctic grayling	169	SC	1	0
6	ES0602	5062	Mountain whitefish	142	SC	0	0
6	ES0602	5063	Mountain whitefish	105	SC	0	0
6	ES0602	5064	Mountain whitefish	117	SC	0	0
6	ES0602	5065	Mountain whitefish	102	SC	0	0
6	ES0602	5066	Mountain whitefish	113	SC	0	0
6	ES0602	5067	Mountain whitefish	111	SC	0	0
6	ES0602	5068	Mountain whitefish	131	SC	0	0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
6	ES0602	5069	Mountain whitefish	112	SC	0	0
6	ES0602	5070	Mountain whitefish	97	SC	0	0
6	ES0602	5071	Mountain whitefish	108	SC	0	0
6	ES0602	5072	Bull trout	283	SC	4	0
6	ES0602	5073	Bull trout	261	SC	3	0
6	ES0602	5074	Mountain whitefish	111			0
6	ES0602	5075	Mountain whitefish	143			0
6	ES0602	5076	Mountain whitefish	174			0
6	ES0602	5077	Mountain whitefish	117			0
6	ES0602	5078	Mountain whitefish	112			0
6	ES0602	5079	Mountain whitefish	113			0
6	ES0602	5080	Mountain whitefish	147			0
6	ES0602	5081	Mountain whitefish	107			0
6	ES0602	5082	Mountain whitefish	99			0
6	ES0602	5083	Longnose sucker	76			0
6	ES0602	5084	Trout perch	48			0
6	ES0602	5085	Longnose sucker	49			0
6	ES0603	5101	Arctic grayling	181	SC	1	0
6	ES0603	5102	Arctic grayling	157	SC	1	0
6	ES0603	5103	Mountain whitefish	117			0
6	ES0603	5104	Mountain whitefish	122			0
6	ES0603	5105	Mountain whitefish	111			0
6	ES0603	5106	Mountain whitefish	129			0
6	ES0603	5107	Mountain whitefish	91			0
6	ES0603	5108	Mountain whitefish	116			0
6	ES0603	5109	Mountain whitefish	118			0
6	ES0603	5110	Mountain whitefish	117			0
6	ES0603	5111	Mountain whitefish	103			0
6	ES0603	5112	Mountain whitefish	116			0
6	ES0603	5113	Mountain whitefish	174			0
6	ES0603	5114	Mountain whitefish	97			0
6	ES0603	5115	Trout perch	34			0
6	ES0603	5116	Longnose sucker	62			0
6	ES0603	5117	Largescale sucker	59			0
6	ES0603	5118	Longnose sucker	44			0
6	ES0603	5119	Trout perch	49			0
6	ES0603	5120	Trout perch	42			0
6	ES0604	5155	Arctic grayling	154			0
6	ES0604	5156	Arctic grayling	196	SC	1	0
6	ES0604	5157	Arctic grayling	154			0
6	ES0604	5158	Arctic grayling	151			0
6	ES0604	5159	Arctic grayling	187	SC	1	0
6	ES0604	5160	Arctic grayling	150			0
6	ES0604	5161	Arctic grayling	173			0
6	ES0604	5162	Arctic grayling	148	SC	1	0
6	ES0604	5163	Arctic grayling	119	SC	0	0
6	ES0604	5164	Arctic grayling	188			0
6	ES0604	5165	Yellow perch	123	SC	4	0
6	ES0604	5166	Mountain whitefish	184			0
6	ES0604	5167	Mountain whitefish	192			0
6	ES0604	5168	Mountain whitefish	131			0
6	ES0604	5169	Mountain whitefish	109			0
6	ES0604	5170	Mountain whitefish	127			0
6	ES0604	5171	Mountain whitefish	117			0
6	ES0604	5172	Mountain whitefish	100			0
6	ES0604	5173	Mountain whitefish	126			0
6	ES0604	5174	Mountain whitefish	102			0
6	ES0604	5175	Mountain whitefish	112			0
6	ES0604	5176	Mountain whitefish	124			0
6	ES0604	5177	Kokanee	72			0
6	ES0604	5178	Largescale sucker	132			0
6	ES0604	5179	Trout perch	84			0
6	ES0604	5180	Longnose sucker	71			0
6	ES0604	5181	Longnose sucker	48			0
6	ES0604	5182	Longnose sucker	56			0
6	ES0604	5183	Lake chub	65			0
6	ES0604	5184	Trout perch	41			0
6	ES0604	5185	Longnose sucker	58			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
6	ES0604	5186	Redside shiner	34			0
6	ES0604	5187	Trout perch	46			0
6	ES0604	5188	Trout perch	59			0
6	ES0604	5189	Longnose sucker	63			0
6	ES0604	5190	Longnose sucker	33			0
6	ES0604	5191	Lake chub	76			0
6	ES0604	5192	Lake chub	67			0
6	ES0604	5193	Longnose sucker	59			0
6	ES0605	5209	Mountain whitefish	132			0
6	ES0605	5210	Mountain whitefish	129			0
6	ES0605	5211	Mountain whitefish	116			0
6	ES0605	5212	Mountain whitefish	103			0
6	ES0605	5213	Mountain whitefish	112			0
6	ES0605	5214	Mountain whitefish	123			0
6	ES0605	5215	Mountain whitefish	197			0
6	ES0605	5216	Mountain whitefish	133			0
6	ES0605	5217	Mountain whitefish	103			0
6	ES0605	5218	Mountain whitefish	113			0
6	ES0605	5219	Arctic grayling	178			0
6	ES0605	5220	Arctic grayling	187			0
6	ES0605	5221	Arctic grayling	127	SC	0	0
6	ES0605	5222	Arctic grayling	140	SC	1	0
6	ES0605	5223	Slimy sculpin	79			0
6	ES0605	5224	Slimy sculpin	71			0
6	ES0605	5225	Slimy sculpin	74			0
6	ES0605	5226	Longnose sucker	67			0
6	ES0605	5227	Longnose sucker	48			0
6	ES0605	5228	Longnose sucker	60			0
6	ES0606	5292	Arctic grayling	202			0
6	ES0606	5293	Arctic grayling	184			0
6	ES0606	5294	Arctic grayling	136			0
6	ES0606	5295	Arctic grayling	167			0
6	ES0606	5296	Arctic grayling	163			0
6	ES0606	5297	Mountain whitefish	123			0
6	ES0606	5298	Mountain whitefish	127			0
6	ES0606	5299	Mountain whitefish	104			0
6	ES0606	5300	Mountain whitefish	132			0
6	ES0606	5301	Mountain whitefish	129			0
6	ES0606	5302	Mountain whitefish	118			0
6	ES0606	5303	Mountain whitefish	114			0
6	ES0606	5304	Mountain whitefish	104			0
6	ES0606	5305	Mountain whitefish	123			0
6	ES0606	5306	Mountain whitefish	134			0
6	ES0606	5307	Mountain whitefish	109			0
6	ES0606	5308	Mountain whitefish	123			0
6	ES0606	5309	Longnose sucker	179			0
6	ES0606	5310	Longnose sucker	192			0
6	ES0606	5311	Longnose sucker	157			0
6	ES0606	5312	Arctic grayling	174			0
6	ES0606	5313	Arctic grayling	165			0
6	ES0606	5314	Arctic grayling	147			0
6	ES0606	5315	Arctic grayling	163			0
6	ES0606	5316	Arctic grayling	158			0
6	ES0606	5317	Arctic grayling	164			0
6	ES0606	5318	Arctic grayling	154			0
6	ES0606	5319	Arctic grayling	134	SC	0	0
6	ES0606	5320	Arctic grayling	137	SC	0	0
6	ES0606	5321	Lake chub	89			0
6	ES0606	5322	Longnose sucker	83			0
6	ES0606	5323	Trout perch	67			0
6	ES0606	5324	Longnose sucker	48			0
6	ES0606	5325	Longnose sucker	66			0
6	ES0606	5326	Lake chub	86			0
6	ES0606	5327	Longnose sucker	59			0
6	ES0606	5328	Longnose sucker	62			0
6	ES0606	5329	Longnose sucker	42			0
6	ES0606	5330	Longnose sucker	64			0
6	ES0606	5331	Longnose sucker	61			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
6	ES0606	5332	Longnose sucker	58			0
6	ES0607	5396	Mountain whitefish	127			0
6	ES0607	5397	Mountain whitefish	114			0
6	ES0607	5398	Mountain whitefish	87			0
6	ES0607	5399	Mountain whitefish	127			0
6	ES0607	5400	Mountain whitefish	108			0
6	ES0607	5401	Mountain whitefish	108			0
6	ES0607	5402	Redside shiner	105			0
6	ES0608	5403	Mountain whitefish	122			0
6	ES0608	5404	Mountain whitefish	114			0
6	ES0608	5405	Mountain whitefish	108			0
6	ES0608	5406	Mountain whitefish	114			0
6	ES0608	5407	Mountain whitefish	120			0
6	ES0608	5408	Mountain whitefish	132			0
6	ES0608	5409	Mountain whitefish	134			0
6	ES0608	5410	Mountain whitefish	103			0
6	ES0608	5411	Mountain whitefish	106			0
6	ES0608	5412	Mountain whitefish	103			0
6	ES0608	5413	Arctic grayling	162			0
6	ES0608	5414	Largescale sucker	122			0
6	ES0608	5415	Slimy sculpin	76			0
6	ES0608	5416	Slimy sculpin	80			0
6	ES0609	5517	Arctic grayling	248			0
6	ES0609	5518	Bull trout	269			0
6	ES0609	5519	Mountain whitefish	203			0
6	ES0609	5520	Arctic grayling	203			0
6	ES0609	5521	Mountain whitefish	195			0
6	ES0609	5522	Mountain whitefish	200			0
6	ES0609	5523	Mountain whitefish	123			0
6	ES0609	5524	Mountain whitefish	126			0
6	ES0609	5525	Mountain whitefish	113			0
6	ES0609	5526	Mountain whitefish	127			0
6	ES0609	5527	Arctic grayling	196			0
6	ES0609	5528	Mountain whitefish	183			0
6	ES0609	5529	Arctic grayling	139			0
6	ES0609	5530	Mountain whitefish	128			0
6	ES0609	5531	Mountain whitefish	120			0
6	ES0609	5532	Mountain whitefish	135			0
6	ES0609	5533	Arctic grayling	148			0
6	ES0609	5534	Trout perch	76			0
6	ES0609	5535	Trout perch	57			0
6	ES0609	5536	Trout perch	84			0
6	ES0609	5537	Trout perch	69			0
6	ES0609	5538	Trout perch	64			0
6	ES0609	5539	Lake chub	105			0
6	ES0609	5540	Lake chub	87			0
7	ES0701	5592	Trout perch	74			0
7	ES0701	5593	Redside shiner	22			0
7	ES0701	5594	Redside shiner	24			0
7	ES0701	5595	Redside shiner	20			0
7	ES0701	5596	Redside shiner	31			0
7	ES0701	5597	Redside shiner	26			0
7	ES0701	5598	Redside shiner	23			0
7	ES0701	5599	Redside shiner	20			0
7	ES0701	5600	Redside shiner	17			0
7	ES0701	5601	Redside shiner	29			0
7	ES0701	5602	Redside shiner	25			0
7	ES0702	5628	Mountain whitefish	122	SC	0	0
7	ES0702	5629	Mountain whitefish	102	SC	0	0
7	ES0702	5630	Mountain whitefish	110	SC	0	0
7	ES0702	5631	Mountain whitefish	114	SC	0	0
7	ES0702	5632	Mountain whitefish	112	SC	0	0
7	ES0702	5633	Mountain whitefish	113	SC	0	0
7	ES0702	5634	Mountain whitefish	107	SC	0	0
7	ES0702	5635	Mountain whitefish	123	SC	0	0
7	ES0702	5636	Mountain whitefish	107	SC	0	0
7	ES0702	5637	Mountain whitefish	110	SC	0	0
7	ES0702	5638	Lake whitefish	126	SC	0	0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
7	ES0702	5639	Mountain whitefish	185			0
7	ES0702	5640	Mountain whitefish	121			0
7	ES0702	5641	Mountain whitefish	114			0
7	ES0702	5642	Mountain whitefish	104			0
7	ES0702	5643	Trout perch	54			0
7	ES0702	5644	Trout perch	76			0
7	ES0703	5671	Arctic grayling	149	SC	0	0
7	ES0703	5672	Mountain whitefish	112			0
7	ES0703	5673	Mountain whitefish	126			0
7	ES0703	5674	Mountain whitefish	135			0
7	ES0703	5675	Mountain whitefish	109			0
7	ES0703	5676	Mountain whitefish	105			0
7	ES0703	5677	Mountain whitefish	127			0
7	ES0703	5678	Mountain whitefish	133	SC	0	0
7	ES0703	5679	Mountain whitefish	122			0
7	ES0703	5680	Mountain whitefish	109			0
7	ES0703	5681	Mountain whitefish	104			0
7	ES0703	5682	Mountain whitefish	154			0
7	ES0703	5683	Trout perch	52			0
7	ES0703	5684	Trout perch	74			0
7	ES0704	5700	Slimy sculpin	44			0
7	ES0705	5701	Slimy sculpin	174			0
7	ES0705	5702	Arctic grayling	187			0
7	ES0705	5703	Rainbow trout	195	SC	1	0
7	ES0705	5704	Mountain whitefish	198			0
7	ES0705	5705	Mountain whitefish	188			0
7	ES0705	5706	Mountain whitefish	199			0
7	ES0705	5707	Mountain whitefish	174			0
7	ES0705	5708	Mountain whitefish	105			0
7	ES0705	5709	Mountain whitefish	119			0
7	ES0705	5710	Mountain whitefish	116			0
7	ES0705	5711	Slimy sculpin	79			0
7	ES0705	5712	Slimy sculpin	71			0
7	ES0705	5713	Slimy sculpin	33			0
7	ES0705	5714	Longnose sucker	72			0
7	ES0706	5715	Mountain whitefish	112			0
7	ES0706	5716	Mountain whitefish	139			0
7	ES0706	5717	Mountain whitefish	127			0
7	ES0706	5718	Mountain whitefish	134			0
7	ES0706	5719	Mountain whitefish	12			0
7	ES0706	5720	Mountain whitefish	125			0
7	ES0706	5721	Mountain whitefish	159			0
7	ES0706	5722	Slimy sculpin	87			0
7	ES0706	5723	Slimy sculpin	51			0
7	ES0706	5724	Slimy sculpin	48			0
7	ES0706	5725	Trout perch	67			0
7	ES0706	5726	Trout perch	69			0
7	ES0706	5727	Longnose sucker	42			0
7	ES0707	5728	Mountain whitefish	196			0
7	ES0707	5729	Mountain whitefish	210			0
7	ES0707	5730	Mountain whitefish	192			0
7	ES0707	5731	Mountain whitefish	201			0
7	ES0707	5732	Mountain whitefish	200			0
7	ES0707	5733	Mountain whitefish	194			0
7	ES0707	5734	Mountain whitefish	122			0
7	ES0707	5735	Mountain whitefish	114			0
7	ES0707	5736	Mountain whitefish	117			0
7	ES0707	5737	Mountain whitefish	122			0
7	ES0707	5738	Mountain whitefish	128			0
7	ES0707	5739	Mountain whitefish	103			0
7	ES0707	5740	Mountain whitefish	112			0
7	ES0707	5741	Mountain whitefish	138			0
7	ES0707	5742	Mountain whitefish	115			0
7	ES0707	5743	Arctic grayling	152	SC	0	0
7	ES0707	5744	Arctic grayling	147	SC	0	0
7	ES0707	5745	Trout perch	86			0
7	ES0707	5746	Trout perch	76			0
7	ES0707	5747	Slimy sculpin	67			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
7	ES0707	5748	Slimy sculpin	91			0
7	ES0707	5749	Slimy sculpin	58			0
7	ES0707	5750	Longnose dace	31			0
7	ES0708	5757	Mountain whitefish	122			0
7	ES0708	5758	Mountain whitefish	123			0
7	ES0708	5759	Mountain whitefish	142			0
7	ES0708	5760	Mountain whitefish	105			0
7	ES0708	5761	Mountain whitefish	116			0
7	ES0708	5762	Mountain whitefish	112			0
7	ES0708	5763	Mountain whitefish	111			0
7	ES0708	5764	Mountain whitefish	104			0
7	ES0708	5765	Mountain whitefish	112			0
7	ES0708	5766	Mountain whitefish	124			0
7	ES0708	5767	Mountain whitefish	113			0
7	ES0708	5768	Mountain whitefish	104			0
7	ES0708	5769	Mountain whitefish	99			0
7	ES0708	5770	Mountain whitefish	117			0
7	ES0708	5771	Mountain whitefish	126			0
7	ES0708	5772	Arctic grayling	159	SC	1	0
7	ES0708	5773	Arctic grayling	123	SC	0	0
7	ES0708	5774	Arctic grayling	148	SC	0	0
7	ES0708	5775	Slimy sculpin	75			0
7	ES0708	5776	Slimy sculpin	66			0
7	ES0708	5777	Slimy sculpin	56			0
7	ES0708	5778	Slimy sculpin	76			0
7	ES0708	5779	Slimy sculpin	45			0
7	ES0708	5780	Lake chub	78			0
7	ES0708	5781	Longnose sucker	68			0
7	ES0708	5782	Longnose dace	80			0
8	ES0801	5802	Longnose sucker	52			0
8	ES0802	5803	Mountain whitefish	189			0
8	ES0802	5804	Mountain whitefish	124	SC	0	0
8	ES0802	5805	Mountain whitefish	116	SC	0	0
8	ES0802	5806	Mountain whitefish	115	SC	0	0
8	ES0802	5807	Mountain whitefish	113	SC	0	0
8	ES0802	5808	Mountain whitefish	118	SC	0	0
8	ES0802	5809	Mountain whitefish	108	SC	0	0
8	ES0802	5810	Mountain whitefish	109	SC	0	0
8	ES0802	5811	Mountain whitefish	119	SC	0	0
8	ES0802	5812	Longnose sucker	215			0
8	ES0802	5813	Longnose sucker	58			0
8	ES0802	5814	Longnose sucker	56			0
8	ES0802	5815	Longnose sucker	58			0
8	ES0802	5816	Longnose sucker	43			0
8	ES0802	5817	Longnose sucker	62			0
8	ES0802	5818	Slimy sculpin	48			0
8	ES0802	5819	Longnose dace	23			0
8	ES0803	5820	Mountain whitefish	205			0
8	ES0803	5821	Mountain whitefish	117			0
8	ES0803	5822	Mountain whitefish	115			0
8	ES0803	5823	Mountain whitefish	110			0
8	ES0803	5824	Mountain whitefish	106			0
8	ES0803	5825	Mountain whitefish	94			0
8	ES0803	5826	Mountain whitefish	108			0
8	ES0803	5827	Mountain whitefish	116			0
8	ES0803	5828	Mountain whitefish	124			0
8	ES0803	5829	Mountain whitefish	127			0
8	ES0803	5830	Trout perch	176			0
8	ES0803	5831	Trout perch	65			0
8	ES0803	5832	Trout perch	73			0
8	ES0803	5833	Trout perch	54			0
8	ES0803	5834	Trout perch	53			0
8	ES0803	5835	Longnose sucker	64			0
8	ES0803	5836	Longnose sucker	57			0
8	ES0803	5837	Trout perch	54			0
8	ES0804	5877	Mountain whitefish	197			0
8	ES0804	5878	Mountain whitefish	204			0
8	ES0804	5879	Mountain whitefish	194			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
8	ES0804	5880	Mountain whitefish	207			0
8	ES0804	5881	Mountain whitefish	127			0
8	ES0804	5882	Mountain whitefish	116			0
8	ES0804	5883	Mountain whitefish	112			0
8	ES0804	5884	Mountain whitefish	107			0
8	ES0804	5885	Mountain whitefish	134			0
8	ES0804	5886	Mountain whitefish	136			0
8	ES0804	5887	Mountain whitefish	133			0
8	ES0804	5888	Mountain whitefish	112			0
8	ES0804	5889	Mountain whitefish	122			0
8	ES0804	5890	Mountain whitefish	113			0
8	ES0804	5891	Mountain whitefish	133			0
8	ES0804	5892	Mountain whitefish	112			0
8	ES0804	5893	Arctic grayling	154	SC	0	0
8	ES0804	5894	Arctic grayling	144	SC	0	0
8	ES0804	5895	Arctic grayling	153	SC	0	0
8	ES0804	5896	Arctic grayling	149	SC	0	0
8	ES0804	5897	White sucker	72			0
8	ES0804	5898	Longnose sucker	78			0
8	ES0804	5899	Longnose sucker	76			0
8	ES0804	5900	Longnose sucker	43			0
8	ES0804	5901	Longnose sucker	42			0
8	ES0804	5902	Trout perch	82			0
8	ES0804	5903	Trout perch	48			0
8	ES0804	5904	Trout perch	42			0
8	ES0804	5905	Longnose dace	31			0
8	ES0804	5906	Longnose dace	24			0
8	ES0804	5907	Longnose dace	25			0
8	ES0805	5941	Mountain whitefish	198			0
8	ES0805	5942	Mountain whitefish	192			0
8	ES0805	5943	Mountain whitefish	202			0
8	ES0805	5944	Mountain whitefish	121			0
8	ES0805	5945	Mountain whitefish	122			0
8	ES0805	5946	Mountain whitefish	130			0
8	ES0805	5947	Mountain whitefish	129			0
8	ES0805	5948	Mountain whitefish	103			0
8	ES0805	5949	Mountain whitefish	134			0
8	ES0805	5950	Mountain whitefish	114			0
8	ES0805	5951	Mountain whitefish	126			0
8	ES0805	5952	Mountain whitefish	108			0
8	ES0805	5953	Mountain whitefish	130			0
8	ES0805	5954	Mountain whitefish	116			0
8	ES0805	5955	Trout perch	66			0
8	ES0805	5956	Trout perch	84			0
8	ES0805	5957	Trout perch	66			0
8	ES0807	5959	Mountain whitefish	210			0
8	ES0807	5960	Mountain whitefish	131			0
8	ES0807	5961	Mountain whitefish	119			0
8	ES0807	5962	Mountain whitefish	111			0
8	ES0806	5963	Mountain whitefish	111			0
8	ES0806	5964	Mountain whitefish	98			0
8	ES0806	5965	Mountain whitefish	114			0
8	ES0806	5966	Mountain whitefish	122			0
8	ES0806	5967	Mountain whitefish	117			0
8	ES0806	5968	Mountain whitefish	116			0
8	ES0806	5969	Mountain whitefish	111			0
8	ES0806	5970	Lake chub	82			0
8	ES0806	5971	Lake chub	74			0
8	ES0806	5972	Lake chub	68			0
8	ES0806	5973	Longnose sucker	79			0
8	ES0808	5974	Mountain whitefish	122			0
1	BS0102	5975	Kokanee	55			0
2	BS0203	5976	Redside shiner	33			0
2	BS0203	5977	Longnose dace	23			0
2	BS0203	5978	Longnose dace	27			0
2	BS0203	5979	Longnose dace	32			0
2	BS0203	5980	Longnose dace	25			0
2	BS0203	5981	Longnose dace	24			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
2	BS0203	5982	Longnose dace	19			0
2	BS0203	5983	Longnose sucker	34			0
2	BS0203	5984	Prickly sculpin	32			0
2	BS0203	5985	Prickly sculpin	26			0
2	BS0207	5986	Longnose sucker	34			0
2	BS0207	5987	Spottail shiner	32			0
2	BS0207	5988	Spottail shiner	28			0
2	BS0207	5989	Redside shiner	34			0
2	BS0207	5990	Longnose dace	29			0
2	BS0207	5991	Redside shiner	38			0
2	BS0207	5992	Longnose dace	32			0
2	BS0207	5993	Redside shiner	30			0
2	BS0207	5994	Longnose dace	25			0
2	BS0207	5995	Longnose dace	23			0
2	BS0207	5996	Spottail shiner	33			0
2	BS0207	5997	Longnose dace	28			0
2	BS0207	5998	Longnose sucker	28			0
2	BS0207	5999	Redside shiner	32			0
2	BS0207	6000	Redside shiner	25			0
2	BS0207	6001	Redside shiner	31			0
2	BS0207	6002	Redside shiner	32			0
2	BS0207	6003	Longnose dace	30			0
2	BS0207	6004	Longnose dace	31			0
2	BS0207	6005	Longnose dace	31			0
2	BS0207	6006	Longnose dace	32			0
2	BS0207	6007	Redside shiner	27			0
2	BS0207	6008	Redside shiner	27			0
2	BS0207	6009	Redside shiner	31			0
2	BS0207	6010	Longnose dace	28			0
3	BS0301	6031	Redside shiner	20			0
3	BS0301	6032	Longnose dace	24			0
3	BS0303	6033	Redside shiner	24			0
3	BS0303	6034	Redside shiner	25			0
3	BS0303	6035	Redside shiner	23			0
3	BS0303	6036	Redside shiner	24			0
3	BS0303	6037	Redside shiner	22			0
3	BS0303	6038	Redside shiner	29			0
3	BS0303	6039	Redside shiner	29			0
3	BS0303	6040	Redside shiner	28			0
3	BS0303	6041	Redside shiner	29			0
3	BS0303	6042	Redside shiner	25			0
3	BS0303	6043	Redside shiner	22			0
3	BS0303	6044	Redside shiner	24			0
3	BS0303	6045	Redside shiner	24			0
3	BS0303	6046	Redside shiner	25			0
3	BS0303	6047	Longnose sucker	27			0
3	BS0303	6048	Longnose sucker	28			0
3	BS0304	6053	Mountain whitefish	78	SC	0	0
3	BS0304	6054	Redside shiner	35			0
3	BS0304	6055	Longnose dace	28			0
3	BS0304	6056	Redside shiner	32			0
3	BS0304	6057	Longnose dace	21			0
3	BS0305	6058	Longnose sucker	31			0
3	BS0305	6059	Longnose sucker	37			0
3	BS0305	6060	Longnose sucker	36			0
3	BS0305	6061	Longnose dace	25			0
3	BS0305	6062	Longnose dace	26			0
3	BS0305	6063	Longnose sucker	44			0
3	BS0305	6064	Longnose dace	26			0
3	BS0305	6065	Redside shiner	32			0
3	BS0305	6066	Longnose dace	20			0
3	BS0306	6067	Mountain whitefish	85	SC	0	0
3	BS0306	6068	Redside shiner	21			0
3	BS0306	6069	Redside shiner	24			0
3	BS0306	6070	Redside shiner	21			0
3	BS0306	6071	Longnose sucker	41			0
4	BS0401	6072	Spottail shiner	39			0
4	BS0401	6073	Spottail shiner	40			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
4	BS0401	6074	Redside shiner	26			0
4	BS0401	6075	Redside shiner	27			0
4	BS0401	6076	Redside shiner	24			0
4	BS0401	6077	Redside shiner	24			0
4	BS0401	6078	Redside shiner	30			0
4	BS0401	6079	Redside shiner	25			0
4	BS0401	6080	Redside shiner	27			0
4	BS0401	6081	Redside shiner	29			0
4	BS0401	6082	Redside shiner	27			0
4	BS0401	6083	Redside shiner	31			0
4	BS0401	6084	Spottail shiner	31			0
4	BS0401	6085	Spottail shiner	38			0
4	BS0401	6086	Spottail shiner	40			0
4	BS0401	6087	Spottail shiner	39			0
4	BS0401	6088	Spottail shiner	40			0
4	BS0401	6089	Spottail shiner	34			0
4	BS0401	6090	Spottail shiner	39			0
4	BS0401	6091	Spottail shiner	34			0
4	BS0401	6092	Longnose sucker	24			0
4	BS0403	6177	Mountain whitefish	93	SC	0	0
4	BS0403	6178	Mountain whitefish	104	SC	0	0
4	BS0403	6179	Mountain whitefish	85	SC	0	0
4	BS0403	6180	Spottail shiner	82			0
4	BS0403	6181	Spottail shiner	85			0
4	BS0403	6182	Spottail shiner	75			0
4	BS0403	6183	Spottail shiner	75			0
4	BS0403	6184	Longnose sucker	36			0
4	BS0403	6185	Longnose sucker	32			0
4	BS0403	6186	Longnose sucker	32			0
4	BS0403	6187	Longnose sucker	46			0
4	BS0403	6188	Longnose sucker	31			0
4	BS0403	6189	Longnose dace	25			0
4	BS0403	6190	Redside shiner	21			0
4	BS0403	6191	Redside shiner	18			0
4	BS0403	6192	Redside shiner	22			0
4	BS0403	6193	Redside shiner	28			0
4	BS0403	6194	Redside shiner	26			0
4	BS0403	6195	Redside shiner	23			0
4	BS0403	6196	Redside shiner	23			0
4	BS0403	6197	Redside shiner	26			0
4	BS0403	6198	Redside shiner	23			0
4	BS0403	6199	Redside shiner	22			0
4	BS0403	6200	Longnose sucker	31			0
4	BS0403	6201	Longnose sucker	22			0
4	BS0404	6228	Redside shiner	39			0
4	BS0404	6229	Redside shiner	28			0
4	BS0404	6230	Redside shiner	28			0
4	BS0404	6231	Redside shiner	24			0
4	BS0404	6232	Redside shiner	34			0
4	BS0404	6233	Redside shiner	31			0
4	BS0404	6234	Redside shiner	31			0
4	BS0404	6235	Redside shiner	32			0
4	BS0404	6236	Redside shiner	34			0
4	BS0404	6237	Redside shiner	35			0
4	BS0404	6238	Redside shiner	27			0
4	BS0404	6239	Longnose sucker	35			0
4	BS0404	6240	Longnose sucker	34			0
4	BS0404	6241	Longnose sucker	34			0
4	BS0405	6273	Redside shiner	20			0
4	BS0405	6274	Redside shiner	25			0
4	BS0405	6275	Redside shiner	23			0
4	BS0405	6276	Redside shiner	28			0
4	BS0405	6277	Redside shiner	25			0
4	BS0406	6278	Redside shiner	26			0
4	BS0407	6279	Longnose sucker	53			0
4	BS0407	6280	Longnose sucker	34			0
4	BS0407	6281	Longnose sucker	37			0
4	BS0407	6282	Longnose sucker	42			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
4	BS0407	6283	Longnose sucker	28			0
4	BS0407	6284	Northern pikeminnow	36			0
4	BS0407	6285	Redside shiner	29			0
4	BS0407	6286	Longnose sucker	32			0
4	BS0407	6287	Redside shiner	32			0
4	BS0407	6288	Redside shiner	30			0
4	BS0407	6289	Northern pikeminnow	34			0
4	BS0407	6290	Redside shiner	25			0
4	BS0407	6291	Redside shiner	18			0
4	BS0407	6292	Redside shiner	19			0
4	BS0407	6293	Redside shiner	29			0
4	BS0407	6294	Redside shiner	25			0
5	BS0501	6472	Redside shiner	31			0
5	BS0502	6473	Redside shiner	23			0
5	BS0502	6474	Redside shiner	34			0
5	BS0503	6475	Redside shiner	29			0
5	BS0503	6476	Redside shiner	23			0
5	BS0503	6477	Redside shiner	30			0
5	BS0503	6478	Redside shiner	26			0
5	BS0503	6479	Redside shiner	27			0
5	BS0503	6480	Redside shiner	30			0
5	BS0503	6481	Redside shiner	28			0
5	BS0503	6482	Redside shiner	28			0
5	BS0503	6483	Redside shiner	30			0
5	BS0503	6484	Redside shiner	25			0
5	BS0503	6485	Spottail shiner	32			0
5	BS0503	6486	Largescale sucker	40			0
5	BS0503	6487	Largescale sucker	44			0
5	BS0503	6488	Northern pikeminnow	29			0
5	BS0503	6489	Largescale sucker	37			0
5	BS0503	6490	Largescale sucker	42			0
5	BS0503	6491	Largescale sucker	37			0
5	BS0505	6498	Prickly sculpin	33			0
6	BS0601	6499	Redside shiner	24			0
6	BS0601	6500	Redside shiner	26			0
6	BS0601	6501	Redside shiner	25			0
6	BS0601	6502	Redside shiner	26			0
6	BS0601	6503	Redside shiner	28			0
6	BS0601	6504	Redside shiner	28			0
6	BS0601	6505	Redside shiner	22			0
6	BS0601	6506	Redside shiner	19			0
6	BS0601	6507	Redside shiner	26			0
6	BS0601	6508	Redside shiner	29			0
6	BS0603	6515	Longnose sucker	32			0
6	BS0603	6516	Longnose sucker	32			0
6	BS0603	6517	Longnose sucker	28			0
6	BS0603	6518	Longnose sucker	36			0
6	BS0603	6519	Redside shiner	24			0
6	BS0603	6520	Longnose sucker	23			0
6	BS0603	6521	Redside shiner	23			0
6	BS0603	6522	Redside shiner	20			0
6	BS0603	6523	Longnose sucker	29			0
6	BS0603	6524	Longnose dace	21			0
6	BS0603	6525	Redside shiner	25			0
6	BS0603	6526	Lake chub	28			0
6	BS0604	6527	Slimy sculpin	85			0
6	BS0604	6528	Longnose sucker	49			0
6	BS0604	6529	Longnose sucker	50			0
6	BS0605	6530	Longnose sucker	35			0
6	BS0605	6531	Trout perch	35			0
6	BS0605	6532	Trout perch	37			0
6	BS0606	6533	Longnose sucker	45			0
6	BS0606	6534	Longnose sucker	38			0
6	BS0606	6535	Redside shiner	28			0
6	BS0606	6536	Redside shiner	24			0
6	BS0606	6537	Longnose sucker	27			0
6	BS0606	6538	Longnose sucker	55			0
6	BS0606	6539	Longnose sucker	34			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
6	BS0606	6540	Redside shiner	24			0
6	BS0606	6541	Redside shiner	23			0
6	BS0606	6542	Redside shiner	21			0
6	BS0606	6543	Longnose sucker	25			0
6	BS0606	6544	Longnose sucker	45			0
6	BS0606	6545	Largescale sucker	44			0
6	BS0606	6546	Longnose sucker	32			0
6	BS0606	6547	Redside shiner	25			0
6	BS0606	6548	Redside shiner	24			0
6	BS0606	6550	Longnose sucker	36			0
6	BS0606	6551	Longnose sucker	28			0
7	BS0703	6554	Longnose sucker	40			0
7	BS0703	6555	Longnose sucker	47			0
7	BS0703	6556	Redside shiner	23			0
7	BS0703	6557	Redside shiner	23			0
7	BS0703	6558	Longnose sucker	37			0
7	BS0703	6559	Redside shiner	27			0
7	BS0703	6560	Redside shiner	30			0
7	BS0703	6561	Longnose sucker	27			0
7	BS0703	6562	Redside shiner	32			0
7	BS0704	6563	Longnose sucker	33			0
7	BS0704	6564	Longnose dace	22			0
7	BS0701	6565	Longnose dace	35			0
7	BS0701	6566	Longnose dace	33			0
7	BS0701	6567	Spottail shiner	30			0
7	BS0701	6568	Redside shiner	25			0
7	BS0701	6569	Redside shiner	21			0
7	BS0701	6570	Redside shiner	24			0
7	BS0701	6571	Redside shiner	23			0
7	BS0701	6572	Longnose dace	33			0
7	BS0701	6573	Redside shiner	26			0
7	BS0701	6574	Longnose dace	35			0
7	BS0701	6575	Redside shiner	24			0
7	BS0701	6576	Redside shiner	21			0
7	BS0701	6577	Redside shiner	22			0
7	BS0701	6578	Spottail shiner	38			0
7	BS0701	6579	Longnose dace	34			0
7	BS0701	6580	Spottail shiner	39			0
7	BS0701	6581	Redside shiner	25			0
7	BS0701	6582	Redside shiner	25			0
7	BS0701	6583	Longnose dace	41			0
7	BS0701	6584	Spottail shiner	72			0
7	BS0701	6585	Spottail shiner	31			0
7	BS0701	6586	Spottail shiner	34			0
7	BS0701	6587	Longnose dace	36			0
7	BS0701	6588	Redside shiner	38			0
7	BS0701	6589	Longnose dace	37			0
7	BS0701	6590	Spottail shiner	73			0
7	BS0701	6591	Spottail shiner	45			0
7	BS0701	6592	Spottail shiner	38			0
7	BS0701	6593	Spottail shiner	39			0
7	BS0701	6594	Spottail shiner	50			0
7	BS0702	6734	Redside shiner	20			0
7	BS0702	6735	Redside shiner	18			0
7	BS0702	6736	Redside shiner	23			0
7	BS0702	6737	Redside shiner	26			0
7	BS0702	6738	Trout perch	42			0
7	BS0702	6739	Longnose sucker	40			0
7	BS0702	6740	Redside shiner	20			0
7	BS0702	6741	Redside shiner	18			0
7	BS0702	6742	Redside shiner	25			0
7	BS0702	6743	Redside shiner	24			0
7	BS0702	6744	Redside shiner	18			0
7	BS0702	6745	Redside shiner	20			0
7	BS0702	6746	Longnose sucker	35			0
7	BS0702	6747	Trout perch	34			0
8	BS0801	6751	Longnose sucker	41			0
8	BS0801	6752	Redside shiner	27			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
8	BS0803	6753	Redside shiner	21			0
8	BS0803	6754	Northern pikeminnow	29			0
8	BS0803	6755	Redside shiner	21			0
8	BS0803	6756	Redside shiner	19			0
8	BS0803	6757	Redside shiner	28			0
8	BS0804	6758	Longnose sucker	38			0
8	BS0804	6759	Longnose sucker	48			0
8	BS0804	6760	Longnose sucker	45			0
8	BS0804	6761	Longnose sucker	40			0
8	BS0804	6762	Longnose sucker	44			0
8	BS0804	6763	Longnose sucker	38			0
8	BS0804	6764	Longnose sucker	52			0
8	BS0804	6765	Redside shiner	22			0
8	BS0804	6766	Longnose sucker	52			0
8	BS0804	6767	Longnose sucker	37			0
8	BS0804	6768	Longnose sucker	39			0
8	BS0804	6769	Longnose dace	39			0
8	BS0804	6770	Longnose dace	45			0
8	BS0804	6771	Longnose dace	41			0
8	BS0804	6772	Longnose dace	33			0
8	BS0804	6773	Longnose dace	27			0
8	BS0804	6774	Longnose dace	33			0
8	BS0804	6775	Longnose dace	42			0
8	BS0804	6776	Longnose dace	37			0
8	BS0804	6777	Spottail shiner	45			0
8	BS0804	6778	Longnose dace	67			0
8	BS0804	6779	Longnose dace	39			0
8	BS0804	6780	Longnose dace	34			0
8	BS0805	6831	Redside shiner	27			0
8	BS0805	6832	Redside shiner	28			0
8	BS0805	6833	Redside shiner	28			0
8	BS0805	6834	Redside shiner	28			0
8	BS0805	6835	Redside shiner	27			0
8	BS0805	6836	Redside shiner	22			0
8	BS0805	6837	Redside shiner	23			0
8	BS0805	6838	Redside shiner	29			0
8	BS0805	6839	Longnose sucker	29			0
8	BS0805	6840	Redside shiner	20			0
8	BS0805	6841	Redside shiner	24			0
8	BS0805	6842	Longnose dace	31			0
8	BS0805	6843	Longnose sucker	38			0
8	BS0805	6844	Longnose dace	22			0
1	EF0101	6896	Prickly sculpin	122			0
1	EF0101	6897	Longnose sucker	58			0
1	EF0101	6898	Longnose sucker	63			0
1	EF0102	6899	Prickly sculpin	66			0
1	EF0102	6900	Prickly sculpin	62			0
1	EF0102	6901	Prickly sculpin	61			0
1	EF0103	6902	White sucker	39			0
1	EF0103	6903	Slimy sculpin	85			0
1	EF0103	6904	White sucker	43			0
1	EF0103	6905	White sucker	41			0
1	EF0103	6906	Slimy sculpin	84			0
1	EF0103	6907	Prickly sculpin	87			0
1	EF0103	6908	White sucker	44			0
1	EF0103	6909	Longnose sucker	30			0
1	EF0103	6910	White sucker	44			0
1	EF0103	6911	Longnose sucker	26			0
1	EF0103	6912	Longnose sucker	27			0
1	EF0103	6913	Longnose sucker	28			0
1	EF0103	6914	Longnose sucker	30			0
1	EF0103	6915	Longnose sucker	34			0
1	EF0103	6916	White sucker	38			0
1	EF0103	6917	Longnose sucker	34			0
1	EF0103	6918	Longnose sucker	28			0
1	EF0103	6919	Longnose sucker	36			0
1	EF0103	6920	Slimy sculpin	47			0
1	EF0103	6921	Prickly sculpin	48			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
1	EF0103	6922	Slimy sculpin	35			0
1	EF0103	6923	Lake chub	62			0
2	EF0202	6924	Largescale sucker	29			0
2	EF0203	6925	Prickly sculpin	105			0
2	EF0203	6926	Slimy sculpin	72			0
2	EF0203	6927	Longnose sucker	58			0
2	EF0203	6928	Prickly sculpin	27			0
2	EF0203	6929	Slimy sculpin	29			0
2	EF0203	6930	Prickly sculpin	33			0
2	EF0203	6931	Slimy sculpin	40			0
2	EF0203	6932	Slimy sculpin	28			0
2	EF0203	6933	Spottail shiner	31			0
2	EF0203	6934	Longnose dace	28			0
2	EF0203	6935	Slimy sculpin	32			0
2	EF0203	6936	Rainbow trout	56	SC	0	0
2	EF0203	6937	Slimy sculpin	31			0
3	EF0301	6938	Prickly sculpin	29			0
3	EF0301	6939	Redside shiner	26			0
3	EF0301	6940	Longnose dace	24			0
3	EF0301	6941	Longnose sucker	50			0
3	EF0301	6942	Longnose sucker	60			0
3	EF0301	6943	Prickly sculpin	57			0
3	EF0301	6944	Slimy sculpin	65			0
3	EF0301	6945	Slimy sculpin	74			0
3	EF0301	6946	Slimy sculpin	71			0
3	EF0301	6947	Prickly sculpin	58			0
3	EF0301	6948	Prickly sculpin	62			0
3	EF0301	6949	Slimy sculpin	76			0
3	EF0301	6950	Slimy sculpin	78			0
3	EF0301	6951	Slimy sculpin	66			0
3	EF0301	6952	Prickly sculpin	71			0
3	EF0301	6953	Prickly sculpin	62			0
3	EF0301	6954	Longnose sucker	67			0
3	EF0301	6955	Longnose sucker	60			0
3	EF0301	6956	Redside shiner	33			0
3	EF0301	6957	Longnose dace	23			0
3	EF0301	6958	Longnose dace	27			0
3	EF0301	6959	Longnose dace	35			0
3	EF0301	6960	Longnose dace	28			0
3	EF0301	6961	Prickly sculpin	53			0
3	EF0301	6962	Longnose dace	35			0
3	EF0301	6963	Redside shiner	22			0
3	EF0301	6964	Longnose dace	24			0
3	EF0301	6965	Redside shiner	23			0
3	EF0301	6966	Redside shiner	27			0
3	EF0302	6967	Longnose sucker	45			0
3	EF0302	6968	Longnose sucker	30			0
3	EF0302	6969	Longnose dace	24			0
3	EF0302	6970	Longnose dace	24			0
3	EF0302	6971	Longnose dace	32			0
3	EF0302	6972	Longnose dace	28			0
3	EF0302	6973	Longnose dace	25			0
3	EF0302	6974	Longnose dace	24			0
3	EF0302	6975	Longnose dace	23			0
3	EF0302	6976	Longnose sucker	41			0
3	EF0302	6977	Longnose dace	27			0
3	EF0302	6978	Longnose dace	27			0
3	EF0303	6979	Prickly sculpin	78			0
3	EF0303	6980	Longnose sucker	58			0
3	EF0303	6981	Longnose dace	25			0
3	EF0303	6982	Longnose sucker	30			0
3	EF0303	6983	Longnose sucker	29			0
3	EF0303	6984	Longnose sucker	30			0
3	EF0303	6985	Prickly sculpin	36			0
4	EF0401	6986	Slimy sculpin	60			0
4	EF0401	6987	Slimy sculpin	59			0
4	EF0401	6988	Slimy sculpin	80			0
4	EF0401	6989	Slimy sculpin	67			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
4	EF0401	6990	Slimy sculpin	62			0
4	EF0401	6991	Slimy sculpin	73			0
4	EF0401	6992	Slimy sculpin	58			0
4	EF0401	6993	Slimy sculpin	36			0
4	EF0401	6994	Prickly sculpin	60			0
4	EF0401	6995	Prickly sculpin	51			0
4	EF0401	6996	Longnose dace	28			0
4	EF0401	6997	Longnose dace	33			0
4	EF0401	6998	Longnose dace	20			0
4	EF0402	6999	Longnose sucker	40			0
4	EF0402	7000	Longnose sucker	34			0
4	EF0402	7001	Longnose sucker	36			0
4	EF0402	7002	Longnose sucker	41			0
4	EF0402	7003	Lake chub	41			0
4	EF0402	7004	Longnose sucker	39			0
4	EF0402	7005	Longnose sucker	35			0
4	EF0402	7006	Longnose dace	29			0
4	EF0402	7007	Longnose dace	24			0
4	EF0402	7008	Longnose sucker	44			0
4	EF0402	7009	Longnose sucker	45			0
4	EF0402	7010	Longnose sucker	46			0
4	EF0402	7011	Redside shiner	22			0
4	EF0402	7012	Redside shiner	23			0
4	EF0402	7013	Longnose dace	31			0
4	EF0402	7014	Longnose dace	25			0
5	EF0501	7015	Largescale sucker	43			0
5	EF0501	7016	Prickly sculpin	25			0
5	EF0501	7017	Slimy sculpin	40			0
5	EF0501	7018	Longnose dace	25			0
5	EF0501	7019	Longnose dace	28			0
5	EF0501	7020	Slimy sculpin	76			0
5	EF0501	7021	Slimy sculpin	40			0
5	EF0501	7022	Slimy sculpin	65			0
5	EF0501	7023	Prickly sculpin	38			0
5	EF0501	7024	Slimy sculpin	35			0
5	EF0502	7025	Prickly sculpin	87			0
5	EF0502	7026	Slimy sculpin	69			0
5	EF0502	7027	Slimy sculpin	49			0
5	EF0502	7028	Slimy sculpin	61			0
5	EF0502	7029	Longnose sucker	53			0
5	EF0502	7030	Longnose sucker	48			0
5	EF0502	7031	Longnose sucker	49			0
5	EF0502	7032	Longnose dace	25			0
5	EF0502	7033	Longnose dace	26			0
5	EF0502	7034	Prickly sculpin	98			0
5	EF0502	7035	Slimy sculpin	74			0
5	EF0502	7036	Longnose sucker	51			0
5	EF0502	7037	Longnose sucker	48			0
5	EF0502	7038	Prickly sculpin	36			0
5	EF0502	7039	Longnose sucker	48			0
5	EF0502	7040	Longnose dace	29			0
5	EF0502	7041	Slimy sculpin	44			0
5	EF0502	7042	Prickly sculpin	31			0
5	EF0502	7043	Prickly sculpin	38			0
5	EF0502	7044	Prickly sculpin	41			0
5	EF0502	7045	Slimy sculpin	31			0
5	EF0502	7046	Slimy sculpin	33			0
5	EF0503	7047	Longnose dace	38			0
5	EF0503	7048	Largescale sucker	36			0
5	EF0503	7049	Longnose sucker	47			0
5	EF0503	7050	Longnose sucker	54			0
5	EF0503	7051	Longnose sucker	47			0
5	EF0503	7052	Longnose sucker	47			0
5	EF0503	7053	Largescale sucker	49			0
5	EF0503	7054	Longnose sucker	65			0
5	EF0503	7055	Longnose sucker	58			0
5	EF0503	7056	Longnose sucker	57			0
5	EF0503	7057	Longnose sucker	59			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
5	EF0503	7058	Largescale sucker	47			0
5	EF0503	7059	Longnose sucker	53			0
5	EF0503	7060	Longnose sucker	56			0
5	EF0503	7061	Largescale sucker	43			0
5	EF0503	7062	Slimy sculpin	84			0
5	EF0503	7063	Largescale sucker	53			0
5	EF0503	7064	Slimy sculpin	66			0
5	EF0503	7065	Slimy sculpin	82			0
5	EF0503	7066	Slimy sculpin	42			0
5	EF0503	7067	Slimy sculpin	36			0
5	EF0503	7068	Prickly sculpin	77			0
5	EF0503	7069	Prickly sculpin	44			0
5	EF0503	7070	Slimy sculpin	47			0
5	EF0503	7071	Prickly sculpin	71			0
5	EF0503	7072	Largescale sucker	41			0
5	EF0503	7073	Prickly sculpin	40			0
5	EF0503	7074	Slimy sculpin	34			0
5	EF0503	7075	Slimy sculpin	72			0
5	EF0503	7076	Slimy sculpin	46			0
5	EF0503	7077	Slimy sculpin	42			0
5	EF0503	7078	Prickly sculpin	69			0
5	EF0503	7079	Largescale sucker	44			0
5	EF0503	7080	Slimy sculpin	28			0
5	EF0503	7081	Largescale sucker	52			0
5	EF0503	7082	Slimy sculpin	37			0
5	EF0503	7083	Slimy sculpin	34			0
5	EF0503	7084	Prickly sculpin	44			0
6	EF0601	7085	Longnose sucker	66			0
6	EF0601	7086	Trout perch	41			0
6	EF0601	7087	Longnose sucker	81			0
6	EF0601	7088	Trout perch	37			0
6	EF0601	7089	Longnose dace	28			0
6	EF0601	7090	Redside shiner	23			0
6	EF0601	7091	Trout perch	48			0
6	EF0601	7092	Redside shiner	24			0
6	EF0601	7093	Longnose sucker	54			0
6	EF0601	7094	Longnose sucker	62			0
6	EF0601	7095	Trout perch	42			0
6	EF0601	7096	Trout perch	54			0
6	EF0601	7097	Longnose dace	24			0
6	EF0601	7098	Longnose sucker	71			0
6	EF0601	7099	Trout perch	42			0
6	EF0601	7100	Trout perch	48			0
6	EF0601	7101	Longnose sucker	58			0
6	EF0601	7102	Slimy sculpin	74			0
6	EF0601	7103	Trout perch	42			0
6	EF0601	7104	Longnose dace	24			0
6	EF0601	7105	Largescale sucker	54			0
6	EF0601	7106	Prickly sculpin	32			0
6	EF0601	7107	Trout perch	41			0
6	EF0601	7108	Longnose dace	23			0
6	EF0601	7109	Longnose dace	24			0
6	EF0601	7110	Longnose dace	22			0
6	EF0601	7111	Lake chub	82			0
6	EF0601	7112	Lake chub	75			0
6	EF0602	7113	Longnose sucker	47			0
6	EF0602	7114	Longnose sucker	35			0
6	EF0602	7115	Longnose sucker	51			0
6	EF0602	7116	Longnose sucker	46			0
6	EF0602	7117	Longnose sucker	56			0
6	EF0602	7118	Longnose sucker	42			0
6	EF0602	7119	Longnose sucker	42			0
6	EF0602	7120	Longnose sucker	53			0
6	EF0602	7121	Largescale sucker	48			0
6	EF0602	7122	Longnose sucker	53			0
6	EF0602	7123	Longnose sucker	44			0
6	EF0602	7124	Slimy sculpin	94			0
6	EF0602	7125	Largescale sucker	55			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
6	EF0602	7126	Prickly sculpin	48			0
6	EF0602	7127	Slimy sculpin	68			0
6	EF0602	7128	Slimy sculpin	89			0
6	EF0602	7129	Prickly sculpin	61			0
6	EF0602	7130	Prickly sculpin	42			0
6	EF0602	7131	Prickly sculpin	43			0
6	EF0602	7132	Longnose dace	35			0
6	EF0603	7133	Longnose sucker	55			0
6	EF0603	7134	Longnose sucker	49			0
6	EF0603	7135	Longnose sucker	50			0
6	EF0603	7136	Longnose sucker	51			0
6	EF0603	7137	Longnose sucker	46			0
6	EF0603	7138	Longnose sucker	42			0
6	EF0603	7139	Longnose sucker	52			0
6	EF0603	7140	Longnose sucker	55			0
6	EF0603	7141	Longnose sucker	49			0
6	EF0603	7142	Longnose sucker	49			0
6	EF0603	7143	Trout perch	40			0
6	EF0603	7144	Trout perch	43			0
6	EF0603	7145	Trout perch	42			0
6	EF0603	7146	Trout perch	43			0
6	EF0603	7147	Longnose dace	33			0
6	EF0603	7148	Slimy sculpin	30			0
6	EF0603	7149	Largescale sucker	40			0
6	EF0603	7150	Slimy sculpin	35			0
6	EF0603	7151	Slimy sculpin	31			0
6	EF0603	7152	Prickly sculpin	35			0
6	EF0603	7153	Slimy sculpin	34			0
6	EF0603	7154	Slimy sculpin	38			0
6	EF0603	7155	Longnose dace	29			0
6	EF0603	7156	Longnose dace	28			0
6	EF0603	7157	Longnose dace	25			0
6	EF0603	7158	Longnose dace	30			0
6	EF0603	7159	Longnose dace	22			0
7	EF0701	7160	Redside shiner	26			0
7	EF0701	7161	Redside shiner	31			0
7	EF0701	7162	Redside shiner	28			0
7	EF0701	7163	Redside shiner	28			0
7	EF0701	7164	Redside shiner	27			0
7	EF0701	7165	Redside shiner	25			0
7	EF0701	7166	Redside shiner	21			0
7	EF0701	7167	Redside shiner	23			0
7	EF0701	7168	Redside shiner	26			0
7	EF0701	7169	Redside shiner	24			0
7	EF0701	7170	Longnose dace	23			0
7	EF0701	7171	Longnose sucker	40			0
7	EF0701	7172	Longnose sucker	41			0
7	EF0701	7173	Prickly sculpin	35			0
7	EF0702	7197	Longnose dace	37			0
7	EF0702	7198	Longnose dace	34			0
7	EF0702	7199	Longnose dace	28			0
7	EF0702	7200	Redside shiner	27			0
7	EF0702	7201	Longnose dace	27			0
7	EF0702	7202	Longnose dace	25			0
7	EF0702	7203	Longnose dace	30			0
7	EF0702	7204	Longnose dace	22			0
7	EF0703	7205	Longnose sucker	38			0
7	EF0703	7206	Longnose sucker	43			0
7	EF0703	7207	Longnose dace	31			0
7	EF0703	7208	Longnose sucker	42			0
7	EF0703	7209	Longnose sucker	42			0
7	EF0703	7210	Longnose sucker	46			0
7	EF0703	7211	Longnose dace	27			0
7	EF0703	7212	Longnose sucker	41			0
7	EF0703	7213	Longnose sucker	38			0
7	EF0703	7214	Longnose sucker	42			0
7	EF0703	7215	Longnose sucker	39			0
7	EF0703	7216	Longnose sucker	39			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
7	EF0703	7217	Longnose dace	28			0
7	EF0703	7218	Longnose dace	26			0
7	EF0703	7219	Longnose dace	24			0
7	EF0703	7220	Slimy sculpin	46			0
7	EF0703	7221	Longnose dace	18			0
7	EF0703	7222	Longnose dace	27			0
7	EF0703	7223	Longnose dace	25			0
7	EF0703	7224	Slimy sculpin	51			0
8	EF0801	7225	Northern pikeminnow	42			0
8	EF0801	7226	Northern pikeminnow	50			0
8	EF0801	7227	Longnose sucker	34			0
8	EF0801	7228	Redside shiner	37			0
8	EF0801	7229	Redside shiner	28			0
8	EF0801	7230	Longnose dace	29			0
8	EF0801	7231	Longnose dace	22			0
8	EF0801	7232	Longnose dace	20			0
8	EF0802	7233	Longnose dace	21			0
8	EF0802	7234	Longnose sucker	38			0
8	EF0802	7235	Longnose sucker	48			0
8	EF0802	7236	Longnose dace	26			0
8	EF0802	7237	Longnose sucker	40			0
8	EF0802	7238	Longnose dace	19			0
8	EF0802	7239	Longnose sucker	39			0
8	EF0802	7240	Longnose sucker	31			0
8	EF0802	7241	Longnose sucker	37			0
8	EF0802	7242	Longnose sucker	33			0
8	EF0802	7243	Longnose dace	32			0
8	EF0802	7244	Longnose sucker	40			0
8	EF0802	7245	Longnose sucker	38			0
8	EF0802	7246	Longnose sucker	36			0
8	EF0802	7247	Longnose dace	27			0
8	EF0802	7248	Longnose dace	22			0
8	EF0802	7249	Longnose dace	24			0
8	EF0802	7250	Longnose dace	28			0
8	EF0802	7251	Longnose dace	23			0
8	EF0802	7252	Slimy sculpin	42			0
8	EF0803	7277	Trout perch	68			0
8	EF0803	7278	Longnose sucker	56			0
8	EF0803	7279	Longnose sucker	43			0
8	EF0803	7280	Longnose dace	46			0
8	EF0803	7281	Lake chub	71			0
8	EF0803	7282	Trout perch	35			0
8	EF0803	7283	Longnose dace	37			0
8	EF0803	7284	Trout perch	41			0
8	EF0803	7285	Longnose sucker	48			0
8	EF0803	7286	Longnose sucker	45			0
8	EF0803	7287	Longnose dace	35			0
8	EF0803	7288	Longnose sucker	50			0
8	EF0803	7289	Lake chub	78			0
8	EF0803	7290	Longnose sucker	44			0
8	EF0803	7291	Longnose dace	38			0
8	EF0803	7292	Trout perch	43			0
8	EF0803	7293	Longnose dace	36			0
8	EF0803	7294	Longnose dace	53			0
8	EF0803	7295	Longnose sucker	39			0
8	EF0803	7296	Longnose sucker	42			0
8	EF0803	7297	Longnose dace	42			0
8	EF0803	7298	Longnose dace	33			0
8	EF0803	7299	Lake chub	41			0
8	EF0803	7300	Longnose dace	22			0
8	EF0803	7301	Longnose dace	21			0
8	EF0803	7302	Longnose sucker	40			0
8	EF0803	7303	Longnose sucker	48			0
3	GN0301	7316	Mountain whitefish	111			0
3	GN0301	7317	Mountain whitefish	96			0
5	GN0501	7318	Bull trout	416			0
5	GN0501	7319	Spottail shiner	91			0
5	GN0501	7320	Spottail shiner	87			0

Capture Codes: 0 released; 1 mortality

Appendix E Table E2. Biological characteristics data for fish sampled in the Peace River during the small fish survey, 2006.

Area	Site	FishID	Species	Length (mm)	Age Structure	Age	Capture Code
5	GN0501	7321	Spottail shiner	93			0
5	GN0501	7322	Spottail shiner	88			0
5	GN0501	7323	Spottail shiner	88			0
5	GN0501	7324	Spottail shiner	83			0
6	GN0601	7325	Redside shiner	86			0
6	GN0601	7326	Mountain whitefish	110			0
6	GN0601	7327	Mountain whitefish	103			0

Capture Codes: 0 released; 1 mortality

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Plates

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Plate 1 Typical Run habitat found on the Halfway River, August 2006.

Plate 2 Boulder garden sampled with backpack electrofisher, Halfway River, August 2006.

Plate 3 Flat habitat encountered in the Halfway River, August 2006.

Plate 4 Back Channel habitat sampled with a beach seine, Halfway River, August 2006.

Plate 5 Riffle/Run habitat sampled using the boat electrofisher, Halfway River, August 2006.

Plate 6 Riffle/Run habitat sampled with backpack electrofisher, Halfway River, August 2006.

Plate 7 Backwater habitat sampled on the Peace River, October 2006.

Plate 10 Run habitat sampled using the boat electrofisher on the Peace River, October 2006.

Plate 8 One of the few Flat habitats sampled on the Peace River, October 2006.

Plate 11 Typical beach seine habitat, Peace River, October 2006.

Plate 9 Typical Back Channel habitat sampled on the Peace River, October 2006.

Plate 12 Riffle/Run habitat sampled using a backpack electrofisher, Peace River, October 2006.