Site C Clean Energy Project

Peace River Large Fish Indexing Survey (Mon-2, Task 2a)

Construction Year 7 (2021)

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REPORT

Peace River Large Fish Indexing Survey

2021 Investigations (Mon-2, Task 2a)

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Executive Summary

The Site C Clean Energy Project (the Project), including Project construction, reservoir filling, and operation, could affect fish and fish habitat via three key pathways: changes to fish habitat (including nutrient concentrations and lower trophic biota), changes to fish health and fish survival, and changes to fish movement. These pathways are examined in detail in Volume 2 of the Project's Environmental Impact Statement (EIS; BC Hydro 2013). The EIS makes both qualitative and quantitative predictions of fish production in the Peace River downstream of the Project.

Quantitative predictions of fish biomass downstream of the Project were generated as part of the EIS. For these predictions, each fish species was assigned to one of four groups: Group 1 consisted of large-bodied fish typically targeted by anglers (i.e., Burbot [*Lota lota*], Goldeye [*Hiodon alosoides*], Lake Trout [*Salvelinus namaycush*], Northern Pike [*Esox lucius*], Rainbow Trout [*Oncorhynchus mykiss*], and Walleye [*Sander vitreus*]); Group 2 included species considered "passage sensitive" (i.e., Arctic Grayling [*Thymallus arcticus*], Bull Trout [*Salvelinus confluentus*], and Mountain Whitefish [*Prosopium williamsoni*]); Group 3 included planktivorous species (i.e., Kokanee [*Oncorhynchus nerka*] and Lake Whitefish [*Coregonus clupeaformis*]); and Group 4 fish consisted of all remaining species (i.e., Northern Pikeminnow [*Ptychocheilus oregonensis*], sucker species, and small-bodied fish species). Relative to pre-Project estimates, the EIS predicted decreased biomass of Group 1 fishes over the short- (10 years) and long-term (greater than 30 years), increased biomass of Group 2 fishes over the short- and long-term, similar biomasses of Group 3 fishes over the short- and long-term, and decreased biomass of Group 4 fishes over the short- and long-term.

The objective of the Peace River Large Fish Indexing Survey (hereafter, Indexing Survey) is to validate EIS predictions and address uncertainties identified in the EIS regarding the Project's effects on fish in the Peace River. The status of the Indexing Survey's progress towards testing each of the applicable hypotheses listed in BC Hydro's Site C Fisheries and Aquatic Habitat Monitoring and Follow-up Program (FAHMFP; BC Hydro 2015) is presented in Table E1.

The Indexing Survey was initiated in 2015 and has been conducted annually (Golder and Gazey 2016–2020; Golder 2021a). It is the continuation and expansion of two previous programs conducted using similar methods. These included BC Hydro's Large River Fish Indexing Program (2001–2007; P&E 2002; P&E and Gazey 2003; Mainstream and Gazey 2004–2008), and the Peace River Fish Index (2008–2014; Mainstream and Gazey 2009–2014; Golder and Gazey 2015).

On 3 October 2020, the Project entered the river diversion phase of construction. On this date, the entire flow of the Peace River was diverted into two tunnels routed along the left downstream bank of the Peace River to allow for further construction activities associated with the Project. The diversion tunnels allow for downstream fish movement, but do not allow for upstream movement due to high water velocities within the tunnels. Upstream fish movement is facilitated by the temporary upstream fish passage facility operated by BC Hydro from 1 April to 31 October each year. Due to the occurrence of river diversion, all data collected from 2002 to 2020 represents the baseline, pre-Project state of the Peace River fish community. Sampling conducted in 2021 represents the first year of sampling conducted after the Project entered the diversion phase of construction. Since the post river diversion dataset is limited to one year, analyses to test the management hypotheses were not conducted during the present study; however, the findings of the 2021 study year were compared to the baseline dataset.

In 2021, sampling for the Indexing Survey was conducted from 16 August to 8 October in six different sections of the Peace River (Sections 1, 3, 5, 6, 7, and 9), which were the same sections sampled in all years since 2015. All large-bodied fish species were monitored; however, the monitoring program focused on seven indicator species of most interest to regulatory agencies, which are Arctic Grayling, Bull Trout, Burbot, Goldeye, Mountain Whitefish, Rainbow Trout, and Walleye. Fish were captured by boat electroshocking and measured for length and weight. Ageing structures were collected from most fish, and indicator species were marked with half-duplex (HDX) passive integrated transponder (PIT) tags. In 2021, catch rates were used to assess changes in relative abundance for all species with sufficient catch data. Analyses to assess population structure included length and age distributions, the length-weight relationship, length-at-age, Fulton's condition factor, and relative weight. These metrics were compared to results from 2002 to 2020.

In response to low Goldeye catch during the Indexing Survey from 2015 to 2017, the Goldeye and Walleye Survey was implemented annually beginning in 2018 to increase Goldeye catch. While initially intended to target both Goldeye and Walleye, the survey was modified to attempt to increase Goldeye catch; Walleye catch during the Indexing Survey was sufficient to adequately monitor this species. The Goldeye and Walleye Survey consisted of boat electroshocking surveys near the confluences of select Peace River tributaries (Six Mile and Eight Mile creeks, and the Alces, Beatton, Clear, Kiskatinaw, and Pouce Coupe rivers) that were known or suspected feeding areas for Goldeye. Goldeye are seasonal residents that migrate upstream into the study area in the early spring to spawn. After spawning, Goldeye remain near the confluences of select tributaries to feed until water clarity increases, at which time, they migrate downstream to more turbid locations. The objective of the Goldeye and Walleye Survey was to catch these fish prior to their downstream migration. In 2021, the Goldeye and Walleye Survey was conducted over four days between late April and mid-June.

Overall, results from 2021 indicated a stable population for most fish species in the Peace River, with most population metrics falling within the ranges of values recorded during previous study years. Key results from the 2021 survey and key trends observed over the 20-year monitoring period are summarized as follows:

- In 2021, mean daily discharge in the Peace River was much greater than the historical average (2002–2020) from mid-February to mid-May and mid-June to mid-July. During the sampling period, the mean daily discharge in the Peace River was below the historical average for the first half of the study (mid-August to mid-September), then flows increased to near average for the remainder of the sampling period (mid-September to early October).
- Catch rates were used to assess annual trends in relative abundance, with a focus on years since 2015, which are years when sampling was conducted in six different sections of the Peace River.
- Catch rates suggested stable abundance since 2015 for many fish species including Bull Trout, Largescale Sucker (*Catostomus macrocheilus*), White Sucker (*Catostomus commersonii*), Rainbow Trout, and Walleye.
- Arctic Grayling and Mountain Whitefish are most frequently encountered in Sections 1, 3, and 5. For both species, catch rates within these sections were higher from 2002 to 2011 compared to 2012 to 2021. In recent years (i.e., since 2015), Arctic Grayling catch rates have declined in Section 3 and have been variable but low in Sections 1 and 5. Since 2015, Mountain Whitefish catch rates in Sections 1, 3, and 5 have also been variable; however, in 2021, catch rates from these sections were at or near the lowest recorded in all previous years.

- Catch rates of Longnose Sucker (*Catostomus catostomus*) decreased from 2015 to 2018 and remained unchanged from 2018 to 2020. In 2021, Longnose Sucker catch rate increased 46% compared to the previous years value, indicating a recent increase in abundance.
- Samples sizes of captured fish were low for Burbot, Goldeye, and Northern Pike, which makes inter-year comparisons of catch or catch rate less reliable. The available data did not suggest any changes in abundance since 2015 for these species.
- Analyses of size- and age-structure, and body condition of fish populations suggested few differences between 2021 and previous years for nearly all species and metrics. Exceptions included age-3 Arctic Grayling in 2021 were smaller than in previous years, and Mountain Whitefish from Section 5 had markedly lower body condition and relative weight in 2021 than in all previous years since 2002. These results may indicate poorer conditions for growth of these species in 2021.

Table E1: Status of hypotheses from Peace River Large Fish Indexing Survey (Mon-2, Task 2a) after 2021.

Mon-2 Management Question	Management Hypotheses Relevant to Task 2a	2021 Status
How does the Project affect fish in the Peace River between the Project and the Many Islands area in Alberta during the short (10 years after Project operations begin) and longer (30 years after Project operations begin) term?	**H_1:** Post-Project total fish biomass in the Peace River between the Project and the Many Islands area in Alberta will be less than pre-Project conditions (current = 37.42 t; at 10 years of operations = 30.78 t; >30 years of operations = 30.79 t).	The hypothesis has not been tested. Methodologies employed under Task 2a have been similar to those employed during pre-Project baseline studies. Data collected to date are consistent with baseline data and should allow comparisons between pre-Project data and data collected during construction and operation.
	H_2: Post-Project harvestable fish biomass in the Peace River between the Project and the Many Islands area in Alberta will be greater than pre-Project estimates of harvestable fish biomass (current = 13.93 t; at 10 years of operations = 18.77 t; >30 years of operations = 18.78 t).	The hypothesis has not been tested. Methodologies employed under Task 2a have been similar to those employed during pre-Project baseline studies. Data collected to date are consistent with baseline data and should allow comparisons between pre-Project data and data collected during construction and operation.
	H_3: Post-Project biomass of each fish species in the Peace River between the Project and the Many Islands area in Alberta will be consistent with biomass estimates in the EIS.	The hypothesis has not been tested. Methodologies employed under Task 2a have been similar to those employed during pre-Project baseline studies. Data collected to date are consistent with baseline data and should allow comparisons between pre-Project data and data collected during construction and operation for most fish species. For less common indicator species, especially Burbot and Goldeye, it is likely that detecting changes in abundance or biomass will rely on indices such catch rate, as the survey in its current format is unlikely to generate precise abundance estimates from capture-recapture data.

Mon-2 Management Question	Management Hypotheses Relevant to Task 2a	2021 Status
	H_4: Changes in post-Project fish community composition in the Peace River between the Project and the Many Islands area in Alberta will be consistent with EIS predictions.	The hypothesis has not been tested. In its current format, the survey is expected to provide data suitable for testing this hypothesis.
	H_5: The fish community can support angling effort that is similar to baseline conditions.	The hypothesis has not been tested. The survey, in its current format, is expected to generate species abundance estimates of most harvestable fish species. These estimates, in conjunction with angling pressure data generated by the Peace River Creel Survey (Mon-2, Task 2c), will be used to test the hypothesis.

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LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Description
CPUE	Catch-per-unit-effort
DELT	Deformities, Erosion, Lesions, and Tumor
EAC	Environmental Assessment Certificate
EIS	Environmental Impact Statement
FAHMFP	Site C Fisheries and Aquatic Habitat Monitoring and Follow-up Program
FDS	Federal Decision Statement
FDX	Full-Duplex
GPP	Generator Powered Pulsator
HDX	Half-Duplex
Indexing Survey	Peace River Large Fish Indexing Survey
Mon-2	Peace River Fish Community Monitoring Program
PCD	Peace Canyon Dam
PIT	Passive Integrated Transponder
Project	Site C Clean Energy Project
Tributary Survey	Site C Reservoir Tributary Fish Population Indexing Survey
TUF	Temporary Upstream Fish Passage Facility
WLR	Water License Requirements
YOY	Young-of-the-year

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1.0 INTRODUCTION

Potential effects of the Site C Clean Energy Project (the Project) on fish[1] and fish habitat[2] are described in Volume 2 of the Project's Environmental Impact Statement (EIS) as follows[3]:

> The Project has the potential to affect fish habitat in two ways. The Project may destroy fish habitat by placing a permanent physical structure on that habitat, or the Project may alter fish habitat by changing the physical or chemical characteristics of that habitat in such a way as to make it unusable by fish. Destruction or alteration of important habitats may be critical to the sustainability of a species population.
>
> The Project may affect fish health and survival. It may cause direct mortality of fish or indirect mortality of fish by changing system productivity, food resource type and abundance, and environmental conditions on which fish depend (e.g., water temperature).
>
> The Project may affect fish movement by physically blocking upstream and downstream migration of fish or by causing water velocities that exceed the swimming capabilities of fish, which results in hindered or blocked upstream migration of fish. Blocked or hindered fish movement has consequences to the species population. Fish may not be able to access important habitats in a timely manner or not at all (e.g., spawning habitats). Blocked fish movement may result in genetic fragmentation of the population.

Condition No. 7 of the Project's Provincial Environmental Assessment Certificate (EAC), Schedule B states the following:

> The EAC Holder must develop a Fisheries and Aquatic Habitat Monitoring and Follow-up Program [FAHMFP] to assess the effectiveness of measures to mitigate Project effects on healthy fish populations in the Peace River and tributaries, and, if recommended by a QEP [Qualified Environmental Professional] or FLNRO [BC Ministry of Forests, Lands and Natural Resource Operations], to assess the need to adjust those measures to adequately mitigate the Project's effects.

Furthermore, the Project's Federal Decision Statement (FDS) states that a plan should be developed that addresses the following:

> Condition No. 8.4.3: an approach to monitor changes to fish and fish habitat baseline conditions in the Local Assessment Area (LAA); and
>
> Condition No. 8.4.4: an approach to monitor and evaluate the effectiveness of mitigation or offsetting measures and to verify the accuracy of the predictions made during the environmental assessment on fish and fish habitat.

The Peace River Large Fish Indexing Survey (hereafter Indexing Survey) is designed to provide supporting data to address the EAC and FDS conditions detailed above. Specifically, the Indexing Survey represents Task 2a of the Peace River Fish Community Monitoring Program (Mon-2) within the FAHMFP (BC Hydro 2015). The intent of the Indexing Survey is to "monitor the response of large-bodied fish species in the Peace River to the Project" (BC Hydro 2015).

For the EIS, each large-bodied fish species was assigned to one of three groups (Golder et al. 2012): Group 1 fishes included species typically targeted by anglers (i.e., Burbot [*Lota lota*], Goldeye [*Hiodon alosoides*], Lake Trout [*Salvelinus namaycush*], Northern Pike [*Esox lucius*], Rainbow Trout [*Oncorhynchus mykiss*], Walleye [*Sander vitreus*]), Group 2 fishes included species considered "passage sensitive" (i.e., Arctic Grayling [*Thymallus arcticus*], Bull Trout [*Salvelinus confluentus*], Mountain Whitefish [*Prosopium williamsoni*]), and

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[1] Fish includes fish abundance, biomass, composition, health, and survival.

[2] Fish habitat includes water quality, sediment quality, lower trophic levels (periphyton and benthic invertebrates), and physical habitat.

[3] EIS, Volume 2, Section 12.1.2 (BC Hydro 2013).

Group 3 fishes included planktivorous species (i.e., Kokanee [*Oncorhynchus nerka*] and Lake Whitefish [*Coregonus clupeaformis*]). The three Peace River sucker species (i.e., Largescale Sucker [*Catostomus macrocheilus*], Longnose Sucker [*Catostomus catostomus*], and White Sucker [*Catostomus commersonii*]), Northern Pikeminnow[4] [*Ptychocheilus oregonensis*], and all small-bodied fish species were considered Group 4.

The Indexing Survey will monitor the response of all large-bodied fish species to the Project over the short term (10 years after Project operations begin) and longer term (30 years after the Project operations begin) but focuses on collecting data that quantify the relative and absolute abundances and spatial distribution of seven indicator species. The seven indicator species are Arctic Grayling, Bull Trout, Burbot, Goldeye, Mountain Whitefish, Rainbow Trout, and Walleye (*Sander vitreus*). These species were identified in local provincial management objectives (BC Ministry of Environment 2009; BC Government 2011) as species of interest to recreational anglers and harvested by Aboriginal groups and were the focus of the Project's EIS effects assessment (BC Hydro 2013).

In 2008, BC Hydro implemented the Peace River Fish Index (GMSMON-2), an annual program designed to monitor Arctic Grayling, Bull Trout, and Mountain Whitefish populations in the Peace River downstream of Peace Canyon Dam (PCD) and their responses to instream physical works designed to improve fish habitat in select side channel areas (Mainstream and Gazey 2009–2014; Golder and Gazey 2015). Data collected under GMSMON-2 and its predecessor, the Peace River Fish Community Indexing Program (P&E 2002; P&E and Gazey 2003; Mainstream and Gazey 2004–2008), provide an annual dataset for the fish community within the study area beginning in 2001 that can be compared to data collected during the current monitoring program (Golder and Gazey 2016–2020, Golder 2021a). Changes in methodologies, objectives, and study areas over 19 years of sampling limits the compatibility of some aspects of the dataset.

Sampling conducted in 2021 represents the first year of sampling conducted after the Project entered the diversion phase of construction, which commenced on 3 October 2020. On this date, the entire flow of the Peace River was diverted into two tunnels routed along the left downstream bank of the Peace River, to allow for further construction activities associated with the Project. The diversion tunnels allow for downstream fish movement, but do not allow for upstream movement due to high water velocities within the tunnels. Upstream fish movement is facilitated by the temporary upstream fish passage facility (TUF) operated by BC Hydro from 1 April to 31 October each year (McMillen and BC Hydro 2021). During periods when the TUF is not operating between April and October (e.g., shut down for maintenance work), or operating at reduced efficiency (e.g., high discharge reduces attracting flows), the TUF is supported by contingent boat electroshocking surveys (Golder 2022a). During these surveys, fish situated immediately downstream of the Project are captured and transported to upstream release locations.

In 2021, the program collected various biological samples from select fish for potential laboratory analysis. These included tissue samples for stable isotope analysis, genetic and mercury analyses, and hard structure samples (i.e., fin rays or otoliths) for microchemistry analysis. All samples were provided to BC Hydro and will be used to further characterize Peace River fish populations by other components of the FAHMFP. The analysis and interpretation of these samples are not discussed in this report.

[4] EIS, Volume 2, Section 12.3.2.2 (BC Hydro 2013).

Field crews implanted radio telemetry tags into a subset of the Arctic Grayling, Bull Trout, Burbot, Mountain Whitefish, Rainbow Trout, and Walleye captured during the Indexing Survey. These fish were implanted with radio telemetry tags to support the FAHMFP; however, the analysis and interpretation of telemetry data are not discussed in this report.

Field crews collected additional data at some sites to support offset effectiveness monitoring (Mon-2, Task 2d of the FAHMFP) related to the Project. Results associated with offset effectiveness monitoring are presented in a separate report (West et al. 2021).

1.1 Key Management Question

The overarching management question for the Peace River Fish Community Monitoring Program is as follows:

1) How does the Project affect fish in the Peace River between the Project and the Many Islands area in Alberta during the short (10 years after Project operations begin) and longer (30 years after Project operations begin) term?

1.2 Management Hypotheses

The Peace River Fish Community Monitoring Program's overarching management question will be addressed by testing a series of management hypotheses using predictions made in the Project's EIS. These predictions are summarized in Mon-2 of the FAHMFP as presented in Table 1.

Management hypotheses detailed within the Peace River Fish Community Monitoring Program that will be tested using data collected during the Indexing Survey are as follows:

H_1: Post-Project total fish biomass in the Peace River between the Project and the Many Islands area in Alberta will be less than pre-Project conditions (current = 37.42 t; at 10 years of operations = 30.78 t; >30 years of operations = 30.79 t).

H_2: Post-Project harvestable fish biomass in the Peace River between the Project and the Many Islands area in Alberta will be greater than pre-Project estimates of harvestable fish biomass (current = 13.93 t; at 10 years of operations = 18.77 t; >30 years of operations = 18.78 t).

H_3: Post-Project biomass of each fish species in the Peace River between the Project and the Many Islands area in Alberta will be consistent with biomass estimates in the EIS.

H_4: Changes in post-Project fish community composition in the Peace River between the Project and the Many Islands area in Alberta will be consistent with EIS predictions.

H_5: The fish community can support angling effort that is similar to baseline conditions.

Table 1: Short- and long-term predictions of fish biomass (metric tonnes - t) for pre- and post-Project conditions for the Peace River from the Project to the Many Islands area in Alberta. Fish biomass is presented for the "Most Likely" scenario (plus a minimum to maximum range). Data were summarized from Mon-2 of the FAHMFP (BC Hydro 2015).

Species Group	Species Name	Pre-Project Biomass (t)	Post-Project Biomass (t)			
			Short-term (in 10 Years)		Long-term (> 30 Years)	
			Most Likely	Range	Most Likely	Range
1	Walleye	3.38	1.69	0.34–1.69	1.69	0.34–1.69
	Lake Trout	0.00	0.00	0.00–0.01	0.00	0.00–0.01
	Rainbow Trout	0.17	0.35	0.17–0.35	0.35	0.17–0.35
	Northern Pike	0.74	0.37	0.37–0.74	0.37	0.37–0.74
	Burbot	0.10	0.05	0.01–0.05	0.05	0.01–0.05
Group 1 Subtotal		**4.39**	**2.46**	**0.89–2.83**	**2.46**	**0.89–2.83**
2	Bull Trout	1.49	1.23	1.23–2.54	1.23	1.23–2.54
	Arctic Grayling	0.64	0.32	0.06–0.64	0.32	0.06–0.64
	Mountain Whitefish	7.38	14.74	14.74–14.74	14.74	14.74–14.74
Group 2 Subtotal		**9.50**	**16.29**	**16.03–17.91**	**16.29**	**16.03–17.91**
3	Kokanee	0.03	0.01	0.00–0.02	0.03	0.01–0.04
	Lake Whitefish	0.00	0.01	0.00–0.01	0.00	0.00–0.01
Group 3 Subtotal		**0.03**	**0.02**	**0.01–0.03**	**0.03**	**0.01–0.04**
Total Harvestable Fish Biomass		**13.93**	**18.77**	**16.94–20.78**	**18.78**	**16.94–20.79**
4	Sucker Species	21.74	10.87	10.87–10.87	10.87	10.87–10.87
	Small-bodied Fish	0.87	0.70	0.43–0.87	0.70	0.43–0.87
	Northern Pikeminnow	0.87	0.44	0.26–0.52	0.44	0.26–0.52
Group 4 Subtotal		**23.49**	**12.01**	**11.57–12.27**	**12.01**	**11.57–12.27**
Total Fish Biomass		**37.42**	**30.78**	**28.50–33.05**	**30.79**	**28.50–33.06**

1.3 Study Objectives

The objective of the Indexing Survey is to validate predictions and address uncertainties identified in the EIS regarding the Project's effects on fish in the Peace River and to assess the effectiveness of fish and fish habitat mitigation measures. The purpose of the Indexing Survey is to monitor the response of large-bodied fish species in the Peace River to the construction and operation of the Project. The Indexing Survey will incorporate data previously collected during BC Hydro's WLR (Water License Requirements) Peace River Fish Index (GMSMON-2) and its predecessor, the Peace River Fish Community Indexing Program.

Field work for the Indexing Survey was conducted from late summer to early fall (i.e., mid-August to early October). Sampling was conducted during this time period for several reasons, including ensuring compatibility with historical datasets, increasing sampling efficiency by sampling when turbidity is typically low, and reducing potential sampling effects to Bull Trout by sampling when adult Bull Trout are less commonly encountered in the Peace River mainstem (i.e., when they are spawning in select tributaries). The mid-August to early October study period for the Indexing Survey occurs after most Goldeye and Walleye migrate downstream out of the study area. As such, Mon-2 included contingent sampling for these species as follows:

> If catch data from [2016] and [2017] suggest that the mid-August to late September time period will not yield sufficient data to monitor the Peace River Goldeye and Walleye populations (i.e., if less than 20 Goldeye or Walleye are captured during either study year), an additional field program will be implemented beginning in [2018] that focuses on these species. This contingent assessment will consist of boat electroshocking in the spring (i.e., mid-May to early June) near the confluences of major Peace River tributaries in Sections 7 and 8 (Mainstream 2012) as data indicate high Goldeye and Walleye catch rates surrounding most tributary confluences in these sections during the spring season (Mainstream 2013).

Between 2015 (i.e., the initial study year for the Indexing Survey) and 2020, Walleye catch during all sessions and sections combined averaged 270 individuals and ranged from a low of 116 individuals in 2015 to a high of 389 individuals in 2017. As such, the contingent assessment was not required for this species. However, over the same time period, average Goldeye catch was five individuals and ranged from a low of no catch in 2018 to a high of 14 individuals in 2019. Due to consistently low Goldeye catch during the Indexing Survey, the contingent assessment was implemented in 2021.

1.4 Study Area and Study Period

1.4.1 Indexing Survey

The study area for the Indexing Survey includes an approximately 205 km section of the Peace River from near the outlet of PCD (river kilometre [River Km] 25 as measured downstream from WAC Bennett Dam) downstream to the Many Islands area in Alberta (River Km 230; Figure 1; Appendix A, Figures A1 to A6). The spatial extent of the program is consistent with the spatial boundaries for the effects assessment in the EIS, which was guided by physical modelling and fisheries studies.

The mainstem of the Peace River between PCD and the Many Islands area in Alberta was delineated into sections (Table 2) using information provided by Mainstream (2012). The upstream boundary of Section 5 was moved approximately 5 km downstream relative to Mainstream's classification to more closely align with the location of the Project, as described below. The most downstream approximately 2 km of the Pine River was included in the study area and sampled as part of Section 6. The most downstream approximately 0.5 km of the Beatton River and most downstream approximately 1.0 km of the Kiskatinaw rivers were included in the study area and sampled as part of Section 7. A summary of historical datasets by section, year, study period, and effort (number of days of sampling) is provided in Appendix B, Table B1.

As detailed in the FAHMFP, only Sections 1, 3, 5, 6, 7, and 9 (Appendix A, Figures A1 to A6, Table A1) were selected for long-term monitoring under the Indexing Survey. Sections 1 and 3 are situated upstream of the Project and are scheduled to be sampled during the current program until the reservoir filling stage of the Project occurs, scheduled for 2023. These sections will be sampled to monitor potential effects of construction (i.e., creation of the diversion headpond and river diversion) on the Peace River fish community. Sections 5, 6, 7, and 9 are scheduled to be sampled annually as part of the Indexing Survey until 2053.

Similar to study years 2015 to 2020, Sections 1a, 2, 4, and 8 were excluded from the 2021 Indexing Survey for several reasons, including the following: the limited amount of historical data available for these sections, the short lineal length of river they represent (Section 1a only), low historical catch rates (Mainstream 2010, 2011a, 2013), and the similarity of their habitats relative to adjacent sections. Small portions of Section 8 near the Clear River and Pouce Coupe River confluences were sampled as part of the Goldeye and Walleye Survey (Section 1.4.2). During each year of the Indexing Survey, the same sites were sampled within each section, with a few exceptions. As an example, in 2020, Site 0502 was not sampled due to nearby construction activities associated with the Project's development. During the 2021 survey, these construction activities were complete, and Site 0502 was sampled.

Table 2: Location and distance from WAC Bennett Dam of Peace River sample sections as delineated by Mainstream (2012).

Section Number	Location	River Kilometre[a]		Number of Sites Sampled in 2021[b]
		Upstream	Downstream	
1a	Peace River Canyon area	20.4	25.0	0
1	Downstream end of Peace River Canyon to the Lynx Creek confluence area	25.0	34.0	15
2	Lynx Creek confluence area downstream to the Halfway River confluence area	34.0	65.8	0
3	Halfway River confluence area downstream to the Cache Creek confluence area	65.8	82.1	15
4	Cache Creek Confluence area downstream to the Moberly River confluence area	82.1	105.0	0
5[c]	Moberly River confluence area downstream to near the Canadian National Railway bridge	105.0	117.7	16
6	Pine River confluence area downstream to the Six Mile Creek confluence area	121.5	134.0	18
7	Beatton River confluence area downstream to the Kiskatinaw River confluence area	140.0	158.0	19
8	Pouce Coupe River confluence area downstream to the Clear River confluence area	174.0	187.7	0
9	Dunvegan West Wildland Provincial Park boundary downstream to Many Islands Park	217.5	231.0	16

[a] River Km values as measured from the base of WAC Bennett Dam (River Km 0.0).
[b] Includes only fall sampling (21 August to 7 October) not the contingent assessment for Goldeye and Walleye in April and May.
[c] The upstream boundary of Section 5 was moved approximately 5 km downstream to more closely align with the location of the Site C dam site.

For the Indexing Survey, 99 sites were sampled within the six sections of the Peace River in 2021 (Appendix A, Figures A1 to A6). The length of sites varied from 130 to 1900 m and consisted of the nearshore area along a bank of the river. The two sites in the Pine River were 1000 and 1500 m in length. The two sites in the Beatton River ranged from 330 to 600 m in length, and the one site in the Kiskatinaw River ranged from 554 to 1240 m in length. The sites in the Beatton River and Kiskatinaw River occasionally differed in length between sample sessions depending on water levels at the time of sampling (i.e., during low water levels access to the farthest upstream extent of these sites was not possible, and in this instance, the length of site that could not be sampled was noted). Site descriptions and UTM locations for all 99 sites are included in Appendix A, Table A1.

A sample is defined as a single pass through a site while boat electroshocking (see Section 2.1.3). Field crews sampled each site six times (i.e., six sessions) over the 2021 study period (Table 3). Each sample session took between 8 and 16 days to complete. Each section within each session was sampled over 1 to 12 days (Table 3).

Table 3: Summary of boat electroshocking sample sessions conducted in the Peace River, 2021.

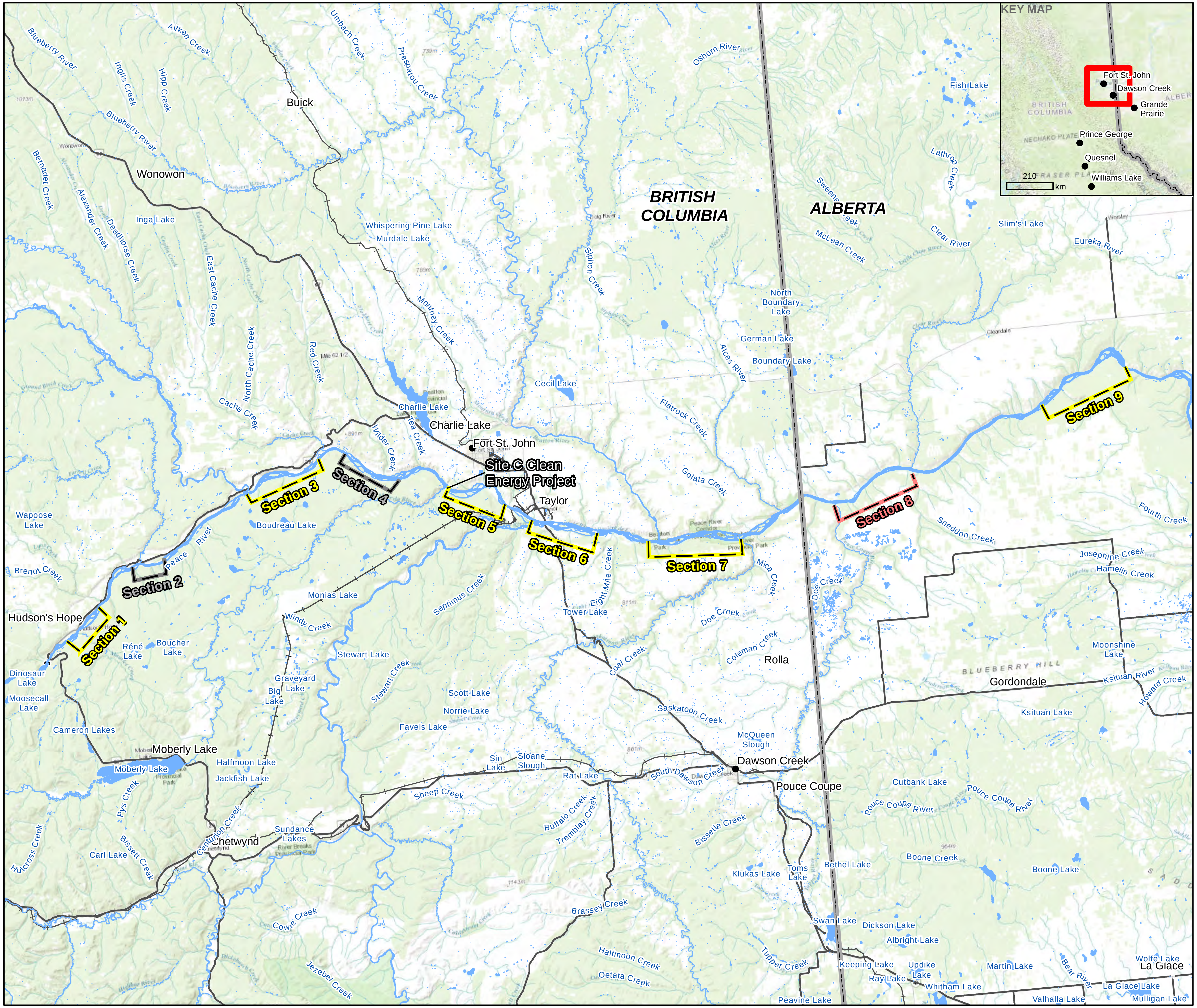
Session	Start Date	End Date	Section					
			1	3	5	6	7	9
1	16 Aug	23 Aug	16-17 Aug	18-19 Aug	16-18 Aug	18-21 Aug	20-23 Aug	20-21 Aug
2	23 Aug	31 Aug	23-24 Aug	24-25 Aug	24-26 Aug	26-28 Aug	30-31 Aug	26-27 Aug
3	28 Aug	12 Sep	28-30 Aug	30 Aug-1 Sep	1-6 Sep	2-10 Sep	10-12 Sep	2-3 Sep
4	5 Sep	18 Sep	5-7 Sep	7-18 Sep	13-15 Sep	15-18 Sep	16-17 Sep	10-11 Sep
5	18 Sep	28 Sep	26 Sep	27-28 Sep	18-20 Sep	20-21 Sep	22-23 Sep	25 Sep
6	29 Sep	8 Oct	8 Oct	5-6 Oct	29 Sep-1 Oct	1-2 Oct	4 Oct	3 Oct

1.4.2 Goldeye and Walleye Survey

Two boat electroshocking sessions were conducted as part of the Goldeye and Walleye Survey. Session 1 occurred on 30 April and 4 May and Session 2 was conducted on 9 and 11 June (Table 4). This survey was limited to the confluence areas of major tributaries in Sections 7 and 8, including Six Mile Creek, Eight Mile Creek, the Beatton River (split into two sites), the Kiskatinaw River, the Alces River, the Pouce Coupe River, and the Clear River (Appendix A, Figures A7 to A9; Table A2).

Table 4: Summary of boat electroshocking sample sessions conducted in the Peace River as part of the contingent Goldeye and Walleye Survey, 2021.

Session	Tributary						
	Section 7				Section 8		
	Six Mile Creek	Eight Mile Creek	Beatton River	Kiskatinaw River	Alces River	Pouce Coupe River	Clear River
1	30 Apr	30 Apr	30 Apr	4 May	4 May	4 May	4 May
2	9 June	9 June	9 June	11 June	11 June	11 June	11 June



LEGEND

- ● PLACE NAME
- DAM SECTION
- PROVINCIAL BORDER
- WATERBODY
- RAILWAY
- ROAD

SAMPLING SECTIONS

- 1; 3; 5; 6; 7; 9
- 2; 4
- 8

0 10 20

1:625,000 METRES

REFERENCES

1. TRANSPORTATION, RAILWAY, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. DAM SITE OBTAINED FROM FROM GEOBASE®.
3. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 BC ENVIRONMENT ALBERS

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
OVERVIEW OF THE PEACE RIVER LARGE FISH INDEXING SURVEY (MON-2, TASK 2A) STUDY AREA, 2021

CONSULTANT
GOLDER

YYYY-MM-DD	2022-08-16
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	1

2.0 METHODS

2.1 Data Collection

2.1.1 Discharge

Discharge data at hourly or five-minute intervals were obtained from several different Water Survey of Canada[5] gauging stations. Discharge values for Sections 1 and 3 prior to 2019 were calculated using data collected at the Water Survey of Canada Gauging Station 07EF001 (Peace River at Hudson Hope). In 2019, Station 07EF001 was decommissioned and releases from PCD were used for years 2019 to 2021 to calculate discharge values in Sections 1. No major tributaries flow into the Peace River between PCD and the former 07EF001 station location. As such, the two datasets are similar.

Discharge data from PCD were combined with data from Station 07FA006 (Halfway River Near Farrell Creek) to represent discharge in Section 3. Data from Station 07FA004 (Peace River Above Pine River) were used to represent discharge in Section 5. Data from Station 07FD002 (Peace River Near Taylor) were used to represent discharge in Section 6. Data from Station 07FD010 (Peace River Above Alces River) were used to represent discharge in Section 7. Accurate discharge data for Section 9 were not available due to the locations of the nearest Peace River gauging stations relative to the inflow points of several large unmonitored tributaries.

2.1.2 Habitat Conditions

Habitat parameters recorded at each site (Table 5) included variables recorded during previous study years (Golder and Gazey 2015–2020; Golder 2021a) and variables recorded as part of other, similar BC Hydro programs on the Columbia River (i.e., CLBMON-16 [e.g., Golder et al. 2020a] and CLBMON-45 [e.g., Golder et al. 2020b]). These data were collected to provide a means of detecting changes in habitat availability or suitability in sample sites over time. Collected data were not intended to quantify habitat availability or imply habitat preferences.

The type and amount of instream cover for fish were qualitatively estimated at all sites. Water velocities were visually estimated and categorized at each site as low (less than 0.5 m/s), medium (0.5 to 1.0 m/s), or high (greater than 1.0 m/s). Water clarity was visually estimated and categorized at each site as low (less than 1.0 m depth), medium (1.0 to 3.0 m depth), or high (greater than 3.0 m depth). Where water depths were sufficient, water clarity was also estimated using a “Secchi Bar” that was manufactured based on the description provided by Mainstream and Gazey (2014). Mean and maximum sample depths were estimated by the boat operator based on the boat’s sonar depth display.

[5] Available for download at https://www.canada.ca/en/environment-climate-change/services/water-overview/quantity/monitoring/survey.html.

Table 5: Habitat variables and boat electroshocker settings recorded at each site during each sample session during the Peace River Large Fish Indexing Survey, 2021.

Variable	Description
Date	The date the site was sampled
Time	The time the site was sampled
Estimated Flow Category	A categorical ranking of PCD discharge (high; low; transitional) at the time of sampling
Air Temp	Air temperature at the time of sampling (to the nearest 1°C)
Water Temp	Water temperature at the time of sampling (to the nearest 0.1°C)
Conductivity	Water conductivity at the time of sampling (to the nearest 10 µS/cm)
Secchi Bar Depth	The Secchi Bar depth recorded at the time of sampling (to the nearest 0.1 m)
Cloud Cover	A categorical ranking of cloud cover (Clear = 0-10% cloud cover; Partly Cloudy = 10-50% cloud cover; Mostly Cloudy = 50-90% cloud cover; Overcast = 90-100% cloud cover)
Weather	A general description of the weather at the time of sampling (e.g., comments regarding wind, rain, smoke, or fog)
Water Surface Visibility	A categorical ranking of water surface visibility (low = waves; medium = small ripples; high = flat surface)
Boat Model	The model of boat used during sampling
Range	The range of voltage used during sampling (high or low)
Percent	The estimated duty cycle (as a percent) used during sampling
Amperes	The average amperes used during sampling
Mode	The mode (AC or DC) and frequency (in Hz) of current used during sampling
Length Sampled	The length of shoreline sampled (to the nearest 1 m)
Time Sampled	The duration of electroshocker operation (to the nearest 1 s)
Netter Skill	A categorical ranking of each netter's skill level (1 = few misses; 2 = misses common for difficult fish; 3 = misses are common for difficult and easy fish; 4 = most fish are missed)
Netter Observation Skill	A categorical ranking of each netter's observation skill level (1 = few misses; 2 = misses common for difficult fish; 3 = misses are common for difficult and easy fish; 4 = most fish are missed)
Mean Depth	The mean water depth sampled (to the nearest 0.1 m)
Maximum Depth	The maximum water depth sampled (to the nearest 0.1 m)
Water Clarity	A categorical ranking of water clarity (High = greater than 3.0 m visibility; Medium = 1.0 to 3.0 m visibility; Low = less than 1 m visibility)
Instream Velocity	A categorical ranking of water velocity (High = greater than 1.0 m/s; Medium = 0.5 to 1.0 m/s; Low = less than 0.5 m/s)
Instream Cover	The type (i.e., Interstices; Woody Debris; Cutbank; Turbulence; Flooded Terrestrial Vegetation; Aquatic Vegetation; Shallow Water; Deep Water) and amount (as a percent) of available instream cover
Crew	The field crew that conducted the sample
Sample Comments	Any additional comments regarding the sample

2.1.3 Fish Capture

Boat electroshocking was conducted at all sites along the channel margin, typically within a range of 0.5 to 2.0 m water depth. Each crew used Smith-Root high-output Generator Powered Pulsator (GPP 5.0) electroshockers (Smith-Root; Vancouver, WA, USA) operated from outboard jet-drive riverboats. The electroshocking procedure consisted of manoeuvring the boat downstream along the shoreline of each sample site. Field crews sampled large eddies (i.e., eddies longer than approximately two boat lengths) while travelling with the direction of water flow. Two crew members, positioned on netting platforms at the bow of each boat, netted stunned fish, while the third individual on each crew operated the boat and electroshocking unit. Netters attempted to capture all fish that were stunned by the electrical field. Captured fish were immediately placed into 175 L onboard live-wells equipped with freshwater pumps. Fish were netted one at a time and placed into the live-wells. Having more than one fish in a net at one time was avoided as much as possible. Fish that were positively identified but avoided capture were enumerated and recorded as “observed”. Netters attempted to collect a random sample of fish species and sizes; however, netters focused their effort on less common fish species (e.g., Arctic Grayling) or life stages (e.g., immature Bull Trout) when they were observed. This approach was employed during previous study years (Mainstream and Gazey 2014; Golder and Gazey 2015–2020; Golder 2021b) and may cause an overestimate of the relative abundance of these species and life stages; however, by maintaining this approach, the bias remains constant among study years.

Both the time sampled (seconds of electroshocker operation) and length of shoreline sampled (metres; Table 6) were recorded for each sample. The start and end location of each site was established prior to the start of the field program; however, if a complete site could not be sampled, the difference in distance between what was sampled and the established site length was estimated and recorded on the site form. This revised site length was used for that session in subsequent analyses. Reasons for field crews not being able to sample an entire site’s length included public on shore, beavers swimming in a site, and shallow water depths preventing boat access.

Table 6: Number and lengths of sites sampled by boat electroshocking during the Peace River Large Fish Indexing Survey, 2021.[a]

Section	Number of Sites	Site Length (m)		
		Minimum	Average	Maximum
1	15	350	828	1200
3	15	950	1338	1900
5	16	204	907	1810
6	18	200	965	1500
7	19	220	911	1400
9	16	260	956	1200

[a] Sites established and surveyed as part of the Goldeye and Walleye Survey were excluded from this table. These sites ranged between 130 and 1240 m in length (average length = 675 m).

Each boat electroshocking unit was operated at a frequency of 30 Hz with pulsed direct current. Amperage was adjusted as needed to achieve the desired effect on fishes, which was the minimum level of immobilization that allowed efficient capture and did not cause undesired outcomes such as immediate tetany or visible hemorrhaging (Martinez and Kolz 2009). An amperage of 3.0 A typically produced the desired effect on fishes; however, amperage was set as low at 1.8 A and as high as 4.0 A at some sites based on local water conditions and the electroshocking unit employed.

The electroshocker settings used in 2014 to 2021 were different when compared to the settings employed during previous study years (Mainstream and Gazey 2004–2014). Prior to 2014 (i.e., the 2002–2013 epoch), higher frequencies and higher amperages were used. The settings used from 2014 to 2021 (i.e., the 2014–2021 epoch) resulted in less electroshocking-induced injuries on large-bodied Rainbow Trout in studies conducted on the Columbia River (Golder 2004, 2005) and align with recommendations by Snyder (2003) for pulsed direct current and low frequencies for adult salmonids. Reducing the impacts of sampling will help ensure the long-term sustainability of the monitoring program.

Although electrical output varies with water conductivity, water depth, and water temperature, field crews attempted to maintain electrical output at similar levels for all sites over all sessions.

2.1.4 Ageing

Scale samples were collected from all captured Arctic Grayling, Goldeye, Kokanee, Mountain Whitefish (with the exceptions detailed in Section 2.1.5), and Rainbow Trout. Fin ray samples were collected from all initially captured Bull Trout, Goldeye, Lake Trout, Northern Pike, and Walleye. Otoliths were collected opportunistically from fish that succumbed to sampling. Ageing structures (i.e., scales, fin rays, and otoliths) were collected in accordance with the methods outlined in Mackay et al. (1990). All ageing structure samples were stored in appropriately labelled coin envelopes and archived for long-term storage for BC Hydro.

Scales were assigned an age by counting the number of growth annuli present on the scale following procedures outlined by Mackay et al. (1990). Scales were temporarily mounted between two glass slides and examined using a microscope. Where possible, several scales were examined, and the highest quality scale was photographed using a 3.1-megapixel digital macro camera (Leica EC3, Wetzlar, Germany) and saved as a JPEG-type picture file. All scale images were linked to the Peace River Large Fish Indexing Database (referred to as Attachment A) and provided to BC Hydro. All scales were examined independently by two experienced individuals and ages were assigned. If the assigned ages differed between the two examiners, the sample was re-examined by a third examiner. If there was agreement between two of three examiners, then the consensus age was assigned to the fish. If there was not agreement between two of three examiners, then the fish was not assigned an age.

Fin rays were coated in epoxy and allowed to dry. Once dried, a rotary sectioning saw with a diamond blade (Buehler IsoMet Low Speed Saw; Lake Bluff, IL, USA) was used to create multiple cross-sections of each fin ray sample. The rotary sectioning saw allowed the thickness of cross-sections to be set to a standard width of 0.5 mm. This width allowed for maximum reflected or transmitted light to pass through the sections, making annuli more apparent when observed under a microscope (Watkins and Spencer 2009). In addition, the use of the rotary sectioning saw resulted in cross-sections with more polished surfaces (which reduced sanding and preparation time) compared to the jeweler's saw (Gesswein Canada; Toronto, Canada) used prior to 2017. The cross-sections were permanently mounted on a microscope slide using a clear coat nail polish and examined using a Leica S6D imaging microscope (Leica Microsystems Inc.; Concord, Canada). Where possible, several fin ray cross-sections were examined, and the cross-section with the most visible annuli was photographed with the microscope's integrated 3.1-megapixel digital macro camera (Leica EC3, Wetzlar, Germany). All fin ray cross sections were imaged using the maximum zoom possible.

Fin rays (excluding Walleye) were examined independently by two experienced individuals, and ages were assigned using counts of growth annuli. If the assigned ages differed between the two examiners, the sample was re-examined by a third examiner. If there was agreement between two of three examiners, then the consensus age was assigned to the fish. If there was not agreement between two of three examiners, then the fish was not assigned an age.

In 2021, ages were not assigned to Bull Trout using fin rays because of results from previous years that suggested that fin ray-based ages were not consistent or reliable for this species in the study area (Golder and Gazey 2020). Based on length-at-age data collected from age-0 to age-2 Bull Trout in the Halfway River watershed (e.g., Golder 2018), ages assigned to Bull Trout through fin ray analysis were underaged by one year. This was likely because the fin ray could not be collected close enough to the fish's body wall to capture the first annulus on the fin ray (i.e., the annulus closest to the focus of the fin ray). In addition, average length-at-age calculated using ages assigned by examining fin rays were not consistent with anticipated lengths based on inter-year capture-recapture data, suggesting inconsistent formation of annual growth rings (annuli) on fin rays of

Bull Trout in the study area (Golder and Gazey 2020). Because of these inconsistencies, age-related analyses for Bull Trout are based on fork lengths (FL) at initial capture for immature individuals and inter-year recapture data as detailed below.

Immature Bull Trout encountered during the Site C Reservoir Tributary Fish Population Indexing Survey (Mon-1b, Task 2c; hereafter, Tributary Survey; Golder 2022b) were accurately assigned ages based on each fish's fork length, which was possible because of limited overlap in lengths between age-0 to age-3 age classes. Age-4 and older Bull Trout were rarely encountered during the Tributary Survey because most immature Bull Trout migrate out of the natal/rearing tributary by age-3. Data collected during the Tributary Survey indicate a maximum length for age-3 Bull Trout of approximately 240 mm FL. Between 2015 and 2021, the smallest Bull Trout recorded in the Peace River mainstem during the Indexing Survey was 137 mm FL, and 193 Bull Trout less than 240 mm FL were recorded in all seven study years combined. Therefore, the majority of Bull Trout less than 240 mm FL encountered in the Peace River mainstem are likely age-3.

For the analysis of Bull Trout ages, all individuals less than 240 mm FL captured in the mainstem were classified as age-3. Individuals initially captured at less than 240 mm and recaptured in a subsequent year were assigned an age based on the number of years between captures (i.e., age-3 plus the number of years at-large). For the analysis of growth using von Bertalanffy models, length-at-age data from the Tributary Survey from 2017 to 2021 were used for age-0 to age-2 Bull Trout (Golder 2018–2019, 2021a, 2022b), to provide a more complete understanding of this species' growth and life history characteristics.

In 2015 and 2016, Walleye fin rays were aged using methods detailed by Mackay et al. (1990). However, Watkins and Spencer (2009) detailed methods for ageing Walleye fin rays that were shown to be more accurate than the methods detailed by Mackay et al. (1990) for northern populations of Walleye. As such, the methods detailed by Watkins and Spencer (2009) were employed after 2016 and are briefly described below. For fin rays collected from Walleye, each fin ray section photograph was imported into ImageJ software (www.imagej.net) equipped with the Fiji microscope measurement tool plugin. This software allows the user to take measurements on microscope images. Prior to examining cross-section images in ImageJ, a calibration slide with a known length (i.e., a 1 mm scale with 0.01 mm divisions) was measured to set the scale for future measurements. For each imaged cross-section, the pelvic fin ray radius (PFRR) was measured in µm and the distance was plotted and saved on the cross-section image. The PFRR is the distance from the focus of the ray (i.e., the center of fin ray) to the end of the largest lobe of the ray. This measurement was then used to determine the radius distance from the focus to the first annulus using the following formula from Watkins and Spencer (2009):

(1) $$Sc = (PFRR \times L) / Lc$$

where Sc is the distance from the focus to the first annulus (in µm), PFRR is the pelvic fin ray radius (in µm), L_1 is the average fork length of a fish at age 1 (in mm), and L_c is the fork length of the fish when caught (in mm). The value of 188 mm was used for L_1 for all Walleye cross-section calculations based on results provided by Golder and Gazey (2018). Once Sc was determined for each cross-section, the distance was measured on the imaged cross-section in ImageJ. The Sc value was also plotted and saved on the cross-section image. The closest annulus visible to the measured Sc was considered the first annulus and the subsequent annuli moving outwards towards the end of the largest lobe of the fin ray were counted to determine age. All fin ray images with plotted PFRR and Sc were examined independently by two experienced individuals. If the assigned ages differed between the two examiners, the sample was re-examined by a third examiner. If there was agreement between two of three examiners, then the consensus age was assigned to the fish. If there was not agreement between two of three examiners, then the sample was rejected, and the fish was not assigned an age.

While assigning ages, examiners were aware of the species of each sample but did not have other information about the fish, such as body size or capture history.

Ages were assigned to all Arctic Grayling, Bull Trout (only individuals less than 240 mm FL and/or inter-year recaptures), Goldeye, Northern Pike, and Rainbow Trout that were captured, except in cases where ageing structures were too poor quality to assign an age. In total, 583 Mountain Whitefish scale samples and 194 Walleye fin rays were analyzed, which represented 10% of the total number of Mountain Whitefish captured and 57% of the total number of Walleye captured in 2021. Ageing structures from Mountain Whitefish and Walleye aged in 2021 were from randomly selected, first-time capture individuals. All Mountain Whitefish scale samples selected for ageing were collected during Session 1 of 2021 (16 to 23 August).

In addition to ages assigned using scales and fin rays, ages were assigned to recaptured individuals that were aged from an earlier encounter based on the number of years between recaptures. These recapture-based ages were assigned for Arctic Grayling, Mountain Whitefish, Northern Pike, Rainbow Trout, and Walleye.

2.1.5 Fish Processing

A site form was completed at the end of each sampled site. Site habitat conditions and the number of fish observed were recorded before the start of fish processing for life history data (Table 7). All captured fish were enumerated and identified to species, and their physical condition and general health were recorded (i.e., any abnormalities were noted). For each captured fish, the severity of deformities, fin erosion, lesions, and tumor (DELT) were recorded based on the external anomalies' categories provided in Ohio EPA (1996). Data collected for each fish in 2021 were consistent with previous study years (e.g., Golder 2021a).

Table 7: Variables recorded for each fish captured during the Peace River Large Fish Indexing Survey.

Variable	Description
Species	The species of fish
Age-Class	A general size-class for the fish (e.g., YOY <120 mm FL, Immature <250 mm FL, and Adult ≥250 mm FL)
Length	The fork length of the fish to the nearest 1 mm (total lengths were recorded for Burbot and sculpin species)
Weight	The weight of the fish to the nearest 1 g
Sex and Maturity	The sex and maturity of the fish (determined where possible through external examination)
Ageing Method	The type of ageing structure collected if applicable (i.e., scale, fin ray, otolith)
Tag Colour/Type	The type (i.e., T-bar anchor or PIT tag) or colour (for T-bar anchor tags only) of tag applied or present at capture
Tag Number	The number of the applied tag or tag present at capture
Tag Scar	The presence of a scar from a previous tag application
Fin Clip	The presence of an adipose fin clip (only recorded if present without a tag)
Condition	The general condition of the fish (i.e., alive, dead, or unhealthy)
Preserve	Details regarding sample collection (if applicable)
Comments	Any additional comments regarding the fish

Fish were measured for fork length (FL) or total length (TL; for Burbot and sculpin species) to the nearest 1 mm and weighed to the nearest 1 g using an A&D Weighing™ (San Jose, CA, USA) digital scale (Model SK-5001WP; accuracy ±1 g). Data were entered directly into the Peace River Large Fish Indexing Database (provided to BC Hydro as Attachment A) using a laptop computer. All sampled fish were automatically assigned a unique identifying number by the database that provided a method of cataloguing associated ageing structures.

All Arctic Grayling, Bull Trout, Burbot, Goldeye, Mountain Whitefish, Rainbow Trout, and Walleye that were greater than 149 mm in length and all Lake Trout, Largescale Sucker, Longnose Sucker, Northern Pike, and White Sucker that were greater than 199 mm in length and in good condition following processing were marked with a half-duplex (HDX) PIT tag (ISO 11784/11785 compliant) (Oregon RFID, Portland, OR, USA). Tags were implanted within the left axial muscle below the dorsal fin origin and oriented parallel with the anteroposterior axis of the fish. All tags and tag applicators were immersed in an antiseptic (Super Germiphene™; Brantford, ON, Canada) and rinsed with distilled water prior to insertion. The size of PIT tag implanted was based on the length of the fish and was the same as other FAHMFP monitoring programs in the Peace River, such as the Tributary Survey (Golder 2022b):

- Fish between 150 and 199 mm FL received 12 mm long PIT tags (12.0 mm x 2.12 mm HDX+)
- Fish between 200 and 299 mm FL received 23 mm long PIT tags (23.0 mm x 3.65 mm HDX+)
- Fish greater than 300 mm FL received 32 mm long PIT tags (32.0 mm x 3.65 mm HDX+)

HDX PIT tags were applied from 2016 to 2021; full-duplex (FDX) PIT tags were applied prior to 2016. All HDX PIT tags that have been applied as part of this program are compatible with the PIT arrays installed in the Halfway River watershed as part of the Peace River Bull Trout Spawning Assessment (Mon-1b, Task 2b; e.g., Putt et al. 2021) and the temporary upstream fish passage facility as part of the Site C Fishway Effectiveness Monitoring Program (Mon-13; e.g., Cook et al. 2021). In 2021, all fish of the targeted species and size were implanted with a HDX tag, including recaptured fish that had previously been implanted with a FDX PIT tag. FDX and HDX tags do not interfere with each other; therefore, fish that are double-tagged with both tag types are readable by both the PIT arrays and handheld PIT tag readers.

PIT tags were read using a Biomark HPR Lite FDX/HDX handheld reader (Biomark, Inc., Boise, ID, USA). When fish that had both HDX and FDX tags were scanned, the HDX tag would most often be detected because of its longer read range, but occasionally only the previous FDX tag was detected. In either case, the fish could be linked to their previous encounter histories in the Peace River Large Fish Indexing Database.

As was done during previous study years, a simplified processing method was used for the more common species during Sessions 5 and 6. During Sessions 5 and 6, fish that did not have a PIT tag at capture were assigned a size category based on fork length (i.e., less than 150 mm, 150–199 mm, 200–299 mm, greater than or equal to 300 mm) and were released without recording lengths or weights, collecting scale samples, or implanting PIT tags. This allowed field crews to conduct the sessions over a shorter time period by reducing fish handling and fish processing time. During Sessions 5 and 6, this simplified fish processing procedure was used for Mountain Whitefish and all sucker species (Largescale Sucker, Longnose Sucker, and White Sucker). All other fish species were sampled using the full processing procedure.

To reduce the possibility of capturing the same fish at multiple sites in a single session, fish were released near the middle of the site where they were captured.

2.2 Data Analyses

2.2.1 Data Compilation and Validation

Data collected under the Indexing Survey were stored in the Peace River Large Fish Indexing Database, which contains historical data collected under the Large River Fish Indexing Program (P&E 2002; P&E and Gazey 2003; Mainstream and Gazey 2004–2008), the Peace River Fish Index (Mainstream and Gazey 2009–2014; Golder and Gazey 2015), and the Peace River Large Fish Indexing Survey (Golder and Gazey 2016–2020, Golder 2021a). The database is designed to allow most data to be entered directly by the crew while out in the field using Microsoft® Access 2010 software and contains several integrated features to ensure that data are entered correctly, consistently, and completely.

Various input validation rules programmed into the database checked each entry to verify that the data met specific criteria for that particular field. For example, all species codes were automatically checked upon entry against a list of accepted species codes that were saved as a reference table in the database; this feature forced the user to enter the correct species code for each species (e.g., Rainbow Trout had to be entered as “RB”; the database would not accept “RT”). Combo boxes were used to restrict data entry to a limited list of choices, which kept data consistent and decreased data entry time. For example, a combo box limited the choices for Cloud Cover to Clear, Partly Cloudy, Mostly Cloudy, or Overcast. The user had to select one of these choices, which decreased data entry time (e.g., by eliminating the need to type out “Partly Cloudy”) and ensured consistency in the data (e.g., by forcing the user to select “Partly Cloudy” instead of typing “Part Cloud” or “P.C.”). The database contained input masks that required the user to enter data in a pre-determined manner. For example, an input mask required the user to enter Sample Time in 24-hour short-time format (i.e., HH:mm:ss). Event procedures ensured data conformed to underlying data in the database. For example, after the user entered life history information for a particular fish, the database automatically calculated the body condition of that fish. If the body condition was outside a previously determined range for that species (based on the measurements of other fish in the database), a message box appeared on the screen informing the user of a possible data entry error. This allowed the user to double-check the species, length, and weight of the fish before it was released. The database also allowed a direct connection between the handheld PIT tag reader (Biomark HPR Lite FDX/HDX handheld reader) and the data entry form, which eliminated transcription errors associated with manually recording the 15-digit PIT tag numbers.

The database also included tools that allowed field crews to quickly query historical encounters of tagged fish while the fish was in-hand. This allowed the crew to determine if ageing structures, such as fin rays, had been previously collected from a fish or comment on the status of previously noted conditions (e.g., whether a damaged fin had properly healed). Quality Assurance/Quality Control (QA/QC) was conducted on the database before analyses. QA/QC included checks of capture codes and tag numbers for consistency and accuracy, checks of data ranges, visual inspection of plots, and removal of age-length and length-weight outliers, where applicable.

2.2.2 Analytical Approach

The relative abundance of fish was assessed using catch rate (i.e., catch-per-unit-effort) and percent composition of each species in the catch (Section 2.2.3). The general health and composition of fish populations were assessed using analyses of size and age-structure, growth, and body condition (Sections 2.2.4 to 2.2.6). Detailed analyses, including capture-recapture population estimates, and more extensive analyses of catch, life history, and environmental data were not conducted in 2021. All analyses were conducted in the software R version 4.0.3 (R Core Team 2020).

Various metrics were used to provide background information and descriptive summaries of fish populations. Although these summaries are important, not all of them are presented or specifically discussed in detail in this report. However, these metrics are provided in the appendices for reference purposes and are referred to when necessary to support or discount results of various analyses. Metrics presented in the appendices include the following:

- mean daily discharge in the Peace River, 2001 to 2021 (Appendix C, Figure C1)
- habitat variables recorded at each sample site (Appendix D, Table D1)
- percent composition of the catch by study year by section (Appendix E, Tables E1 and E2)
- catch rates for all species by session and site, 2021 (Appendix E, Tables E3 and E4)
- summary of captured and recaptured fish by species and session, 2021 (Appendix E, Table E5)
- length-frequency histograms, age-frequency histograms, length-weight regressions, and natural log-transformed relationships between weight and length by year or section for Arctic Grayling, Bull Trout, Largescale Sucker, Longnose Sucker, Mountain Whitefish, Northern Pike, Rainbow Trout, Walleye, and White Sucker where applicable, 2002 to 2021 (Appendix F, Figures F1 to F44)

For all figures in this report, sites are ordered by increasing distance from WAC Bennett Dam (River Km 0.0) based on the upstream boundary of each site.

As detailed in Section 1.4.1 and Appendix B, Table B1, not all sections were sampled during all study years. For figures and statistics related to fish life history (i.e., length, weight, and age), analyses were supplemented, when feasible, with data collected in Sections 6, 7, and 9 under the Peace River Fish Inventory in 2009, 2010, and 2011 (Mainstream 2010, 2011a, 2013). The Peace River Fish Inventory employed similar capture techniques during similar times of the year. Because effort differed between the Peace River Fish Inventory and the current program, these data were not included in figures or statistics related to effort or fish counts. As detailed in Section 2.1.4, age-related analyses for Bull Trout were supplemented with data collected during the Tributary Survey (Golder 2022b), when possible.

Only the first encounter of within-year recaptures were included in age, length, weight, and growth analyses. All encounters of within-year recaptures were included in the calculation of catch rates.

2.2.3 Catch and Effort

Catch-per-unit-effort, referred to hereafter as catch rate, was expressed as the number of fish captured per kilometre of shoreline sampled per hour of electroshocker operation (units = number of fish/km-h). The catch rate for each session at each site was the sum of the number of fish captured per kilometre of shoreline sampled per hour of electroshocker operation. The average catch rate was calculated by averaging the catch rate from all sites and sessions. The standard error of catch rate was calculated using the square root of the variance of the catch rate from all sites for all sessions divided by the number of sampling events. Fish that were observed and positively identified but not captured were not included in the calculation of catch rate. Prior to 2019, catch rates were calculated using both captured fish and observed fish. A review of available data indicated that observed fish values could be influenced by water clarity as most of these fish are observed farther away from the netter and are less visible in turbid conditions. As such, observed fish were not included in the catch rate in 2019, 2020, and 2021 and catch rates from prior study years were recalculated. This change in calculation method should be considered when comparing catch rates presented in this report to catch rates presented in reports prior to the 2019 study year.

The percent composition was calculated by dividing the catch of each species by the total catch. Percent composition included only fish captured during the fall Indexing Survey and did not include observed fish, within-year recaptured fish, or fish captured during the spring Goldeye and Walleye Survey.

2.2.4 Size and Age Structure

Length-frequency distributions were constructed for each year (all sections combined), all years combined but separately for each section, and by section within 2021. For all species, body lengths were plotted using 10 mm bins for the length-frequency histograms. Similar to length-frequency, age-frequency plots were constructed by year, for all years combined by section, and by section within 2021.

2.2.5 Body Condition

Weight-at-length is often used as an indicator of fish health, under the assumption that heavier fish for a given length are in better condition (Froese 2006). In this report, two indicators of body condition based on the length and weight of fish were used: Fulton's body condition factor and relative weight.

Fulton's body condition factor (*K*; Murphy and Willis 1996) was calculated as follows:

$$K = \left(\frac{W_t}{L^3}\right) \times 100{,}000$$

where W_t was a fish's weight (g) and L was a fish's fork length (mm). Mean values of condition factor were calculated for each year and section combination, along with their respective 95% confidence intervals. Plots of mean condition factor for all previous years by section were produced for all species that had sufficient data to assess trends.

Fulton's condition factor assumes that growth is isometric, meaning that fish do not change in shape or density as they increase in length, which is reflected by the cubed value of length in the equation. A limitation of Fulton's condition factor is that if the growth of a species or population is not isometric, then values of condition factor will change with increasing length, which makes comparisons of condition between groups of fish (e.g., years or sections) with different length-distributions biased (Blackwell et al. 2000). For this reason, relative weight was also used as an indicator of body condition.

Relative weight (W_r) was calculated for each fish to provide a comparison of individual fish weight to a standard weight (W_s) calculated for that length of fish. Relative weight was calculated as follows:

$$W_r = (\frac{W}{W_s}) \times 100$$

The W_s was calculated from a species-specific equation obtained from published literature (Table 8). As standard weight equations use total length, measured fork lengths were converted into total lengths using equations from the literature. Standard weight (W_s) equations are based on the 75th percentile weight-at-length calculated from individuals across the species' range. The use of the 75th percentile when developing the equation means that the W_s for a particular length and a value of W_r of 100% represent above-average body condition (Gerow et al. 2005). Values of W_r less than 100% indicate fish that have lower body condition (i.e., less plump) than the "above-average" standard, and values greater than 100% indicate fish than have greater body condition (more plump) than this standard. Mean relative weight values were calculated and plotted for each year and section combination, along with their respective 95% confidence intervals.

Table 8: Equations used for calculating standard weights of selected species of fish captured during the Peace River Large Fish Indexing Survey.

Species	Standard Weight Equation	Total Length Equation	Reference
Arctic Grayling	$log_{10}W_s = 5.279 + 3.096log_{10}TL$	$TL = 10.054 + 1.066FL$	Gilham et al. (2021)
Bull Trout	$log_{10}W_s = 5.327 + 3.115log_{10}TL$	$TL = 1.049FL$	Hyatt and Hubert (2000)
Mountain Whitefish	$log_{10}W_s = 5.086 + 3.036log_{10}TL$	$TL = 0.252 + 1.080FL$	Rogers et al. (1996)
Rainbow Trout	$log_{10}W_s = -5.023 + 3.024log_{10}TL$	$TL = -0.027 + 1.072FL$	Simpkins and Hubert (1996)
Walleye	$log_{10}W_s = -5.453 + 3.180log_{10}TL$	$TL = 1.060FL$	Murphy et al. (1990)

2.2.6 Growth

Length-at-age data were used to construct three-parameter von Bertalanffy growth models (Quinn and Deriso 1999) for all species of interest:

$$L_t = L_\infty(1 - e^{-K(t - t_0)})$$

where L_∞ is the asymptotic length of each species, K is the rate at which the fish approaches the asymptotic size (i.e., growth rate coefficient), and t_0 is the theoretical time when a fish has length zero. Non-linear regression in R was used to estimate the three parameters. Growth curves were estimated for each year (all sections combined) and separately for each section in 2021, where sample sizes were sufficient. For Rainbow Trout, a two-parameter von Bertalanffy curve (i.e., with the t_0 parameter set to zero) was used because the full model would not converge due to small sample sizes. Differences in K or L_∞ between years or sections are interpreted as differences in growth.

Differences in growth or size structure between years were also assessed based on individual fork lengths in a particular year compared to mean fork length of other study years. For each study year *i*, the mean fork length of all study years excluding Year *i* was estimated, and the estimated mean was subtracted from the individual fork lengths sampled in Year *i*. The mean and 95% confidence intervals of the estimated differences in fork lengths were then calculated for each year. Differences in mean fork length between years could represent either changes in growth or size-structure of the population.

Length-weight regressions (Murphy and Willis 1996) were calculated for all species of interest using the following equation:

$$W = a \times L^b$$

where W is weight (g), L is fork length (mm), and a and b are estimated coefficients. The relationship was transformed using the natural logarithm to linearize the relationship, resulting in the equation:

$$\ln(W) = \ln(a) + b \times \ln(L)$$

The length-weight relationship was used in this report to describe how each species changes in weight as they increase in length. Comparing the estimated coefficients (a and b) or predictions of weight-at-length can be used to assess differences in growth or condition between samples (e.g., years or sections), as was done in some previous years of the Indexing Survey (e.g., Golder and Gazey 2018). Use of the length-weight relationship to assess differences in body condition or growth between years was not conducted in this report.

3.0 RESULTS

3.1 Physical Parameters

3.1.1 Discharge

Discharge in the Peace River is regulated by the operations at WAC Bennett Dam and PCD. In most years, total river discharge gradually decreases from January to early June, increases from early June to mid-July, remains near stable from mid-July to early October, and increases from early October to late December. In 2021, mean daily discharge in the Peace River (i.e., discharge through PCD) was greater than the average of the 2002 to 2020 period from mid-February to mid-May and mid-June to mid-July. Mean daily discharge was below the average from August to mid-September (Figure 2; Appendix C, Figure C1). With a few exceptions, discharge was close to historical (2002 to 2020) average daily values from mid-September through to the end of the year.

During the 2021 study period, mean daily discharge was below historical (2002 to 2020) average values during Sessions 1, 2, and 3. During Session 4, discharge increased to near historical average values, where it remained for Sessions 5 and 6. (Figure 2).

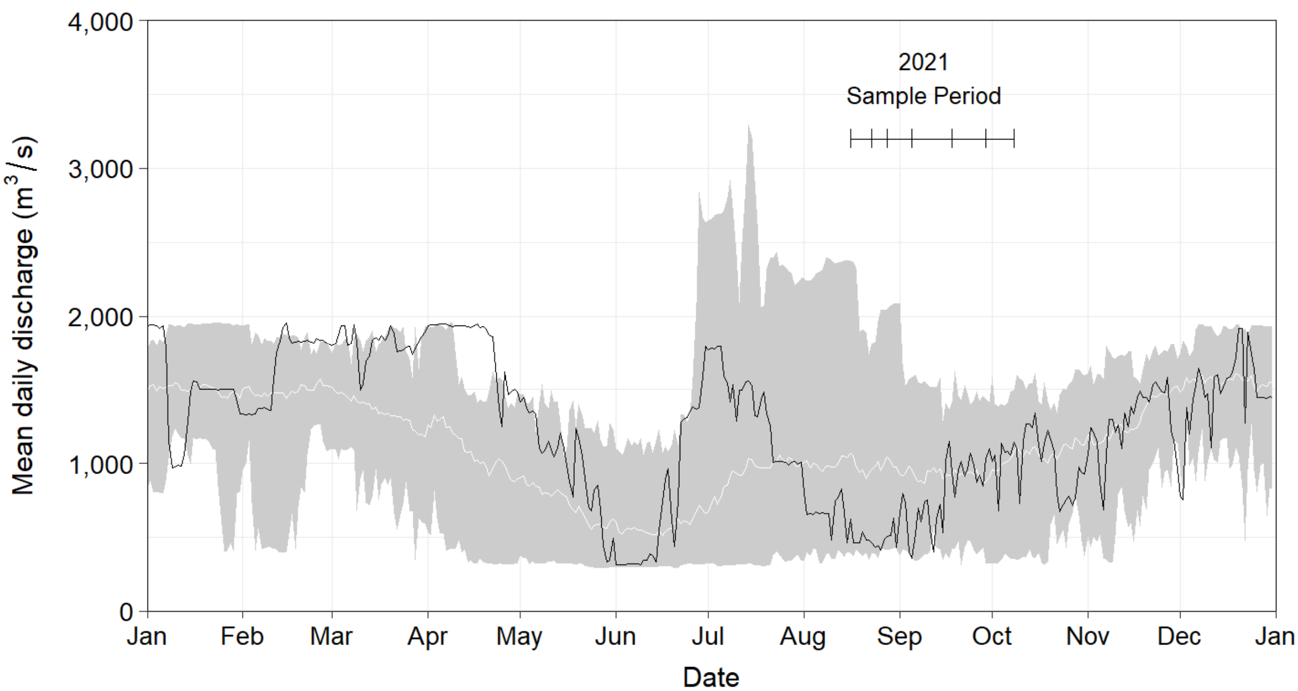


Figure 2: Mean daily discharge (m^3/s) for the Peace River at Peace Canyon Dam, 2021 (black line). The shaded area represents minimum and maximum mean daily discharge values recorded at the dam from 2002 to 2020. The white line represents average mean daily discharge values over the same time period. Vertical lines on the sample period bar represent the approximate start and end times of each sample session.

During most of the 2021 study period, within-day variability in discharge was observed (Figure 3). These daily fluctuations were associated with hydropower generation at PCD and have been observed during previous sampling years (Golder 2021a). Daily fluctuations in discharge were most apparent in Section 1, which varied from little daily changes, up to a maximum daily variation of approximately 1000 m^3/s.

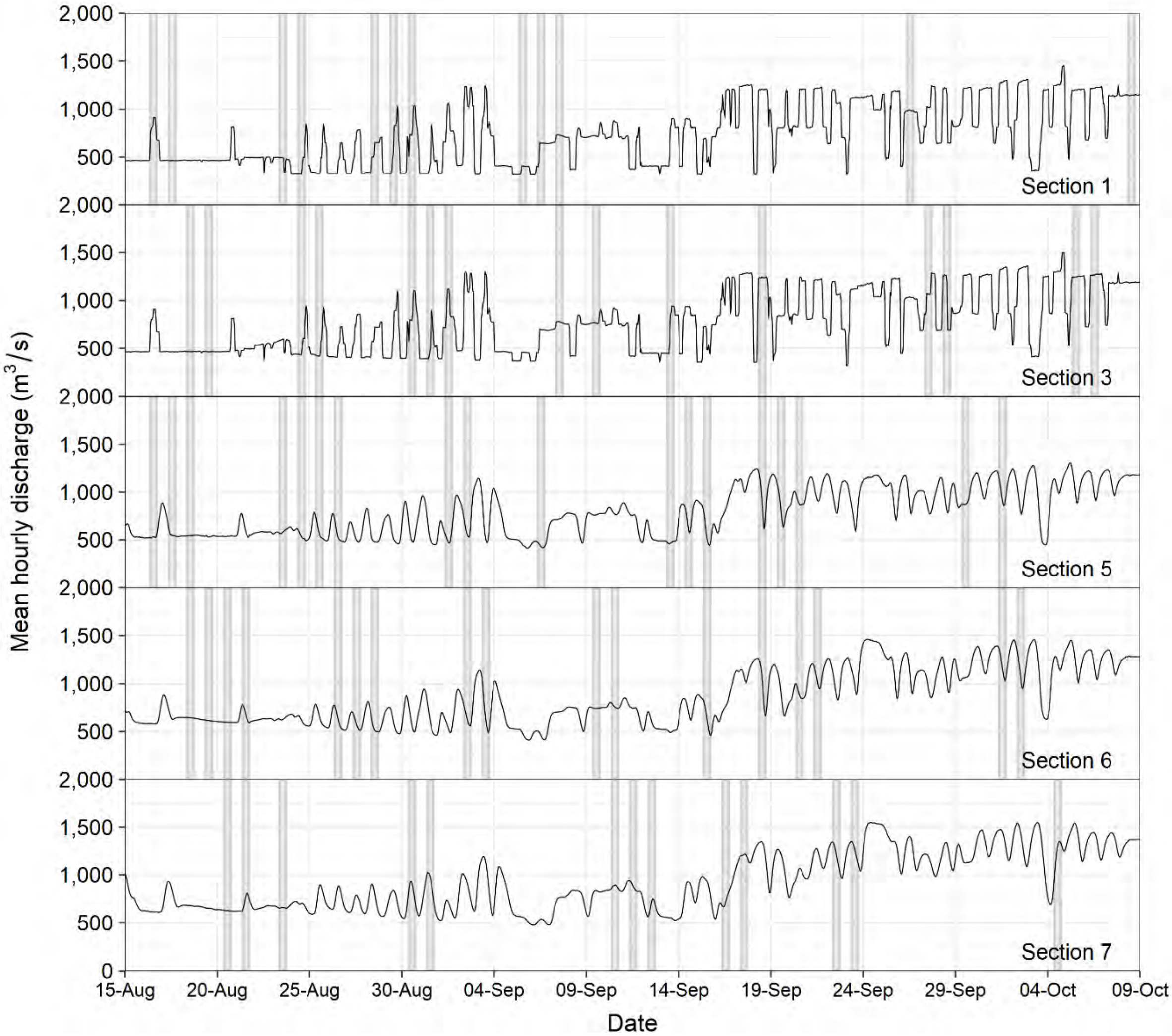


Figure 3: Hourly discharge by river section in the Peace River, 13 August to 8 October 2021. The shaded areas represent the approximate timing of daily sampling (from 9:00 am to 5:00 pm). Section 3 data represent approximate values as detailed in Section 2.1.1. Data for Section 9 are not available for the reasons provided in Section 2.1.1.

3.1.2 Habitat Variables

Mainstream (2012) provides a description of fish habitat available in the study area. Habitat variables collected at each site during the present study are provided in Appendix D, Table D1 and are also included in the Peace River Large Fish Indexing Database (Attachment A). Locations sampled as part of the Indexing Survey and the Goldeye and Walleye Survey are detailed in Appendix A, Table A1 and A2, respectively and illustrated in Appendix A, Figures A1 to A9. Overall, habitat data recorded during the 2021 Indexing Survey did not suggest any substantial changes to fish habitat in any sections when compared to 2020 data presented in Golder (2021a).

3.2 General Characteristics of the Fish Community

In 2021, 15,306 fish from 25 different species were captured in the Peace River and select tributary confluences (Table 9). These values do not include fish that were observed but avoided capture and do not include intra-year recaptured individuals. Catch was greatest in Section 5 (27% of the total catch), followed by Section 6 (24% of the total catch), and was lowest in Section 9 with 4% of the total catch (Table 9).

To align with classifications presented in the Site C EIS (Golder et al. 2012), each fish species was categorized into one of four groups. Group 1 consisted of large-bodied fish typically targeted by anglers (i.e., Burbot, Goldeye, Lake Trout, Northern Pike, Rainbow Trout, and Walleye). Group 2 included species considered “passage sensitive” (i.e., Arctic Grayling, Bull Trout, and Mountain Whitefish). Group 3 included planktivorous species (Kokanee and Lake Whitefish), and Group 4 fish consisted of all remaining species (i.e., Northern Pikeminnow, sucker species, and small-bodied fish species).

Group 4 fish were most common and comprised 58% of the total catch, with Longnose Sucker representing 74% of the captured fish in Group 4. Group 2 fish were the second most abundant group and comprised 39% of the total catch, with Mountain Whitefish representing 95% of the captured fish in Group 2. Group 1 fish contributed 3% to the total catch and was dominated by Walleye (55% of the Group 1 catch) and Rainbow Trout (30% of the Group 1 catch). Group 3 fish were infrequently captured, with most of the catch in the upstream sections of the study area. Of the 25 species captured, 15 comprised less than 1% of the total catch (Table 9). In general, cold-water species (as defined by Mainstream 2012), such as Bull Trout, Mountain Whitefish, and Rainbow Trout, were more common in upstream sections of the study area, and cool-water species (Mainstream 2012), such as Northern Pike and Walleye, were more common in the downstream sections of the study area (Table 9).

Table 9: Number of fish caught by boat electroshocking and their frequency of occurrence in sampled sections of the Peace River, 16 August to 8 October 2021.

Group[a]	Species	Section												All Sections		
		1		3		5		6		7		9				
		n[b]	%[c]	n[b]	%[c]	n[b]	%[c]	n[b]	%[c]	n[b]	%[c]	n[b]	%[c]	n[b]	%[c]	%[d]
1	Burbot	0	0	1	1	8	6	4	5	4	4	0	0	17	4	<1
	Goldeye	0	0	0	0	0	0	0	0	3	3	4	15	7	2	<1
	Lake Trout	1	2	0	0	0	0	0	0	0	0	0	0	1	<1	<1
	Northern Pike	1	2	1	1	18	14	16	20	7	7	1	4	44	10	<1
	Rainbow Trout	40	95	65	97	8	6	8	10	10	10	1	4	132	30	1
	Walleye	0	0	0	0	97	74	51	65	77	76	20	77	245	55	2
Group 1 Subtotal		42	100	67	100	131	100	79	100	101	100	26	100	446	100	3
2	Arctic Grayling	0	0	5	<1	27	2	6	1	7	2	0	0	45	1	<1
	Bull Trout	38	2	83	5	37	3	35	6	27	6	2	2	222	4	1
	Mountain Whitefish	1,802	98	1,441	94	1,322	95	527	93	428	93	120	98	5,640	95	37
Group 2 Subtotal		1,840	100	1,529	100	1,386	100	568	100	462	100	122	100	5,907	100	39
3	Kokanee	19	100	1	100	1	100	3	75	1	100	2	100	27	96	<1
	Lake Whitefish	0	0	0	0	0	0	1	25	0	0	0	0	1	4	<1
Group 3 Subtotal		19	100	1	100	1	100	4	100	1	100	2	100	28	100	<1
4	Flathead Chub	0	0	0	0	0	0	1	<1	61	3	17	4	79	1	1
	Lake Chub	0	0	2	<1	0	0	4	<1	33	2	33	7	72	1	<1
	Largescale Sucker	149	41	232	34	386	15	367	12	269	15	17	4	1,420	16	9
	Longnose Dace	0	0	2	<1	21	1	20	1	22	1	1	<1	66	1	<1
	Longnose Sucker	190	52	376	55	1,922	73	2,415	82	1,330	73	359	77	6,592	74	43
	Northern Pikeminnow	2	1	55	8	77	3	55	2	48	3	13	3	250	3	2
	Peamouth	2	1	0	0	1	<1	0	0	0	0	0	0	3	<1	<1
	Prickly Sculpin	0	0	2	<1	2	<1	1	<1	0	0	0	0	5	<1	<1
	Redside Shiner	0	0	4	1	25	1	30	1	24	1	1	<1	84	1	1
	Slimy Sculpin	7	2	11	2	26	1	10	<1	8	<1	0	0	62	1	<1
	Spottail Shiner	0	0	0	0	2	<1	2	<1	1	<1	0	0	5	<1	<1
	Trout-perch	0	0	0	0	0	0	2	<1	3	<1	0	0	5	<1	<1
	White Sucker	12	3	4	1	174	7	37	1	26	1	27	6	280	3	2
	Yellow Perch	0	0	0	0	0	0	2	<1	0	0	0	0	2	<1	<1
Group 4 Subtotal		362	100	688	100	2,636	100	2,946	100	1,825	100	468	100	8,925	100	58
All species		2,263	15	2,285	15	4,154	27	3,597	24	2,389	16	618	4	15,306	100	100

[a] Based on the groupings detailed in Golder et al. (2012)[6].
[b] Includes fish captured and identified to species; does not include fish that avoided capture or within-year recaptured fish.
[c] Percent composition within each fish group.
[d] Percent composition of the total catch.

[6] EIS, Volume 2, Appendix P Part 3 (BC Hydro 2013).

3.3 Arctic Grayling

3.3.1 Biological Characteristics

In 2021, 45 Arctic Grayling were captured (excluding within-year recaptures) during the Indexing Survey (Table 9). Fork lengths of Arctic Grayling ranged between 167 and 289 mm, and weights ranged between 46 and 309 g. Forty-two Arctic Grayling were assigned ages using scale samples and inter-year recapture data. Ages ranged between age-1 and age-3 (Table 10).

Table 10: Average fork length, weight, and body condition by age for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Age	Fork Length (mm)			Weight (g)			Body Condition (*K*)		
	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]
1	190 ± 14	167 – 232	35	81 ± 22	46 – 150	35	1.15 ± 0.10	0.86 – 1.37	35
2	250 ± 14	233 – 263	4	195 ± 40	146 – 234	4	1.24 ± 0.06	1.15 – 1.29	4
3	278 ± 12	265 – 289	3	269 ± 50	213 – 309	3	1.24 ± 0.08	1.14 – 1.29	3

[a] Number of individuals sampled.

The Arctic Grayling age classes (Table 10) and length-frequencies (Figure 4) indicate that primarily juveniles (age-1 to age-3) were present in the study area in 2021. Young-of-Year (YOY; age-0) Arctic Grayling were not captured during the present study period and adults (age-4+) were also absent from the catch. Historical length-frequency data (Appendix F, Figure F1 and F2) showed a variety of length groupings during most study years.

Arctic Grayling were captured in Sections 3, 5, 6, and 7, with the majority (60%) occurring in Section 5 (Figure 5). In 2021, in all sections combined, the most abundant age-class was age-1. The large percentage of age-1 captured in 2021 and a strong age-0 cohort in 2020 indicate that 2020 was a year with strong recruitment (Appendix F, Figure F3 and F4).

Length-at-age and von Bertalanffy growth curves in 2021 showed that mean length-at-age and growth of Arctic Grayling were lower than most previous study years (Figure 6 and Figure 7). Greater predicted asymptotic length in some years, such as 2003 and 2006 (Figure 7), may have been related to small sample sizes, rather than real differences in growth among years. Length-at-age varied among years but showed no long-term trends among study years (Figure 8). In 2021, the mean length-at-age of age-1 and age-2 Arctic Grayling were near the historic mean. The mean length-at-age of age-3 Arctic Grayling was lower than previous years; however, the 2021 estimate was based on a small sample size (n = 3).

Length-weight regressions for Arctic Grayling had small sample sizes for most sections, which prevented meaningful comparisons among sections (Figure 9). There was little difference in length-weight regressions for Sections 1 and 3 combined compared to Sections 5, 6, 7, and 9 combined for years where data were available for all of these sections (2004 to 2021, excluding 2006; Appendix F, Figure F5). The exponent of length-weight regressions (b) was greater than 3.0 in most years, indicating slightly positive allometric growth (i.e., fish become more rotund as they increase in length).

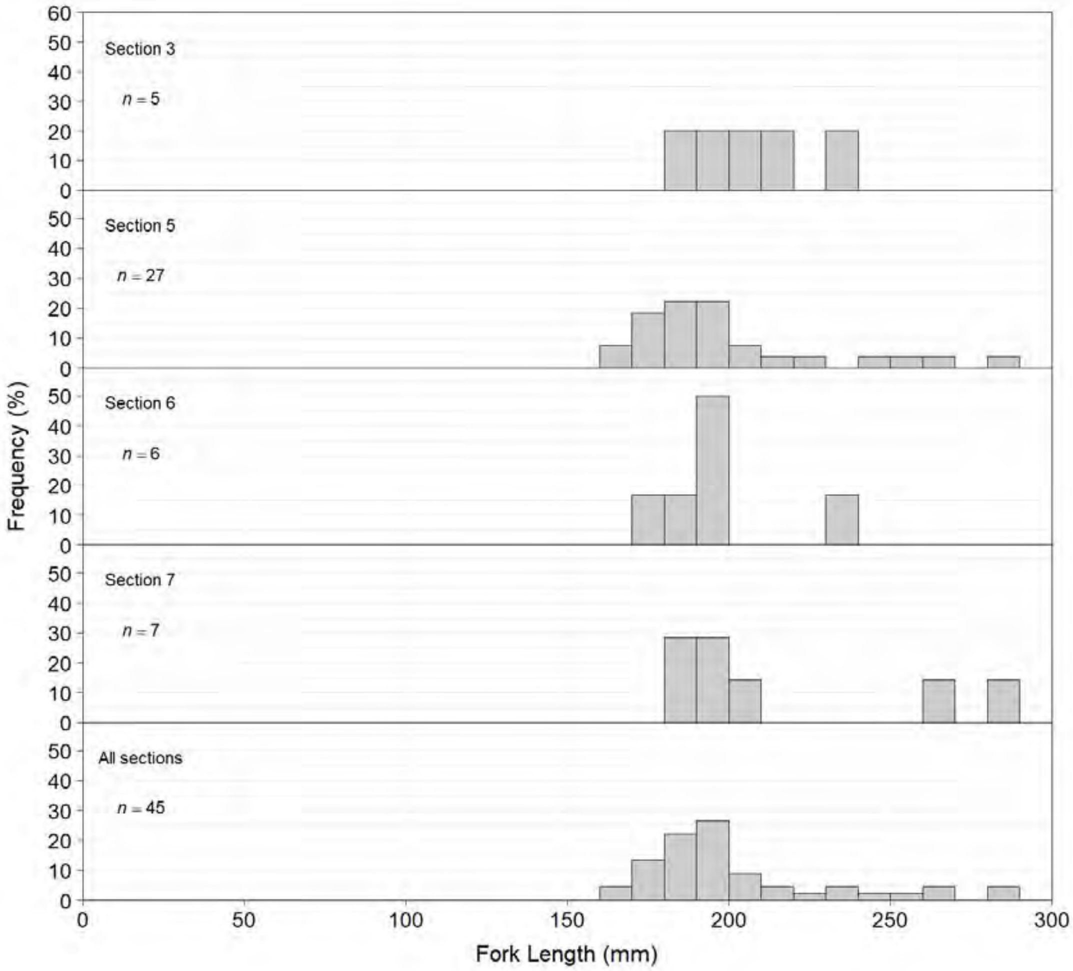


Figure 4: Length-frequency distribution for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

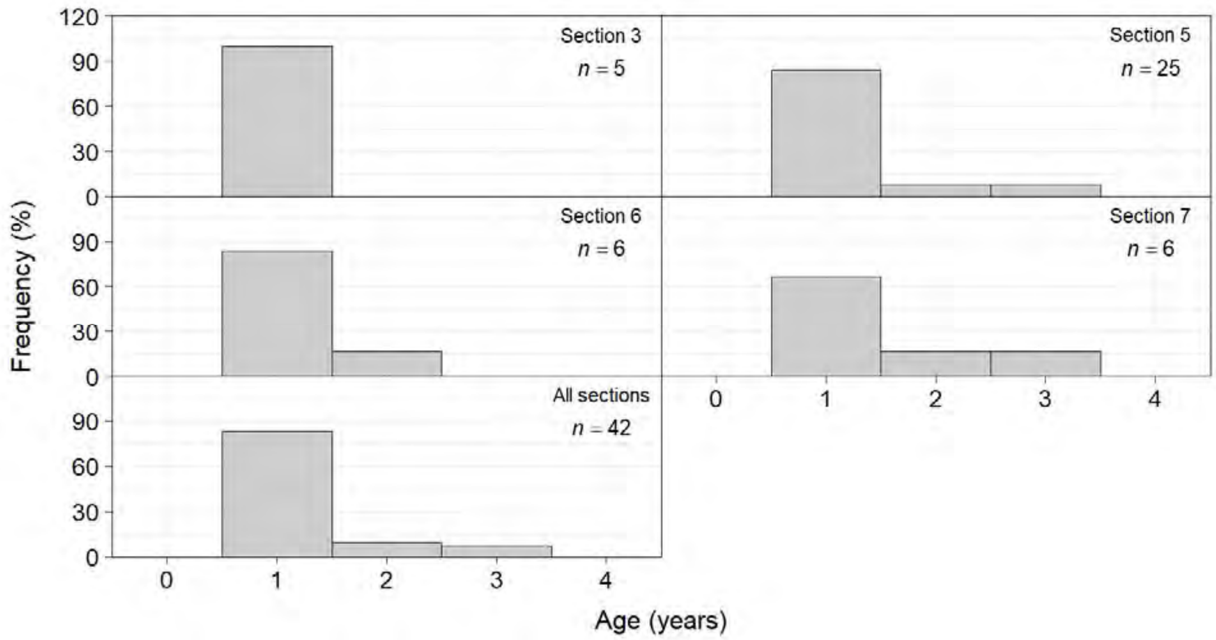


Figure 5: Age-frequency distributions for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

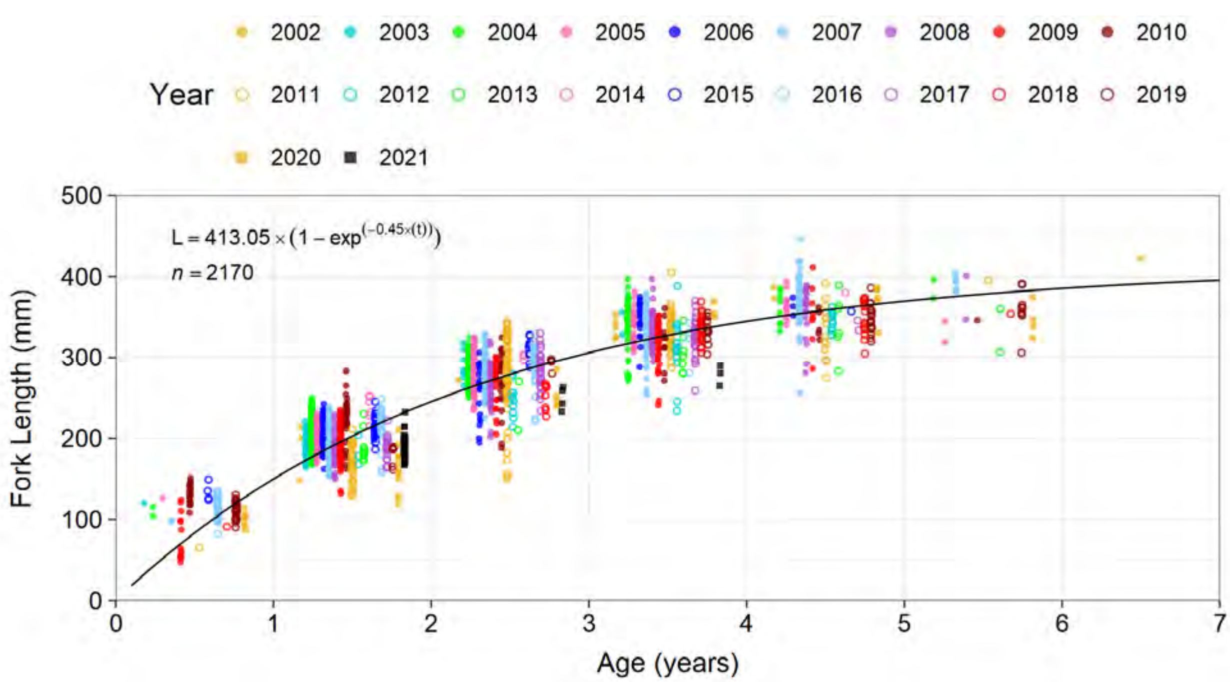


Figure 6: Length-at-age data for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data points from each year are offset to prevent overlap.

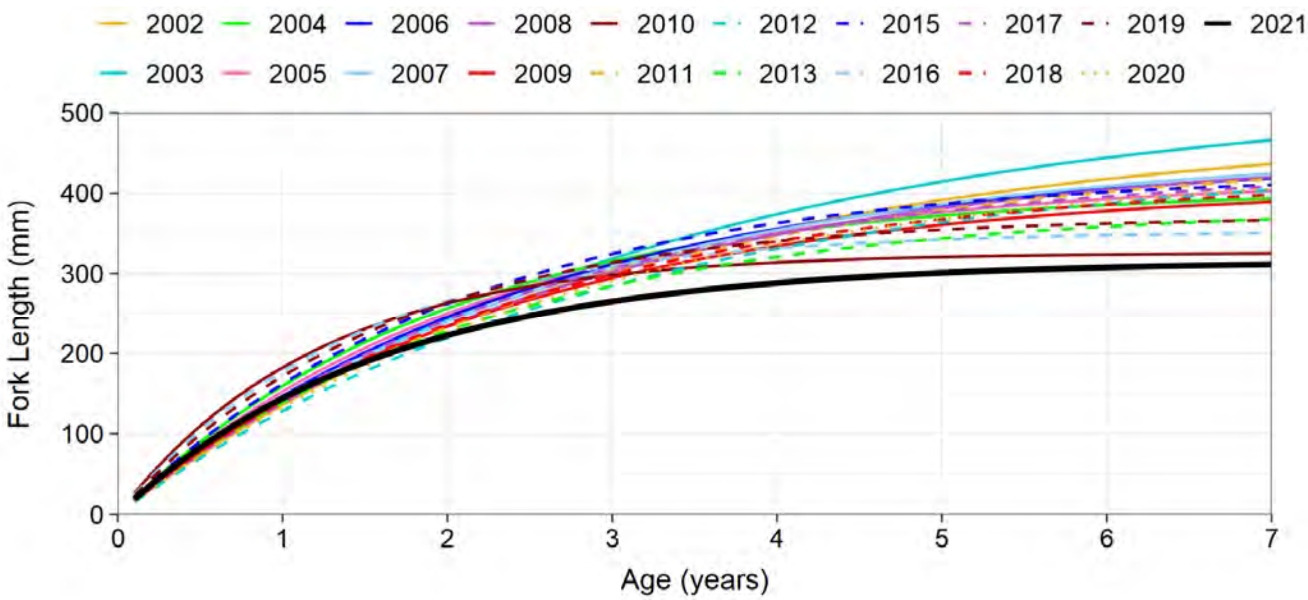


Figure 7: von Bertalanffy growth curves for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021.

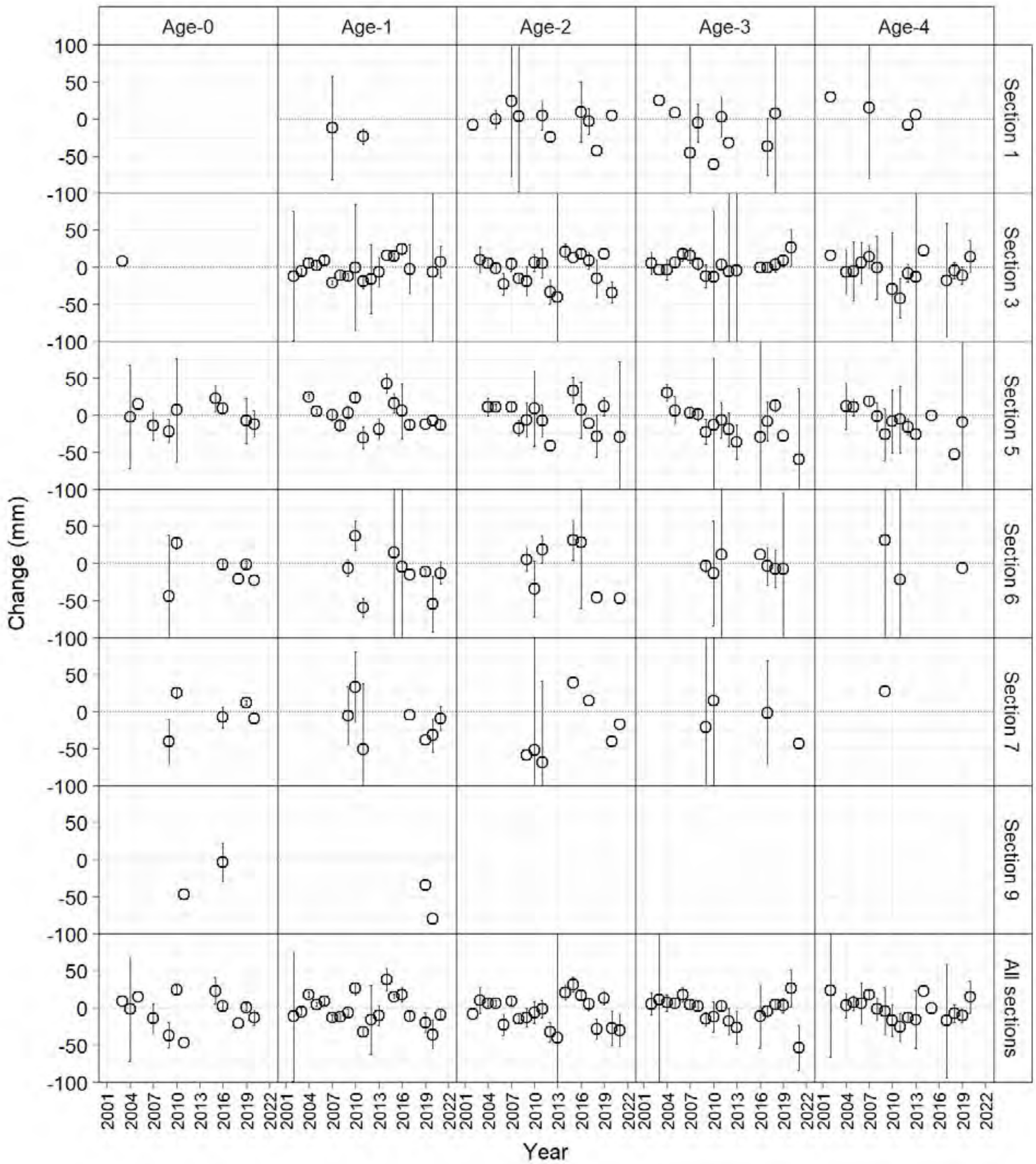


Figure 8: Change in mean length-at-age for Arctic Grayling captured by boat electroshocking in the Peace River, 2002 to 2021. Change is defined as the difference between the annual estimate and the estimate of all years combined. Error bars represent 95% confidence intervals. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

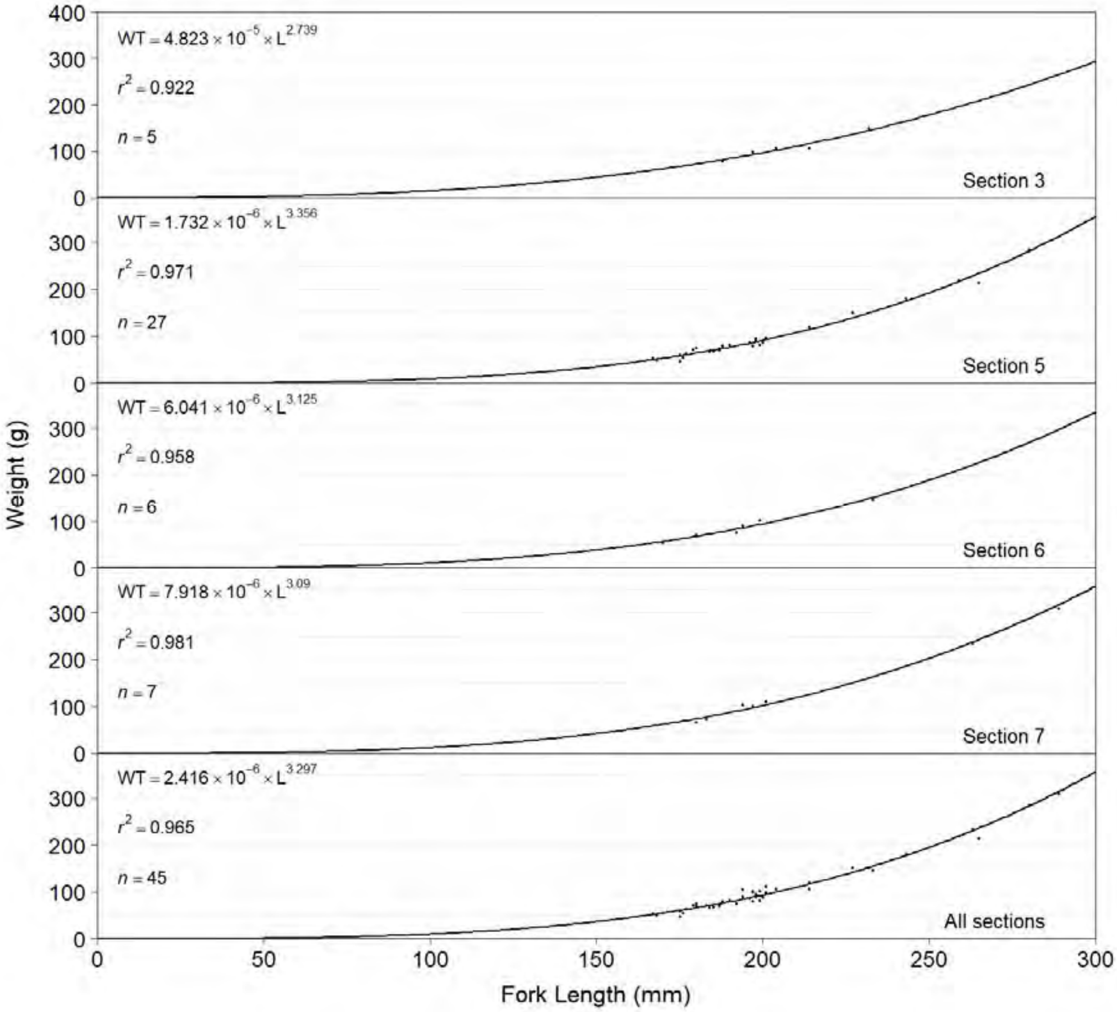


Figure 9: Length-weight regressions for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

The body condition (*K*) of Arctic Grayling captured in 2021 ranged from 0.86 to 1.37 (Table 10). Body condition was lower for age-1 Arctic Grayling and greater in older age classes.

There were no sustained, long-term trends in the body condition of Arctic Grayling between 2002 and 2021 (Figure 10). However, mean values of both Fulton's condition factor (*K*) and relative weight were lower in 2019 and 2020 than in previous years. In 2021, Fulton's condition factor and relative weight for Arctic Grayling were slightly greater than 2020 values. Mean values of relative weight were near or greater than 100% in most years. A relative weight of 100% is based on the 75th percentile of weight-at-length from populations across the species' range and represents a benchmark of better-than-average body condition that is considered desirable for fisheries management (Blackwell et al. 2000); therefore, the relative weight of Arctic Grayling captured during the 2021 Indexing Survey suggest good body condition.

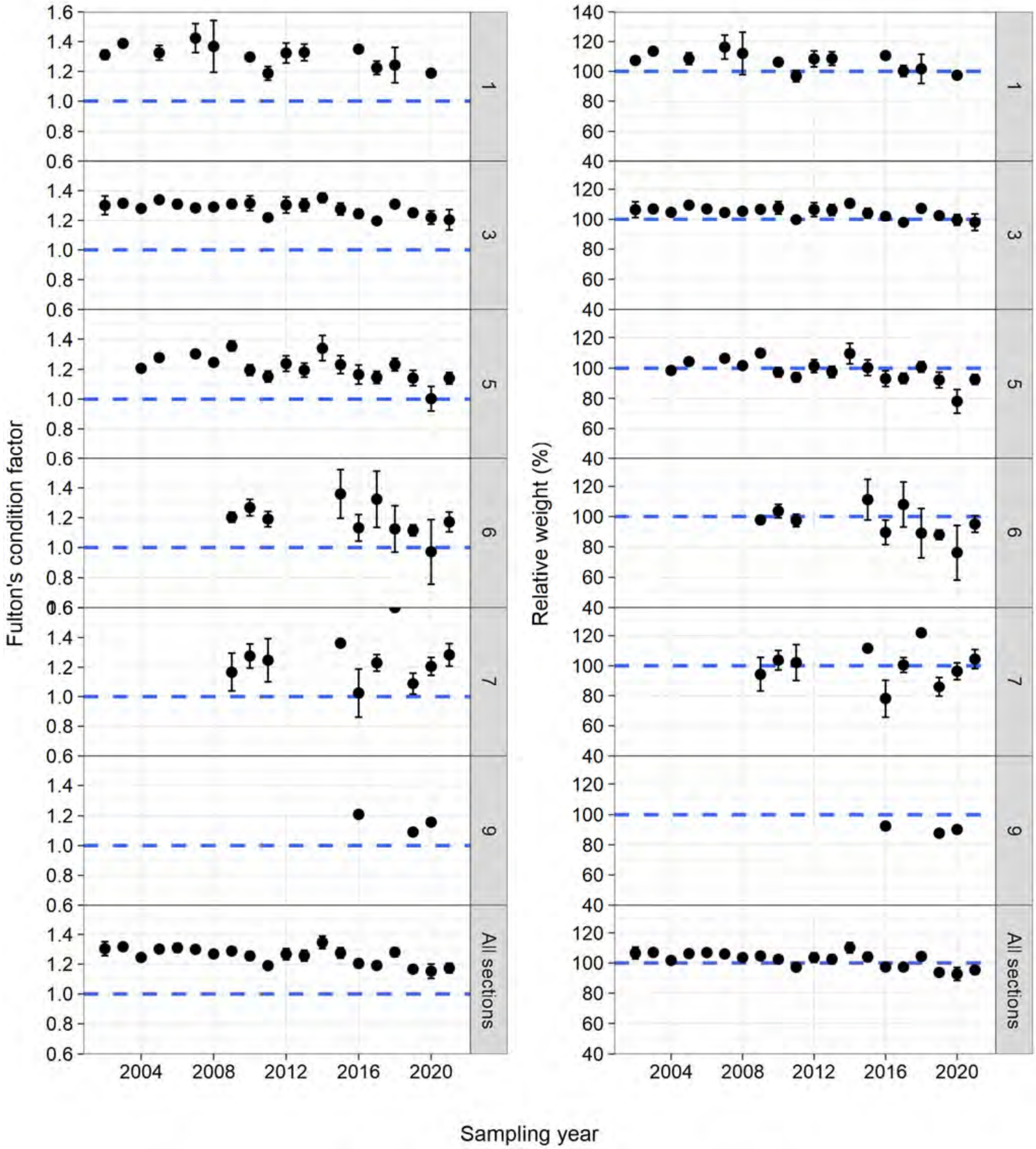


Figure 10: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) (left pane) and mean relative weight (%) with 95% CIs values (right pane) for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6 and 7, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

3.3.2 Catch Rate

Arctic Grayling were frequently recorded in Sections 3 and 5 between 2002 and 2021, and were sporadically recorded in Section 1 during this same time period. Sections 6, 7, and 9 were not consistently sampled prior to 2015 (Figure 11).

Arctic Grayling catch rates in Section 1 have been generally low, with annual catch-per-unit-effort (CPUE) values less than 2 fish/km-h during all years. Arctic Grayling catch rates have been high in Sections 3 and 5. In Section 3, Arctic Grayling CPUE was higher from 2002 to 2011 (mean = 3.2 fish/km-h) compared to 2012 to 2021 (mean = 1.0 fish/km-h). In 2021, the catch rate for Arctic Grayling in Section 3 was 0.3 fish/km-h, representing the second lowest catch rate recorded in this section. A similar recent decline in Arctic Grayling catch rate was observed in Section 5. The highest Arctic Grayling catch rate in Section 5 was in 2007, where CPUE was 17.1 fish/km-h. In the 10 years prior to 2021, Arctic Grayling catch rate in Section 5 has ranged from 0.5 fish/km-h in 2014 to 2.5 fish/km-h in 2016. The catch rate of Arctic Grayling in Sections 6, 7, and 9 has been consistently low compared to catch rates in the upstream sections.

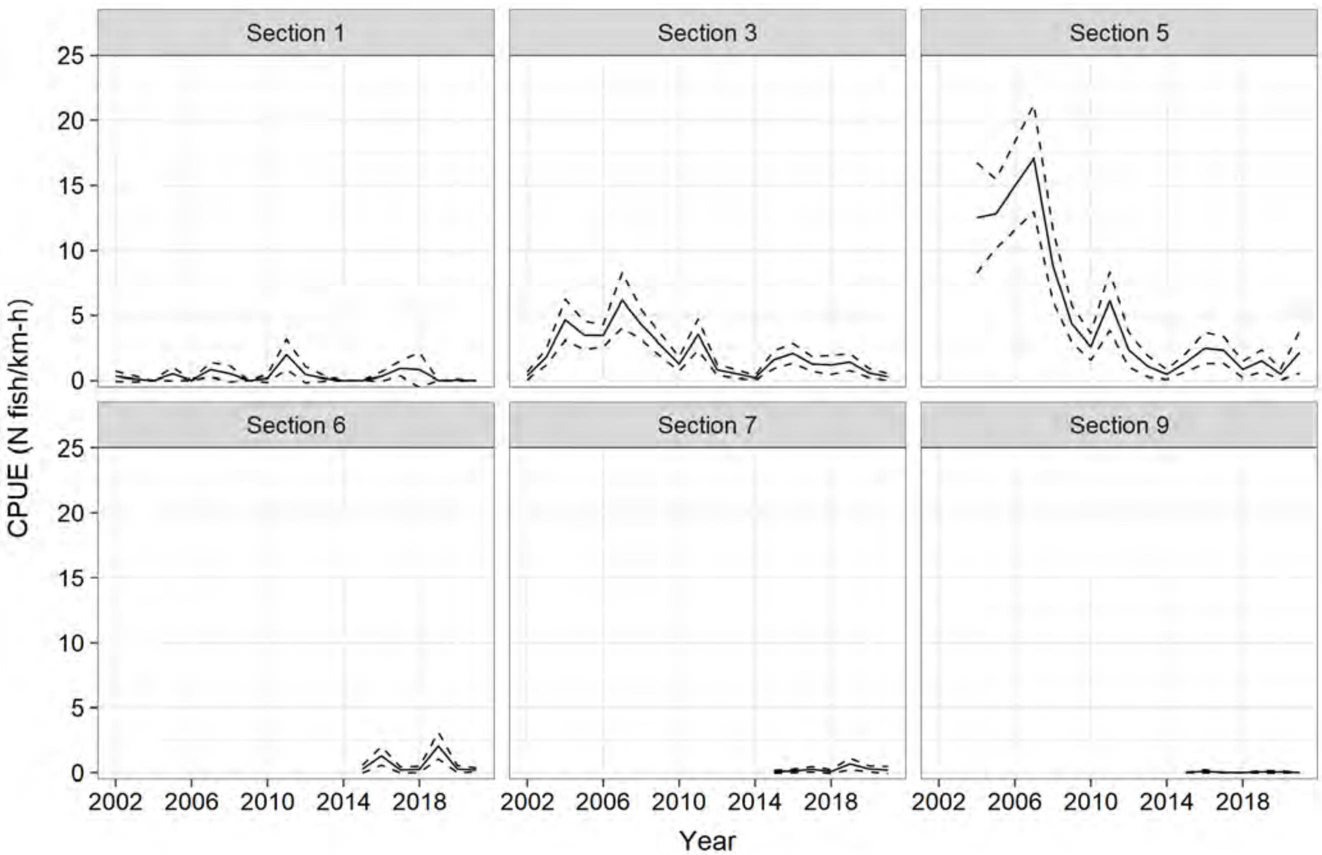


Figure 11: Mean annual catch rates (CPUE) for Arctic Grayling captured by boat electroshocking in Sections 1, 3, 5, 6, 7, and 9 of the Peace River, 2002 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. Sections 6, 7, and 9 were not consistently sampled prior to 2015.

3.4 Bull Trout

3.4.1 Biological Characteristics

During the 2021 survey, 222 Bull Trout were captured (i.e., excluding within-year recaptures; Table 9). Bull Trout were most abundant in Section 3 (83 individuals) and were similarly abundant in Sections 1, 5, 6, and 7 (range = 27 to 38 individuals). Similar to previous years, Bull Trout were rare in Section 9; only 2 individuals were captured in Section 9 in 2021. Fork lengths ranged between 160 and 885 mm, and weights ranged between 41 and 6974 g.

Length-frequency histograms suggest similar size distributions in all sections (Figure 12), with the exception of Section 9, where only two Bull Trout were captured. More than half of the Bull Trout captured (69%) were between 200 and 400 mm FL (i.e., subadults between of age-4 and age-5), which is consistent with historical results (Appendix F, Figures F7 and F8) and indicative of the use of the area by subadults during the study period. Fish larger than 500 mm FL (i.e., adults older than approximately age-6) represented 17% of the Bull Trout catch in 2021, which indicates that adult Bull Trout are also present in the study area during the late summer to fall. However, during the study period, large, sexually mature Bull Trout are less abundant than subadults in the Peace River mainstem because many adults are spawning in tributaries (mainly in the Halfway River watershed; Mainstream 2012). The absence of distinct modes in length-frequency histograms suggests variable growth rates and overlapping size distributions for individual age classes (Figure 12). Previous studies suggest that juveniles rear in tributaries of the Peace River and most do not enter the Peace River mainstem until age-3 (Mainstream 2012; Golder 2022b).

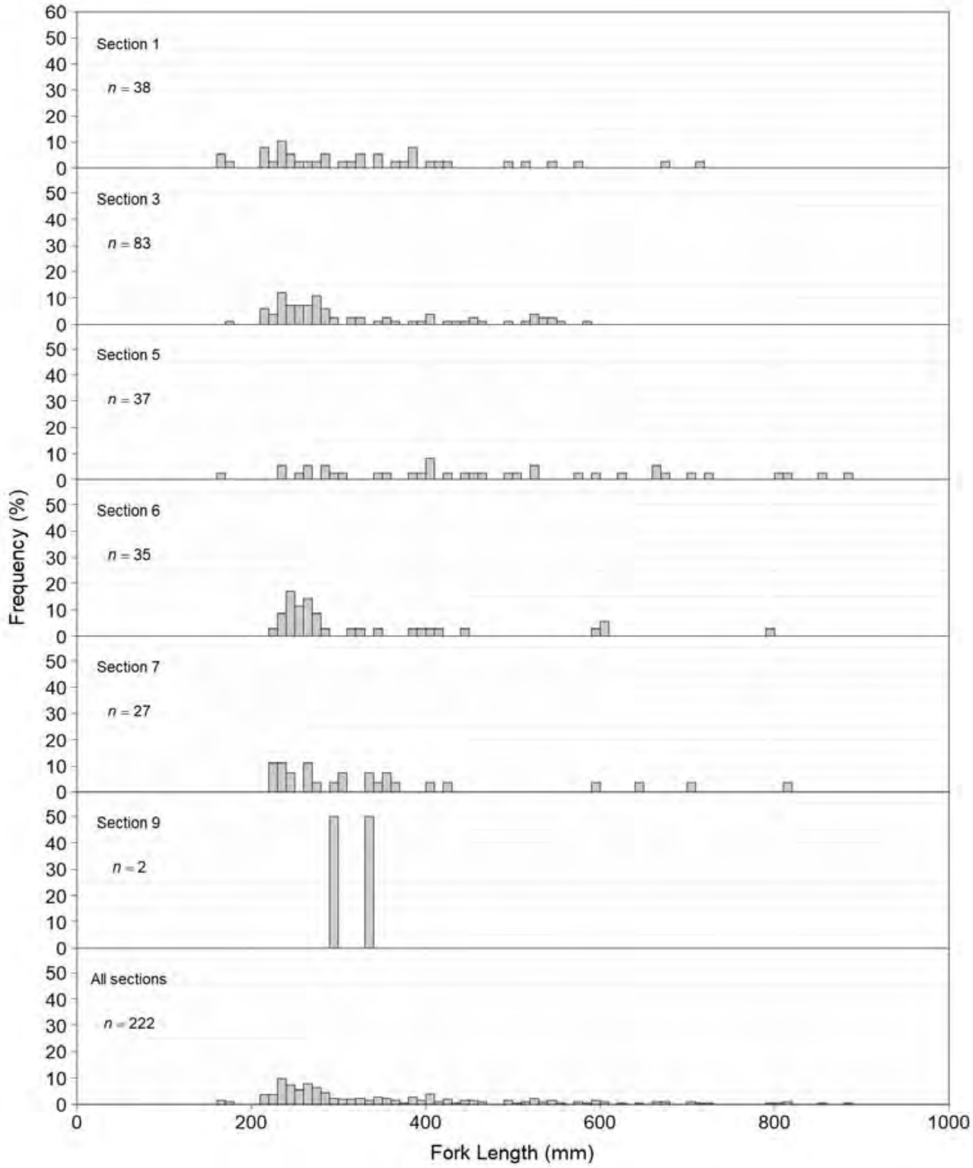


Figure 12: Length-frequency distributions for Bull Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Ages were not assigned to Bull Trout using analysis of fin rays because of inconsistencies in the age data observed during previous years. In 2021, the dataset for age-related analyses for Bull Trout included individuals classified as age-3 based on their fork length (less than 240 mm). These data were supplemented with length-at-age data collected between 2017 and 2021 as part of the Tributary Survey (Golder 2018–2019, 2021b, 2022b), data collected during Site C baseline studies (Mainstream 2010, 2011a, 2013), and ages calculated based on the number of years that inter-year recaptured fish were at-large. Analyses included age-0 to age-3 Bull Trout captured in the Halfway River watershed between 2017 and 2021, and age-3 and older individuals captured in the Peace River between 2002 and 2021, resulting in a combined dataset of 3,318 ages.

Length-at-age data indicate a change in Bull Trout growth rate at age-3, which is when Bull Trout migrate to the Peace River after rearing in select tributaries (Figure 13). Based on length-frequency data, age-0 Bull Trout in the Chowade River and Cypress and Fiddes creeks are approximately 40 to 50 mm FL by late July (Golder 2022b). While rearing in tributaries, Bull Trout appear to grow, on average, 50 mm per year, from approximately 50 mm at age-0, to 100 mm at age-1, 150 mm at age-2, and 200 mm at age-3 (Figure 13). The sample size of age-4 and older Bull Trout that were assigned an age based on recapture history was very small (n = 6), but the limited data suggest an increase in growth rate to approximately 100 mm per year in the Peace River mainstem (Figure 13).

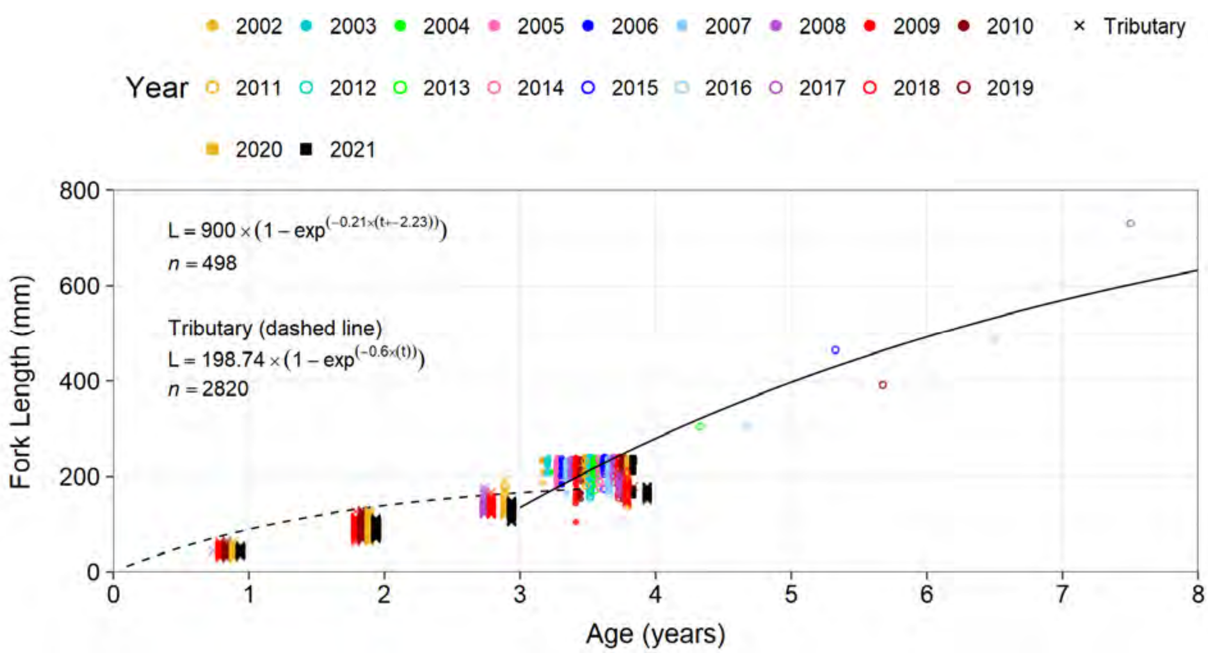


Figure 13: von Bertalanffy growth curve for Bull Trout captured in the Peace River watershed between 2002 and 2021. Figure includes data from the current Indexing Survey and data collected during the Site C Reservoir Tributaries Fish Population Indexing Survey (Golder 2018–2020, 2021b, 2022b) and Site C baseline studies (Mainstream 2010, 2011a, 2013). Data were plotted using the "jitter" function in R to prevent multiple years of data from overlapping on the plot.

In 2021, length-weight regressions were similar among sections, with typical values of the exponent (b) near 3.0, suggesting isometric growth (i.e., no change in body shape with increase in length) (Figure 14). There has been little variation in Bull Trout length-weight regressions among historical study years suggesting similar patterns of growth from year to year within the Peace River Bull Trout population (Appendix F, Figure F9).

In all sections combined, mean values of both the body condition (K) and relative weight were lower in 2016 to 2021 than previous years (Figure 15). This trend was observed in most sections, although there were some exceptions, such as greater body condition and relative weight in Sections 5 and 9 in 2021 compared to the previous five years.

During most study years, body condition estimates were greater for Section 1 (approximately 1.02 to 1.15) than for other sections (0.92 to 1.10). Relative weight estimates tracked closely with body condition estimates for most sections and study years. Over all sections combined, mean annual relative weights ranged from 91.3% to 100.5%.

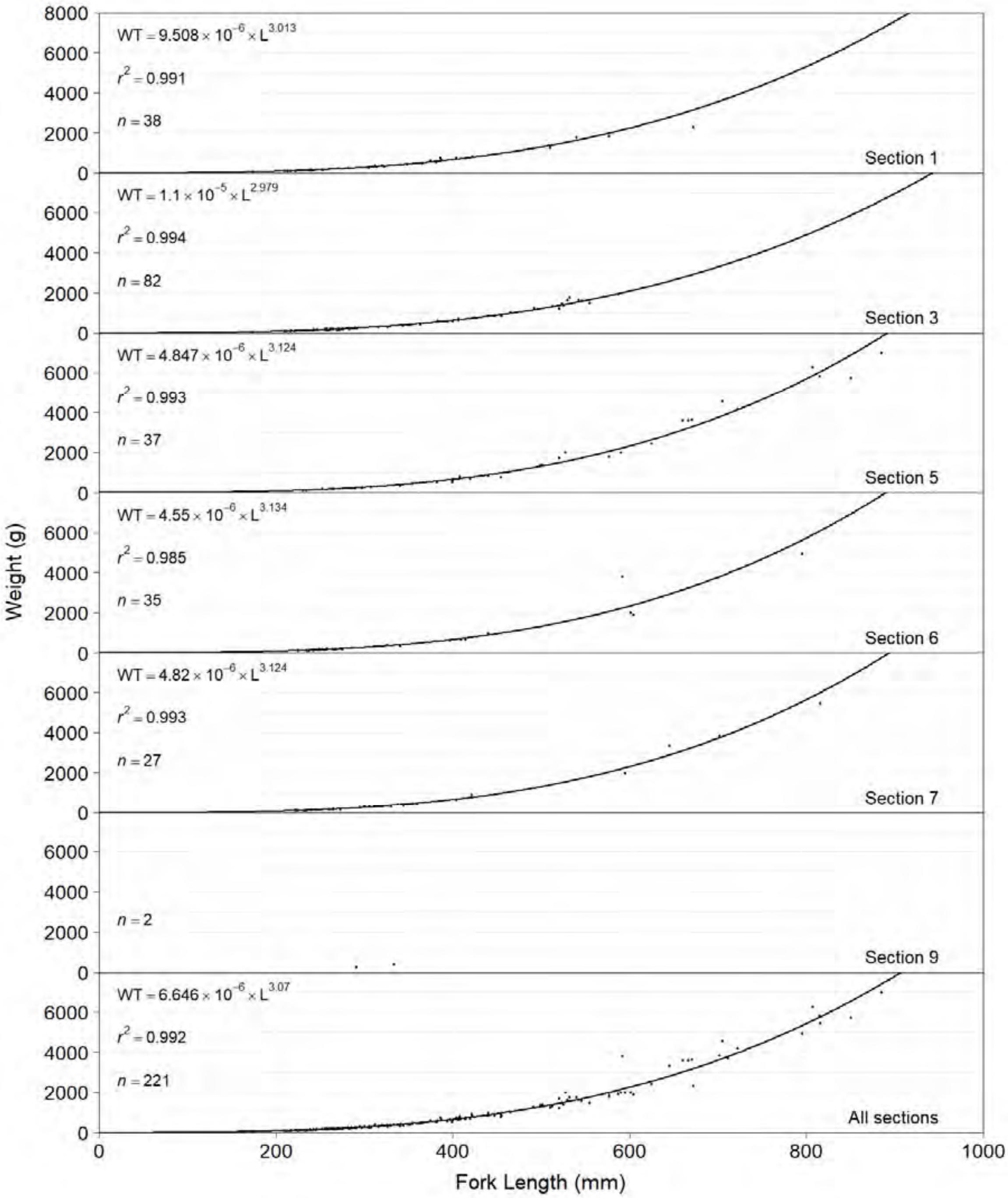


Figure 14: Length-weight regressions for Bull Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

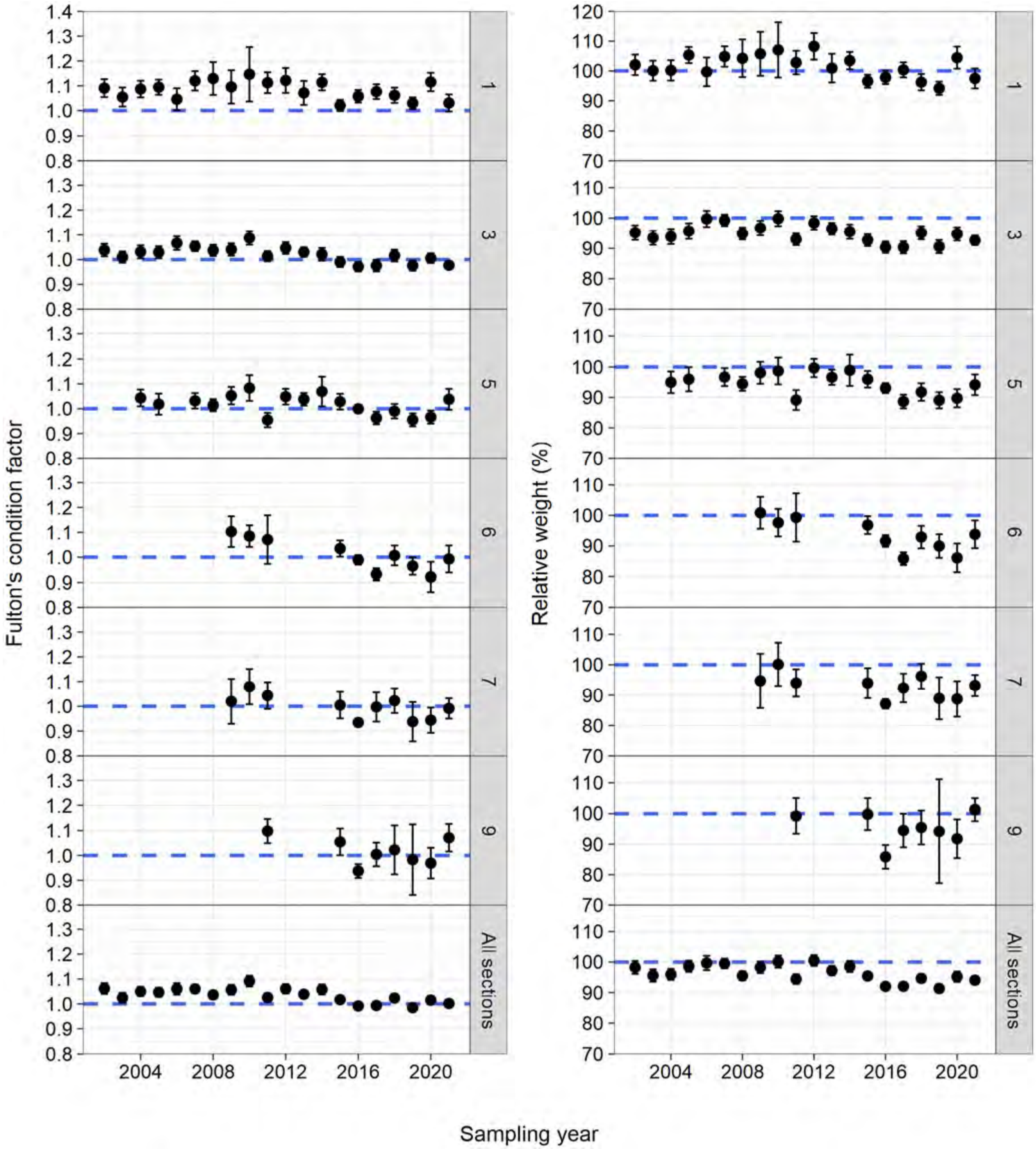


Figure 15: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) (left pane) and mean relative weight (%) with 95% CIs values (right pane) for Bull Trout captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

3.4.2 Catch Rate

Bull Trout catch rates over time differed among sections (Figure 16). In Section 1, Bull Trout catch rates were higher from 2011 to 2021 (mean = 5.0 fish/km-h) compared to 2002 to 2010 (mean = 3.1 fish/km-h), indicating an increase in Bull Trout abundance in Section 1 in recent years. In 2021, CPUE for Bull Trout in Section 1 was 4.6 fish/km-h. Bull Trout catch rates were similar in Sections 3 and 5. Over all years combined, CPUE for Bull Trout was 3.9 fish/km-h in Section 3 and 3.6 fish/km-h in Section 5. In 2021, CPUE was 3.6 fish/km-h in Section 3 and 2.2 fish/km-h in Section 5.

In Sections 6, 7, and 9, Bull Trout catch rates were generally lower compared to upstream sections. In Section 6, Bull Trout catch rates declined from a high of 3.2 fish/km-h in 2016 to a low of 0.8 fish/km-h in 2020, suggesting a decline in the Bull Trout population within Section 6 over this time period; however, in 2021, CPUE increased to 1.9 fish/km-h in this section. Catch rates were similar among years in Section 7, ranging from 0.6 fish/km-h in 2018 to 1.5 fish/km-h in 2019. The lowest Bull Trout catch rates were recorded in Section 9 during most study years, indicating low Bull Trout abundance within this section.

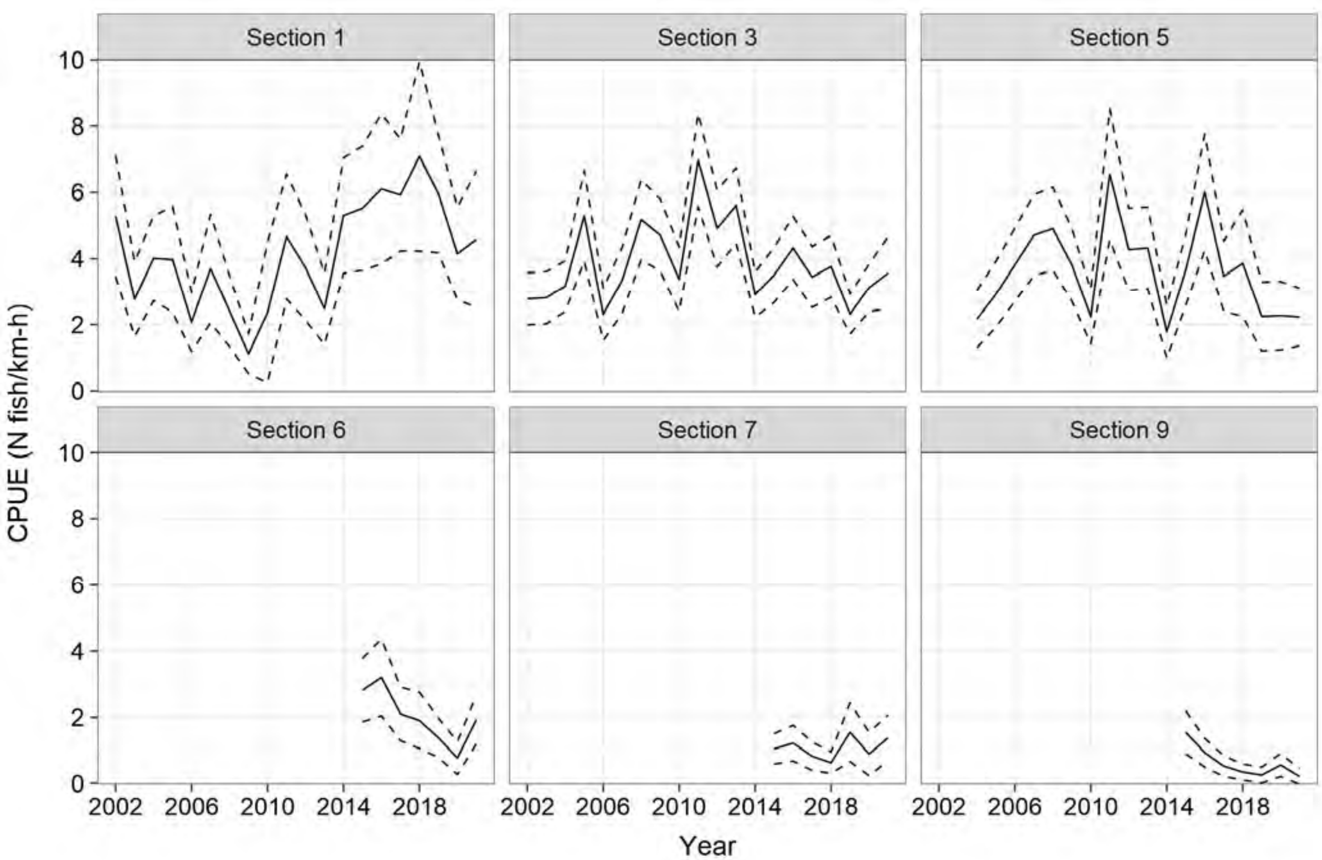


Figure 16: Mean annual catch rates (CPUE) for Bull Trout captured by boat electroshocking in Sections 1, 3, 5, 6, 7, and 9 of the Peace River, 2002 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. Sections 6, 7, and 9 were not consistently sampled prior to 2015.

3.5 Burbot

3.5.1 Biological Characteristics

In 2021, 17 Burbot were captured and an additional 26 Burbot were observed but avoided capture. Total lengths of Burbot ranged between 78 and 583 mm (Figure 17) and weights ranged between 16 and 1223 g. Ageing structures were not collected from Burbot.

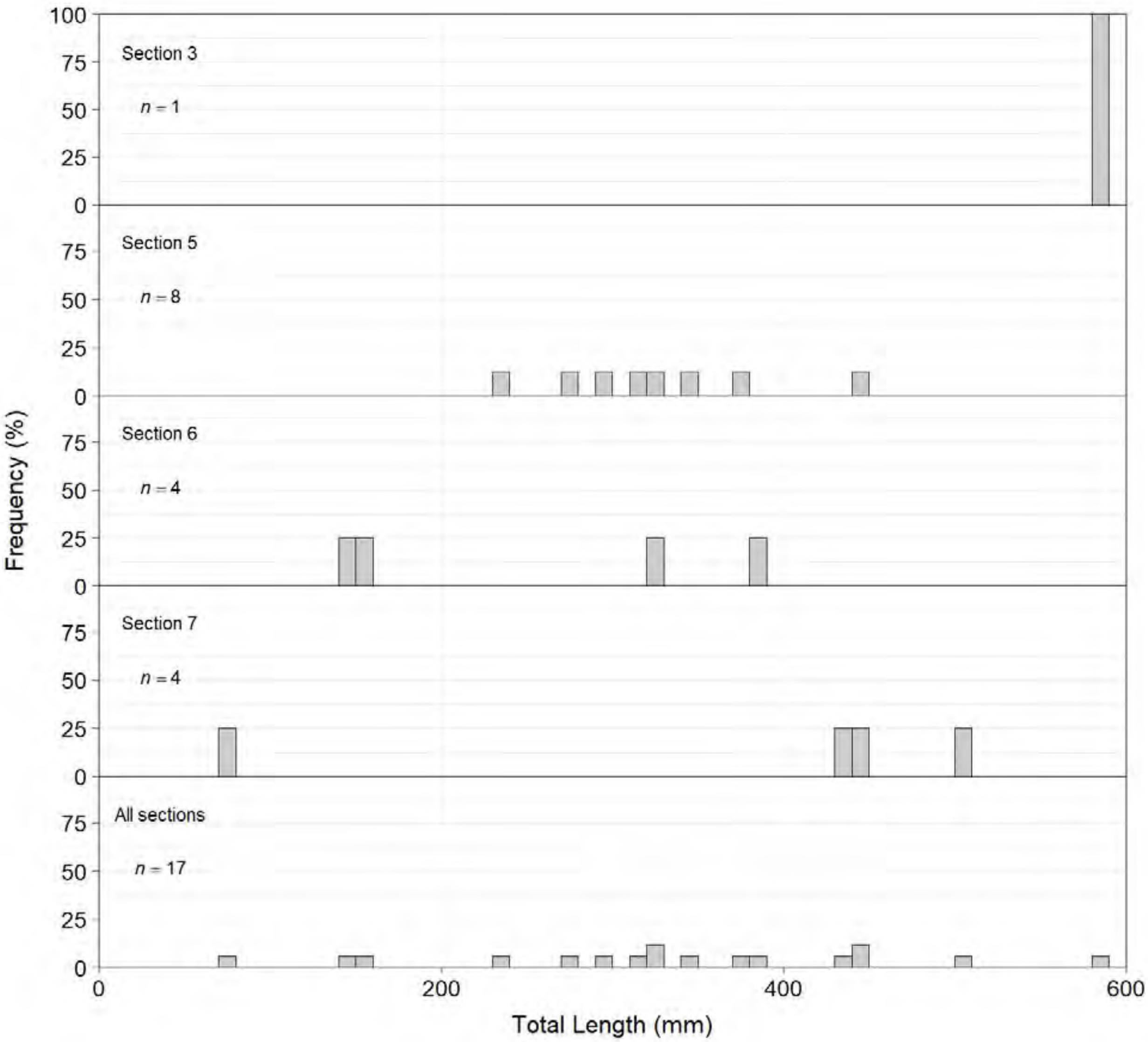


Figure 17: Length-frequency distributions for Burbot captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Most (82%) of the Burbot captured in 2021 were larger than 200 mm TL. A single age-0 Burbot with a total length of 78 mm was captured in Section 7 (Figure 17). This age cohort is not commonly captured. Variable catch rates of adult Burbot each year, coupled with low age-0 encounter rates each year, suggest that the area is primarily used by subadults and adults during the study period and that recorded densities may vary with habitat conditions. Greater Burbot catch typically occurs during turbid water years (e.g., 2016 and 2019); therefore, greater Burbot catch in the mainsteam of the Peace River within the study area may not reflect greater Burbot abundance within the larger Peace River watershed.

3.5.2 Catch Rate

The catch rate of Burbot in 2021 (0.2 fish/km-h) was similar to 2020 and was near the historical (2015 to 2020) average rate (0.25 fish/km-h) (Figure 18). Catch rate was much higher in 2019 (0.7 fish/km-h) than all other years (less than 0.4 fish/km-h). Burbot were not consistently targeted prior to 2015; therefore, the 2002 to 2014 study years were excluded from the analysis.

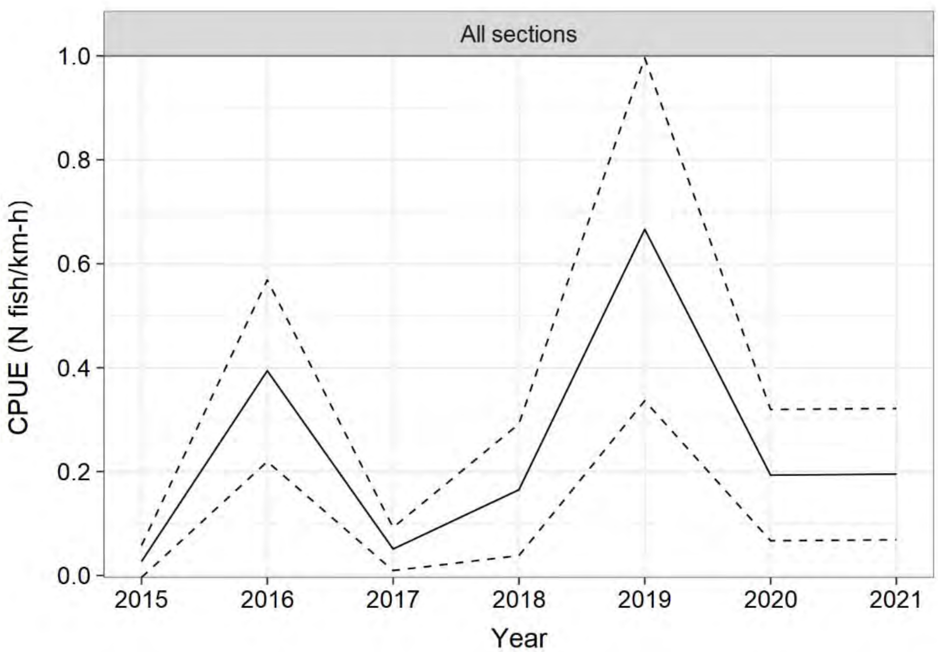


Figure 18: Mean annual catch rates (CPUE) for Burbot captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Burbot were not actively targeted during these study years.

3.6 Goldeye

3.6.1 Biological Characteristics

Seven Goldeye were captured and five were observed but not captured during the 2021 Indexing Survey. In addition, two Goldeye were captured and two were observed but not captured during the spring Goldeye and Walleye Survey in 2021 (see Section 3.14). Of the seven Goldeye captured during the 2021 Indexing Survey, fork lengths ranged from 365 and 415 mm, and weights ranged from 606 and 805 g. Length-frequency histograms and body condition summaries are not presented because they were generally uninformative due to the low number of captured fish. Length, weight, body condition, and ages of each captured Goldeye are presented in Table 11.

Table 11: Life history measurements and capture information for Goldeye captured in 2021 as part of the Peace River Large Fish Indexing Survey, 16 August to 8 October 2021.

Capture Date	Site Name	Fork Length (mm)	Weight (g)	Body Condition (*K*)	Age	Tag Number
20-Aug-21	07BEA01	390	606	1.02	-	900230000263179
21-Aug-21	0911	379	676	1.24	15	900230000268915
30-Aug-21	0708	409	741	1.08	-	900230000158630
31-Aug-21	07KIS01	365	610	1.25	15	900230000263414
02-Sept-21	0906	415	805	1.13	18	900230000269487
25-Sept-21	0906	414	770	1.09	-	900230000259059
25-Sept-21	0906	390	689	1.16	12	900230000258734

Fin ray samples were collected from all seven Goldeye captured in 2021. These samples were kept in storage for potential microchemical analysis. Four Goldeye were assigned ages based on scale samples, with ages ranging from 12 to 18 (Table 11). The remaining three Goldeye were not assigned ages due to a lack of a consensus age between the agers (i.e., all three agers identified a different age for the same scale sample). Scales are not the preferred structure for assigning ages to older Goldeye (MacKay et al. 1990) as it can be challenging to clearly identify annuli on the outer edge of scales from adult Goldeye. These ages should be interpreted with caution. All Goldeye captured in 2021 were considered adults based on their fork length.

All of the Goldeye encountered during the 2021 Indexing Survey were captured in Sections 7 or 9. During the 20-year Indexing Survey study period, Goldeye have not been recorded upstream of the Pine River confluence (i.e., upstream of Section 6); however, Goldeye were captured in Section 5 during a Peace River Fish Inventory Study (Mainstream 2010) and during Offset Effectiveness Monitoring (West et al. 2021).

3.6.2 Catch Rate

Goldeye were first encountered during the Indexing Survey in 2015, when consistent sampling in Sections 6, 7, and 9 began. Between 2015 and 2018, Goldeye catch rates were low (less than 0.1 fish/km-h; Figure 19); however, in recent years catch rate has increased. Although catch rates for Goldeye remain low compared to other species, the average catch rate for Goldeye for 2019 to 2021 was approximately four times higher than the average catch rate for 2015 to 2018.

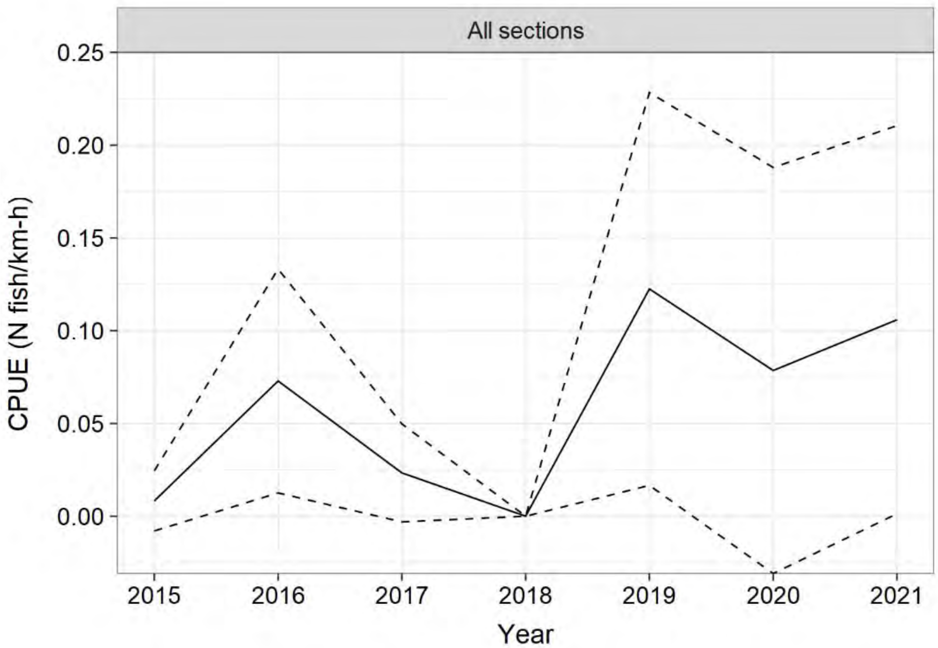


Figure 19: Mean annual catch rates (CPUE) for Goldeye captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Sections 6, 7, and 9 were not sampled during these years.

3.7 Largescale Sucker

3.7.1 Biological Characteristics

During the 2021 survey, 1420 Largescale Sucker were captured (i.e., excluding within-year recaptures; Table 9). Of these, 1015 were measured for length and weight. Fork lengths ranged between 153 and 587 mm, and weights ranged between 42 and 2360 g.

Length-frequency histograms for Largescale Sucker suggest differences in length distribution among sections (Figure 20). Largescale Sucker smaller than 300 mm FL were not captured in Section 1 but were captured in all other sections. This distribution was also apparent during the Indexing Survey in 2020 (Golder 2021a). The majority (69%) of Largescale Sucker in Section 9 were less than 400 mm FL, whereas individuals larger than 400 mm FL were the largest percentage of the catch in all other sections. These results are consistent with study results from 2015 to 2020 (Golder and Gazey 2016–2020 and Golder 2021a).

Mean body condition (*K*) in 2021 was lower than the long-term average in Sections 1 and 3 (Figure 21). In Sections 5, 6, and 7, body condition was generally low, but consistent, from 2016 to 2021 relative to earlier study years. The mean body condition of Largescale Sucker in Section 9 was higher in 2021 (*K* = 1.28), than any previous year. Relative weights were not calculated for Largescale Sucker.

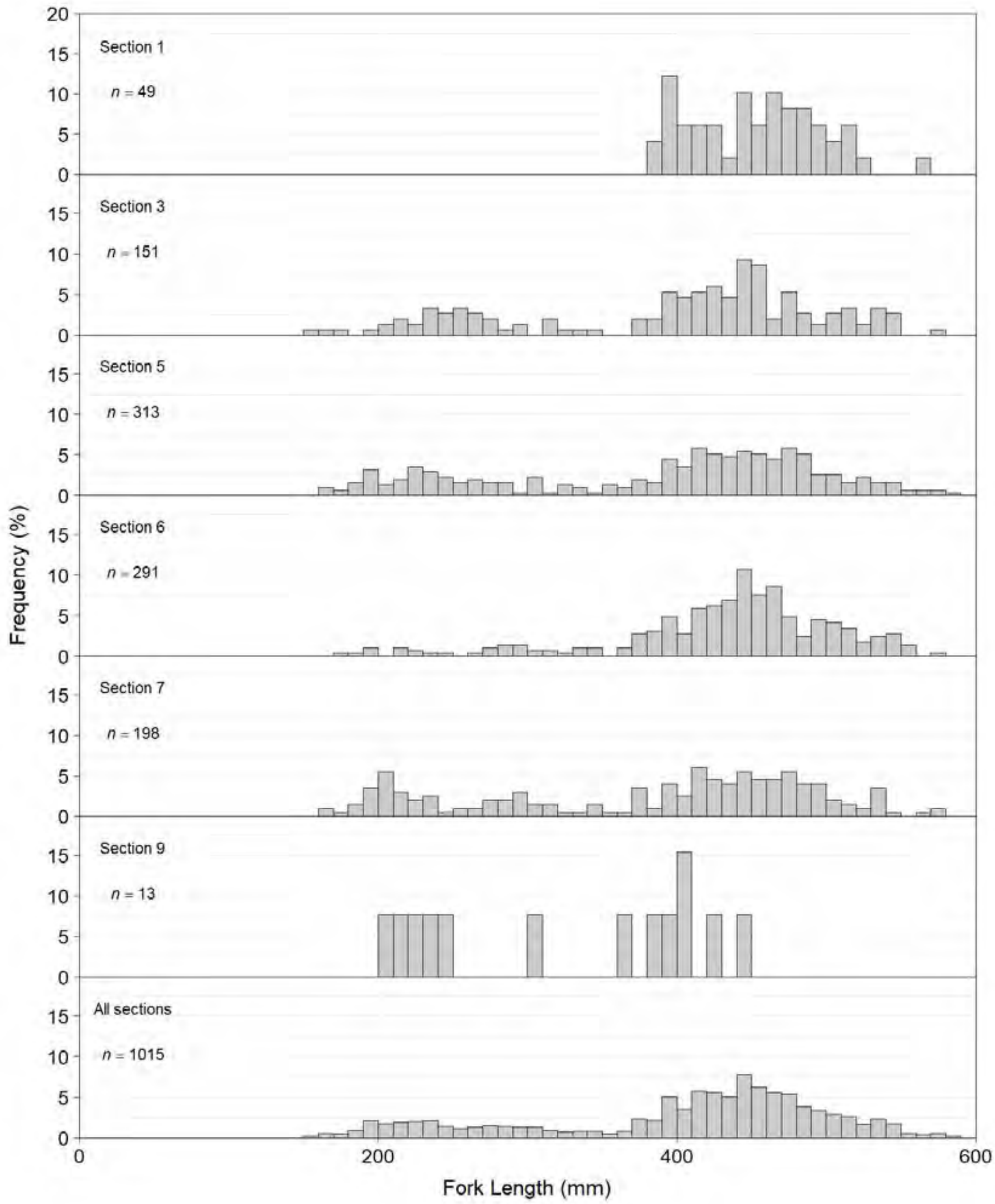


Figure 20: Length-frequency distributions for Largescale Sucker captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

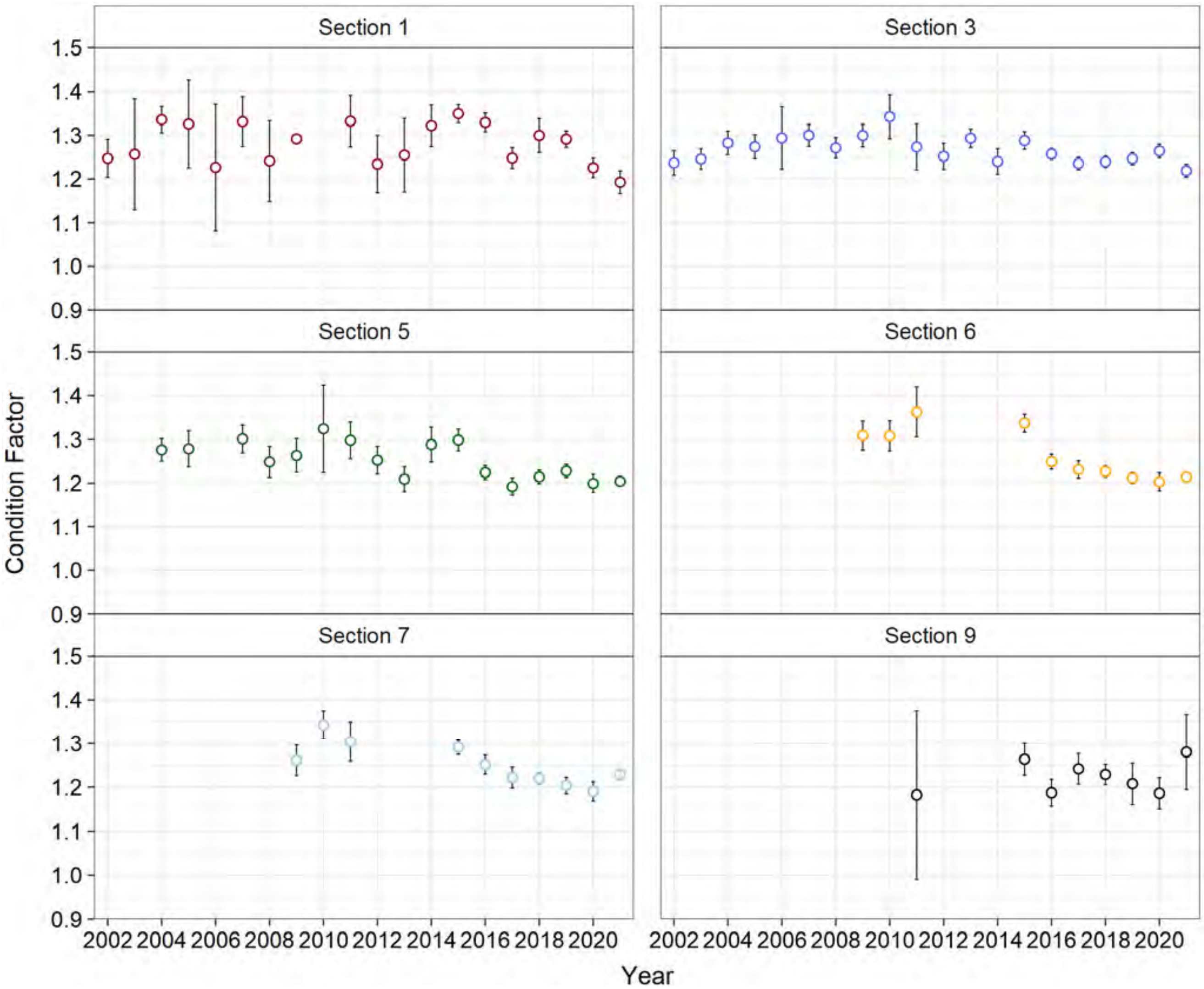


Figure 21: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) for Largescale Sucker captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

In 2021, the length-weight regression exponent for Largescale Sucker ranged from 2.8 in Section 1 to 3.0 in Section 9, indicating that Largescale Sucker in Section 1 were skinnier than those captured in Section 9 (Figure 22). For all sections combined, the length-weight regression exponent for Largescale Sucker was near 3.0. In 2021, the length-weight relationship was similar to previous study years, and these did not suggest any substantial changes over time (Appendix F, Figure F23).

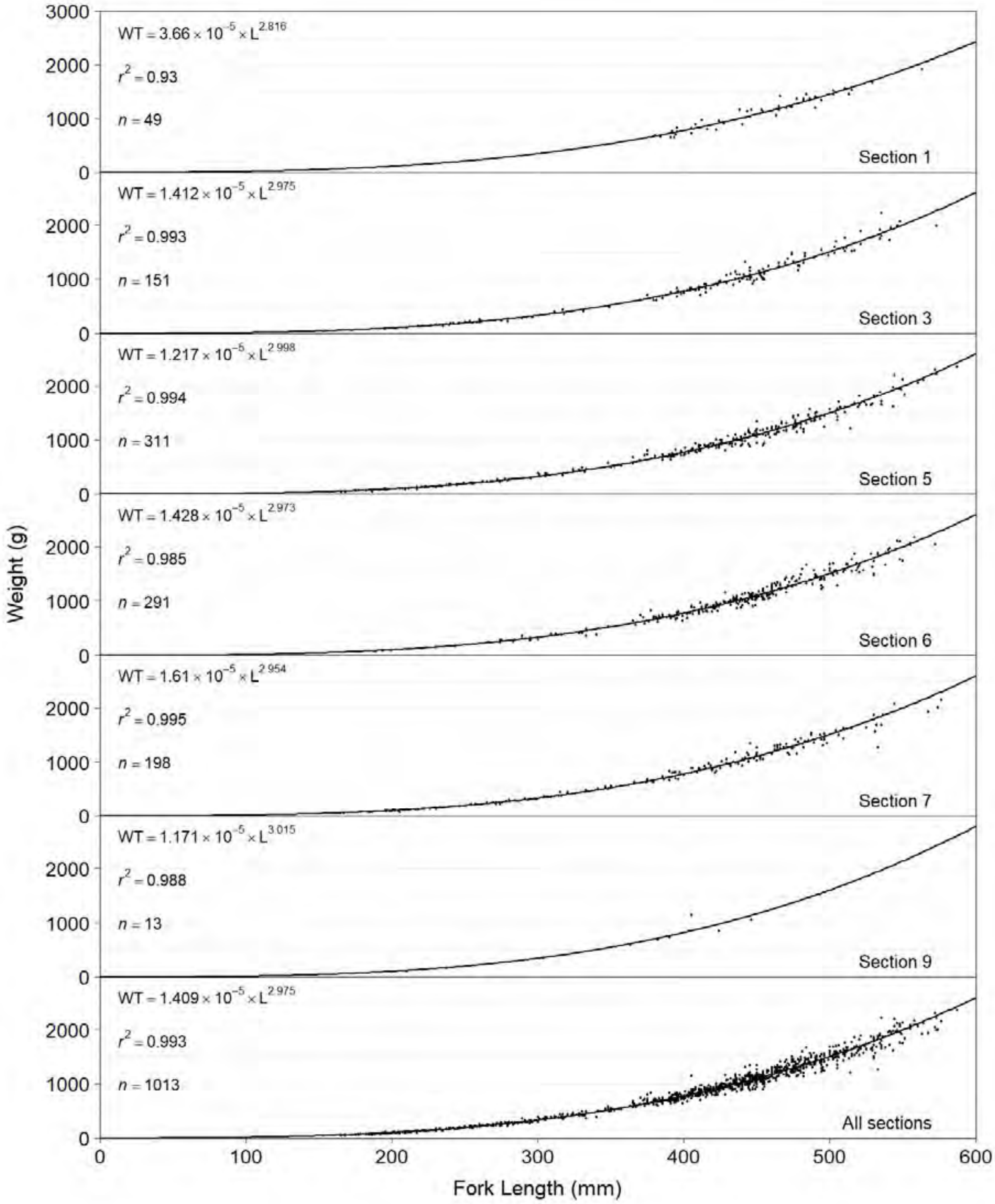


Figure 22: Length-weight regressions for Largescale Sucker captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.7.2 Catch Rate

Catch rates for Largescale Sucker varied among study years and ranged between a low of 9.0 fish/km-h in 2017 and a high of 14.4 fish/km-h in 2021. In 2021, Largescale Sucker catch rate was 14.4 fish/km-h (Figure 23). Largescale Sucker were not consistently targeted prior to 2015; therefore, the 2002 to 2014 study years were excluded from the analysis.

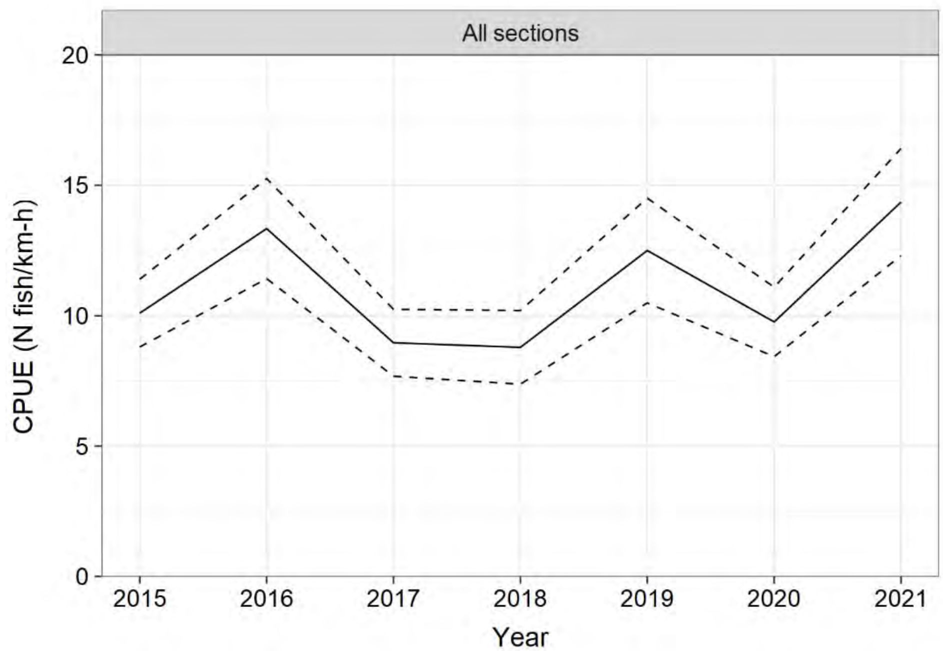


Figure 23: Mean annual catch rates (CPUE) for Largescale Sucker captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Sections 6, 7, and 9 were not sampled during these years and Largescale Suckers were not consistently targeted prior to 2015.

3.8 Longnose Sucker

3.8.1 Biological Characteristics

During the 2021 survey, 6592 Longnose Sucker were captured (i.e., excluding within-year recaptures; Table 9). Of these, 4738 were measured for length and weight. Fork lengths ranged between 54 and 494 mm, and weights ranged between 3 and 1435 g.

For Longnose Sucker, a lack of distinct modes in length-frequency histograms for most sections suggest that the sample comprised multiple age classes with overlapping length distributions (Figure 24). Consistent with most previous years (Appendix F, Figures F17 and F18), the majority of Longnose Sucker captured in 2021 were between 350 and 450 mm FL in all sections. The length distribution was generally similar among sections in 2021, with the exception of Section 1 where small Longnose Suckers (i.e., less than 350 mm FL) were less abundant than in all other sections.

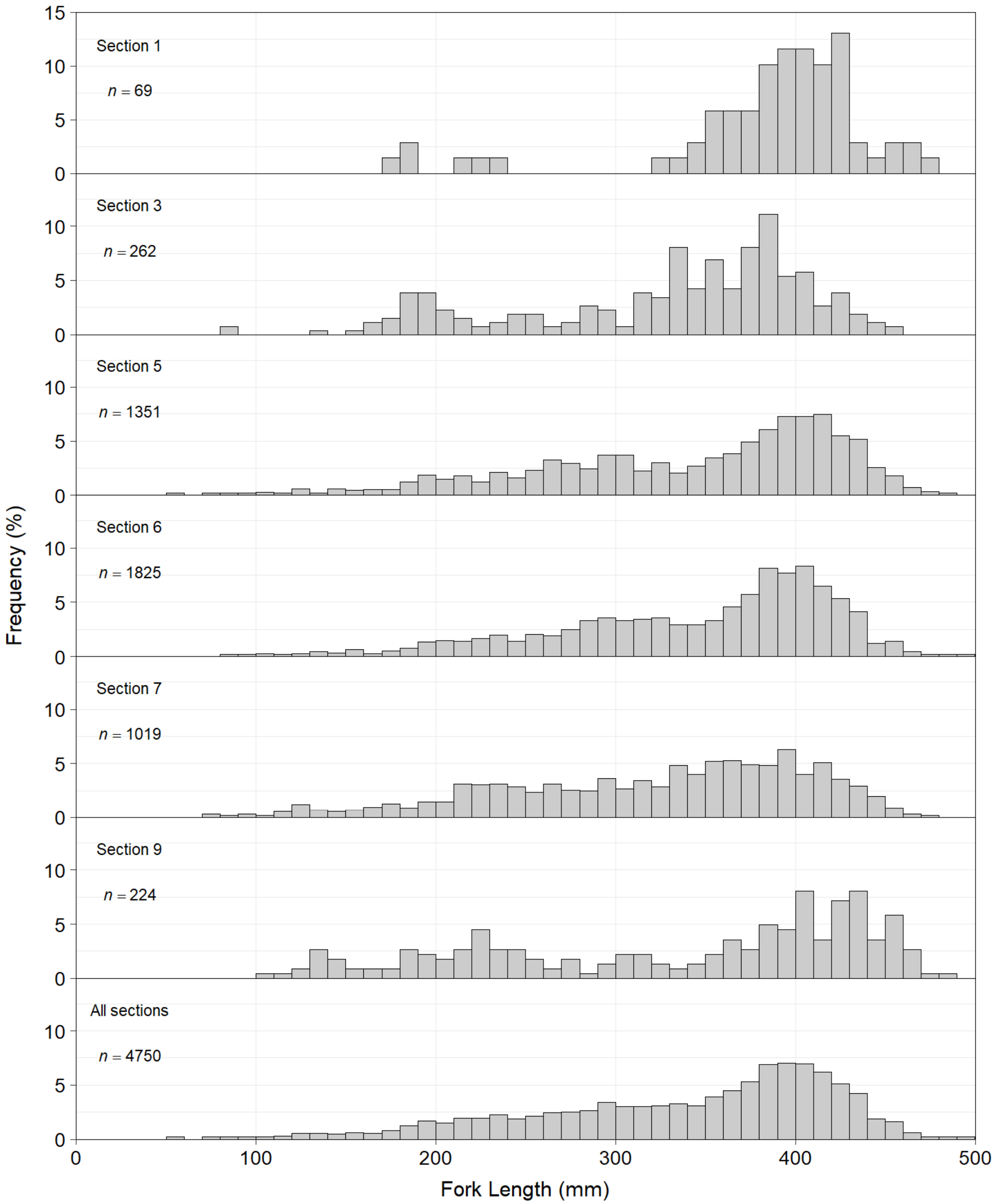


Figure 24: Length-frequency distributions for Longnose Sucker captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

The body condition of Longnose Suckers has declined in some sections in recent years (Figure 25). The declines were most notable in Section 1 (K = 1.40 in 2015 to K = 1.17 in 2021) and Section 5 (K = 1.28 in 2015 and K = 1.16 in 2021). In Sections 3 and 9, body condition of Longnose Sucker has remained stable over all study years relative to other sections. In Sections 6 and 7, body condition has been variable. An increase in body condition was noted in these sections in 2021 compared to 2020 values. Relative weights were not calculated for Longnose Sucker.

Figure 25: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) for Longnose Sucker captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

In 2021, the length-weight relationship for Longnose Sucker was similar among sections (Figure 26). Values of the exponent in the length-weight relationship were near 3.0, indicating isometric growth (i.e., no change in body shape with increase in length). The relationship in 2021 was similar to historical study years, which did not suggest any large or sustained trends over time (Appendix F, Figure F19).

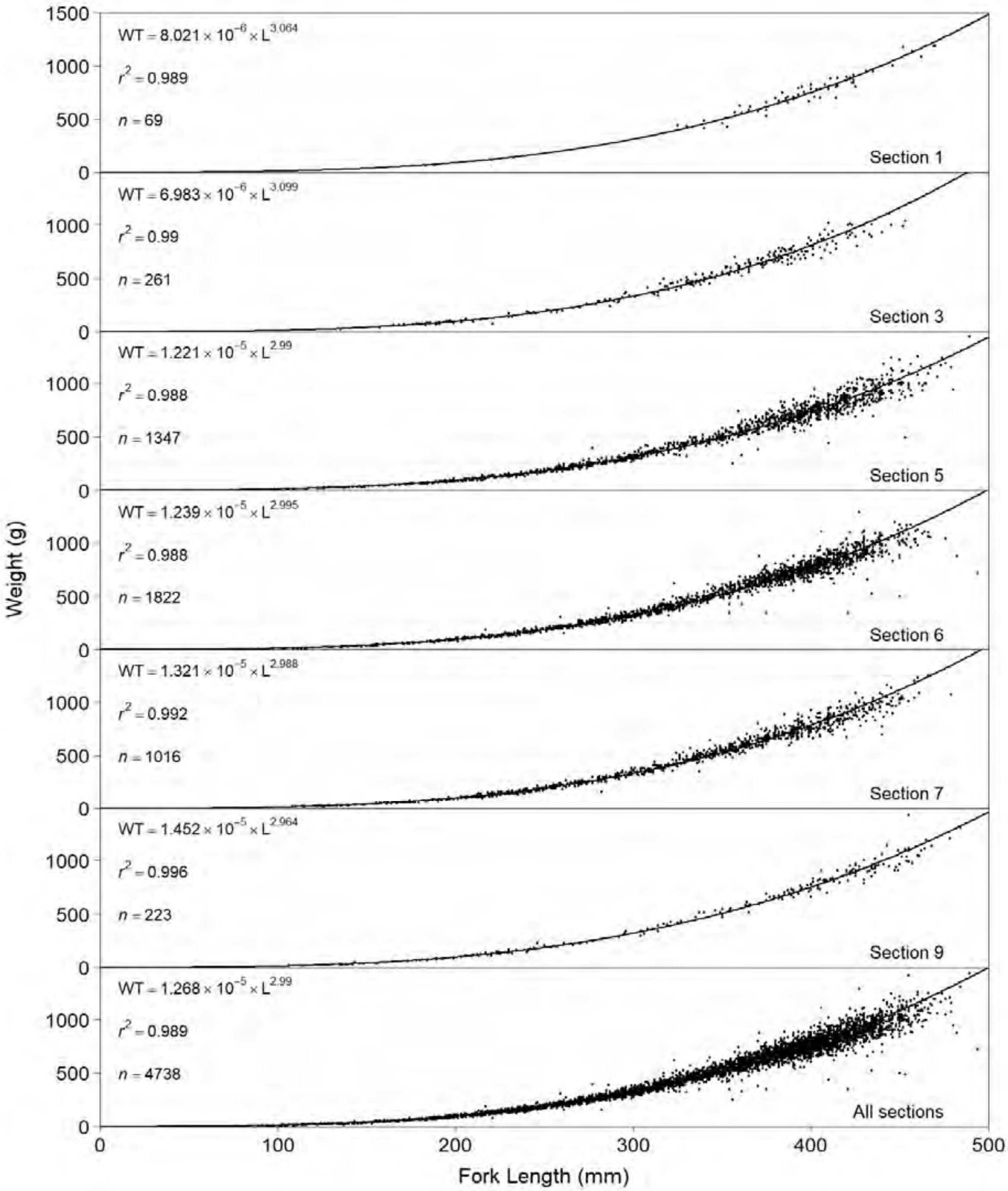


Figure 26: Length-weight regressions for Longnose Sucker captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.8.2 Catch Rate

Between 2015 and 2018, catch rates for Longnose Sucker generally declined, then remained stable from 2018 to 2020. In 2021, Longnose Sucker catch rates increased 45% from the previous year, indicating an overall increase in abundance (Figure 27). The reason for the sudden increase in catch rate is unknown. Longnose Sucker were not consistently targeted prior to 2015; therefore, the 2002 to 2014 study years were excluded from the analysis.

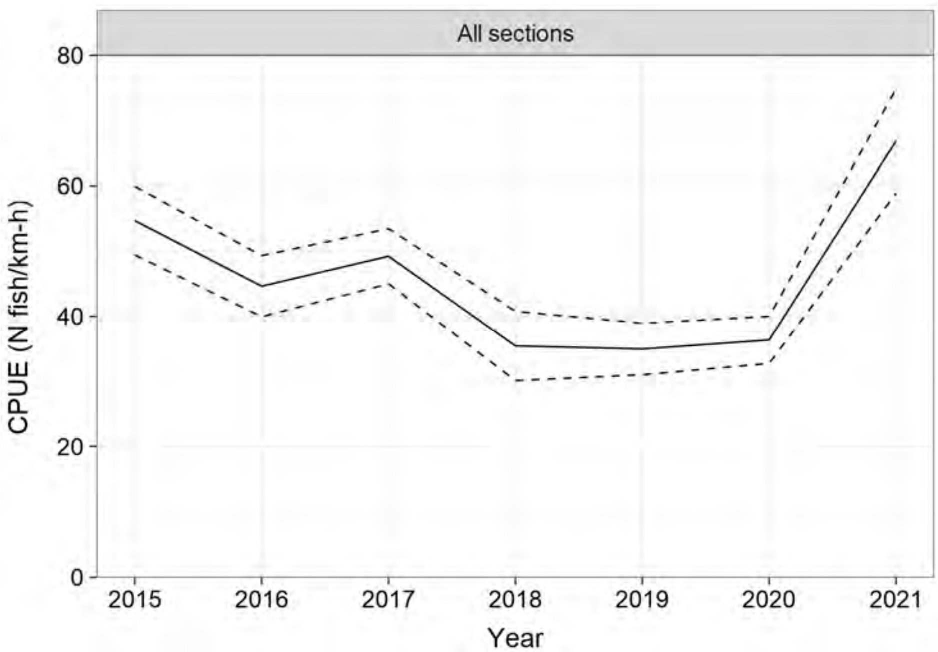


Figure 27: Mean annual catch rates (CPUE) for Longnose Sucker captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined.

3.9 Mountain Whitefish

3.9.1 Biological Characteristics

During the 2021 survey, 5640 Mountain Whitefish were captured (i.e., excluding within-year recaptures; Table 9) and 3344 of these were measured for length and weight. Lengths ranged between 55 and 477 mm FL, and weights ranged between 2 and 1250 g. Scale samples were analyzed from 492 individuals and additional ages were assigned using inter-year recaptures of previously aged fish, resulting in a total sample size of 587. Assigned ages ranged between age-0 and age-19. Length, weight, and body condition by age-class are summarized in Table 12.

Table 12: Average fork length, weight, and body condition by age for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Age	Fork Length (mm)			Weight (g)			Body Condition (*K*)		
	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]
0	79 ± 8	55 - 92	25	6 ± 2	2 - 10	24	1.17 ± 0.29	0.73 - 2.23	24
1	149 ± 7	134 - 163	30	38 ± 9	13 - 56	30	1.14 ± 0.20	0.54 - 1.57	30
2	219 ± 17	185 - 254	29	120 ± 29	72 - 177	29	1.13 ± 0.1	0.95 - 1.37	29
3	260 ± 25	200 - 312	93	202 ± 56	86 - 328	92	1.13 ± 0.16	0.77 - 2.08	92
4	287 ± 22	233 - 344	129	249 ± 75	113 - 511	129	1.03 ± 0.17	0.56 - 1.41	129
5	303 ± 25	256 - 378	94	283 ± 84	159 - 619	93	1.00 ± 0.16	0.66 - 1.44	93
6	316 ± 29	265 - 384	70	318 ± 96	178 - 679	70	0.99 ± 0.18	0.68 - 1.39	70
7	333 ± 38	268 - 426	48	359 ± 121	160 - 690	48	0.95 ± 0.16	0.72 - 1.32	48
8	338 ± 35	282 - 429	28	381 ± 130	180 - 689	28	0.96 ± 0.14	0.72 - 1.19	28
9	351 ± 43	299 - 456	15	458 ± 242	274 - 1250	15	1.00 ± 0.14	0.80 - 1.32	15
10	316 ± 9	303 - 328	8	363 ± 54	302 - 436	8	1.14 ± 0.11	1.01 - 1.25	8
11	391 ± 62	313 - 462	6	636 ± 275	257 - 965	6	1.01 ± 0.15	0.84 - 1.21	6
12	366 ± 81	318 - 460	3	635 ± 508	323 - 1221	3	1.12 ± 0.13	1.00 - 1.25	3
13	-	-	-	-	-	-	-	-	-
14	364 ± 60	328 - 470	5	573 ± 358	366 - 1200	5	1.09 ± 0.11	0.97 - 1.26	5
15	-	-	-	-	-	-	-	-	-
16	330	-	1	356	-	1	0.99	-	1
17	314	-	1	365	-	1	1.18	-	1
18	-	-	-	-	-	-	-	-	-
19	476	-	1	1153	-	1	1.07	-	1

[a] Number of individuals sampled.

The length-frequency histogram for Mountain Whitefish (Figure 28) showed discrete modes for age-0 (60–120 mm FL) and age-1 (130–190 mm FL) age classes. Another mode was present at approximately 190 to 240 mm FL in Sections 5, 6, 7 and 9, which likely represented age-2 individuals, but this age-class overlapped in length with older age classes in Sections 1 and 3. All age classes older than age-2 appeared to have overlapping length distributions (Figure 28 and Figure 29). Based on these and similar data from previous study years, growth slows considerably after approximately age-3 for this species, most likely due to fish reaching sexual maturity. Length distribution by age-class were similar between Sections 1 and 3 and Sections 5, 6, 7, and 9. Exceptions were age-3, age-6, and age-7 fish, which were generally larger in Sections 5, 6, 7, and 9 compared to the same age cohorts in Sections 1 and 3 (Figure 29).

In 2021, the majority (68%) of age-0 Mountain Whitefish were captured in Section 7 (Figure 30). Based on the length-frequency histograms, low numbers of age-0 Mountain Whitefish were captured in most remaining sections; age-0 fish were not captured in Section 1 (Figure 28). During years when age-0 Mountain Whitefish were targeted during sampling (2014 to 2021), catch of this age-class were higher in 2014, 2019, and 2021 (Appendix F, Figures F11 to F14). Age-frequency distributions showed that juvenile and adults were present in all sections (Figure 30).

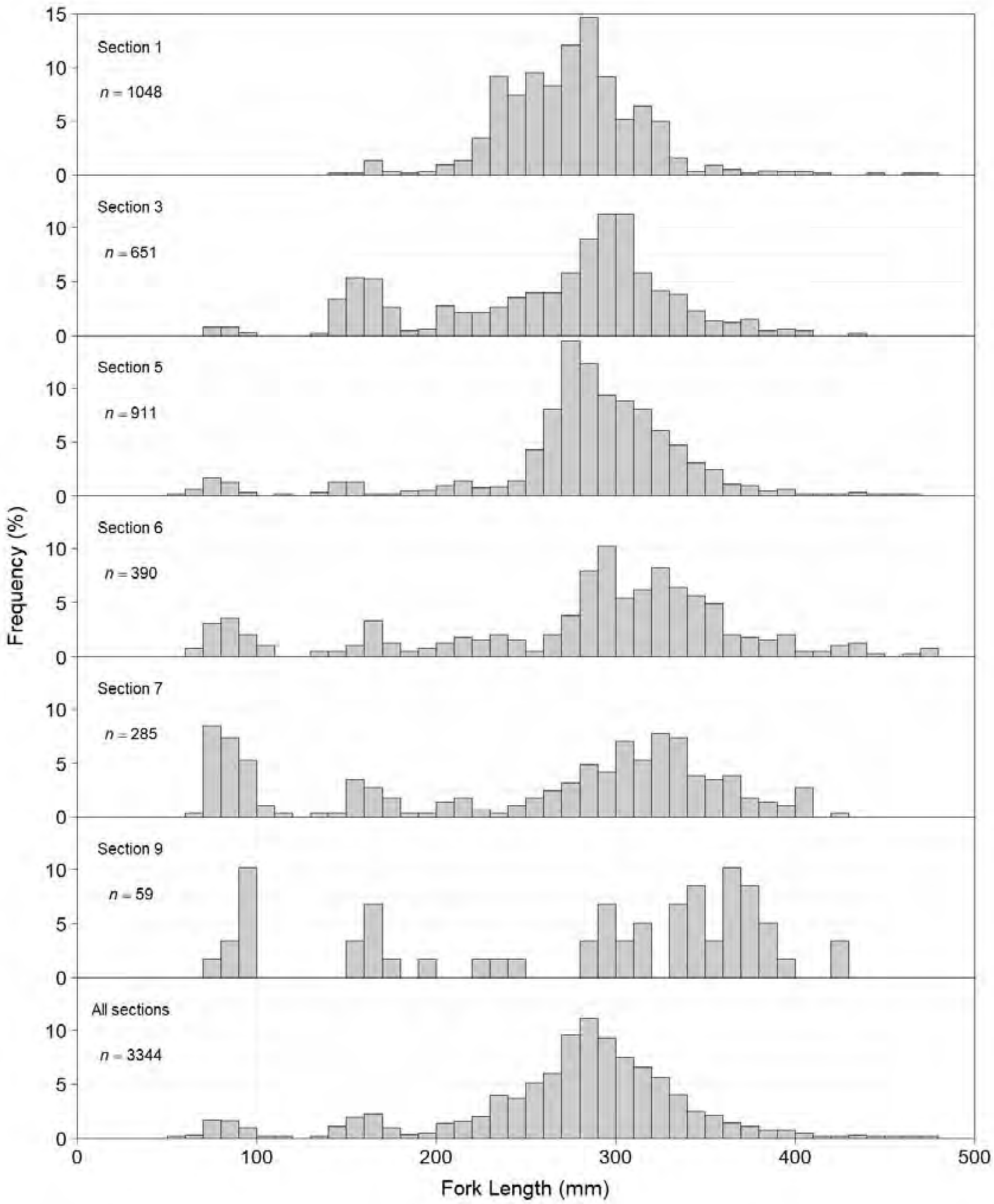


Figure 28: Length-frequency distributions for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

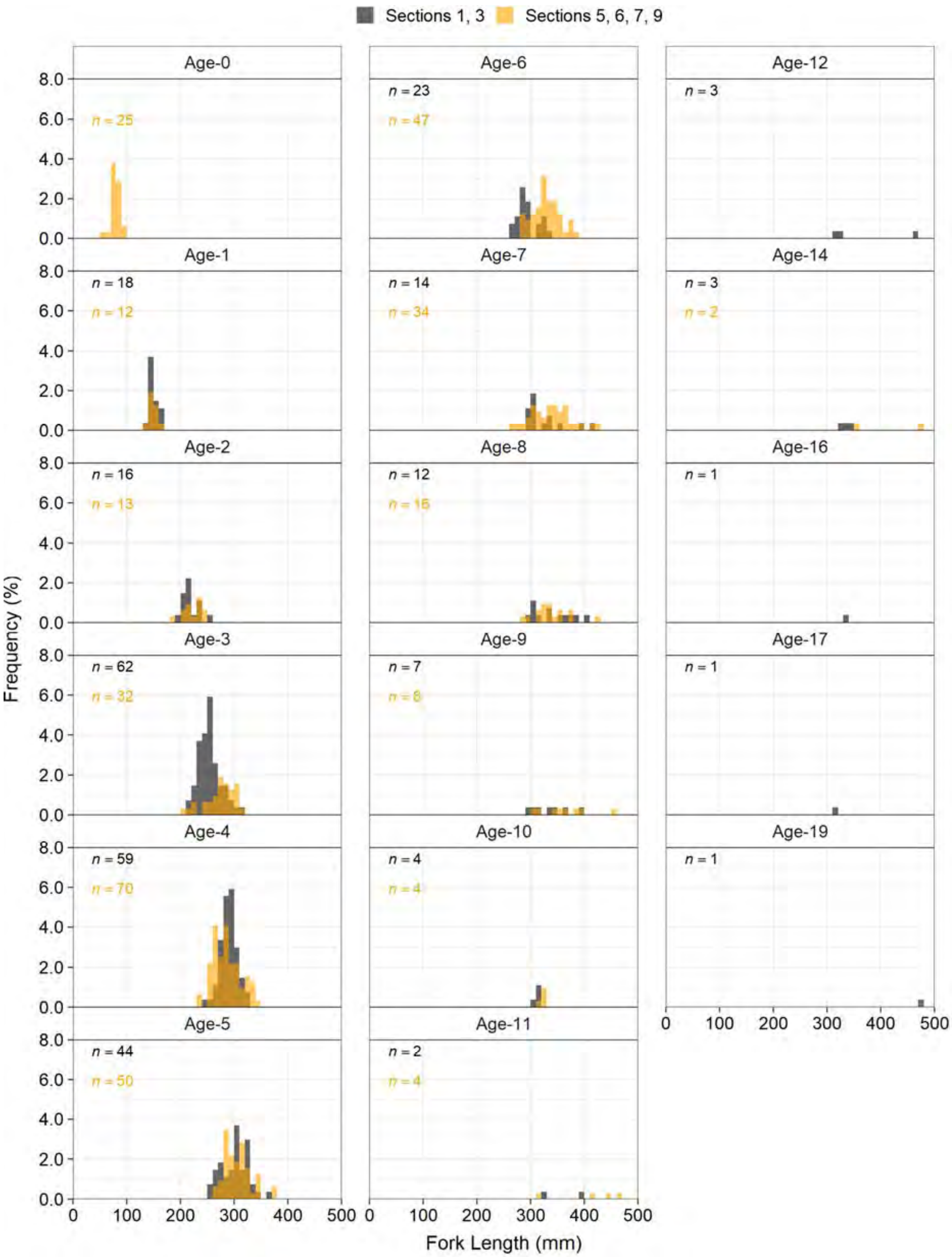


Figure 29: Length-at-age frequency distributions for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

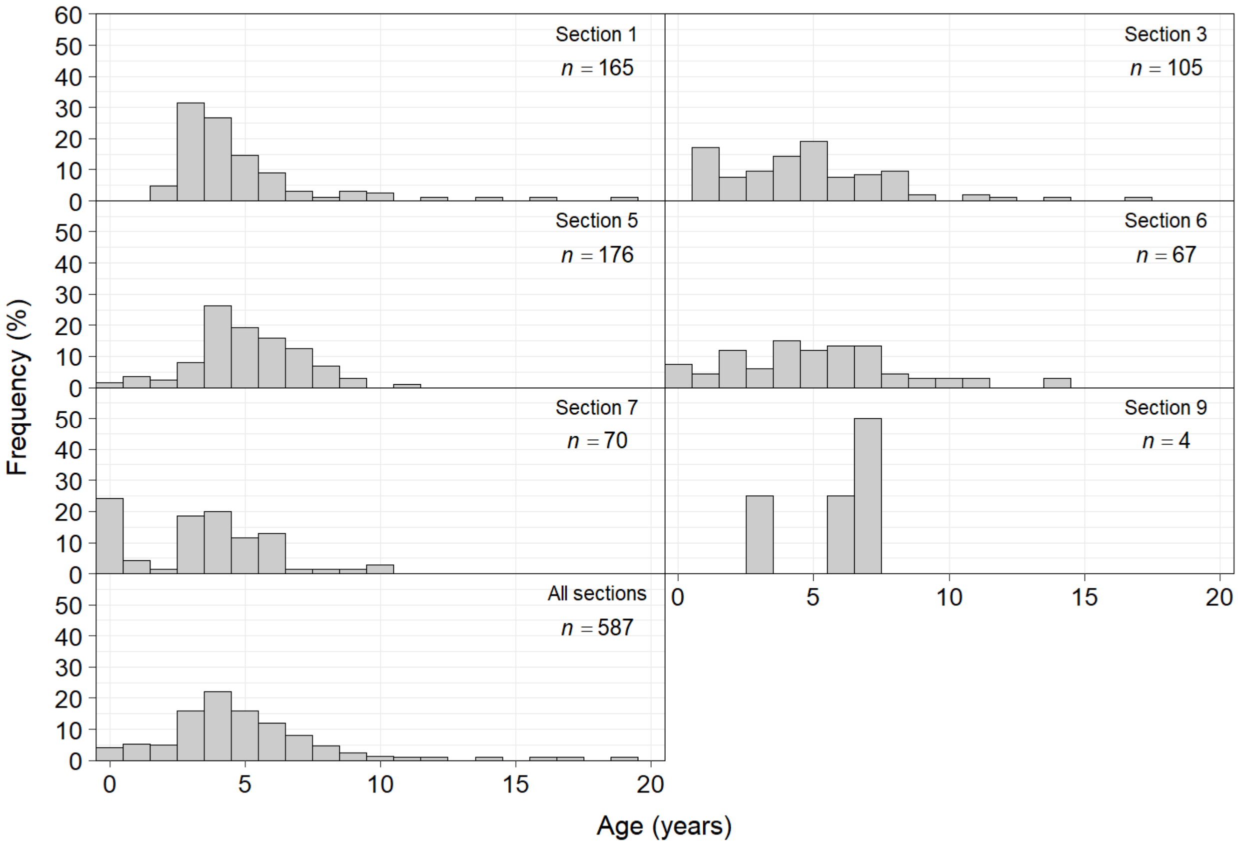


Figure 30: Age-frequency distributions for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

The annual growth of Mountain Whitefish in the study area, as assessed using the von Bertalanffy growth curve, suggested similar rates of growth among sections (Figure 31). Small differences in the growth curves among sections were likely related to small sample sizes of the younger and older age classes, rather than true differences in mean size-at-age. As in previous study years, Mountain Whitefish grew rapidly until age-3, with lengths approaching an asymptote between age-5 and age-10 (Figure 32).

The average change in length-at-age analysis for Mountain Whitefish (Figure 33) was limited to individuals younger than age-5 due to the slow growth, wide range of lengths recorded, and unknown precision of ages assigned to older individuals. Overall (all sections combined), the age-0 and age-1 age classes in 2021 were smaller than the 19-year average by approximately 10 to 15 mm. The age-2 through age-4 age classes were equal to, or slightly above, the 19-year average (Figure 33).

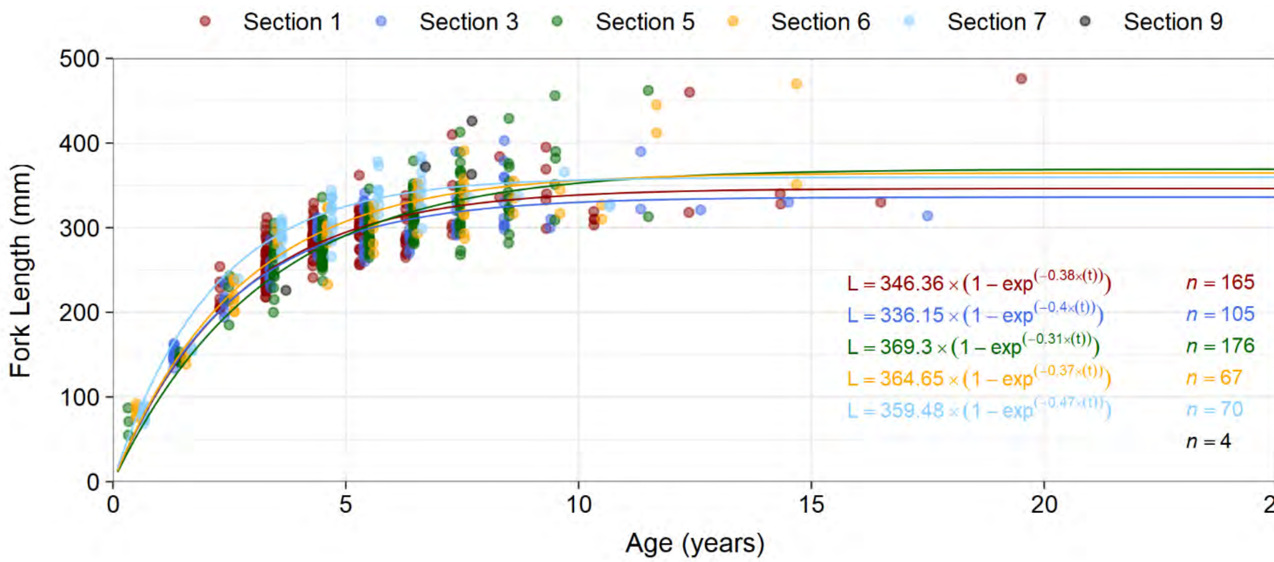


Figure 31: von Bertalanffy growth curve for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021. Growth curve not included for Section 9 due to low catch (*n* = 4).

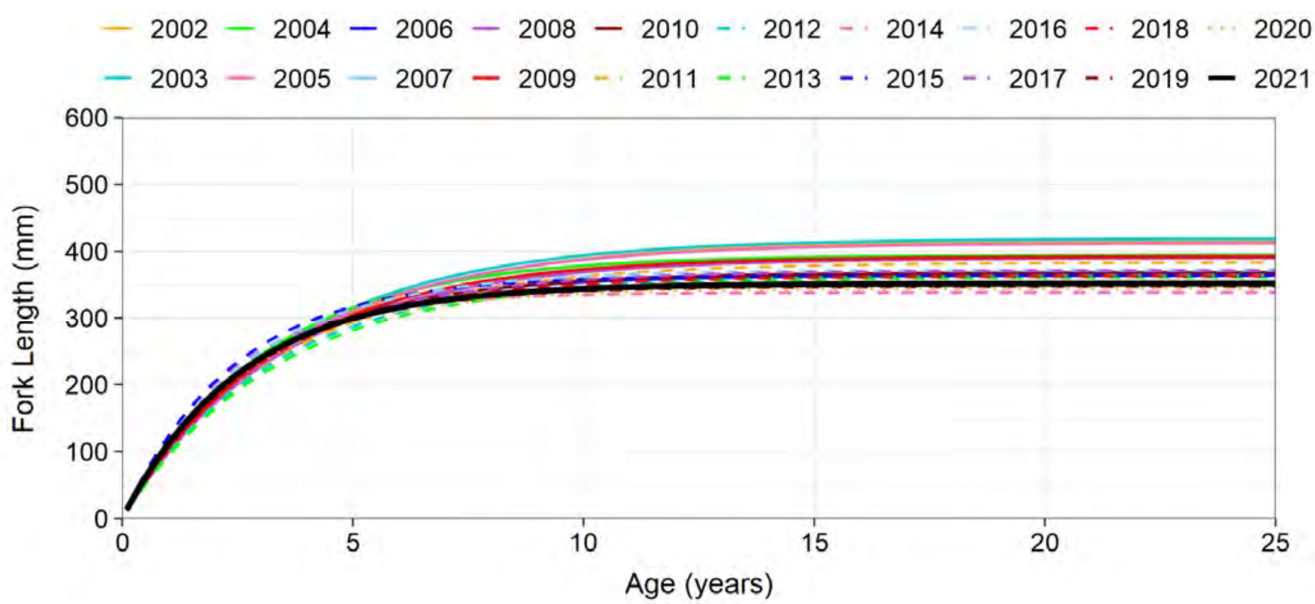


Figure 32: von Bertalanffy growth curve for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021.

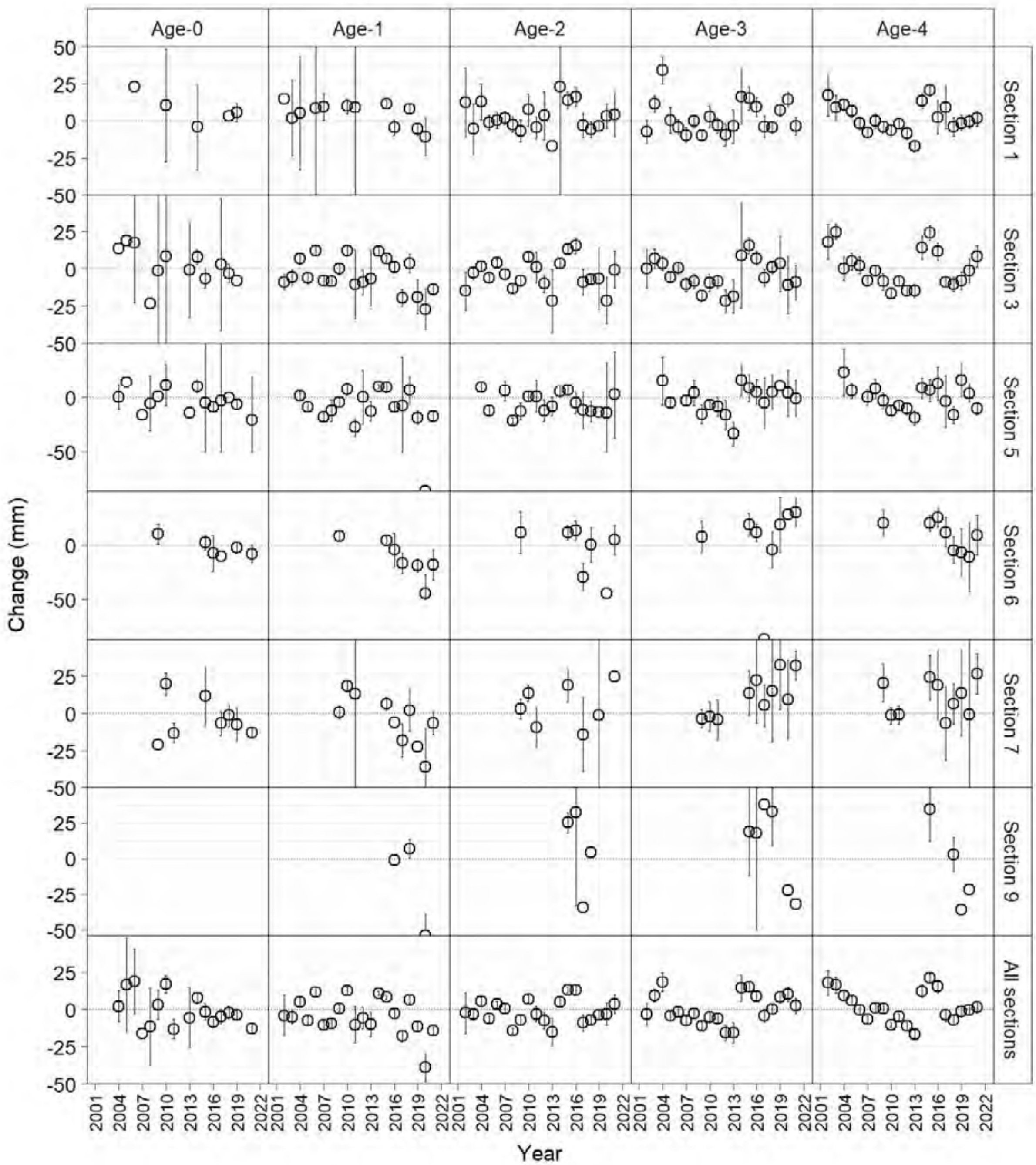


Figure 33: Change in mean length-at-age for Mountain Whitefish captured by boat electroshocking during the Peace River Fish Index, 2002 to 2021. Change is defined as the difference between the annual estimate and the estimate of all years and sections combined. Error bars represent 95% confidence intervals. For Sections 6 and 7, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

Historically, high mean body condition was recorded for Mountain Whitefish from 2003 to 2010 and in 2014 and 2015, whereas lower mean body condition was recorded in 2002 and from 2011 to 2013. Body condition declined from 2015 to 2017 and has remained low from 2017 to 2021 (Figure 34). In 2021, mean body condition and percent relative weight for Mountain Whitefish increased compared to 2020 values in all sections except for Section 5. In Section 5, mean body condition was approximately 0.9 and relative weight was approximately 70%, both lower than all previous study years (2004 to 2020). The reason for the recent decline in condition in Mountain Whitefish in Section 5 is not known. Compared to Arctic Grayling (Figure 10) and Bull Trout (Figure 15), Mountain Whitefish body condition was typically more variable among study years (Figure 34).

Trends in relative weight estimates tracked closely with body condition estimates in all sections and study years (Figure 34). Relative weights were near 100% in Section 1 in 2014 and 2015, indicating above-average condition in these years compared to values across the species' range. In most years and sections, relative weight ranged between 80% and 95%.

Length-weight regressions had exponents close to 3.0 in most years (Figure 35; Appendix F, Figure F15), which suggests isometric growth and no change in body shape with increasing size. In 2021, the exponent of the regression was lower in Section 1 (b = 2.81) than in other sections (range: 2.83 to 3.13), suggesting a more slender body shape for Mountain Whitefish in Section 1, similar to the trend observed for Largescale Sucker (Section 3.7.1). Length-weight regression parameters varied slightly among years but did not suggest any long-term changes (Appendix F, Figure F15).

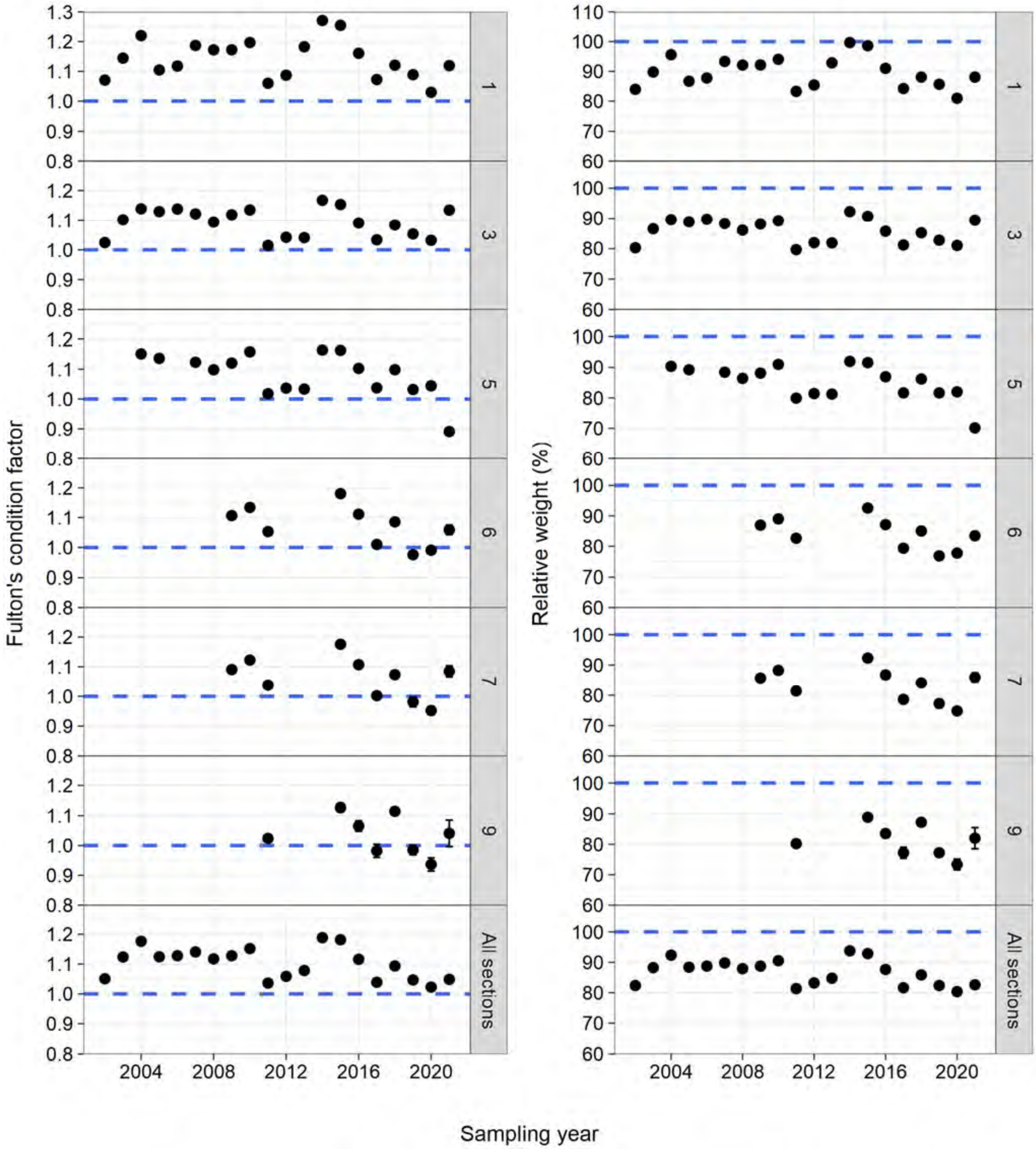


Figure 34: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) (left pane) and mean relative weight (%) with 95% CIs values (right pane) for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

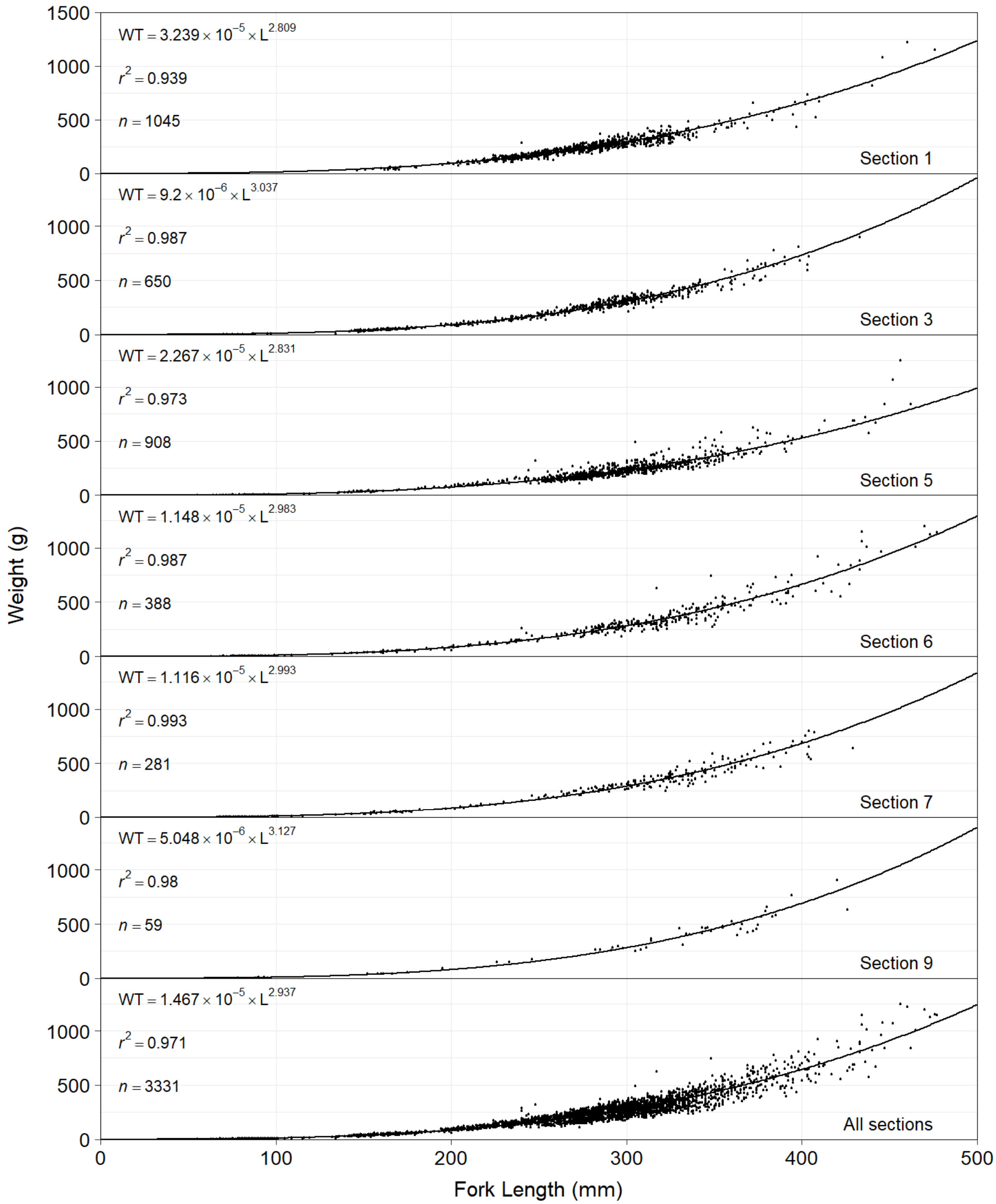


Figure 35: Length-weight regressions for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.9.2 Catch Rate

Catch rates for Mountain Whitefish have been consistently highest in Section 1 (Figure 36). In Section 1, CPUE values were generally higher from 2002 to 2012 (mean = 501 fish/km-h) and lower from 2014 to 2021 (mean = 304 fish/km-h). In Section 1, catch rates declined from 2012 to 2013 and generally increased from 2013 to 2019. Catch rates declined again in 2021 and were 45% lower than in 2020.

Mountain Whitefish catch rates in Section 3, generally increased from 2002 to 2011, and generally decreased from 2012 to 2021. This trend was also apparent in Section 5. In 2021, CPUE in Section 3 (56.3 fish/km-h) was lower than all previous years (2002 to 2020), and CPUE in Section 5 (90.4 fish/km-h) was the second lowest compared to all previous years (2004 to 2020). These findings suggest that Mountain Whitefish abundance in these sections has declined in recent years.

Mountain Whitefish catch rates have been typically lower in Sections 6, 7, and 9 than in upstream sections. Mountain Whitefish catch rates have declined year-over-year in Sections 6, 7, and 9 from 2018 to 2021 (Figure 36).

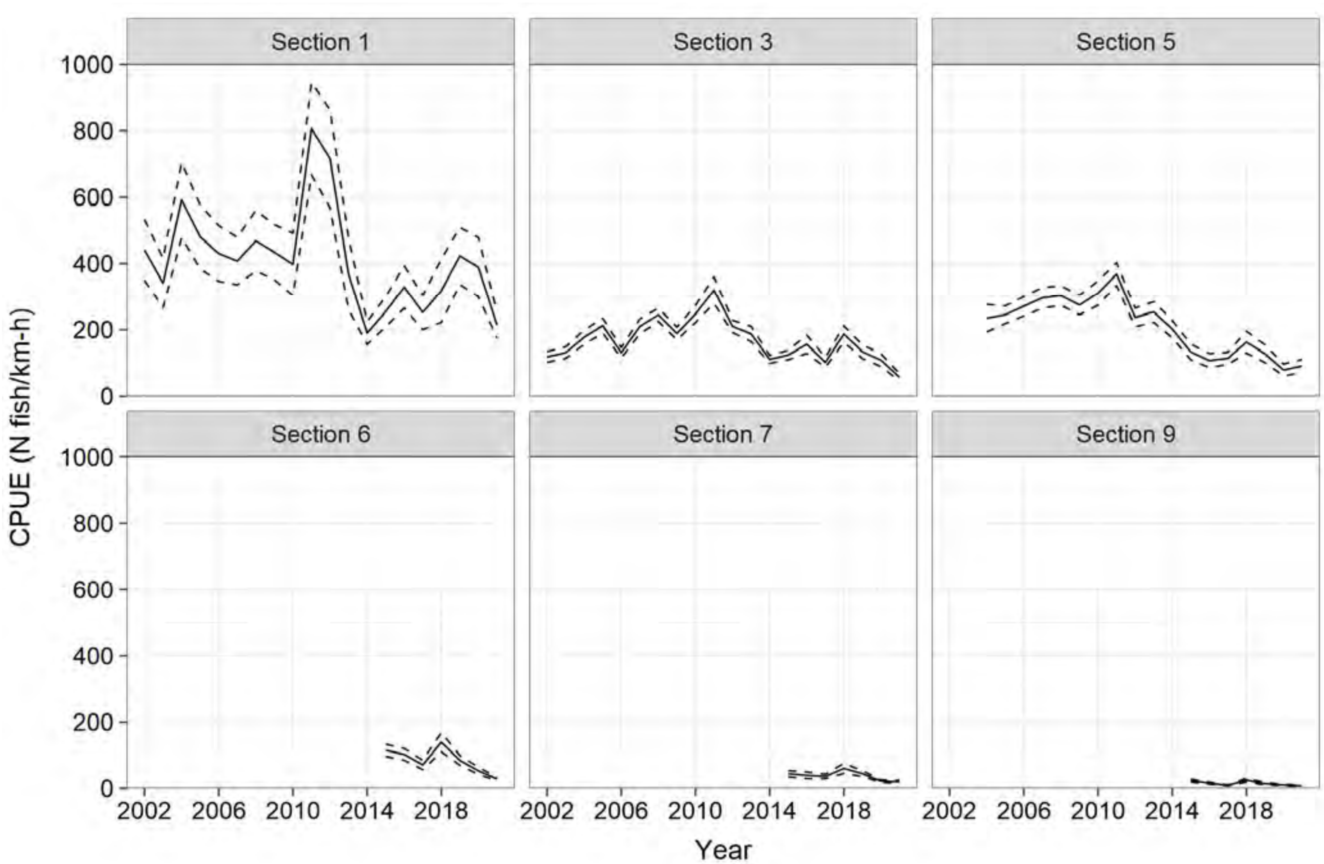


Figure 36: Mean annual catch rates (CPUE) for Mountain Whitefish captured by boat electroshocking in Sections 1, 3, 5, 6, 7, and 9 of the Peace River, 2002 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. Sections 6, 7, and 9 were not consistently sampled prior to 2015.

3.10 Northern Pike

3.10.1 Biological Characteristics

During the 2021 survey, 44 Northern Pike were captured (i.e., excluding within-year recaptures), and 43 individuals were measured for length and weight. Fork lengths of captured Northern Pike in 2021 ranged between 194 and 896 mm FL, weights ranged between 57 and 5112 g, and body condition (*K*) ranged between 0.63 and 1.18. Fin rays were collected and analyzed for 43 Northern Pike and ages ranged from age-0 to age-12.

Length-frequency data suggest that juvenile and adult life stages of Northern Pike are present in the study area (Figure 37); however, they are not evenly distributed throughout the Peace River. Sections 5, 6, and 7 accounted for 93% of all Northern Pike captured in 2021 (Table 9). Northern Pike were not consistently targeted prior to 2015. Between 2015 and 2021, the number of captured Northern Pike that were less than 250 mm FL (i.e., likely to be age-0 and age-1) was low (range = 0 to 8 individuals/year; Appendix F, Figures F25 and F26).

The mean body condition (*K*) of Northern Pike in 2021 was similar to mean body condition values recorded among recent study years and sections (Figure 38).

In 2021, the length-weight relationship for Northern Pike was similar among sections (Figure 39). Values of the exponent in the length-weight relationship were close to 3.0 for all sections indicating isometric growth. Length-weight relationships for Northern Pike among years have varied but have not shown any clear long-term changes (Appendix F, Figure F27).

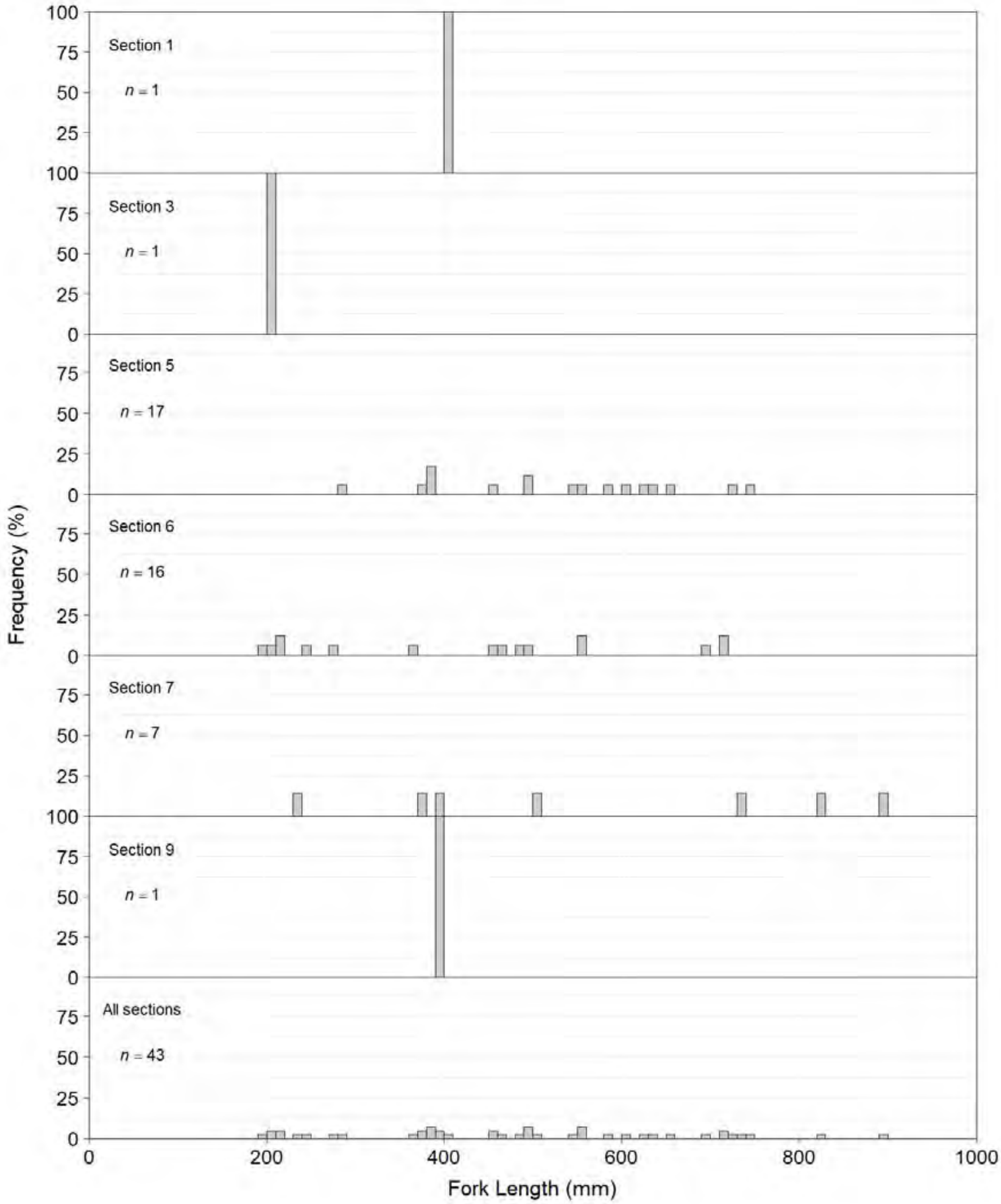


Figure 37: Length-frequency distributions for Northern Pike captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

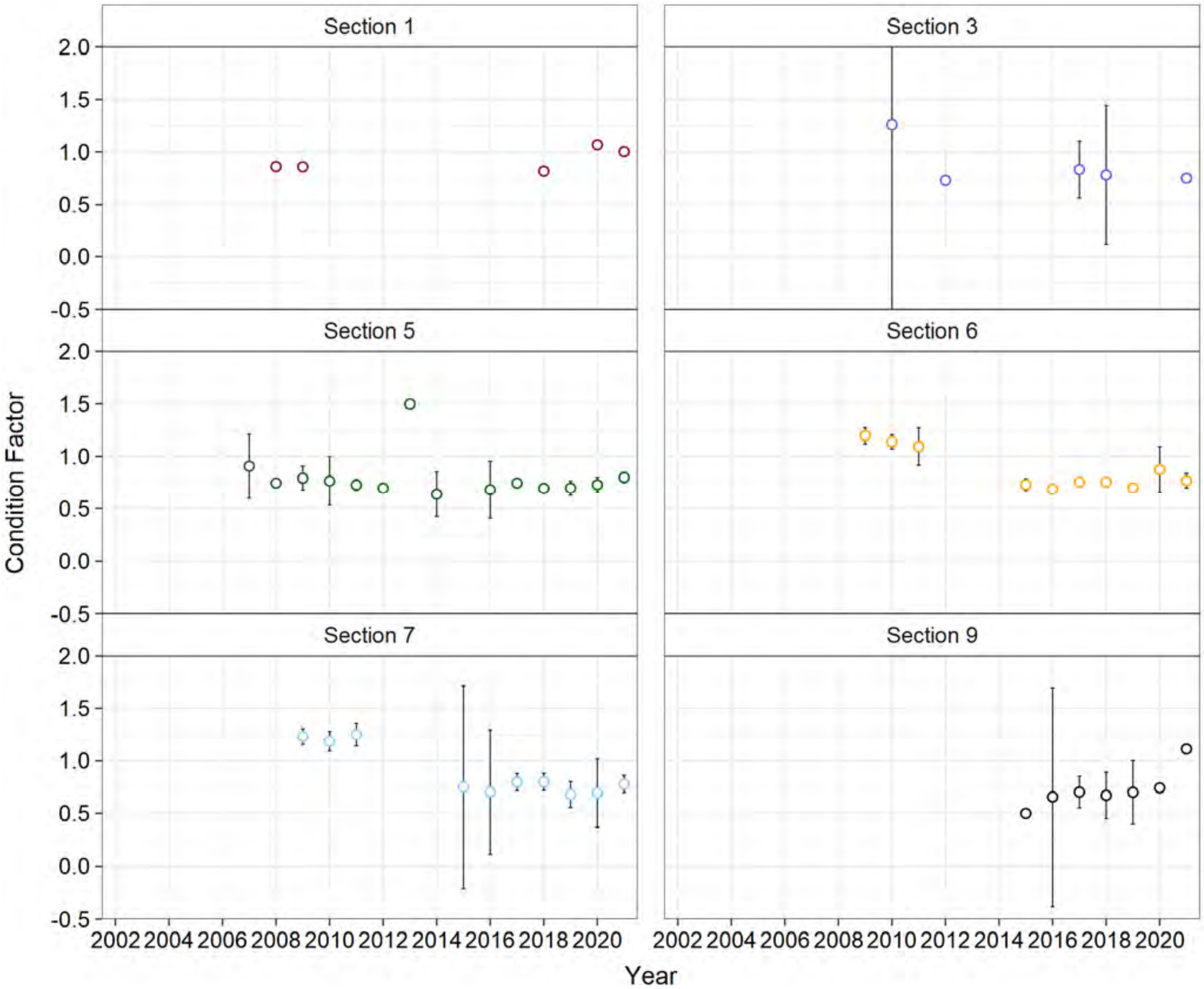


Figure 38: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) for Northern Pike captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013). The 95% CI of Section 3 values in 2010 extends from -1.14 to 3.66.

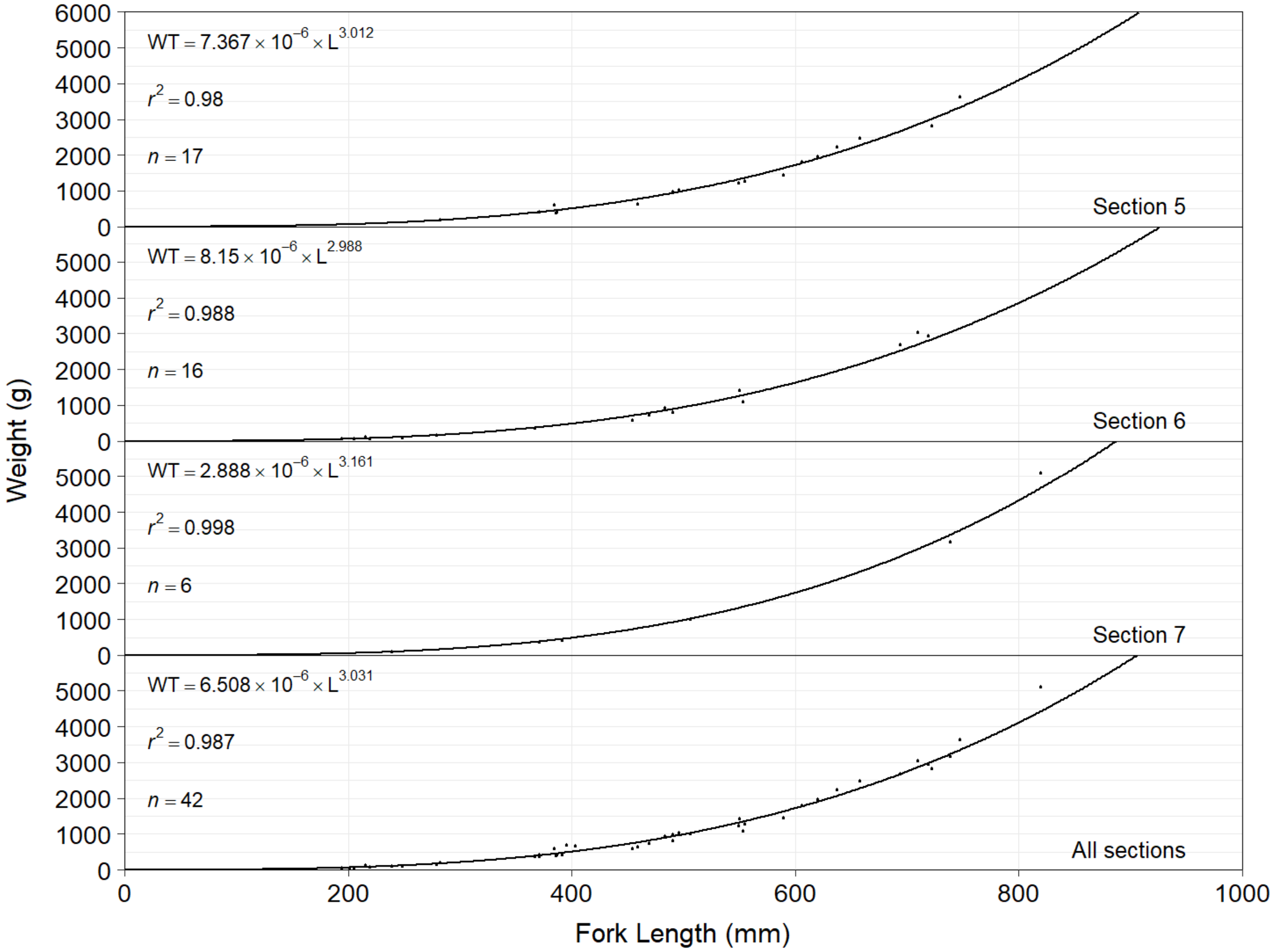


Figure 39: Length-weight regressions for Northern Pike captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.10.2 Catch Rate

Since 2015 (i.e., since sampling has been conducted in all six sections), catch rates for Northern Pike have ranged from 0.2 fish/km-h in 2016 to 0.6 fish/km-h in 2021. Catch rate data (all sections combined) suggest an increase in Northern Pike abundance between 2016 and 2018 and between 2020 and 2021, and a decrease in abundance between 2015 and 2016 and between 2018 and 2020; confidence intervals overlapped for all estimates (Figure 40).

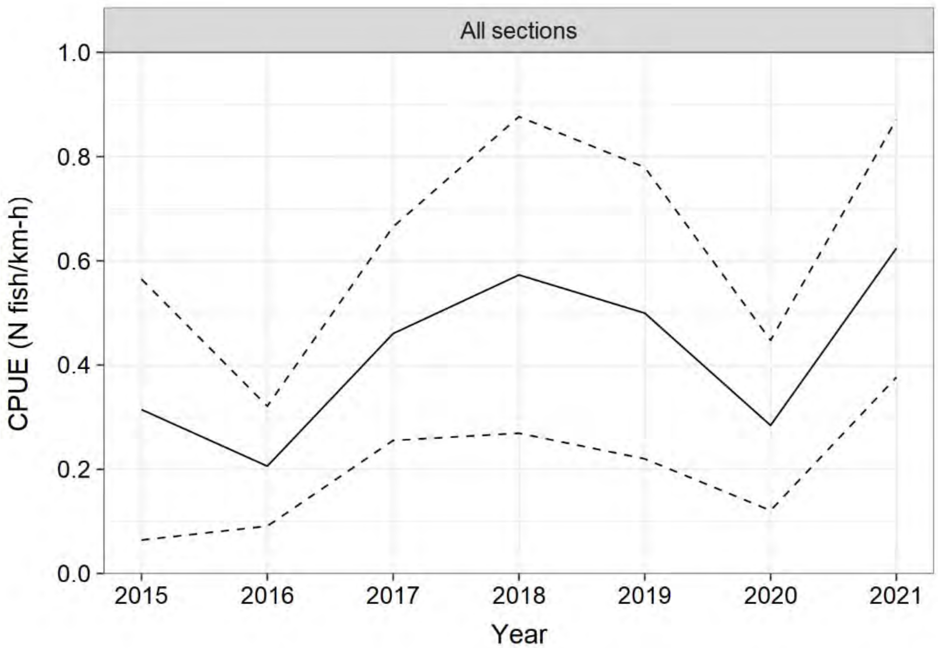


Figure 40: Mean annual catch rates (CPUE) for Northern Pike captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Northern Pike were not consistently targeted prior to 2015.

3.11 Rainbow Trout

3.11.1 Biological Characteristics

During the 2021 survey, 132 Rainbow Trout were captured (i.e., excluding within-year recaptures); all were measured for length and weight. Fork lengths ranged between 131 and 464 mm and weights ranged between 26 and 1188 g (Table 13). Body condition (*K*) ranged between 0.76 and 1.56. Assigned ages ranged between age-1 and age-7.

In the length-frequency distribution for Rainbow Trout from all sections combined, a mode at approximately 150 mm represented age-1 individuals (Figure 41). However, there was overlap in fork lengths of age-1 and age-2 Rainbow Trout, and between all adjacent age classes older than age-2 (Table 13). This overlap in length distribution of young age classes may be due to differences in length-at-age and growth rates among sections, as suggested in previous study years (e.g., Golder and Gazey 2020). The growth rate and length-at-age of juvenile Rainbow Trout in tributaries to the Peace River varied among tributaries (Golder 2022b), which may contribute to the overlap in lengths between juvenile age classes after they migrate downstream into the mainstem of the Peace River.

Table 13: Average fork length, weight, and body condition by age for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Age	Fork Length (mm)			Weight (g)			Body Condition (*K*)		
	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]
1	192 ± 26	131 - 243	34	82 ± 35	26 - 179	34	1.11 ± 0.17	0.76 - 1.56	34
2	236 ± 30	193 - 302	38	160 ± 64	78 – 328	38	1.16 ± 0.09	0.89 – 1.34	38
3	310 ± 43	225 – 396	30	364 ± 149	104 - 719	30	1.15 ± 0.10	0.91 - 1.31	30
4	359 ± 29	313 - 409	16	528 ± 142	331 - 761	16	1.12 ± 0.09	1.00 - 1.33	16
5	348 ± 23	316 - 374	7	482 ± 96	366 - 622	7	1.13 ± 0.08	1.07 - 1.30	7
6	341	-	1	396	-	1	1.00	-	1
7	464	-	1	1188	-	1	1.19	-	1

[a] Number of individuals sampled.

Age-0 Rainbow Trout were not captured during the Indexing Survey in 2021. Only two Rainbow Trout less than 100 mm in fork length (i.e., age-0) have been captured in the Peace River mainstem over the 20-year study period. Age-0 Rainbow Trout are likely rare because this age-class likely remains in natal streams for their first year and have not yet migrated into the Peace River mainstem at the time of sampling (TrichAnalytics 2022; Mainstream 2011b). Similar to 2020 (Golder 2021a), in 2021, age-2 was the most common age-class of Rainbow Trout captured in the study area (Table 13).

The von Bertalanffy model suggests differing growth rates in Sections 1 and 3, with smaller age-1 and age-2 individuals and larger age-3 individuals in Section 3 compared to Section 1 (Figure 43). Growth curves could not be estimated for other sections because of small sample sizes. Comparison of von Bertalanffy curves among years suggested similar growth of fish captured in 2021 when compared to most previous study years (Figure 44). Small sample sizes, especially for the younger and older age classes, resulted in poor fits of the von Bertalanffy model during most study years, which may explain differences in annual growth curves rather than actual differences in growth rates.

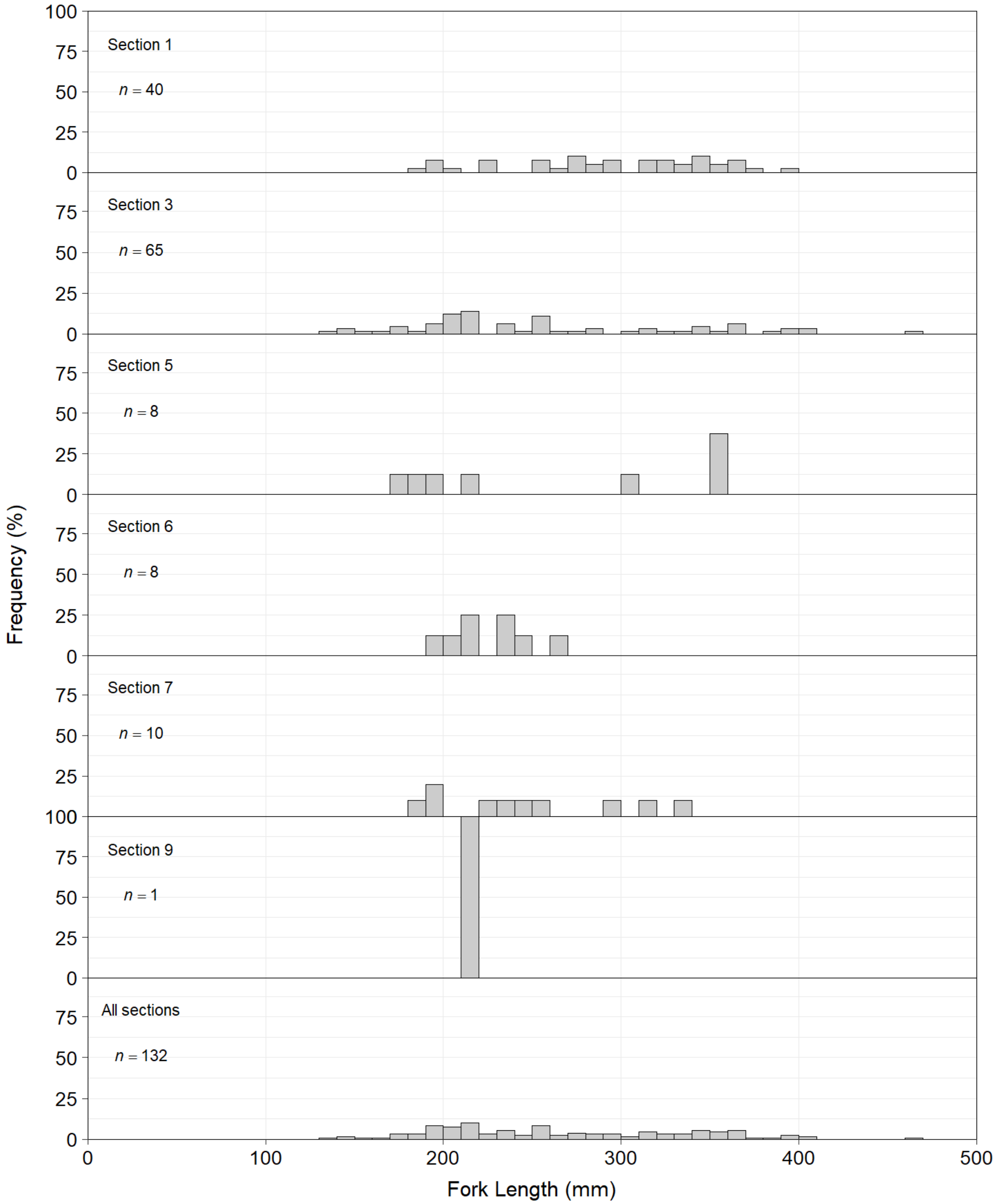


Figure 41: Length-frequency distributions for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

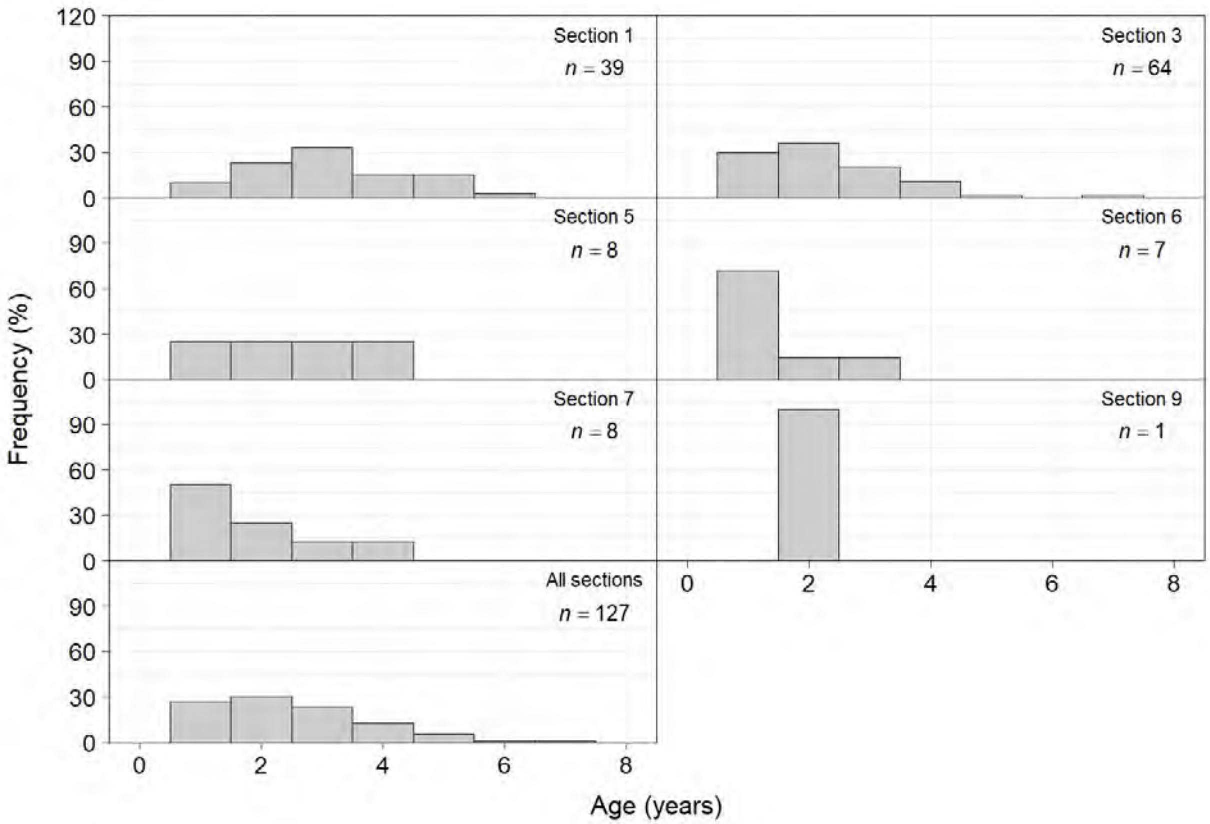


Figure 42: Age-frequency distributions for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

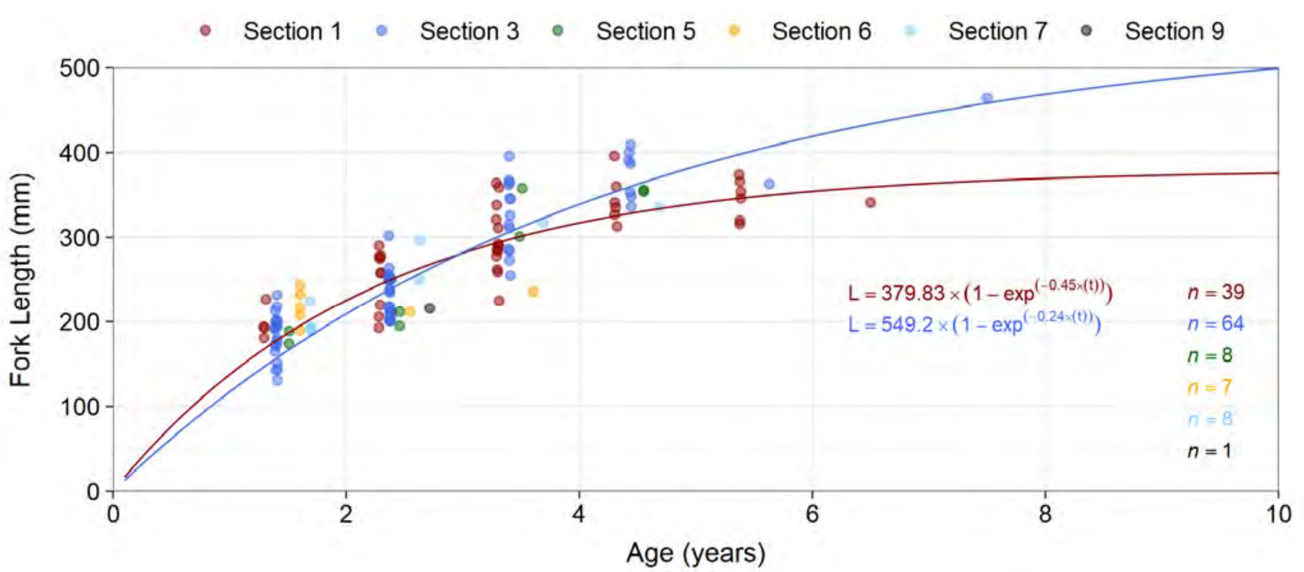


Figure 43: von Bertalanffy growth curve for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

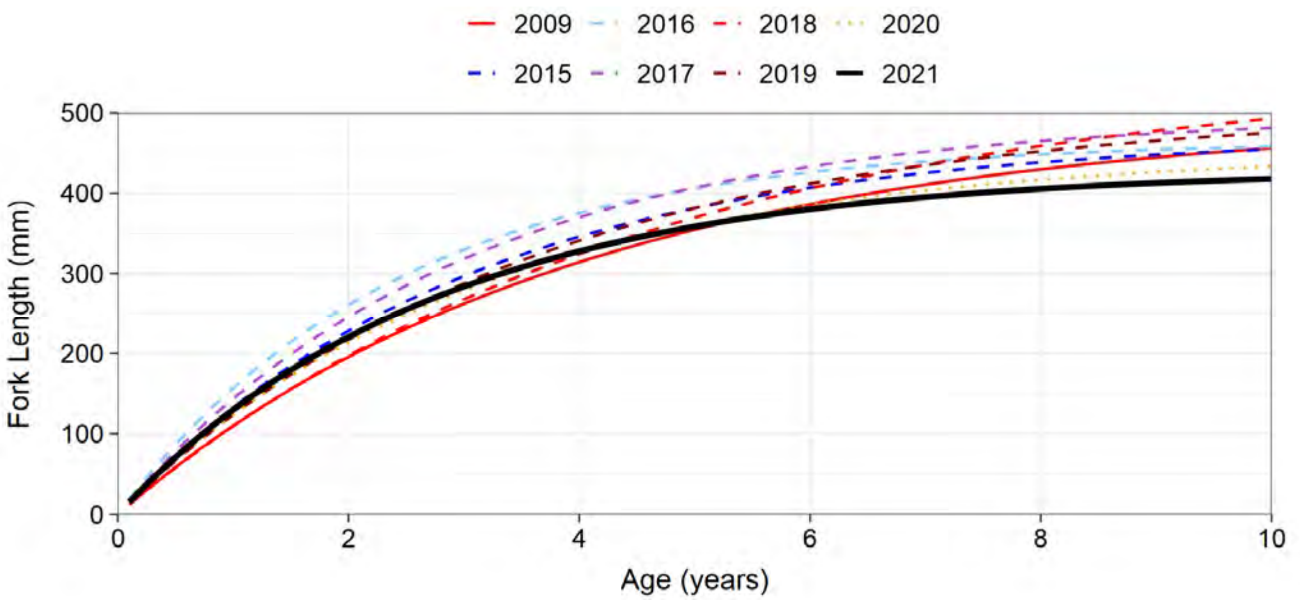


Figure 44: von Bertalanffy growth curve for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 2009 to 2021.

In 2021, mean body condition and relative weight were lower in Sections 1 and 5; however, values were within the range of values recorded during previous study years. (Figure 45). For Sections 7 and 9, sample sizes were too small (i.e., 1 to 7 fish per year in each section) to reliably assess trends over time. For all sections combined, mean annual values of relative weight ranged from 83% to 95%.

The length-weight relationship in 2021 (all sections combined) had an exponent (b) close to 3.0, suggesting isometric growth (Figure 46), which was similar to Rainbow Trout captured during previous years (2002 to 2020) (Appendix F, Figure F31). Sample sizes were too small for meaningful comparisons of length-weight relationship among sections (Figure 46).

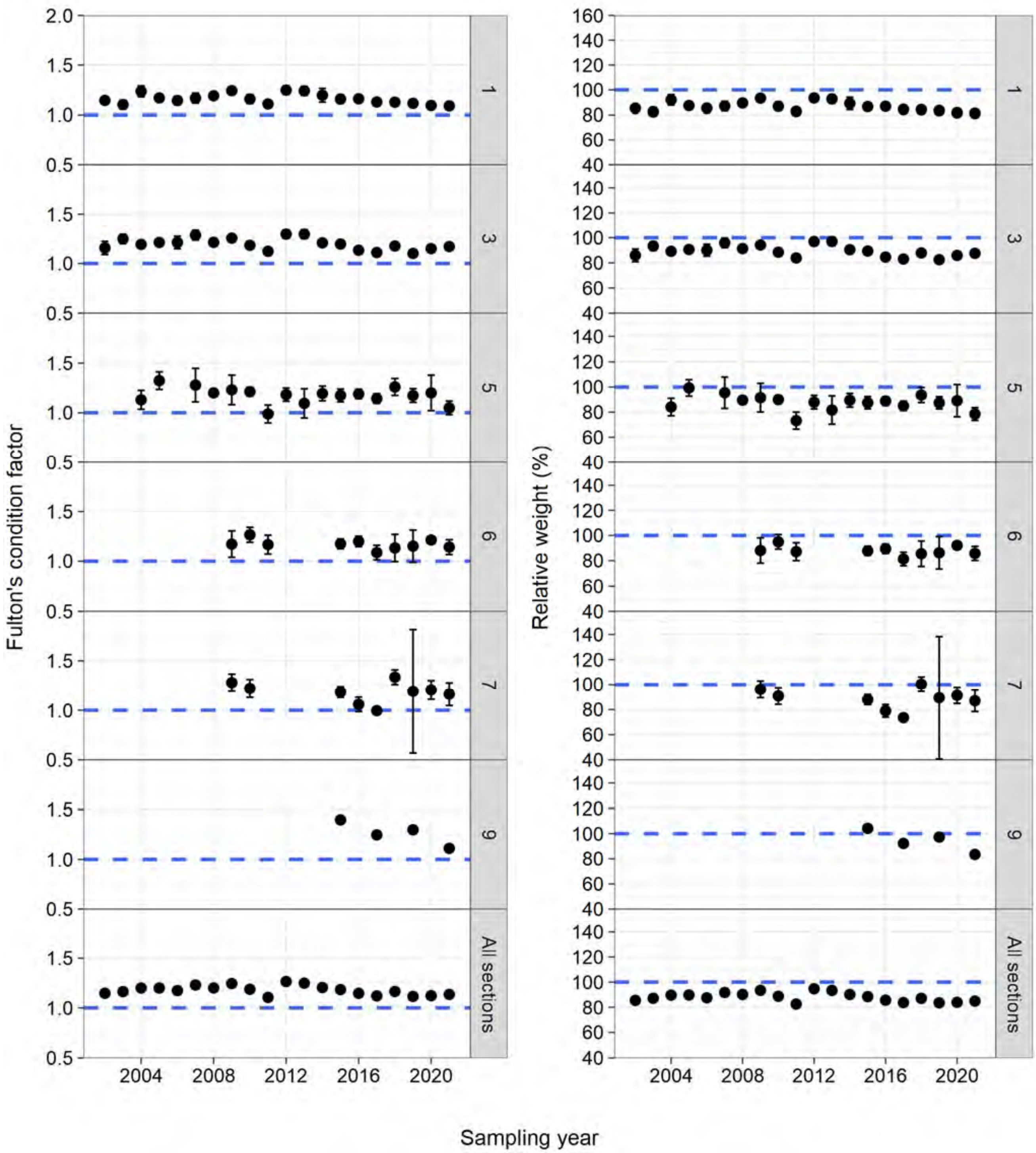


Figure 45: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) (left pane) and mean relative weight (%) with 95% CIs values (right pane) for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

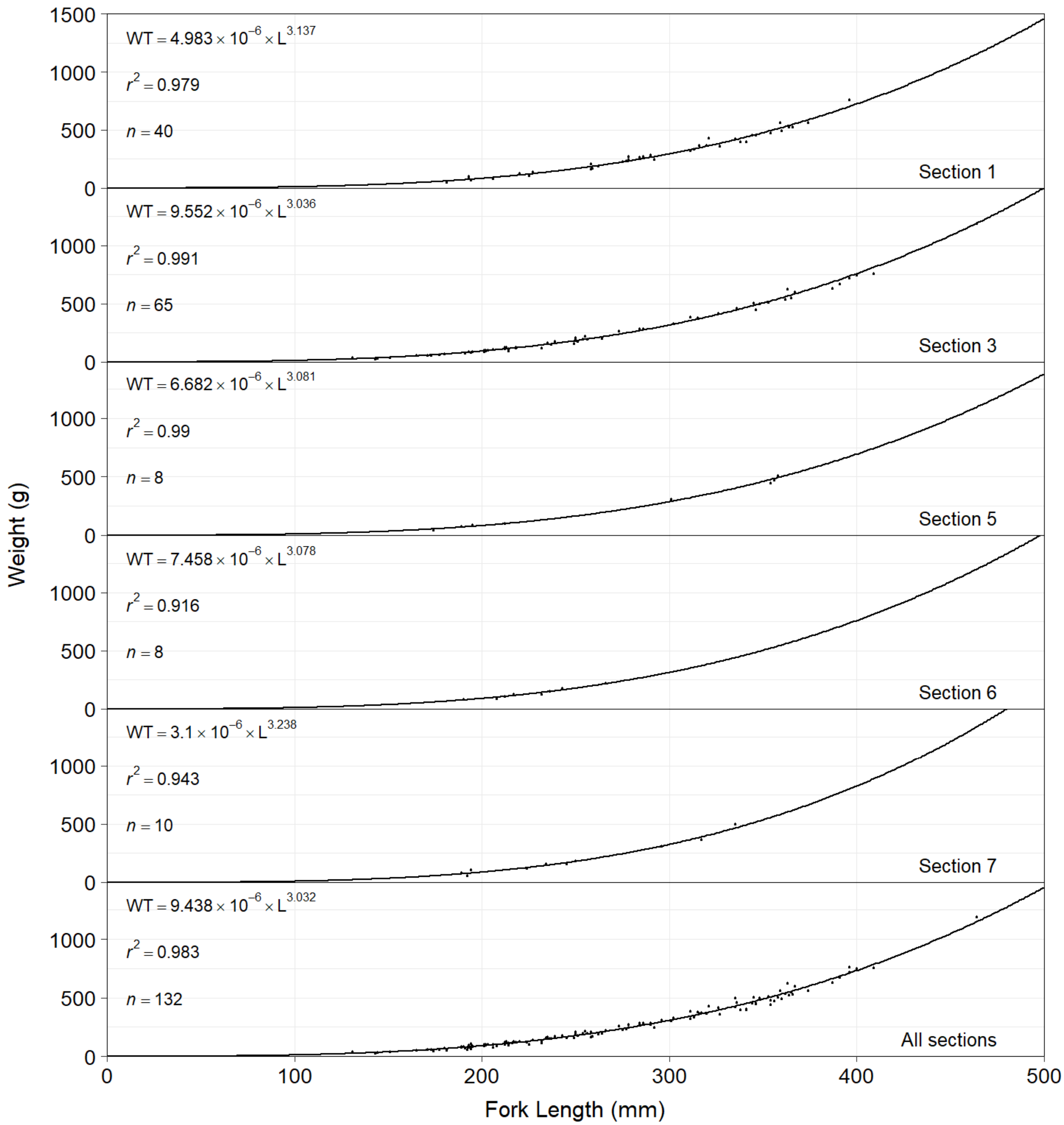


Figure 46: Length-weight regressions for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.11.2 Catch Rate

Since 2015 (i.e., since all six sections have been consistently sampled), total catch of Rainbow Trout has ranged from 122 to 186 individuals (Appendix, Tables E1 and E2), and CPUE has ranged from 1.2 fish/km-h in 2017 to 2.3 fish/km-h in 2018 (Figure 47). Catch rates suggest stable Rainbow Trout abundance between 2015 and 2021 (all sections combined). Confidence intervals overlapped for all estimates and were generally narrow for all years except 2018 (Figure 47).

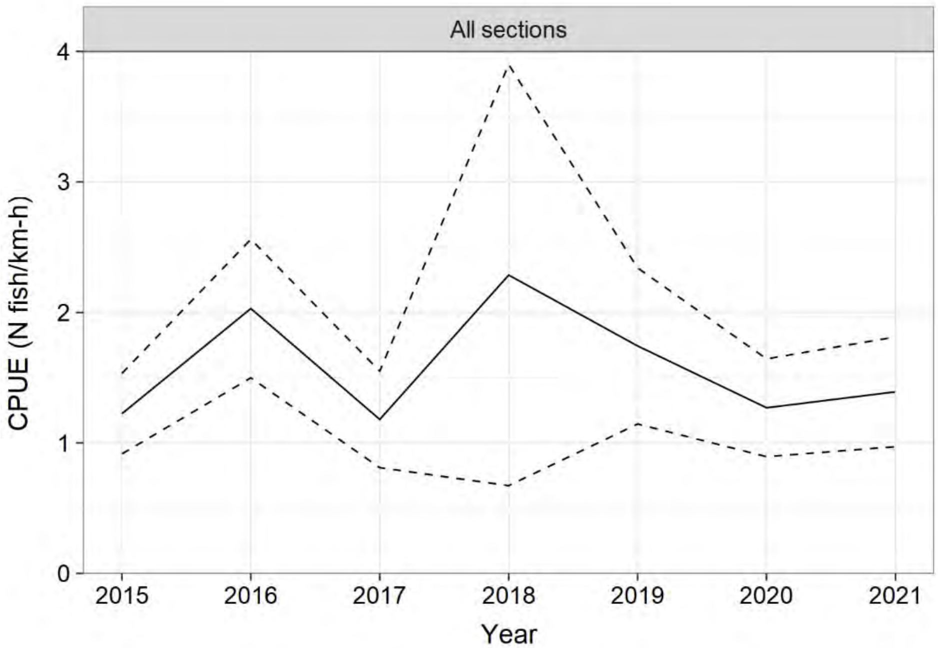


Figure 47: Mean annual catch rates (CPUE) for Rainbow Trout captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Rainbow Trout were not consistently targeted prior to 2015.

3.12 Walleye

3.12.1 Biological Characteristics

During the 2021 survey, 245 Walleye were captured (i.e., excluding within-year recaptures), and they were all measured for length and weight. Fork lengths of captured Walleye ranged between 115 and 739 mm, weights ranged between 11 and 4579 g, and body condition ranged from 0.63 to 1.64. Assigned ages ranged between age-1 to age-22 (Table 14).

A mode representing the age-1 age-class (approximately 120 to 160 mm FL) was evident in the length-frequency histogram in all sections combined (Figure 48). The length ranges overlapped between adjacent age classes for all Walleye older than age-1 (Figure 49). In 2021, the majority of Walleye captured were age-2 or older (99%)

(Figure 50). The large percentage of age-2 and older fish suggests that the study area is primarily used by sub-adults and adults during the sampling period. Small Walleye (i.e., fish less than approximately 250 mm FL) were only encountered in Sections 7 and 9.

Table 14: Average fork length, weight, and body condition by age for Walleye captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Age	Fork Length (mm)			Weight (g)			Body Condition (*K*)		
	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]	Average ± SD	Range	*n*[a]
1	152 ± 8	146 – 158	2	32 ± 4	30 – 35	2	0.93 ± 0.05	0.89 – 0.96	2
2	262 ± 28	221 – 292	5	200 ± 58	125 – 268	5	1.09 ± 0.10	0.93 – 1.20	5
3	319 ± 26	257 – 371	22	370 ± 91	191 – 572	22	1.12 ± 0.08	0.99 – 1.28	22
4	351 ± 25	315 – 397	16	502 ± 97	338 – 648	16	1.15 ± 0.10	0.96 – 1.31	16
5	380 ± 24	325 – 409	20	638 ± 101	416 – 831	20	1.16 ± 0.10	0.93 – 1.30	20
6	381 ± 34	338 – 442	23	618 ± 162	426 – 958	23	1.10 ± 0.08	0.91 – 1.27	23
7	411 ± 40	341 – 510	24	795 ± 237	487 – 1450	24	1.12 ± 0.08	0.99 – 1.29	24
8	422 ± 50	365 – 531	12	819 ± 261	590 – 1578	12	1.09 ± 0.16	0.63 – 1.23	12
9	475 ± 67	360 – 575	11	1213 ± 489	626 – 2271	11	1.09 ± 0.11	0.92 – 1.34	11
10	472 ± 56	403 – 605	11	1230 ± 611	681 – 2743	11	1.09 ± 0.13	0.90 – 1.30	11
11	490 ± 39	448 – 544	7	1309 ± 426	891 – 1924	7	1.08 ± 0.10	0.98 – 1.20	7
12	514 ± 100	400 – 682	7	1684 ± 1127	621 – 3738	7	1.09 ± 0.10	0.97 – 1.19	7
13	–	–	–	–	–	–	–	–	–
14	646	–	1	2276	–	1	0.84	–	1
15	570	–	1	1931	–	1	1.04	–	1
16	643 ± 38	616 – 670	2	3218 ± 537	2838 – 3597	2	1.21 ± 0.01	1.20 – 1.21	2
17	–	–	–	–	–	–	–	–	–
18	–	–	–	–	–	–	–	–	–
19	–	–	–	–	–	–	–	–	–
20	–	–	–	–	–	–	–	–	–
21	–	–	–	–	–	–	–	–	–
22	547	–	1	1522	–	1	0.93	–	1

[a] Number of individuals sampled.

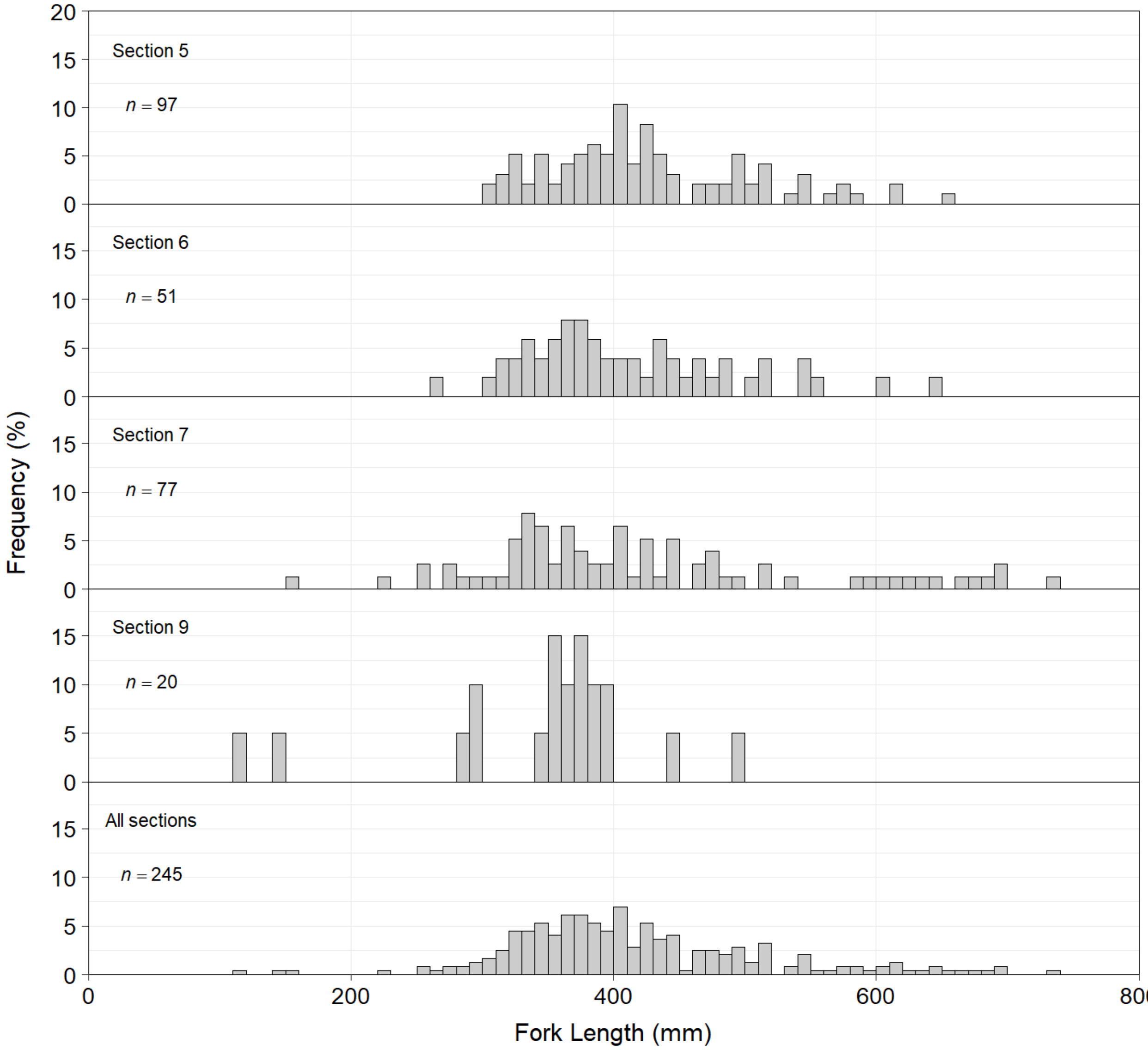


Figure 48: Length-frequency distributions for Walleye captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

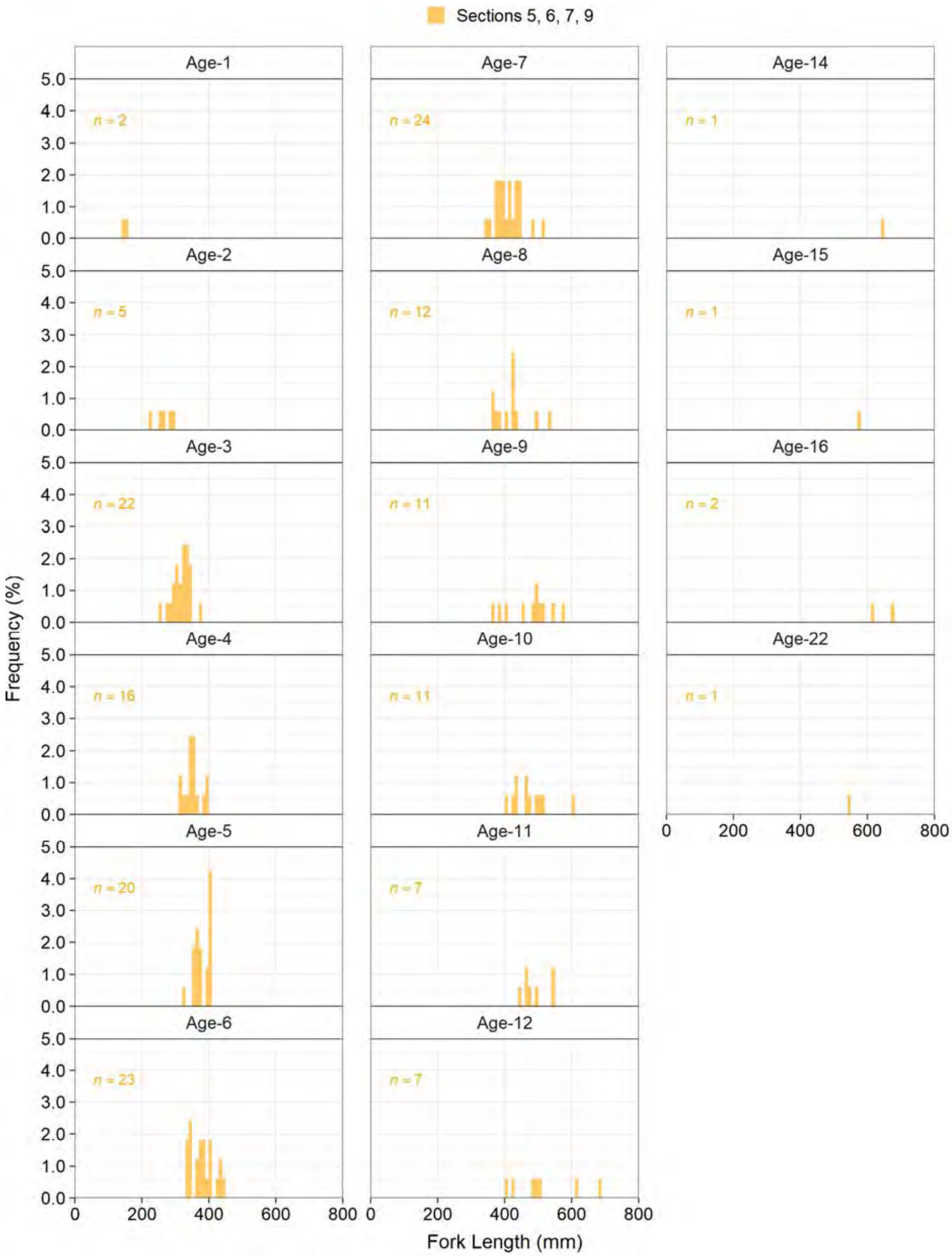


Figure 49: Length-at-age frequency distributions for Walleye captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

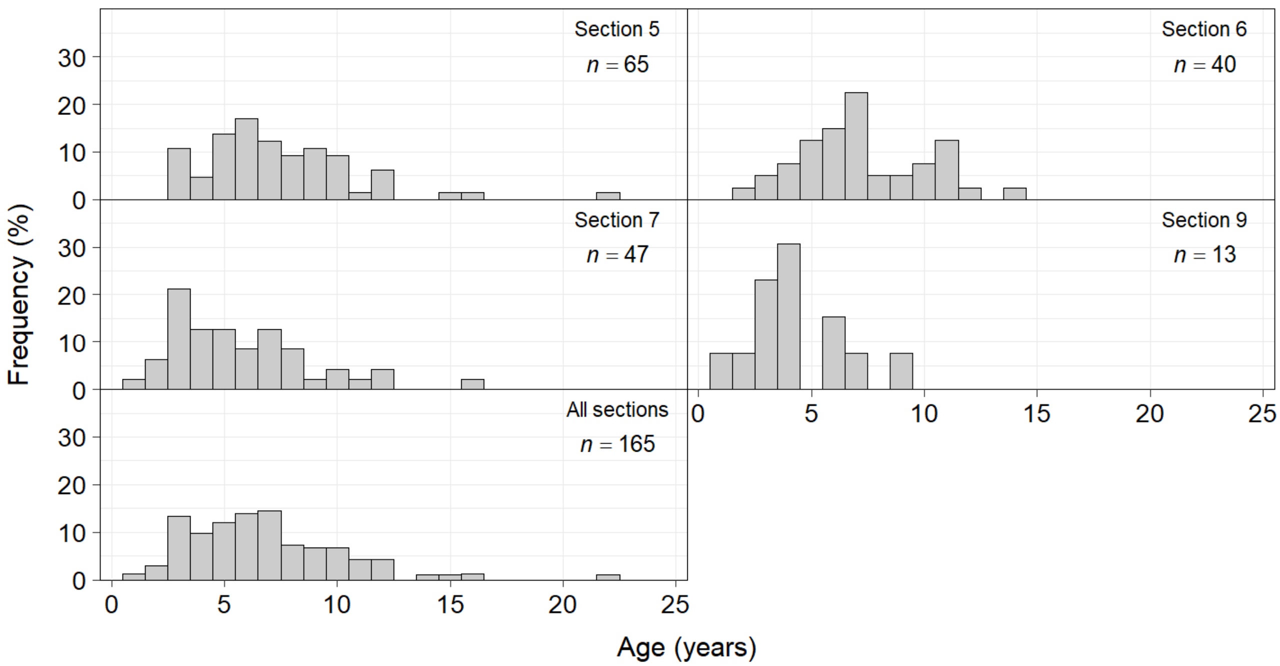


Figure 50: Age-frequency distributions for Walleye captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

Growth curves estimated for 2021 using the von Bertalanffy method suggest differences among sections; however, these differences were likely caused by small sample sizes in the younger and older age classes (Figure 51). In particular, the absence of age-1 and age-2 individuals in some sections (i.e., Section 5) and the absence of larger fish (i.e., fish larger than 500 mm FL) in Section 9 may have biased these comparisons among sections. Walleye in the Peace River are highly mobile (LGL 2022). As such, comparisons of growth among sections for this species should be done with caution. Overall, length-at-age was similar among sections, suggesting similar rates of growth. Comparison of growth curves among years suggest some differences (Figure 52) but as with comparisons among sections, small sample sizes for the older and younger age classes may explain these differences, rather than actual variations in growth rates. Imprecision in age estimates, particularly for the older age classes that tend to be underestimated due to lack of annulus formation, may have also contributed to the observed differences.

Mean body condition varied little among years and sections with confidence intervals overlapping for most estimates (Figure 53). Relative weight calculations tracked closely with body condition estimates and averaged approximately 91% for all sections combined over the 20-year study period. The length-weight relationship varied among sections with an exponent less than 3.0 in Sections 5 and 6 and an exponent greater than 3.0 in Sections 7 and 9 (Figure 54). These data suggest that Walleye in the farthest downstream sections have a more rotund body shape (i.e., larger weight-at-length) as fish grow in length in the downstream portions than upstream portions of the study area. This finding is apparent among years (Appendix F; Figure F39).

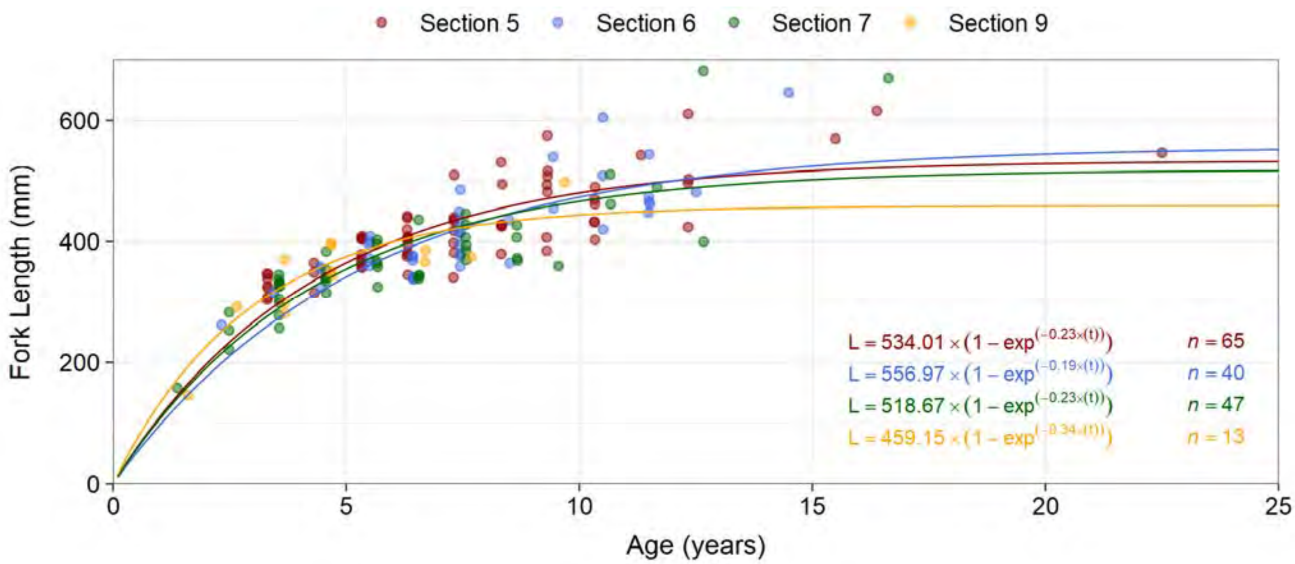


Figure 51: von Bertalanffy growth curve for Walleye captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

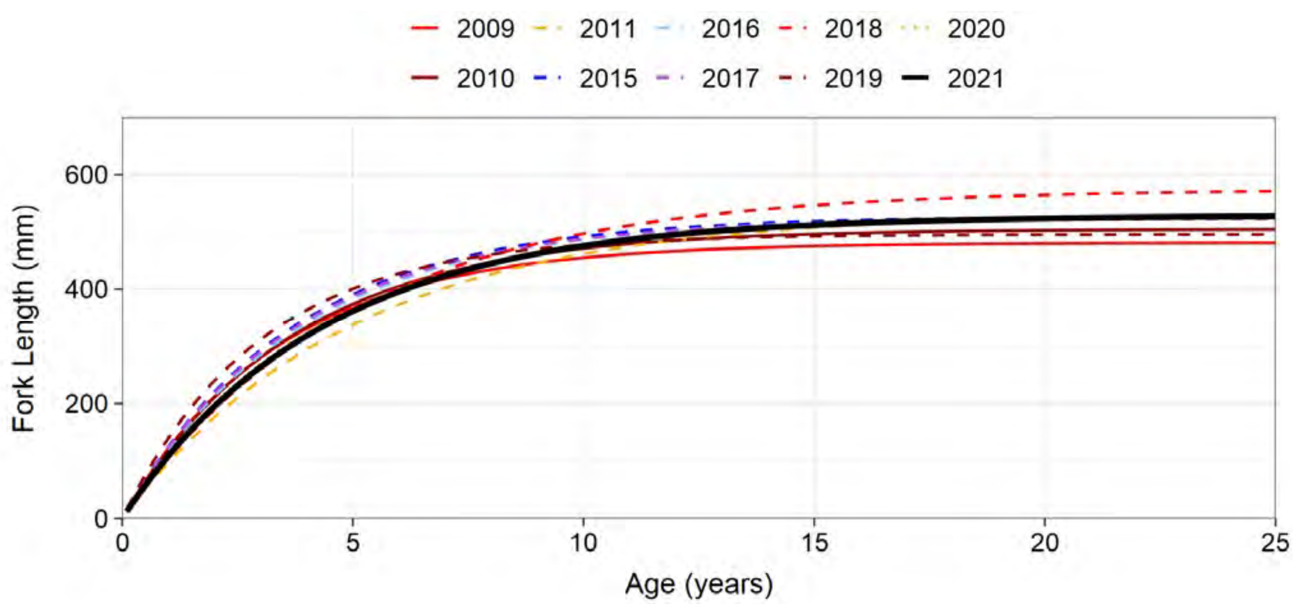


Figure 52: von Bertalanffy growth curve for Walleye captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021.

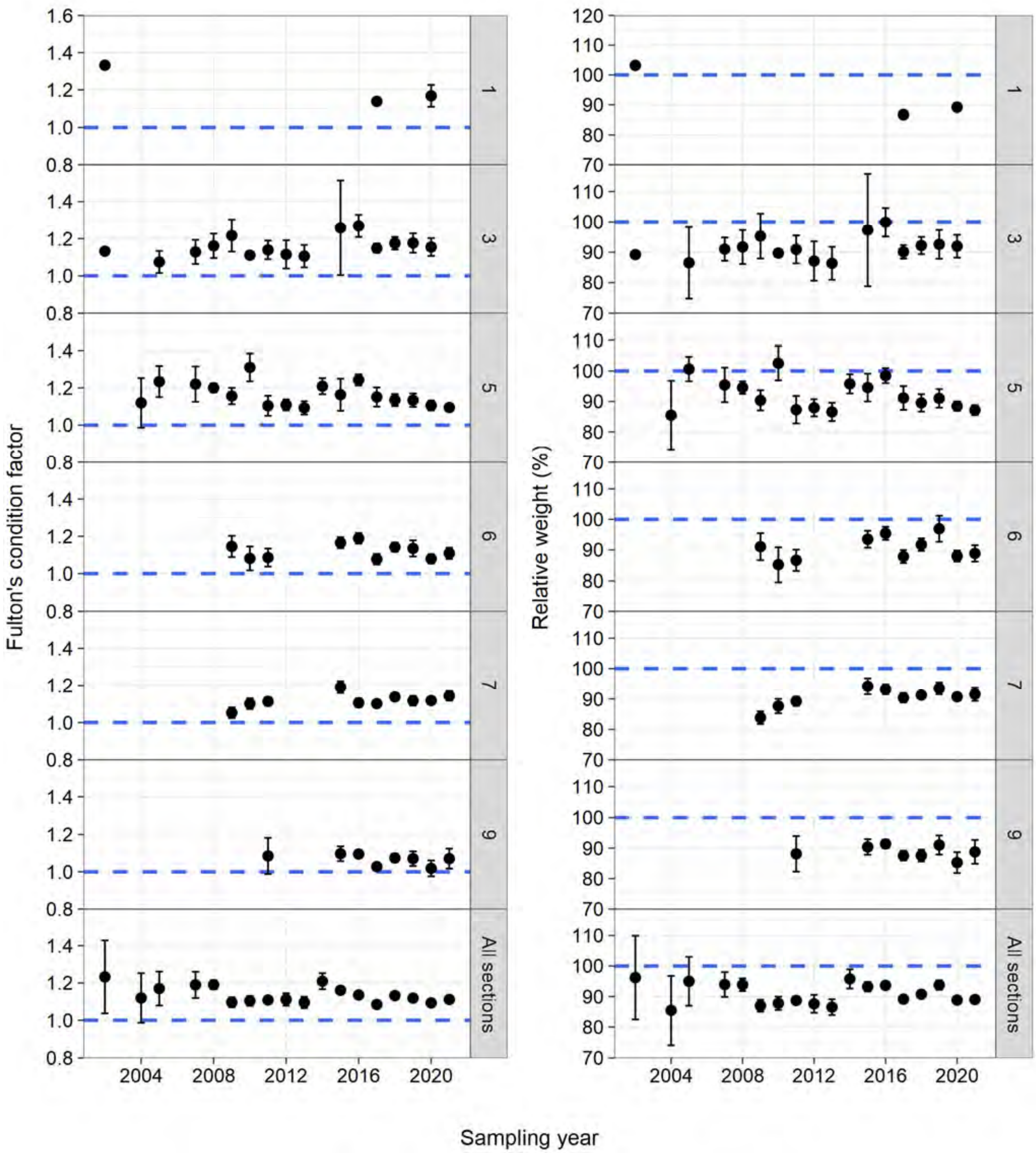


Figure 53: Mean Fulton's body condition factor (*K*) with 95% confidence intervals (CIs) (left pane) and mean relative weight (%) with 95% CIs values (right pane) for Walleye captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

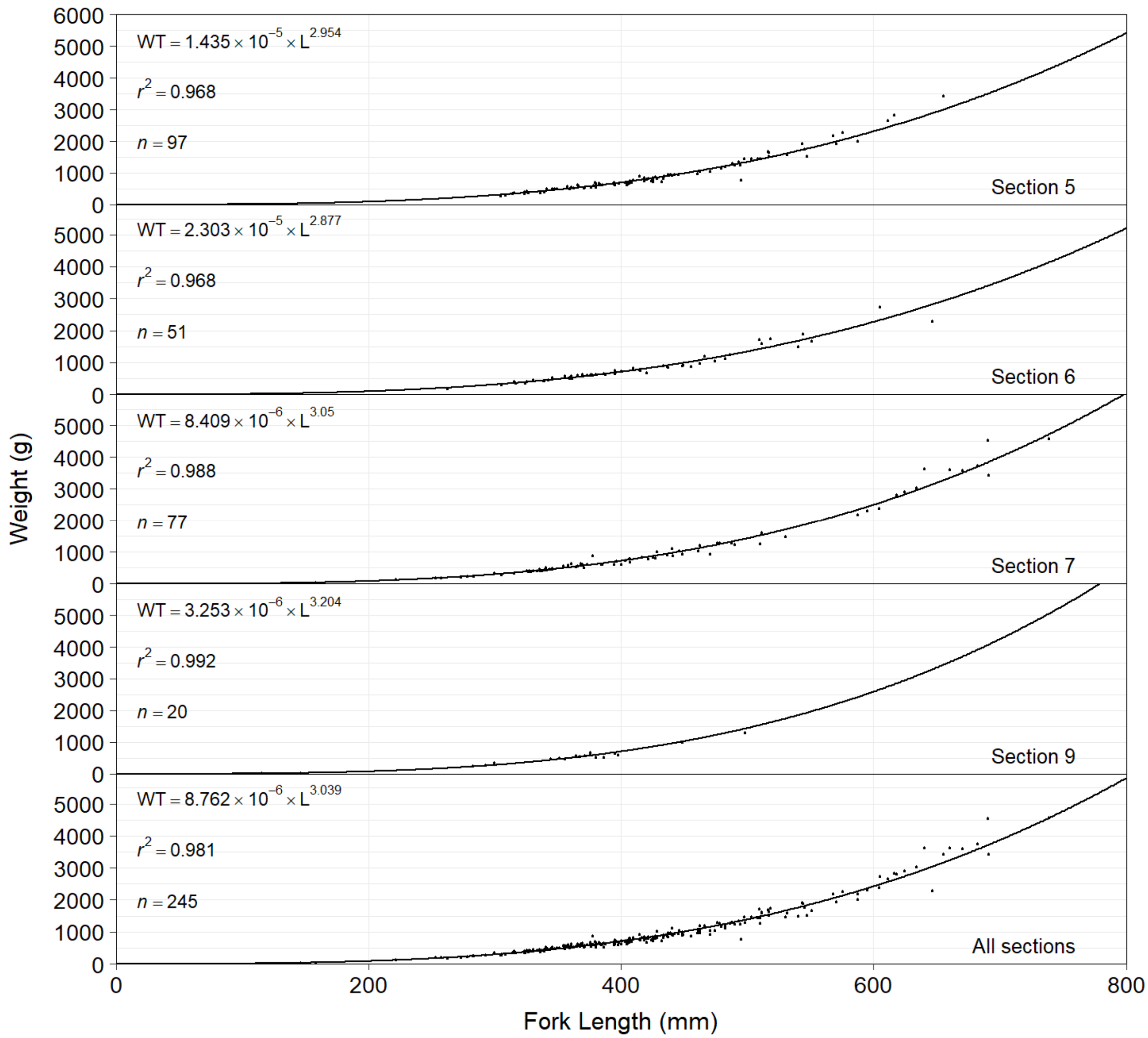


Figure 54: Length-weight regressions for Walleye captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.12.2 Catch Rate

In 2021, Walleye were captured in all sections except Sections 1 and 3. Since 2015 (the year Walleye began being targeted), total numbers of Walleye encountered in these sections have been consistently low compared to downstream sections (Appendix E; Tables E1 and E2), indicating a preference for the downstream portion of the study area for this species. Years prior to 2015 were excluded from catch rate analyses (Figure 55) because the species was not consistently targeted and because Walleye were not commonly recorded in Sections 1, 3, and 5, which were the only sections surveyed prior to 2015. Catch rate data suggested increasing Walleye abundance between 2015 and 2018 and between 2020 and 2021 (all sections combined), and declining abundance between 2018 and 2020. Confidence intervals overlapped for most estimates and were generally narrow for all years except 2018 (Figure 55).

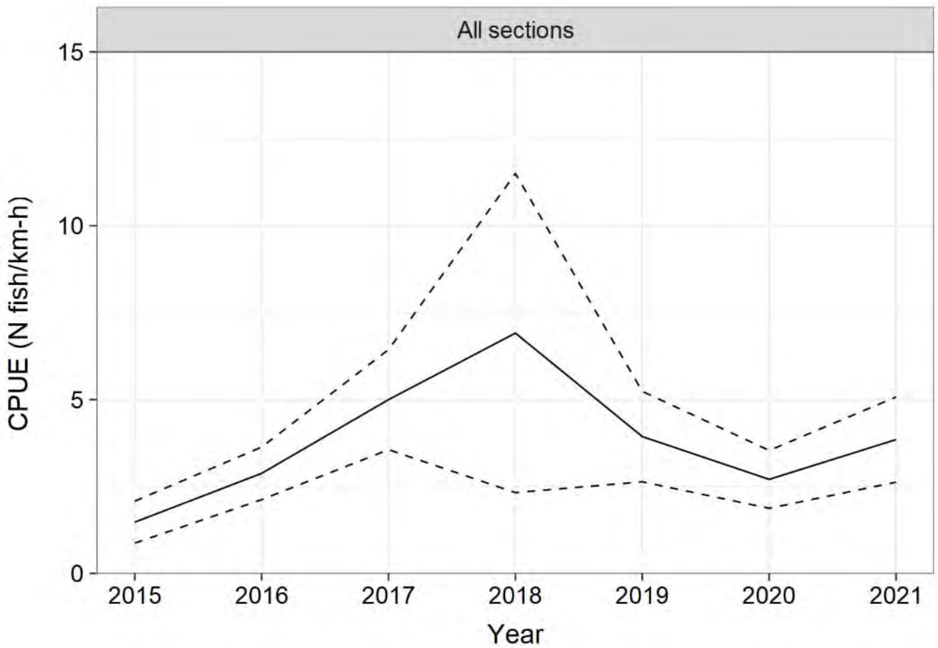


Figure 55: Mean annual catch rates (CPUE) for Walleye captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Walleye were not consistently targeted prior to 2015.

3.13 White Sucker

3.13.1 Biological Characteristics

During the 2021 survey, 280 White Sucker were captured (i.e., excluding within-year recaptures; Table 9). Of these, 209 were measured for length and weight. Fork lengths ranged between 131 and 464 mm and weights ranged between 43 and 1479 g.

Of the 209 measured White Sucker, the majority (64%) were between 300 and 500 mm FL. Length-frequency histograms suggested differing length distributions among sections (Figure 56). Smaller White Sucker (i.e., fish less than 300 mm FL) were captured in Sections 5, 6, 7, and 9, but were absent from the catch in Sections 1 and 3. This finding is consistent with previous years (Appendix F, Figure F41 and F42).

In 2021, the mean body condition (*K*) of White Sucker from most sections was similar to values observed in previous years (Figure 57). In Section 5, the mean body condition of White Sucker in 2021 was lower than all previous years and has declined each year since 2018. This would suggest that White Sucker within this section have become skinnier over this time period, similar to the trend observed in Mountain Whitefish from Section 5 (see Section 3.9.1). Relative weights were not calculated for White Sucker.

Small sample sizes (particularly in Sections 1 and 3) limited meaningful comparisons of length-weight relationships among some sections; however, in general, the available data did not suggest any large differences in length-weight among sections (Figure 58). The length-weight relationships in 2021 were similar to previous years (Appendix F, Figure 43).

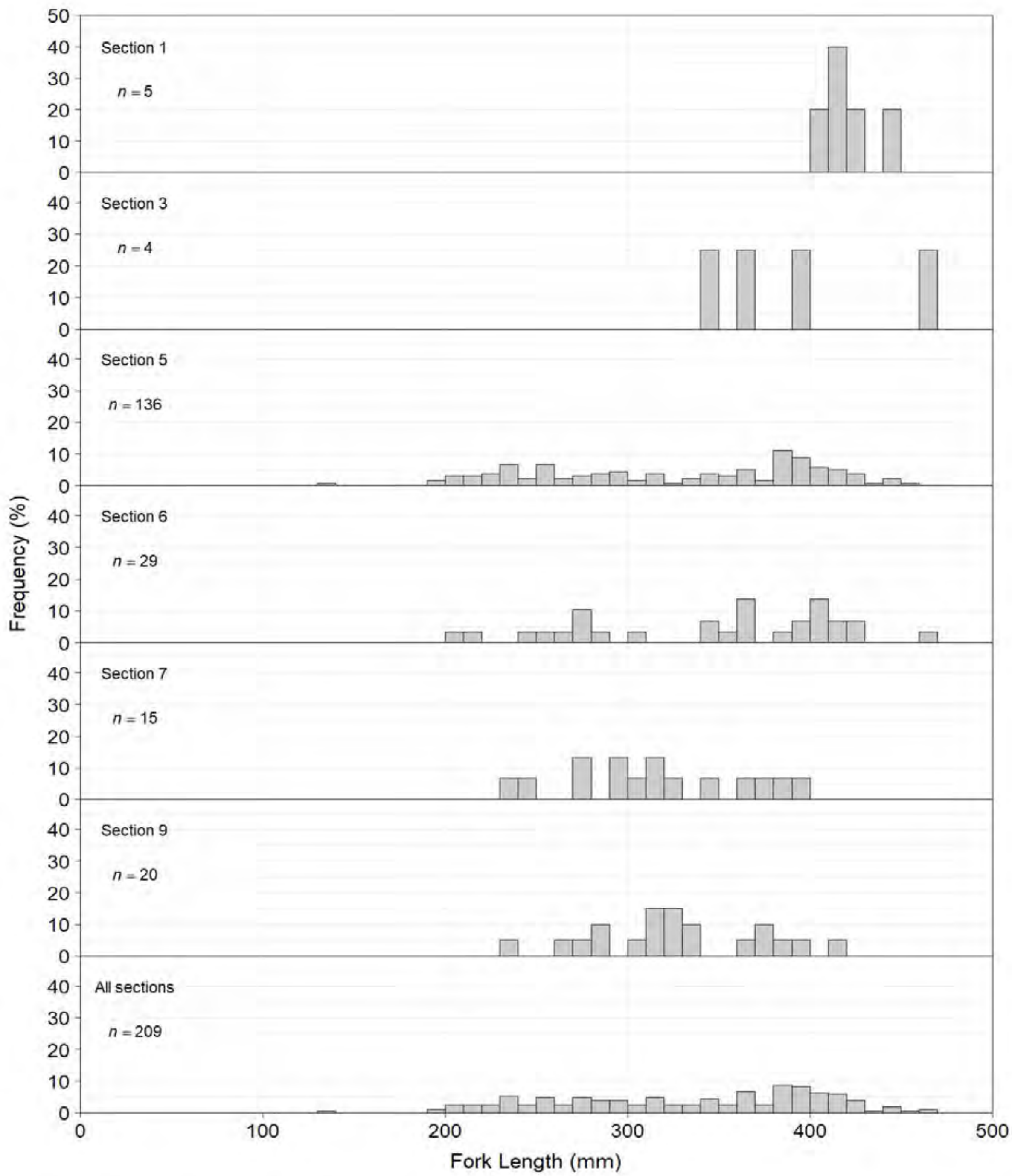


Figure 56: Length-frequency distributions for White Sucker captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

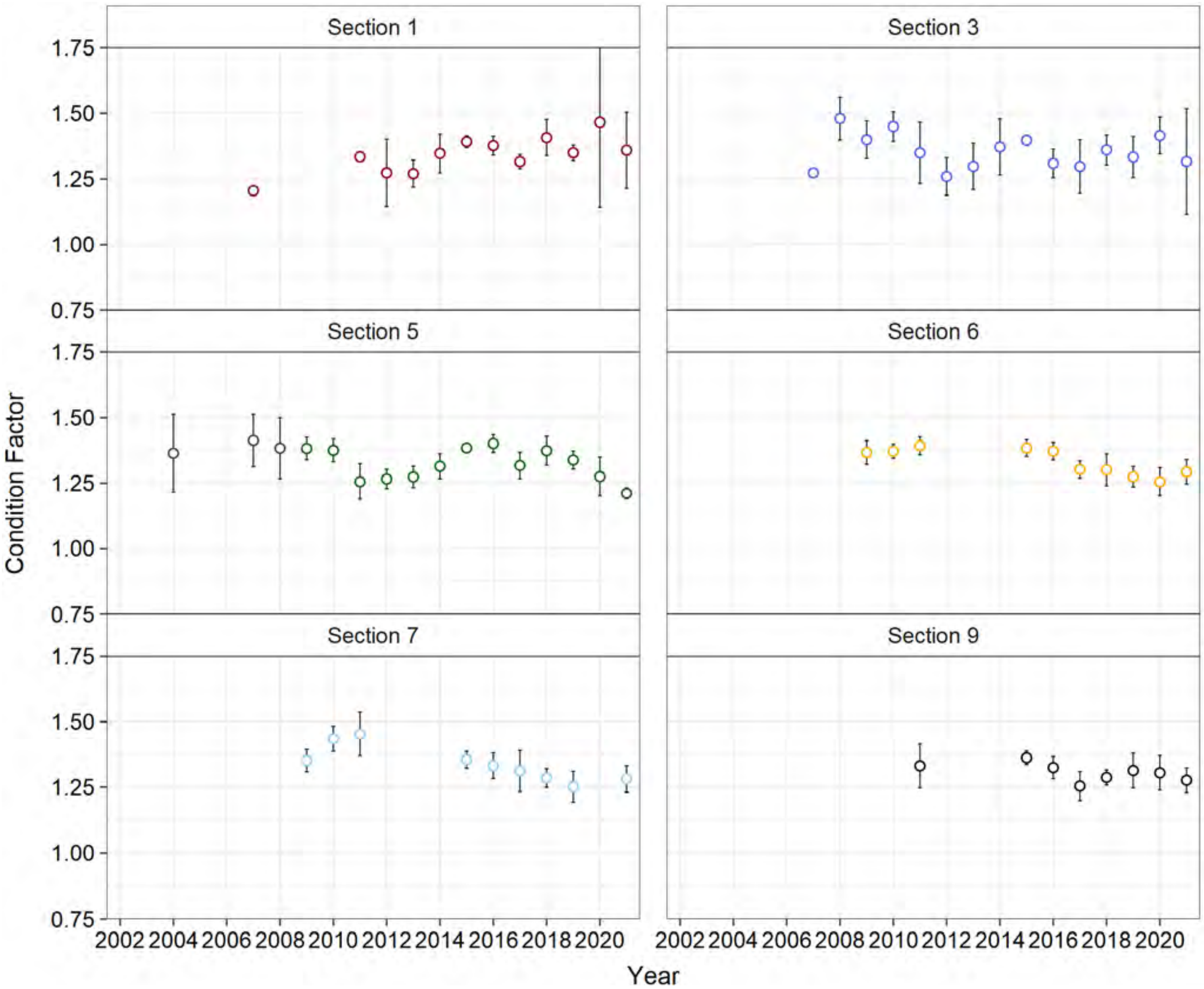


Figure 57: Mean Fulton's body condition factor (K) with 95% confidence intervals (CIs) for White Sucker captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. For Sections 6, 7, and 9, the analysis was supplemented with data collected during boat electroshocking surveys conducted during the late summer to fall period of 2009, 2010, and 2011 by Mainstream (2010, 2011a, 2013).

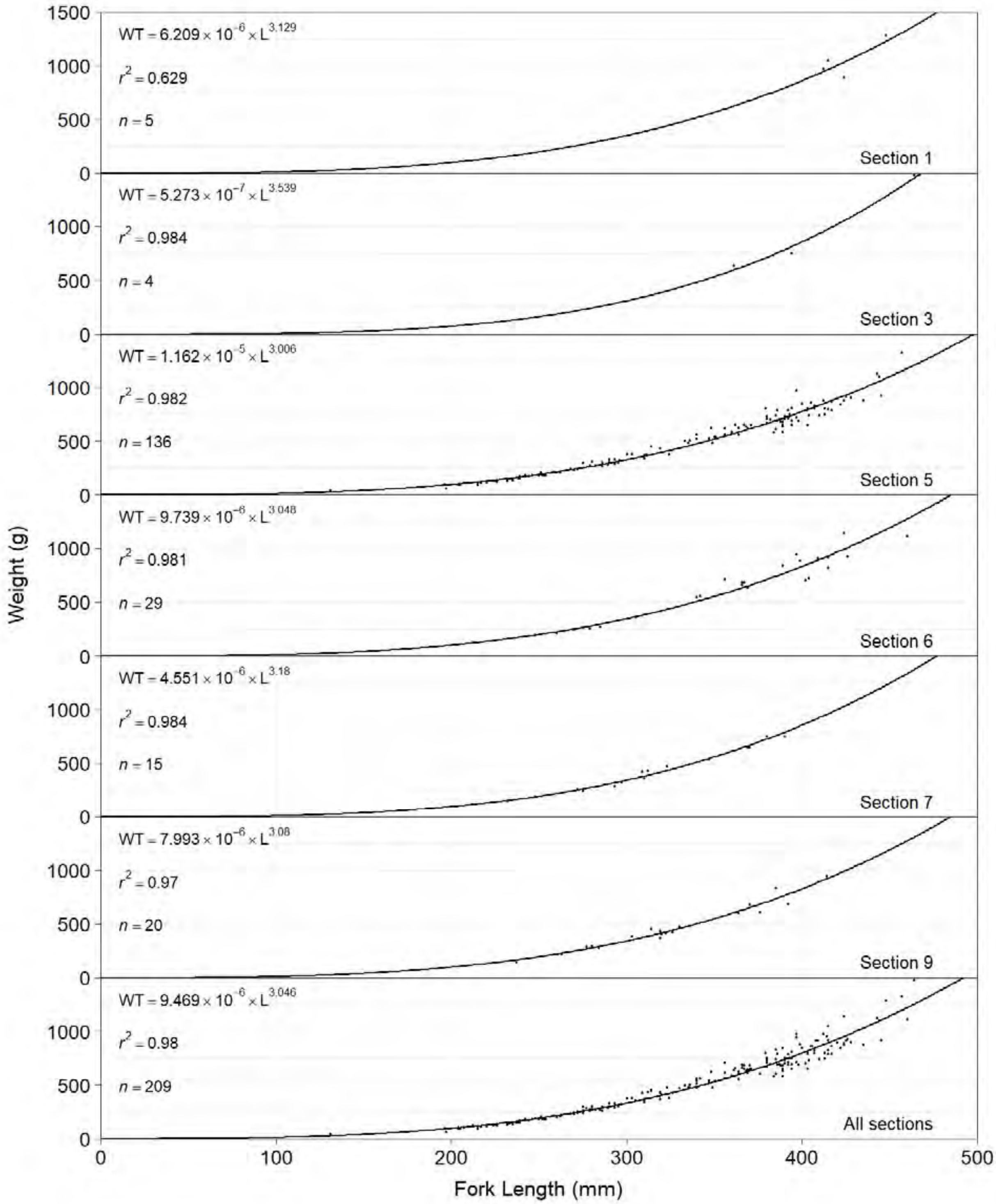


Figure 58: Length-weight regressions for White Sucker captured by boat electroshocking in sampled sections of the Peace River, 16 August to 8 October 2021.

3.13.2 Catch Rate

In 2021, White Sucker were most abundant in Section 5, accounting for 61% of all White Sucker captured. Catch rates suggested declining White Sucker abundance between 2015 and 2018, a slight increase in 2019, a decrease again to a low in 2020, and an increase in 2021 (all sections combined); confidence intervals overlapped for all estimates with the exception of the 2015 estimate (Figure 59).

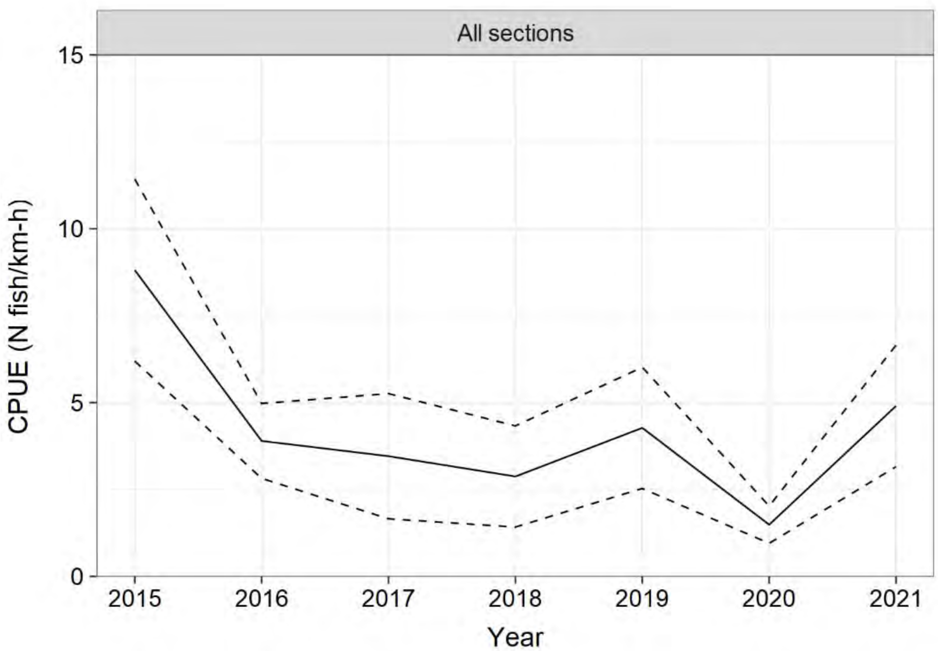


Figure 59: Mean annual catch rates (CPUE) for White Sucker captured by boat electroshocking in all sections of the Peace River combined, 2015 to 2021. The dashed lines denote 95% confidence intervals. Analysis included captured fish only and all sizes combined. The 2002 to 2014 study years were excluded from the analysis because Walleye were not consistently targeted prior to 2015.

3.14 Goldeye and Walleye Survey

In total, 57 Walleye and 2 Goldeye were captured during boat electroshocking surveys conducted as part of the 2021 Goldeye and Walleye Survey (Table 15). All Walleye and Goldeye were captured near the mouth of the Beatton River (Site 07BEA01 and 07BEA02). Of the 57 Walleye captured, 14 were inter-year recaptures that had been caught and tagged in a previous year. Both captured Goldeye were new captures.

During the surveys, field crews specifically targeted Walleye and Goldeye; however, other indicator species were encountered, included Burbot, Bull Trout, and Mountain Whitefish (Table 15). All of the Walleye and Goldeye captured during the Goldeye and Walleye Survey were classified as sub-adults or adults based on body length (280 to 734 mm FL for Walleye and 370 to 423 mm FL for Goldeye). Ages assigned to Walleye using fin ray analysis ranged from age-2 to age-11. The range of lengths and ages of Walleye captured during the Goldeye and Walleye Survey were similar to those captured during the Indexing Survey, suggesting similar use of the area by this species during the spring to early summer season as the mid-summer to early fall season. Walleye spawn in the spring when water temperatures are around 5°C (Nelson and Paetz 1992). Although captured Walleye were not assessed for sexual maturity during the survey, none of the captured fish showed obvious signs of being in spawning condition (e.g., expressing gametes when handled).

Table 15: Average fork length, weight, and body condition of indicator species captured by boat electroshocking during the Goldeye and Walleye Survey, 30 April to 11 June 2021.

Species	Group[a]	Fork Length (mm)			Weight (g)			Body Condition (*K*)		
		Average ± SD	Range	*n*[b]	Average ± SD	Range	*n*[b]	Average ± SD	Range	*n*[b]
Burbot	1	425 ± 80	295 - 532	7	466 ± 265	130 - 799	7	0.54 ± 0.10	0.45 – 0.76	7
Bull Trout	2	731	731	1	4307	4307	1	1.10	1.10	1
Goldeye	1	397 ± 37	370 - 423	2	736 ± 255	556 - 916	2	1.15 ± 0.08	1.10 – 1.21	2
Mountain Whitefish	2	279 ± 68	146 – 390	13	246 ± 156	37 – 648	13	1.01 ± 0.15	0.76 – 1.41	13
Walleye	1	422 ± 71	280 - 734	57	880 ± 638	207 – 4761	57	1.05 ± 0.10	0.88 – 1.37	57

[a] As assigned by Golder et al. (2012).

[b] Number of individuals sampled.

4.0 DISCUSSION

4.1 Management Hypotheses

Management hypotheses for this monitoring program relate to the predicted changes in the biomass and community composition of fish in the Peace River during the construction and operation of the Project. Data collected from 2002 to 2020 represent the baseline, pre-Project state of the Peace River fish community. Sampling conducted in 2021 represents the first year of sampling after the commencement of the river diversion phase of Project construction (3 October 2020). Since only a single year of data has been collected post-river diversion, analyses to test the management hypotheses were not conducted during the present study; however, the findings of the 2021 study year were compared to the baseline dataset.

4.2 Annual Sampling Consistency

Field methods employed during the Indexing Survey were standardized in 2002; these methods were carried over to the GMSMON-2 program in 2008 and to the current program in 2015. Over the 20-year study period (2002 to 2021), small changes were occasionally made to the methods based on results of preceding study years or to better address each program's management objectives. Examples of some of these changes include the sections of river sampled, the types of tags deployed (T-bar anchor tags initially, changing to full-duplex PIT tags in 2004, and to half-duplex PIT tags in 2016), and implementing spring sample sessions to target Goldeye and Walleye. For a long-term monitoring program, changes to methods, which also includes changes in handling procedures (such as additive effects associated with collecting tissue or stomach content samples), have the potential to confound results and hinder the identification of patterns and trends in the data through changes in behavior, health, or survival. Changes made between 2002 and 2013 are discussed in previous reports. In 2021, boat electroshocking methods adhered to methods developed by Mainstream and Gazey (2014) and subsequently modified in 2014 to reduce electroshocker related injuries to fish. These modifications included operating the electroshocking equipment at a lower frequency (30 Hz compared to 60 Hz) and amperage (a range 2.0–4.2 A compared to 3.2–5.2 A). Studies from other river systems indicate that salmonids, particularly larger salmonids, are less likely to be injured (e.g., branding, internal hemorrhaging, or spinal injuries) at the lower operational settings (Snyder 2003; Golder 2004, 2005).

Previous analysis on the catchability of fish in the Peace River identified that CPUE for Mountain Whitefish, Arctic Grayling, and Rainbow Trout was lower from 2014 to 2018 compared to years prior to 2014 (ESSA et al. 2019), indicating a possible effect of changes in electroshocking settings; however, it is not known whether the difference in electroshocker settings used in 2014–2021 versus 2002–2013 resulted in differences in the rates of injury, survival, and recapture of sampled fishes. An integrated population model for Mountain Whitefish indicated differences in selectivity between the two epochs for this species (Golder and Gazey 2020). From 2014 to 2019, selectivity was more uniform across size classes when compared to 2002–2013 (Golder and Gazey 2020). Higher frequencies, which were used from 2002–2013, result in greater electrical power in the water. Greater power makes it easier to catch small fish (Dolan and Miranda 2003). Lower frequencies, which were used from 2014 to 2021, have less electrical power, reducing the small fish catch and increasing the portion of large fish in the catch. The change in selectivity confounds comparisons between the two epochs but could prove beneficial to long-term study results, due to reduced injury or mortality associated with electroshocking.

Increased selectivity for younger age classes, particularly age-2 fish because they are young but still large enough to tag, would increase the precision of age-based metrics, including length-at-age, annual growth, recruitment, and inter-annual survival.

4.3 Arctic Grayling

Over the 20-year monitoring period, the catch rate of Arctic Grayling has generally declined, particularly in Sections 3 and 5, where they are most commonly encountered. Catch rates were variable but higher from 2004 to 2011 and were variable but low in all years since 2012.

In all study years, the majority of Arctic Grayling were captured in the upstream portions of the study area (Sections 1, 3, and 5). Use of the downstream portions of the study area by Arctic Grayling is not fully understood. Between 2015 and 2021, the number of Arctic Grayling captured each year downstream of the Project was typically low, with the exception of 2019. The majority (85%) of the Arctic Grayling captured downstream of the Project in 2019 were age-0 and age-1. These catch data from 2019 suggest that the downstream portions of the study area may contain important rearing habitat for this species. The low numbers of immature Arctic Grayling in the downstream sections prior to 2019 may have been due to lower recruitment. Golder and Gazey (2020) hypothesized that the higher age-0 and age-1 catches recorded in 2019 may have been due to higher water levels in turbidity levels in the Moberly River when compared to other study years, dispersing more young Arctic Grayling downstream and into the Peace River mainstem. Additional years of data are required to fully understand the importance of Sections 6, 7, and 9 to Arctic Grayling.

Age data indicate that all age classes of Arctic Grayling are present in the study area up to age-7. Low catch in many study years makes it difficult to track the relative abundance of cohorts through time to identify years with relatively strong or weak recruitment. However, there were some exceptions, where cohorts could be tracked through time, such as poor recruitment from the 2017 brood year, as suggested by the catch of zero age-0 fish in 2017, zero age-1 in 2018, and low catch of age-2 in 2019. In Sections 6, 7, and 9 combined, the unusually large number of age-0 Arctic Grayling in 2019 was followed by a large percentage of age-1 fish in that portion of the study area in 2020, suggesting greater-than-average recruitment from that cohort. In 2021, age-0 Arctic Grayling were not captured, suggesting that 2021 was a year of poor recruitment.

Arctic Grayling are known to spawn in the Moberly River (Golder 2022b; Mainstream 2012), which flows into the Peace River immediately upstream of the Project. After hatching, age-0 Arctic Grayling disperse downstream into the Peace River mainstem over the summer season. The success of these life stages of Arctic Grayling (i.e., spawning and age-0 dispersal) is paramount to sustaining the Peace River Arctic Grayling population. These early life history stages are also highly susceptible to environmental perturbation (McPhail 2007). During the 2021 Site C Reservoir Tributaries Fish Population Indexing Survey (Mon-1b, Task 2c), 24 YOY Arctic Grayling were encountered (Golder 2022b). Whether these individuals will remain upstream of the Project or move through the diversion tunnels to downstream sections of the Peace River is unknown. Additional years of data from sections downstream of the Project could be used to assess the movement and distribution of Arctic Grayling within the study area in response to the construction and operation of the Project. It is anticipated that low recapture rates will result in uncertain capture-recapture abundance estimates for this species during the construction and operation of the Project. Therefore, changes in abundance over time for this species should be assessed using indicators of relative abundance, such as catch rate or the relative strengths of individual age classes. The anticipated reliance on relative abundance metrics highlights the importance of maintaining consistent sampling effort and methods across study years.

Indicators of body condition (i.e., Fulton's condition factor and relative weight) were low in 2019 and 2020, indicating potentially poor growth conditions during those years. This finding is further supported by growth curves and length-at-age data that indicates that age-3 and age-4 Arctic Grayling were smaller in 2021 compared to previous years. In 2021, body condition metrics for Arctic Grayling had increased from 2019 and 2020 values. Overall, values of relative weight were near or greater than 100%, which suggests good condition of Arctic Grayling in the study area compared to populations of this species across its range (Gilham et al. 2021).

4.4 Bull Trout

Catch rate was used as an index of Bull Trout relative abundance. Over the 20-year study period, catch rates have varied, but have shown limited long-term trends. An exception was in Section 1 where Bull Trout catch rates have been generally higher from 2011 to 2021 compared to years prior to 2011, suggesting that the Bull Trout population in the uppermost section of the study area has increased in recent years.

Age-0 to age-2 Bull Trout are not typically captured in the Peace River mainstem during Indexing Surveys. Young Bull Trout are known to rear in Peace River tributaries, most notably tributaries to the Halfway River (Geraldes and Taylor 2020; Golder 2022b; LGL 2020). During the August to September study period, the majority of older, mature Bull Trout have migrated into tributaries to spawn and are not present in the Peace River during the Indexing Survey. For these reasons, the Bull Trout population sampled during the Indexing Survey was largely composed of subadults that were old enough to have migrated out of their natal streams but had not yet reached sexual maturity. A small portion of the sampled population may have included adult fish that had forgone spawning (i.e., skip spawners) and Bull Trout that had either not yet migrated into tributaries to spawn or had already returned to the Peace River after spawning.

Bull Trout were not assigned ages using fin rays in 2021 because previous analyses indicated that ages assigned using this method were not consistent or reliable (Golder and Gazey 2020). Inaccurate age assignment of Bull Trout using fin rays was attributed to: 1) inconsistent annuli development on fin rays, particularly in older individuals with slower growth rates; 2) the youngest annuli not being evident in fin rays because the rays could not always be collected close enough to the body wall of the fish; and, 3) frequent and irregular growth checks that could be mistaken for annuli (most likely related to frequent migrations into and out of spawning tributaries). Otoliths (MacKay et al. 1990; Zymonas and McMahon 2009) and vertebrae (Gust 2001) are more accurate methods for ageing Bull Trout but both require lethal sampling. For age-related analyses of Bull Trout in 2021, fish initially captured during the Indexing Survey and during baseline studies for the Project (Mainstream 2010, 2011a, 2013) that were less than 240 mm FL were assigned an age of age-3 for the reasons detailed in Section 2.1.4. Age-4 Bull Trout were expected to be larger than 240 mm FL and age-0 to age-2 individuals were not expected to be present in the Peace River mainstem.

Between 2002 and 2021, 499 Bull Trout were recorded in the Peace River mainstem that had fork lengths less than 240 mm FL (range: 137 to 239 mm FL). This dataset should be considered an approximation of true age-3 fish. An unknown number of age-4 Bull Trout in the Peace River could be smaller than 240 mm FL and an unknown number of age-3 Bull Trout could be larger than 240 mm FL. Based on length-frequency and annual growth data from recaptured individuals, these portions of the population are expected to be small. The dataset was supplemented with length-at-age data from age-0 to age-2 individuals collected from the Halfway River watershed (Golder 2018–2020, 2021b, 2022b) to provide a representative dataset that encompasses all age classes. Although the dataset was small (*n* = 6) for age-4 and older Bull Trout with ages assigned based on time between captures, this sample size is expected to increase in future years as immature Bull Trout that were tagged at a known age in the Halfway River watershed are encountered in the Peace River and as more fish initially tagged as age-3 individuals are recaptured.

Length-at-age data indicate slower growth rates for Bull Trout in tributaries when compared to Bull Trout in the Peace River mainstem. von Bertalanffy growth curves fit the data better when the population was split into an age-0 to age-3 cohort (i.e., tributary growth) and an age-3 and older cohort (i.e., Peace River mainstem growth). The increased growth rate in the Peace River may be related to the transition from a benthic to a fish-based diet.

In water-bodies where suitable prey fish are present, the transition to a fish-based diet typically occurs when Bull Trout are between 100 and 200 mm in fork length (Stewart et al. 1982; Boag 1987; Pratt 1992, as cited in McPhail and Baxter 1996).

Body condition and relative weight of Bull Trout have been slightly lower from 2016 to 2021 compared to years prior to 2016 (all sections combined); however, in 2021, body condition and relative weight metrics for Bull Trout increased from 2020 values for most sections. Overall, based on body condition metrics, Bull Trout in the Peace River are considered healthy.

4.5 Mountain Whitefish

In Sections 1, 3, and 5, Mountain Whitefish catch rates were highest from 2002 to 2013 and have been generally lower since 2014. This finding is supported by ESSA et al. (2019), which found that CPUE for Mountain Whitefish was highest in years prior to 2014 compared to years after 2014. This difference could be related to a change in electrofishing settings (i.e., reduced amperage and pulse frequency) that was initiated in 2014 to reduce potential electroshocker related injuries to fish. Abundance estimates using capture-recapture methods, which estimate and account for differences in capture efficiency, did not suggest lower abundance in 2014–2019 than in 2002–2013 (Golder and Gazey 2020). This supports the idea that the difference in catch rates was likely due to the change in methods, and not a difference in the abundance of Mountain Whitefish. The decline in catch rates in Sections 1 and 3 in 2021 may be related to river diversion. Since 3 October 2020, Mountain Whitefish downstream of the Project have been unable to reach upper sections of the Peace River without the assistance of trap and haul (i.e., operation of the TUF and contingent boat electroshocking surveys). This theory is further supported by slightly higher catch rates in Section 5 (immediately downstream of the Project) in 2021, compared to the previous year. Additional years of data are required to test this hypothesis.

In 2021, as well as previous years of the program, the catch and relative abundance of Mountain Whitefish were highest in Section 1, and generally decreased with distance downstream. Reasons for this trend are not definitively known. However, habitat quality and environmental factors, such as water temperature and turbidity (which influence benthic production), generally increase with distance downstream, and may explain the decreasing trend in Mountain Whitefish abundance with distance downstream from PCD.

Indicators of body condition (Fulton's condition factor and relative weight) were higher in 2021 compared to recent years for all sections except Section 5. Mountain Whitefish captured in Section 5 had markedly lower condition than any other section, and any previous study year, suggesting a recent decline in overall health.

4.6 Rainbow Trout

Catch data and catch rates did not suggest any substantial changes in the abundance of Rainbow Trout between 2015 and 2021. Consistent with previous studies, the majority (80%) of the encountered Rainbow Trout were recorded in the upstream two sections of the study area. The higher abundance of Rainbow Trout in these sections was attributed to feeding and rearing habitat provided by tributaries to the Peace River in the upstream portion of the study area. Lynx Creek, which flows into the Peace River in Section 1, is one of three known spawning and rearing streams for Peace River Rainbow Trout (RRCS 1978; Mainstream 2012). However, recent landslides (first encountered in 2014) in the Lynx Creek watershed may have left the system less suitable for Rainbow Trout. Lynx Creek has not been sampled as part of the Tributary Survey (Mon-1b, Task2c) because of the persistence of high turbidity and deposited sediment that prevented effective sampling and likely severely reduced habitat suitability for Rainbow Trout (Golder 2022b). As such, whether Lynx Creek is still used by the Peace River Rainbow Trout population is unknown. Considering catch rates have remained relatively consistent since 2015 it would suggest that the landslides in Lynx Creek have had a minimal effect on the Peace River Rainbow Trout population. Rainbow Trout may be prioritizing other tributaries for spawning and rearing. YOY and immature Rainbow Trout have been encountered in Farrell and Maurice Creeks, both of which flow into the Peace River upstream of Section 3. Since 2017, 449 immature Rainbow Trout have been tagged in Farrell and Maurice creeks; however, none of these Rainbow Trout have been captured in the Peace River under other components of the FAHMFP (Golder 2022b).

The range of body lengths of Rainbow Trout captured in the Peace River overlapped between age classes as young as age-1, which makes it difficult to validate assigned ages through length frequency comparisons. The overlapping length distributions may be because the population sampled in the Peace River represents juveniles reared in different spawning tributaries, and growth rates during early life varied among tributaries. Substantial differences in length-at-age of age-0 and age-1 Rainbow Trout between Colt, Kobes, Maurice, and Farrell creeks were reported by Golder (2022b) and likely explain the overlapping lengths observed in the Peace River.

Body condition of Rainbow Trout has remained consistent over the 20-year monitoring period, and metrics suggest that Rainbow Trout from the Peace River are in healthy condition.

4.7 Walleye

Catch rates from 2015 to 2021 suggest a generally stable population, but with higher relative abundance in 2018 than in other years. The higher relative abundance in 2018 suggests a strong spawning cohort that year. Higher catch rates for age-2 Walleye in 2020 and higher catch rates for age-3 Walleye in 2021 also suggest higher recruitment during the 2018 spawning season.

Beginning in 2017, the Indexing Survey has included two sites near the Beatton River's confluence with the Peace River (i.e., 07BEA01 and 07BEA02). This confluence area is a known feeding area for Walleye (RRCS 1978; Mainstream 2012) and since 2017, these two sites have accounted for 21% of the Walleye catch.

The Goldeye and Walleye Survey was implemented annually beginning in 2018 in response to low Goldeye catch rates during the Indexing Survey. The number of Walleye captured during the Goldeye and Walleye Survey in 2021 (*n* = 57) was more than double the number captured in each of the three previous years it was conducted (22 in 2018, 24 in 2019, 22 in 2020). The timing of the Goldeye and Walleye Survey varied each year to maximize the likelihood of encountering Goldeye. As such, Walleye catch during the Goldeye and Walleye Survey may have been influenced by the timing of sampling relative to the timing of spring spawning migrations (LGL 2022). During future study years, the timing of the Goldeye and Walleye Survey should be tailored as needed to maximize Goldeye catch rates, provided Walleye catches remain high during the Indexing Survey.

4.8 Sucker Species

Although none of the sucker species are considered indicator species under this program's objectives, all adult large-bodied fishes are monitored as part of the program to test Management Hypothesis #4 regarding fish community structure. Sucker species may be useful for detecting changes in the fish community in the study area for several reasons. Suckers form a large component of the biomass (ESSA 2012) and can contribute substantially to ecosystem function through nutrient cycling, affect the invertebrate communities through grazing, and serve as prey items (both as eggs and fish) for other fish species (Cooke et al. 2005). For these reasons, and their low trophic position as grazers, suckers can be an important sentinel species for monitoring changes in fish communities and ecosystems (Cooke et al. 2005). Suckers (all species combined) are common in the Peace River catch data and their large sample sizes and recapture rates will likely result in greater precision in estimates of fish population metrics and greater power to detect change as a result of the construction and operation of the Project when compared to some less abundant indicator fish species.

Catch rates were used as an index of relative abundance and suggested different trends between species during years when suckers were targeted (2015 to 2021). Catch rates of Largescale Sucker has varied little since 2015 and suggests a stable population. Catch rates of Longnose Sucker decreased from 2015 to 2018, remained stable from 2018 to 2020, then increased substantially in 2021, suggesting recent population growth. The catch rate of White Sucker was greatest in 2015, with lower but stable values in all other years since 2016. If catch rates reflect real trends in abundance, the different trends between species could be caused by differences in ecological niches and life history, as has been reported for sympatric sucker species in other watersheds (Laub and Budy 2015; Clark-Barkalow et al. 2020).

The distribution of suckers varied by species, life-stage, and section. During most study years, immature Largescale Sucker and Longnose Sucker were infrequently captured in Section 1 and were more common in Sections 7 and 9. White Sucker was the least common of the three species in all six sections, and nearly all captured White Sucker were adults.

Body condition of Largescale Sucker and Longnose Sucker have declined in Section 1 in recent years; however, in most other sections, condition has been generally stable.

4.9 Other Species

For two of the seven indicator species (Burbot and Goldeye), low catches prevented detailed analyses and interpretation of trends. In 2021, only 7 Goldeye and 17 Burbot were captured.

The number of Burbot captured was low in most years, with typical catches of less than 20 individuals, with the exception of 2016 (n = 37) and 2019 (n = 47). Reduced habitat quality in the Moberly River, resulting in Burbot moving into the Peace River, was identified as a possible factor contributing to the higher Burbot catch in 2016

(Golder and Gazey 2017). Higher than average discharge in the Moberly River in 2016 and 2019 during the sampling period was also considered a possible factor leading to greater catch of Burbot in the Peace River during these years (Golder and Gazey 2020).

Burbot prefer deeper water during the daytime, and tetany (i.e., temporary paralysis), instead of galvanotaxis (i.e., directed swimming towards the anodes), is a common response by Burbot while conducting electroshocking surveys. For these reasons, Burbot that are observed during the Indexing Survey are typically further away from the netters, making them more difficult to net and reducing their catch rate. Due to typically low catch numbers, it is unlikely that Burbot catches will allow for meaningful inter-annual comparisons of life history metrics or abundance during future years of the study.

In 2021, seven Goldeye were captured during the Indexing Survey and two were captured during the Goldeye and Walleye Survey. Goldeye are seasonal residents in the study area, migrating upstream into the study area in the spring to feed in select tributaries, most notably the Beatton River (Mainstream 2011a). Microchemistry data from 13 Goldeye captured during the Indexing Survey indicated that all 13 fish originated from the Smoky River, which flows into the Peace River approximately 284 km downstream of the Project in Alberta (TrichAnalytics 2020).

Since 2015, the majority (77%) of the Goldeye captured during the Indexing Survey were in Section 9. Those captured during the Goldeye and Walleye Survey were at sites near the confluences of the Beatton, Clear, and Pouce Coupe rivers. These rivers have been previously identified as potential spawning tributaries and recruitment sources for the Peace River Goldeye population (Mainstream 2012).

The Indexing Survey in its current form will likely continue to catch small numbers of Goldeye and is unlikely to generate enough data to allow for meaningful inter-annual comparisons of life history metrics or abundance levels for this species in future study years.

In 2021, five Spottail Shiner were encountered in Section 5 (n = 2), Section 6 (n = 2), and Section 7 (n = 1). Spottail Shiner are not native in the Peace River, and those present likely originated from a population introduced into Charlie Lake, which flows into the Beatton River (McPhail 2007).

5.0 CONCLUSIONS

Sampling conducted since 2002 provides a long-term, annual dataset that can be used to estimate the abundance, spatial distribution, body condition, and growth rates of large-bodied fish populations in the Peace River prior to and during construction of the Project. During future study years, data from this program will be used to test management hypotheses about predicted changes in biomass and fish community composition in the Peace River during and after the construction and operation of the Project.

Catch rates used to assess trends in relative abundance suggested stable abundance since 2015 for many fish species including Bull Trout, Largescale Sucker, White Sucker, Rainbow Trout, and Walleye. In 2021, Longnose Sucker catch rates increased substantially from 2020 values, suggesting an increase in abundance. Catch rates for Arctic Grayling and Mountain Whitefish decreased during most successive years between 2015 and 2021, suggesting gradually declining abundance for both species. In 2021, the catch rates of Arctic Grayling and Mountain Whitefish were below the range values recorded during previous study years for most sections. Samples sizes of captured fish were low for Burbot, Goldeye, and Northern Pike, but the available data did not suggest any substantial changes in abundance since 2015.

Analyses of size-structure, age-structure, and body condition of fish populations suggested few differences between 2021 and previous years for nearly all species and metrics. Exceptions included age-3 Arctic Grayling in 2021, which were smaller than in previous years, and Mountain Whitefish from Section 5, which had lower body condition and relative weight in 2021 than all previous years. These results may indicate poorer conditions for growth of these species in 2021.

The Goldeye and Walleye Survey in 2021 involved four days of sampling in the spring near the confluences of seven tributaries of the Peace River that are known or suspected to be spawning tributaries or feeding areas for Goldeye and Walleye. In total, 2 Goldeye and 57 Walleye were captured during the Goldeye and Walleye Survey in 2021. Despite the additional sampling effort, total Goldeye catch has remained low, as densities of this species appear to be very low in the study area. Because of the low catches, the program is likely to only detect large changes in population abundance for this species.

6.0 CLOSURE

We trust that this report provides the information required. If there are any questions or require further detail, please contact the undersigned.

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https://golderassociates.sharepoint.com/sites/124586/project files/6 deliverables/2021 annual report/final/20136470-023-r-rev0-2021 peace river fish indexing 21oct_22.docx

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APPENDIX A

Maps and UTM Locations

Table A1. Location and distance from WAC Bennett Dam of Peace River boat electroshocking sites sampled in 2021.

Section	Site Name	Bank[a]	Upper Site Limit				Lower Site Limit				Site Length (m)
			Zone[b]	Easting	Northing	River Km[c]	Zone[b]	Easting	Northing	River Km[c]	
1	0101	ILDB	10	566453	6207858	25.4	10	566936	6208239	25.9	600
	0102	ILDB	10	566936	6208240	25.9	10	567497	6208907	26.9	975
	0103	RDB	10	566302	6207742	25.3	10	567401	6208075	26.2	1200
	0104	IRDB	10	566460	6207754	25.4	10	566934	6207880	25.8	500
	0105	RDB	10	567402	6208074	26.2	10	568000	6208913	27.3	1100
	0107	LDB	10	568372	6210050	28.4	10	568798	6210402	28.9	550
	0108	RDB	10	568605	6209966	28.5	10	569259	6210477	29.3	850
	0109	RDB	10	569260	6210478	29.3	10	569850	6211235	30.3	975
	0110	LDB	10	568798	6210403	28.9	10	569302	6211053	29.7	650
	0111	LDB	10	569302	6211053	29.7	10	569825	6211869	30.7	1000
	0112	LDB	10	569824	6211868	30.7	10	570686	6212472	31.8	1070
	0113	RDB	10	569994	6211528	30.6	10	570510	6212043	31.3	750
	0114	LDB	10	570686	6212474	31.8	10	571342	6213121	32.8	950
	0116	RDB	10	570511	6212043	31.3	10	571265	6212633	32.3	985
	0119	LDB	10	567516	6209096	27.0	10	568019	6209628	27.8	750
3	0301	RDB	10	600824	6232860	71.3	10	602606	6233198	73.1	1800
	0302	IRDB	10	599753	6233307	70.2	10	601597	6233232	72.0	1900
	0303	IRDB	10	601597	6233232	72.0	10	602930	6233597	73.6	1450
	0304	ILDB	10	602583	6233193	73.1	10	603787	6233290	74.5	1350
	0305	LDB	10	603204	6233827	73.8	10	604640	6233426	75.4	1550
	0306	LDB	10	604655	6233435	75.4	10	605586	6233750	76.5	1000
	0307	IRDB	10	605976	6233888	77.0	10	606935	6234160	78.0	950
	0308	IRDB	10	606935	6234158	78.0	10	607692	6235034	79.4	1350
	0309	ILDB	10	605976	6233878	77.0	10	606666	6234387	77.8	950
	0310	ILDB	10	606662	6234395	77.8	10	607691	6235034	79.4	1200
	0311	LDB	10	605585	6233743	76.5	10	606512	6234441	77.7	1250
	0312	LDB	10	607058	6234840	78.6	10	608047	6235753	80.2	1170
	0314	RDB	10	604468	6233079	75.1	10	605400	6233321	76.1	975
	0315	RDB	10	605400	6233320	76.1	10	606956	6233951	77.9	1700
	0316	RDB	10	606956	6233951	77.9	10	607974	6234928	79.3	1475
5	0502	RDB	10	630016	6229305	106.2	10	630954	6229298	107.1	950
	0505	LDB	10	630553	6229765	106.7	10	631540	6229590	107.7	1000
	0506	LDB	10	631539	6229590	107.7	10	632491	6229713	108.6	1000
	0507	RDB	10	632339	6229356	108.4	10	633099	6229489	109.1	780
	0508	LDB	10	637926	6227901	115.5	10	638432	6227150	116.4	925
	0509	IRDB	10	632785	6229686	108.9	10	633704	6229905	109.8	975
	0510	RDB	10	634530	6229634	110.5	10	635555	6230048	111.6	1130
	0511	LDB	10	635651	6230419	111.8	10	636334	6230361	112.4	720
	0512	IRDB	10	633855	6229835	110.0	10	634872	6230026	111.0	1280
	0513	RDB	10	637113	6228814	114.2	10	637433	6228125	115.0	770
	0514	ILDB	10	637427	6228123	115.0	10	637735	6227647	115.5	560
	0515	IRDB	10	637376	6229072	114.1	10	637591	6228192	115.0	970
	0516	ILDB	10	633861	6229939	110.2	10	634404	6230473	111.0	800
	0517	ILDB	10	634513	6230626	111.0	10	635000	6230250	111.6	700
	0518	LDB	10	636334	6230361	112.5	10	637373	6229072	114.1	1810
	05SC060	RDB	10	633456	6229118	58.7	10	633909	6229258	58.3	530

[a] RDB=Right bank as viewed facing downstream; LDB=Left bank as viewed facing downstream; IRDB=Right bank of island as viewed facing downstream; ILDB=Left bank of island as viewed facing downstream.

[b] NAD 83.

[c] River kilometres measured downstream from WAC Bennett Dam (RiverKm 0.0).

Continued . . .

Table A1. Concluded.

Section	Site Name	Bank[a]	Upper Site Limit				Lower Site Limit				Site Length (m)
			Zone[b]	Easting	Northing	River Km[c]	Zone[b]	Easting	Northing	River Km[c]	
6	0601	LDB	10	643238	6224330	122.0	10	644400	6224099	123.0	1200
	0602	RDB	10	644567	6223590	123.3	10	645385	6223368	124.1	900
	0603	IRDB	10	646156	6223144	124.8	10	647208	6222813	125.9	1300
	0604	RDB	10	646546	6222599	125.4	10	647508	6222650	126.2	1000
	0605	IRDB	10	647888	6222979	126.5	10	648668	6223109	127.3	800
	0606	LDB	10	649302	6223371	127.1	10	650601	6222912	129.3	1400
	0607	IRDB	10	651250	6222649	130.0	10	652139	6222123	131.0	1000
	0608	RDB	10	647711	6222699	126.4	10	648681	6222855	127.3	1000
	0609	ILDB	10	649423	6223115	128.0	10	650300	6222732	129.0	1000
	0610	ILDB	10	650309	6222738	129.0	10	651089	6222427	129.9	850
	0611	ILDB	10	651070	6222442	129.9	10	651842	6221990	130.9	900
	0612	IRDB	10	652136	6222141	131.0	10	652937	6221822	132.0	850
	0613	RDB	10	653270	6221438	132.4	10	654182	6221491	133.2	900
	0614	IRDB	10	645301	6223722	123.5	10	646108	6223365	124.7	975
	06PIN01	RDB	10	641497	6223588	1.9[d]	10	642638	6224067	0.3[d]	1500
	06PIN02	RDB	10	642639	6224071	0.3[d]	10	643433	6224055	122.2	1000
	06SC036	IRDB	10	654048	6222162	133.3	10	654522	6222203	133.8	500
	06SC047	RDB	10	644017	6223518	122.8	10	644510	6223546	123.2	550
7	0701	LDB	10	662099	6220280	141.8	10	662869	6220173	142.5	785
	0702	IRDB	10	664322	6219824	144.0	10	665185	6220188	144.8	950
	0703	LDB	10	665724	6220631	145.5	10	666643	6220828	146.4	950
	0704	IRDB	10	667149	6220752	146.8	10	668100	6220738	147.7	1000
	0705	RDB	10	667571	6220294	147.2	10	668547	6220497	148.1	1000
	0706	RDB	10	668544	6220498	148.1	10	669537	6220614	149.0	1000
	0707	IRDB	10	669735	6220916	149.3	10	670551	6221286	150.1	980
	0708	LDB	10	663908	6220160	143.6	10	665071	6220480	144.8	1240
	0709	IRDB	10	665176	6220191	144.8	10	666096	6220512	145.7	1000
	0710	IRDB	10	668109	6220743	147.7	10	669272	6220889	148.8	1400
	0711	ILDB	10	669781	6220712	149.3	10	671111	6221081	150.6	1390
	0712	ILDB	10	671288	6221104	150.8	10	672241	6220774	151.9	1065
	0713	IRDB	10	672355	6221006	151.7	10	672991	6220293	152.7	980
	0714	IRDB	10	673481	6220112	153.2	10	674730	6219912	154.4	1275
	07BEA01	LDB	10	662969	6220383	0.4[e]	10	663146	6220001	0.0[e]	430
	07BEA02	LDB	10	663146	6220001	143.9	10	663728	6220100	143.5	600
	07KIS01	RDB	10	676794	6219192	1.0[f]	10	676743	6220010	157.7	1300
	07SC012	LDB	10	676579	6220730	156.4	10	676792	6220831	156.6	220
	07SC022	RDB	10	666832	6219962	146.3	10	667130	6220145	146.7	360
9	0901	LDB	11	357843	6239030	217.6	11	358391	6239968	218.7	1100
	0902	LDB	11	358391	6239968	218.6	11	359350	6240287	219.5	1000
	0903	ILDB	11	358363	6239289	218.1	11	359084	6240016	219.2	1100
	0904	ILDB	11	359520	6240016	219.4	11	360625	6240169	220.7	1100
	0905	LDB	11	361692	6240512	221.7	11	362771	6240709	222.9	1100
	0906	RDB	11	363235	6241089	223.5	11	363870	6241929	224.6	1000
	0907	ILDB	11	364583	6242344	225.2	11	365319	6243257	226.3	1200
	0908	ILDB	11	365837	6243458	226.6	11	366849	6243231	228.0	1100
	0909	ILDB	11	366849	6243231	228.0	11	367534	6242583	228.9	950
	0910	LDB	11	363258	6240685	223.3	11	364070	6241393	224.3	1100
	0911	IRDB	11	366799	6243728	227.6	11	367379	6243081	228.4	1000
	0912	LDB	11	368560	6241724	230.0	11	368549	6240689	231.0	1100
	0913	RDB	11	367347	6241966	229.5	11	367721	6241096	230.5	1000
	0914	IRDB	11	367734	6241649	230.0	11	368179	6240875	230.8	950
	09SC053	RDB	11	360795	6239970	220.8	11	361029	6240059	221.1	260
	09SC061	RDB	11	366861	6242408	228.6	11	367347	6241966	229.4	675

[a] RDB=Right bank as viewed facing downstream; LDB=Left bank as viewed facing downstream; IRDB=Right bank of island as viewed facing downstream; ILDB=Left bank of island as viewed facing downstream.

[b] NAD 83.

[c] River kilometres measured downstream from WAC Bennett Dam (RiverKm 0.0).

[d] River kilometres measured upstream from the Pine River's confluence with the Peace River (RiverKm 0.0).

[e] River kilometres measured upstream from the Beatton River's confluence with the Peace River (RiverKm 0.0).

Table A2 Location and distance from WAC Bennett Dam of Peace River boat electroshocking sites sampled for Goldeye and Walleye in 2021.

Section	Site Name	Bank[a]	Upper Site Limit				Lower Site Limit				Site Length (m)
			Zone[b]	Easting	Northing	River Km[c]	Zone[b]	Easting	Northing	River Km[c]	
7	07ALC01	LDB	10	682614	6223992	163.5	10	683384	6224198	164.3	830
	07BEA01	LDB	10	662969	6220383	0.4[d]	10	663146	6220001	0.0[d]	430
	07BEA02	LDB	10	663146	6220001	143.9	10	663728	6220100	143.5	600
	07KIS01	RDB	10	676794	6219192	1.0[e]	10	676743	6220010	157.7	1300
	07MileEight01	RDB	10	655782	6222032	135.1	10	656456	6221827	135.8	730
	07MileSix01	RDB	10	655486	6222037	134.7	10	655782	6222032	135.1	310
8	08CLE01	LDB	11	331479	6228739	187.4	11	332103	6228412	188.1	700
	08POC01	RDB	11	318808	6224656	173.6	11	319816	6224760	174.5	1100

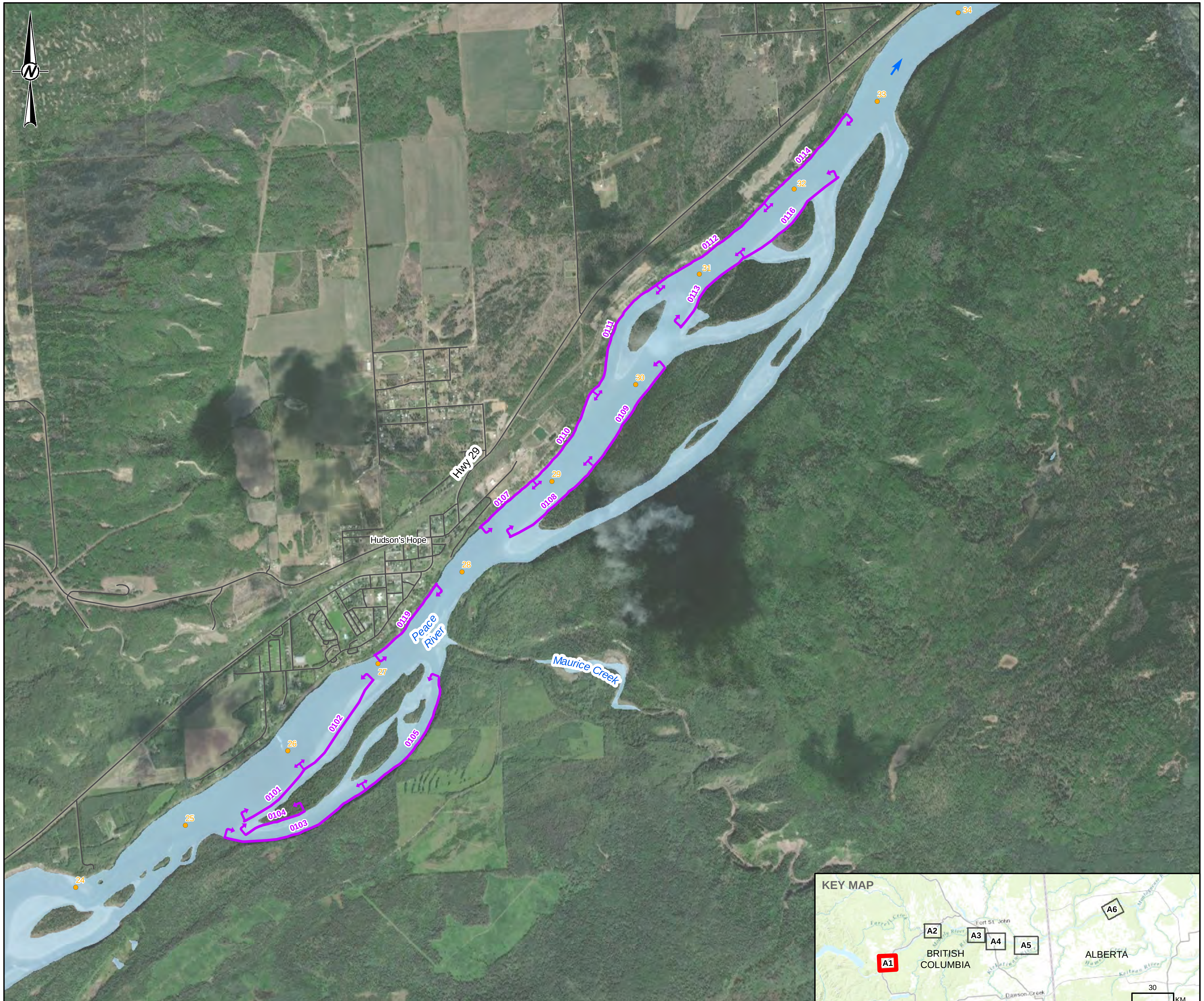
[a] RDB=Right bank as viewed facing downstream; LDB=Left bank as viewed facing downstream.

[b] NAD 83.

[c] River kilometres measured downstream from WAC Bennett Dam (RiverKm 0.0).

[d] River kilometres measured upstream from the Beatton River's confluence with the Peace River (RiverKm 0.0).

[e] River kilometres measured upstream from the Kiskatinaw River's confluence with the Peace River (RiverKm 0.0).



LEGEND

RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM

FLOW DIRECTION

0110 BOAT ELECTROSHOCKING SITE

BASE DATA

ROAD

WATERBODY

0 540 1,080

1:30,000 Metres

REFERENCES

1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT

BC HYDRO

PROJECT

PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE

SECTION 1 - PEACE RIVER LARGE FISH INDEXING SURVEY (TASK 2A)

CONSULTANT

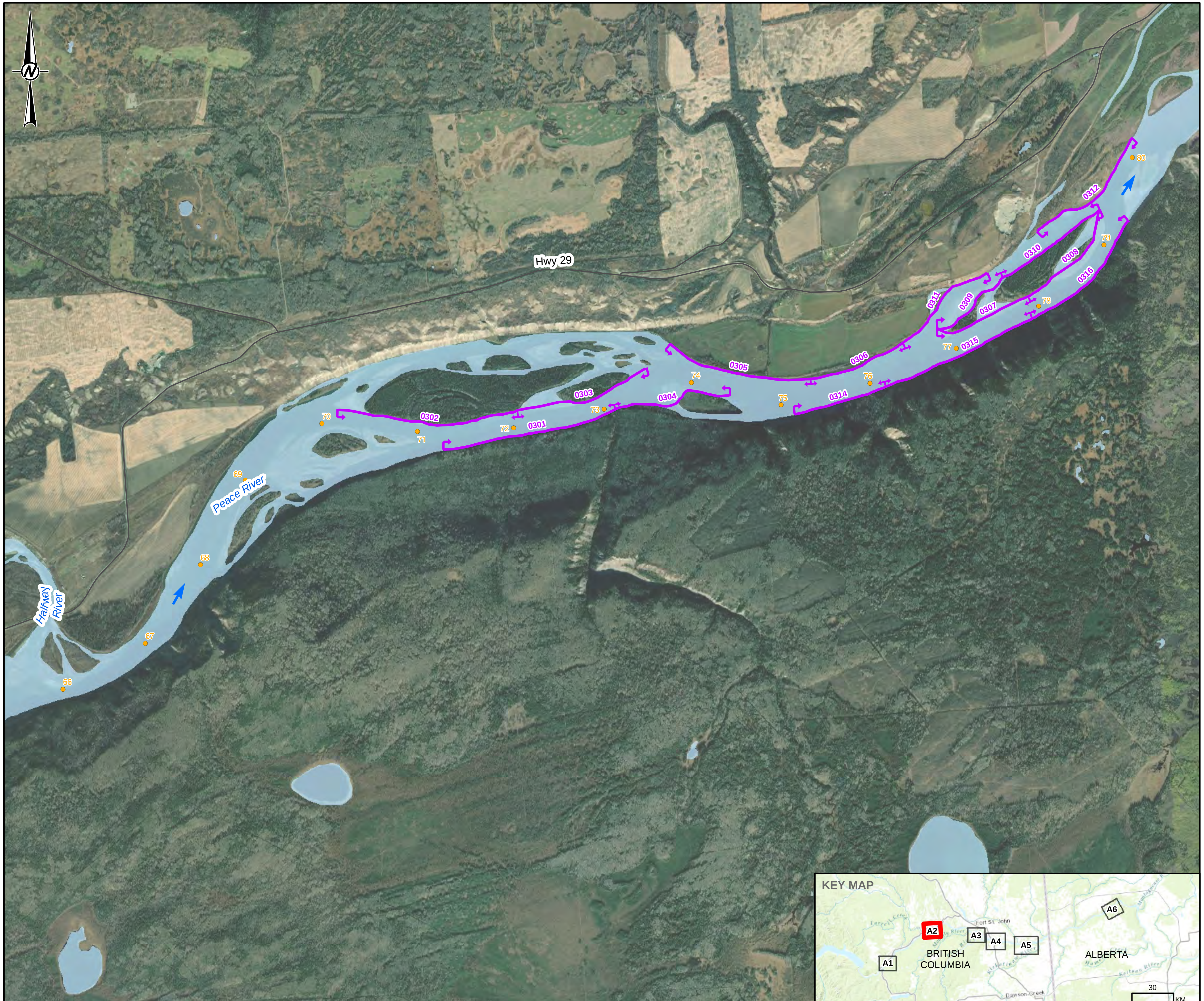
GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A1

PATH: \\golder.gds\gal\burnaby\CAD-GIS\Client\BC_Hydro\Peace_River_GMS\99_PROJECTS\19121769_PeaceRiver_GMS\02_PRODUCTION\MXD\Report\2021\19121769_FIG_A1_to_A6_PEACE_RIVER_SECTIONS_2021.mxd

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM

FLOW DIRECTION

0110 BOAT ELECTROSHOCKING SITE

BASE DATA

ROAD

WATERBODY

0 720 1,440

1:40,000 Metres

REFERENCES
1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 3 - PEACE RIVER LARGE FISH INDEXING SURVEY (TASK 2A)

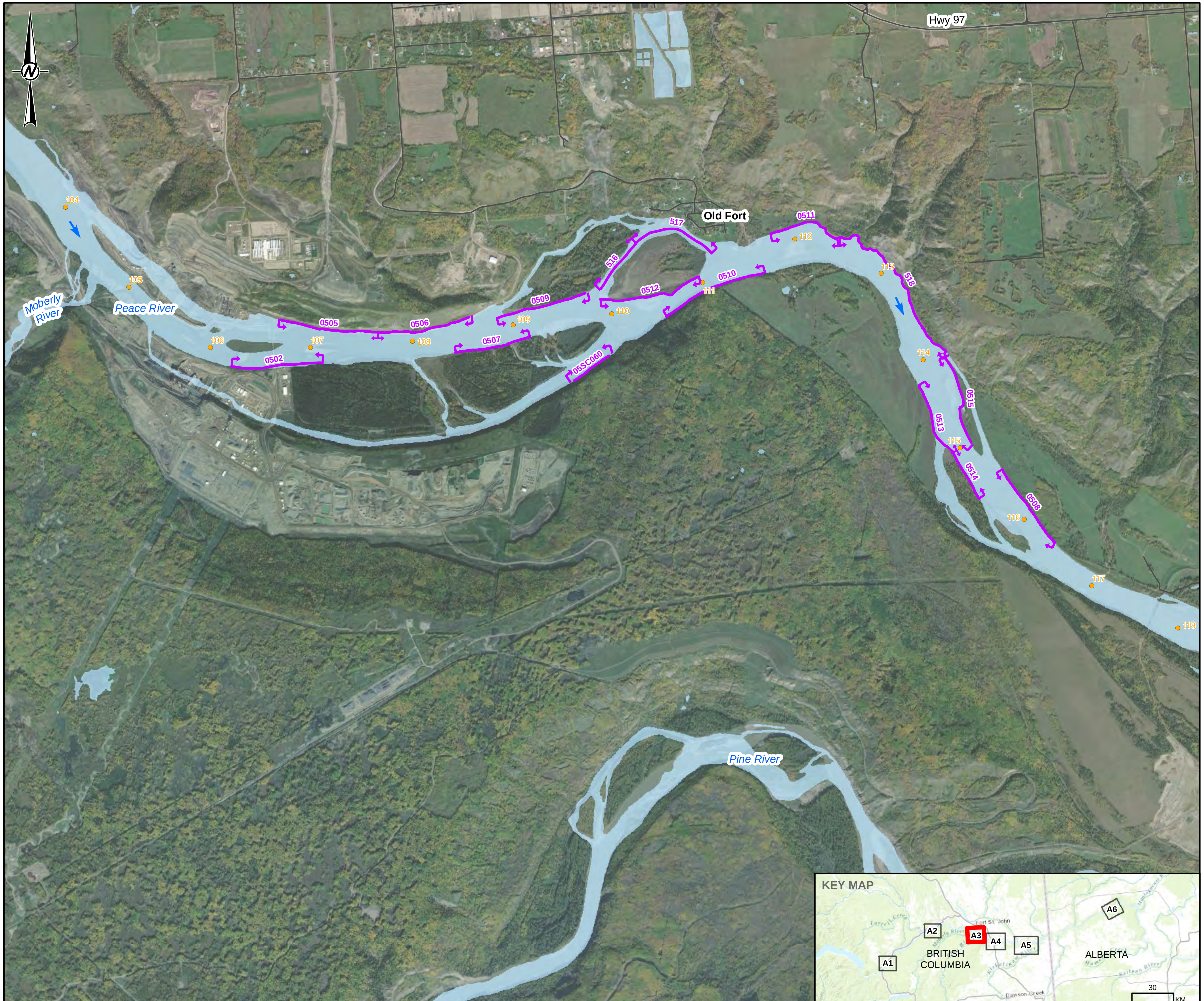
CONSULTANT
GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm



LEGEND

RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM

FLOW DIRECTION

0110 BOAT ELECTROSHOCKING SITE

BASE DATA

ROAD

WATERBODY

0 720 1,440

1:40,000 Metres

REFERENCES

1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 5 - PEACE RIVER LARGE FISH INDEXING SURVEY (TASK 2A)

CONSULTANT

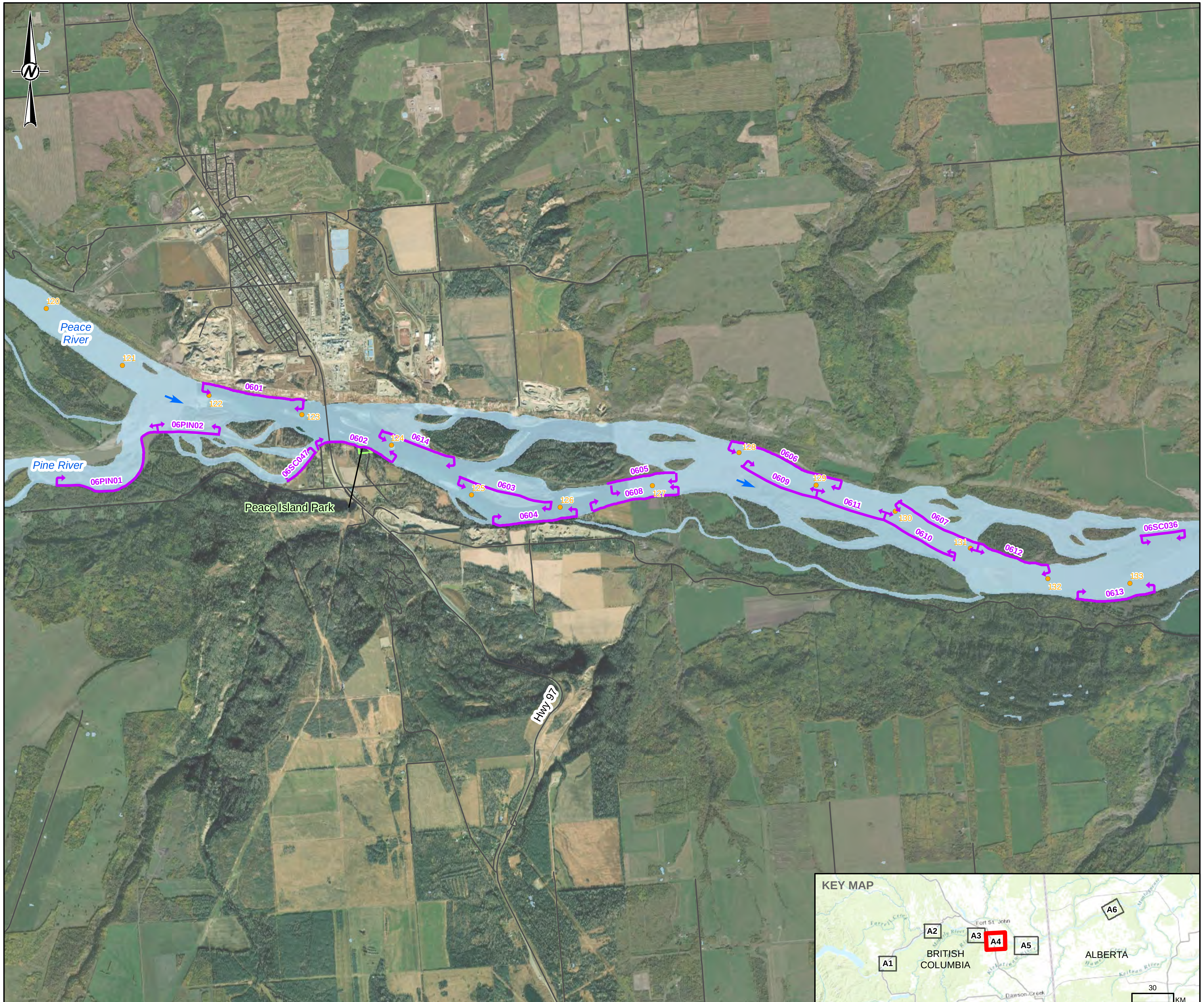
GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm



LEGEND

RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM

FLOW DIRECTION

0110 BOAT ELECTROSHOCKING SITE

BASE DATA

ROAD

PROVINCIAL PARK AND PROTECTED AREA

WATERBODY

REFERENCES
1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 6 - PEACE RIVER LARGE FISH INDEXING SURVEY (TASK 2A)

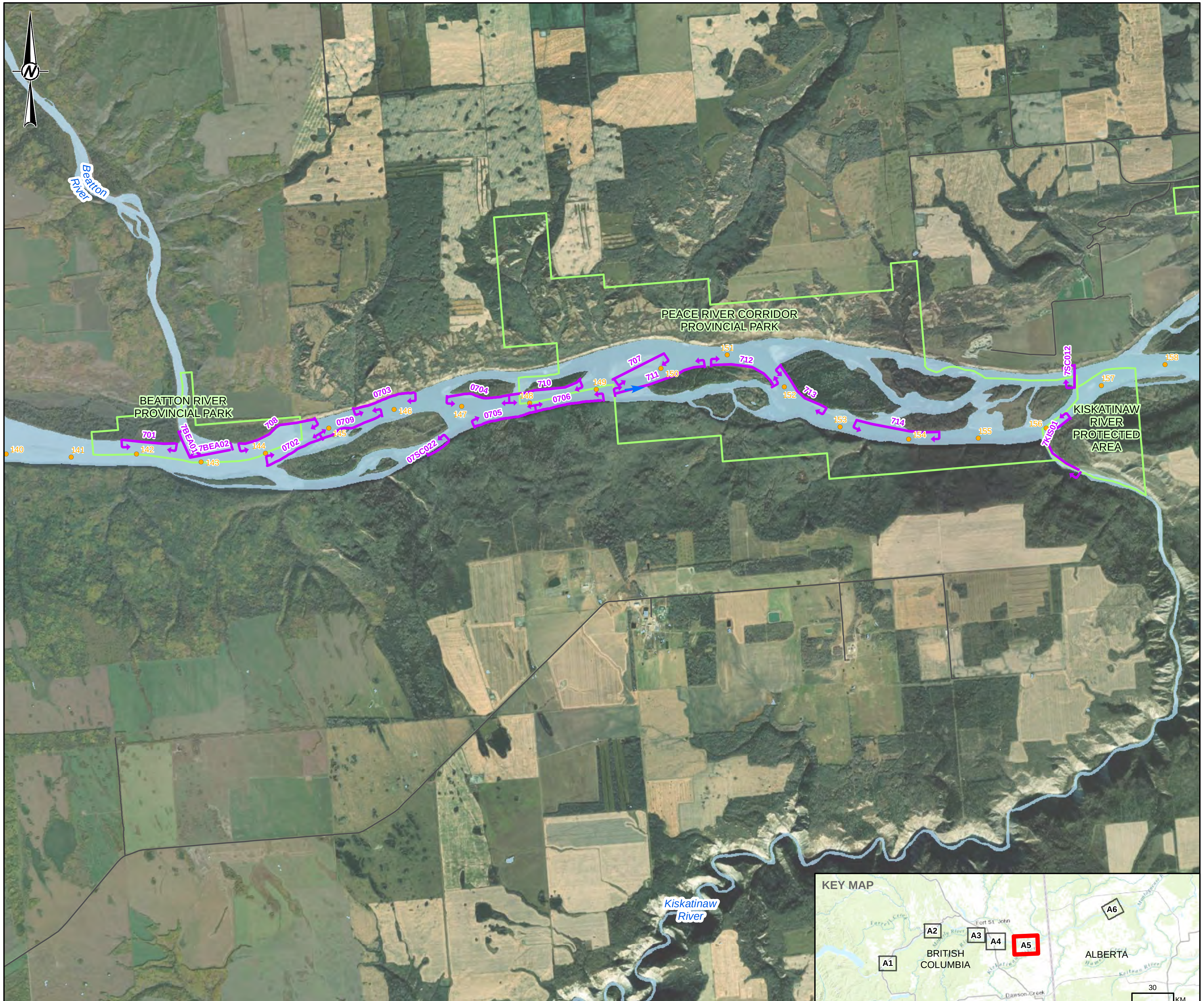
CONSULTANT
GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm



LEGEND

RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM

FLOW DIRECTION

0110 BOAT ELECTROSHOCKING SITE

BASE DATA

ROAD

PROVINCIAL PARK AND PROTECTED AREA

WATERBODY

0 1,000 2,000

1:60,000 Metres

REFERENCES

1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 7 - PEACE RIVER LARGE FISH INDEXING SURVEY (TASK 2A)

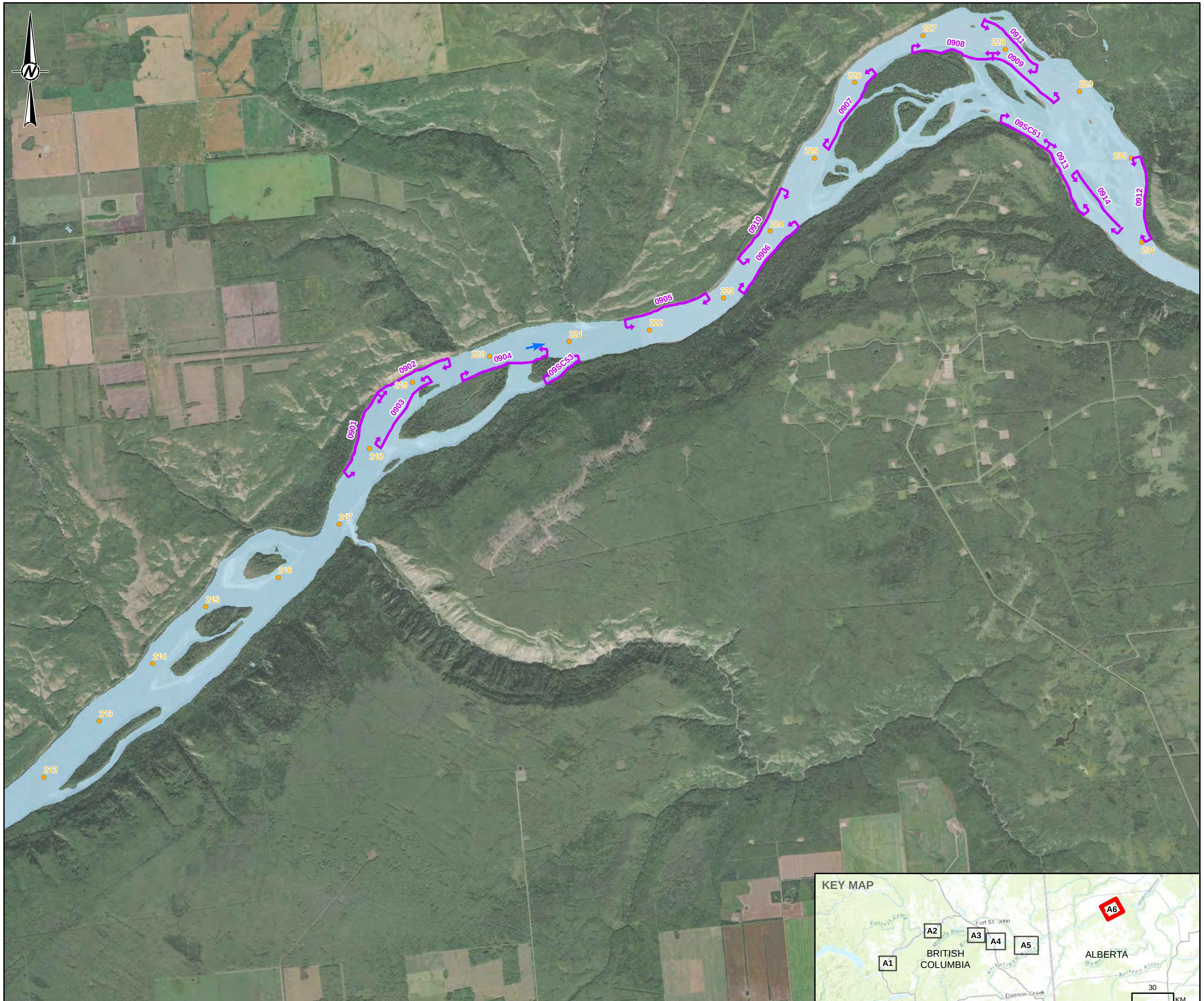
CONSULTANT

GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	**A5**

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM
- FLOW DIRECTION
- 0110 BOAT ELECTROSHOCKING SITE

BASE DATA

- ROAD
- WATERBODY

0 900 1,800

1:50,000 Metres

REFERENCES

1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 9 - PEACE RIVER LARGE FISH INDEXING SURVEY (TASK 2A)

CONSULTANT

GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

PATH: \\golder.gds\gal\burnaby\CAD-GIS\Client\BC_Hydro\Peace_River_GMS\99_PROJECTS\19121769_PeaceRiver_GMS\02_PRODUCTION\MXD\Report\2021\19121769_FIG_A1_to_A6_PEACE_RIVER_SECTIONS_2021.mxd

LEGEND

- RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM
- FLOW DIRECTION
- 0110 BOAT ELECTROSHOCKING SITE

BASE DATA

- ROAD
- PROVINCIAL PARK AND PROTECTED AREA
- WATERBODY

0 750 1,500

1:50,000 Metres

REFERENCES
1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
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COORDINATE SYSTEM: NAD 1983 BC ENVIRONMENT ALBERS

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 7 – PEACE RIVER LARGE FISH INDEXING SUIRVEY (TASK 2A) GOLDEYE AND WALLEYE SAMPLING SITES

CONSULTANT

GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

LEGEND

RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM

FLOW DIRECTION

0110 BOAT ELECTROSHOCKING SITE

BASE DATA

ROAD

PROVINCIAL PARK AND PROTECTED AREA

WATERBODY

0 750 1,500

1:50,000 Metres

REFERENCES

1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 BC ENVIRONMENT ALBERS

CLIENT

BC HYDRO

PROJECT

PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE

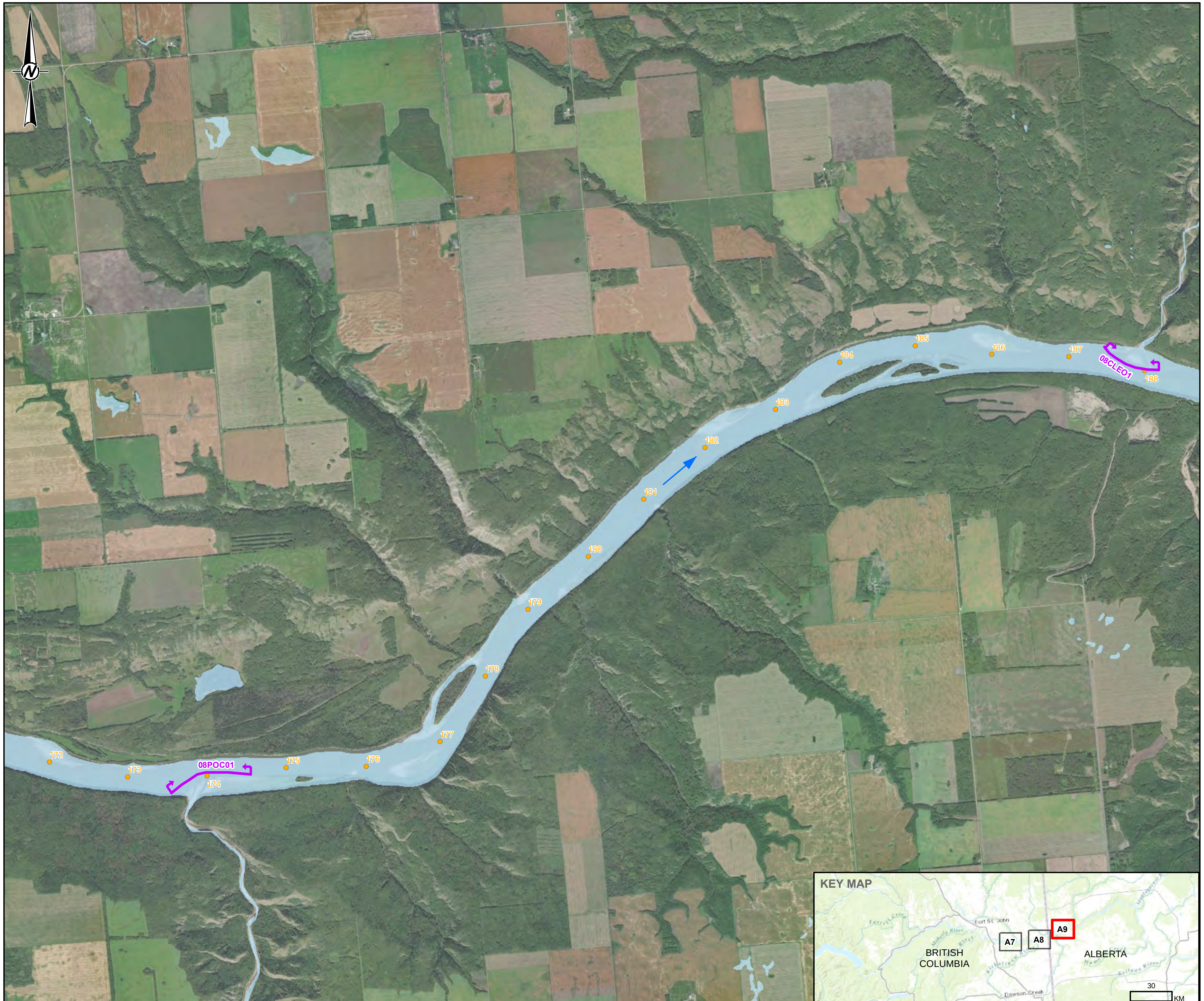
SECTION 7 – PEACE RIVER LARGE FISH INDEXING SUIRVEY (TASK 2A) GOLDEYE AND WALLEYE SAMPLING SITES

CONSULTANT

GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	A8



LEGEND

- RIVER KILOMETRE AS MEASURED DOWNSTREAM FROM W.A.C. BENNETT DAM
- FLOW DIRECTION
- 0110 BOAT ELECTROSHOCKING SITE
- WATERBODY

0 750 1,500

1:50,000 Metres

REFERENCES

1. TRANSPORTATION, HYDROLOGY AND TOPOGRPHY LAYERS CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
2. RAILROAD OBTAINED FROM IHS ENERGY.
3. RIVER KILOMETER MARKERS OBTAINED FROM BC HYDRO.
4. DAM SECTION AND ISLANDS OBTAINED FROM FROM GEOBASE®.
5. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 BC ENVIRONMENT ALBERS

CLIENT
BC HYDRO

PROJECT
PEACE RIVER FISH COMMUNITY MONITORING PROGRAM (MON-2)

TITLE
SECTION 8 – PEACE RIVER LARGE FISH INDEXING SUIRVEY (TASK 2A) GOLDEYE AND WALLEYE SAMPLING SITES

CONSULTANT

GOLDER

YYYY-MM-DD	2022-03-30
DESIGNED	DF
PREPARED	CD
REVIEWED	DR
APPROVED	DF

PROJECT NO.	PHASE	REV.	FIGURE
20136470	2021	0	**A9**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

APPENDIX B

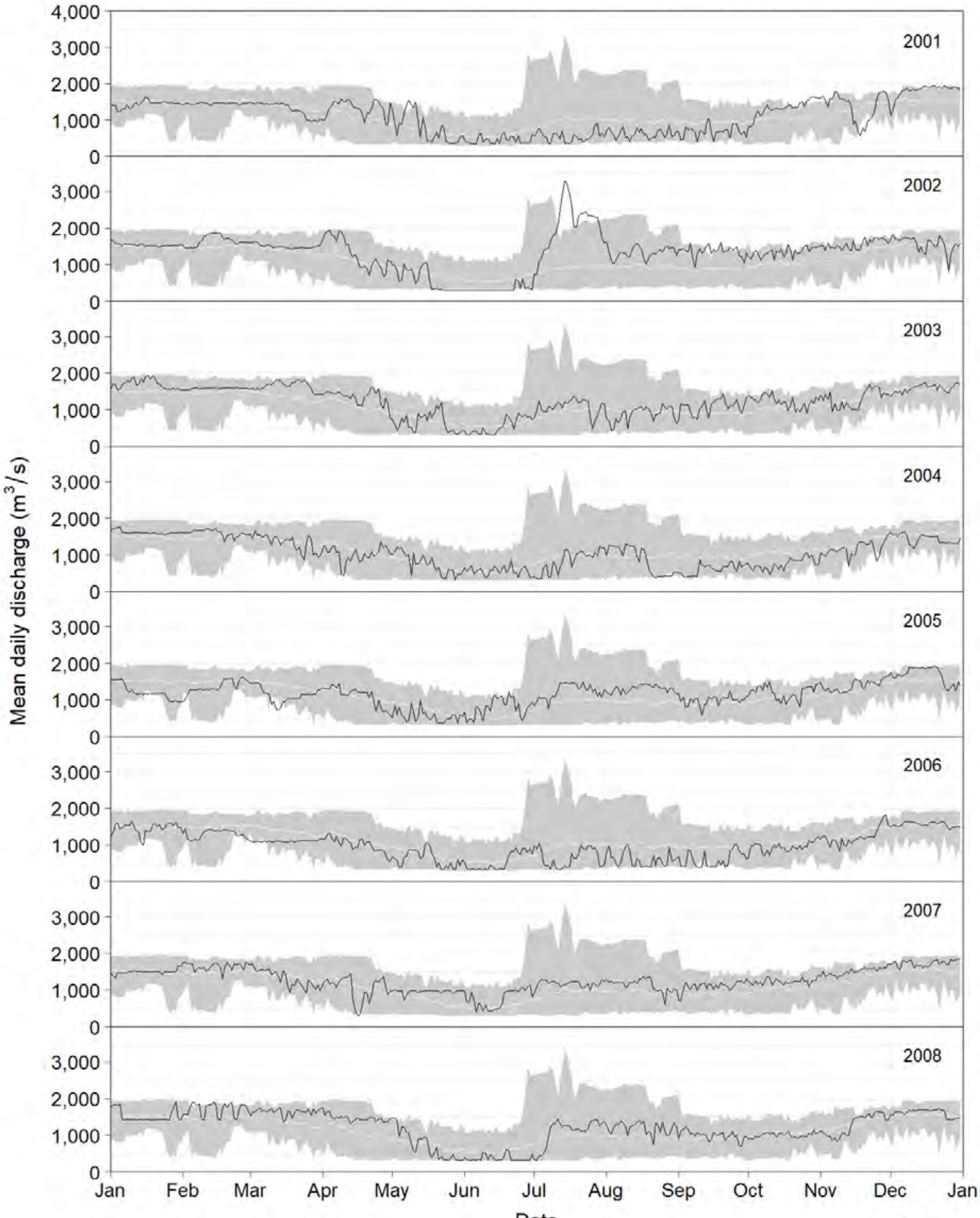
Historical Datasets

Table B1 Summary of historical datasets by sample section as delineated in Mainstream (2012). The summary is limited to studies that used similar capture techniques (i.e., boat electroshocking) during similar times of the year (i.e., August to October) when compared to the current program.

Year	Study Period	Effort (# of Days)	Section									
			1a	1	2	3	4	5	6	7	8	9
2002	21-Aug to 1-Oct	43		P&E and Gazey 2003	P&E and Gazey 2003	P&E and Gazey 2003	P&E and Gazey 2003					
2003	22-Aug to 2-Oct	48		Mainstream and Gazey 2004	Mainstream and Gazey 2004	Mainstream and Gazey 2004	Mainstream and Gazey 2004					
2004	24-Aug to 6-Oct	36		Mainstream and Gazey 2005		Mainstream and Gazey 2005		Mainstream and Gazey 2005				
2005	17-Aug to 26-Sep	33		Mainstream and Gazey 2006		Mainstream and Gazey 2006		Mainstream and Gazey 2006				
2006	16-Aug to 21-Sep	36		Mainstream and Gazey 2007	Mainstream and Gazey 2007	Mainstream and Gazey 2007						
2007	22-Aug to 24-Sep	30		Mainstream and Gazey 2008		Mainstream and Gazey 2008		Mainstream and Gazey 2008				
2008	20-Aug to 20-Sep	32		Mainstream and Gazey 2009		Mainstream and Gazey 2009		Mainstream and Gazey 2009				
2009	18-Aug to 27-Sep	37	Mainstream 2010a	Mainstream and Gazey 2010; Mainstream 2010a	Mainstream 2010a	Mainstream and Gazey 2010; Mainstream 2010a		Mainstream and Gazey 2010; Mainstream 2010a	Mainstream 2010a	Mainstream 2010a		
2010	24-Aug to 19-Oct	40	Mainstream 2011a	Mainstream and Gazey 2011; Mainstream 2011a	Mainstream 2011a	Mainstream and Gazey 2011; Mainstream 2011a		Mainstream and Gazey 2011; Mainstream 2011a	Mainstream 2011a	Mainstream 2011a	Mainstream 2011a	
2011	24-Aug to 19-Oct	37	Mainstream 2013a	Mainstream and Gazey 2012; Mainstream 2013a	Mainstream 2013a	Mainstream and Gazey 2012; Mainstream 2013a		Mainstream and Gazey 2012; Mainstream 2013a	Mainstream 2013a	Mainstream 2013a	Mainstream 2013a	Mainstream 2013a
2012	23-Aug to 21-Sep	30		Mainstream and Gazey 2013		Mainstream and Gazey 2013		Mainstream and Gazey 2013				
2013	24-Aug to 26-Sep	30		Mainstream and Gazey 2014		Mainstream and Gazey 2014		Mainstream and Gazey 2014				
2014	25-Aug to 4-Oct	35		Golder and Gazey 2015		Golder and Gazey 2015		Golder and Gazey 2015				
2015	25-Aug to 7-Oct	39		Golder and Gazey 2016		Golder and Gazey 2016		Golder and Gazey 2016	Golder and Gazey 2016	Golder and Gazey 2016		Golder and Gazey 2016
2016	23-Aug to 1-Oct	39		Golder and Gazey 2017		Golder and Gazey 2017		Golder and Gazey 2017	Golder and Gazey 2017	Golder and Gazey 2017		Golder and Gazey 2017
2017	21-Aug to 4-Oct	39		Golder and Gazey 2018		Golder and Gazey 2018		Golder and Gazey 2018	Golder and Gazey 2018	Golder and Gazey 2018		Golder and Gazey 2018
2018	27-Aug to 10-Oct	41		Golder and Gazey 2019		Golder and Gazey 2019		Golder and Gazey 2019	Golder and Gazey 2019	Golder and Gazey 2019		Golder and Gazey 2019
2019	20-Aug to 14-Oct	56		Golder and Gazey 2020		Golder and Gazey 2020		Golder and Gazey 2020	Golder and Gazey 2020	Golder and Gazey 2020		Golder and Gazey 2020
2020	21-Aug to 7-Oct	48		Golder 2021a		Golder 2021a		Golder 2021a	Golder 2021a	Golder 2021a		Golder 2021a
2021	16-Aug to 8 Oct	48		Current Study Year		Current Study Year		Current Study Year	Current Study Year	Current Study Year		Current Study Year

APPENDIX C

Discharge Summaries



Continued...

Figure C1: Mean daily discharge (m³/s) for the Peace River at Peace Canyon Dam (PCD; black line), 2001 to 2021. The shaded area represents minimum and maximum mean daily discharge recorded at PCD during other study years (i.e., 2001 and 2020). The white line represents average mean daily discharge over the same time period.

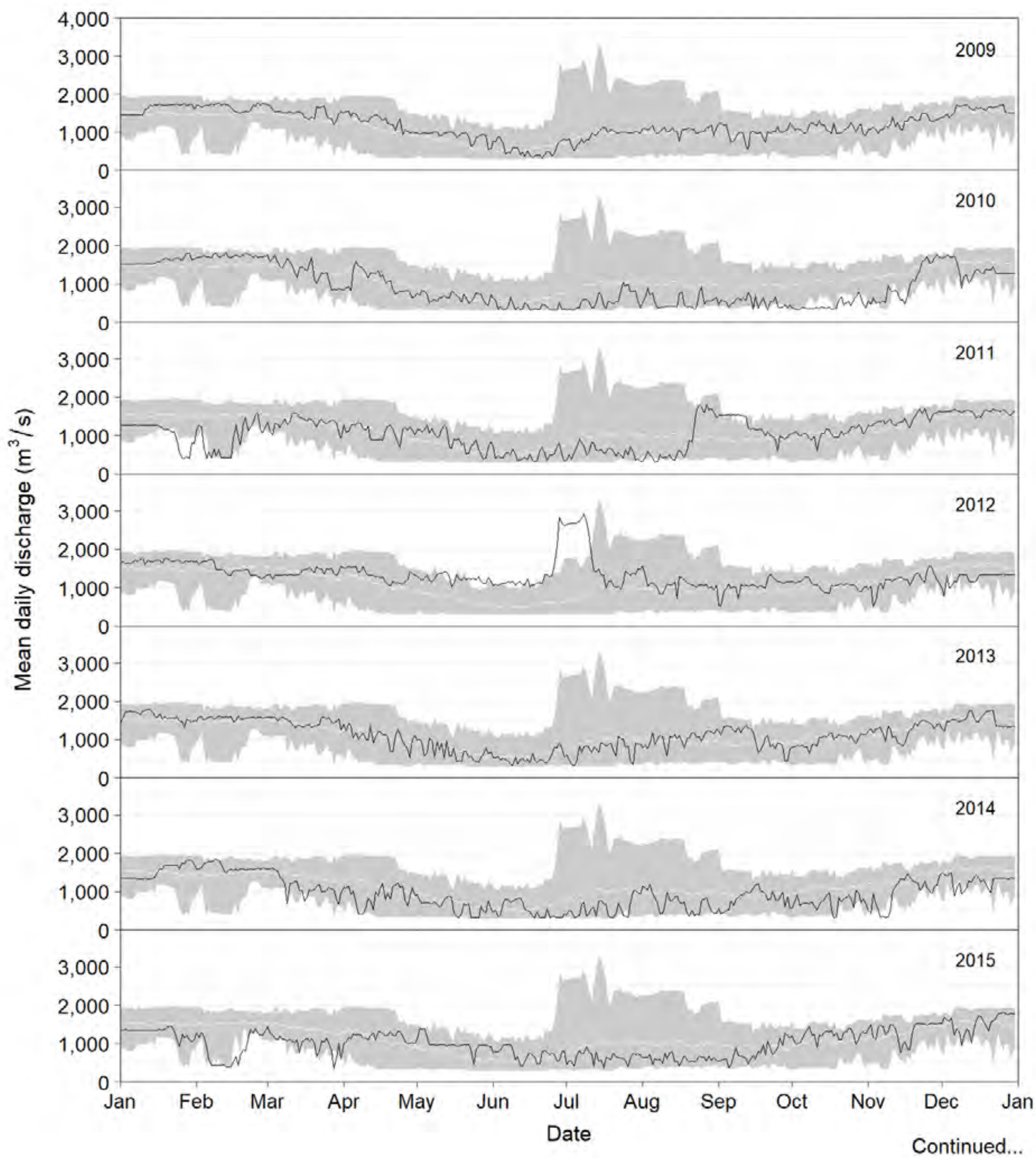


Figure C1: **Continued.**

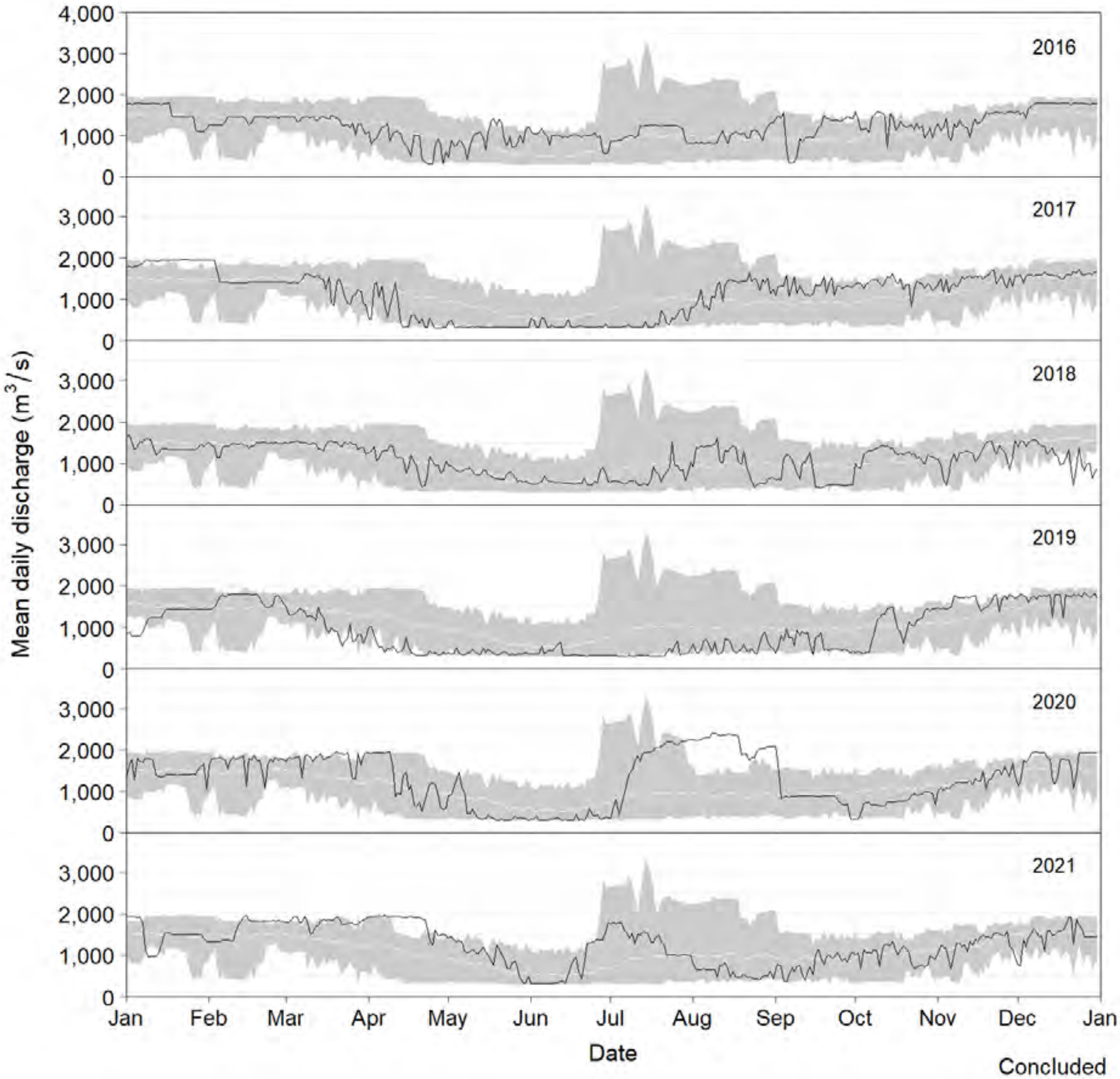


Figure C1: **Concluded.**

APPENDIX D

Habitat Data

Table D1 Summary of habitat variables recorded at boat electroshocking sites in the Peace River, 16 August to 08 October 2021.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
1	119	1	20	12.2	180	Partly cloudy	Medium	Medium	n/a	25						75	0
1	119	3	15	10.4	190	Overcast	Medium	Medium	1.8	40						60	0
1	119	4	15	10.4	190	Overcast	Medium	Medium	2.1	20						80	0
1	119	5	6	11.4	170	Overcast	High	High	1.6	40		20				40	0
1	119	6	6	10.9	160	Clear	High	High	1.2	50		20				30	0
1	116	1	15	11.6	190		Medium	Medium	n/a	50		10			40		0
1	116	2	18	11.8	200	Mostly cloudy	Medium	Medium	0.7	5		5			30	10	50
1	116	3	14	10.4	200	Mostly cloudy		Low	2	50					50		0
1	116	4	14	10.4	180	Mostly cloudy	Medium	Medium	2.5	60		10			30		0
1	116	5	6	12.5	170	Overcast	High	Medium	1.6	40				10	40	10	0
1	116	6	5	10.7	170	Overcast	High	Medium	1.2	30				30	30	10	0
1	114	1	22	12.5	180	Clear	High	Low	n/a	80					10	10	0
1	114	2	21	12.0	200	Partly cloudy	Medium	Medium	1.7	50		10			30	10	0
1	114	3	17	10.3	200	Mostly cloudy	Medium	Low	2	70					30		0
1	114	4	16	10.9	180	Partly cloudy		Medium	2.5	50					30	20	0
1	114	5	6	12.4	170	Overcast	High	High	1.6	50						50	0
1	114	6	6	10.8	160	Mostly cloudy	High	High	1.2	40				20	30	10	0
1	113	1	15	11.6	190	Clear	Medium	Medium	n/a	50		10			40		0
1	113	2	20	12.8	200	Partly cloudy	Medium	Medium	0.7	10		20			10	10	50
1	113	3	14	10.4	200	Mostly cloudy	Medium	Medium	n/a	40		10			50		0
1	113	4	13	10.4	180	Mostly cloudy	Medium	Medium	2.5	60		10			20	10	0
1	113	5	6	12.6	170	Overcast	High	High	1.6	30				30	10	30	0
1	113	6	6	10.7	170	Partly cloudy		High	1.2	30	1			20	29	20	0
1	112	1	20	12.8	180	Clear	Medium	Low	n/a	90		5				5	0
1	112	2	21	13.4	200	Partly cloudy	Medium	Medium	1.8	75		10			10	5	0
1	112	3	17					Medium	1.8	50					40	10	0
1	112	4	20	11.3	190	Partly cloudy	Medium	Medium	2.1	50		25			25		0
1	112	5	6	12.4	170	Overcast	High	High	1.6	50						50	0
1	112	6	7	10.8	160	Clear	High	High	1.2	40				20	20	20	0
1	111	1	20	13.1	180	Clear	High	Low	n/a	40					50	10	0
1	111	3	17	11.3	180	Mostly cloudy	Medium	Medium	1.8	30					50	20	0
1	111	4	17	13.3	180	Partly cloudy	Medium	Medium	2.1	75					15	10	0
1	111	5	7	12.4	170	Overcast	High		1.6	30		20			30	20	0
1	111	6	7	10.7	160	Clear	High	High	1.2	40		10		10	10	30	0
1	110	1	20	12.1	180	Clear	Medium	Low	n/a	10					10	80	0
1	110	2	20	11.7	200	Partly cloudy	Medium	Medium	1.2	50					10	40	0
1	110	3	17	11.2	180	Mostly cloudy	Medium	Medium	1.8	50					25	25	0
1	110	4	17	12.2	180	Mostly cloudy	Low	Medium	2.1	45					10	45	0
1	110	5	7	12.4	170	Overcast	High	High	1.6	50						50	0
1	110	6	7	10.9	160	Clear	High	High	1.2	50						50	0
1	109	1	15	11.4	190	Clear	High	Low	n/a	50					50		0
1	109	2	17	11.3	200	Overcast	Low	Low	0.7	10					30	10	50
1	109	3	17	10.8	180	Mostly cloudy	Medium	Medium	1.8	45					45	10	0
1	109	4	18	10.7	190	Clear	Medium	Medium	2.1	25		10			50	15	0
1	109	5	7	12.4	170	Overcast	High	Medium	1.6	30				20	20	30	0
1	109	6	7	11.0	170	Clear	High	Medium	n/a	50				20	20	10	0
1	108	1	15	11.4	190	Clear	Medium	Low	n/a	50					50		0

[a] See Appendix A, Figures A1 to A6 for sample site locations.

[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.

[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.

[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%) Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
1	108	2	17	11.3	200	Overcast		Medium	0.7	10					40		50
1	108	3	17	10.8	180	Mostly cloudy	Medium	Medium	1.8	50					50		0
1	108	4	15	10.6	190	Mostly cloudy		Medium	2.1	25		25			25	25	0
1	108	5	6	12.4	170	Overcast	High	Low	1.6					30	60	10	0
1	108	6	7	10.9	170	Clear	High	Medium	1.2								100
1	107	1	20	12.0	190	Partly cloudy	Medium	Low	n/a	5						95	0
1	107	2	21	12.4	200	Partly cloudy	Medium	Medium	0.7						5	95	0
1	107	3	17	11.2	170	Mostly cloudy	Medium	Medium	1.8	25						75	0
1	107	4	17	12.5	180	Mostly cloudy	Low	Medium	2.1	40						60	0
1	107	5	6	11.3	170	Overcast		High	1.6	50						50	0
1	107	6	7	10.9	160	Clear	High	High	1.2	50						50	0
1	105	1	20	11.2	180	Mostly cloudy	Medium	Medium	n/a	50		50					0
1	105	3	10	10.5	200	Overcast	Medium	Medium	n/a	20		50			30		0
1	105	4	20	11.1	180	Partly cloudy	Medium	High	2.5	30	10	15			40	5	0
1	105	5	6	11.4	170	Overcast	Medium	High	1.6	50		20			30		0
1	105	6	4	10.8	170	Partly cloudy	High	High	1.2	60		20			20		0
1	104	1	20	11.5	180	Mostly cloudy	Medium	Medium	n/a	80		10			10		0
1	104	3	10	10.5		Mostly cloudy		Low	n/a	40					50	10	0
1	104	4	20	11.0	180	Partly cloudy	Medium	Medium	2.5	45	5	10			20	20	0
1	104	5	6	11.4	170	Overcast	High	Medium	1.6	30				30	30	10	0
1	104	6	5	10.8	170	Clear	High	Medium	1.2	20				30	40	10	0
1	103	1	20	11.5	180	Mostly cloudy	Medium	Medium	n/a	33		33			34		0
1	103	3	17	10.8	180	Mostly cloudy	Medium	Medium	1.8						100		0
1	103	4	18	11.0	180	Partly cloudy	Medium	High	2.5	15	5	30			30	20	0
1	103	5	5	12.2	170	Overcast	High	High	1.6	60	10					30	0
1	103	6	4	10.8	170	Partly cloudy	High	High	1.2	40	10	5			5	40	0
1	102	1	20	11.6	180	Mostly cloudy	Low	High	n/a	50		50					0
1	102	2	17	11.1	200	Partly cloudy	Low	High	2	40		40			20		0
1	102	3	17	10.5	170	Mostly cloudy	Medium	High	1.8	25		65			10		0
1	102	4	15	10.3	200	Partly cloudy		High	2.1	30		50			10	10	0
1	102	5	6	11.4	170	Overcast	Medium	High	1.6	40		25			30	5	0
1	102	6	6	10.9	170	Clear	High	High	1.2	40		20			40		0
1	101	1	20	12.3	170	Mostly cloudy	Medium	High	n/a	50		50					0
1	101	2	17	11.0	200	Partly cloudy	Low	High	n/a	50					50		0
1	101	3	17	10.5	220	Mostly cloudy	Medium	High	1.8	25		65			10		0
1	101	4	15	10.3	200	Clear	Low	High	2.5	30		20			50		0
1	101	5	6	11.4	170	Overcast	Low	High	1.6	40		30			30		0
1	101	6	6	10.9	170	Clear	High	High	1.2								100
3	316	1	20	14.0	200	Mostly cloudy	High	Medium	n/a	25	5	10			40	10	10
3	316	2	20	13.3	200		Medium	Medium	0.9	25		25			25	12	13
3	316	3	15	10.8	130	Mostly cloudy		Medium	1	10	5				40	40	5
3	316	4	17	12.0	220			Medium	1.8	30	5	25			30	10	0
3	316	5	10	12.1	170	Mostly cloudy	High	High	1.1	40	5			5	15	35	0
3	316	6	0	10.6	180	Overcast	High	High	1.9	40	5	10		10	25	10	0
3	315	1	18	12.6	200	Overcast	High	Medium	n/a	80	10				10		0
3	315	2	20	12.2	200	Clear	Medium	Medium	1	25					25	25	25
3	315	3	13	10.3	200	Overcast	Low	Low	1.7	10	5				25	55	5
3	315	4	14	11.8	220	Partly cloudy	Medium	Medium	1.8	45	5	10			10	30	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
3	315	5	5	11.3	170	Partly cloudy	High	Medium	1.1	40	20				20	20	0
3	315	6	3	10.7	190	Overcast	High	High	2.2	30	30				10	30	0
3	314	1	20	12.7	200	Mostly cloudy	Medium	Medium	n/a	80		10			10		0
3	314	2	20	12.2	200	Clear	Medium	Medium	1	25					10		65
3	314	3	15	10.3	250	Mostly cloudy	Medium	Medium	1	25					25	25	25
3	314	4	12	10.7	220	Partly cloudy	Medium	Medium	1.8	40					40	20	0
3	314	5	10	12.3	170	Overcast	High	Medium	1.1	30	5			10	5	50	0
3	314	6	2	10.7	190	Overcast		Medium	2.2	40	5			10	25	20	0
3	312	1	19	13.3	200	Mostly cloudy	Low	Medium	n/a	20		10			50	20	0
3	312	2	18	13.4	230	Partly cloudy	Medium	Medium	0.3	5					25		70
3	312	3	10	10.7	130	Mostly cloudy	Medium	Medium	1	35	5				30	20	10
3	312	4	15	10.5	220	Overcast	Medium	Medium	1.1	5		5			35	55	0
3	312	5	10	11.9	170	Mostly cloudy	Medium	High	1	20				20	30	30	0
3	312	6	0	9.5	190	Mostly cloudy	High	Medium	1.3	40				10	30	20	0
3	311	1	17	12.6	200	Mostly cloudy	Medium	Medium	n/a	40		20			10		30
3	311	2	17	13.4	230	Partly cloudy	Medium	Medium	0.4	10					10		80
3	311	3	17	11.4	200	Overcast	Medium	Medium	0.5			10			30	10	50
3	311	4	14	11.1	220	Partly cloudy	Medium	Medium	1.8	20		10			70		0
3	311	5	13	11.6	180	Mostly cloudy	Medium	High	1	30	5			5	20	40	0
3	311	6	0	8.6	190	Overcast	High	Medium	1.3	25	5				50	20	0
3	310	1	19	13.1	200	Partly cloudy	Low	Medium	n/a	30		10			40		20
3	310	2	15	11.5	200	Clear		Medium	0.5						10		90
3	310	3	15	10.3	130	Mostly cloudy	Medium	Medium	1	50					20	20	10
3	310	4	15	11.6	220		Medium	Medium	1.8	35		10			50	5	0
3	310	5	10	12.4	170	Partly cloudy	High	High	1	60	5				30	5	0
3	310	6	0	10.5	190	Overcast	High	Medium	1.3	20				20	40	20	0
3	309	1	17	13.6	200	Mostly cloudy	Medium	Medium	n/a	40		10			10		40
3	309	2	15	11.4	200	Clear	Medium	Medium	0.9			5			5		90
3	309	3	10	10.3	130	Mostly cloudy		Low	1	30	5				40	20	5
3	309	4	15	12.0	220	Partly cloudy	Medium	Medium	1.8	50		25			25		0
3	309	5	10	12.1	170	Mostly cloudy	Medium	Medium	1	30	5			15	40	10	0
3	309	6	0	10.5	190	Overcast	High	Medium	1.3	30	1			19	30	20	0
3	308	1	19	13.0	200	Overcast	Medium	Medium	n/a	80					10	10	0
3	308	2	20	12.0	200	Clear	Medium	Medium	0.9			10					90
3	308	3	17	10.5	200	Overcast	Medium	Medium	1.7	15		10			60		15
3	308	4	15	10.8	220	Overcast	Medium	Medium	1.5	40		10			40	10	0
3	308	5	13	12.2	170	Partly cloudy	High	Medium	1	25				10	45	20	0
3	308	6	0	10.2	190	Overcast	High	Medium	1.3	40					40	20	0
3	307	1	19	13.1	200	Overcast	Medium	Medium	n/a	50					50		0
3	307	2	20	12.1	200	Clear	Medium	Medium	0.9						25		75
3	307	3	17	10.5	200	Overcast	Medium	Medium	1.7	10					60		30
3	307	4	14	10.9	220	Overcast	High	Medium	1.5	25					75		0
3	307	5	10	11.7	180		High	Medium	1	25	5			15	50	5	0
3	307	6	0	10.5	190	Overcast	High	Low	1.3	39	1			10	40	10	0
3	306	1	20	13.0	200	Overcast	Medium	Medium	n/a	50					50		0
3	306	2	17	12.0	230	Partly cloudy	Medium	Medium	0.3						10		90
3	306	3	14	10.4	310	Mostly cloudy		Medium	0.6	10					30		60
3	306	4	18	12.1	230	Partly cloudy	Low	Low	1	30	10				50		10

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
3	0306	5	4	11.7	220	Fog	High	Medium	0.6	45	5				50		0
3	0306	6	3	8.7	190		High	Medium	1.6	20	10			20	20	30	0
3	0305	1	17	12.2	200	Mostly cloudy	Medium	Medium	n/a	75					25		0
3	0305	2	17	12.0	230	Partly cloudy	Medium	Medium	0.3	5					5		90
3	0305	3	14	10.4	310	Mostly cloudy	Medium	Medium	0.4	10					30		60
3	0305	4	12	11.3	230	Partly cloudy	Low	Low	1	65	5				10	10	10
3	0305	5	8	11.5	180	Overcast	High	Medium	0.6	35	5			10	30	20	0
3	0305	6	2	8.8	190	Overcast	High	Medium	1.6	40				20	40		0
3	0304	1	18	12.1	200	Overcast	Medium	Medium	n/a	70		5			25		0
3	0304	2	17	13.3	230	Partly cloudy	Medium	Medium	0.2						50		50
3	0304	3	20	11.1	180	Mostly cloudy		Medium	1.3	20		10			50	20	0
3	0304	4	17	11.5	180	Mostly cloudy	Medium	Medium	2.1	40		20			20	20	0
3	0304	5	8	12.2	160	Overcast	High	Medium	1.1	20				20	50	10	0
3	0304	6	0	10.7	180	Overcast	High	Medium	2.2	50				10	35	5	0
3	0303	1	17	12.2	200	Mostly cloudy	High	Low	n/a	60		20			20		0
3	0303	2	17	11.0	230	Partly cloudy	Medium	Medium	0.2						20		80
3	0303	3	20	11.1	180	Mostly cloudy	Medium	Medium	0.8	25					30	20	25
3	0303	4	20	10.9	180	Partly cloudy	Medium	Medium	2.3	60					30	10	0
3	0303	5	7	12.0	180	Overcast	High	Medium	1.2	25	5				50	20	0
3	0303	6	0	10.1	190	Overcast	High	Low	1.6	30	5				50	15	0
3	0302	1	18	12.4	200	Mostly cloudy	High	Low	n/a	80		10			10		0
3	0302	2	17	10.9	240	Partly cloudy	Medium	Medium	0.2	5					5		90
3	0302	3	17	11.0	180	Mostly cloudy		Medium	0.8	25					10	40	25
3	0302	4	18	10.8	190	Mostly cloudy	Medium	Medium	1.6	60					30	10	0
3	0302	5	6	11.7	180	Overcast		Medium	1.2	40					40	20	0
3	0302	6	0	10.2	190	Overcast	High	Medium	1.6	40	2				38	20	0
3	0301	1	20	12.1	200	Mostly cloudy	Medium	Medium	n/a	60					20	20	0
3	0301	2	17	13.0	230	Partly cloudy	Medium	Medium	0.2	15					10		75
3	0301	3	20	11.1	180	Mostly cloudy	Medium	Medium	0.9	20					10	70	0
3	0301	4	17	11.5	180	Partly cloudy	Medium	Medium	2.1	50					25	25	0
3	0301	5	7	11.9	160	Overcast	High	High	1.1	70					10	20	0
3	0301	6	0	10.3	170	Overcast	High	High	2	50		10			10	30	0
5	05SC060	1	15	13.4	170	Clear	High	Low	0.9		1		4		95		0
5	05SC060	2	20	13.9	200	Clear	High	Low	0.2		1		4		40		55
5	05SC060	3	10	11.8	180	Overcast	High	Low	0.7		1		10		89		0
5	05SC060	4	12	11.3	220	Overcast	Medium	Low	1.1						30		70
5	05SC060	5	6	12.2	170	Partly cloudy	High	Low	1		15		30		30	25	0
5	05SC060	6	7	11.2	190	Mostly cloudy	High	Low	1.1		5		35		20	40	0
5	0518	1	21	14.6	170	Clear	High	Low	1	15	5				20	60	0
5	0518	2	10	13.9	200	Overcast		Low	0.4	15	5				10	50	20
5	0518	3	20	13.6	180	Clear	Medium	Low	1.1	25	5				10	60	0
5	0518	4	14	11.6	200	Partly cloudy	Medium	Medium	1.7	10					10	80	0
5	0518	5	15	12.8	170	Mostly cloudy	High	Medium	0.9	15	5			5	5	70	0
5	0518	6	10	11.1	170	Clear	Medium	Medium	1	10	10				10	70	0
5	0517	1	21	14.8	170	Clear	High	Medium	1	5	5				90		0
5	0517	2	12	13.3	200	Clear	High	Low	0.1		1		5			15	79
5	0517	3	20	13.9	490	Clear	Low	Low	0.9	48	2				50		0
5	0517	4	14	11.2	200	Partly cloudy	Medium	Medium	1.7		5				15	70	10

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
5	517	5	12	12.2	170	Fog	High	Medium	0.9	20	5	5		10	20	40	0
5	517	6	20	11.3	170	Mostly cloudy	High	Low	0.9	25	5		15	5	25	25	0
5	516	5	4	12.2	170	Fog	High	High	0.9	5	5				10	80	0
5	516	6	20	11.3	170	Mostly cloudy	High	Medium	0.9	30	5				25	40	0
5	515	1	15	14.2	170	Partly cloudy	High	Low	1.2	14	1				85		0
5	515	2	13	14.0	200	Mostly cloudy	Medium	Low	0.4	10	5	2			10	10	63
5	515	3	15	12.3	190	Clear	High	Low	1.1	35	10	10			20	20	5
5	515	4	15	13.1	170	Clear	Medium	Medium	1.3	50					50		0
5	515	5	8	12.2	170	Mostly cloudy	High	Medium	1.0	50					50		0
5	515	6	10	11.2	170	Clear		Medium	1.0	25	5			5	60	5	0
5	514	1	20	14.6	170	Mostly cloudy	High	Low	1.2	70					30		0
5	514	2	7	12.7	200	Fog	High	Low	0.1	20					20		60
5	514	3	20	12.8	180	Clear			0.9								100
5	514	4	12	11.3	200	Overcast	Medium	Medium	1.7	25					75		0
5	514	5	10	11.7	170	Clear	High	Low	0.9	50					50		0
5	514	6	10	11.3	160	Clear		Medium	0.9	40	5			15	40		0
5	513	1	21	14.1	170	Clear		Low	1.1	50					50		0
5	513	2	6	12.5	200	Fog	High	Low	0.1	20					20		60
5	513	3	8	11.8	180	Overcast	High	Low	0.9	35	5				20	20	20
5	513	4	20	13.4	170	Mostly cloudy	High	Medium	1.4	60					35	5	0
5	513	5	8	12.4	170	Partly cloudy	High	Medium	1.2	50					50		0
5	513	6	10	11.4	160	Clear		Medium	0.9	30				15	50	5	0
5	512	1	20	13.6	170	Clear	High	Medium	1.0	20	1				75	4	0
5	512	2	22	14.4	180	Clear	Medium	Medium	0.3	30					25	5	40
5	512	3	16	12.8	180	Clear	Low	Medium	1.1	50					45	5	0
5	512	4	14	11.1	200	Mostly cloudy	Medium	Medium	1.7	20		10			35	35	0
5	512	5	15	12.7	170	Partly cloudy		Medium	0.9	35					35	30	0
5	512	6	12	11.5	170	Clear	High	Medium	0.9	40					40	20	0
5	511	1	21	14.6	170	Clear	High	Medium	1.0	50		5			40	5	0
5	511	2	10	13.8	200	Overcast	Medium	Medium	0.3	10	10	5			20	20	35
5	511	3	20	13.4	180	Clear	Medium	Medium	1.1	60					30	10	0
5	511	4	14	11.9	200	Mostly cloudy	Medium	Medium	1.7	40					20	40	0
5	511	5	9	11.8	180	Clear	High	Medium	1.2	80		5			5	10	0
5	511	6	10	11.0	180	Clear	High	Medium	1.0	30		5			40	25	0
5	510	1	15	14.4	170	Overcast	High	Medium	1.2	70					30		0
5	510	2	25	14.9	170	Clear	High	Medium	0.2	30					30	10	30
5	510	3	15	12.9	170	Clear		Medium	1.1	55	1				40	4	0
5	510	4	14	11.4	200	Partly cloudy	Medium	Medium	1.7	40					50	10	0
5	510	5	9	11.6	170	Clear		Medium	0.9	50	5			5	25	15	0
5	510	6	9	11.0	160	Clear	High	High	0.9	60	5			5	20	10	0
5	509	1	15	14.1	180	Mostly cloudy	Medium	Low	0.8	30					60	10	0
5	509	2	20	13.5	180	Clear	Medium	Medium	0.2	15					30	5	50
5	509	3	14	12.4	180	Clear	Medium	Medium	1.1	35					60	5	0
5	509	4	14	11.1	200	Partly cloudy	Medium	Medium	1.5	30					10	60	0
5	509	5	15	12.4	170	Partly cloudy	High	Medium	0.9	60	2				35	3	0
5	509	6	13	11.6	170	Mostly cloudy	Medium	Medium	0.9	30					60	10	0
5	508	1	20	14.5	170	Mostly cloudy	Medium	Medium	1.2	50					50		0
5	508	2	15	13.1	180	Mostly cloudy		Low	0.2	10	20				10	20	40

[a] See Appendix A, Figures A1 to A6 for sample site locations.

[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.

[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.

[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
5	0508	3	6	11.9	190	Fog	High	Medium	1.1	40	10				10	30	10
5	0508	4	15	13.0	170	Mostly cloudy	Medium	Medium	1.3	75	1				14	10	0
5	0508	5	12	12.0	180	Clear	High	Medium	1.2	60					30	10	0
5	0508	6	12	11.3	160	Clear	Low	Medium	1.0	35	5			10	30	20	0
5	0507	1	15	14.0	170	Overcast		Medium	1.2	30					70		0
5	0507	2	20	13.9	180	Clear	Medium	Medium	0.2	30					30	10	30
5	0507	3	17	12.3	180	Overcast	Medium	Medium	1.2	50					45	5	0
5	0507	5	15	12.7	170	Mostly cloudy		Medium	1.0	75					20	5	0
5	0507	6	13	11.4	160	Mostly cloudy	High	High	1.1	60	5				30	5	0
5	0506	1	15	14.0	180	Overcast		Medium	0.8	50					10	40	0
5	0506	2	20	13.8	170	Clear	High	Medium	0.3	40						30	30
5	0506	3	15	12.0	170	Overcast	Low	Medium	1.0	80					10	10	0
5	0506	4	13	11.3	220	Overcast	Medium	Medium	1.1	45		5				50	0
5	0506	5	15	12.5	170	Clear	High	Medium	0.9	50						50	0
5	0506	6	10	11.2	170	Overcast	High	High	0.9	50						50	0
5	0505	1	15	14.0	180	Mostly cloudy	Medium	Medium	0.8	40					20	40	0
5	0505	2	21	13.9	180	Clear	Medium	Medium	0.2	30					5	30	35
5	0505	3	15	12.0	170	Overcast	Low	Medium	1.0	45					10	45	0
5	0505	4	14	11.4	220	Overcast	Medium	Medium	1.1	50					10	40	0
5	0505	5	10	12.2	170	Clear	High	Medium	0.9	40		10			10	40	0
5	0505	6	9	11.2	170	Overcast	High	High	0.9	45					10	45	0
5	0502	1	15	13.9	170	Mostly cloudy	High	Low	1.2	30					65	5	0
5	0502	2	15	13.8	180	Clear	High	Low	0.2	10					20	10	60
5	0502	3	12	11.9	170	Overcast	Medium	Medium	1.2	30					60	10	0
5	0502	4	12	11.3	220	Overcast	Medium	Medium	1.1	10					40	50	0
5	0502	5	10	12.5	170	Partly cloudy		Medium	1.0	30					40	30	0
5	0502	6	10	11.3	160	Overcast	High	Medium	1.1	40					40	20	0
6	06SC047	1	15	18.0	210	Overcast	High	Low	0.4		10		10		70	10	0
6	06SC047	2	8	14.5	280	Fog	High	Low	0.4		20			20	10	10	40
6	06SC047	3	22	16.4	260	Clear	High	Low	1.1	10	10		10		60	10	0
6	06SC047	4	8	10.3	230	Overcast	High	Low	1.0	5	30				15	50	0
6	06SC047	5	11	10.6	240	Overcast	High	Low	0.8	10	20			10	20	40	0
6	06SC047	6	13	9.2	190	Overcast	High	Low	0.4	10	10				10	70	0
6	06SC036	1	12	15.6	360	Overcast	High	Low	0.6		10				5	10	75
6	06SC036	2	15	15.8	520	Overcast	Low	Low	0.6	20					20	40	20
6	06SC036	3	15	13.9	250	Clear	High	Low	0.7	5	5				10	80	0
6	06SC036	4	8	12.1	180	Overcast	High	Low	1.0	5	5				10	80	0
6	06SC036	5	15	12.7	170	Overcast	High	Low	0.7	1	10				5	20	64
6	06SC036	6	9	10.5	160	Partly cloudy	High	Low	0.9	5	5		5		5	80	0
6	06PIN02	1	15	17.3	210	Overcast	Medium	Medium	0.4	30	5				60	5	0
6	06PIN02	2	12	15.2	280	Partly cloudy	High	Medium	0.4	10	10				10	40	30
6	06PIN02	3	22	15.8	250	Clear	High	Medium	1.1	30	10				40	20	0
6	06PIN02	4	5	9.9	230	Overcast	High	Medium	1.0	10	10				10	70	0
6	06PIN02	5	12	10.3	240	Overcast	High	Medium	0.8	40	30				20	10	0
6	06PIN02	6	13	8.5	190	Mostly cloudy	Low	High	0.4	40	20				20	20	0
6	06PIN01	1	17	17.0	210	Overcast	Medium	Medium	0.4	20	10				60	10	0
6	06PIN01	2	10	15.0	260	Partly cloudy	High	Medium	0.4	10	20				10	30	30
6	06PIN01	3	22	15.3	250	Clear	High	Medium	1.1	30	20				30	20	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
6	06PIN01	4	5	10.0	260	Overcast	High	Medium	1.0	10	20				20	50	0
6	06PIN01	5	11	10.5	240	Overcast	High	Medium	0.8	30	30				10	30	0
6	06PIN01	6	12	8.6	190	Clear	Low	Medium	0.4	10	10				10	70	0
6	0614	1	20	15.0	170	Mostly cloudy	High	Low	1.2	25	1	1			70	3	0
6	0614	2	18	15.5	180	Mostly cloudy	Medium	Low	0.4	15					50	5	30
6	0614	3	17	13.0	160	Clear	High	Low	0.9	30	5	5			20	10	30
6	0614	4	6	11.9	170	Clear	Medium	Medium	1.0	30		5			55	10	0
6	0614	5	15	11.8	160	Clear	Medium	Medium	1.1	50					50		0
6	0614	6	12	11.4	180	Overcast	Medium	Medium	1.1	40				15	40	5	0
6	0613	1	20	15.5	180	Mostly cloudy		Medium	1.1	30					30	10	30
6	0613	2	15	14.3	180	Overcast	High	Low	0.7	20					20	20	40
6	0613	3	15	13.6	200	Clear	High	Medium	1.0	70					20	10	0
6	0613	4	8	12.0	200	Overcast	High	Medium	1.0	80					15	5	0
6	0613	5	15	12.2	180	Overcast	High	Low	0.6	25	5				20	30	20
6	0613	6	12	9.2	170	Clear	Medium	Medium	0.3	30	10				30	30	0
6	0612	1	20	15.8	180	Mostly cloudy	High	Medium	1.6	20					30	30	20
6	0612	2	14	14.1	180	Overcast	Medium	Medium	0.7	20	5	5			10	20	40
6	0612	3	10	13.4	190	Overcast	High	Medium	1.5	65					20	15	0
6	0612	4	8	12.5	170	Overcast	High	Medium	0.8	50	5				25	20	0
6	0612	5	17	13.0	160	Mostly cloudy	High	Medium	1.0	20	5	2			20	30	23
6	0612	6	12	11.2	170	Clear	Low	High	0.9	30	10				30	30	0
6	0611	1	20	16.4	180	Partly cloudy	High	Low	0.7	20					80		0
6	0611	2	15	15.0	180	Overcast	Medium	Low	0.7	20	10				20	20	30
6	0611	3	12	12.8	190	Partly cloudy	High	Low	1.3	50					50		0
6	0611	4	12	12.6	190	Overcast	High	Low	1.1	45					45	10	0
6	0611	5	16	11.9	180	Partly cloudy	Medium		0.6								100
6	0611	6	10	8.5	170	Clear	Low	Medium	0.3	50	5				25	20	0
6	0610	1	16		180	Partly cloudy	High	Low	1.6	40					10	20	30
6	0610	2	16	14.7	180	Overcast	High	Low	0.7	30	2				30	18	20
6	0610	3	8	13.3	200	Overcast	High	Medium	1.0	65	6				25	4	0
6	0610	4	8	11.8	200	Overcast	High	Medium	1.0	20	30				20	30	0
6	0610	5	16	11.8	180	Overcast	High	Low	0.6	25	25	5			15	10	20
6	0610	6	12	8.9	170	Clear	Medium	Medium	0.3	20	10				20	50	0
6	0609	1	25	16.1	180	Clear	High	Low	0.7	10					90		0
6	0609	2	15	13.6	200	Mostly cloudy	Medium	Low	0.7	30	1				49		20
6	0609	3	26	14.6	190	Clear	High	Low	1.0	35	1				60	4	0
6	0609	4	12	12.6	190	Overcast	Medium	Low	1.1	25					70	5	0
6	0609	5	16	11.8	180	Partly cloudy			0.6								100
6	0609	6	10	8.7	170	Clear	Low	Medium	0.3	60					20	20	0
6	0608	1	20	15.9	180	Partly cloudy	High	Medium	0.7	50					50		0
6	0608	2	20	15.0	180	Clear	Medium	Medium	0.4	20					20	10	50
6	0608	3	22	13.9	160	Clear	High	Medium	0.9	30	5				25	5	35
6	0608	4	10	12.0	170	Clear	Low	Medium	1.1	60	5				35		0
6	0608	5	15	12.0	180	Overcast	High	Medium	1.3	60					35	5	0
6	0608	6	12	8.9	170	Clear	Medium	Medium	0.3	50	5				25	20	0
6	0607	1	12	14.2	180	Partly cloudy	High	Low	1.6	50					30		20
6	0607	2	17	14.0	180	Overcast		Low	0.7	20		5			20	20	35
6	0607	3	8	13.1	190	Fog	High	Low	1.5	60					35	5	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.

[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.

[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.

[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (μS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
6	0607	4	9	12.2	170	Overcast	High	Medium	0.9	70	5				20	5	0
6	0607	5	17	11.2	160	Mostly cloudy	High	Low	1.0	10	20	5			20	25	20
6	0607	6	11	10.7	170	Clear	Low	Medium	1.1	35	5				50	10	0
6	0606	1	20	15.6	170	Partly cloudy	High	Low	1.2	65	2				30	3	0
6	0606	2	13	13.5	180	Partly cloudy		Medium	0.6	18	2				30	30	20
6	0606	3	22	13.5	190	Clear	High	Low	0.9	15	5				60	20	0
6	0606	4	12	12.7	170	Overcast	Medium	Medium	1.0	50	5				25	20	0
6	0606	5	16	12.4	160	Mostly cloudy	Low	Medium	1.0	25	15	5			25	10	20
6	0606	6	10	11.1	170	Clear	High	Medium	1.1	25	5				20	50	0
6	0605	1	19	15.0	170	Partly cloudy	High	Low	1.2	70					20		10
6	0605	2	20	14.5	180	Clear	Medium	Low	0.4	20		2			10	30	38
6	0605	3	23	13.2	190	Clear	High		1.0	35					25	25	15
6	0605	4	10	12.1	170	Clear	Medium	Low	1.0	50					50		0
6	0605	5	15	11.7	160	Mostly cloudy	Low	Medium	1.0	60	10				10	10	10
6	0605	6	12	11.2	170	Clear	Low	Medium	1.1	40					30	30	0
6	0604	1	15	14.6	180	Mostly cloudy	High	Medium	0.7	45	5				50		0
6	0604	2	20	14.6	200	Clear	High	Medium	0.6	50					10	20	20
6	0604	3	23	13.6	190	Clear	High	Medium	1.0	20	20	5		10	10	20	15
6	0604	4	10	12.0	190	Mostly cloudy		High	1.1	75	5				10	10	0
6	0604	5	15	12.0	180	Overcast	High	High	1.3	30	5				25	40	0
6	0604	6	12	8.6	170	Clear	Low	High	0.3	30	30				10	30	0
6	0603	1	12	15.0	180	Mostly cloudy	High	Low	0.7	35					60	5	0
6	0603	2	20	14.0	180	Mostly cloudy	Medium	Medium	0.4	10					10	20	60
6	0603	3	20	12.7	160	Clear	High	Low	0.9	30					20	20	30
6	0603	4	10	12.4	170	Partly cloudy	Low	Medium	1.0	50					40	10	0
6	0603	5	15	12.8	160	Clear	High	Medium	1.1	55					35	10	0
6	0603	6	10	11.3	180	Overcast		Medium	1.0	50					40	10	0
6	0602	1	15	15.8	170	Overcast		High	0.6	15	20	5				60	0
6	0602	2	8	14.4	280	Fog	High	High	0.4	10	10					50	30
6	0602	3	10	13.3	190	Clear	High	Medium	1.0	10	10	5		5	10	60	0
6	0602	4	5	10.3	230	Clear	High	High	1.1	15	20	5			10	50	0
6	0602	5	15	11.4	180	Clear	High	High	1.3	20	20	5			5	50	0
6	0602	6	13	8.9	190	Overcast	Medium	High	0.4	20	30	5			5	40	0
6	0601	1	15	14.7	170	Overcast	Medium	Medium	1.0	35					5	60	0
6	0601	2	20	14.2	170	Partly cloudy	High	Medium	0.4	40					10	10	40
6	0601	3	20	12.4	170	Clear	High	Medium	1.3	30	1				30	39	0
6	0601	4	6	11.3	170	Overcast	High	High	0.8	40	5				15	40	0
6	0601	5	12	11.7	160	Overcast	Medium	High	0.9	45	5				5	45	0
6	0601	6	13	11.2	180	Overcast	Low	High	1.1	40	5			5	10	40	0
7	07SC022	1	15	15.0	170	Overcast		Low	1.0		20				5	20	55
7	07SC022	2	15	13.6	190	Overcast	High	Low	0.7	25	5				10	50	10
7	07SC022	3	15	14.2	170	Overcast	Medium	Low	1.0	30	20				10	40	0
7	07SC022	4	9	10.9	220	Overcast	Medium	Low	0.9		10					80	10
7	07SC022	5	13	12.2	170	Clear	Low	Low	0.8	40	10				10	40	0
7	07SC022	6	6	8.4	190	Clear	High	Low	0.6	30	10				30	30	0
7	07SC012	1	15	13.4	190	Partly cloudy		Low	0.3		20				10	20	50
7	07SC012	2	8	12.5	190	Overcast	Medium	Low	0.2		25				10	20	45
7	07SC012	3	2	13.6	180	Clear	High	Low	1.3	10	5				5	80	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

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Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%) Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
7	07SC012	4	15	11.1	210		Medium	Medium	0.9		5					95	0
7	07SC012	5	12	12.5	170	Partly cloudy	Medium	Low	0.8	25	5				10	60	0
7	07SC012	6	5	9.5	180	Clear		Low	0.8	20	5				20	55	0
7	07KIS01	1	15	13.4	300	Partly cloudy	High	Medium	0.1						15	5	80
7	07KIS01	2	8	12.5	460	Overcast	Medium	Medium	0.4	20	10				20	10	40
7	07KIS01	3	20	13.4	330	Clear	Medium	Medium	1.4	25	5				65	5	0
7	07KIS01	4	15	11.3	220	Overcast	Medium	Medium	0.9	25	25				25	25	0
7	07KIS01	5	12	12.3	190	Partly cloudy		Medium	0.7	25	5				50	20	0
7	07KIS01	6	9	9.4	180	Clear	High	Medium	0.6	20	10				20	50	0
7	07BEA02	1	20	18.5	140	Overcast	High	Low	0.2	10					10	10	70
7	07BEA02	2	8	13.0	130	Clear	High	Low	0.1		3				17	10	70
7	07BEA02	3	12	13.1	190	Clear	High	Medium	0.3	10	2				8	40	40
7	07BEA02	4	17	11.8		Partly cloudy	Medium		n/a								100
7	07BEA02	5	12	11.4	220	Clear	Low		0.3	25	5				20	20	30
7	07BEA02	6	-1	5.9	230	Overcast	High	Medium	0.2	20	10				20	20	30
7	07BEA01	1	20	18.8	140	Overcast	Medium	Low	0.2	10	1				20	19	50
7	07BEA01	2	8	12.6	130	Clear	High	Low	0.1		3				17	10	70
7	07BEA01	3	17	15.4	200	Clear	High	Low	0.2	4	1				20	75	0
7	07BEA01	4	15	10.8	260	Mostly cloudy	Medium	Low	0.2								100
7	07BEA01	5	13	10.8	230	Overcast	High	Low	0.2	20	5				10	5	60
7	07BEA01	6	6	8.4	210	Clear	High	Low	0.3	15	5				30	30	20
7	0714	1	12	12.9	190	Mostly cloudy	High	Medium	0.3	10	5				20	30	35
7	0714	2	9	12.4	200	Overcast	High	Low	0.6	30	5				10	10	45
7	0714	3	20	13.3	190	Clear	High	Low	1.4	50					40	10	0
7	0714	4	14	11.2	220	Overcast	Medium	Medium	0.9	20					10	70	0
7	0714	5	13	12.4	170	Clear	Medium	Medium	0.8	60					30	10	0
7	0714	6	9	9.7	190	Clear	High	Low	0.7	30					10	60	0
7	0713	1	10	12.9	190	Overcast	High	Medium	0.3	10					25	30	35
7	0713	2	10	12.7	200	Overcast	High	Low	0.3	20	5				20	10	45
7	0713	3	20	13.2	190	Clear	High	Medium	1.4	75					20	5	0
7	0713	4	14	11.1	220	Overcast	Medium	Medium	0.9	40					15	40	5
7	0713	5	13	12.2	170	Partly cloudy	Medium	Medium	n/a	38	2				50	10	0
7	0713	6	9	9.6	190	Clear	High	Medium	0.7	60					20	20	0
7	0712	1	10	12.8	190	Overcast	Medium	Medium	0.3	5	10				20	30	35
7	0712	2	9	12.6	200	Overcast	Medium	Low	0.6	20	5				10	20	45
7	0712	3	15	13.1	200	Partly cloudy	High	Low	1.4	20	5				70	5	0
7	0712	4	12	11.2	220	Overcast		Medium	0.9	15	10				50	20	5
7	0712	5	13	12.3	170	Partly cloudy	Low	Medium	0.8	30	10				60		0
7	0712	6	8	8.7	190	Clear	High	Low	0.6	30	10				50	10	0
7	0711	1	9	12.5	190	Overcast	Medium	Medium	0.3	10					30	40	20
7	0711	2	12	13.0	200	Overcast	High	Medium	0.6	20	5				20	20	35
7	0711	3	10	12.7	200	Clear	High	Medium	1.4	45	2				50	3	0
7	0711	4	12	10.9	220	Overcast	Medium	Medium	0.9	30	10				5	50	5
7	0711	5	13	12.2	170	Partly cloudy	Low	Medium	0.8	40					30	30	0
7	0711	6	8	9.0	190	Clear	High	Medium	0.6	60					30	10	0
7	0710	1	16	15.0	170	Mostly cloudy	Low	Low	0.7		5				20	30	45
7	0710	2	10	12.6	200	Overcast	High	Low	0.4	25	10				20	20	25
7	0710	3	15	14.0	160	Overcast	Medium	Low	0.7	18	2				40	40	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
7	710	4	17	11.2	210	Partly cloudy	Medium	Medium	1.8	40					15	40	5
7	710	5	13	12.3	170	Partly cloudy	Low	Low	0.8	40					40	20	0
7	710	6	6	9.0	180	Clear	High	Low	0.9	30	5				30	35	0
7	709	1	15	14.4	190	Overcast		Low	0.9	10					20	10	60
7	709	2	14	13.3	200	Mostly cloudy	High	Low	0.6	30					70		0
7	709	3	17	13.9	170	Partly cloudy	Low	Low	1.0	60					35	5	0
7	709	4	18	11.3	210	Partly cloudy	Medium	Medium	1.8	70					15	15	0
7	709	5	13	11.8	170	Clear	Low	Medium	0.8	30					30	30	10
7	709	6	3	8.1	200	Partly cloudy	High	Low	0.7	30	5				30	35	0
7	708	1	20	17.0	170	Mostly cloudy	High	High	0.6	20					10	20	50
7	708	2	12	13.4	130	Partly cloudy	High	High	0.1	40		5			5	20	30
7	708	3	15	13.7	190	Clear	High	High	0.3	30					10	30	30
7	708	4	18	11.8	220	Partly cloudy	Medium	Medium	0.4								100
7	708	5	12	11.8	210	Clear	Low	High	0.3	30	1				9	30	30
7	708	6	2	6.3	230	Mostly cloudy		High	0.3	30	5				10	30	25
7	707	1	9	12.6	190	Overcast	Medium	Medium	0.3	10					30	20	40
7	707	2	12	12.9	200	Overcast		Medium	0.6	25					15	30	30
7	707	3	15	12.9	190	Mostly cloudy		Medium	1.4	30					50	20	0
7	707	4	13	11.0	220	Overcast	Medium	Medium	0.9	15					10	60	15
7	707	5	13	12.3	170	Partly cloudy	Low	Medium	0.8	40					40	20	0
7	707	6	8	9.2	180	Clear	High	Medium	0.9	39	1				40	20	0
7	706	1	17	15.0	170	Mostly cloudy	Medium	Low	1.0	5	15	5			10	20	45
7	706	2	11	13.1	200	Overcast		Low	0.6	10	15				20	20	35
7	706	3	15	14.2	170	Overcast	High	Low	1.0	30	30				10	30	0
7	706	4	12	10.7	220	Overcast		Medium	0.9	30						50	20
7	706	5	13		170	Partly cloudy	Low	Medium	0.8	30	30				10	30	0
7	706	6	7	8.2	190	Clear	High	Medium	0.6	45	10					45	0
7	705	1	15	15.0	170	Overcast	Medium	Low	1.0	5	15	3		10	5	30	32
7	705	2	14	13.4	190	Overcast		Medium	0.7	50	5				15	30	0
7	705	3	15	14.3	170	Overcast	High	Medium	1.0	75	5				10	10	0
7	705	4	13	10.7	220	Overcast	Medium	Medium	0.9	30	2					50	18
7	705	5	13	12.1	170	Partly cloudy	Low	Medium	0.8	30	30				20	20	0
7	705	6	7	8.1	190	Clear	High	High	0.6	40	10				10	40	0
7	704	1	15	14.6	170	Overcast	High	Low	0.7	10					10	20	60
7	704	2	15	13.3	170	Overcast	High	Low	0.4	40					40		20
7	704	3	15	13.9	160		Low	Medium	0.7	50					50		0
7	704	4	17	11.2	210	Partly cloudy		Medium	1.8	60					25	15	0
7	704	5	13	12.2	170	Clear	Low	Medium	0.8	60					30	10	0
7	704	6	4	0.9	180	Clear	High	Medium	0.9	50					30	20	0
7	703	1	18	16.6	170	Mostly cloudy		Medium	0.6	5					10	15	70
7	703	2	15	13.5	170	Overcast	High	Low	0.2	30					30	10	30
7	703	3	15	14.0	160	Overcast		Low	0.7	30					30	10	30
7	703	4	10	11.2	220	Overcast	Low	Medium	0.8	7					8	75	10
7	703	5	12	12.0	210	Clear	Medium	Medium	0.3	30					20	20	30
7	703	6	4	8.5	230	Partly cloudy	High	Medium	0.3	10					30	30	30
7	702	1	15	14.5	190	Overcast	Medium	Medium	0.9	20		10			10	10	50
7	702	2	10	13.0	200	Partly cloudy		Medium	0.6	65					25	10	0
7	702	3	15	13.7	170	Mostly cloudy	High	Medium	1.0	70					30		0

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
7	0702	4	18	11.3	210	Partly cloudy	Medium	Medium	1.8	80					10	10	0
7	0702	5	13	11.9	170	Clear	Medium	Medium	0.8	60					30	10	0
7	0702	6	2	8.3	200	Partly cloudy	High	Medium	0.7	40					40	20	0
7	0701	1	20	15.5	180	Mostly cloudy	Medium	Low	1.2	5	1				30	20	44
7	0701	2	6	12.4	200	Clear	Medium	Low	0.6	50					50		0
7	0701	3	9	12.4	190	Fog	High	Low	1.4	30					60	10	0
7	0701	4	14	10.6	220	Mostly cloudy	Medium	Low	1.1	20					35	45	0
7	0701	5	12	11.8	160	Clear	Medium	Low	0.8	30					60	10	0
7	0701	6	-2	8.6	200	Overcast	High	Low	0.8	30					50	20	0
9	09SC061	1	19		180	Partly cloudy		Low	1	50					50		0
9	09SC061	4	16	12.5	220	Clear	Low	Low	1.1	20	5				20	50	5
9	09SC061	5	16	11.7	150	Clear	High	Low	0.3	9	1				10	40	40
9	09SC061	6	7	9.6	170	Partly cloudy	Medium	Low	0.6	5	15				5	50	25
9	09SC053	1	17	15.4	220	Mostly cloudy	High	Low	1				20		80		0
9	09SC053	4	15	13.2	230	Mostly cloudy		Low	1						50	10	40
9	09SC053	5	15	11.0	190	Partly cloudy	High	Low	0.2		10		5	5	40	40	0
9	09SC053	6	12	8.8	170	Partly cloudy	Low	Low	n/a	5					5	90	0
9	0914	1	18	15.1	180	Mostly cloudy	Medium	Medium	1	45					45	10	0
9	0914	2	17	13.5	230	Mostly cloudy	Medium	Medium	0.2								100
9	0914	3	20	12.1	220	Clear		Medium	0.9	10	5	5			20	40	20
9	0914	4	18	12.7	220	Clear	Low	Medium	1.1	55	5				10	20	10
9	0914	5	15	11.7	160	Clear	High	High	0.2	25	5				40	10	20
9	0914	6	8	9.8	170	Partly cloudy	Medium	High	0.6	30	10				40	20	0
9	0913	1	19	14.5	180	Partly cloudy	High	Medium	1	33					33	34	0
9	0913	2	18	13.5	230	Mostly cloudy	Medium	Medium	0.2								100
9	0913	3	16	11.9	220	Clear	Medium	Medium	0.9	25	5				10	50	10
9	0913	4	16	12.6	220	Clear		Medium	1.1	30					30	30	10
9	0913	5	16	11.7	150	Clear	High	High	0.3	30	20	20				15	15
9	0913	6	7	9.7	180	Partly cloudy	Medium	High	0.6	40	20				20	20	0
9	0912	1	19	14.5	200	Mostly cloudy	Medium	Medium	1	30					20	50	0
9	0912	2	17	13.7	230	Mostly cloudy	Medium	Medium	0.2								100
9	0912	3	18	12.7	220	Clear	Low	Low	0.9	10						70	20
9	0912	4	18	13.1	220	Clear	Low	Low	1.1	40					10	30	20
9	0912	5	12	11.9	160	Clear	High	Medium	0.2	40		10			20	20	10
9	0912	6	7	9.8	170	Partly cloudy		Medium	0.6	45					10	45	0
9	0911	1	17	14.4	180	Mostly cloudy	High	Medium	1	70						30	0
9	0911	2	17	12.8	260	Mostly cloudy	Medium	Low	0.1								100
9	0911	3	15	11.9	220	Clear	Low	Low	0.9	10					10	60	20
9	0911	4	14	12.4	220	Mostly cloudy	Low	Medium	1.1	50					20	20	10
9	0911	5	16	11.9	160	Partly cloudy	High		0.3	5	2	1			20	52	20
9	0911	6	10	9.7	170	Partly cloudy	Low	Medium	0.6	40					10	50	0
9	0910	1	17	14.9	220	Mostly cloudy	High	Medium	1	40						60	0
9	0910	2	20	14.1	220	Mostly cloudy	Medium	Medium	0.2								100
9	0910	3	17	11.3	220	Clear	Medium	Low	0.7	15						25	60
9	0910	4	17	13.1	230	Mostly cloudy	Medium	Medium	1	25		12			25	25	13
9	0910	5	16	12.0	160	Mostly cloudy	Medium	Low	0.3	10	5				25	50	10
9	0910	6	10	9.8	170	Clear	Low	Low	0.6	25	5				50	20	0
9	0909	1	17	15.0	220	Mostly cloudy	High	Medium	1	50					45	5	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Continued.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
9	909	2	20	14.9	200	Mostly cloudy	Medium	Medium	0.2								100
9	909	3	14	11.6	220	Clear	Low	Low	0.9	25					25	25	25
9	909	4	15	13.4	230	Partly cloudy	Medium	Medium	1.0	45					45	10	0
9	909	5	16	11.8	150	Partly cloudy	High	Low	0.2	10	5				20	45	20
9	909	6	7	9.6	180	Partly cloudy	Medium	Low	0.6	50					45	5	0
9	908	1	17	15.1	220	Mostly cloudy	High	Medium	1.0	50					50		0
9	908	2	20	15.8	220	Mostly cloudy	Medium	Medium	0.2								100
9	908	3	17	13.7	220	Clear	Medium	Medium	0.7						50		50
9	908	4	15	13.8	230	Partly cloudy	Medium	Medium	1.0	50					50		0
9	908	5	16	11.7	150	Mostly cloudy	High	Low	0.2	5	2	1			15	47	30
9	908	6	10	9.7	170	Clear	Low	Medium	0.6	40					50	10	0
9	907	1	20	15.3	220	Mostly cloudy	High	Medium	1.0	50					50		0
9	907	2	20	14.2	220	Overcast	Medium	Medium	0.2								100
9	907	3	17	12.2	220	Clear	Medium	Medium	0.7						30		70
9	907	4	15	12.4	230	Partly cloudy	Medium	Medium	1.0	75					25		0
9	907	5	16	11.8	150	Mostly cloudy		Low	0.2	5	5				20	50	20
9	907	6	10	9.7	170	Partly cloudy	Low	Low	0.6	45	5				40	10	0
9	906	1	17	15.4	220	Mostly cloudy	High	Medium	1.0	70					30		0
9	906	2	20	14.2	210	Overcast	Medium	Low	0.2								100
9	906	3	17	11.5	220	Clear	Medium	Low	0.7						50		50
9	906	4	18	12.4	230	Partly cloudy	Medium	Medium	1.0	30					60		10
9	906	5	16	11.6	150	Partly cloudy	High	Low	0.2	5	5				5	65	20
9	906	6	10	9.6	170	Partly cloudy	Low	Low	0.6	20					10	70	0
9	905	1	17	15.0	220	Mostly cloudy	High	Medium	1.0	30						70	0
9	905	2	20	14.6	220	Mostly cloudy	Medium	Medium	0.3								100
9	905	3	15	11.2	220	Clear	Medium	Medium	0.7	25					15		60
9	905	4	15	12.3	230	Mostly cloudy	Medium	Medium	1.0	70		10			10	10	0
9	905	5	16	11.9	160	Clear	High	Low	0.3	10	2	2			20	56	10
9	905	6	10	9.8	170	Partly cloudy		High	0.6	40					30	30	0
9	904	1	17	14.7	220	Mostly cloudy	Medium	Medium	1.0	75					25		0
9	904	2	20	14.3	220		High	Low	0.3								100
9	904	3	15	11.1	220	Clear	Medium	Low	0.7						30	10	60
9	904	4	17	12.4	230	Mostly cloudy	Medium	Low	1.0	50					50		0
9	904	5	15	11.6	150	Partly cloudy	High	Low	0.2	10	5				10	70	5
9	904	6	10	9.7	170	Clear	Medium	Medium	0.6	25	5				50	20	0
9	903	1	15	14.7	200	Overcast	High	Medium	1.0	40					50	10	0
9	903	2	17	14.0	230	Mostly cloudy	Medium	Medium	0.3						25		75
9	903	3	15	11.2	220	Clear	Medium	Medium	0.7						25		75
9	903	4	15	12.3	230	Mostly cloudy	Medium	Medium	1.0	70					30		0
9	903	5	15	11.5	150	Clear		Low	0.2	8	2				10	70	10
9	903	6	10	9.6	170	Clear	Low	Medium	0.6	40					40	20	0
9	902	1	15	14.4	220	Overcast	High	Low	1.0	40					20	20	20
9	902	2	17	13.9	220	Mostly cloudy	Medium	Medium	0.3								100
9	902	3	15	11.1		Clear	Medium	Low	0.7	10						10	80
9	902	4	13	12.1	230		Medium		1.0	40					40	20	0
9	902	5	15	11.5	160	Clear	High	Low	0.3	10	3				5	80	2
9	902	6	16	9.7	170	Clear	Low	High	0.6	20	5				5	70	0
9	901	1	15	13.4	220	Overcast	High	Medium	1.0	85						5	10

[a] See Appendix A, Figures A1 to A6 for sample site locations.
[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.
[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.
[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

Continued...

Table D1 Concluded.

Section	Site[a]	Session	Air Temperature (°C)	Water Temperature (°C)	Conductivity (µS /cm)	Cloud Cover[b]	Water Clarity[d]	Instream Velocity[c]	Secchi Bar Depth (m)	Cover Types (%)							
										Substrate Interstices	Woody Debris	Turbulence	Aquatic Vegetation	Terrestrial Vegetation	Shallow Water	Deep Water	Other Cover
9	901	2	17	13.8	220		Medium	Medium	0.3								100
9	901	3	12	11.1	250	Clear		Medium	0.7								100
9	901	4	12	12.2	230	Overcast; Fog		Medium	1.0	35					20	10	35
9	901	5	14	11.3	160	Clear	High	Medium	0.3	10	2				5	53	30
9	901	6	10	9.8	170		Medium	Medium	0.6	35					55	10	0

[a] See Appendix A, Figures A1 to A6 for sample site locations.

[b] Clear = <10%; Partly Cloudy = 10-50%; Mostly Cloudy = 50-90%; Overcast = >90%.

[c] High = >1.0 m/s; Medium = 0.5-1.0 m/s; Low = <0.5 m/s.

[d] High = >3.0 m; Medium = 1.0-3.0 m; Low = <1.0 m.

APPENDIX E

Catch and Effort Data

Table E1 Number of fish caught during boat electroshocking surveys and their frequency of occurrence in Sections 1 and 3 of the Peace River, 2002 to 2021.

	2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
Species	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]
Large-bodied																				
Arctic Grayling	13	*<1*	54	*1*	138	*2*	106	*1*	93	*1*	148	*2*	99	*1*	65	*1*	29	*<1*	90	*1*
Bull Trout	105	*2*	91	*1*	97	*1*	140	*2*	76	*1*	101	*1*	113	*1*	107	*1*	75	*1*	148	*1*
Burbot					2	*<1*			5	*<1*	3	*<1*			1	*<1*	1	*<1*	1	*<1*
Kokanee	24	*<1*	5	*<1*	17	*<1*	42	*<1*	16	*<1*	149	*2*	44	*<1*	25	*<1*	23	*<1*	70	*1*
Lake Trout											2	*<1*			2	*<1*	1	*<1*	2	*<1*
Lake Whitefish	2	*<1*	2	*<1*	10	*<1*			1	*<1*	4	*<1*	1	*<1*	3	*<1*			3	*<1*
Mountain Whitefish	5496	*88*	5686	*89*	8127	*90*	8018	*90*	6365	*93*	7407	*90*	8406	*89*	7143	*90*	7703	*93*	9877	*92*
Northern Pike							1	*<1*	1	*<1*			1	*<1*	2	*<1*	2	*<1*	1	*<1*
Northern Pikeminnow	20	*<1*	25	*<1*	36	*<1*	28	*<1*	6	*<1*	19	*<1*	21	*<1*	12	*<1*	13	*<1*	11	*<1*
Rainbow Trout	50	*1*	63	*1*	99	*1*	88	*1*	39	*1*	92	*1*	144	*2*	157	*2*	116	*1*	158	*1*
Sucker spp.[c]	533	*9*	435	*7*	467	*5*	465	*5*	238	*3*	312	*4*	558	*6*	416	*5*	301	*4*	330	*3*
Walleye	3	*<1*					2	*<1*			5	*<1*	15	*<1*	9	*<1*	1	*<1*	8	*<1*
Large-bodied subtotal	6246	*100*	6361	*100*	8993	*100*	8890	*100*	6840	*100*	8242	*100*	9402	*100*	7942	*100*	8265	*100*	10 699	*100*
Small-bodied																				
Flathead Chub																				
Lake Chub																				
Longnose Dace																				
Peamouth	3	*43*																		
Redside Shiner	2	*29*																		
Sculpin spp.[c]	2	*29*																		
Trout-perch																				
Small-bodied subtotal	7	*100*																		
All species	6253		6361		8993		8890		6840		8242		9402		7942		8265		10 699	

	2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
Species	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]	*n*[a]	%[b]
Large-bodied																				
Arctic Grayling	20	*<1*	15	*<1*	5	*<1*	31	*<1*	57	*1*	54	*1*	39	*<1*	38	*<1*	21	*<1*	5	*<1*
Bull Trout	143	*2*	136	*2*	124	*2*	131	*2*	141	*2*	138	*2*	131	*2*	126	*1*	119	*2*	121	*3*
Burbot	2	*<1*	1	*<1*											2	*<1*	2	*<1*	1	*<1*
Kokanee	94	*1*	24	*<1*	20	*<1*	18	*<1*	19	*<1*	49	*1*	9	*<1*	15	*<1*	38	*<1*	20	*<1*
Lake Trout	3	*<1*	4	*<1*	2	*<1*	3	*<1*	1	*<1*	1	*<1*			3	*<1*	1	*<1*	1	*<1*
Lake Whitefish	2	*<1*					1	*<1*	1	*<1*			1	*<1*						
Mountain Whitefish	8546	*90*	5905	*87*	4739	*86*	5149	*72*	5935	*75*	4615	*68*	6226	*78*	7142	*80*	6122	*80*	3243	*72*
Northern Pike	1	*<1*	1	*<1*							2	*<1*	4	*<1*			1	*<1*	2	*<1*
Northern Pikeminnow	32	*<1*	29	*<1*	31	*1*	48	*1*	79	*1*	58	*1*	40	*1*	60	*1*	57	*1*	57	*1*
Rainbow Trout	130	*1*	61	*1*	97	*2*	91	*1*	161	*2*	102	*1*	129	*2*	142	*2*	121	*2*	105	*2*
Sucker spp.[c]	510	*5*	576	*9*	524	*9*	1665	*23*	1561	*20*	1777	*26*	1379	*17*	1431	*16*	1198	*16*	963	*21*
Walleye	21	*<1*	15	*<1*			2	*<1*	10	*<1*	35	*1*	25	*<1*	13	*<1*	17	*<1*		
Large-bodied subtotal	9504	*100*	6767	*100*	5542	*100*	7139	*100*	7965	*100*	6831	*100*	7983	*100*	8972	*100*	7697	*100*	4518	*100*
Small-bodied																				
Flathead Chub													2	*3*	1	*1*	1	*2*		
Lake Chub					3	*5*	1	*5*			2	*4*	5	*6*	23	*23*	2	*4*	2	*7*
Longnose Dace									3	*10*	6	*13*			4	*4*			2	*7*
Peamouth	1	*100*	1	*100*							3	*6*							2	*7*
Redside Shiner							1	*5*	8	*27*	5	*11*	36	*46*	32	*32*	27	*54*	4	*13*
Sculpin spp.[c]					62	*95*	20	*91*	19	*63*	31	*66*	36	*46*	38	*38*	20	*40*	20	*67*
Trout-perch															2	*2*				
Small-bodied subtotal	1	*100*	1	*100*	65	*100*	22	*100*	30	*100*	47	*100*	79	*100*	100	*100*	50	*100*	30	*100*
All species	9505		6768		5607		7161		7995		6878		8062		9072		7747		4548	

[a] Includes fish captured and identified to species; does not include fish recaptured within the year.
[b] Percent composition of large-bodied or small-bodied catch.
[c] Species combined for table or not identified to species.

Table E2 Number of fish caught during boat electroshocking surveys and their frequency of occurrence in Sections 5, 6, 7, and 9 of the Peace River, 2004 to 2021.

	2004		2005		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020		2021	
Species	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]	n[a]	%[b]
Large-bodied																																		
Arctic Grayling	133	*5*	174	*5*	196	*5*	103	*3*	51	*2*	30	*1*	45	*1*	23	*1*	12	*<1*	5	*<1*	24	*<1*	54	*1*	33	*<1*	16	*<1*	63	*1*	16	*<1*	40	*<1*
Bull Trout	25	*1*	35	*1*	55	*1*	57	*1*	37	*1*	22	*1*	58	*2*	43	*1*	44	*1*	19	*1*	126	*1*	154	*2*	99	*1*	83	*1*	74	*1*	61	*1*	101	*1*
Burbot	3	*<1*	2	*<1*	1	*<1*			1	*<1*	1	*<1*			1	*<1*			1	*<1*	2	*<1*	37	*<1*	6	*<1*	13	*<1*	45	*1*	14	*<1*	16	*<1*
Goldeye																					1	*<1*	7	*<1*	3	*<1*			14	*<1*	4	*<1*	7	*<1*
Kokanee	1	*<1*	1	*<1*	5	*<1*	5	*<1*	3	*<1*	2	*<1*	3	*<1*	5	*<1*	3	*<1*			3	*<1*	4	*<1*	7	*<1*	2	*<1*	2	*<1*	10	*<1*	7	*<1*
Lake Trout	1	*<1*	1	*<1*					1	*<1*					1	*<1*	1	*<1*			1	*<1*					1	*<1*						
Lake Whitefish	3	*<1*											4	*<1*	1	*<1*							2	*<1*			2	*<1*	1	*<1*			1	*<1*
Mountain Whitefish	2291	*79*	2640	*76*	3029	*79*	3159	*80*	2862	*85*	2929	*91*	3297	*86*	2279	*76*	2524	*82*	2534	*83*	4829	*46*	3848	*46*	3493	*42*	5018	*58*	3874	*50*	2489	*39*	2397	*23*
Northern Pike	1	*<1*	3	*<1*	7	*<1*	7	*<1*	6	*<1*	2	*<1*	10	*<1*	6	*<1*	4	*<1*	4	*<1*	12	*<1*	16	*<1*	35	*<1*	30	*<1*	25	*<1*	18	*<1*	42	*<1*
Northern Pikeminnow	21	*1*	6	*<1*	5	*<1*	7	*<1*	4	*<1*			10	*<1*	9	*<1*	8	*<1*	8	*<1*	205	*2*	131	*2*	137	*2*	83	*1*	123	*2*	120	*2*	193	*2*
Rainbow Trout	8	*<1*	6	*<1*	10	*<1*	25	*1*	8	*<1*	15	*<1*	13	*<1*	9	*<1*	6	*<1*	9	*<1*	38	*<1*	25	*<1*	20	*<1*	17	*<1*	15	*<1*	7	*<1*	27	*<1*
Sucker spp.[c]	412	*14*	623	*18*	523	*14*	545	*14*	371	*11*	199	*6*	353	*9*	607	*20*	435	*14*	439	*14*	5230	*49*	3879	*46*	4207	*50*	3049	*35*	3241	*42*	3456	*54*	7329	*70*
Walleye	6	*<1*	3	*<1*	12	*<1*	43	*1*	8	*<1*	2	*<1*	41	*1*	27	*1*	28	*1*	19	*1*	112	*1*	217	*3*	331	*4*	312	*4*	262	*3*	206	*3*	245	*2*
Large-bodied subtotal	2905	*100*	3494	*100*	3843	*100*	3951	*100*	3352	*100*	3202	*100*	3834	*100*	3011	*100*	3065	*98*	3038	*100*	10 583	*100*	8374	*100*	8371	*100*	8626	*100*	7739	*100*	6401	*100*	10 405	*98*
Small-bodied																																		
Finescale Dace																					1	*<1*												
Flathead Chub													1	*100*							3	*1*	18	*5*	35	*9*	9	*8*	48	*12*	79	*28*	79	*22*
Lake Chub																			1	*5*	40	*15*	28	*8*	63	*17*	18	*15*	127	*32*	31	*11*	70	*20*
Longnose Dace																			2	*10*	12	*4*	13	*4*	37	*10*	5	*4*	14	*3*	36	*13*	64	*18*
Peamouth																									2	*1*					2	*1*	1	*<1*
Redside Shiner																			1	*5*	151	*56*	158	*48*	177	*47*	18	*15*	101	*25*	78	*28*	80	*23*
Sculpin spp.[c]																			16	*80*	30	*11*	89	*27*	20	*5*	28	*24*	45	*11*	31	*11*	47	*13*
Spottail Shiner																					15	*6*	13	*4*	10	*3*	5	*4*	14	*3*	5	*2*	5	*1*
Trout-perch																					5	*2*	9	*3*	26	*7*	33	*28*	41	*10*	15	*5*	5	*1*
Yellow Perch					1	*100*															11	*4*	2	*1*	4	*1*	2	*2*	12	*3*	3	*1*	2	*1*
Small-bodied subtotal					1	*100*							1	*100*					20	*100*	268	*100*	330	*100*	374	*100*	118	*100*	402	*100*	280	*100*	353	*100*
All species	2905		3494		3844		3951		3352		3202		3835		3011		3065		3058		10 851		8704		8745		8744		8141		6681		10 758	

[a] Includes fish captured and identified to species; does not include fish recaptured within the year.
[b] Percent composition of large-bodied or small-bodied catch.
[c] Species combined for table or not identified to species.

Table E3 Summary of boat electroshocking large-bodied catch (only includes fish captured and identified to species) and catch-per-unit-effort (CPUE = no. fish/km/hour) in the Peace River, 16 August to 08 October 2021.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																											
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 1	1	0101	16-Aug-21	218	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	467.89	0	0	0	0	0	0	0	0	0	0	17	467.89
		0102	16-Aug-21	271	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	149.87	0	0	0	0	0	0	0	0	0	0	11	149.87
		0103	16-Aug-21	585	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15.38	0	0	0	0	0	0	2	10.26	0	0	5	25.64
		0104	16-Aug-21	266	0.50	0	0	1	27.07	0	0	0	0	0	0	0	0	0	0	5	135.34	0	0	0	0	0	0	1	27.07	0	0	7	189.47
		0105	16-Aug-21	401	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	73.45	0	0	0	0	0	0	0	0	0	0	9	73.45
		0107	17-Aug-21	328	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	79.82	0	0	0	0	0	0	0	0	0	0	4	79.82
		0108	17-Aug-21	554	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.64	0	0	0	0	0	0	0	0	0	0	1	7.64
		0109	17-Aug-21	529	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	97.72	0	0	0	0	0	0	0	0	0	0	14	97.72
		0110	17-Aug-21	411	0.65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	53.9	0	0	0	0	0	0	0	0	0	0	4	53.9
		0112	17-Aug-21	538	1.07	0	0	1	6.25	0	0	0	0	0	0	0	0	0	0	17	106.31	0	0	0	0	0	0	4	25.01	0	0	22	137.58
		0113	17-Aug-21	335	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	128.96	0	0	0	0	0	0	0	0	0	0	9	128.96
		0114	17-Aug-21	451	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	159.65	1	8.4	0	0	0	0	6	50.41	0	0	26	218.46
		0116	17-Aug-21	402	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	54.55	0	0	0	0	0	0	0	0	0	0	6	54.55
		0119	17-Aug-21	261	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	55.17	0	0	0	0	0	0	0	0	0	0	2	55.17
	Session Summary			**396.4**	**12.00**	**0**	**0**	**2**	**1.51**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**121**	**91.57**	**1**	**0.76**	**0**	**0**	**0**	**0**	**13**	**9.84**	**0**	**0**	**137**	**103.68**
Section 1	2	0101	24-Aug-21	281	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	341.64	0	0	0	0	0	0	0	0	0	0	16	341.64
		0102	24-Aug-21	395	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	84.13	0	0	0	0	0	0	0	0	0	0	9	84.13
		0108	23-Aug-21	518	0.85	0	0	1	8.18	0	0	0	0	0	0	0	0	0	0	6	49.06	0	0	0	0	1	8.18	9	73.59	0	0	17	139
		0109	23-Aug-21	451	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	139.18	0	0	0	0	1	8.19	5	40.93	0	0	23	188.3
		0110	23-Aug-21	398	0.65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	41.75	0	0	0	0	0	0	0	0	0	0	3	41.75
		0112	23-Aug-21	412	0.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	151.02	0	0	0	0	0	0	3	32.36	0	0	17	183.39
		0113	23-Aug-21	289	0.75	0	0	1	16.61	0	0	0	0	0	0	0	0	0	0	19	315.57	0	0	0	0	0	0	7	116.26	0	0	27	448.44
		0114	23-Aug-21	419	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	90.44	0	0	0	0	0	0	0	0	0	0	10	90.44
		0116	23-Aug-21	409	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	187.66	0	0	0	0	0	0	6	53.62	0	0	27	241.27
	Session Summary			**396.9**	**8.00**	**0**	**0**	**2**	**2.27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**115**	**130.39**	**0**	**0**	**0**	**0**	**2**	**2.27**	**30**	**34.01**	**0**	**0**	**149**	**168.93**
Section 1	3	0101	28-Aug-21	236	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	355.93	0	0	0	0	0	0	1	25.42	0	0	15	381.36
		0102	28-Aug-21	298	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	173.46	0	0	0	0	0	0	0	0	0	0	14	173.46
		0103	28-Aug-21	590	1.20	0	0	1	5.08	0	0	0	0	0	0	0	0	0	0	23	116.95	0	0	0	0	0	0	0	0	0	0	24	122.03
		0104	30-Aug-21	333	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	281.08	0	0	0	0	0	0	0	0	0	0	13	281.08
		0105	30-Aug-21	479	1.10	0	0	1	6.83	0	0	0	0	0	0	0	0	0	0	23	157.15	0	0	0	0	0	0	3	20.5	0	0	27	184.48
		0107	28-Aug-21	249	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	206.54	0	0	0	0	0	0	1	41.31	0	0	6	247.85
		0108	28-Aug-21	490	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	155.58	0	0	0	0	1	8.64	0	0	0	0	19	164.23
		0109	28-Aug-21	491	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	203.04	0	0	0	0	0	0	0	0	0	0	27	203.04
		0110	28-Aug-21	471	0.65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	188.14	0	0	0	0	4	47.04	0	0	0	0	20	235.18
		0111	28-Aug-21	379	0.62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	30.4	0	0	0	0	0	0	0	0	0	0	2	30.4
		0112	28-Aug-21	533	1.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	202	0	0	0	0	1	6.31	1	6.31	0	0	34	214.62
		0113	29-Aug-21	312	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	184.62	0	0	0	0	0	0	0	0	0	0	12	184.62
		0114	29-Aug-21	428	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	123.95	0	0	0	0	1	8.85	1	8.85	0	0	16	141.66
		0116	29-Aug-21	476	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	214.99	0	0	0	0	0	0	0	0	0	0	28	214.99
		0119	28-Aug-21	287	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	75.26	0	0	0	0	0	0	0	0	0	0	3	75.26
	Session Summary			**403.5**	**12.00**	**0**	**0**	**2**	**1.49**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**244**	**181.41**	**0**	**0**	**0**	**0**	**7**	**5.2**	**7**	**5.2**	**0**	**0**	**260**	**193.31**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																											
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 1	4	0101	07-Sep-21	249	0.60	0	0	1	24.1	0	0	0	0	0	0	0	0	0	0	55	1325.3	0	0	0	0	0	0	1	24.1	0	0	57	1373.49
		0102	07-Sep-21	296	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	611.23	0	0	0	0	0	0	0	0	0	0	49	611.23
		0103	06-Sep-21	627	1.20	0	0	2	9.57	0	0	0	0	1	4.78	0	0	0	0	48	229.67	0	0	0	0	2	9.57	7	33.49	0	0	60	287.08
		0104	06-Sep-21	299	0.46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	237.63	0	0	0	0	0	0	2	52.81	0	0	11	290.44
		0105	06-Sep-21	469	1.10	0	0	1	6.98	0	0	0	0	0	0	0	0	0	0	23	160.5	0	0	0	0	0	0	1	6.98	0	0	25	174.45
		0107	05-Sep-21	537	0.55	0	0	0	0	0	0	0	0	1	12.19	0	0	0	0	11	134.08	0	0	0	0	1	12.19	3	36.57	0	0	16	195.02
		0108	05-Sep-21	467	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	45.35	0	0	0	0	0	0	0	0	0	0	5	45.35
		0109	05-Sep-21	446	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	389.1	0	0	0	0	1	8.28	5	41.39	0	0	53	438.77
		0110	05-Sep-21	542	0.65	0	0	1	10.22	0	0	0	0	0	0	0	0	0	0	28	286.12	0	0	0	0	3	30.66	1	10.22	0	0	33	337.21
		0111	05-Sep-21	503	0.60	0	0	2	23.86	0	0	0	0	0	0	0	0	0	0	3	35.79	0	0	0	0	0	0	1	11.93	0	0	6	71.57
		0112	05-Sep-21	521	1.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	251.85	0	0	0	0	0	0	4	25.83	0	0	43	277.68
		0113	06-Sep-21	300	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	512	0	0	0	0	0	0	0	0	0	0	32	512
		0114	06-Sep-21	502	0.95	0	0	1	7.55	0	0	0	0	0	0	0	0	0	0	46	347.24	0	0	0	0	1	7.55	15	113.23	0	0	63	475.57
		0116	06-Sep-21	480	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	403.55	0	0	0	0	0	0	0	0	0	0	53	403.55
		0119	05-Sep-21	324	0.45	0	0	2	49.38	0	0	0	0	1	24.69	0	0	0	0	4	98.77	0	0	0	0	1	24.69	2	49.38	0	0	10	246.91
	Session Summary			**437.5**	**12.00**	**0**	**0**	**10**	**6.86**	**0**	**0**	**0**	**0**	**3**	**2.06**	**0**	**0**	**0**	**0**	**452**	**309.94**	**0**	**0**	**0**	**0**	**9**	**6.17**	**42**	**28.8**	**0**	**0**	**516**	**353.83**
Section 1	5	0101	26-Sep-21	788	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	456.85	0	0	0	0	0	0	2	15.23	0	0	62	472.08
		0102	26-Sep-21	394	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	374.85	0	0	0	0	0	0	2	18.74	0	0	42	393.6
		0103	26-Sep-21	626	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	76.68	0	0	0	0	1	4.79	11	52.72	0	0	28	134.19
		0104	26-Sep-21	422	0.50	0	0	0	0	0	0	0	0	1	17.06	0	0	0	0	18	307.11	0	0	1	17.06	0	0	18	307.11	0	0	38	648.34
		0105	26-Sep-21	613	1.10	0	0	0	0	0	0	0	0	1	5.34	1	5.34	0	0	17	90.76	0	0	0	0	0	0	6	32.03	0	0	25	133.47
		0107	26-Sep-21	389	0.55	0	0	0	0	0	0	0	0	1	16.83	0	0	0	0	7	117.78	0	0	0	0	3	50.48	3	50.48	0	0	14	235.57
		0108	26-Sep-21	654	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	136	0	0	1	6.48	0	0	33	213.71	0	0	55	356.18
		0109	26-Sep-21	652	0.98	0	0	2	11.33	0	0	0	0	0	0	0	0	0	0	48	271.83	0	0	0	0	1	5.66	18	101.93	0	0	69	390.75
		0110	26-Sep-21	526	0.65	0	0	0	0	0	0	0	0	1	10.53	0	0	0	0	22	231.65	0	0	0	0	0	0	14	147.41	0	0	37	389.59
		0111	26-Sep-21	525	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	96	0	0	0	0	1	6.86	6	41.14	0	0	21	144
		0112	26-Sep-21	664	1.07	0	0	0	0	0	0	0	0	2	10.13	0	0	0	0	54	273.62	0	0	0	0	1	5.07	4	20.27	0	0	61	309.09
		0113	26-Sep-21	441	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	337.41	0	0	0	0	0	0	7	76.19	0	0	38	413.61
		0114	26-Sep-21	471	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	394.23	0	0	0	0	1	8.05	7	56.32	0	0	57	458.6
		0116	26-Sep-21	557	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	255.9	0	0	0	0	0	0	5	32.81	0	0	44	288.71
		0119	26-Sep-21	760	0.75	0	0	0	0	0	0	0	0	1	6.32	0	0	0	0	14	88.42	0	0	0	0	0	0	11	69.47	0	0	26	164.21
	Session Summary			**565.5**	**13.00**	**0**	**0**	**2**	**0.98**	**0**	**0**	**0**	**0**	**7**	**3.43**	**1**	**0.49**	**0**	**0**	**450**	**220.36**	**0**	**0**	**2**	**0.98**	**8**	**3.92**	**147**	**71.99**	**0**	**0**	**617**	**302.14**
Section 1	6	0101	08-Oct-21	298	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	422.82	0	0	0	0	0	0	4	80.54	0	0	25	503.36
		0102	08-Oct-21	392	0.98	0	0	2	18.84	0	0	0	0	0	0	0	0	0	0	4	37.68	0	0	0	0	0	0	1	9.42	0	0	7	65.93
		0103	08-Oct-21	644	1.20	0	0	1	4.66	0	0	0	0	1	4.66	0	0	0	0	24	111.8	0	0	0	0	0	0	12	55.9	0	0	38	177.02
		0104	08-Oct-21	440	0.50	0	0	0	0	0	0	0	0	1	16.36	0	0	0	0	29	474.55	0	0	0	0	0	0	21	343.64	0	0	51	834.55
		0105	08-Oct-21	536	1.10	0	0	1	6.11	0	0	0	0	0	0	0	0	0	0	13	79.38	0	0	0	0	0	0	6	36.64	0	0	20	122.12
		0107	08-Oct-21	322	0.55	0	0	1	20.33	0	0	0	0	0	0	0	0	0	0	16	325.24	0	0	0	0	2	40.65	0	0	0	0	19	386.22
		0108	08-Oct-21	649	0.85	0	0	2	13.05	0	0	0	0	1	6.53	0	0	0	0	30	195.78	0	0	0	0	1	6.53	13	84.84	0	0	47	306.72
		0109	08-Oct-21	578	0.98	0	0	2	12.78	0	0	0	0	0	0	0	0	0	0	15	95.82	0	0	0	0	3	19.16	6	38.33	0	0	26	166.09
		0110	08-Oct-21	439	0.65	0	0	1	12.62	0	0	0	0	0	0	0	0	0	0	12	151.39	0	0	0	0	0	0	9	113.54	0	0	22	277.55
		0111	08-Oct-21	593	1.00	0	0	0	0	0	0	0	0	2	12.14	0	0	0	0	37	224.62	0	0	0	0	1	6.07	6	36.42	0	0	46	279.26
		0112	08-Oct-21	591	1.07	0	0	1	5.69	0	0	0	0	2	11.39	0	0	0	0	73	415.58	0	0	0	0	3	17.08	7	39.85	0	0	86	489.59
		0113	08-Oct-21	468	0.75	0	0	2	20.51	0	0	0	0	1	10.26	0	0	0	0	36	369.23	0	0	0	0	0	0	7	71.79	0	0	46	471.79
		0114	08-Oct-21	535	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	304.57	0	0	0	0	1	7.08	11	77.91	0	0	55	389.57
		0116	08-Oct-21	538	0.98	0	0	1	6.79	0	0	0	0	0	0	0	0	0	0	46	312.49	0	0	0	0	0	0	5	33.97	0	0	52	353.25
		0119	08-Oct-21	664	0.75	0	0	6	43.37	0	0	0	0	1	7.23	0	0	0	0	21	151.81	0	0	0	0	3	21.69	4	28.92	0	0	35	253.01
	Session Summary			**512.5**	**13.00**	**0**	**0**	**20**	**10.81**	**0**	**0**	**0**	**0**	**9**	**4.86**	**0**	**0**	**0**	**0**	**420**	**226.94**	**0**	**0**	**0**	**0**	**14**	**7.56**	**112**	**60.52**	**0**	**0**	**575**	**310.69**
Section Total All Samples				**37905**	**69.25**	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**1**	**0**	**0**	**0**	**1802**	**0**	**1**	**0**	**2**	**0**	**40**	**0**	**351**	**0**	**0**	**0**	**2254**	**0**
Section Average All Samples				**457**	**0.83**	**0**	**0**	**0**	**4.32**	**0**	**0**	**0**	**0**	**0**	**2.16**	**0**	**0.11**	**0**	**0**	**22**	**204.98**	**0**	**0.11**	**0**	**0.23**	**0**	**4.55**	**4**	**39.93**	**0**	**0**	**27**	**256.4**
Section Standard Error of Mean						**0**	**0**	**0.1**	**1.03**	**0**	**0**	**0**	**0**	**0.06**	**0.55**	**0.01**	**0.06**	**0**	**0**	**1.79**	**19.96**	**0.01**	**0.1**	**0.02**	**0.22**	**0.1**	**1.11**	**0.64**	**6.56**	**0**	**0**	**2.11**	**22.3**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																									
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 3	1	0301	18-Aug-21	914	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	13.13	0	0	0	0	1	2.19	1	2.19	0	0	8	17.51
		0302	18-Aug-21	827	1.90	0	0	1	2.29	0	0	0	0	0	0	0	0	0	0	5	11.46	0	0	0	0	0	0	7	16.04	0	0	13	29.78
		0303	18-Aug-21	679	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.66	0	0	0	0	0	0	8	29.25	0	0	9	32.91
		0304	18-Aug-21	481	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.54	0	0	0	0	0	0	0	0	0	0	1	5.54
		0305	18-Aug-21	733	1.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9.51	0	0	1	3.17	0	0	10	31.69	0	0	14	44.36
		0306	18-Aug-21	516	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	20.93	0	0	0	0	0	0	0	0	0	0	3	20.93
		0307	18-Aug-21	458	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	24.82	0	0	0	0	0	0	0	0	0	0	3	24.82
		0308	18-Aug-21	499	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	21.38	0	0	0	0	0	0	0	0	0	0	4	21.38
		0309	19-Aug-21	485	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23.44	0	0	0	0	0	0	0	0	0	0	3	23.44
		0310	19-Aug-21	657	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	41.1	0	0	0	0	0	0	1	4.57	0	0	10	45.66
		0311	19-Aug-21	682	1.25	0	0	2	8.45	0	0	0	0	0	0	0	0	0	0	5	21.11	0	0	2	8.45	1	4.22	8	33.78	0	0	18	76.01
		0312	19-Aug-21	859	1.17	0	0	3	10.75	0	0	0	0	0	0	0	0	0	0	14	50.15	0	0	6	21.49	0	0	20	71.64	0	0	43	154.03
		0314	18-Aug-21	541	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	20.47	0	0	0	0	0	0	2	13.65	0	0	5	34.12
		0315	18-Aug-21	891	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	16.64	0	0	0	0	0	0	4	9.51	0	0	11	26.14
		0316	19-Aug-21	909	1.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	29.54	0	0	1	2.69	7	18.8	6	16.11	0	0	25	67.13
	Session Summary			**675.4**	**20.00**	**0**	**0**	**6**	**1.6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**78**	**20.79**	**0**	**0**	**10**	**2.67**	**9**	**2.4**	**67**	**17.86**	**0**	**0**	**170**	**45.31**
Section 3	2	0301	24-Aug-21	930	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	27.96	0	0	1	2.15	1	2.15	4	8.6	0	0	19	40.86
		0302	24-Aug-21	878	1.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2.16	0	0	1	2.16	0	0	5	10.79	0	0	7	15.11
		0303	24-Aug-21	603	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8.23	0	0	2	8.23
		0304	24-Aug-21	584	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	41.1	0	0	1	4.57	0	0	5	22.83	0	0	15	68.49
		0305	24-Aug-21	787	1.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11.8	0	0	1	2.95	0	0	10	29.51	0	0	15	44.27
		0306	24-Aug-21	545	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13.21	0	0	2	13.21
		0307	25-Aug-21	539	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	42.18	0	0	0	0	0	0	3	21.09	0	0	9	63.28
		0308	25-Aug-21	585	1.35	0	0	1	4.56	0	0	0	0	0	0	0	0	0	0	6	27.35	0	0	2	9.12	0	0	6	27.35	0	0	15	68.38
		0309	25-Aug-21	487	0.95	0	0	0	0	1	7.78	0	0	0	0	0	0	0	0	3	23.34	0	0	0	0	0	0	0	0	0	0	4	31.13
		0310	25-Aug-21	685	1.20	0	0	1	4.38	0	0	0	0	0	0	0	0	0	0	4	17.52	1	4.38	1	4.38	0	0	1	4.38	0	0	8	35.04
		0311	24-Aug-21	728	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.96	0	0	0	0	0	0	2	7.91	0	0	3	11.87
		0312	24-Aug-21	736	1.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12.54	0	0	0	0	0	0	4	16.72	0	0	7	29.26
		0314	25-Aug-21	587	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.29	0	0	0	0	0	0	2	12.58	0	0	3	18.87
		0315	25-Aug-21	1007	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	14.72	0	0	0	0	0	0	4	8.41	0	0	11	23.13
		0316	25-Aug-21	796	1.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12.26	0	0	0	0	1	3.07	3	9.2	0	0	8	24.53
	Session Summary			**698.5**	**20.00**	**0**	**0**	**2**	**0.52**	**1**	**0.26**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**62**	**15.98**	**1**	**0.26**	**7**	**1.8**	**2**	**0.52**	**53**	**13.66**	**0**	**0**	**128**	**32.98**
Section 3	3	0301	30-Aug-21	863	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	27.81	0	0	0	0	0	0	1	2.32	0	0	13	30.13
		0302	30-Aug-21	748	1.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	10.13	0	0	1	2.53	0	0	4	10.13	0	0	9	22.8
		0303	30-Aug-21	623	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	23.91	0	0	0	0	0	0	5	19.93	0	0	11	43.84
		0304	30-Aug-21	656	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	44.72	0	0	0	0	0	0	0	0	0	0	11	44.72
		0305	31-Aug-21	837	1.55	0	0	2	5.55	0	0	0	0	0	0	0	0	0	0	25	69.37	0	0	4	11.1	0	0	19	52.72	0	0	50	138.74
		0306	31-Aug-21	546	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	46.15	0	0	1	6.59	0	0	4	26.37	0	0	12	79.12
		0307	31-Aug-21	610	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	43.49	0	0	1	6.21	0	0	0	0	0	0	8	49.7
		0308	31-Aug-21	588	1.35	0	0	1	4.54	0	0	0	0	0	0	0	0	0	0	8	36.28	0	0	0	0	0	0	5	22.68	0	0	14	63.49
		0309	01-Sep-21	535	0.95	1	7.08	1	7.08	0	0	0	0	0	0	0	0	0	0	1	7.08	0	0	0	0	0	0	5	35.42	0	0	8	56.67
		0310	01-Sep-21	783	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	34.48	0	0	3	11.49	0	0	3	11.49	0	0	15	57.47
		0311	31-Aug-21	683	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	29.52	0	0	4	16.87	0	0	13	54.82	0	0	24	101.2
		0312	01-Sep-21	1024	1.17	0	0	3	9.01	0	0	0	0	0	0	0	0	0	0	27	81.13	0	0	1	3	1	3	25	75.12	0	0	57	171.27
		0314	31-Aug-21	563	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	72.14	0	0	0	0	2	13.12	4	26.23	0	0	17	111.49
		0315	31-Aug-21	1031	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	45.19	0	0	0	0	0	0	11	22.59	0	0	33	67.78
		0316	01-Sep-21	908	1.48	0	0	1	2.69	0	0	0	0	0	0	0	0	0	0	12	32.26	0	0	2	5.38	7	18.82	5	13.44	0	0	27	72.58
	Session Summary			**733.2**	**20.00**	**1**	**0.25**	**8**	**1.96**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**169**	**41.49**	**0**	**0**	**17**	**4.17**	**10**	**2.45**	**104**	**25.53**	**0**	**0**	**309**	**75.86**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																											
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 3	4	0301	07-Sep-21	1027	1.80	0	0	3	5.84	0	0	0	0	0	0	0	0	0	0	6	11.68	0	0	1	1.95	8	15.58	4	7.79	0	0	22	42.84
		0302	07-Sep-21	871	1.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	34.81	0	0	0	0	2	4.35	20	43.51	0	0	38	82.66
		0303	07-Sep-21	701	1.45	1	3.54	1	3.54	0	0	0	0	0	0	0	0	0	0	19	67.29	0	0	0	0	0	0	32	113.34	0	0	53	187.71
		0304	07-Sep-21	705	1.35	0	0	1	3.78	0	0	0	0	0	0	0	0	0	0	25	94.56	0	0	0	0	0	0	2	7.57	0	0	28	105.91
		0305	09-Sep-21	829	1.55	0	0	2	5.6	0	0	0	0	0	0	0	0	0	0	34	95.26	0	0	4	11.21	0	0	25	70.04	0	0	65	182.11
		0306	09-Sep-21	583	1.00	0	0	3	18.52	0	0	0	0	0	0	0	0	0	0	7	43.22	0	0	3	18.52	0	0	22	135.85	0	0	35	216.12
		0307	18-Sep-21	521	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	123.65	0	0	0	0	0	0	9	65.46	0	0	26	189.11
		0308	18-Sep-21	587	1.35	0	0	1	4.54	0	0	0	0	0	0	0	0	0	0	27	122.66	0	0	0	0	0	0	1	4.54	0	0	29	131.74
		0309	13-Sep-21	575	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	65.9	0	0	0	0	1	6.59	0	0	0	0	11	72.49
		0310	13-Sep-21	730	1.20	0	0	2	8.22	0	0	0	0	0	0	0	0	0	0	13	53.42	0	0	0	0	0	0	1	4.11	0	0	16	65.75
		0311	13-Sep-21	754	1.25	0	0	1	3.82	0	0	0	0	0	0	0	0	0	0	12	45.84	0	0	0	0	0	0	17	64.93	0	0	30	114.59
		0312	18-Sep-21	958	1.17	0	0	8	25.69	0	0	0	0	0	0	0	0	0	0	34	109.2	0	0	0	0	0	0	11	35.33	0	0	53	170.23
		0314	13-Sep-21	644	0.98	0	0	1	5.73	0	0	0	0	0	0	0	0	0	0	6	34.4	0	0	0	0	2	11.47	2	11.47	0	0	11	63.07
		0315	13-Sep-21	1008	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	14.71	0	0	3	6.3	0	0	8	16.81	0	0	18	37.82
		0316	13-Sep-21	835	1.48	0	0	2	5.85	0	0	0	0	0	0	0	0	0	0	7	20.46	0	0	0	0	2	5.85	2	5.85	0	0	13	38
	Session Summary			**755.2**	**20.00**	**1**	**0.24**	**25**	**5.96**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**240**	**57.2**	**0**	**0**	**11**	**2.62**	**15**	**3.58**	**156**	**37.18**	**0**	**0**	**448**	**106.78**
Section 3	5	0301	27-Sep-21	1056	1.80	0	0	2	3.79	0	0	0	0	0	0	0	0	0	0	8	15.15	0	0	0	0	1	1.89	2	3.79	0	0	13	24.62
		0302	27-Sep-21	979	1.90	0	0	1	1.94	0	0	0	0	0	0	0	0	0	0	28	54.19	0	0	0	0	0	0	6	11.61	0	0	35	67.74
		0303	27-Sep-21	939	1.45	0	0	4	10.58	0	0	0	0	0	0	0	0	0	0	31	81.97	0	0	1	2.64	2	5.29	12	31.73	0	0	50	132.2
		0304	27-Sep-21	806	1.35	0	0	1	3.31	0	0	0	0	0	0	0	0	0	0	15	49.63	0	0	1	3.31	1	3.31	2	6.62	0	0	20	66.17
		0305	27-Sep-21	975	1.55	0	0	1	2.38	0	0	0	0	0	0	0	0	0	0	39	92.9	0	0	0	0	1	2.38	24	57.17	0	0	65	154.84
		0306	28-Sep-21	819	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	114.29	0	0	1	4.4	0	0	51	224.18	0	0	78	342.86
		0307	28-Sep-21	713	0.95	0	0	1	5.31	0	0	0	0	0	0	0	0	0	0	16	85.04	0	0	0	0	0	0	8	42.52	0	0	25	132.87
		0308	28-Sep-21	760	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	63.16	0	0	0	0	0	0	3	10.53	0	0	21	73.68
		0309	28-Sep-21	624	0.95	1	6.07	1	6.07	0	0	0	0	0	0	0	0	0	0	11	66.8	0	0	0	0	0	0	0	0	0	0	13	78.95
		0310	28-Sep-21	820	1.20	0	0	1	3.66	0	0	0	0	0	0	0	0	0	0	21	76.83	0	0	0	0	0	0	2	7.32	0	0	24	87.8
		0311	28-Sep-21	678	1.25	0	0	1	4.25	0	0	0	0	0	0	0	0	0	0	20	84.96	0	0	1	4.25	0	0	4	16.99	0	0	26	110.44
		0312	28-Sep-21	863	1.17	0	0	1	3.57	0	0	0	0	0	0	0	0	0	0	40	142.62	0	0	0	0	0	0	4	14.26	0	0	45	160.44
		0314	27-Sep-21	734	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	30.18	0	0	1	5.03	4	20.12	9	45.27	0	0	20	100.61
		0315	28-Sep-21	1220	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	15.62	0	0	2	3.47	1	1.74	21	36.45	0	0	33	57.28
		0316	28-Sep-21	906	1.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	29.63	0	0	0	0	2	5.39	6	16.16	0	0	19	51.18
	Session Summary			**859.5**	**20.00**	**1**	**0.21**	**14**	**2.93**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**299**	**62.62**	**0**	**0**	**7**	**1.47**	**12**	**2.51**	**154**	**32.25**	**0**	**0**	**487**	**101.99**
Section 3	6	0301	05-Oct-21	1137	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	28.14	0	0	0	0	2	3.52	4	7.04	0	0	22	38.7
		0302	05-Oct-21	1142	1.90	0	0	3	4.98	0	0	0	0	0	0	0	0	0	0	74	122.78	0	0	0	0	2	3.32	4	6.64	0	0	83	137.71
		0303	05-Oct-21	913	1.45	0	0	2	5.44	0	0	0	0	0	0	0	0	0	0	61	165.88	0	0	0	0	2	5.44	3	8.16	0	0	68	184.92
		0304	05-Oct-21	847	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	66.12	0	0	0	0	0	0	1	3.15	0	0	22	69.26
		0305	05-Oct-21	1055	1.55	0	0	6	13.21	0	0	0	0	0	0	0	0	0	0	108	237.76	0	0	0	0	4	8.81	8	17.61	0	0	126	277.39
		0306	05-Oct-21	812	1.00	0	0	1	4.43	0	0	0	0	0	0	0	0	0	0	64	283.74	0	0	1	4.43	0	0	20	88.67	0	0	86	381.28
		0307	06-Oct-21	702	0.95	0	0	1	5.4	0	0	0	0	0	0	0	0	0	0	14	75.57	0	0	0	0	0	0	3	16.19	0	0	18	97.17
		0308	06-Oct-21	712	1.35	1	3.75	1	3.75	0	0	0	0	0	0	0	0	0	0	24	89.89	0	0	0	0	0	0	0	0	0	0	26	97.38
		0309	06-Oct-21	660	0.95	0	0	2	11.48	0	0	0	0	0	0	0	0	0	0	20	114.83	0	0	0	0	0	0	0	0	0	0	22	126.32
		0310	06-Oct-21	798	1.20	1	3.76	1	3.76	0	0	0	0	0	0	0	0	0	0	39	146.62	0	0	0	0	1	3.76	3	11.28	0	0	45	169.17
		0311	06-Oct-21	780	1.25	0	0	5	18.46	0	0	0	0	1	3.69	0	0	0	0	33	121.85	0	0	0	0	0	0	5	18.46	0	0	44	162.46
		0312	06-Oct-21	915	1.17	0	0	2	6.73	0	0	0	0	0	0	0	0	0	0	43	144.6	0	0	0	0	2	6.73	6	20.18	0	0	53	178.23
		0314	05-Oct-21	629	0.98	0	0	3	17.61	0	0	0	0	0	0	0	0	0	0	15	88.05	0	0	1	5.87	1	5.87	4	23.48	0	0	24	140.88
		0315	05-Oct-21	1206	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	66.73	0	0	1	1.76	0	0	16	28.09	0	0	55	96.58
		0316	06-Oct-21	918	1.48	0	0	1	2.66	0	0	0	0	0	0	0	0	0	0	23	61.15	0	0	0	0	3	7.98	1	2.66	0	0	28	74.44
	Session Summary			**881.7**	**20.00**	**2**	**0.41**	**28**	**5.72**	**0**	**0**	**0**	**0**	**1**	**0.2**	**0**	**0**	**0**	**0**	**593**	**121.06**	**0**	**0**	**3**	**0.61**	**17**	**3.47**	**78**	**15.92**	**0**	**0**	**722**	**147.4**
Section Total All Samples				**69052**	**120.42**	**5**	**0**	**83**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1441**	**0**	**1**	**0**	**55**	**0**	**65**	**0**	**612**	**0**	**0**	**0**	**2264**	**0**
Section Average All Samples				**767**	**1.34**	**0**	**0.19**	**1**	**3.24**	**0**	**0.04**	**0**	**0**	**0**	**0.04**	**0**	**0**	**0**	**0**	**16**	**56.17**	**0**	**0.04**	**1**	**2.14**	**1**	**2.53**	**7**	**23.85**	**0**	**0**	**25**	**88.24**
Section Standard Error of Mean						**0.02**	**0.12**	**0.15**	**0.52**	**0.01**	**0.09**	**0**	**0**	**0.01**	**0.04**	**0**	**0**	**0**	**0**	**1.84**	**5.32**	**0.01**	**0.05**	**0.12**	**0.45**	**0.16**	**0.47**	**0.89**	**3.47**	**0**	**0**	**2.35**	**7.41**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 5	1	0502	16-Aug-21	686	0.95	0	0	1	5.52	0	0	0	0	0	0	0	0	0	0	9	49.72	1	5.52	0	0	0	0	23	127.05	4	22.1	38	209.91
		0505	16-Aug-21	1078	0.90	0	0	0	0	0	0	0	0	1	3.71	0	0	0	0	0	0	0	0	0	0	0	0	14	51.95	0	0	15	55.66
		0506	16-Aug-21	1077	1.00	0	0	2	6.69	0	0	0	0	0	0	0	0	0	0	6	20.06	0	0	1	3.34	0	0	25	83.57	1	3.34	35	116.99
		0507	16-Aug-21	492	0.78	2	18.76	0	0	0	0	0	0	0	0	0	0	0	0	34	318.95	0	0	1	9.38	1	9.38	17	159.47	0	0	55	515.95
		0508	18-Aug-21	855	0.92	0	0	1	4.55	0	0	0	0	0	0	0	0	0	0	19	86.49	0	0	2	9.1	0	0	32	145.66	0	0	54	245.8
		0509	16-Aug-21	676	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	115.14	0	0	0	0	0	0	29	166.96	0	0	49	282.1
		0510	16-Aug-21	1032	1.13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	61.74	0	0	2	6.17	0	0	76	234.62	1	3.09	99	305.62
		0511	17-Aug-21	513	0.72	0	0	2	19.49	0	0	0	0	0	0	0	0	0	0	7	68.23	0	0	0	0	0	0	26	253.41	0	0	35	341.13
		0512	17-Aug-21	951	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	97.59	0	0	4	11.83	0	0	32	94.64	2	5.91	71	209.98
		0513	17-Aug-21	732	0.77	0	0	0	0	1	6.39	0	0	0	0	0	0	0	0	18	114.97	0	0	0	0	0	0	12	76.64	0	0	31	198
		0514	18-Aug-21	597	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	43.07	1	10.77	0	0	0	0	42	452.26	1	10.77	48	516.87
		0515	18-Aug-21	692	0.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10.73	0	0	0	0	0	0	80	429.06	0	0	82	439.78
		0517	17-Aug-21	697	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14.76	0	0	0	0	0	0	9	132.81	0	0	10	147.57
		0518	17-Aug-21	1519	1.81	0	0	1	1.31	0	0	0	0	0	0	0	0	0	0	1	1.31	1	1.31	2	2.62	0	0	53	69.4	3	3.93	61	79.87
		05SC060	17-Aug-21	556	0.53	0	0	0	0	1	12.22	0	0	0	0	0	0	0	0	3	36.65	0	0	0	0	0	0	24	293.2	3	36.65	31	378.72
	Session Summary			**810.2**	**14.00**	**2**	**0.63**	**7**	**2.22**	**2**	**0.63**	**0**	**0**	**1**	**0.32**	**0**	**0**	**0**	**0**	**177**	**56.18**	**3**	**0.95**	**12**	**3.81**	**1**	**0.32**	**494**	**156.79**	**15**	**4.76**	**714**	**226.61**
Section 5	2	0502	25-Aug-21	566	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	50.88	3	25.44	0	0	0	0	19	161.13	0	0	28	237.46
		0505	24-Aug-21	1326	1.00	0	0	2	5.43	0	0	0	0	0	0	0	0	0	0	2	5.43	0	0	0	0	1	2.71	15	40.72	2	5.43	22	59.73
		0506	25-Aug-21	897	1.00	0	0	1	4.01	0	0	0	0	0	0	0	0	0	0	7	28.09	0	0	0	0	0	0	30	120.4	0	0	38	152.51
		0507	25-Aug-21	504	0.78	3	27.47	1	9.16	0	0	0	0	0	0	0	0	0	0	37	338.83	0	0	0	0	0	0	10	91.58	0	0	51	467.03
		0508	23-Aug-21	829	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	28.17	0	0	0	0	0	0	35	164.31	3	14.08	44	206.57
		0509	24-Aug-21	705	0.94	0	0	1	5.4	0	0	0	0	0	0	0	0	0	0	23	124.28	0	0	0	0	0	0	27	145.9	1	5.4	52	280.99
		0510	25-Aug-21	991	1.13	0	0	0	0	1	3.21	0	0	0	0	0	0	0	0	30	96.44	0	0	2	6.43	0	0	40	128.59	1	3.21	74	237.89
		0511	26-Aug-21	649	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	169.49	1	7.7	1	7.7	0	0	17	130.97	2	15.41	43	331.28
		0512	25-Aug-21	1018	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	132.61	0	0	3	8.29	0	0	45	124.32	4	11.05	100	276.28
		0513	24-Aug-21	585	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	351.65	0	0	1	7.99	0	0	32	255.74	1	7.99	78	623.38
		0514	24-Aug-21	514	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	262.65	0	0	1	12.51	0	0	45	562.81	0	0	67	837.97
		0515	26-Aug-21	886	0.97	0	0	1	4.19	0	0	0	0	0	0	0	0	0	0	42	175.93	0	0	1	4.19	0	0	80	335.11	2	8.38	126	527.8
		0517	25-Aug-21	507	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	162.3	0	0	8	162.3
		0518	26-Aug-21	1896	1.81	0	0	2	2.1	0	0	0	0	0	0	0	0	0	0	30	31.47	0	0	0	0	0	0	30	31.47	0	0	62	65.04
		05SC060	24-Aug-21	491	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13.83	0	0	0	0	0	0	24	332.01	1	13.83	26	359.68
	Session Summary			**824.3**	**14.00**	**3**	**0.94**	**8**	**2.5**	**1**	**0.31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**319**	**99.51**	**4**	**1.25**	**9**	**2.81**	**1**	**0.31**	**457**	**142.56**	**17**	**5.3**	**819**	**255.49**
Section 5	3	0502	01-Sep-21	624	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	30.36	1	6.07	0	0	0	0	18	109.31	2	12.15	26	157.89
		0505	01-Sep-21	1252	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5.75	0	0	1	2.88	0	0	10	28.75	2	5.75	15	43.13
		0506	01-Sep-21	895	1.00	0	0	1	4.02	0	0	0	0	0	0	0	0	0	0	8	32.18	0	0	1	4.02	0	0	32	128.72	2	8.04	44	176.98
		0507	01-Sep-21	638	0.78	3	21.7	1	7.23	0	0	0	0	0	0	0	0	0	0	53	383.41	0	0	0	0	0	0	15	108.51	0	0	72	520.86
		0508	02-Sep-21	795	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	151.76	0	0	2	9.79	0	0	30	146.86	0	0	63	308.41
		0509	06-Sep-21	673	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	98.31	0	0	1	5.78	1	5.78	26	150.36	2	11.57	47	271.8
		0510	06-Sep-21	893	1.13	1	3.57	0	0	0	0	0	0	0	0	0	0	0	0	29	103.46	0	0	6	21.41	0	0	77	274.7	0	0	113	403.14
		0511	06-Sep-21	530	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	28.3	0	0	0	0	0	0	25	235.85	3	28.3	31	292.45
		0512	06-Sep-21	940	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	50.86	0	0	0	0	0	0	23	68.82	1	2.99	41	122.67
		0513	02-Sep-21	669	0.77	0	0	1	6.99	0	0	0	0	0	0	0	0	0	0	19	132.78	1	6.99	1	6.99	0	0	48	335.45	1	6.99	71	496.19
		0514	02-Sep-21	603	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	127.93	0	0	1	10.66	0	0	57	607.68	0	0	70	746.27
		0515	02-Sep-21	825	0.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	71.98	0	0	0	0	0	0	69	310.4	1	4.5	86	386.88
		0517	06-Sep-21	599	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	326.26	1	17.17	20	343.43
		0518	06-Sep-21	1638	1.81	1	1.21	1	1.21	0	0	0	0	0	0	0	0	0	0	4	4.86	0	0	6	7.29	0	0	43	52.21	5	6.07	60	72.86
		05SC060	01-Sep-21	551	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12.33	0	0	1	12.33	0	0	15	184.91	3	36.98	20	246.55
	Session Summary			**808.3**	**14.00**	**5**	**1.59**	**4**	**1.27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**217**	**69.03**	**2**	**0.64**	**20**	**6.36**	**1**	**0.32**	**507**	**161.29**	**23**	**7.32**	**779**	**247.82**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h): Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 5	4	0502	14-Sep-21	381	0.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21	1	21	0	0	5	104.99	0	0	7	146.98
		0505	14-Sep-21	1417	1.00	0	0	1	2.54	0	0	0	0	0	0	0	0	0	0	2	5.08	0	0	0	0	1	2.54	5	12.7	2	5.08	11	27.95
		0506	14-Sep-21	1191	1.00	0	0	1	3.02	0	0	0	0	0	0	0	0	0	0	11	33.25	0	0	2	6.05	1	3.02	12	36.27	1	3.02	28	84.63
		0508	13-Sep-21	783	0.92	0	0	1	4.97	0	0	0	0	0	0	0	0	0	0	28	139.17	0	0	0	0	0	0	44	218.7	0	0	73	362.85
		0509	15-Sep-21	493	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	44.94	0	0	2	14.98	0	0	6	44.94	1	7.49	15	112.34
		0510	15-Sep-21	586	1.13	1	5.44	0	0	0	0	0	0	0	0	0	0	0	0	21	114.17	0	0	2	10.87	0	0	23	125.04	0	0	47	255.52
		0511	15-Sep-21	553	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	36.17	0	0	1	9.04	0	0	17	153.71	1	9.04	23	207.96
		0512	15-Sep-21	625	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	45	0	0	0	0	0	0	19	85.5	1	4.5	30	135
		0513	13-Sep-21	634	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	117.99	1	7.37	0	0	0	0	16	117.99	0	0	33	243.35
		0514	15-Sep-21	285	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	157.89	0	0	0	0	0	0	8	180.45	0	0	15	338.35
		0515	13-Sep-21	829	0.97	0	0	1	4.48	0	0	0	0	0	0	0	0	0	0	15	67.15	0	0	0	0	0	0	45	201.46	2	8.95	63	282.04
		0517	15-Sep-21	407	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	43.36	0	0	18	780.46	2	86.72	21	910.54
		0518	15-Sep-21	1175	1.66	0	0	1	1.85	0	0	0	0	0	0	0	0	0	0	6	11.07	0	0	2	3.69	0	0	42	77.52	6	11.07	57	105.2
		05SC060	14-Sep-21	257	0.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	42.45	0	0	0	0	12	509.37	0	0	13	551.82
	Session Summary			**686.9**	**12.00**	**1**	**0.44**	**5**	**2.18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**126**	**55.03**	**3**	**1.31**	**11**	**4.8**	**2**	**0.87**	**272**	**118.79**	**16**	**6.99**	**436**	**190.42**
Section 5	5	0502	19-Sep-21	549	0.95	0	0	1	6.9	0	0	0	0	0	0	0	0	0	0	5	34.51	1	6.9	1	6.9	0	0	20	138.05	5	34.51	33	227.78
		0505	19-Sep-21	1233	1.00	0	0	0	0	2	5.84	0	0	0	0	0	0	0	0	0	0	1	2.92	0	0	0	0	14	40.88	0	0	17	49.64
		0506	19-Sep-21	884	1.00	0	0	0	0	2	8.14	0	0	0	0	0	0	0	0	8	32.58	0	0	1	4.07	0	0	11	44.8	0	0	22	89.59
		0507	19-Sep-21	519	0.78	6	53.36	0	0	0	0	0	0	0	0	0	0	0	0	55	489.11	0	0	1	8.89	0	0	5	44.46	0	0	67	595.82
		0508	20-Sep-21	747	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	104.2	0	0	1	5.21	0	0	58	302.18	0	0	79	411.59
		0509	19-Sep-21	756	0.98	0	0	2	9.77	0	0	0	0	0	0	0	0	0	0	19	92.8	0	0	0	0	0	0	13	63.49	0	0	34	166.06
		0510	20-Sep-21	828	1.13	2	7.7	0	0	0	0	0	0	0	0	0	0	0	0	55	211.62	0	0	7	26.93	0	0	54	207.77	1	3.85	119	457.87
		0511	20-Sep-21	496	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	252.02	0	0	0	0	0	0	15	151.21	1	10.08	41	413.31
		0512	19-Sep-21	868	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	61.56	0	0	1	3.24	0	0	13	42.12	4	12.96	37	119.89
		0513	18-Sep-21	589	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	142.88	0	0	0	0	0	0	20	158.75	1	7.94	39	309.57
		0514	20-Sep-21	513	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	125.31	1	12.53	0	0	0	0	46	576.44	0	0	57	714.29
		0515	18-Sep-21	699	0.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	196.45	0	0	2	10.62	0	0	71	376.97	2	10.62	112	594.66
		0516	19-Sep-21	558	0.80	0	0	1	8.06	0	0	0	0	0	0	0	0	0	0	4	32.26	0	0	1	8.06	0	0	5	40.32	0	0	11	88.71
		0517	19-Sep-21	600	0.70	0	0	1	8.57	0	0	0	0	0	0	0	0	0	0	2	17.14	0	0	0	0	0	0	7	60	2	17.14	12	102.86
		0518	19-Sep-21	1405	1.81	1	1.42	0	0	0	0	0	0	0	0	0	0	0	0	16	22.65	0	0	4	5.66	2	2.83	46	65.12	3	4.25	72	101.92
		05SC060	19-Sep-21	598	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	227.17	1	11.36	21	238.53
	Session Summary			**740.1**	**15.00**	**9**	**2.92**	**5**	**1.62**	**4**	**1.3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**293**	**95.01**	**3**	**0.97**	**19**	**6.16**	**2**	**0.65**	**418**	**135.55**	**20**	**6.49**	**773**	**250.67**
Section 5	6	0502	29-Sep-21	490	0.95	1	7.73	1	7.73	0	0	0	0	0	0	0	0	0	0	5	38.67	2	15.47	0	0	0	0	8	61.87	0	0	17	131.47
		0505	29-Sep-21	1332	1.00	0	0	0	0	1	2.7	0	0	0	0	0	0	0	0	5	13.51	0	0	0	0	0	0	6	16.22	0	0	12	32.43
		0506	29-Sep-21	894	1.00	0	0	3	12.08	0	0	0	0	0	0	0	0	0	0	6	24.16	0	0	1	4.03	0	0	14	56.38	0	0	24	96.64
		0507	29-Sep-21	510	0.78	1	9.05	0	0	0	0	0	0	0	0	0	0	0	0	30	271.49	0	0	0	0	0	0	6	54.3	0	0	37	334.84
		0508	01-Oct-21	641	0.92	2	12.14	0	0	0	0	0	0	0	0	0	0	0	0	14	85	1	6.07	0	0	1	6.07	37	224.65	0	0	55	333.94
		0509	29-Sep-21	620	0.96	0	0	1	6.08	0	0	0	0	0	0	0	0	0	0	20	121.6	0	0	1	6.08	0	0	12	72.96	0	0	34	206.72
		0510	01-Oct-21	787	1.13	1	4.05	0	0	0	0	0	0	0	0	0	0	0	0	26	105.25	0	0	2	8.1	0	0	51	206.45	0	0	80	323.85
		0511	01-Oct-21	496	0.72	0	0	2	20.16	0	0	0	0	0	0	0	0	0	0	13	131.05	0	0	1	10.08	0	0	6	60.48	0	0	22	221.77
		0512	29-Sep-21	719	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	66.5	0	0	1	3.91	0	0	13	50.85	1	3.91	32	125.17
		0513	01-Oct-21	551	0.77	0	0	1	8.49	0	0	0	0	0	0	0	0	0	0	14	118.79	0	0	0	0	0	0	23	195.16	1	8.49	39	330.92
		0514	01-Oct-21	544	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	70.9	0	0	0	0	0	0	30	354.52	0	0	36	425.42
		0515	01-Oct-21	674	0.97	1	5.51	0	0	0	0	0	0	0	0	0	0	0	0	9	49.56	0	0	0	0	0	0	54	297.35	1	5.51	65	357.92
		0516	29-Sep-21	687	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	91.7	0	0	0	0	0	0	15	98.25	1	6.55	30	196.51
		0517	29-Sep-21	691	0.70	1	7.44	0	0	0	0	0	0	0	0	0	0	0	0	3	22.33	0	0	0	0	0	0	17	126.52	0	0	21	156.3
		0518	01-Oct-21	1269	1.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	12.54	0	0	0	0	0	0	11	17.24	2	3.13	21	32.91
		05SC060	29-Sep-21	617	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	341.27	0	0	31	341.27
	Session Summary			**720.1**	**15.00**	**7**	**2.33**	**8**	**2.67**	**1**	**0.33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**190**	**63.32**	**3**	**1**	**6**	**2**	**1**	**0.33**	**334**	**111.32**	**6**	**2**	**556**	**185.31**
Section Total All Samples				**69622**	**82.57**	**27**	**0**	**37**	**0**	**8**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1322**	**0**	**18**	**0**	**77**	**0**	**8**	**0**	**2482**	**0**	**97**	**0**	**4077**	**0**
Section Average All Samples				**765**	**0.91**	**0**	**1.54**	**0**	**2.11**	**0**	**0.46**	**0**	**0**	**0**	**0.06**	**0**	**0**	**0**	**0**	**15**	**75.34**	**0**	**1.03**	**1**	**4.39**	**0**	**0.46**	**27**	**141.45**	**1**	**5.53**	**45**	**232.35**
Section Standard Error of Mean						**0.09**	**0.74**	**0.07**	**0.42**	**0.04**	**0.19**	**0**	**0**	**0.01**	**0.04**	**0**	**0**	**0**	**0**	**1.43**	**10**	**0.05**	**0.64**	**0.14**	**0.72**	**0.03**	**0.15**	**2**	**15.44**	**0.14**	**1.23**	**2.86**	**19.54**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 6	1	0601	18-Aug-21	951	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6.31	0	0	3	9.46	0	0	24	75.71	0	0	29	91.48
		0602	18-Aug-21	570	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.02	0	0	5	35.09	1	7.02	7	49.12
		0603	19-Aug-21	1033	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5.36	0	0	0	0	0	0	93	249.31	0	0	95	254.67
		0604	19-Aug-21	709	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	20.31	0	0	2	10.16	0	0	49	248.8	0	0	55	279.27
		0605	19-Aug-21	577	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	62.39	0	0	0	0	0	0	57	444.54	0	0	65	506.93
		0607	20-Aug-21	862	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	25.06	0	0	0	0	0	0	73	304.87	1	4.18	80	334.11
		0608	19-Aug-21	683	1.00	1	5.27	0	0	2	10.54	0	0	0	0	0	0	0	0	13	68.52	0	0	0	0	1	5.27	93	490.19	1	5.27	111	585.07
		0609	19-Aug-21	1930	1.00	0	0	1	1.87	0	0	0	0	0	0	0	0	0	0	1	1.87	0	0	0	0	0	0	3	5.6	0	0	5	9.33
		0610	20-Aug-21	895	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.73	0	0	17	80.45	1	4.73	19	89.91
		0611	19-Aug-21	836	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	19.14	0	0	0	0	0	0	4	19.14	2	9.57	10	47.85
		0612	20-Aug-21	615	0.85	0	0	1	6.89	0	0	0	0	0	0	0	0	0	0	11	75.75	0	0	0	0	0	0	42	289.24	0	0	54	371.88
		0613	20-Aug-21	1364	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	70.38	2	5.87	26	76.25
		0614	19-Aug-21	878	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	21.03	0	0	1	4.21	0	0	52	218.68	0	0	58	243.91
		06PIN01	18-Aug-21	991	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	12.11	0	0	18	43.59	1	2.42	24	58.12
		06PIN02	18-Aug-21	477	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.55	2	15.09	0	0	1	7.55	1	7.55	5	37.74
		06SC036	21-Aug-21	551	0.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43.56	0	0	2	43.56
		06SC047	18-Aug-21	507	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17.75	0	0	1	17.75
	Session Summary			**848.8**	**16.00**	**1**	**0.27**	**2**	**0.53**	**2**	**0.53**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**14.84**	**1**	**0.27**	**15**	**3.98**	**1**	**0.27**	**558**	**147.91**	**10**	**2.65**	**646**	**171.24**
Section 6	2	0601	26-Aug-21	1062	1.20	1	2.82	1	2.82	1	2.82	0	0	1	2.82	0	0	0	0	5	14.12	0	0	1	2.82	0	0	32	90.4	0	0	42	118.64
		0602	26-Aug-21	598	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	20.07	0	0	2	13.38	0	0	3	20.07	1	6.69	9	60.2
		0603	27-Aug-21	1004	1.30	1	2.76	0	0	0	0	0	0	0	0	0	0	0	0	10	27.58	0	0	0	0	0	0	114	314.43	2	5.52	127	350.29
		0604	27-Aug-21	773	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.66	0	0	1	4.66	0	0	46	214.23	1	4.66	49	228.2
		0605	27-Aug-21	584	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	46.23	1	7.71	1	7.71	0	0	52	400.68	2	15.41	62	477.74
		0606	28-Aug-21	1104	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	46.58	0	0	3	6.99	0	0	71	165.37	0	0	94	218.94
		0607	28-Aug-21	1048	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	37.79	0	0	0	0	0	0	71	243.89	0	0	82	281.68
		0608	27-Aug-21	615	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	70.24	0	0	0	0	0	0	35	204.88	0	0	47	275.12
		0609	28-Aug-21	739	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	29.23	0	0	1	4.87	0	0	43	209.47	0	0	50	243.57
		0610	28-Aug-21	959	0.85	0	0	0	0	0	0	0	0	1	4.42	0	0	0	0	5	22.08	1	4.42	0	0	0	0	39	172.24	0	0	46	203.15
		0611	28-Aug-21	588	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	27.21	0	0	0	0	0	0	8	54.42	0	0	12	81.63
		0612	28-Aug-21	535	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	134.58	0	0	0	0	0	0	21	166.25	0	0	38	300.82
		0613	28-Aug-21	944	0.90	0	0	0	0	0	0	0	0	1	4.24	0	0	0	0	5	21.19	0	0	0	0	0	0	26	110.17	1	4.24	33	139.83
		0614	27-Aug-21	747	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	59.31	0	0	0	0	1	4.94	73	360.83	1	4.94	87	430.03
		06PIN01	27-Aug-21	1117	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2.15	1	2.15	1	2.15	0	0	17	36.53	0	0	20	42.97
		06PIN02	27-Aug-21	361	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	19.94	1	9.97	3	29.92	0	0	22	219.39	6	59.83	34	339.06
		06SC036	28-Aug-21	421	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	42.76	1	42.76	2	85.51
		06SC047	26-Aug-21	590	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	30.51	0	0	2	30.51
	Session Summary			**766.1**	**17.00**	**2**	**0.55**	**1**	**0.28**	**1**	**0.28**	**0**	**0**	**3**	**0.83**	**0**	**0**	**0**	**0**	**120**	**33.17**	**4**	**1.11**	**13**	**3.59**	**1**	**0.28**	**676**	**186.86**	**15**	**4.15**	**836**	**231.09**
Section 6	3	0601	02-Sep-21	1015	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8.87	0	0	0	0	0	0	41	121.18	2	5.91	46	135.96
		0602	03-Sep-21	560	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	50	0	0	0	0	0	0	8	57.14	0	0	15	107.14
		0603	03-Sep-21	928	1.30	0	0	2	5.97	0	0	0	0	0	0	0	0	0	0	3	8.95	0	0	0	0	0	0	54	161.14	3	8.95	62	185.01
		0604	03-Sep-21	768	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9.38	0	0	26	121.87	0	0	28	131.25
		0605	03-Sep-21	565	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	47.79	0	0	0	0	1	7.96	49	390.27	0	0	56	446.02
		0606	03-Sep-21	1052	1.40	1	2.44	0	0	0	0	0	0	0	0	0	0	0	0	11	26.89	1	2.44	0	0	0	0	32	78.22	0	0	45	109.99
		0607	10-Sep-21	873	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	20.62	1	4.12	0	0	0	0	87	358.76	1	4.12	94	387.63
		0608	03-Sep-21	664	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	37.95	0	0	0	0	1	5.42	14	75.9	0	0	22	119.28
		0609	03-Sep-21	757	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	23.78	1	4.76	1	4.76	0	0	7	33.29	3	14.27	17	80.85
		0610	10-Sep-21	816	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10.38	1	5.19	0	0	0	0	11	57.09	0	0	14	72.66
		0611	09-Sep-21	629	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	31.8	1	6.36	0	0	0	0	6	38.16	0	0	12	76.31
		0612	10-Sep-21	634	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	113.56	1	6.68	0	0	1	6.68	44	293.93	0	0	63	420.86
		0613	10-Sep-21	744	0.90	0	0	2	10.75	0	0	0	0	0	0	0	0	0	0	3	16.13	0	0	0	0	0	0	22	118.28	0	0	27	145.16
		0614	03-Sep-21	756	0.98	1	4.88	1	4.88	0	0	0	0	0	0	0	0	0	0	4	19.54	0	0	1	4.88	0	0	78	380.95	0	0	85	415.14
		06PIN01	02-Sep-21	1142	1.50	0	0	0	0	1	2.1	0	0	0	0	0	0	0	0	2	4.2	1	2.1	3	6.3	0	0	9	18.91	0	0	16	33.63
		06PIN02	02-Sep-21	725	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.97	0	0	4	19.86	0	0	2	9.93	2	9.93	9	44.69
		06SC036	10-Sep-21	481	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	128.3	1	21.38	7	149.69
		06SC047	02-Sep-21	428	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	96.13	0	0	4	96.13
	Session Summary			**752.1**	**17.00**	**2**	**0.56**	**5**	**1.41**	**1**	**0.28**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**81**	**22.81**	**7**	**1.97**	**11**	**3.1**	**3**	**0.84**	**500**	**140.78**	**12**	**3.38**	**622**	**175.13**

Number Caught (CPUE = no. fish/km/h)

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																													
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 6	4	0601	18-Sep-21	747	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	16.06	0	0	0	0	0	0	23	92.37	0	0	27	108.43
		0602	15-Sep-21	537	0.90	0	0	1	7.45	0	0	0	0	0	0	0	0	0	0	3	22.35	0	0	0	0	0	0	1	7.45	0	0	5	37.24
		0603	15-Sep-21	767	1.30	0	0	1	3.61	0	0	0	0	0	0	0	0	0	0	5	18.05	0	0	0	0	0	0	42	151.64	1	3.61	49	176.91
		0604	15-Sep-21	627	1.00	0	0	1	5.74	0	0	0	0	0	0	0	0	0	0	2	11.48	1	5.74	2	11.48	0	0	18	103.35	0	0	24	137.8
		0605	15-Sep-21	469	0.80	0	0	1	9.59	0	0	0	0	0	0	0	0	0	0	11	105.54	0	0	0	0	0	0	16	153.52	0	0	28	268.66
		0606	15-Sep-21	877	1.40	0	0	1	2.93	0	0	0	0	0	0	0	0	0	0	13	38.12	0	0	0	0	1	2.93	39	114.35	0	0	54	158.33
		0607	18-Sep-21	695	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	36.26	0	0	0	0	0	0	89	461.01	0	0	96	497.27
		0608	15-Sep-21	535	1.00	0	0	1	6.73	0	0	0	0	0	0	0	0	0	0	3	20.19	0	0	0	0	0	0	3	20.19	0	0	7	47.1
		0609	15-Sep-21	783	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	64.37	0	0	0	0	0	0	4	18.39	2	9.2	20	91.95
		0610	18-Sep-21	641	0.85	0	0	1	6.61	0	0	0	0	0	0	0	0	0	0	9	59.47	0	0	0	0	0	0	4	26.43	0	0	14	92.5
		0611	15-Sep-21	689	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	29.03	0	0	0	0	0	0	2	11.61	0	0	7	40.64
		0612	18-Sep-21	562	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	22.61	0	0	0	0	0	0	24	180.87	1	7.54	28	211.01
		0613	18-Sep-21	655	0.90	0	0	1	6.11	0	0	0	0	0	0	0	0	0	0	5	30.53	1	6.11	0	0	1	6.11	12	73.28	0	0	20	122.14
		0614	15-Sep-21	661	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	33.52	0	0	0	0	0	0	48	268.13	0	0	54	301.64
		06PIN01	18-Sep-21	1205	1.50	0	0	1	1.99	0	0	0	0	0	0	0	0	1	1.99	2	3.98	1	1.99	0	0	0	0	3	5.98	1	1.99	9	17.93
		06PIN02	18-Sep-21	543	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.63	0	0	0	0	0	0	0	0	0	0	1	6.63
		06SC036	18-Sep-21	586	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	24.57	0	0	0	0	0	0	2	24.57	0	0	4	49.15
		06SC047	18-Sep-21	470	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	41.78	0	0	0	0	0	0	1	13.93	0	0	4	55.71
	Session Summary			**669.4**	**18.00**	**0**	**0**	**9**	**2.69**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.3**	**98**	**29.28**	**3**	**0.9**	**2**	**0.6**	**2**	**0.6**	**331**	**98.89**	**5**	**1.49**	**451**	**134.75**
Section 6	5	0601	21-Sep-21	812	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11.08	0	0	3	11.08	0	0	39	144.09	0	0	45	166.26
		0602	20-Sep-21	530	0.90	0	0	2	15.09	0	0	0	0	0	0	0	0	0	0	3	22.64	0	0	1	7.55	0	0	2	15.09	0	0	8	60.38
		0603	20-Sep-21	880	1.30	0	0	1	3.15	0	0	0	0	0	0	0	0	0	0	10	31.47	0	0	0	0	0	0	66	207.69	0	0	77	242.31
		0604	20-Sep-21	694	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	20.75	0	0	1	5.19	0	0	13	67.44	0	0	18	93.37
		0605	21-Sep-21	511	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	35.23	0	0	0	0	0	0	53	466.73	0	0	57	501.96
		0606	21-Sep-21	807	1.40	1	3.19	1	3.19	0	0	0	0	0	0	0	0	0	0	6	19.12	0	0	2	6.37	0	0	28	89.22	0	0	38	121.08
		0607	21-Sep-21	810	1.00	0	0	1	4.44	0	0	0	0	0	0	0	0	0	0	4	17.78	0	0	1	4.44	0	0	53	235.56	2	8.89	61	271.11
		0608	20-Sep-21	641	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	61.78	0	0	0	0	0	0	13	73.01	0	0	24	134.79
		0609	21-Sep-21	827	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.35	0	0	0	0	0	0	16	69.65	0	0	17	74
		0610	21-Sep-21	684	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	18.58	0	0	1	6.19	0	0	8	49.54	0	0	12	74.3
		0611	21-Sep-21	677	0.90	0	0	1	5.91	0	0	0	0	0	0	0	0	0	0	3	17.73	0	0	0	0	0	0	9	53.18	0	0	13	76.81
		0612	21-Sep-21	503	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	84.2	0	0	0	0	0	0	27	227.34	1	8.42	38	319.96
		0613	21-Sep-21	690	0.80	0	0	1	6.52	0	0	0	0	0	0	0	0	0	0	5	32.61	0	0	0	0	0	0	9	58.7	0	0	15	97.83
		0614	20-Sep-21	686	0.98	0	0	1	5.38	0	0	0	0	0	0	0	0	0	0	7	37.68	0	0	0	0	0	0	57	306.8	0	0	65	349.85
		06PIN01	21-Sep-21	1282	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9.36	0	0	2	3.74	0	0	12	22.46	0	0	19	35.57
		06PIN02	21-Sep-21	498	1.00	0	0	1	7.23	0	0	0	0	0	0	0	0	0	0	3	21.69	0	0	1	7.23	0	0	3	21.69	1	7.23	9	65.06
		06SC036	21-Sep-21	579	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	31.09	2	62.18	3	93.26
		06SC047	21-Sep-21	494	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26.5	0	0	0	0	0	0	1	13.25	0	0	3	39.75
	Session Summary			**700.3**	**17.00**	**1**	**0.3**	**9**	**2.72**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**84**	**25.4**	**0**	**0**	**12**	**3.63**	**0**	**0**	**410**	**123.98**	**6**	**1.81**	**522**	**157.85**
Section 6	6	0601	01-Oct-21	700	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	21.43	0	0	0	0	0	0	26	111.43	1	4.29	32	137.14
		0602	01-Oct-21	651	0.90	0	0	1	6.14	0	0	0	0	0	0	0	0	0	0	1	6.14	0	0	0	0	0	0	1	6.14	0	0	3	18.43
		0603	01-Oct-21	825	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	33.57	0	0	0	0	0	0	67	224.9	1	3.36	78	261.82
		0604	02-Oct-21	575	1.00	0	0	1	6.26	0	0	0	0	0	0	0	0	0	0	2	12.52	0	0	0	0	0	0	5	31.3	0	0	8	50.09
		0605	02-Oct-21	434	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10.37	0	0	0	0	0	0	26	269.59	0	0	27	279.95
		0606	02-Oct-21	875	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	29.39	0	0	0	0	0	0	37	108.73	0	0	47	138.12
		0607	02-Oct-21	749	1.00	0	0	2	9.61	0	0	0	0	0	0	0	0	0	0	1	4.81	0	0	1	4.81	0	0	64	307.61	0	0	68	326.84
		0608	02-Oct-21	584	1.00	0	0	3	18.49	0	0	0	0	0	0	0	0	0	0	2	12.33	0	0	1	6.16	0	0	12	73.97	0	0	18	110.96
		0609	02-Oct-21	645	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	27.91	0	0	0	0	0	0	1	5.58	1	5.58	7	39.07
		0610	02-Oct-21	583	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	29.06	0	0	0	0	0	0	8	58.12	0	0	12	87.18
		0611	02-Oct-21	487	0.90	0	0	1	8.21	0	0	0	0	0	0	0	0	0	0	4	32.85	0	0	0	0	0	0	4	32.85	0	0	9	73.92
		0612	02-Oct-21	471	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	35.97	0	0	0	0	0	0	20	179.84	0	0	24	215.81
		0613	02-Oct-21	622	0.90	0	0	1	6.43	0	0	0	0	0	0	0	0	0	0	4	25.72	0	0	0	0	0	0	5	32.15	0	0	10	64.31
		0614	01-Oct-21	674	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	43.83	0	0	0	0	1	5.48	57	312.26	0	0	66	361.56
		06PIN01	01-Oct-21	887	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	43.29	0	0	0	0	0	0	10	27.06	0	0	26	70.35
		06PIN02	01-Oct-21	431	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	50.12	0	0	0	0	0	0	0	0	0	0	6	50.12
		06SC036	02-Oct-21	583	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	12.35	0	0	1	12.35
		06SC047	01-Oct-21	482	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	67.9	1	13.58	0	0	0	0	0	0	0	0	6	81.48
	Session Summary			**625.4**	**18.00**	**0**	**0**	**9**	**2.88**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**88**	**28.14**	**1**	**0.32**	**2**	**0.64**	**1**	**0.32**	**344**	**110.01**	**3**	**0.96**	**448**	**143.27**
Section Total All Samples				**77667**	**102.80**	**6**	**0**	**35**	**0**	**4**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**527**	**0**	**16**	**0**	**55**	**0**	**8**	**0**	**2819**	**0**	**51**	**0**	**3525**	**0**
Section Average All Samples				**726**	**0.96**	**0**	**0.29**	**0**	**1.69**	**0**	**0.19**	**0**	**0**	**0**	**0.14**	**0**	**0**	**0**	**0.05**	**5**	**25.42**	**0**	**0.77**	**1**	**2.65**	**0**	**0.39**	**26**	**135.98**	**0**	**2.46**	**33**	**170.03**
Section Standard Error of Mean						**0.02**	**0.08**	**0.06**	**0.34**	**0.02**	**0.1**	**0**	**0**	**0.02**	**0.06**	**0**	**0**	**0.01**	**0.02**	**0.42**	**2.41**	**0.03**	**0.23**	**0.1**	**0.46**	**0.03**	**0.15**	**2.56**	**12.16**	**0.09**	**0.94**	**2.78**	**13.24**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																											
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 7	1	0701	20-Aug-21	1100	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.17	0	0	1	4.17
		0702	21-Aug-21	662	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	34.35	1	5.72	0	0	0	0	13	74.42	0	0	20	114.49
		0703	20-Aug-21	1135	0.95	0	0	1	3.34	0	0	0	0	0	0	0	0	0	0	2	6.68	0	0	3	10.02	0	0	8	26.71	1	3.34	15	50.08
		0704	21-Aug-21	688	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15.7	0	0	0	0	0	0	96	502.33	1	5.23	100	523.26
		0705	21-Aug-21	1227	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2.93	0	0	0	0	1	2.93	8	23.47	0	0	10	29.34
		0706	21-Aug-21	1286	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2.8	2	5.6	3	8.4
		0707	23-Aug-21	645	0.98	0	0	0	0	1	5.7	0	0	0	0	0	0	0	0	8	45.56	0	0	0	0	0	0	29	165.16	0	0	38	216.42
		0708	20-Aug-21	646	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	26.96	0	0	0	0	0	0	17	76.4	0	0	23	103.37
		0709	21-Aug-21	1001	1.00	0	0	1	3.6	0	0	0	0	0	0	0	0	0	0	6	21.58	0	0	1	3.6	0	0	11	39.56	6	21.58	25	89.91
		0710	21-Aug-21	1281	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2.55	0	0	6	15.33	1	2.55	8	20.44
		0711	23-Aug-21	934	1.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	52.69	0	0	1	2.77	0	0	36	99.83	0	0	56	155.28
		0712	23-Aug-21	958	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	21.17	0	0	0	0	0	0	23	81.15	1	3.53	30	105.85
		0713	23-Aug-21	566	0.98	0	0	1	6.49	0	0	0	0	0	0	0	0	0	0	6	38.94	0	0	1	6.49	0	0	11	71.39	0	0	19	123.31
		0714	23-Aug-21	939	1.27	0	0	1	3.01	0	0	0	0	0	0	0	0	0	0	5	15.03	0	0	2	6.01	0	0	12	36.08	0	0	20	60.14
		07BEA01	20-Aug-21	444	0.33	0	0	0	0	1	24.57	1	24.57	0	0	0	0	0	0	0	0	1	24.57	1	24.57	0	0	8	196.56	6	147.42	18	442.26
		07BEA02	20-Aug-21	387	0.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	135.66	1	19.38	8	155.04
		07KIS01	23-Aug-21	408	0.64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	27.57	0	0	9	124.08	0	0	11	151.65
		07SC022	21-Aug-21	557	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	35.91	1	17.95	3	53.86
	Session Summary			**825.8**	**17.00**	**0**	**0**	**4**	**1.03**	**2**	**0.51**	**1**	**0.26**	**0**	**0**	**0**	**0**	**0**	**0**	**68**	**17.44**	**2**	**0.51**	**12**	**3.08**	**1**	**0.26**	**298**	**76.42**	**20**	**5.13**	**408**	**104.63**
Section 7	2	0701	30-Aug-21	677	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	189.67	0	0	28	189.67
		0702	30-Aug-21	573	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	39.68	0	0	0	0	1	6.61	3	19.84	0	0	10	66.13
		0703	30-Aug-21	810	0.95	0	0	0	0	1	4.68	0	0	0	0	0	0	0	0	1	4.68	0	0	0	0	0	0	11	51.46	0	0	13	60.82
		0704	30-Aug-21	765	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	23.53	0	0	0	0	0	0	51	240	0	0	56	263.53
		0705	30-Aug-21	815	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	26.5	0	0	2	8.83	0	0	8	35.34	0	0	16	70.67
		0706	31-Aug-21	1116	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.23	0	0	20	64.52	1	3.23	22	70.97
		0707	31-Aug-21	766	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	14.39	0	0	2	9.59	0	0	60	287.74	0	0	65	311.72
		0708	30-Aug-21	726	1.24	0	0	0	0	0	0	1	4	0	0	0	0	0	0	2	8	0	0	0	0	0	0	11	43.99	0	0	14	55.99
		0709	30-Aug-21	852	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	42.25	1	4.23	0	0	0	0	25	105.63	0	0	36	152.11
		0710	31-Aug-21	1003	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5.13	0	0	0	0	0	0	21	53.84	0	0	23	58.97
		0711	31-Aug-21	1062	1.39	6	14.63	0	0	0	0	0	0	0	0	0	0	0	0	33	80.48	0	0	1	2.44	0	0	31	75.6	1	2.44	72	175.59
		0712	31-Aug-21	1029	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	26.28	0	0	1	3.29	1	3.29	53	174.11	4	13.14	67	220.1
		0713	31-Aug-21	678	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	32.51	0	0	1	5.42	0	0	19	102.94	1	5.42	27	146.29
		0714	31-Aug-21	1055	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8.03	0	0	1	2.68	0	0	21	56.2	0	0	25	66.91
		07BEA01	30-Aug-21	507	0.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16.51	0	0	1	16.51
		07BEA02	30-Aug-21	450	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26.67	8	106.67	10	133.33
		07KIS01	31-Aug-21	429	0.55	0	0	0	0	0	0	1	15.15	0	0	0	0	0	0	0	0	0	0	4	60.59	0	0	21	318.09	0	0	26	393.83
		07SC012	31-Aug-21	276	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	59.29	0	0	0	0	0	0	1	59.29	0	0	2	118.58
		07SC022	30-Aug-21	540	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	18.52	1	18.52	2	37.04
	Session Summary			**743.6**	**17.00**	**6**	**1.71**	**0**	**0**	**1**	**0.28**	**2**	**0.57**	**0**	**0**	**0**	**0**	**0**	**0**	**86**	**24.49**	**1**	**0.28**	**13**	**3.7**	**2**	**0.57**	**388**	**110.5**	**16**	**4.56**	**515**	**146.66**
Section 7	3	0701	12-Sep-21	650	0.78	0	0	1	7.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14.11	0	0	3	21.17
		0702	11-Sep-21	534	0.95	1	7.1	0	0	0	0	0	0	0	0	0	0	0	0	6	42.58	0	0	0	0	0	0	2	14.19	0	0	9	63.87
		0703	11-Sep-21	724	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10.47	0	0	29	151.79	1	5.23	32	167.49
		0704	11-Sep-21	661	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	38.12	0	0	0	0	0	0	98	533.74	0	0	105	571.86
		0705	11-Sep-21	719	1.00	0	0	1	5.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	10.01	3	15.02	0	0	6	30.04
		0706	11-Sep-21	1004	0.98	0	0	3	10.98	0	0	0	0	0	0	0	0	0	0	1	3.66	0	0	0	0	0	0	1	3.66	0	0	5	18.29
		0707	12-Sep-21	605	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	24.29	0	0	0	0	0	0	32	194.3	0	0	36	218.59
		0708	11-Sep-21	664	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	43.72	0	0	2	8.74	0	0	52	227.36	2	8.74	66	288.57
		0709	11-Sep-21	664	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.42	0	0	0	0	0	0	10	54.22	0	0	11	59.64
		0710	11-Sep-21	822	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.24	0	0	14	45.42	3	9.73	18	58.39
		0711	12-Sep-21	920	1.39	0	0	1	2.82	0	0	0	0	0	0	0	0	0	0	16	45.04	0	0	0	0	1	2.82	23	64.75	0	0	41	115.42
		0712	12-Sep-21	801	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	12.66	0	0	0	0	0	0	5	21.1	0	0	8	33.76
		0713	12-Sep-21	527	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	62.73	0	0	0	0	0	0	16	111.53	0	0	25	174.26
		0714	12-Sep-21	884	1.27	0	0	1	3.19	0	0	0	0	0	0	0	0	0	0	1	3.19	0	0	0	0	0	0	27	86.24	0	0	29	92.63
		07BEA01	10-Sep-21	611	0.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	41.11	0	0	7	95.92	6	82.21	16	219.24
		07BEA02	11-Sep-21	476	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	37.82	0	0	26	327.73	1	12.61	30	378.15
		07KIS01	12-Sep-21	363	0.69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	28.75	0	0	0	0	1	14.37	0	0	1	14.37	4	57.49
		07SC022	11-Sep-21	424	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	47.17	0	0	2	47.17
	Session Summary			**669.6**	**17.00**	**1**	**0.32**	**7**	**2.21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**18.98**	**0**	**0**	**11**	**3.48**	**4**	**1.27**	**349**	**110.37**	**14**	**4.43**	**446**	**141.05**

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																											
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 7	4	0701	16-Sep-21	580	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.91	0	0	0	0	0	0	6	47.44	2	15.81	9	71.16
		0703	17-Sep-21	558	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13.58	0	0	1	6.79	0	0	6	40.75	0	0	9	61.12
		0704	16-Sep-21	528	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	88.64	0	0	0	0	0	0	28	190.91	1	6.82	42	286.36
		0705	17-Sep-21	656	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16.46	0	0	0	0	0	0	2	10.98	0	0	5	27.44
		0706	17-Sep-21	820	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13.17	0	0	3	13.17	0	0	6	26.34
		0707	17-Sep-21	532	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	27.62	0	0	0	0	0	0	9	62.15	0	0	13	89.77
		0708	16-Sep-21	576	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	20.16	0	0	0	0	0	0	14	70.56	0	0	18	90.73
		0709	16-Sep-21	602	1.00	0	0	1	5.98	0	0	0	0	0	0	0	0	0	0	1	5.98	0	0	0	0	0	0	1	5.98	0	0	3	17.94
		0710	16-Sep-21	693	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.71	0	0	0	0	0	0	3	11.13	0	0	4	14.84
		0711	17-Sep-21	723	1.39	0	0	1	3.58	0	0	0	0	0	0	0	0	0	0	12	42.99	0	0	1	3.58	0	0	19	68.06	1	3.58	34	121.79
		0712	17-Sep-21	599	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.64	0	0	0	0	0	0	5	28.22	0	0	6	33.86
		0713	17-Sep-21	451	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16.29	0	0	0	0	0	0	11	89.6	0	0	13	105.89
		0714	17-Sep-21	680	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	16.61	0	0	0	0	0	0	10	41.52	1	4.15	15	62.28
		07BEA01	16-Sep-21	347	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	135.32	3	135.32	6	270.64
		07BEA02	16-Sep-21	407	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	250.61	0	0	17	250.61
		07KIS01	17-Sep-21	344	1.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	20.13	0	0	0	0	0	0	2	20.13	0	0	4	40.25
		07SC012	17-Sep-21	559	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	29.27	0	0	1	29.27
	Session Summary			**567.9**	**16.00**	**0**	0	**2**	0.79	**0**	0	**0**	0	**0**	0	**0**	0	**0**	0	**50**	19.81	**0**	0	**5**	1.98	**0**	0	**140**	55.47	**8**	3.17	**205**	81.22
Section 7	5	0701	22-Sep-21	577	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	317.92	1	7.95	41	325.87
		0702	22-Sep-21	499	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15.19	0	0	0	0	0	0	2	15.19	0	0	4	30.38
		0703	22-Sep-21	587	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25.82	0	0	1	6.46	0	0	19	122.66	1	6.46	25	161.39
		0704	22-Sep-21	592	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	66.89	0	0	0	0	0	0	59	358.78	1	6.08	71	431.76
		0705	22-Sep-21	638	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.64	0	0	2	11.29	0	0	6	33.86	0	0	9	50.78
		0706	22-Sep-21	1006	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.58	0	0	0	0	1	3.58	3	10.74	1	3.58	6	21.47
		0707	22-Sep-21	561	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13.1	0	0	0	0	0	0	9	58.93	0	0	11	72.03
		0708	22-Sep-21	603	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	24.07	0	0	1	4.81	0	0	7	33.7	0	0	13	62.59
		0709	22-Sep-21	595	1.00	0	0	1	6.05	0	0	0	0	0	0	0	0	0	0	1	6.05	1	6.05	0	0	0	0	12	72.61	0	0	15	90.76
		0710	22-Sep-21	744	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	20.74	0	0	0	0	0	0	30	103.69	0	0	36	124.42
		0711	22-Sep-21	830	1.39	0	0	1	3.12	0	0	0	0	1	3.12	0	0	0	0	5	15.6	0	0	0	0	0	0	12	37.44	0	0	19	59.29
		0712	22-Sep-21	727	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9.3	0	0	0	0	0	0	13	60.45	0	0	15	69.74
		0713	22-Sep-21	569	0.98	0	0	1	6.46	0	0	0	0	0	0	0	0	0	0	9	58.1	0	0	0	0	1	6.46	15	96.84	0	0	26	167.86
		0714	22-Sep-21	774	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	18.24	0	0	0	0	0	0	18	65.66	0	0	23	83.9
		07BEA01	23-Sep-21	641	0.43	0	0	1	13.06	0	0	0	0	0	0	0	0	0	0	0	0	1	13.06	0	0	0	0	3	39.18	8	104.49	13	169.79
		07BEA02	22-Sep-21	325	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	73.85	1	18.46	5	92.31
		07KIS01	22-Sep-21	328	0.69	0	0	0	0	1	15.91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	63.63	0	0	5	79.53
		07SC012	22-Sep-21	302	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	54.18	0	0	1	54.18
		07SC022	22-Sep-21	322	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	31.06	0	0	1	31.06
	Session Summary			**590.5**	**17.00**	**0**	0	**4**	1.43	**1**	0.36	**0**	0	**1**	0.36	**0**	0	**0**	0	**54**	19.37	**2**	0.72	**4**	1.43	**2**	0.72	**258**	92.52	**13**	4.66	**339**	121.57
Section 7	6	0701	04-Oct-21	659	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.96	0	0	0	0	0	0	24	167.02	0	0	25	173.98
		0702	04-Oct-21	504	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	55.56	0	0	0	0	0	0	1	7.94	0	0	8	63.49
		0703	04-Oct-21	723	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	41.93	0	0	1	5.24	0	0	16	83.86	1	5.24	26	136.27
		0704	04-Oct-21	643	1.00	0	0	1	5.6	0	0	0	0	0	0	0	0	0	0	31	173.56	0	0	1	5.6	0	0	32	179.16	0	0	65	363.92
		0705	04-Oct-21	578	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.23	0	0	0	0	0	0	4	24.91	0	0	5	31.14
		0706	04-Oct-21	802	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13.47	1	4.49	4	17.96
		0707	04-Oct-21	621	0.98	0	0	1	5.92	0	0	0	0	0	0	0	0	0	0	11	65.07	0	0	0	0	0	0	11	65.07	0	0	23	136.05
		0708	04-Oct-21	648	1.24	0	0	1	4.48	0	0	0	0	0	0	0	0	0	0	4	17.92	0	0	0	0	0	0	4	17.92	2	8.96	11	49.28
		0709	04-Oct-21	685	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	21.02	0	0	0	0	0	0	8	42.04	1	5.26	13	68.32
		0710	04-Oct-21	866	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	14.85	1	2.97	0	0	0	0	17	50.48	1	2.97	24	71.26
		0711	04-Oct-21	894	1.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	20.28	0	0	0	0	1	2.9	4	11.59	0	0	12	34.76
		0712	04-Oct-21	788	1.06	0	0	1	4.29	0	0	0	0	0	0	0	0	0	0	4	17.16	0	0	0	0	0	0	19	81.5	0	0	24	102.95
		0713	04-Oct-21	608	0.98	0	0	2	12.08	0	0	0	0	0	0	0	0	0	0	9	54.38	0	0	0	0	0	0	3	18.13	0	0	14	84.59
		0714	04-Oct-21	868	1.27	0	0	1	3.25	0	0	0	0	0	0	0	0	0	0	14	45.54	0	0	1	3.25	0	0	38	123.61	0	0	54	175.66
		07BEA01	04-Oct-21	538	0.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15.56	0	0	1	15.56
		07BEA02	04-Oct-21	377	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15.92	0	0	0	0	0	0	0	0	0	0	1	15.92
		07KIS01	04-Oct-21	489	0.74	0	0	3	29.85	0	0	0	0	0	0	0	0	0	0	2	19.9	1	9.95	0	0	0	0	5	49.74	0	0	11	109.43
		07SC012	04-Oct-21	304	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	53.83	0	0	0	0	0	0	0	0	0	0	1	53.83
		07SC022	04-Oct-21	416	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	48.08	0	0	2	48.08
	Session Summary			**632.2**	**17.00**	**0**	0	**10**	3.35	**0**	0	**0**	0	**0**	0	**0**	0	**0**	0	**110**	36.85	**2**	0.67	**3**	1	**1**	0.33	**192**	64.31	**6**	2.01	**324**	108.53
Section Total All Samples				**73932**	**101.51**	**7**	0	**27**	0	**4**	0	**3**	0	**1**	0	**0**	0	**0**	0	**428**	0	**7**	0	**48**	0	**10**	0	**1625**	0	**77**	0	**2237**	0
Section Average All Samples				**672**	**0.92**	**0**	0.37	**0**	1.42	**0**	0.21	**0**	0.16	**0**	0.05	**0**	0	**0**	0	**4**	22.59	**0**	0.37	**0**	2.53	**0**	0.53	**15**	85.76	**1**	4.06	**20**	118.05
Section Standard Error of Mean						**0.06**	0.15	**0.05**	0.36	**0.02**	0.27	**0.02**	0.26	**0.01**	0.03	**0**	0	**0**	0	**0.52**	2.41	**0.02**	0.28	**0.08**	0.83	**0.03**	0.19	**1.67**	9.31	**0.15**	2.34	**1.95**	10.74

Table E3 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																											
						Arctic Grayling		Bull Trout		Burbot		Goldeye		Kokanee		Lake Trout		Lake Whitefish		Mountain Whitefish		Northern Pike		Northern Pikeminnow		Rainbow Trout		Sucker spp.		Walleye		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 9	1	0901	20-Aug-21	650	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	50.35	0	0	10	50.35
		0903	20-Aug-21	691	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.74	0	0	0	0	0	0	1	4.74	0	0	2	9.47
		0904	20-Aug-21	681	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	14.42	0	0	0	0	0	0	4	19.22	0	0	7	33.64
		0905	20-Aug-21	669	1.10	0	0	0	0	0	0	0	0	1	4.89	0	0	0	0	1	4.89	0	0	0	0	0	0	4	19.57	0	0	6	29.35
		0906	20-Aug-21	811	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	26.63	1	4.44	7	31.07
		0907	20-Aug-21	694	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.32	0	0	0	0	3	12.97	1	4.32	5	21.61
		0908	20-Aug-21	365	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17.93	0	0	2	17.93
		0909	20-Aug-21	613	0.95	0	0	1	6.18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12.36	0	0	3	18.55
		0910	20-Aug-21	934	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	28.03	0	0	8	28.03
		0911	21-Aug-21	512	1.00	0	0	0	0	0	0	1	7.03	0	0	0	0	0	0	2	14.06	0	0	0	0	0	0	2	14.06	1	7.03	6	42.19
		0912	21-Aug-21	470	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	14.45	0	0	2	28.9	0	0	3	43.36
		0913	21-Aug-21	499	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8.02	0	0	2	16.03	0	0	3	24.05
		0914	21-Aug-21	575	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.59	0	0	1	6.59	0	0	3	19.77	0	0	5	32.95
		09SC053	20-Aug-21	289	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	95.82	0	0	2	95.82
		09SC061	21-Aug-21	69	0.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	122.76	1	122.76
	Session Summary			**568.1**	**14.00**	**0**	**0**	**1**	**0.45**	**0**	**0**	**1**	**0.45**	**1**	**0.45**	**0**	**0**	**0**	**0**	**8**	**3.62**	**1**	**0.45**	**3**	**1.36**	**0**	**0**	**51**	**23.08**	**4**	**1.81**	**70**	**31.68**
Section 9	2	0902	26-Aug-21	639	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.63	0	0	0	0	0	0	1	5.63
		0903	26-Aug-21	595	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.5	1	5.5
		0904	26-Aug-21	591	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11.08	0	0	2	11.08
		0906	26-Aug-21	582	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.19	0	0	1	6.19
		0907	26-Aug-21	657	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.57	0	0	0	0	0	0	1	4.57	0	0	2	9.13
		0908	26-Aug-21	539	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.07	0	0	0	0	0	0	1	6.07	0	0	2	12.14
		0909	26-Aug-21	534	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.1	0	0	1	7.1
		0910	26-Aug-21	716	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.57	0	0	1	4.57
		0911	27-Aug-21	458	1.00	0	0	1	7.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.86	0	0	2	15.72
		0912	27-Aug-21	358	0.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	67.04	0	0	3	67.04
	Session Summary			**566.9**	**10.00**	**0**	**0**	**1**	**0.64**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1.27**	**0**	**0**	**1**	**0.64**	**0**	**0**	**11**	**6.99**	**1**	**0.64**	**16**	**10.16**
Section 9	3	0901	02-Sep-21	532	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	24.61	0	0	0	0	0	0	2	12.3	0	0	6	36.91
		0902	02-Sep-21	651	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	11.06	0	0	2	11.06	1	5.53	5	27.65
		0903	02-Sep-21	722	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	18.13	0	0	0	0	0	0	9	40.8	0	0	13	58.93
		0904	02-Sep-21	639	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	35.85	0	0	0	0	0	0	5	25.61	0	0	12	61.46
		0905	02-Sep-21	643	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	15.27	0	0	0	0	0	0	2	10.18	0	0	5	25.45
		0906	02-Sep-21	752	1.00	0	0	0	0	0	0	1	4.79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	71.81	0	0	16	76.6
		0907	02-Sep-21	809	1.20	0	0	0	0	0	0	0	0	1	3.71	0	0	0	0	2	7.42	0	0	0	0	0	0	16	59.33	1	3.71	20	74.17
		0908	02-Sep-21	237	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	37.97	0	0	2	75.95	0	0	3	113.92
		0909	03-Sep-21	630	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	24.06	0	0	0	0	0	0	5	30.08	0	0	9	54.14
		0910	02-Sep-21	828	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11.86	0	0	3	11.86
		0911	03-Sep-21	421	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8.55	0	0	0	0	0	0	1	8.55	0	0	2	17.1
		0912	03-Sep-21	427	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16.86	0	0	1	16.86
		0913	03-Sep-21	510	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23.53	0	0	0	0	0	0	11	86.27	1	7.84	15	117.65
		0914	03-Sep-21	431	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8.79	0	0	0	0	0	0	5	43.96	0	0	6	52.75
	Session Summary			**588**	**13.00**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.47**	**1**	**0.47**	**0**	**0**	**0**	**0**	**29**	**13.66**	**0**	**0**	**3**	**1.41**	**0**	**0**	**79**	**37.21**	**3**	**1.41**	**116**	**54.63**

Table E3 Concluded.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Arctic Grayling No.	Arctic Grayling CPUE	Bull Trout No.	Bull Trout CPUE	Burbot No.	Burbot CPUE	Goldeye No.	Goldeye CPUE	Kokanee No.	Kokanee CPUE	Lake Trout No.	Lake Trout CPUE	Lake Whitefish No.	Lake Whitefish CPUE	Mountain Whitefish No.	Mountain Whitefish CPUE	Northern Pike No.	Northern Pike CPUE	Northern Pikeminnow No.	Northern Pikeminnow CPUE	Rainbow Trout No.	Rainbow Trout CPUE	Sucker spp. No.	Sucker spp. CPUE	Walleye No.	Walleye CPUE	All Species No.	All Species CPUE
Section 9	4	0901	10-Sep-21	536	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	24.42	0	0	0	0	0	0	5	30.53	0	0	9	54.95
		0902	10-Sep-21	759	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	14.23	0	0	6	28.46	1	4.74	10	47.43
		0903	10-Sep-21	737	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8.88	0	0	0	0	0	0	1	4.44	1	4.44	4	17.76
		0904	10-Sep-21	682	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	14.4	0	0	0	0	0	0	3	14.4	0	0	6	28.79
		0905	10-Sep-21	752	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8.7	0	0	0	0	0	0	14	60.93	0	0	16	69.63
		0906	10-Sep-21	927	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	38.83	3	11.65	13	50.49
		0907	10-Sep-21	803	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7.47	0	0	0	0	0	0	7	26.15	0	0	9	33.62
		0908	10-Sep-21	649	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.04	0	0	0	0	0	0	1	5.04	0	0	2	10.09
		0909	10-Sep-21	623	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.08	0	0	0	0	0	0	3	18.25	0	0	4	24.33
		0910	10-Sep-21	1075	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	30.44	0	0	10	30.44
		0911	11-Sep-21	499	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	43.29	0	0	6	43.29
		0912	11-Sep-21	421	0.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16.44	0	0	0	0	0	0	3	49.33	1	16.44	5	82.22
		0913	11-Sep-21	568	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.04	0	0	0	0	0	0	7	49.3	1	7.04	9	63.38
		0914	11-Sep-21	464	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	49	0	0	6	49
		09SC053	10-Sep-21	403	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	137.43	0	0	4	137.43
		09SC061	11-Sep-21	496	0.49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	44.44	0	0	3	44.44
	Session Summary			**649.6**	**15.00**	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**17**	*6.28*	**0**	*0*	**3**	*1.11*	**0**	*0*	**89**	*32.88*	**7**	*2.59*	**116**	*42.86*
Section 9	5	0901	25-Sep-21	894	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	21.96	0	0	0	0	0	0	9	32.95	0	0	15	54.91
		0902	25-Sep-21	900	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	20	0	0	6	24
		0903	25-Sep-21	892	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	14.68	0	0	0	0	0	0	8	29.35	0	0	12	44.03
		0904	25-Sep-21	946	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	13.84	0	0	1	3.46	0	0	5	17.3	0	0	10	34.6
		0905	25-Sep-21	720	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	13.64	0	0	0	0	0	0	15	68.18	0	0	18	81.82
		0906	25-Sep-21	1295	1.00	0	0	0	0	0	0	2	5.56	0	0	0	0	0	0	1	2.78	0	0	0	0	0	0	6	16.68	0	0	9	25.02
		0907	25-Sep-21	1195	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	12.55	0	0	0	0	0	0	14	35.15	0	0	19	47.7
		0908	25-Sep-21	828	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	19.76	0	0	0	0	0	0	5	19.76	0	0	10	39.53
		0909	25-Sep-21	895	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	25.4	0	0	0	0	0	0	2	8.47	0	0	8	33.87
		0910	25-Sep-21	853	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	15.35	0	0	0	0	0	0	6	23.02	1	3.84	11	42.2
		0911	25-Sep-21	549	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.56	0	0	0	0	0	0	5	32.79	0	0	6	39.34
		0912	25-Sep-21	388	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	27.84	0	0	3	27.84
		0913	25-Sep-21	546	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14.65	0	0	2	14.65
		0914	25-Sep-21	456	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	43.86	0	0	0	0	0	0	4	35.09	0	0	9	78.95
		09SC061	25-Sep-21	550	0.68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9.7	0	0	1	9.7
	Session Summary			**793.8**	**15.00**	**0**	*0*	**0**	*0*	**0**	*0*	**2**	*0.6*	**0**	*0*	**0**	*0*	**0**	*0*	**44**	*13.3*	**0**	*0*	**1**	*0.3*	**1**	*0.3*	**90**	*27.21*	**1**	*0.3*	**139**	*42.03*
Section 9	6	0901	03-Oct-21	747	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17.52	0	0	1	4.38	0	0	10	43.81	1	4.38	16	70.1
		0902	03-Oct-21	524	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.87	0	0	0	0	0	0	5	34.35	0	0	6	41.22
		0903	03-Oct-21	570	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.74	0	0	0	0	0	0	2	11.48	0	0	3	17.22
		0904	03-Oct-21	716	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	18.28	0	0	0	0	0	0	3	13.71	0	0	7	32
		0905	03-Oct-21	656	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9.98	0	0	0	0	0	0	6	29.93	0	0	8	39.91
		0906	03-Oct-21	867	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	20.76	0	0	5	20.76
		0907	03-Oct-21	771	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.89	0	0	0	0	0	0	4	15.56	2	7.78	7	27.24
		0908	03-Oct-21	609	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.37	0	0	0	0	0	0	1	5.37	0	0	2	10.75
		0909	03-Oct-21	604	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12.55	0	0	0	0	0	0	1	6.27	0	0	3	18.82
		0910	03-Oct-21	742	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	105.86	1	4.41	25	110.27
		0911	03-Oct-21	479	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23.73	0	0	0	0	0	0	5	39.56	0	0	8	63.29
		0912	03-Oct-21	416	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	77.88	0	0	9	77.88
		0913	03-Oct-21	519	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.71	0	0	1	7.71
		0914	03-Oct-21	451	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8.4	0	0	0	0	0	0	0	0	0	0	1	8.4
		09SC053	03-Oct-21	217	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	63.81	0	0	1	63.81
		09SC061	03-Oct-21	522	0.68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10.22	0	0	6	61.3	0	0	7	71.52
	Session Summary			**588.1**	**15.00**	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**0**	*0*	**20**	*8.16*	**0**	*0*	**2**	*0.82*	**0**	*0*	**83**	*33.87*	**4**	*1.63*	**109**	*44.48*
Section Total All Samples				**54134**	**82.80**	**0**	*0*	**2**	*0*	**0**	*0*	**4**	*0*	**2**	*0*	**0**	*0*	**0**	*0*	**120**	*0*	**1**	*0*	**13**	*0*	**1**	*0*	**403**	*0*	**20**	*0*	**566**	*0*
Section Average All Samples				**629**	**0.96**	**0**	*0*	**0**	*0.14*	**0**	*0*	**0**	*0.28*	**0**	*0.14*	**0**	*0*	**0**	*0*	**1**	*8.3*	**0**	*0.07*	**0**	*0.9*	**0**	*0.07*	**5**	*27.86*	**0**	*1.38*	**7**	*39.13*
Section Standard Error of Mean						**0**	*0*	**0.02**	*0.12*	**0**	*0*	**0.03**	*0.12*	**0.02**	*0.07*	**0**	*0*	**0**	*0*	**0.19**	*1*	**0.01**	*0.05*	**0.05**	*0.54*	**0.01**	*0.05*	**0.46**	*2.82*	**0.06**	*1.45*	**0.55**	*3.2*
All Sections Total All Samples				**382312**	**559.35**	*45*	*0*	*222*	*0*	*17*	*0*	*7*	*0*	*27*	*0*	*1*	*0*	*1*	*0*	*5640*	*0.09*	*44*	*0*	*250*	*0*	*132*	*0*	*8292*	*0.14*	*245*	*0*	*14923*	*0.25*
All Sections Average All Samples						*0*	*0.43*	*0*	*2.12*	*0*	*0.16*	*0*	*0.07*	*0*	*0.26*	*0*	*0.01*	*0*	*0.01*	*10*	*53.83*	*0*	*0.42*	*0*	*2.39*	*0*	*1.26*	*15*	*79.15*	*0*	*2.34*	*26*	*142.44*
All Sections Standard Error of Mean						*0.02*	*0.13*	*0.04*	*0.21*	*0.01*	*0.07*	*0.01*	*0.05*	*0.01*	*0.09*	*0*	*0.01*	*0*	*0*	*0.56*	*4.5*	*0.01*	*0.13*	*0.04*	*0.25*	*0.03*	*0.2*	*0.8*	*4.62*	*0.04*	*0.58*	*1.04*	*6.73*

Number Caught (CPUE = no. fish/km/h)

Table E4 Summary of boat electroshocking small-bodied catch (only includes fish captured and identified to species) and catch-per-unit-effort (CPUE = no. fish/km/hour) in the Peace River, 16 August to 08 October 2021.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Flathead Chub		Lake Chub		Peamouth		Redside Shiner		Sculpin spp.		Shiner spp.		Spottail Shiner		Trout-perch		YellowPerch		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 1	1	0101	16-Aug-21	218	0.60	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0102	16-Aug-21	271	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0103	16-Aug-21	585	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0104	16-Aug-21	266	0.50	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0105	16-Aug-21	401	1.10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0107	17-Aug-21	328	0.55	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0108	17-Aug-21	554	0.85	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0109	17-Aug-21	529	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0110	17-Aug-21	411	0.65	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0112	17-Aug-21	538	1.07	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0113	17-Aug-21	335	0.75	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0114	17-Aug-21	451	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0116	17-Aug-21	402	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0119	17-Aug-21	261	0.50	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**396.4**	**12.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***
Section 1	2	0101	24-Aug-21	281	0.60	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0102	24-Aug-21	395	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0108	23-Aug-21	518	0.85	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0109	23-Aug-21	451	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0110	23-Aug-21	398	0.65	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0112	23-Aug-21	412	0.81	0	*0*	0	*0*	0	*0*	0	*0*	1	*10.79*	0	*0*	0	*0*	0	*0*	0	*0*	1	*10.79*
		0113	23-Aug-21	289	0.75	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0114	23-Aug-21	419	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0116	23-Aug-21	409	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**396.9**	**8.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***1.13***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***1.13***
Section 1	3	0101	28-Aug-21	236	0.60	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0102	28-Aug-21	298	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0103	28-Aug-21	590	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0104	30-Aug-21	333	0.50	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0105	30-Aug-21	479	1.10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0107	28-Aug-21	249	0.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0108	28-Aug-21	490	0.85	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0109	28-Aug-21	491	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0110	28-Aug-21	471	0.65	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0111	28-Aug-21	379	0.62	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0112	28-Aug-21	533	1.07	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0113	29-Aug-21	312	0.75	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0114	29-Aug-21	428	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0116	29-Aug-21	476	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0119	28-Aug-21	287	0.50	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**403.5**	**12.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Flathead Chub No.	Flathead Chub CPUE	Lake Chub No.	Lake Chub CPUE	Peamouth No.	Peamouth CPUE	Redside Shiner No.	Redside Shiner CPUE	Sculpin spp. No.	Sculpin spp. CPUE	Shiner spp. No.	Shiner spp. CPUE	Spottail Shiner No.	Spottail Shiner CPUE	Trout-perch No.	Trout-perch CPUE	YellowPerch No.	YellowPerch CPUE	All Species No.	All Species CPUE
Section 1	4	0101	07-Sep-21	249	0.60	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0102	07-Sep-21	296	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0103	06-Sep-21	627	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0104	06-Sep-21	299	0.46	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0105	06-Sep-21	469	1.10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0107	05-Sep-21	537	0.55	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0108	05-Sep-21	467	0.85	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0109	05-Sep-21	446	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0110	05-Sep-21	542	0.65	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0111	05-Sep-21	503	0.60	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0112	05-Sep-21	521	1.07	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0113	06-Sep-21	300	0.75	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0114	06-Sep-21	502	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0116	06-Sep-21	480	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0119	05-Sep-21	324	0.45	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**437.5**	**12.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***
Section 1	5	0101	26-Sep-21	788	0.60	0	*0*	0	*0*	0	*0*	0	*0*	1	*7.61*	0	*0*	0	*0*	0	*0*	0	*0*	1	*7.61*
		0102	26-Sep-21	394	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0103	26-Sep-21	626	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0104	26-Sep-21	422	0.50	0	*0*	0	*0*	0	*0*	0	*0*	1	*17.06*	0	*0*	0	*0*	0	*0*	0	*0*	1	*17.06*
		0105	26-Sep-21	613	1.10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0107	26-Sep-21	389	0.55	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0108	26-Sep-21	654	0.85	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0109	26-Sep-21	652	0.98	0	*0*	0	*0*	0	*0*	0	*0*	1	*5.66*	0	*0*	0	*0*	0	*0*	0	*0*	1	*5.66*
		0110	26-Sep-21	526	0.65	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0111	26-Sep-21	525	1.00	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0112	26-Sep-21	664	1.07	0	*0*	0	*0*	0	*0*	0	*0*	1	*5.07*	0	*0*	0	*0*	0	*0*	0	*0*	1	*5.07*
		0113	26-Sep-21	441	0.75	0	*0*	0	*0*	0	*0*	0	*0*	1	*10.88*	0	*0*	0	*0*	0	*0*	0	*0*	1	*10.88*
		0114	26-Sep-21	471	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0116	26-Sep-21	557	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0119	26-Sep-21	760	0.75	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**565.5**	**13.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**5**	***2.45***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**5**	***2.45***
Section 1	6	0101	08-Oct-21	298	0.60	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0102	08-Oct-21	392	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0103	08-Oct-21	644	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0104	08-Oct-21	440	0.50	0	*0*	0	*0*	1	*16.36*	0	*0*	1	*16.36*	0	*0*	0	*0*	0	*0*	0	*0*	2	*32.73*
		0105	08-Oct-21	536	1.10	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0107	08-Oct-21	322	0.55	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0108	08-Oct-21	649	0.85	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0109	08-Oct-21	578	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0110	08-Oct-21	439	0.65	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0111	08-Oct-21	593	1.00	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0112	08-Oct-21	591	1.07	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0113	08-Oct-21	468	0.75	0	*0*	0	*0*	1	*10.26*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	*10.26*
		0114	08-Oct-21	535	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0116	08-Oct-21	538	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0119	08-Oct-21	664	0.75	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**512.5**	**13.00**	**0**	***0***	**0**	***0***	**2**	***1.08***	**0**	***0***	**1**	***0.54***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**3**	***1.62***
Section Total All Samples				**37905**	**69.25**	**0**	***0***	**0**	***0***	**2**	***0***	**0**	***0***	**7**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**9**	***0***
Section Average All Samples				**457**	**0.83**	**0**	***0***	**0**	***0***	**0**	***0.23***	**0**	***0***	**0**	***0.8***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***1.02***
Section Standard Error of Mean						**0**	***0***	**0**	***0***	**0.02**	***0.23***	**0**	***0***	**0.03**	***0.35***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0.04**	***0.5***

Number Caught (CPUE = no. fish/km/h)

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Flathead Chub		Lake Chub		Peamouth		Redside Shiner		Sculpin spp.		Shiner spp.		Spottail Shiner		Trout-perch		YellowPerch		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 3	1	0301	18-Aug-21	914	1.80	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0302	18-Aug-21	827	1.90	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0303	18-Aug-21	679	1.45	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0304	18-Aug-21	481	1.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0305	18-Aug-21	733	1.55	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0306	18-Aug-21	516	1.00	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0307	18-Aug-21	458	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0308	18-Aug-21	499	1.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0309	19-Aug-21	485	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0310	19-Aug-21	657	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0311	19-Aug-21	682	1.25	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0312	19-Aug-21	859	1.17	0	*0*	0	*0*	0	*0*	1	*3.58*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	*3.58*
		0314	18-Aug-21	541	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0315	18-Aug-21	891	1.70	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0316	19-Aug-21	909	1.48	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**675.4**	**20.00**	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***0.27***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***0.27***
Section 3	2	0301	24-Aug-21	930	1.80	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0302	24-Aug-21	878	1.90	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0303	24-Aug-21	603	1.45	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0304	24-Aug-21	584	1.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0305	24-Aug-21	787	1.55	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0306	24-Aug-21	545	1.00	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0307	25-Aug-21	539	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0308	25-Aug-21	585	1.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0309	25-Aug-21	487	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0310	25-Aug-21	685	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0311	24-Aug-21	728	1.25	0	*0*	0	*0*	0	*0*	0	*0*	1	*3.96*	0	*0*	0	*0*	0	*0*	0	*0*	1	*3.96*
		0312	24-Aug-21	736	1.17	0	*0*	0	*0*	0	*0*	0	*0*	1	*4.18*	0	*0*	0	*0*	0	*0*	0	*0*	1	*4.18*
		0314	25-Aug-21	587	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0315	25-Aug-21	1007	1.70	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0316	25-Aug-21	796	1.48	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**698.5**	**20.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**2**	***0.52***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**2**	***0.52***
Section 3	3	0301	30-Aug-21	863	1.80	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0302	30-Aug-21	748	1.90	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0303	30-Aug-21	623	1.45	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0304	30-Aug-21	656	1.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0305	31-Aug-21	837	1.55	0	*0*	0	*0*	0	*0*	1	*2.77*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	*2.77*
		0306	31-Aug-21	546	1.00	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0307	31-Aug-21	610	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0308	31-Aug-21	588	1.35	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0309	01-Sep-21	535	0.95	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0310	01-Sep-21	783	1.20	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0311	31-Aug-21	683	1.25	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0312	01-Sep-21	1024	1.17	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	1	*3*	0	*0*	0	*0*	0	*0*	1	*3*
		0314	31-Aug-21	563	0.98	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0315	31-Aug-21	1031	1.70	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
		0316	01-Sep-21	908	1.48	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
	Session Summary			**733.2**	**20.00**	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***0.25***	**0**	***0***	**1**	***0.25***	**0**	***0***	**0**	***0***	**0**	***0***	**2**	***0.49***

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Flathead Chub No.	Flathead Chub CPUE	Lake Chub No.	Lake Chub CPUE	Peamouth No.	Peamouth CPUE	Redside Shiner No.	Redside Shiner CPUE	Sculpin spp. No.	Sculpin spp. CPUE	Shiner spp. No.	Shiner spp. CPUE	Spottail Shiner No.	Spottail Shiner CPUE	Trout-perch No.	Trout-perch CPUE	YellowPerch No.	YellowPerch CPUE	All Species No.	All Species CPUE
						Number Caught (CPUE = no. fish/km/h)																			
Section 3	4	0301	07-Sep-21	1027	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0302	07-Sep-21	871	1.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0303	07-Sep-21	701	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0304	07-Sep-21	705	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0305	09-Sep-21	829	1.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0306	09-Sep-21	583	1.00	0	0	0	0	0	0	1	6.17	0	0	0	0	0	0	0	0	0	0	1	6.17
		0307	18-Sep-21	521	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0308	18-Sep-21	587	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0309	13-Sep-21	575	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0310	13-Sep-21	730	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0311	13-Sep-21	754	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0312	18-Sep-21	958	1.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0314	13-Sep-21	644	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0315	13-Sep-21	1008	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0316	13-Sep-21	835	1.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**755.2**	**20.00**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.24**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.24**
Section 3	5	0301	27-Sep-21	1056	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0302	27-Sep-21	979	1.90	0	0	0	0	0	0	0	0	0	0	1	1.94	0	0	0	0	0	0	1	1.94
		0303	27-Sep-21	939	1.45	0	0	0	0	0	0	0	0	2	5.29	0	0	0	0	0	0	0	0	2	5.29
		0304	27-Sep-21	806	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0305	27-Sep-21	975	1.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0306	28-Sep-21	819	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0307	28-Sep-21	713	0.95	0	0	0	0	0	0	0	0	1	5.31	0	0	0	0	0	0	0	0	1	5.31
		0308	28-Sep-21	760	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0309	28-Sep-21	624	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0310	28-Sep-21	820	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0311	28-Sep-21	678	1.25	0	0	0	0	0	0	1	4.25	0	0	0	0	0	0	0	0	0	0	1	4.25
		0312	28-Sep-21	863	1.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0314	27-Sep-21	734	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0315	28-Sep-21	1220	1.70	0	0	0	0	0	0	0	0	6	10.41	0	0	0	0	0	0	0	0	6	10.41
		0316	28-Sep-21	906	1.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**859.5**	**20.00**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.21**	**9**	**1.88**	**1**	**0.21**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**2.3**
Section 3	6	0301	05-Oct-21	1137	1.80	0	0	0	0	0	0	0	0	1	1.76	0	0	0	0	0	0	0	0	1	1.76
		0302	05-Oct-21	1142	1.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0303	05-Oct-21	913	1.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0304	05-Oct-21	847	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0305	05-Oct-21	1055	1.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0306	05-Oct-21	812	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0307	06-Oct-21	702	0.95	0	0	0	0	0	0	0	0	1	5.4	0	0	0	0	0	0	0	0	1	5.4
		0308	06-Oct-21	712	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0309	06-Oct-21	660	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0310	06-Oct-21	798	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0311	06-Oct-21	780	1.25	0	0	2	7.38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7.38
		0312	06-Oct-21	915	1.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0314	05-Oct-21	629	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0315	05-Oct-21	1206	1.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0316	06-Oct-21	918	1.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**881.7**	**20.00**	**0**	**0**	**2**	**0.41**	**0**	**0**	**0**	**0**	**2**	**0.41**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0.82**
Section Total All Samples				**69052**	**120.42**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**13**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**0**
Section Average All Samples				**767**	**1.34**	**0**	**0**	**0**	**0.08**	**0**	**0**	**0**	**0.16**	**0**	**0.51**	**0**	**0.08**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.82**
Section Standard Error of Mean						**0**	**0**	**0.02**	**0.08**	**0**	**0**	**0.02**	**0.1**	**0.07**	**0.16**	**0.02**	**0.04**	**0**	**0**	**0**	**0**	**0**	**0**	**0.08**	**0.2**

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																			
						Flathead Chub		Lake Chub		Peamouth		Redside Shiner		Sculpin spp.		Shiner spp.		Spottail Shiner		Trout-perch		YellowPerch		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 5	1	0502	16-Aug-21	686	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0505	16-Aug-21	1078	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0506	16-Aug-21	1077	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0507	16-Aug-21	492	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0508	18-Aug-21	855	0.92	0	0	0	0	1	4.55	0	0	1	4.55	0	0	0	0	0	0	0	0	2	9.1
		0509	16-Aug-21	676	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0510	16-Aug-21	1032	1.13	0	0	0	0	0	0	0	0	0	0	0	0	1	3.09	0	0	0	0	1	3.09
		0511	17-Aug-21	513	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0512	17-Aug-21	951	1.28	0	0	0	0	0	0	0	0	0	0	1	2.96	0	0	0	0	0	0	1	2.96
		0513	17-Aug-21	732	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0514	18-Aug-21	597	0.56	0	0	0	0	0	0	0	0	7	75.38	2	21.54	0	0	0	0	0	0	9	96.91
		0515	18-Aug-21	692	0.97	0	0	0	0	0	0	0	0	0	0	1	5.36	0	0	0	0	0	0	1	5.36
		0517	17-Aug-21	697	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0518	17-Aug-21	1519	1.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		05SC060	17-Aug-21	556	0.53	0	0	0	0	0	0	1	12.22	0	0	0	0	0	0	0	0	0	0	1	12.22
	Session Summary			**810.2**	**14.00**	**0**	**0**	**0**	**0**	**1**	**0.32**	**1**	**0.32**	**8**	**2.54**	**4**	**1.27**	**1**	**0.32**	**0**	**0**	**0**	**0**	**15**	**4.76**
Section 5	2	0502	25-Aug-21	566	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0505	24-Aug-21	1326	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0506	25-Aug-21	897	1.00	0	0	0	0	0	0	3	12.04	0	0	0	0	0	0	0	0	0	0	3	12.04
		0507	25-Aug-21	504	0.78	0	0	0	0	0	0	2	18.32	1	9.16	4	36.63	0	0	0	0	0	0	7	64.1
		0508	23-Aug-21	829	0.92	0	0	0	0	0	0	0	0	6	28.17	0	0	0	0	0	0	0	0	6	28.17
		0509	24-Aug-21	705	0.94	0	0	0	0	0	0	1	5.4	0	0	1	5.4	0	0	0	0	0	0	2	10.81
		0510	25-Aug-21	991	1.13	0	0	0	0	0	0	4	12.86	0	0	4	12.86	0	0	0	0	0	0	8	25.72
		0511	26-Aug-21	649	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0512	25-Aug-21	1018	1.28	0	0	0	0	0	0	1	2.76	0	0	3	8.29	0	0	0	0	0	0	4	11.05
		0513	24-Aug-21	585	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0514	24-Aug-21	514	0.56	0	0	0	0	0	0	0	0	6	75.04	0	0	0	0	0	0	0	0	6	75.04
		0515	26-Aug-21	886	0.97	0	0	0	0	0	0	1	4.19	0	0	1	4.19	0	0	0	0	0	0	2	8.38
		0517	25-Aug-21	507	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0518	26-Aug-21	1896	1.81	0	0	0	0	0	0	1	1.05	0	0	0	0	0	0	0	0	0	0	1	1.05
		05SC060	24-Aug-21	491	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**824.3**	**14.00**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**4.06**	**13**	**4.06**	**13**	**4.06**	**0**	**0**	**0**	**0**	**0**	**0**	**39**	**12.17**
Section 5	3	0502	01-Sep-21	624	0.95	0	0	0	0	0	0	6	36.44	0	0	0	0	0	0	0	0	0	0	6	36.44
		0505	01-Sep-21	1252	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0506	01-Sep-21	895	1.00	0	0	0	0	0	0	2	8.04	0	0	1	4.02	0	0	0	0	0	0	3	12.07
		0507	01-Sep-21	638	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0508	02-Sep-21	795	0.92	0	0	0	0	0	0	1	4.9	0	0	0	0	0	0	0	0	0	0	1	4.9
		0509	06-Sep-21	673	0.92	0	0	0	0	0	0	1	5.78	1	5.78	0	0	0	0	0	0	0	0	2	11.57
		0510	06-Sep-21	893	1.13	0	0	0	0	0	0	0	0	0	0	1	3.57	0	0	0	0	0	0	1	3.57
		0511	06-Sep-21	530	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0512	06-Sep-21	940	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0513	02-Sep-21	669	0.77	0	0	0	0	0	0	0	0	2	13.98	0	0	0	0	0	0	0	0	2	13.98
		0514	02-Sep-21	603	0.56	0	0	0	0	0	0	0	0	1	10.66	1	10.66	0	0	0	0	0	0	2	21.32
		0515	02-Sep-21	825	0.97	0	0	0	0	0	0	0	0	0	0	1	4.5	0	0	0	0	0	0	1	4.5
		0517	06-Sep-21	599	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0518	06-Sep-21	1638	1.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		05SC060	01-Sep-21	551	0.53	0	0	0	0	0	0	0	0	0	0	0	0	1	12.33	0	0	0	0	1	12.33
	Session Summary			**808.3**	**14.00**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**3.18**	**4**	**1.27**	**4**	**1.27**	**1**	**0.32**	**0**	**0**	**0**	**0**	**19**	**6.04**

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Flathead Chub No.	Flathead Chub CPUE	Lake Chub No.	Lake Chub CPUE	Peamouth No.	Peamouth CPUE	Redside Shiner No.	Redside Shiner CPUE	Sculpin spp. No.	Sculpin spp. CPUE	Shiner spp. No.	Shiner spp. CPUE	Spottail Shiner No.	Spottail Shiner CPUE	Trout-perch No.	Trout-perch CPUE	YellowPerch No.	YellowPerch CPUE	All Species No.	All Species CPUE
Section 5	4	0502	14-Sep-21	381	0.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0505	14-Sep-21	1417	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0506	14-Sep-21	1191	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0508	13-Sep-21	783	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0509	15-Sep-21	493	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0510	15-Sep-21	586	1.13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0511	15-Sep-21	553	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0512	15-Sep-21	625	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0513	13-Sep-21	634	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0514	15-Sep-21	285	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0515	13-Sep-21	829	0.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0517	15-Sep-21	407	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0518	15-Sep-21	1175	1.66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		05SC060	14-Sep-21	257	0.33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**686.9**	**12.00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Section 5	5	0502	19-Sep-21	549	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0505	19-Sep-21	1233	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0506	19-Sep-21	884	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0507	19-Sep-21	519	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0508	20-Sep-21	747	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0509	19-Sep-21	756	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0510	20-Sep-21	828	1.13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0511	20-Sep-21	496	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0512	19-Sep-21	868	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0513	18-Sep-21	589	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0514	20-Sep-21	513	0.56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0515	18-Sep-21	699	0.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0516	19-Sep-21	558	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0517	19-Sep-21	600	0.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0518	19-Sep-21	1405	1.81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		05SC060	19-Sep-21	598	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**740.1**	**15.00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Section 5	6	0502	29-Sep-21	490	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0505	29-Sep-21	1332	1.00	0	0	0	0	0	0	0	0	1	2.7	0	0	0	0	0	0	0	0	1	2.7
		0506	29-Sep-21	894	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0507	29-Sep-21	510	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0508	01-Oct-21	641	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0509	29-Sep-21	620	0.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0510	01-Oct-21	787	1.13	0	0	0	0	0	0	0	0	1	4.05	0	0	0	0	0	0	0	0	1	4.05
		0511	01-Oct-21	496	0.72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0512	29-Sep-21	719	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0513	01-Oct-21	551	0.77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0514	01-Oct-21	544	0.56	0	0	0	0	0	0	0	0	1	11.82	0	0	0	0	0	0	0	0	1	11.82
		0515	01-Oct-21	674	0.97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0516	29-Sep-21	687	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0517	29-Sep-21	691	0.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0518	01-Oct-21	1269	1.81	0	0	0	0	0	0	1	1.57	0	0	0	0	0	0	0	0	0	0	1	1.57
		05SC060	29-Sep-21	617	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**720.1**	**15.00**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.33**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1.33**
Section Total All Samples				**69622**	**82.57**	**0**	**0**	**0**	**0**	**1**	**0**	**25**	**0**	**28**	**0**	**21**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**77**	**0**
Section Average All Samples				**765**	**0.91**	**0**	**0**	**0**	**0**	**0**	**0.06**	**0**	**1.42**	**0**	**1.6**	**0**	**1.2**	**0**	**0.11**	**0**	**0**	**0**	**0**	**1**	**4.39**
Section Standard Error of Mean						**0**	**0**	**0**	**0**	**0.01**	**0.05**	**0.09**	**0.51**	**0.12**	**1.21**	**0.08**	**0.51**	**0.02**	**0.14**	**0**	**0**	**0**	**0**	**0.19**	**1.61**

Number Caught (CPUE = no. fish/km/h)

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h): Flathead Chub No.	Flathead Chub CPUE	Lake Chub No.	Lake Chub CPUE	Peamouth No.	Peamouth CPUE	Redside Shiner No.	Redside Shiner CPUE	Sculpin spp. No.	Sculpin spp. CPUE	Shiner spp. No.	Shiner spp. CPUE	Spottail Shiner No.	Spottail Shiner CPUE	Trout-perch No.	Trout-perch CPUE	YellowPerch No.	YellowPerch CPUE	All Species No.	All Species CPUE
Section 6	1	0601	18-Aug-21	951	1.20	0	0	0	0	0	0	1	3.15	0	0	0	0	0	0	0	0	0	0	1	3.15
		0602	18-Aug-21	570	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0603	19-Aug-21	1033	1.30	0	0	0	0	0	0	0	0	0	0	1	2.68	0	0	0	0	0	0	1	2.68
		0604	19-Aug-21	709	1.00	0	0	0	0	0	0	0	0	0	0	1	5.08	0	0	0	0	0	0	1	5.08
		0605	19-Aug-21	577	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0607	20-Aug-21	862	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0608	19-Aug-21	683	1.00	0	0	0	0	0	0	1	5.27	2	10.54	3	15.81	0	0	0	0	0	0	6	31.63
		0609	19-Aug-21	1930	1.00	0	0	0	0	0	0	0	0	0	0	1	1.87	0	0	0	0	0	0	1	1.87
		0610	20-Aug-21	895	0.85	0	0	0	0	0	0	2	9.46	1	4.73	0	0	0	0	0	0	0	0	3	14.2
		0611	19-Aug-21	836	0.90	0	0	0	0	0	0	2	9.57	0	0	0	0	0	0	0	0	0	0	2	9.57
		0612	20-Aug-21	615	0.85	0	0	0	0	0	0	0	0	1	6.89	0	0	0	0	0	0	0	0	1	6.89
		0613	20-Aug-21	1364	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0614	19-Aug-21	878	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN01	18-Aug-21	991	1.50	0	0	0	0	0	0	3	7.27	0	0	0	0	1	2.42	0	0	0	0	4	9.69
		06PIN02	18-Aug-21	477	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC036	21-Aug-21	551	0.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC047	18-Aug-21	507	0.40	0	0	0	0	0	0	1	17.75	0	0	0	0	0	0	0	0	0	0	1	17.75
	Session Summary			**848.8**	**16.00**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**2.65**	**4**	**1.06**	**6**	**1.59**	**1**	**0.27**	**0**	**0**	**0**	**0**	**21**	**5.57**
Section 6	2	0601	26-Aug-21	1062	1.20	0	0	0	0	0	0	5	14.12	2	5.65	0	0	1	2.82	0	0	0	0	8	22.6
		0602	26-Aug-21	598	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0603	27-Aug-21	1004	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0604	27-Aug-21	773	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.66	1	4.66
		0605	27-Aug-21	584	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0606	28-Aug-21	1104	1.40	0	0	0	0	0	0	1	2.33	0	0	0	0	0	0	0	0	0	0	1	2.33
		0607	28-Aug-21	1048	1.00	1	3.44	0	0	0	0	0	0	0	0	1	3.44	0	0	0	0	0	0	2	6.87
		0608	27-Aug-21	615	1.00	0	0	0	0	0	0	0	0	1	5.85	7	40.98	0	0	0	0	0	0	8	46.83
		0609	28-Aug-21	739	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0610	28-Aug-21	959	0.85	0	0	0	0	0	0	2	8.83	1	4.42	0	0	0	0	0	0	0	0	3	13.25
		0611	28-Aug-21	588	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0612	28-Aug-21	535	0.85	0	0	0	0	0	0	0	0	0	0	1	7.92	0	0	0	0	0	0	1	7.92
		0613	28-Aug-21	944	0.90	0	0	1	4.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.24
		0614	27-Aug-21	747	0.98	0	0	0	0	0	0	0	0	0	0	2	9.89	0	0	0	0	0	0	2	9.89
		06PIN01	27-Aug-21	1117	1.50	0	0	0	0	0	0	2	4.3	0	0	1	2.15	0	0	0	0	0	0	3	6.45
		06PIN02	27-Aug-21	361	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC036	28-Aug-21	421	0.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC047	26-Aug-21	590	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**766.1**	**17.00**	**1**	**0.28**	**1**	**0.28**	**0**	**0**	**10**	**2.76**	**4**	**1.11**	**12**	**3.32**	**1**	**0.28**	**0**	**0**	**1**	**0.28**	**30**	**8.29**
Section 6	3	0601	02-Sep-21	1015	1.20	0	0	0	0	0	0	0	0	2	5.91	0	0	0	0	0	0	0	0	2	5.91
		0602	03-Sep-21	560	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0603	03-Sep-21	928	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0604	03-Sep-21	768	1.00	0	0	0	0	0	0	2	9.38	0	0	0	0	0	0	0	0	0	0	2	9.38
		0605	03-Sep-21	565	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0606	03-Sep-21	1052	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0607	10-Sep-21	873	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0608	03-Sep-21	664	1.00	0	0	0	0	0	0	0	0	1	5.42	1	5.42	0	0	0	0	0	0	2	10.84
		0609	03-Sep-21	757	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0610	10-Sep-21	816	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0611	09-Sep-21	629	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0612	10-Sep-21	634	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.68	0	0	1	6.68
		0613	10-Sep-21	744	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0614	03-Sep-21	756	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN01	02-Sep-21	1142	1.50	0	0	0	0	0	0	2	4.2	0	0	1	2.1	0	0	1	2.1	0	0	4	8.41
		06PIN02	02-Sep-21	725	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC036	10-Sep-21	481	0.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC047	02-Sep-21	428	0.35	0	0	0	0	0	0	2	48.06	0	0	0	0	0	0	0	0	0	0	2	48.06
	Session Summary			**752.1**	**17.00**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**1.69**	**3**	**0.84**	**2**	**0.56**	**0**	**0**	**2**	**0.56**	**0**	**0**	**13**	**3.66**

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Flathead Chub No.	CPUE	Lake Chub No.	CPUE	Peamouth No.	CPUE	Redside Shiner No.	CPUE	Sculpin spp. No.	CPUE	Shiner spp. No.	CPUE	Spottail Shiner No.	CPUE	Trout-perch No.	CPUE	YellowPerch No.	CPUE	All Species No.	CPUE
Section 6	4	0601	18-Sep-21	747	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0602	15-Sep-21	537	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0603	15-Sep-21	767	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0604	15-Sep-21	627	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0605	15-Sep-21	469	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0606	15-Sep-21	877	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0607	18-Sep-21	695	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0608	15-Sep-21	535	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0609	15-Sep-21	783	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0610	18-Sep-21	641	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0611	15-Sep-21	689	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0612	18-Sep-21	562	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0613	18-Sep-21	655	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0614	15-Sep-21	661	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN01	18-Sep-21	1205	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN02	18-Sep-21	543	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC036	18-Sep-21	586	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC047	18-Sep-21	470	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**669.4**	**18.00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Section 6	5	0601	21-Sep-21	812	1.20	0	0	0	0	0	0	1	3.69	0	0	0	0	0	0	0	0	0	0	1	3.69
		0602	20-Sep-21	530	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0603	20-Sep-21	880	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0604	20-Sep-21	694	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0605	21-Sep-21	511	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0606	21-Sep-21	807	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0607	21-Sep-21	810	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0608	20-Sep-21	641	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0609	21-Sep-21	827	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0610	21-Sep-21	684	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0611	21-Sep-21	677	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0612	21-Sep-21	503	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0613	21-Sep-21	690	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0614	20-Sep-21	686	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN01	21-Sep-21	1282	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN02	21-Sep-21	498	1.00	0	0	0	0	0	0	1	7.23	0	0	0	0	0	0	0	0	0	0	1	7.23
		06SC036	21-Sep-21	579	0.20	0	0	0	0	0	0	1	31.09	0	0	0	0	0	0	0	0	1	31.09	2	62.18
		06SC047	21-Sep-21	494	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**700.3**	**17.00**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0.91**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.3**	**4**	**1.21**
Section 6	6	0601	01-Oct-21	700	1.20	0	0	0	0	0	0	1	4.29	0	0	0	0	0	0	0	0	0	0	1	4.29
		0602	01-Oct-21	651	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0603	01-Oct-21	825	1.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0604	02-Oct-21	575	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0605	02-Oct-21	434	0.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0606	02-Oct-21	875	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0607	02-Oct-21	749	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0608	02-Oct-21	584	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0609	02-Oct-21	645	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0610	02-Oct-21	583	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0611	02-Oct-21	487	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0612	02-Oct-21	471	0.85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0613	02-Oct-21	622	0.90	0	0	3	19.29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	19.29
		0614	01-Oct-21	674	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN01	01-Oct-21	887	1.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06PIN02	01-Oct-21	431	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC036	02-Oct-21	583	0.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		06SC047	01-Oct-21	482	0.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**625.4**	**18.00**	**0**	**0**	**3**	**0.96**	**0**	**0**	**1**	**0.32**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1.28**
Section Total All Samples				**77667**	**102.80**	**1**	**0**	**4**	**0**	**0**	**0**	**30**	**0**	**11**	**0**	**20**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**72**	**0**
Section Average All Samples				**726**	**0.96**	**0**	**0.05**	**0**	**0.19**	**0**	**0**	**0**	**1.45**	**0**	**0.53**	**0**	**0.96**	**0**	**0.1**	**0**	**0.1**	**0**	**0.1**	**1**	**3.47**
Section Standard Error of Mean						**0.01**	**0.03**	**0.03**	**0.18**	**0**	**0**	**0.07**	**0.6**	**0.04**	**0.16**	**0.08**	**0.43**	**0.01**	**0.03**	**0.01**	**0.07**	**0.01**	**0.29**	**0.14**	**0.96**

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h)																			
						Flathead Chub		Lake Chub		Peamouth		Redside Shiner		Sculpin spp.		Shiner spp.		Spottail Shiner		Trout-perch		YellowPerch		All Species	
						No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE	No.	CPUE
Section 7	1	0701	20-Aug-21	1100	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0702	21-Aug-21	662	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0703	20-Aug-21	1135	0.95	2	6.68	2	6.68	0	0	8	26.71	0	0	0	0	0	0	0	0	0	0	12	40.06
		0704	21-Aug-21	688	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0705	21-Aug-21	1227	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0706	21-Aug-21	1286	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0707	23-Aug-21	645	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0708	20-Aug-21	646	1.24	4	17.98	0	0	0	0	4	17.98	0	0	0	0	0	0	0	0	0	0	8	35.95
		0709	21-Aug-21	1001	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0710	21-Aug-21	1281	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0711	23-Aug-21	934	1.39	0	0	0	0	0	0	1	2.77	0	0	8	22.18	0	0	0	0	0	0	9	24.96
		0712	23-Aug-21	958	1.06	1	3.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.53
		0713	23-Aug-21	566	0.98	0	0	1	6.49	0	0	0	0	0	0	3	19.47	0	0	0	0	0	0	4	25.96
		0714	23-Aug-21	939	1.27	1	3.01	0	0	0	0	1	3.01	3	9.02	4	12.03	1	3.01	0	0	0	0	10	30.07
		07BEA01	20-Aug-21	444	0.33	1	24.57	0	0	0	0	0	0	0	0	0	0	0	0	1	24.57	0	0	2	49.14
		07BEA02	20-Aug-21	387	0.48	14	271.32	0	0	0	0	1	19.38	0	0	0	0	0	0	0	0	0	0	15	290.7
		07KIS01	23-Aug-21	408	0.64	1	13.79	0	0	0	0	0	0	1	13.79	0	0	0	0	0	0	0	0	2	27.57
		07SC022	21-Aug-21	557	0.36	0	0	0	0	0	0	1	17.95	0	0	0	0	0	0	0	0	0	0	1	17.95
	Session Summary			**825.8**	**17.00**	**24**	**6.15**	**3**	**0.77**	**0**	**0**	**16**	**4.1**	**4**	**1.03**	**15**	**3.85**	**1**	**0.26**	**1**	**0.26**	**0**	**0**	**64**	**16.41**
Section 7	2	0701	30-Aug-21	677	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0702	30-Aug-21	573	0.95	0	0	1	6.61	0	0	1	6.61	0	0	0	0	0	0	0	0	0	0	2	13.23
		0703	30-Aug-21	810	0.95	5	23.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	23.39
		0704	30-Aug-21	765	1.00	1	4.71	0	0	0	0	0	0	1	4.71	0	0	0	0	0	0	0	0	2	9.41
		0705	30-Aug-21	815	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0706	31-Aug-21	1116	1.00	0	0	0	0	0	0	2	6.45	0	0	0	0	0	0	0	0	0	0	2	6.45
		0707	31-Aug-21	766	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0708	30-Aug-21	726	1.24	7	27.99	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	31.99
		0709	30-Aug-21	852	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0710	31-Aug-21	1003	1.40	0	0	4	10.25	0	0	1	2.56	0	0	0	0	0	0	0	0	0	0	5	12.82
		0711	31-Aug-21	1062	1.39	0	0	0	0	0	0	1	2.44	1	2.44	2	4.88	0	0	0	0	0	0	4	9.75
		0712	31-Aug-21	1029	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0713	31-Aug-21	678	0.98	1	5.42	1	5.42	0	0	0	0	1	5.42	2	10.84	0	0	0	0	0	0	5	27.09
		0714	31-Aug-21	1055	1.27	9	24.09	16	42.82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	66.91
		07BEA01	30-Aug-21	507	0.43	1	16.51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16.51
		07BEA02	30-Aug-21	450	0.60	2	26.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	26.67
		07KIS01	31-Aug-21	429	0.55	0	0	1	15.15	0	0	1	15.15	0	0	0	0	0	0	0	0	0	0	2	30.29
		07SC012	31-Aug-21	276	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC022	30-Aug-21	540	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**743.6**	**17.00**	**26**	**7.4**	**24**	**6.83**	**0**	**0**	**6**	**1.71**	**3**	**0.85**	**4**	**1.14**	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**17.94**
Section 7	3	0701	12-Sep-21	650	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0702	11-Sep-21	534	0.95	0	0	1	7.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7.1
		0703	11-Sep-21	724	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0704	11-Sep-21	661	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0705	11-Sep-21	719	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0706	11-Sep-21	1004	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0707	12-Sep-21	605	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0708	11-Sep-21	664	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0709	11-Sep-21	664	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0710	11-Sep-21	822	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0711	12-Sep-21	920	1.39	0	0	0	0	0	0	0	0	0	0	1	2.82	0	0	0	0	0	0	1	2.82
		0712	12-Sep-21	801	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0713	12-Sep-21	527	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0714	12-Sep-21	884	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07BEA01	10-Sep-21	611	0.43	2	27.4	0	0	0	0	1	13.7	0	0	0	0	0	0	0	0	0	0	3	41.11
		07BEA02	11-Sep-21	476	0.60	5	63.03	2	25.21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	88.24
		07KIS01	12-Sep-21	363	0.69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC022	11-Sep-21	424	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**669.6**	**17.00**	**7**	**2.21**	**3**	**0.95**	**0**	**0**	**1**	**0.32**	**0**	**0**	**1**	**0.32**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**3.8**

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Flathead Chub No.	Flathead Chub CPUE	Lake Chub No.	Lake Chub CPUE	Peamouth No.	Peamouth CPUE	Redside Shiner No.	Redside Shiner CPUE	Sculpin spp. No.	Sculpin spp. CPUE	Shiner spp. No.	Shiner spp. CPUE	Spottail Shiner No.	Spottail Shiner CPUE	Trout-perch No.	Trout-perch CPUE	YellowPerch No.	YellowPerch CPUE	All Species No.	All Species CPUE
Section 7	4	0701	16-Sep-21	580	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0703	17-Sep-21	558	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0704	16-Sep-21	528	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0705	17-Sep-21	656	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0706	17-Sep-21	820	1.00	0	0	1	4.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.39
		0707	17-Sep-21	532	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0708	16-Sep-21	576	1.24	1	5.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5.04
		0709	16-Sep-21	602	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0710	16-Sep-21	693	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0711	17-Sep-21	723	1.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0712	17-Sep-21	599	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0713	17-Sep-21	451	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0714	17-Sep-21	680	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07BEA01	16-Sep-21	347	0.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07BEA02	16-Sep-21	407	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07KIS01	17-Sep-21	344	1.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC012	17-Sep-21	559	0.22	0	0	0	0	0	0	1	29.27	0	0	0	0	0	0	0	0	0	0	1	29.27
	Session Summary			**567.9**	**16.00**	**1**	**0.4**	**1**	**0.4**	**0**	**0**	**1**	**0.4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1.19**
Section 7	5	0701	22-Sep-21	577	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0702	22-Sep-21	499	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0703	22-Sep-21	587	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0704	22-Sep-21	592	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0705	22-Sep-21	638	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0706	22-Sep-21	1006	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0707	22-Sep-21	561	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0708	22-Sep-21	603	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0709	22-Sep-21	595	1.00	0	0	1	6.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6.05
		0710	22-Sep-21	744	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0711	22-Sep-21	830	1.39	0	0	0	0	0	0	0	0	0	0	2	6.24	0	0	0	0	0	0	2	6.24
		0712	22-Sep-21	727	1.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0713	22-Sep-21	569	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0714	22-Sep-21	774	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07BEA01	23-Sep-21	641	0.43	1	13.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13.06
		07BEA02	22-Sep-21	325	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07KIS01	22-Sep-21	328	0.69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC012	22-Sep-21	302	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC022	22-Sep-21	322	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**590.5**	**17.00**	**1**	**0.36**	**1**	**0.36**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0.72**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1.43**
Section 7	6	0701	04-Oct-21	659	0.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0702	04-Oct-21	504	0.90	1	7.94	1	7.94	0	0	0	0	0	0	0	0	0	0	1	7.94	0	0	3	23.81
		0703	04-Oct-21	723	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0704	04-Oct-21	643	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0705	04-Oct-21	578	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0706	04-Oct-21	802	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0707	04-Oct-21	621	0.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0708	04-Oct-21	648	1.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0709	04-Oct-21	685	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0710	04-Oct-21	866	1.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0711	04-Oct-21	894	1.39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0712	04-Oct-21	788	1.06	1	4.29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.29
		0713	04-Oct-21	608	0.98	0	0	0	0	0	0	0	0	1	6.04	0	0	0	0	0	0	0	0	1	6.04
		0714	04-Oct-21	868	1.27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07BEA01	04-Oct-21	538	0.43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15.56	0	0	1	15.56
		07BEA02	04-Oct-21	377	0.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07KIS01	04-Oct-21	489	0.74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC012	04-Oct-21	304	0.22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		07SC022	04-Oct-21	416	0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**632.2**	**17.00**	**2**	**0.67**	**1**	**0.33**	**0**	**0**	**0**	**0**	**1**	**0.33**	**0**	**0**	**0**	**0**	**2**	**0.67**	**0**	**0**	**6**	**2.01**
Section Total All Samples				**73932**	**101.51**	**61**	**0**	**33**	**0**	**0**	**0**	**24**	**0**	**8**	**0**	**22**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**152**	**0**
Section Average All Samples				**672**	**0.92**	**1**	**3.22**	**0**	**1.74**	**0**	**0**	**0**	**1.27**	**0**	**0.42**	**0**	**1.16**	**0**	**0.05**	**0**	**0.16**	**0**	**0**	**1**	**8.02**
Section Standard Error of Mean						**0.18**	**2.58**	**0.15**	**0.5**	**0**	**0**	**0.09**	**0.49**	**0.03**	**0.17**	**0.09**	**0.31**	**0.01**	**0.03**	**0.02**	**0.27**	**0**	**0**	**0.33**	**2.94**

Table E4 Continued.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Flathead Chub No.	CPUE	Lake Chub No.	CPUE	Peamouth No.	CPUE	Redside Shiner No.	CPUE	Sculpin spp. No.	CPUE	Shiner spp. No.	CPUE	Spottail Shiner No.	CPUE	Trout-perch No.	CPUE	YellowPerch No.	CPUE	All Species No.	CPUE
Section 9	1	0901	20-Aug-21	650	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0903	20-Aug-21	691	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0904	20-Aug-21	681	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0905	20-Aug-21	669	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0906	20-Aug-21	811	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0907	20-Aug-21	694	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0908	20-Aug-21	365	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0909	20-Aug-21	613	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0910	20-Aug-21	934	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0911	21-Aug-21	512	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0912	21-Aug-21	470	0.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0913	21-Aug-21	499	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0914	21-Aug-21	575	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC053	20-Aug-21	289	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC061	21-Aug-21	69	0.42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**568.1**	**14.00**	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***
Section 9	2	0902	26-Aug-21	639	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0903	26-Aug-21	595	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0904	26-Aug-21	591	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0906	26-Aug-21	582	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0907	26-Aug-21	657	1.20	1	4.57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.57
		0908	26-Aug-21	539	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0909	26-Aug-21	534	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0910	26-Aug-21	716	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0911	27-Aug-21	458	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0912	27-Aug-21	358	0.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**566.9**	**10.00**	**1**	***0.64***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***0.64***
Section 9	3	0901	02-Sep-21	532	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0902	02-Sep-21	651	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0903	02-Sep-21	722	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0904	02-Sep-21	639	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0905	02-Sep-21	643	1.10	0	0	0	0	0	0	0	0	0	0	1	5.09	0	0	0	0	0	0	1	5.09
		0906	02-Sep-21	752	1.00	1	4.79	1	4.79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9.57
		0907	02-Sep-21	809	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0908	02-Sep-21	237	0.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0909	03-Sep-21	630	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0910	02-Sep-21	828	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0911	03-Sep-21	421	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0912	03-Sep-21	427	0.50	0	0	0	0	0	0	1	16.86	0	0	0	0	0	0	0	0	0	0	1	16.86
		0913	03-Sep-21	510	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0914	03-Sep-21	431	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**588**	**13.00**	**1**	***0.47***	**1**	***0.47***	**0**	***0***	**1**	***0.47***	**0**	***0***	**1**	***0.47***	**0**	***0***	**0**	***0***	**0**	***0***	**4**	***1.88***

Table E4 Concluded.

Section	Session	Site	Date	Time Sampled (s)	Length Sampled (km)	Number Caught (CPUE = no. fish/km/h) Flathead Chub No.	CPUE	Lake Chub No.	CPUE	Peamouth No.	CPUE	Redside Shiner No.	CPUE	Sculpin spp. No.	CPUE	Shiner spp. No.	CPUE	Spottail Shiner No.	CPUE	Trout-perch No.	CPUE	YellowPerch No.	CPUE	All Species No.	CPUE
Section 9	4	0901	10-Sep-21	536	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0902	10-Sep-21	759	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0903	10-Sep-21	737	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0904	10-Sep-21	682	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0905	10-Sep-21	752	1.10	1	4.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.35
		0906	10-Sep-21	927	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0907	10-Sep-21	803	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0908	10-Sep-21	649	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0909	10-Sep-21	623	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0910	10-Sep-21	1075	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0911	11-Sep-21	499	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0912	11-Sep-21	421	0.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0913	11-Sep-21	568	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0914	11-Sep-21	464	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC053	10-Sep-21	403	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC061	11-Sep-21	496	0.49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**649.6**	**15.00**	**1**	***0.37***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***0.37***
Section 9	5	0901	25-Sep-21	894	1.10	1	3.66	3	10.98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	14.64
		0902	25-Sep-21	900	1.00	1	4	3	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	16
		0903	25-Sep-21	892	1.10	3	11.01	4	14.68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	25.68
		0904	25-Sep-21	946	1.10	0	0	2	6.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6.92
		0905	25-Sep-21	720	1.10	3	13.64	3	13.64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	27.27
		0906	25-Sep-21	1295	1.00	0	0	1	2.78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2.78
		0907	25-Sep-21	1195	1.20	0	0	3	7.53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7.53
		0908	25-Sep-21	828	1.10	0	0	1	3.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3.95
		0909	25-Sep-21	895	0.95	0	0	1	4.23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.23
		0910	25-Sep-21	853	1.10	4	15.35	7	26.86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	42.2
		0911	25-Sep-21	549	1.00	1	6.56	2	13.11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	19.67
		0912	25-Sep-21	388	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0913	25-Sep-21	546	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0914	25-Sep-21	456	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC061	25-Sep-21	550	0.68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**793.8**	**15.00**	**13**	***3.93***	**30**	***9.07***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**43**	***13***
Section 9	6	0901	03-Oct-21	747	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0902	03-Oct-21	524	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0903	03-Oct-21	570	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0904	03-Oct-21	716	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0905	03-Oct-21	656	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0906	03-Oct-21	867	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0907	03-Oct-21	771	1.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0908	03-Oct-21	609	1.10	1	5.37	2	10.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16.12
		0909	03-Oct-21	604	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0910	03-Oct-21	742	1.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0911	03-Oct-21	479	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0912	03-Oct-21	416	1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0913	03-Oct-21	519	0.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0914	03-Oct-21	451	0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC053	03-Oct-21	217	0.26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		09SC061	03-Oct-21	522	0.68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Session Summary			**588.1**	**15.00**	**1**	***0.41***	**2**	***0.82***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**3**	***1.22***
Section Total All Samples				**54134**	**82.80**	**17**	***0***	**33**	***0***	**0**	***0***	**1**	***0***	**0**	***0***	**1**	***0***	**0**	***0***	**0**	***0***	**0**	***0***	**52**	***0***
Section Average All Samples				**629**	**0.96**	**0**	***1.18***	**0**	***2.28***	**0**	***0***	**0**	***0.07***	**0**	***0***	**0**	***0.07***	**0**	***0***	**0**	***0***	**0**	***0***	**1**	***3.59***
Section Standard Error of Mean						**0.07**	***0.3***	**0.12**	***0.47***	**0**	***0***	**0.01**	***0.2***	**0**	***0***	**0.01**	***0.06***	**0**	***0***	**0**	***0***	**0**	***0***	**0.18**	***0.77***
All Sections Total All Samples				**382312**	**559.35**	***79***	***0***	***72***	***0***	***3***	***0***	***84***	***0***	***67***	***0***	***66***	***0***	***5***	***0***	***5***	***0***	***2***	***0***	***383***	***0.01***
All Sections Average All Samples						***0***	***0.75***	***0***	***0.69***	***0***	***0.03***	***0***	***0.8***	***0***	***0.64***	***0***	***0.63***	***0***	***0.05***	***0***	***0.05***	***0***	***0.02***	***1***	***3.66***
All Sections Standard Error of Mean						***0.04***	***0.51***	***0.04***	***0.13***	***0***	***0.03***	***0.03***	***0.17***	***0.03***	***0.21***	***0.03***	***0.13***	***0***	***0.02***	***0***	***0.05***	***0***	***0.06***	***0.08***	***0.68***

Table E5 Summary of the number (N) of fish captured and recaptured in sampled sections of the Peace River, 16 August to 08 October 2021.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
Arctic Grayling	Section 1	1	0	0	-	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		5	0	0	0	0
		6	0	0	0	0
	Section 1 subtotal		0	0	0	0
	Section 3	1	0	0	-	0
		2	0	0	0	0
		3	1	1	0	0
		4	1	1	0	0
		5	1	1	0	0
		6	2	2	0	0
	Section 3 subtotal		5	5	0	0
	Section 5	1	2	2	-	0
		2	3	3	0	0
		3	5	5	0	0
		4	1	1	0	0
		5	10	9	1	0
		6	7	7	0	0
	Section 5 subtotal		28	27	1	0
	Section 6	1	1	1	-	0
		2	2	2	0	0
		3	2	2	0	0
		4	0	0	0	0
		5	1	1	0	0
		6	0	0	0	0
	Section 6 subtotal		6	6	0	0
	Section 7	1	0	0	-	0
		2	6	5	0	1
		3	1	0	0	1
		4	0	0	0	0
		5	0	0	0	0
		6	0	0	0	0
	Section 7 subtotal		7	5	0	2
	Section 9	1	0	0	-	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		5	0	0	0	0
		6	0	0	0	0
	Section 9 subtotal		0	0	0	0
Arctic Grayling Total			46	43	1	2

Continued...

Table E5 Continued.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
Bull Trout	Section 1	1	2	2	-	0
		2	2	2	0	0
		3	2	1	0	1
		4	11	8	1	2
		5	2	2	0	0
		6	21	17	1	3
	Section 1 subtotal		40	32	2	6
	Section 3	1	7	5	-	1
		2	2	2	0	0
		3	8	8	0	0
		4	26	23	1	2
		5	14	12	0	2
		6	34	25	6	3
	Section 3 subtotal		91	75	8	8
	Section 5	1	7	4	-	3
		2	8	6	0	2
		3	4	4	0	0
		4	5	4	0	1
		5	6	3	1	2
		6	9	7	1	1
	Section 5 subtotal		39	28	2	9
	Section 6	1	2	2	-	0
		2	1	1	0	0
		3	5	5	0	0
		4	9	9	0	0
		5	9	9	0	0
		6	12	8	3	1
	Section 6 subtotal		38	34	3	1
	Section 7	1	4	4	-	0
		2	0	0	0	0
		3	7	7	0	0
		4	2	2	0	0
		5	4	3	0	1
		6	11	9	1	1
	Section 7 subtotal		28	25	1	2
	Section 9	1	1	1	-	0
		2	1	1	0	0
		3	0	0	0	0
		4	0	0	0	0
		5	1	0	1	0
		6	0	0	0	0
	Section 9 subtotal		3	2	1	0
Bull Trout Total			239	196	17	26

Continued...

Table E5 Continued.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
Largescale Sucker	Section 1	1	2	2	-	0
		2	11	9	0	2
		3	1	1	0	0
		4	20	16	0	4
		5	61	51	3	7
		6	57	52	0	5
	Section 1 subtotal		152	131	3	18
	Section 3	1	21	18	-	3
		2	22	20	1	1
		3	42	34	2	6
		4	58	50	5	3
		5	74	63	8	3
		6	33	30	2	1
	Section 3 subtotal		250	215	18	17
	Section 5	1	80	73	-	6
		2	87	75	3	9
		3	89	80	2	7
		4	51	45	2	4
		5	50	40	4	6
		6	44	34	3	7
	Section 5 subtotal		401	347	15	39
	Section 6	1	81	67	-	12
		2	116	95	8	13
		3	70	50	12	8
		4	34	21	6	7
		5	54	35	8	11
		6	54	42	6	6
	Section 6 subtotal		409	310	42	57
	Section 7	1	48	38	-	10
		2	80	65	4	10
		3	52	44	2	6
		4	11	10	0	1
		5	50	39	2	9
		6	39	32	3	4
	Section 7 subtotal		280	228	11	40
	Section 9	1	2	2	-	0
		2	0	0	0	0
		3	7	7	0	0
		4	5	4	1	0
		5	4	4	0	0
		6	0	0	0	0
	Section 9 subtotal		18	17	1	0
Largescale Sucker Total			1510	1248	90	171

Continued...

Table E5 Continued.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
Longnose Sucker	Section 1	1	11	11	-	0
		2	19	18	0	1
		3	6	5	0	1
		4	22	19	0	3
		5	83	78	1	4
		6	51	46	1	4
	Section 1 subtotal		192	177	2	13
	Section 3	1	45	39	-	6
		2	32	32	0	0
		3	64	55	0	9
		4	106	92	5	9
		5	94	76	6	12
		6	52	42	6	4
	Section 3 subtotal		393	336	17	40
	Section 5	1	379	349	-	26
		2	346	309	6	30
		3	390	353	12	25
		4	211	189	9	13
		5	384	335	25	24
		6	282	242	14	26
	Section 5 subtotal		1992	1777	70	144
	Section 6	1	481	431	-	42
		2	583	501	24	58
		3	476	395	43	38
		4	334	273	35	26
		5	398	336	36	26
		6	322	261	33	28
	Section 6 subtotal		2594	2197	179	218
	Section 7	1	250	228	-	19
		2	313	289	7	17
		3	313	282	16	15
		4	141	119	15	7
		5	223	179	17	27
		6	155	135	8	12
	Section 7 subtotal		1395	1232	65	97
	Section 9	1	46	40	-	6
		2	10	8	0	2
		3	67	60	0	7
		4	81	64	5	12
		5	84	71	1	12
		6	78	65	1	12
	Section 9 subtotal		366	308	7	51
Longnose Sucker Total			6932	6027	340	563

Continued...

Table E5 Continued.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
Mountain Whitefish	Section 1	1	121	98	-	23
		2	116	90	1	25
		3	246	222	2	22
		4	462	384	10	68
		5	462	389	12	61
		6	432	366	12	54
	Section 1 subtotal		1839	1549	37	253
	Section 3	1	78	60	-	18
		2	63	52	1	10
		3	174	135	5	34
		4	245	192	5	48
		5	313	257	14	42
		6	613	537	20	56
	Section 3 subtotal		1486	1233	45	208
	Section 5	1	179	151	-	22
		2	324	282	5	34
		3	234	190	17	26
		4	130	110	4	16
		5	309	262	16	31
		6	200	180	10	10
	Section 5 subtotal		1376	1175	54	139
	Section 6	1	56	45	-	8
		2	124	88	4	29
		3	90	62	9	19
		4	102	83	4	14
		5	94	70	10	14
		6	91	80	3	8
	Section 6 subtotal		557	428	30	92
	Section 7	1	68	58	-	10
		2	86	73	0	10
		3	64	50	4	9
		4	52	42	2	8
		5	56	44	2	10
		6	112	101	2	9
	Section 7 subtotal		438	368	10	56
	Section 9	1	8	7	-	1
		2	2	1	0	1
		3	29	26	0	3
		4	17	17	0	0
		5	44	42	0	2
		6	21	19	1	1
	Section 9 subtotal		121	112	1	8
Mountain Whitefish Total			5817	4865	177	756

Continued...

Table E5 Continued.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
Rainbow Trout	Section 1	1	0	0	-	0
		2	2	2	0	0
		3	7	7	0	0
		4	10	9	1	0
		5	8	7	0	1
		6	16	14	2	0
	Section 1 subtotal		43	39	3	1
	Section 3	1	9	9	-	0
		2	2	2	0	0
		3	11	8	1	2
		4	16	14	1	1
		5	14	11	2	1
		6	20	17	3	0
	Section 3 subtotal		72	61	7	4
	Section 5	1	1	1	-	0
		2	1	0	0	1
		3	1	1	0	0
		4	3	1	1	1
		5	2	2	0	0
		6	1	1	0	0
	Section 5 subtotal		9	6	1	2
	Section 6	1	1	1	-	0
		2	1	1	0	0
		3	3	3	0	0
		4	2	2	0	0
		5	1	0	1	0
		6	1	1	0	0
	Section 6 subtotal		9	8	1	0
	Section 7	1	1	1	-	0
		2	2	2	0	0
		3	5	4	1	0
		4	1	0	1	0
		5	2	2	0	0
		6	2	1	1	0
	Section 7 subtotal		13	10	3	0
	Section 9	1	0	0	-	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		5	2	1	1	0
		6	0	0	0	0
	Section 9 subtotal		2	1	1	0
Rainbow Trout Total			148	125	16	7

Continued...

Table E5 Concluded.

Species Name	Section	Session	N Captured	N Marked	N Recaptured (within year)	N Recaptured (between years)
White Sucker	Section 1	1	0	0	-	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		5	7	7	0	0
		6	5	5	0	0
	Section 1 subtotal		12	12	0	0
	Section 3	1	1	1	-	0
		2	0	0	0	0
		3	0	0	0	0
		4	3	2	1	0
		5	0	0	0	0
		6	1	1	0	0
	Section 3 subtotal		5	4	1	0
	Section 5	1	40	39	-	1
		2	33	32	0	1
		3	43	42	1	0
		4	22	21	1	0
		5	16	13	3	0
		6	26	25	1	0
	Section 5 subtotal		180	172	6	2
	Section 6	1	6	6	-	0
		2	9	7	0	2
		3	9	7	0	2
		4	4	4	0	0
		5	2	1	0	1
		6	7	7	0	0
	Section 6 subtotal		37	32	0	5
	Section 7	1	2	2	-	0
		2	6	6	0	0
		3	2	2	0	0
		4	3	3	0	0
		5	4	4	0	0
		6	9	9	0	0
	Section 7 subtotal		26	26	0	0
	Section 9	1	3	3	-	0
		2	1	1	0	0
		3	5	5	0	0
		4	9	9	0	0
		5	3	2	0	1
		6	7	6	1	0
	Section 9 subtotal		28	26	1	1
White Sucker Total			288	272	8	8

APPENDIX F

Life History Information

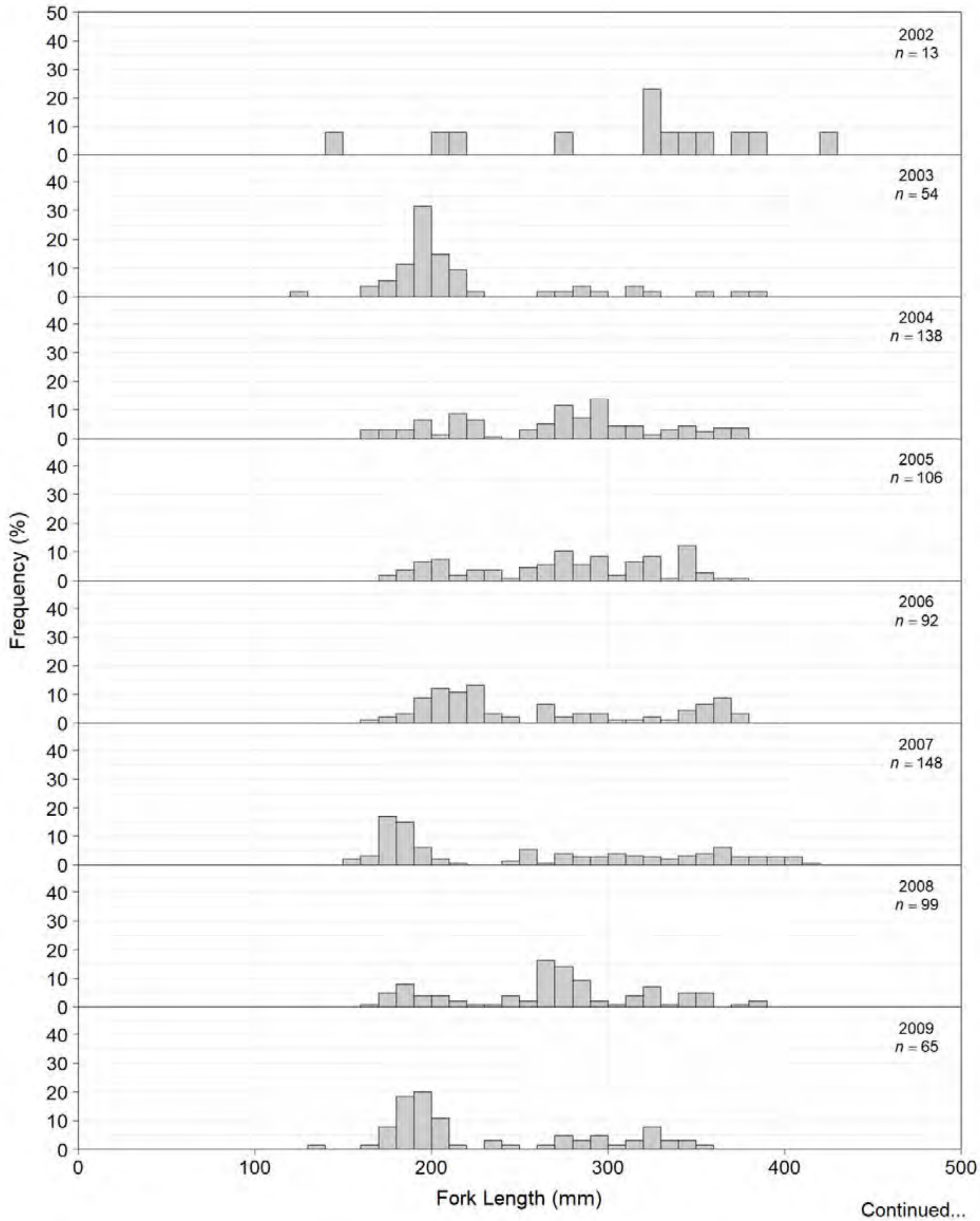

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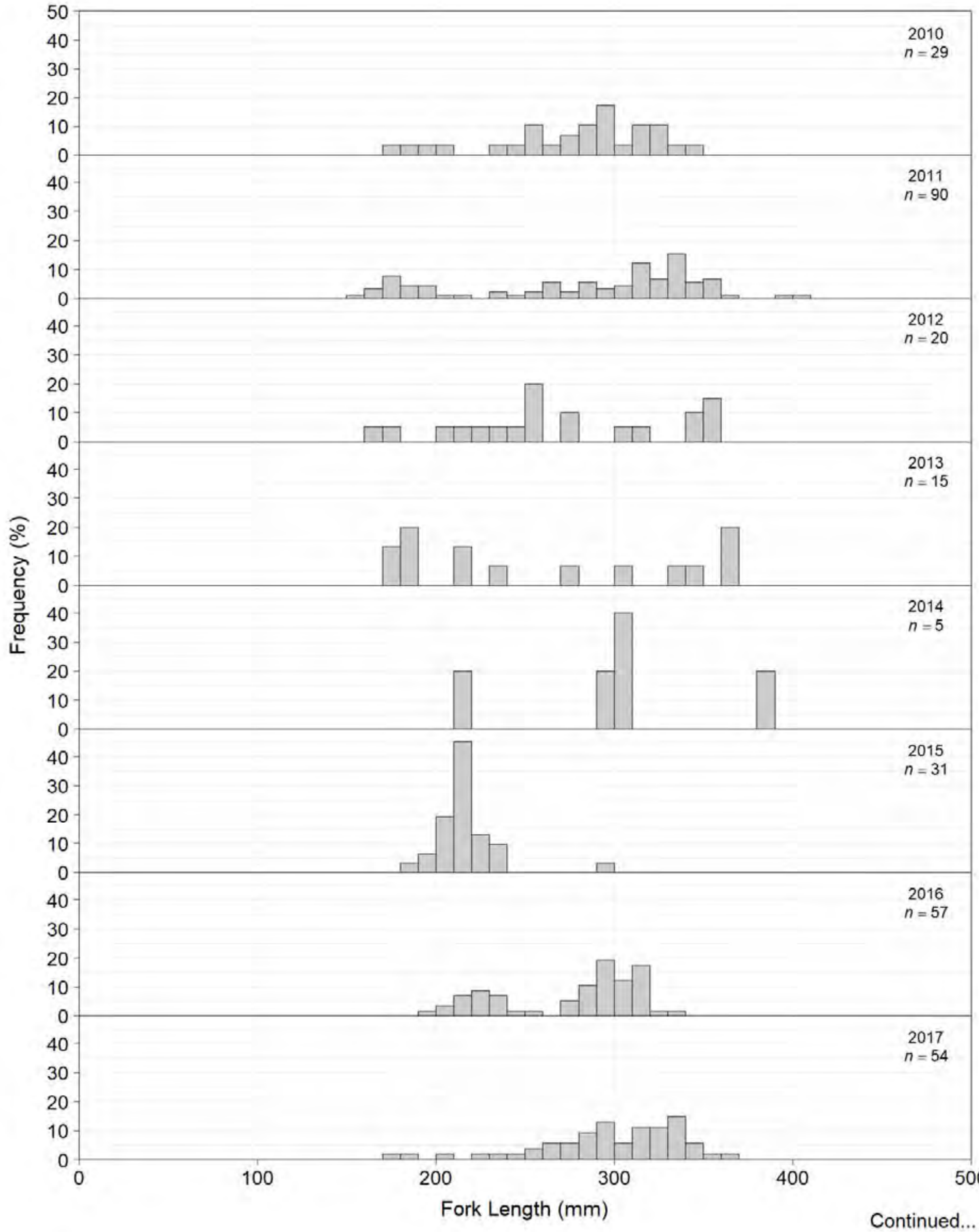
Figure F1: Length-frequency distributions by year for Arctic Grayling captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.



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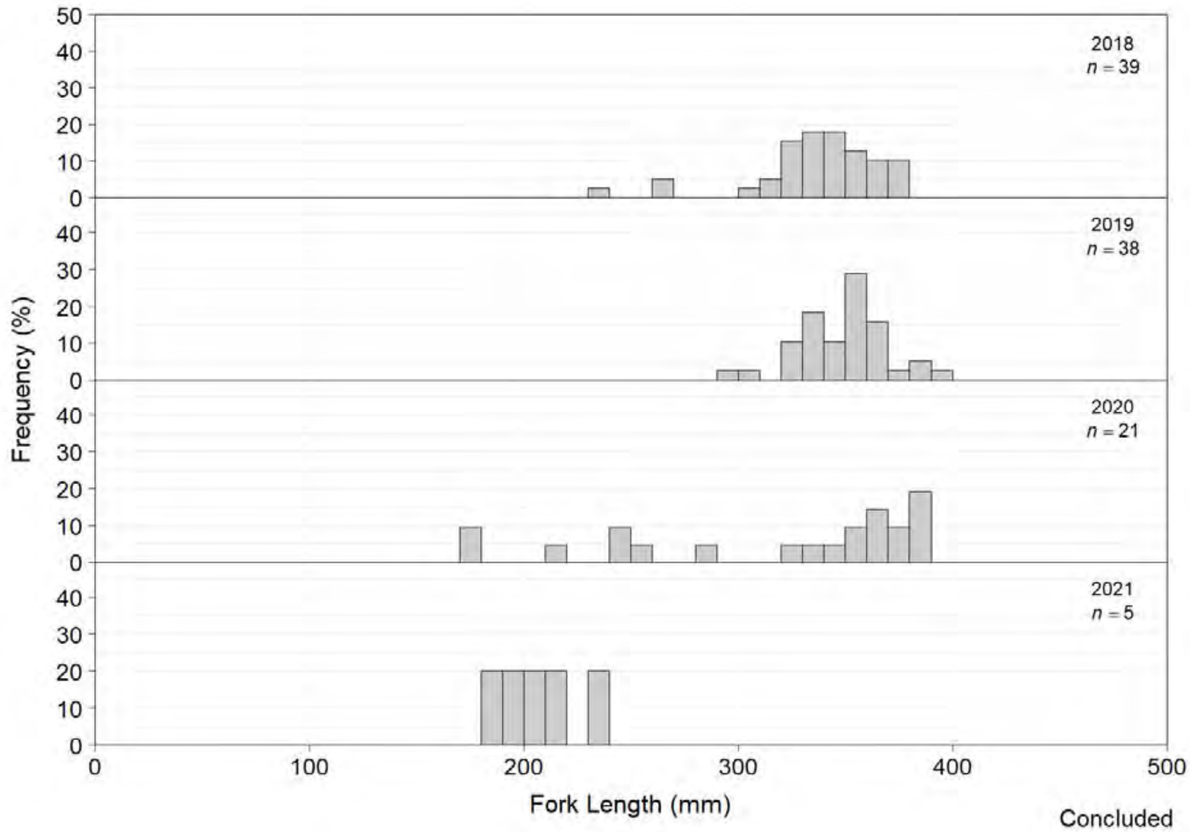

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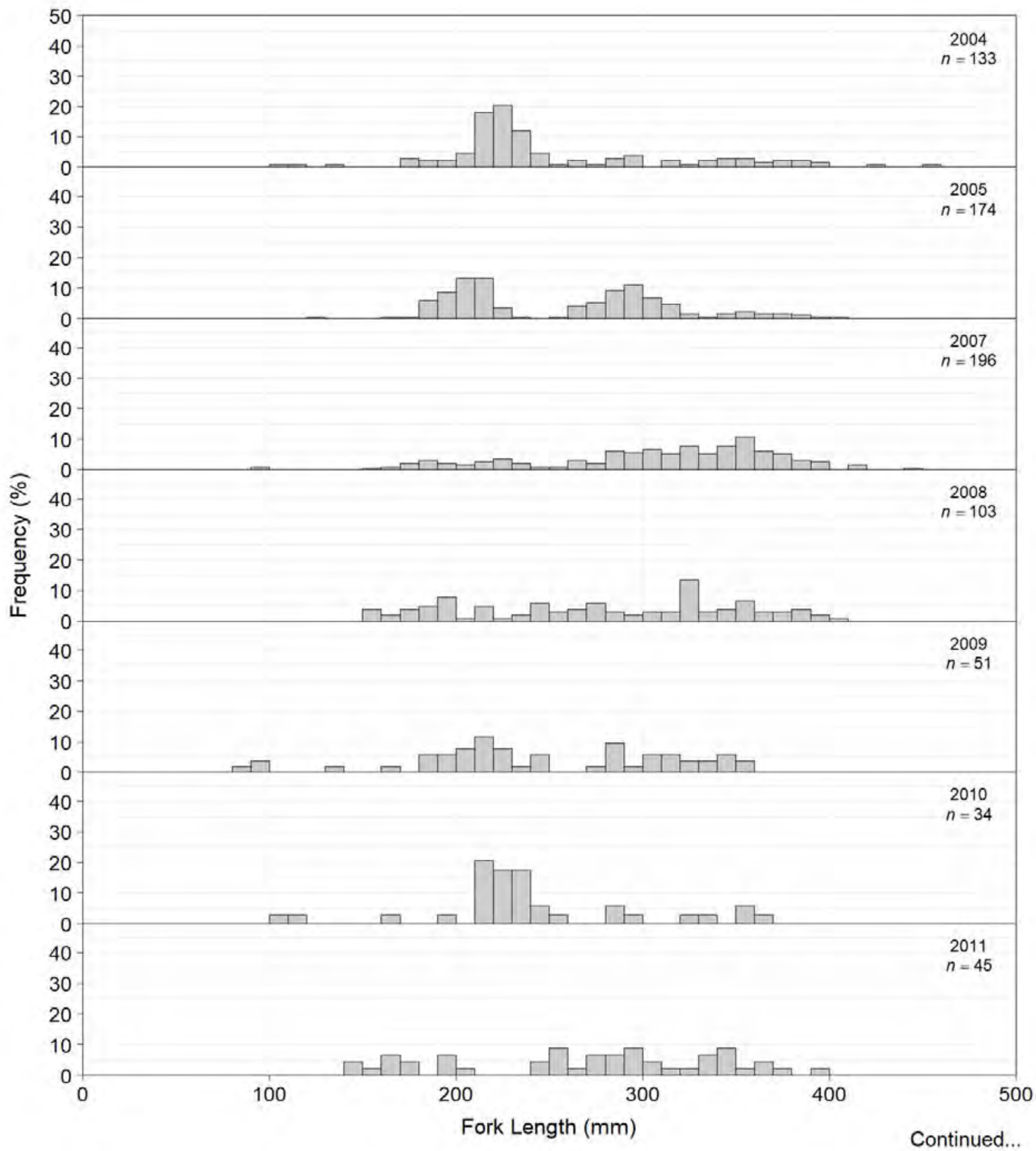

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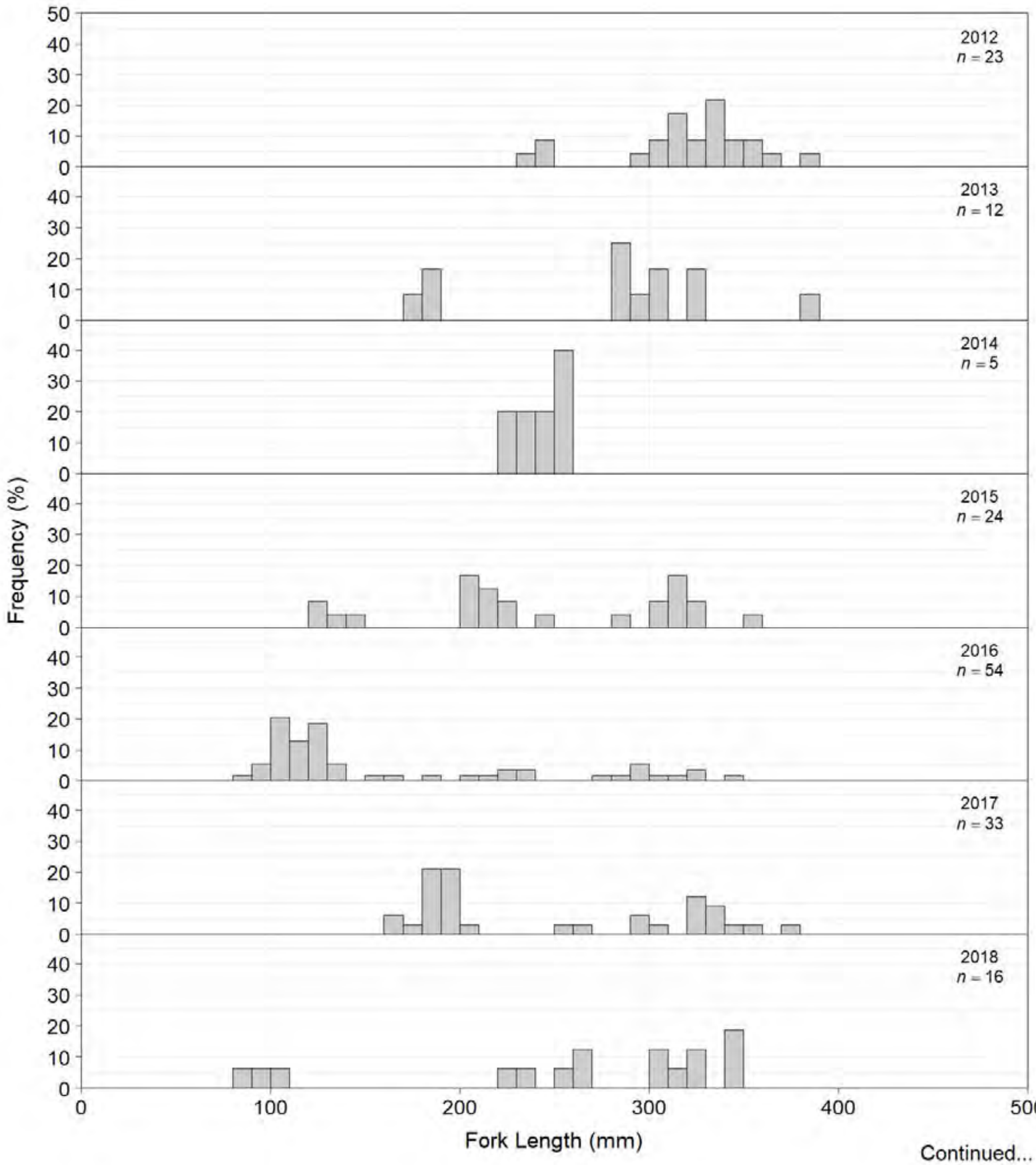
Figure F2: Length-frequency distributions by year for Arctic Grayling captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.



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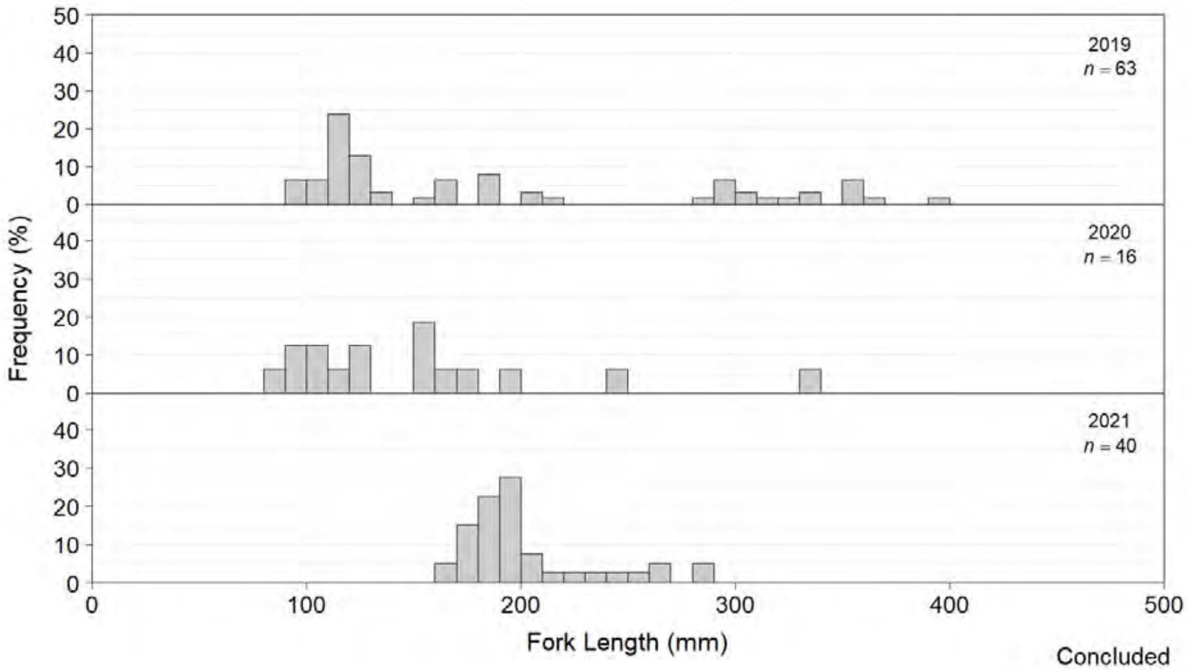

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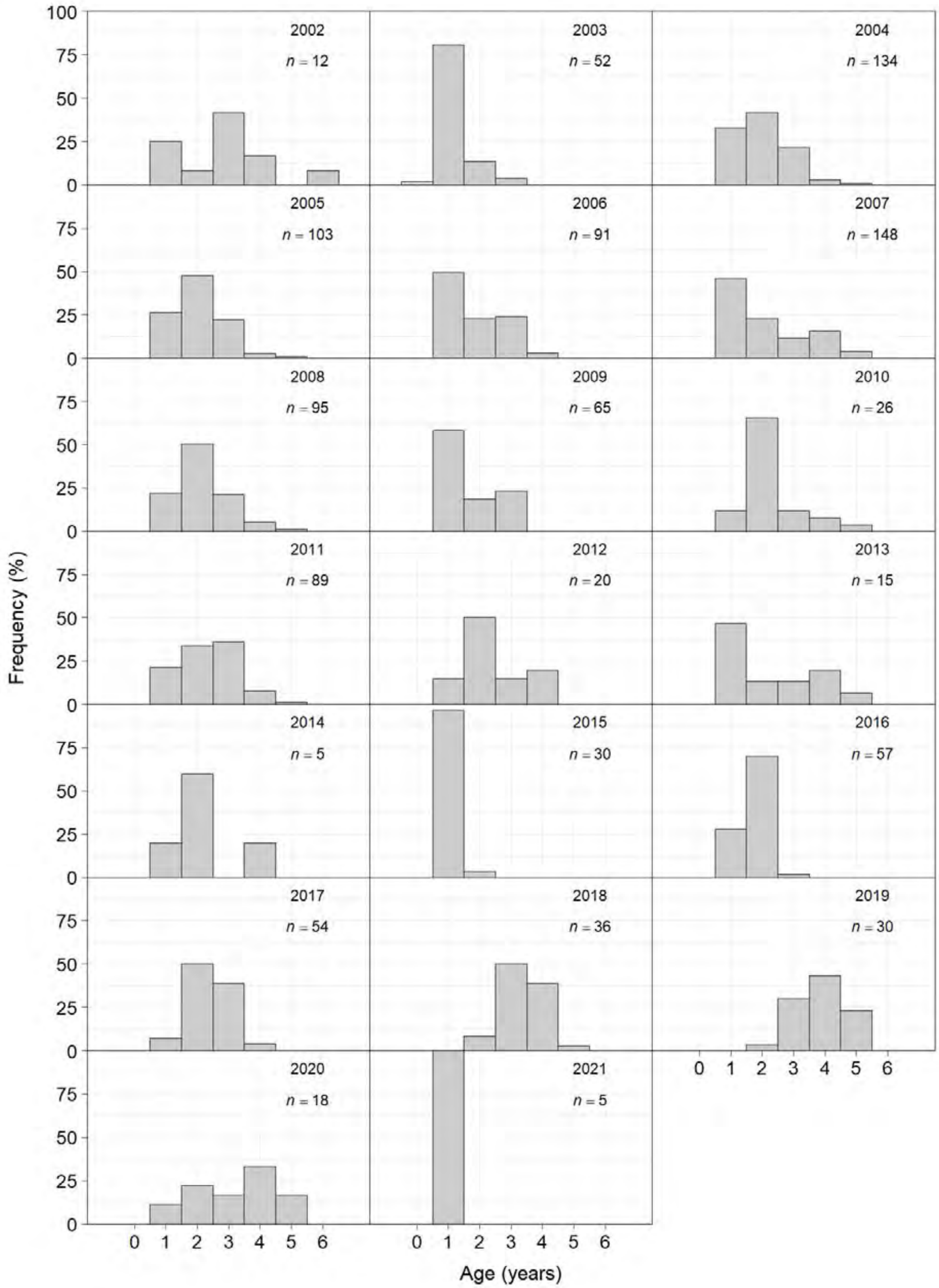

Figure F3: Age-frequency distributions by year for Arctic Grayling captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

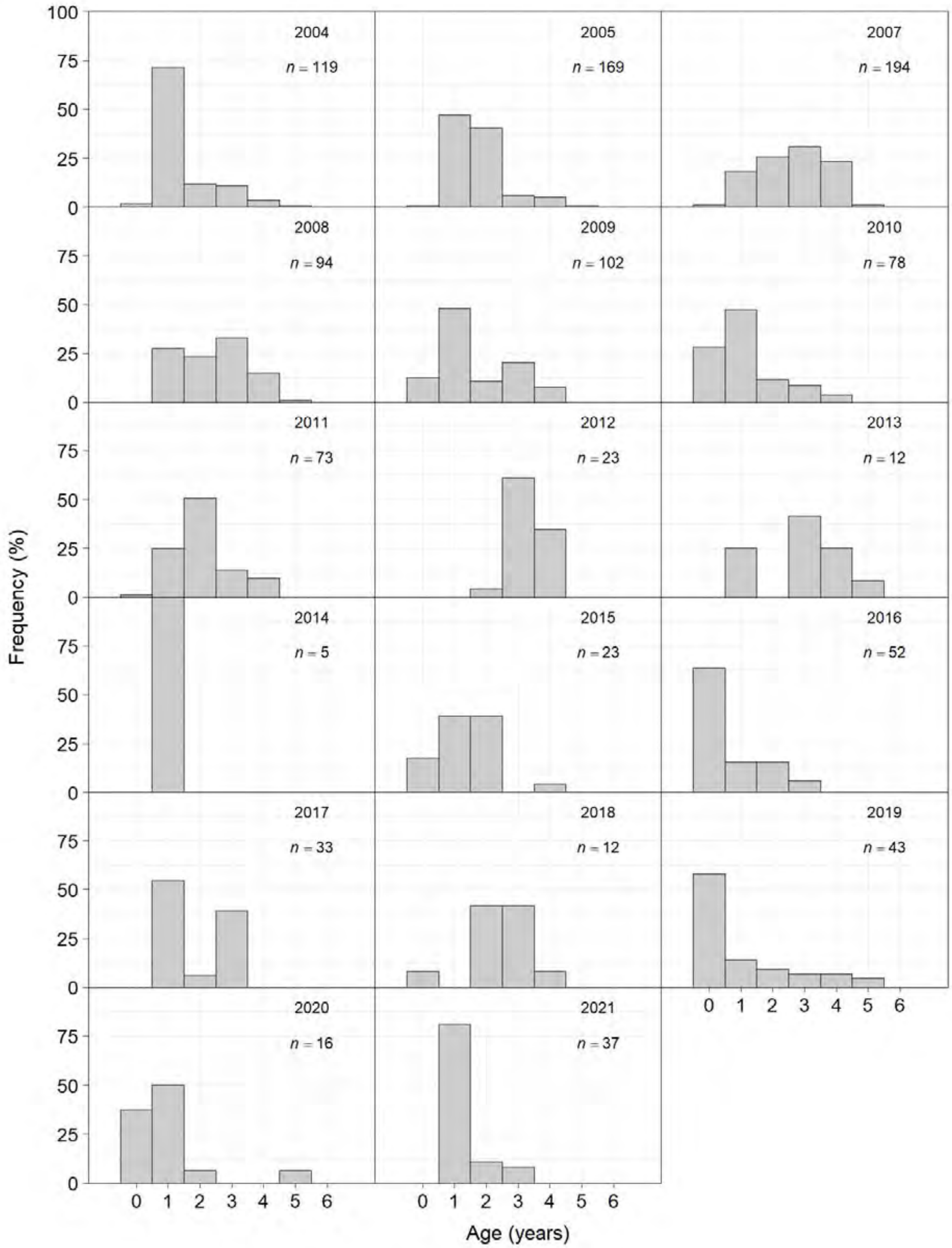

Figure F4: Age-frequency distributions by year for Arctic Grayling captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

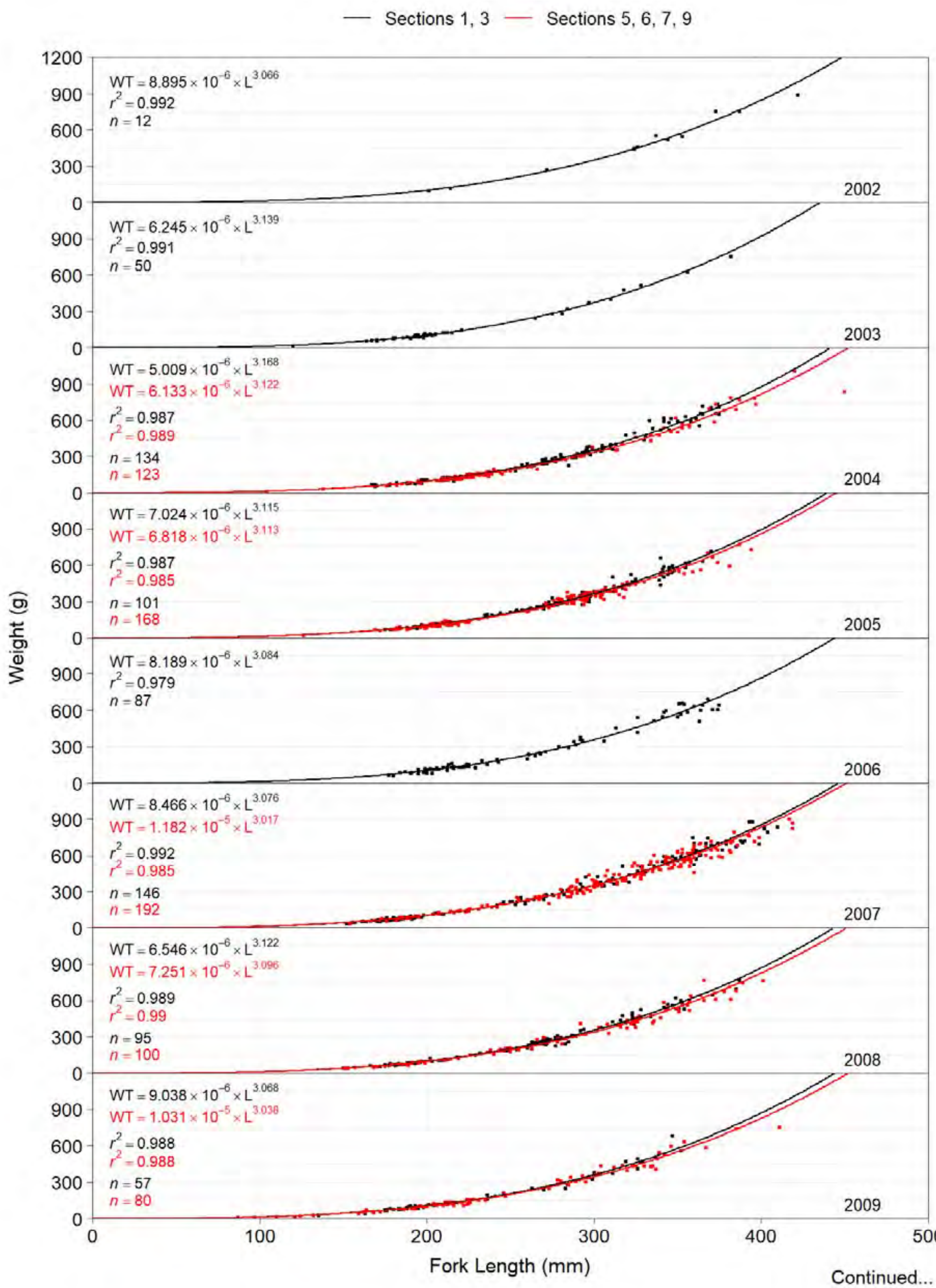

Figure F5: **Length-weight regressions for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).**

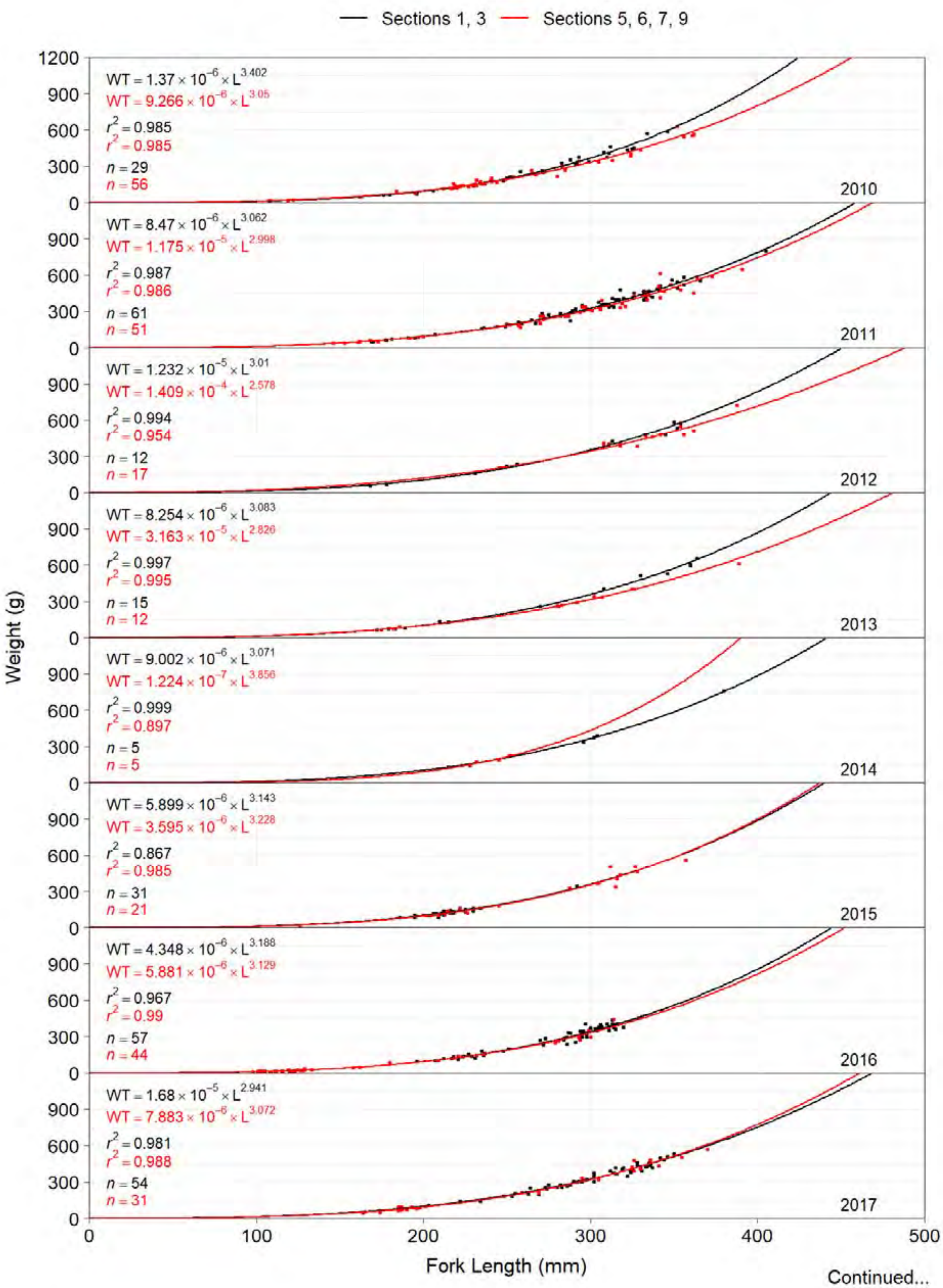

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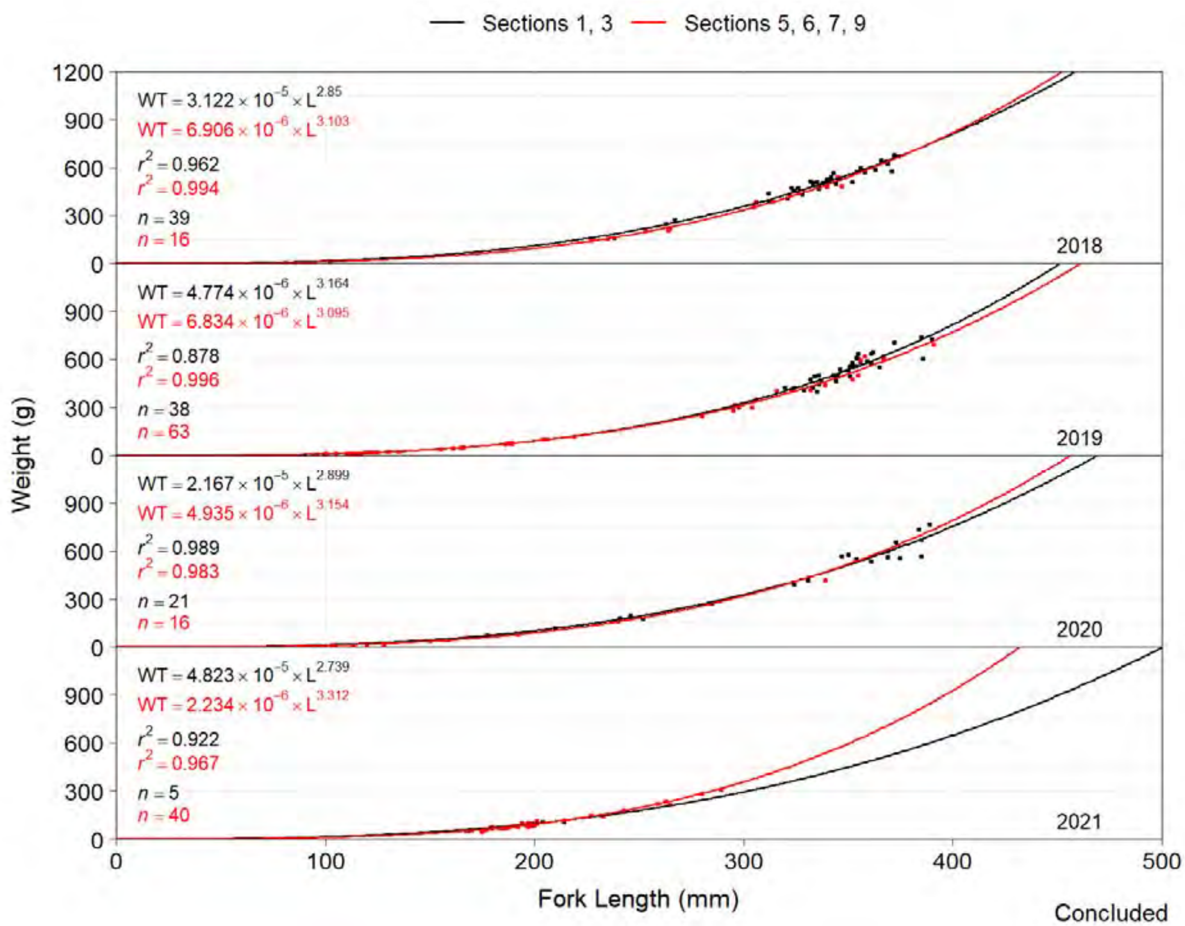
Figure F5: Continued.



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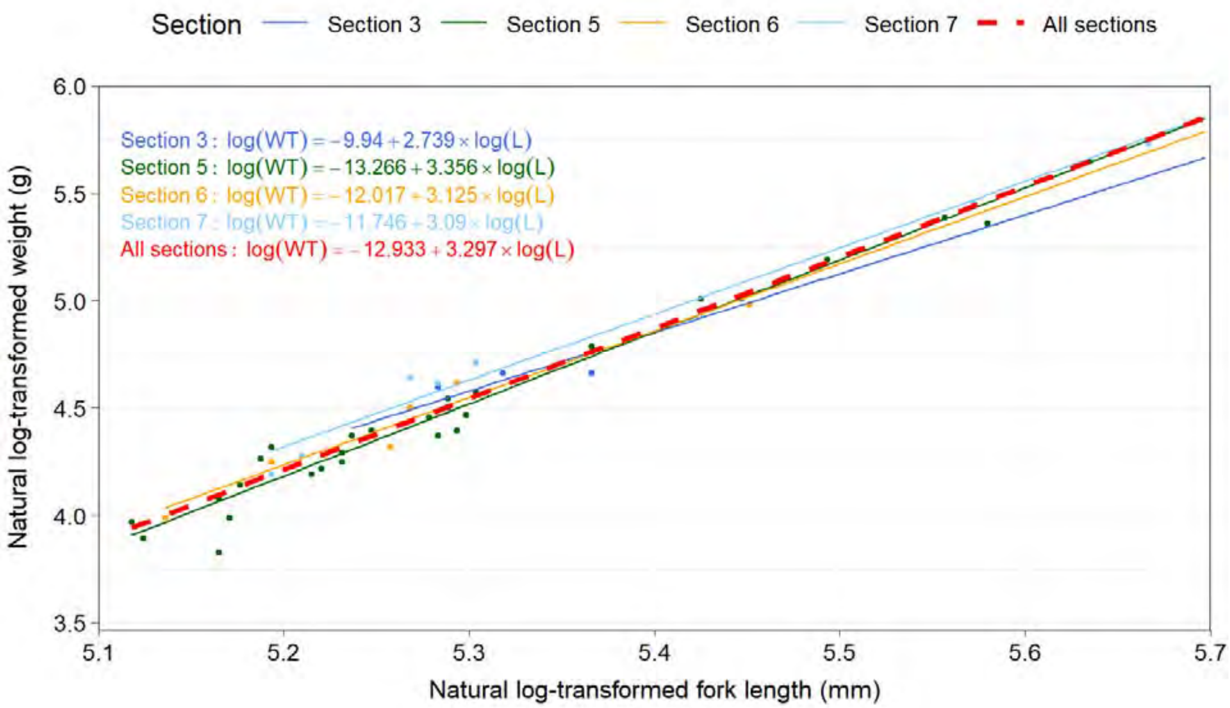

Figure F6: Log-log relationship between weight and fork length for Arctic Grayling captured by boat electroshocking in sampled sections of the Peace River, 2021.

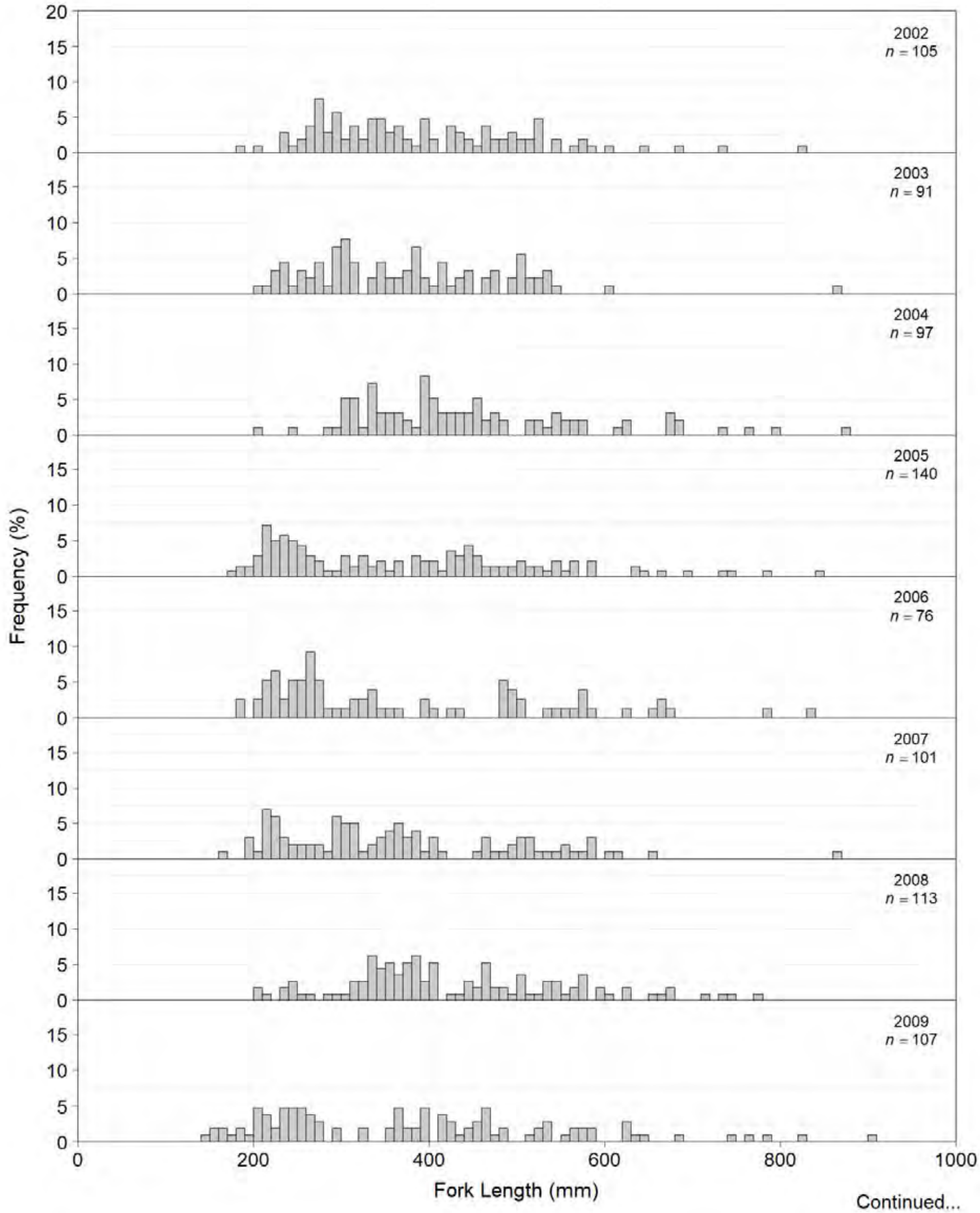

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Figure F7: Length-frequency distributions by year for Bull Trout captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

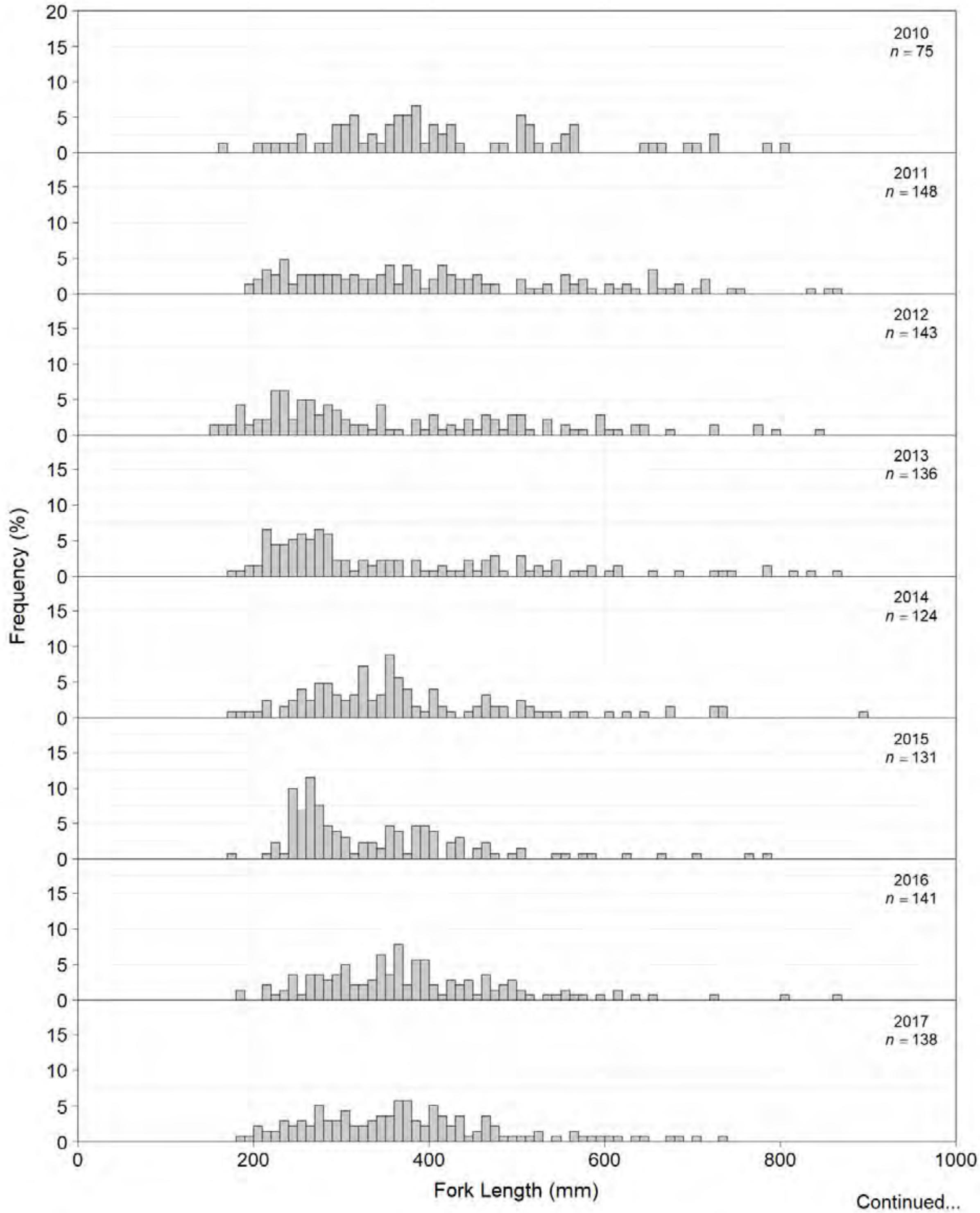

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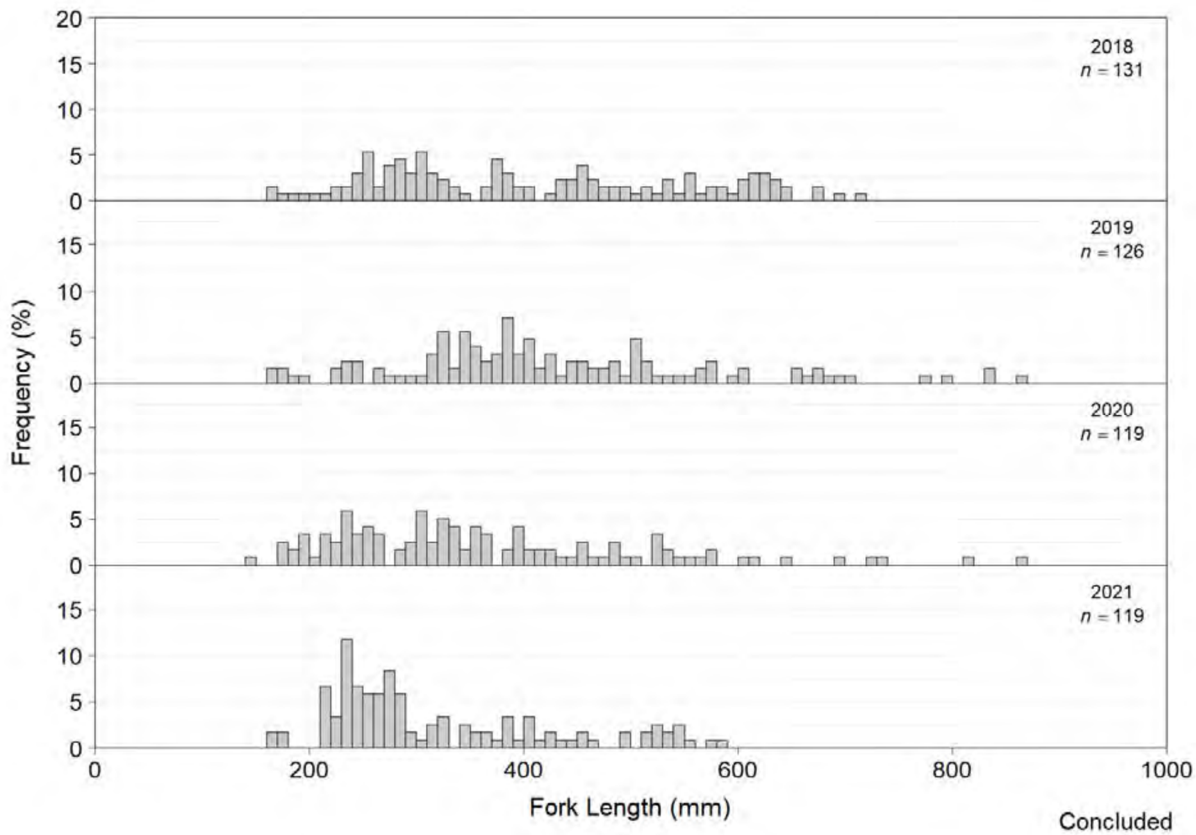
Figure F7: Continued.



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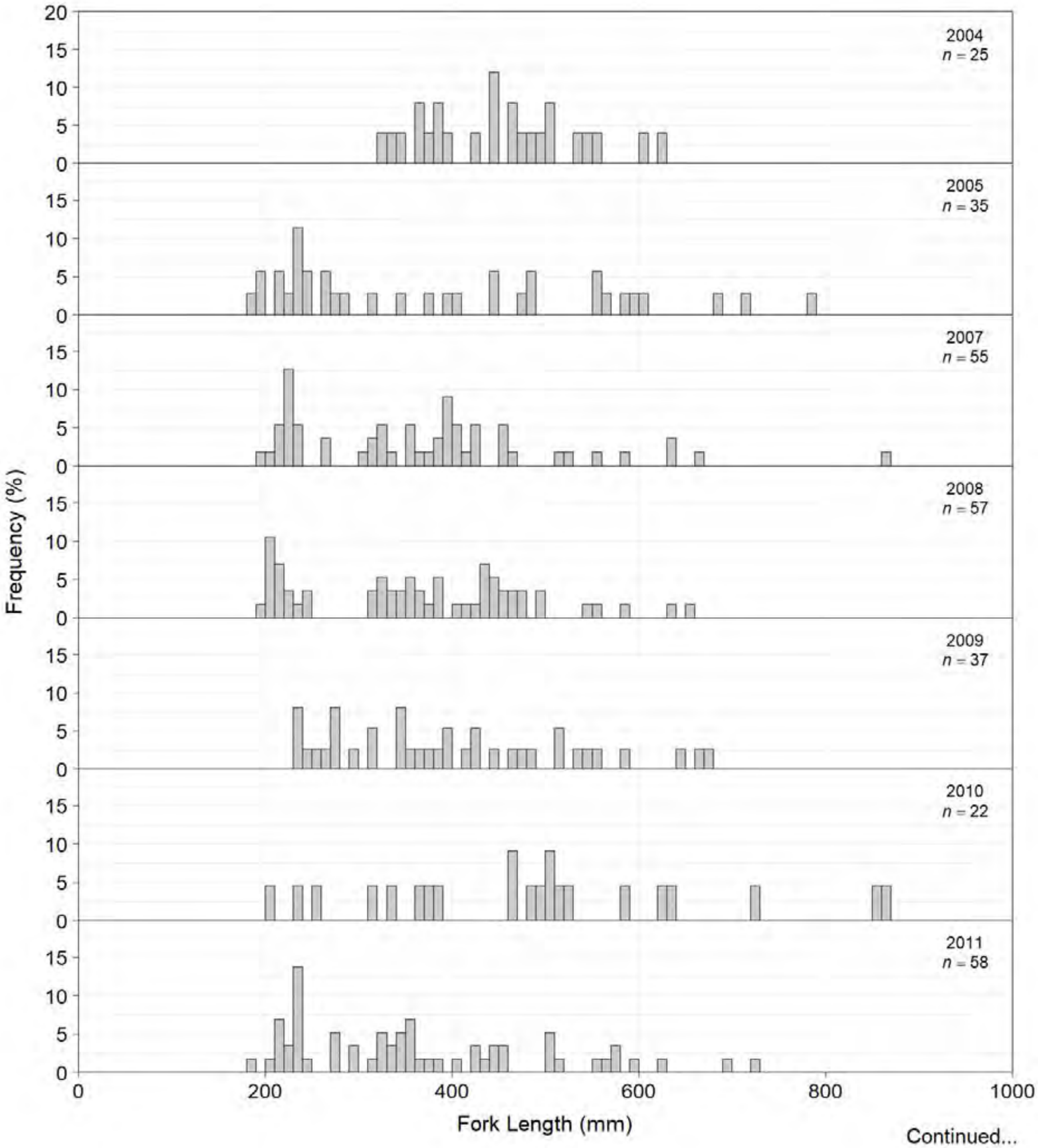

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Figure F8: Length-frequency distributions by year for Bull Trout captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

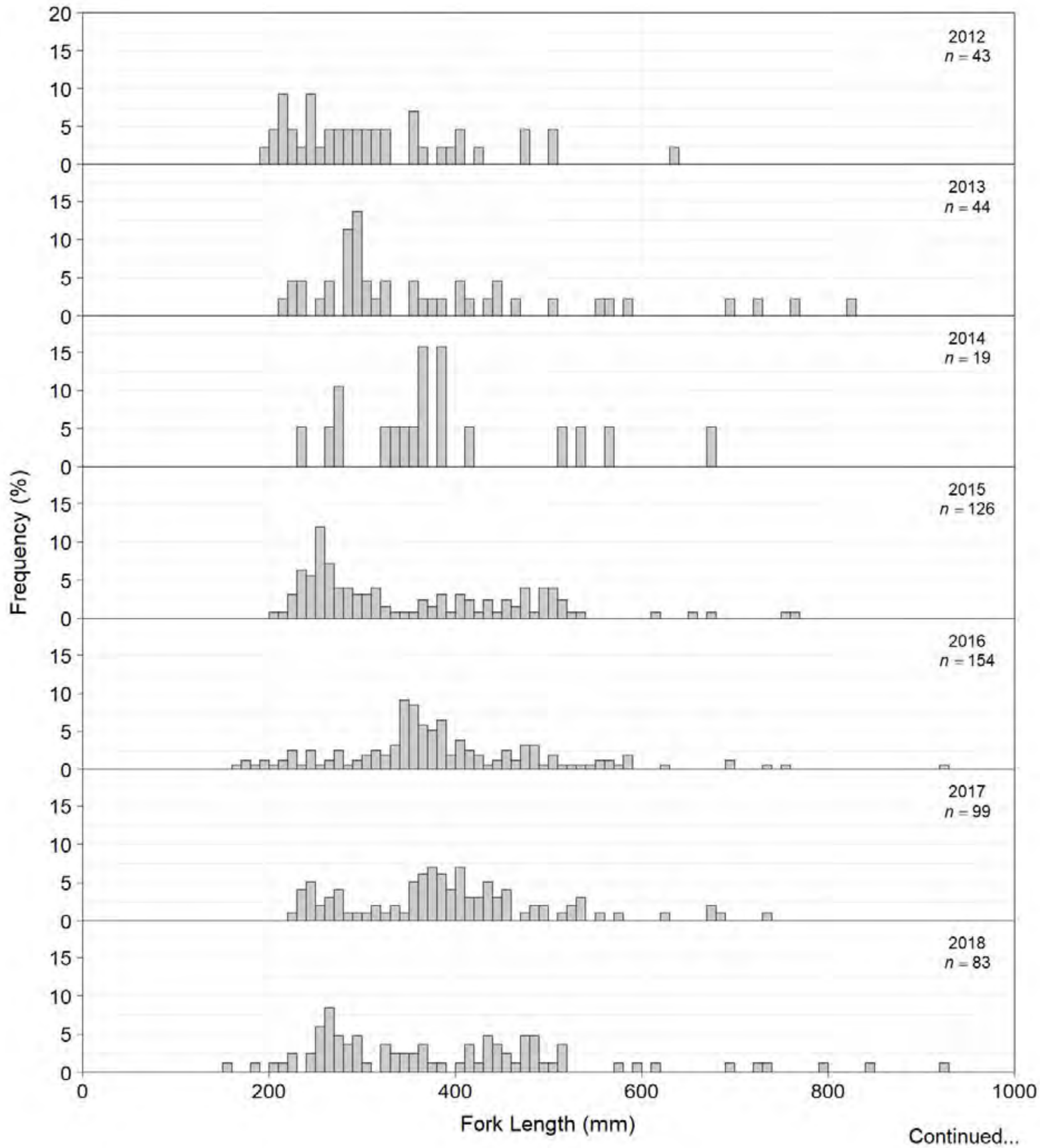

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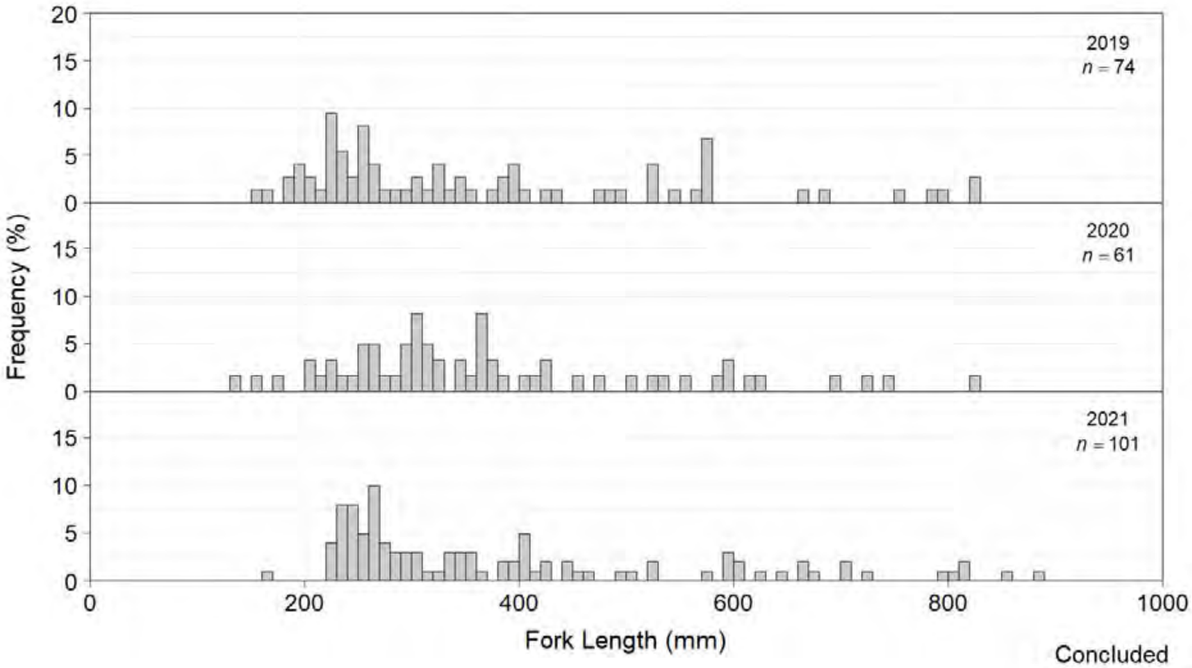
Figure F8: Continued.



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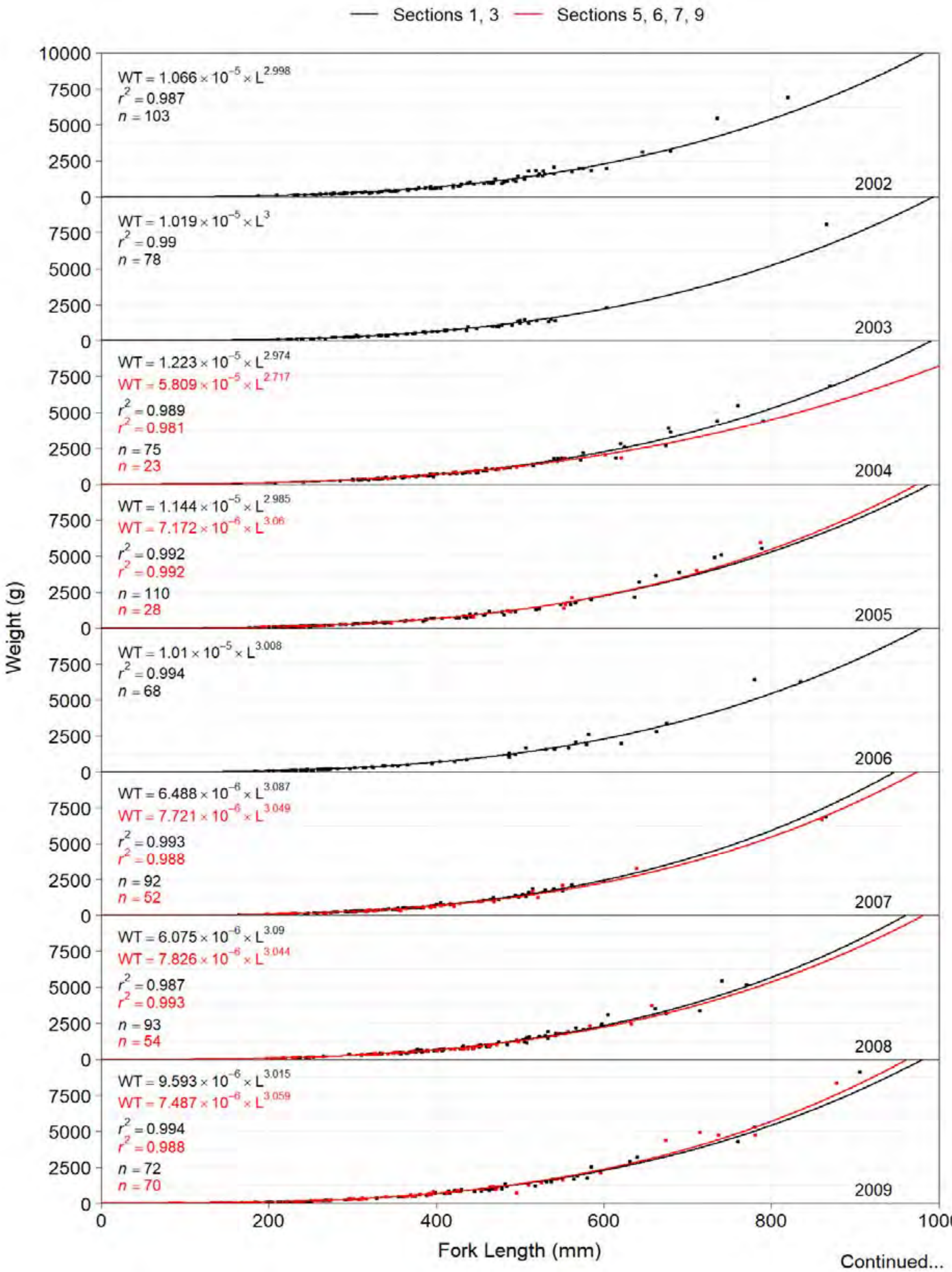

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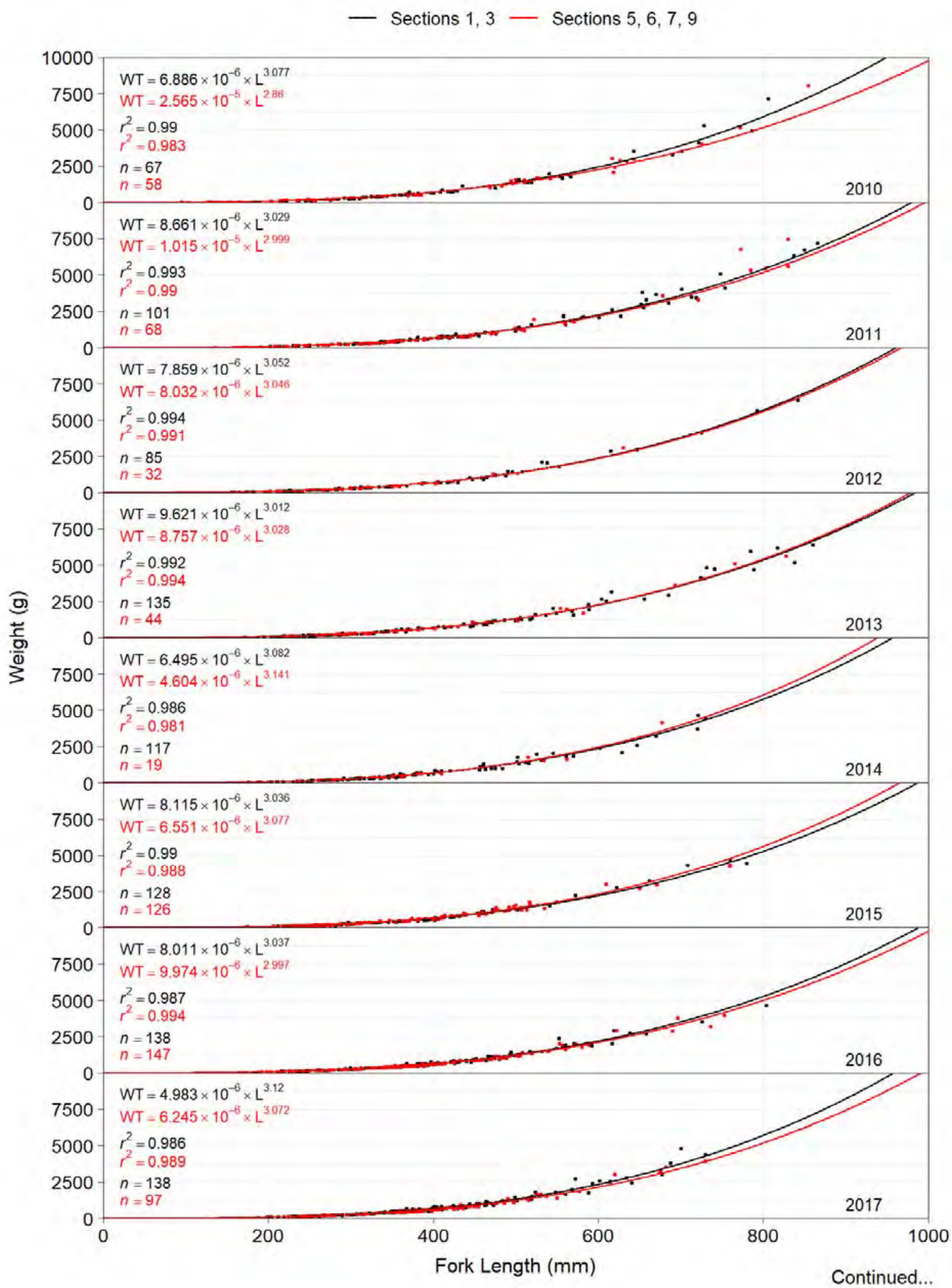
Figure F9: **Length-weight regressions for Bull Trout captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).**



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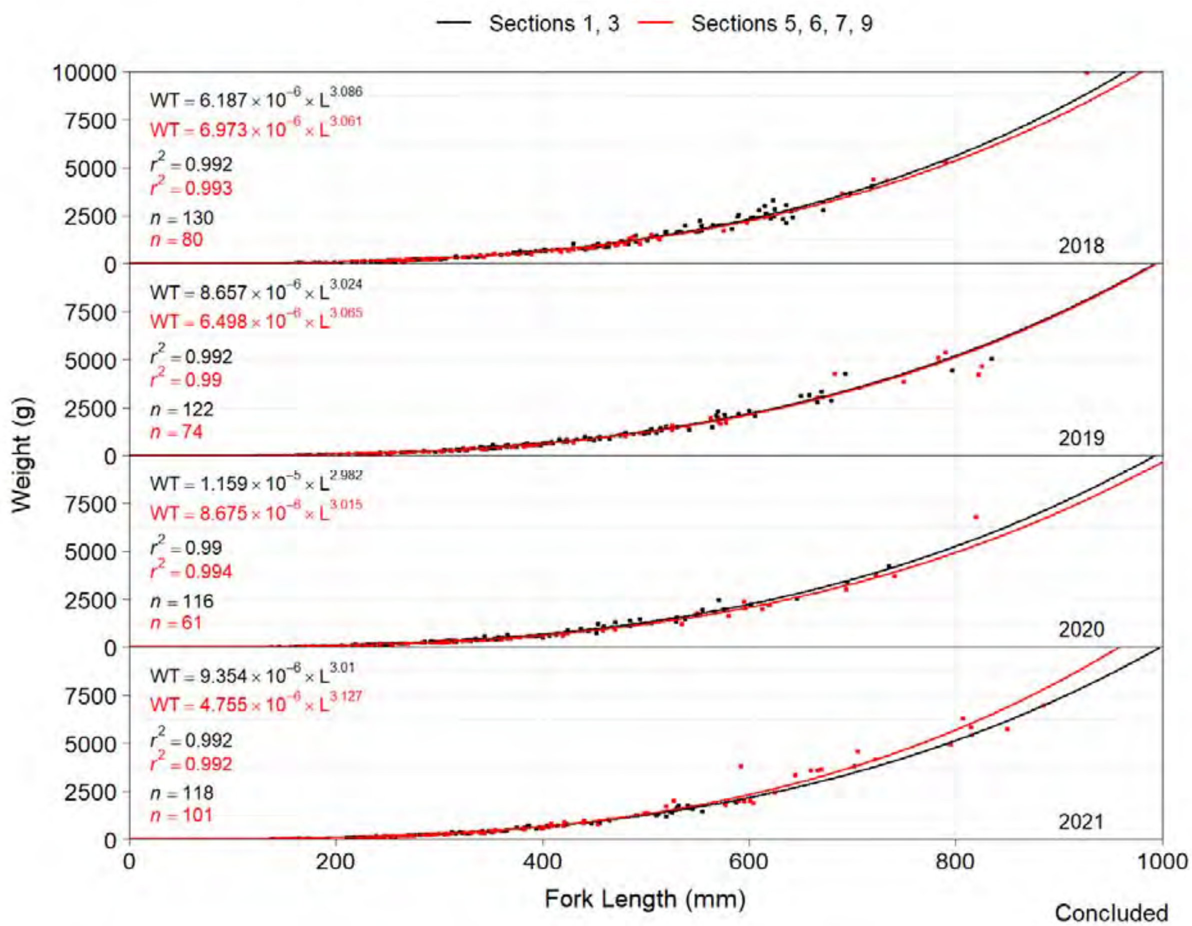

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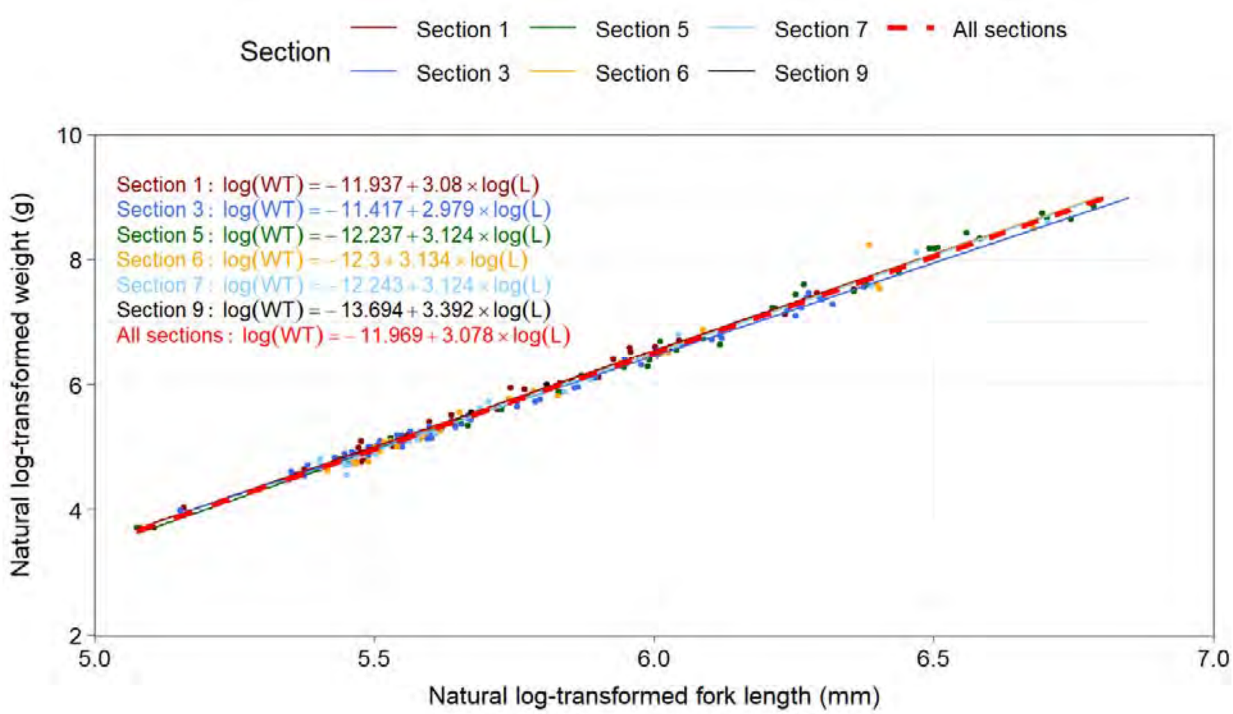

Figure F10: Log-log relationship between weight and fork length for Bull Trout captured by boat electroshocking in sampled sections of the Peace River, 2021.

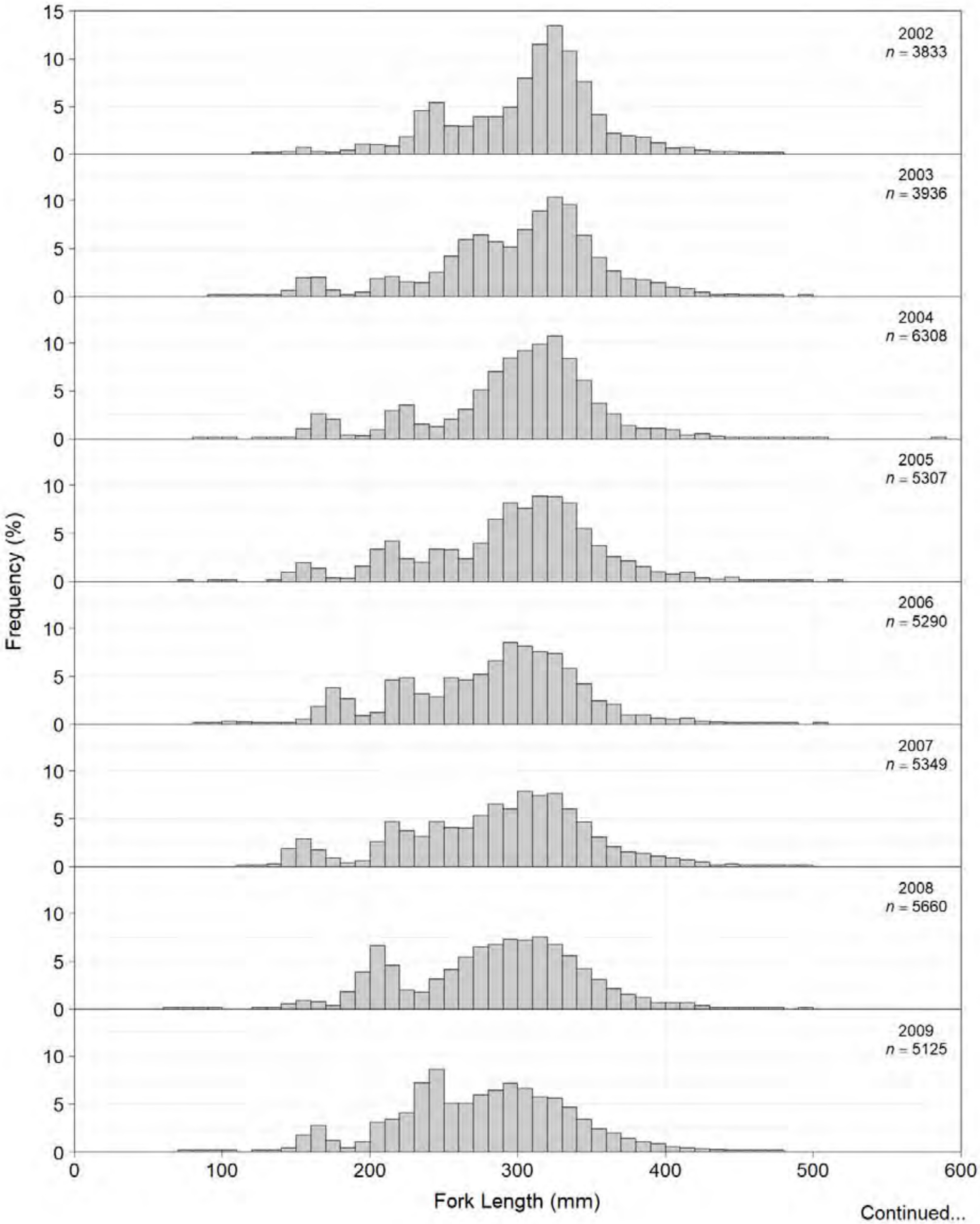

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Figure F11: Length-frequency distributions by year for Mountain Whitefish captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

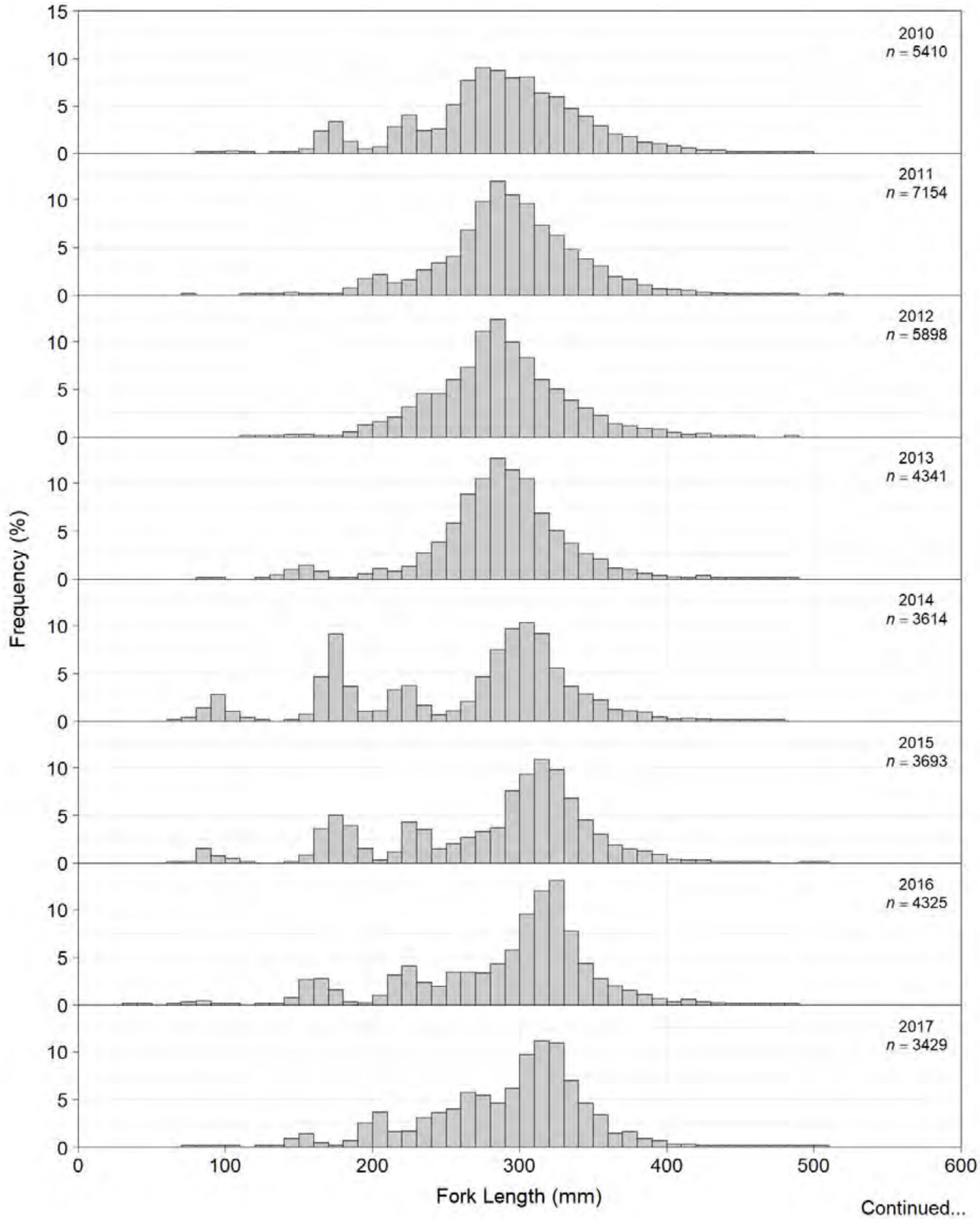

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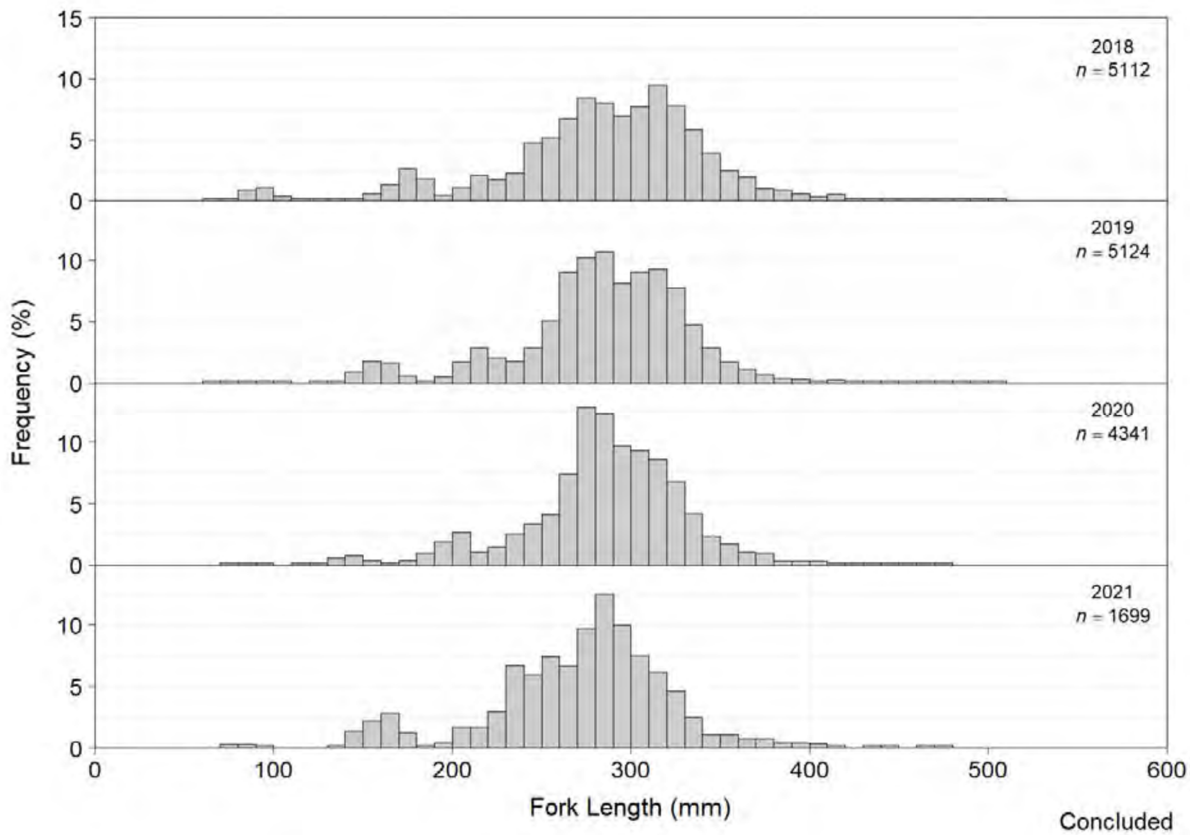
Figure F11: Continued.



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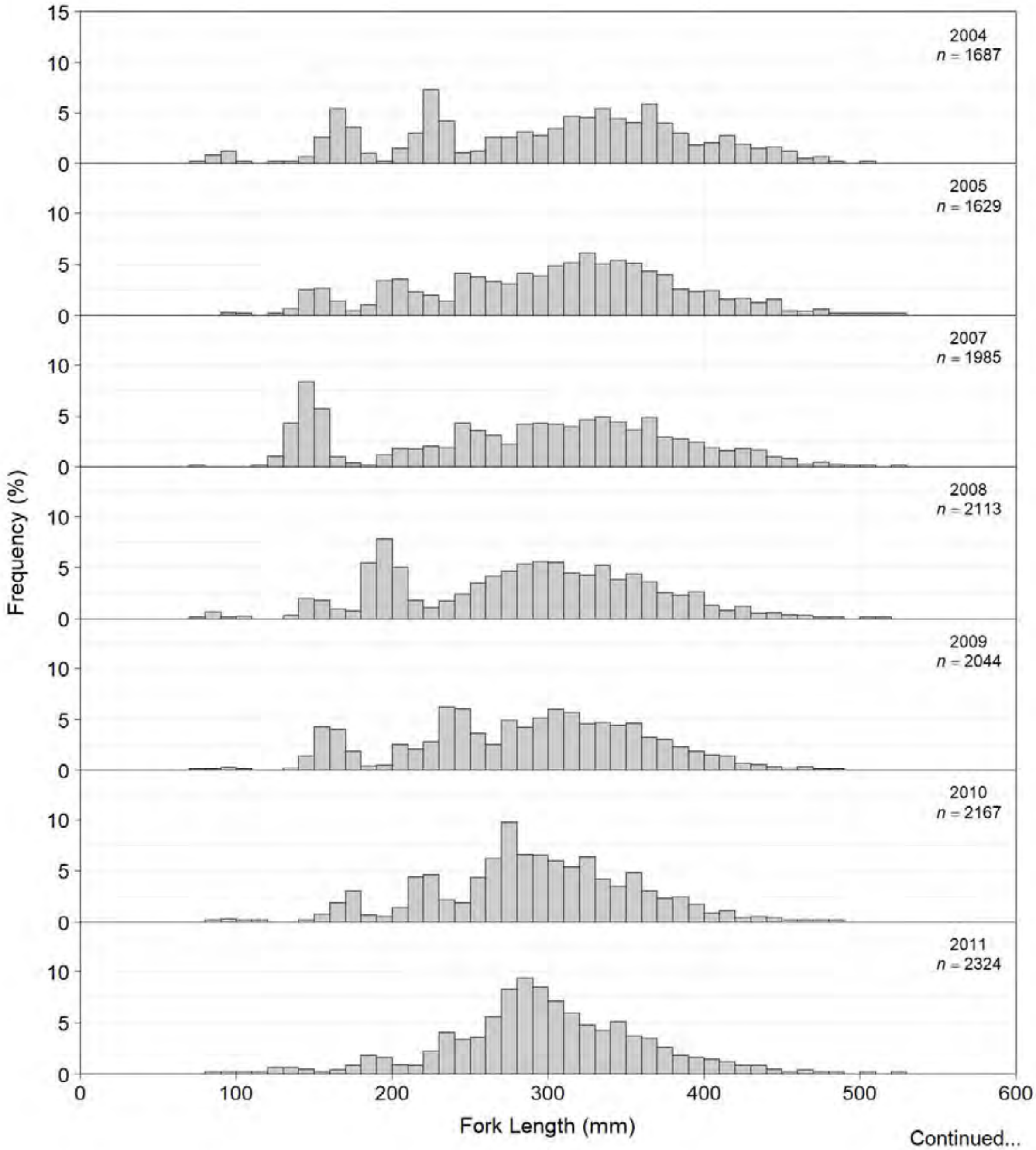

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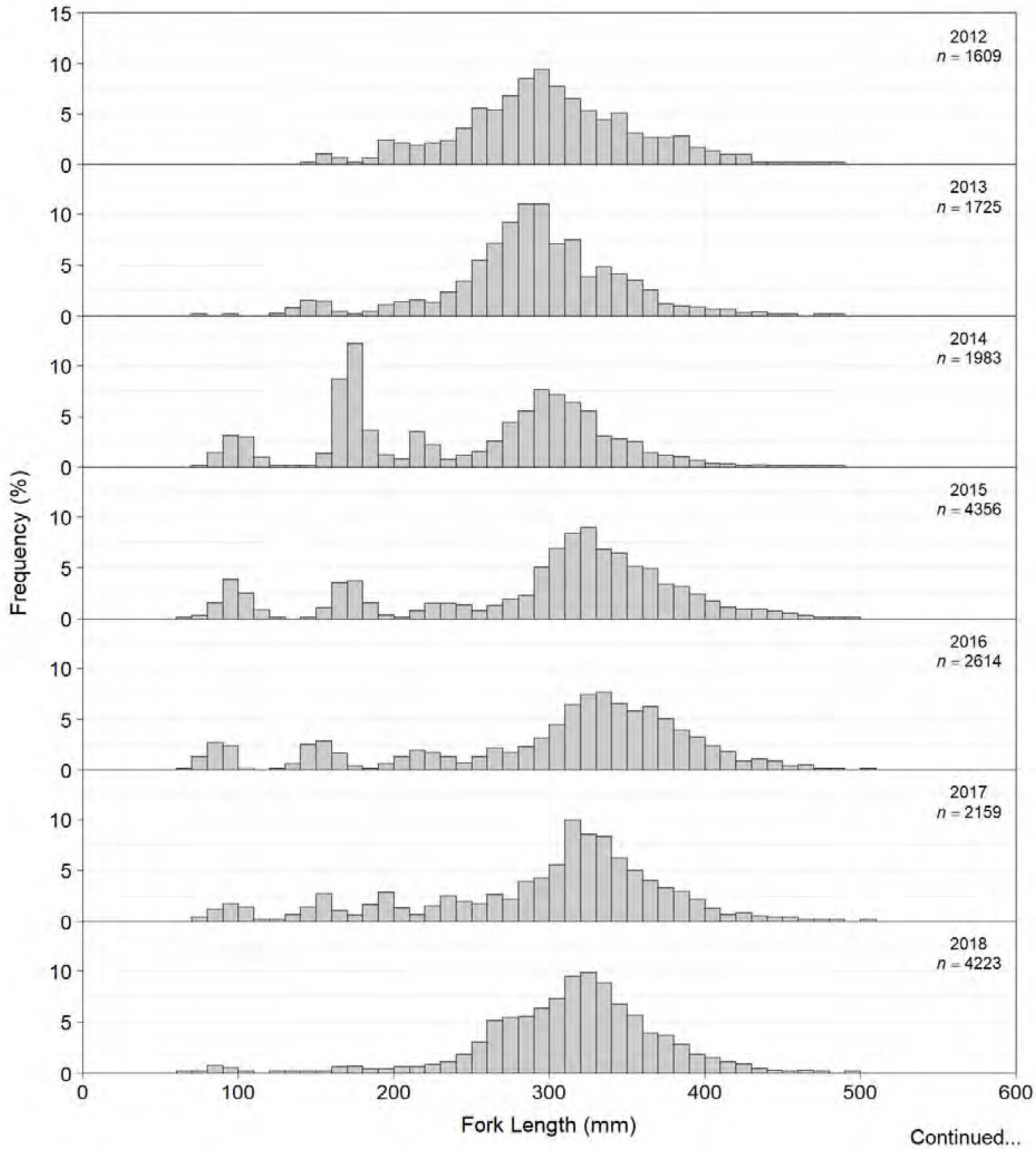
Figure F12: Length-frequency distributions by year for Mountain Whitefish captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.



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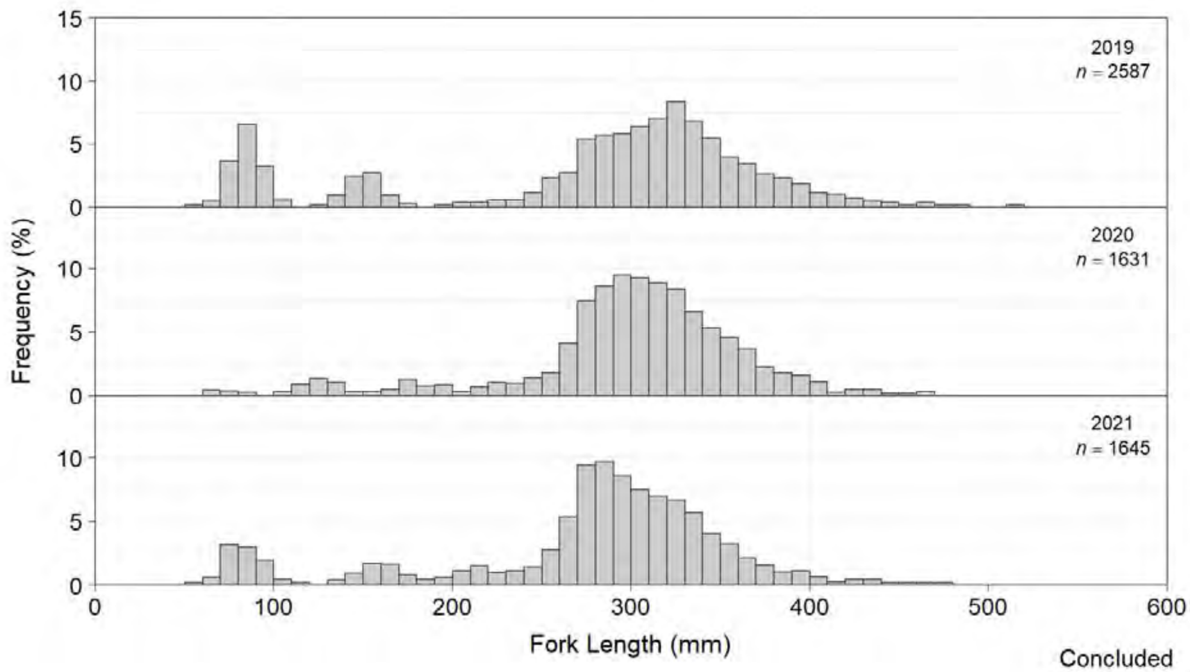

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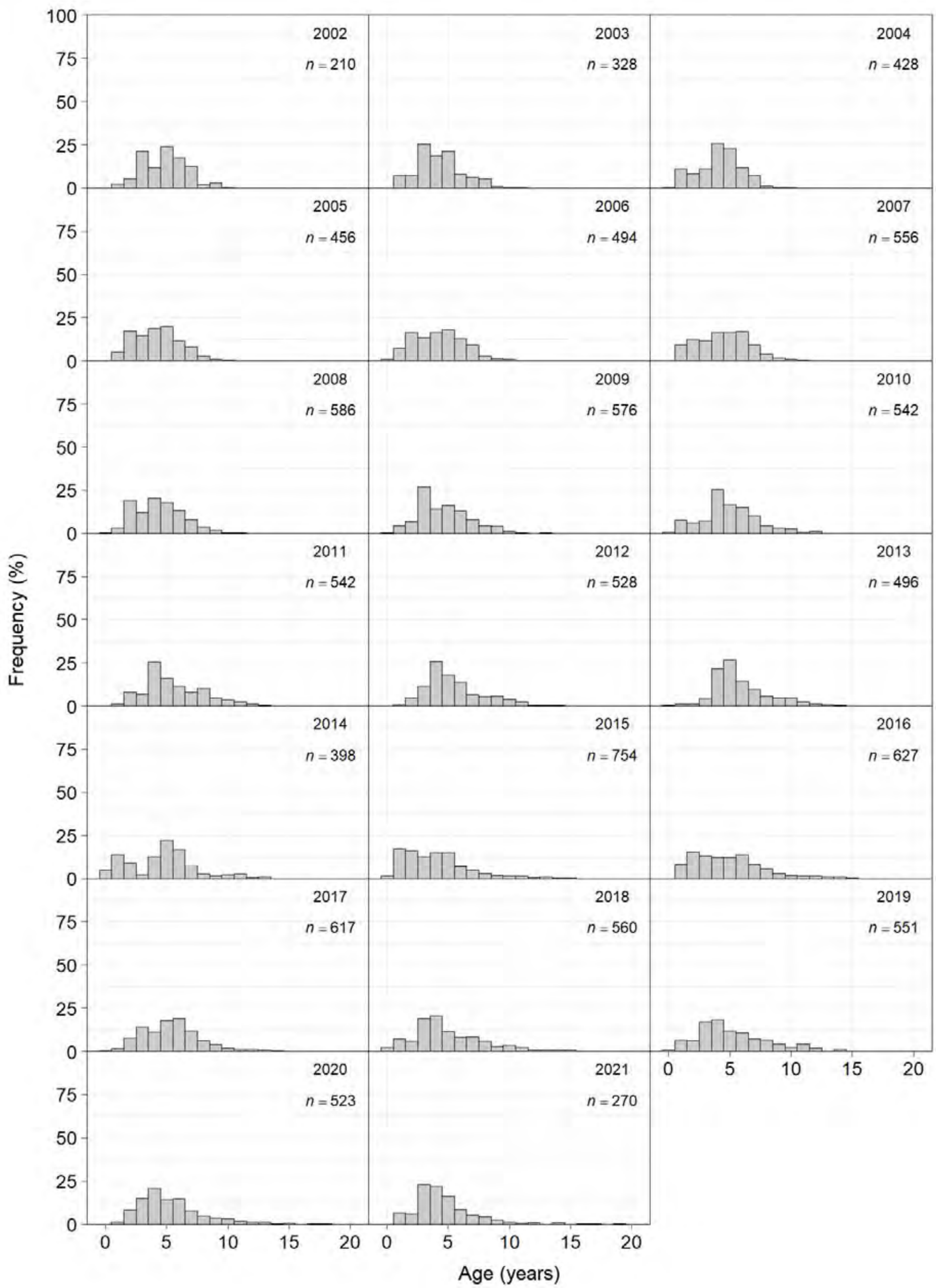

Figure F13: Age-frequency distributions by year for Mountain Whitefish captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

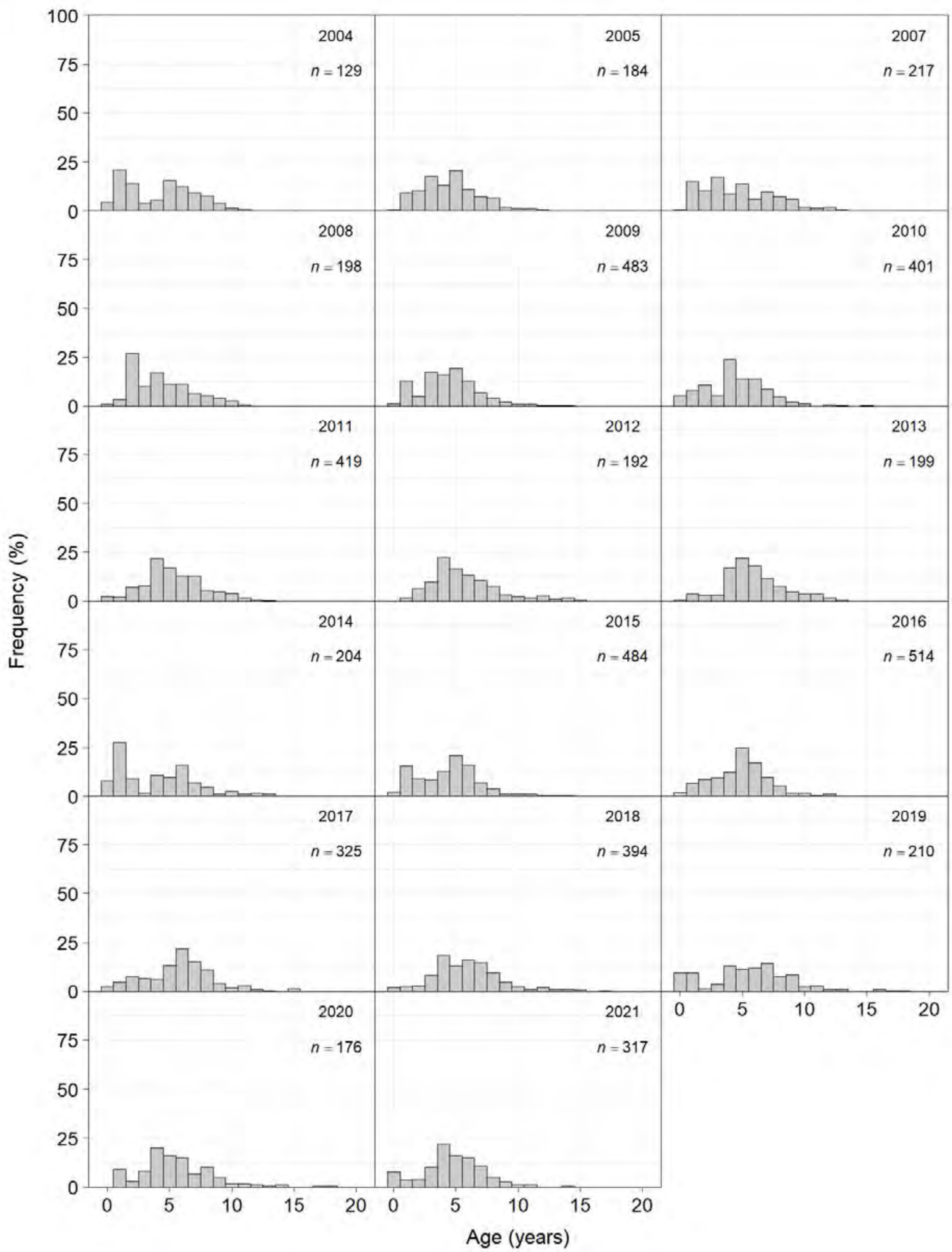

Figure F14: Age-frequency distributions by year for Mountain Whitefish captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

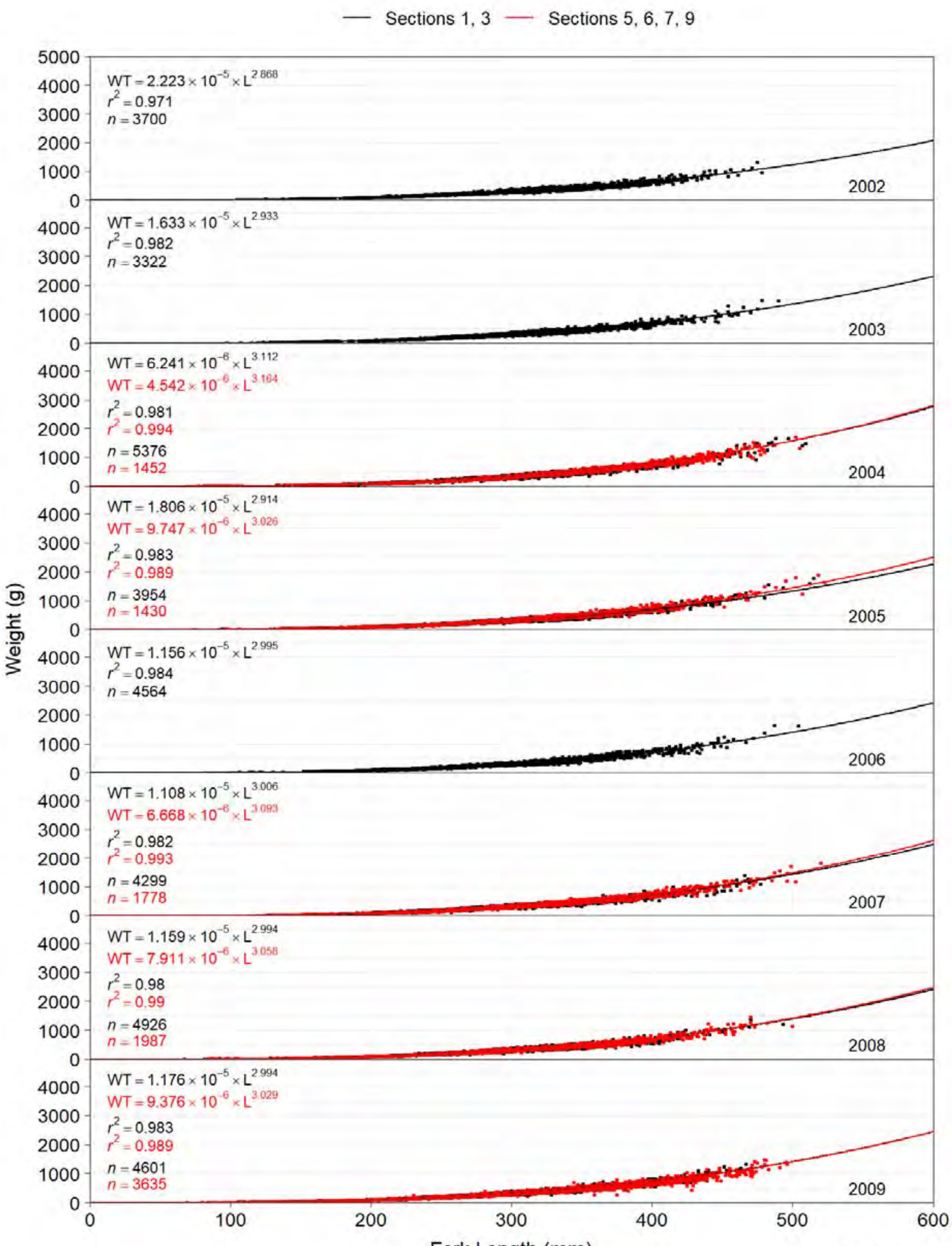

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Figure F15: Length-weight regressions for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).

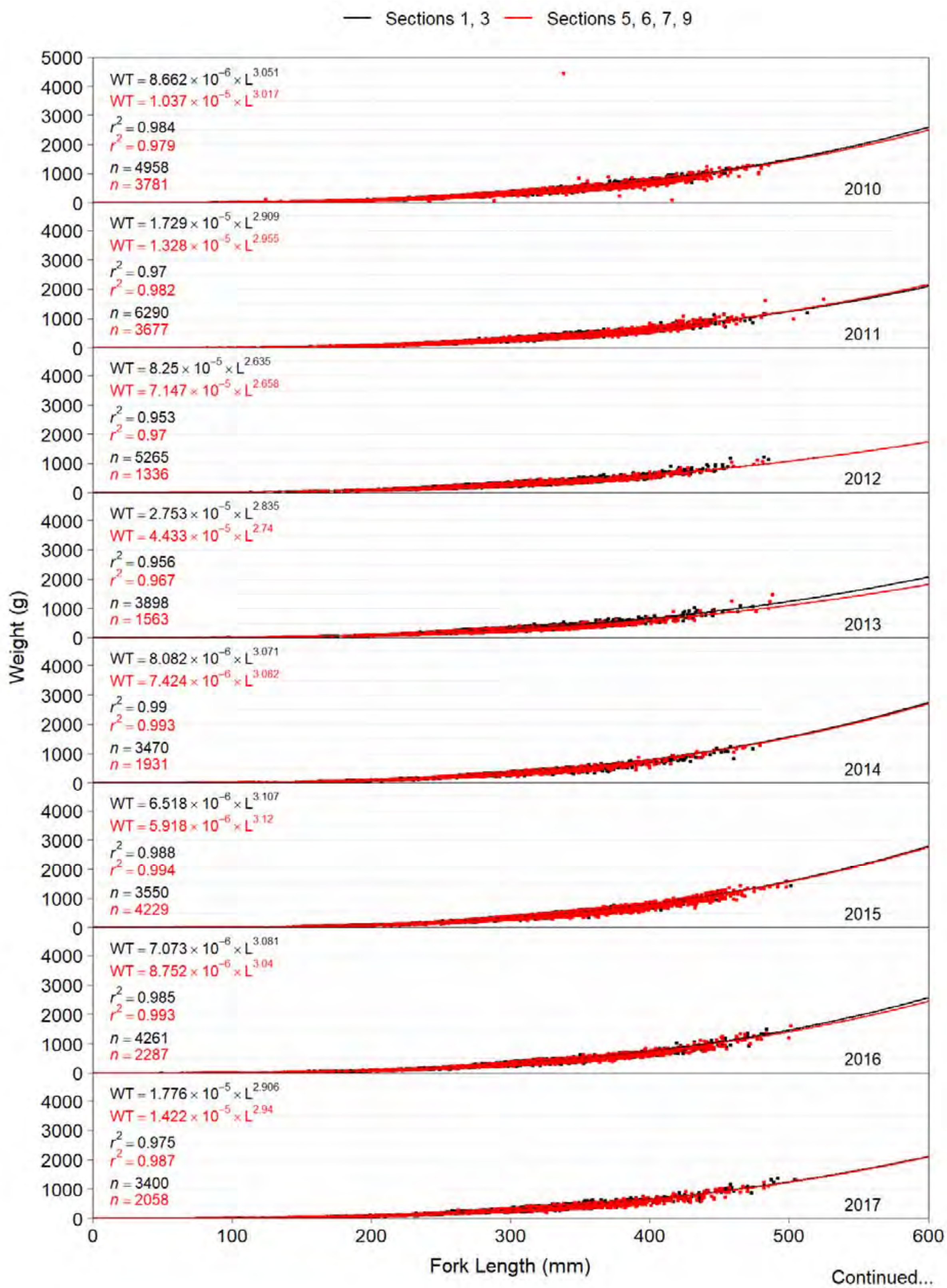

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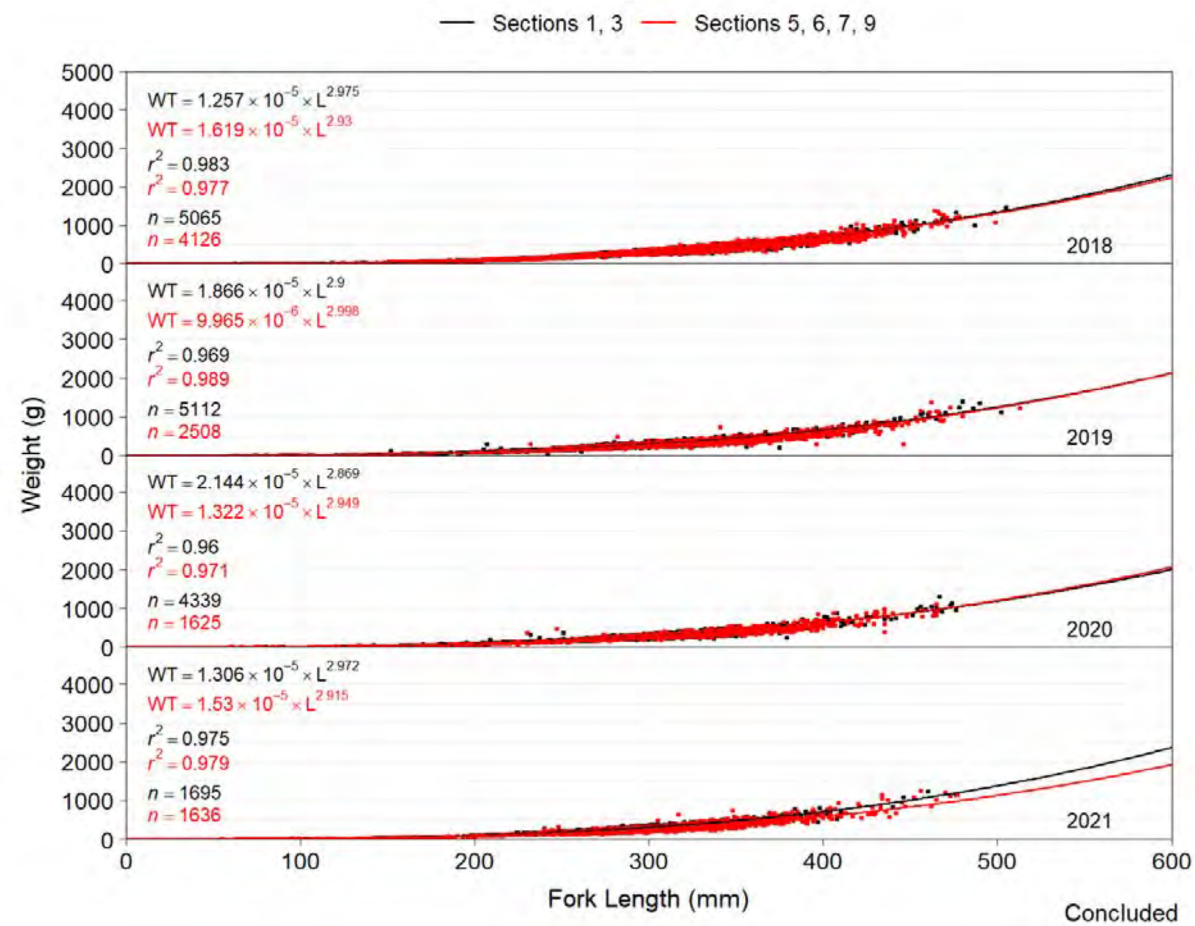
Figure F15: Continued.



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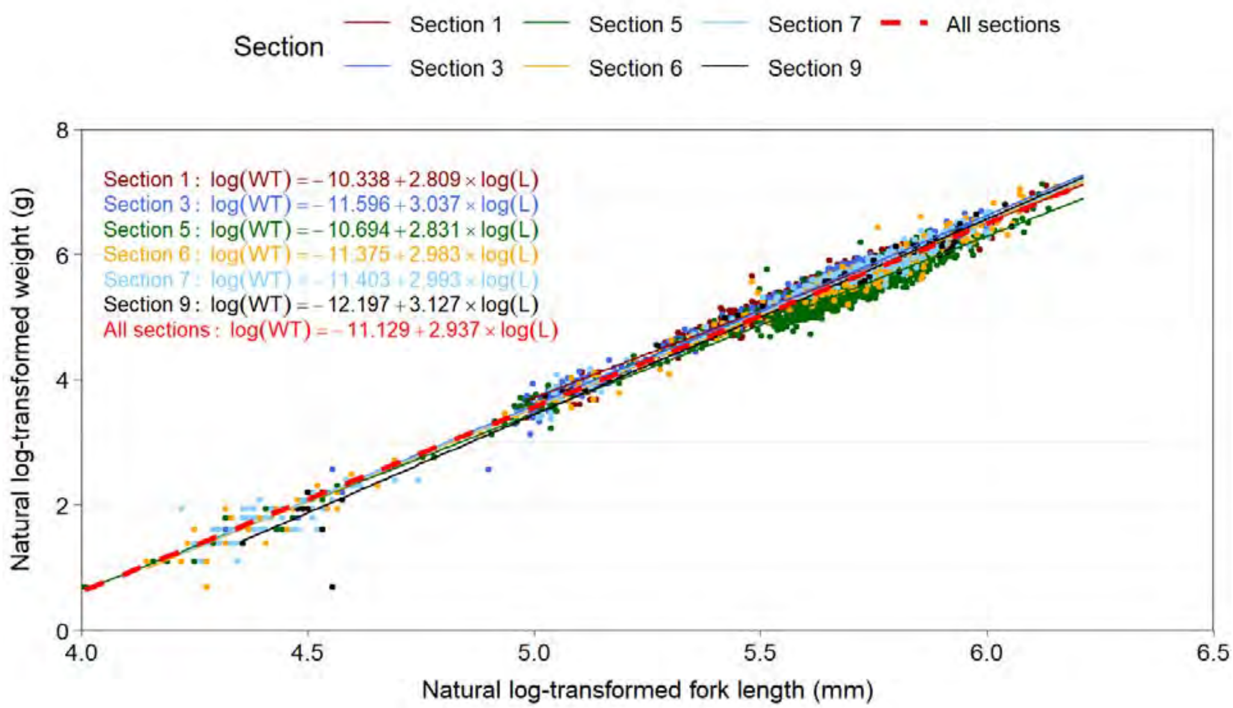

Figure F16: Log-log relationship between weight and fork length for Mountain Whitefish captured by boat electroshocking in sampled sections of the Peace River, 2021.

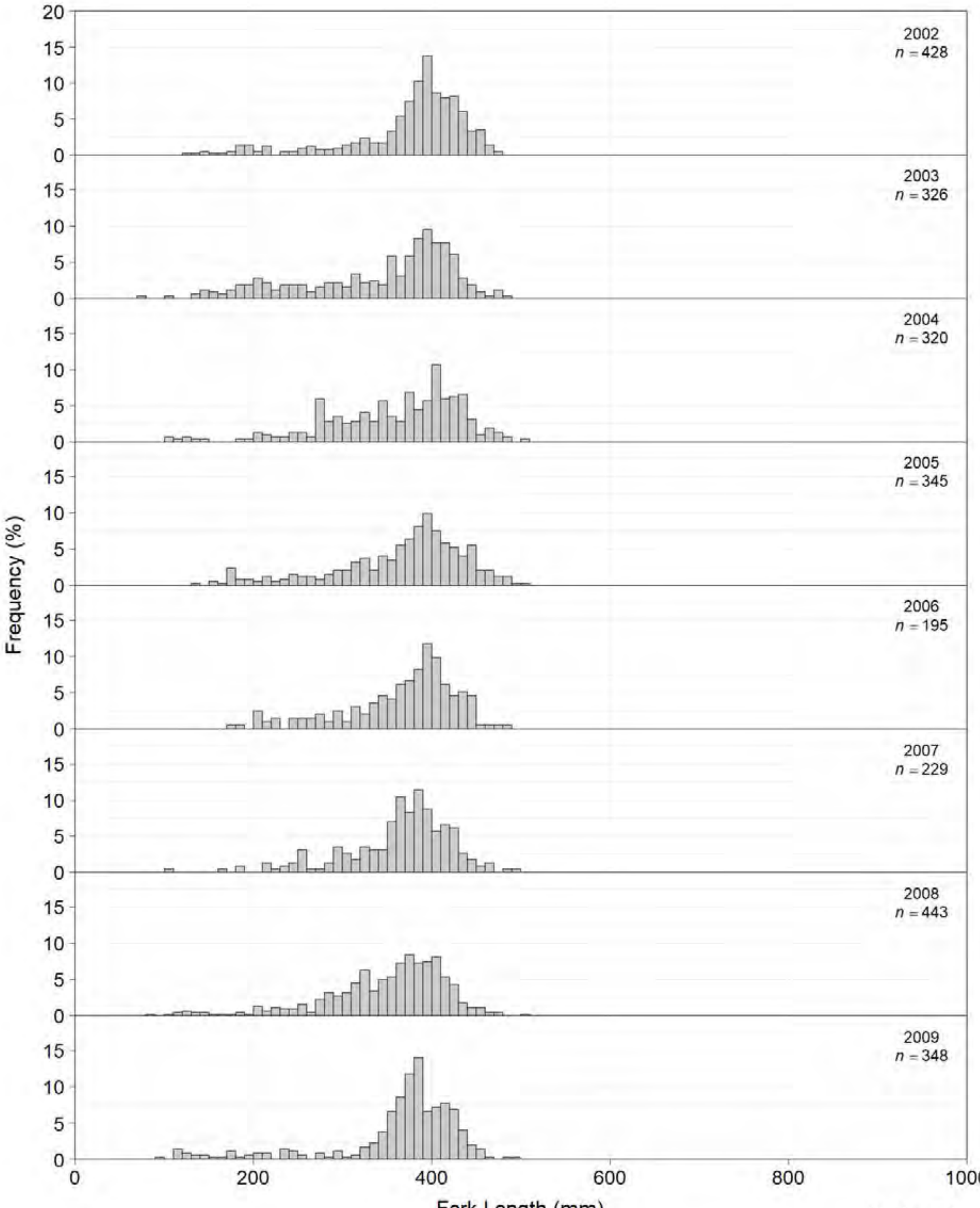

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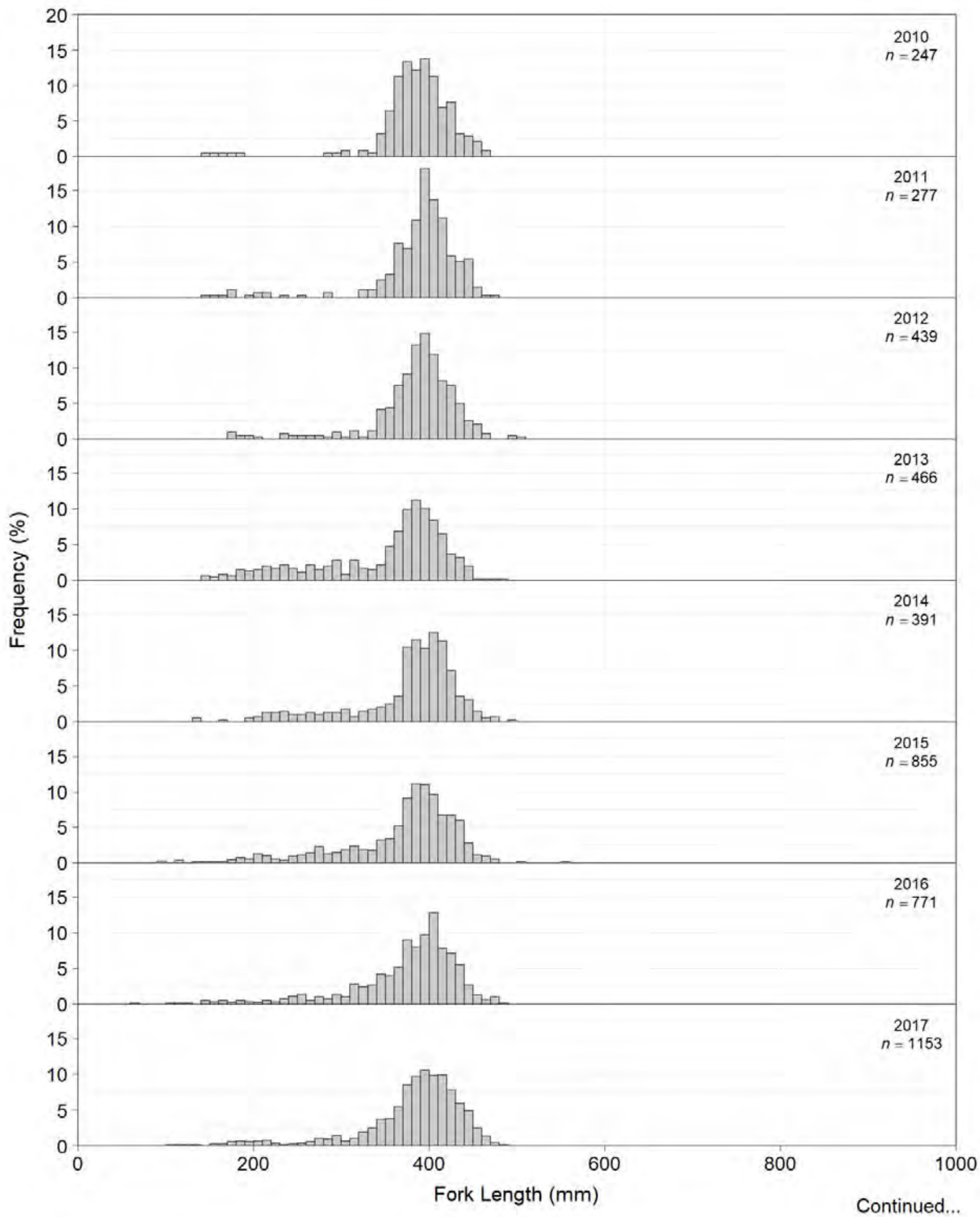
Figure F17: Length-frequency distributions by year for Longnose Sucker captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.



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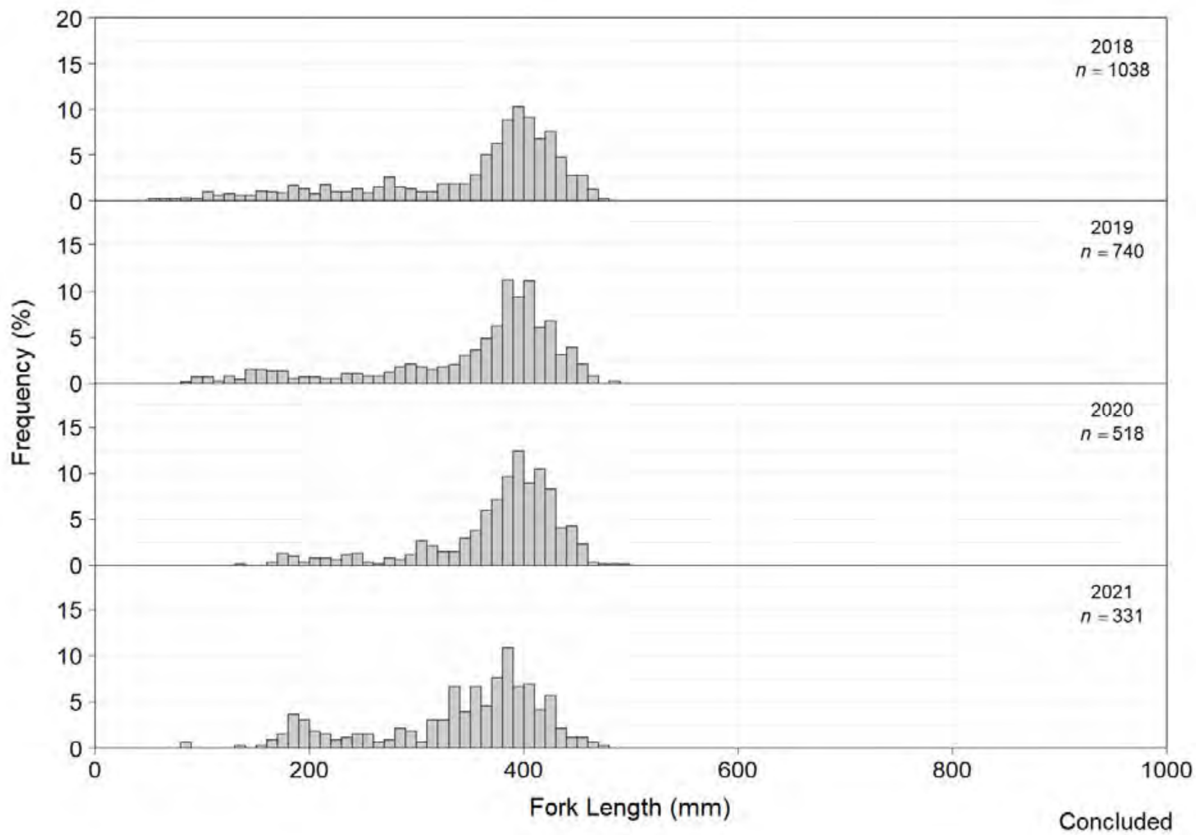

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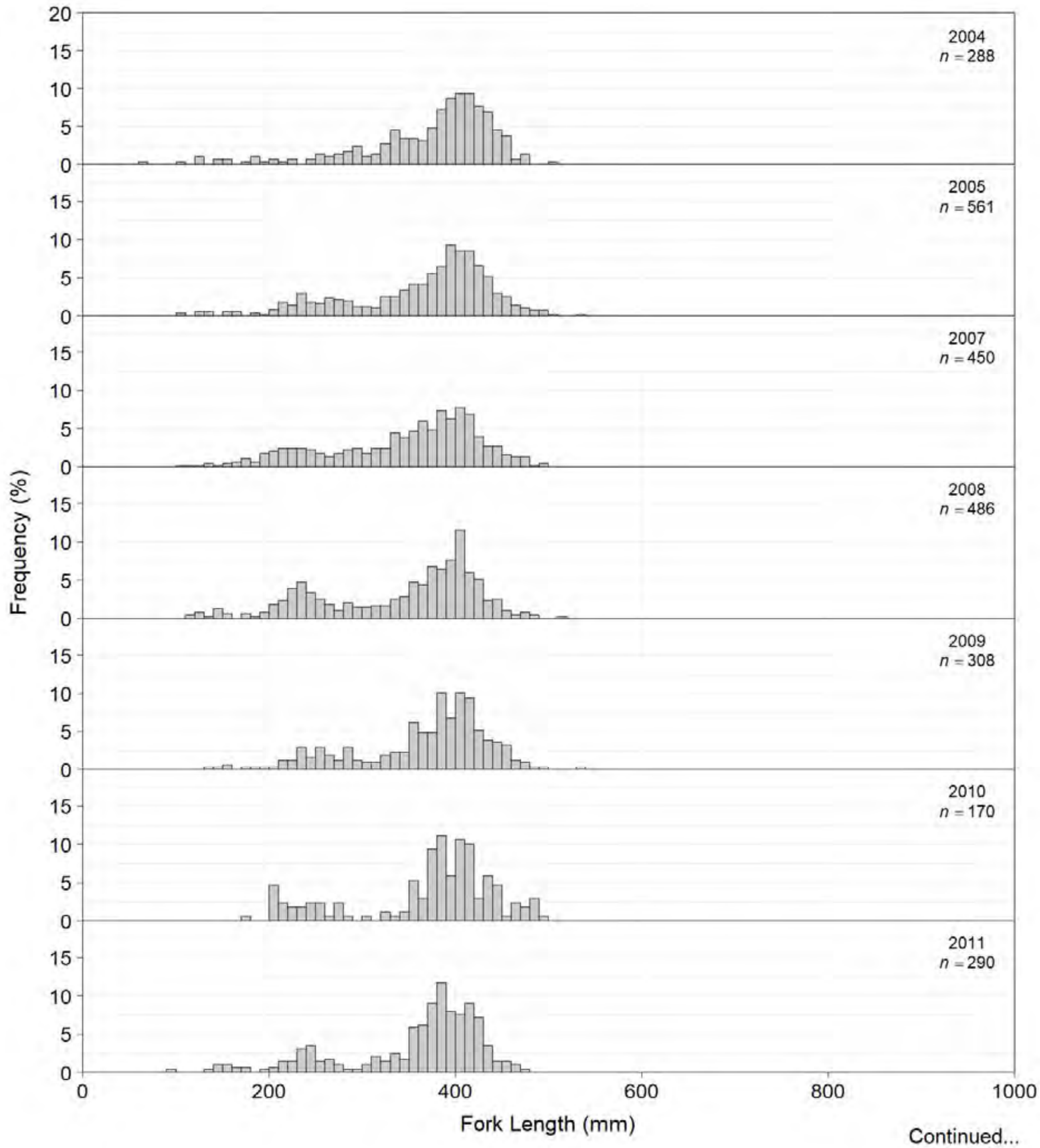


Figure F18: Length-frequency distributions by year for Longnose Sucker captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

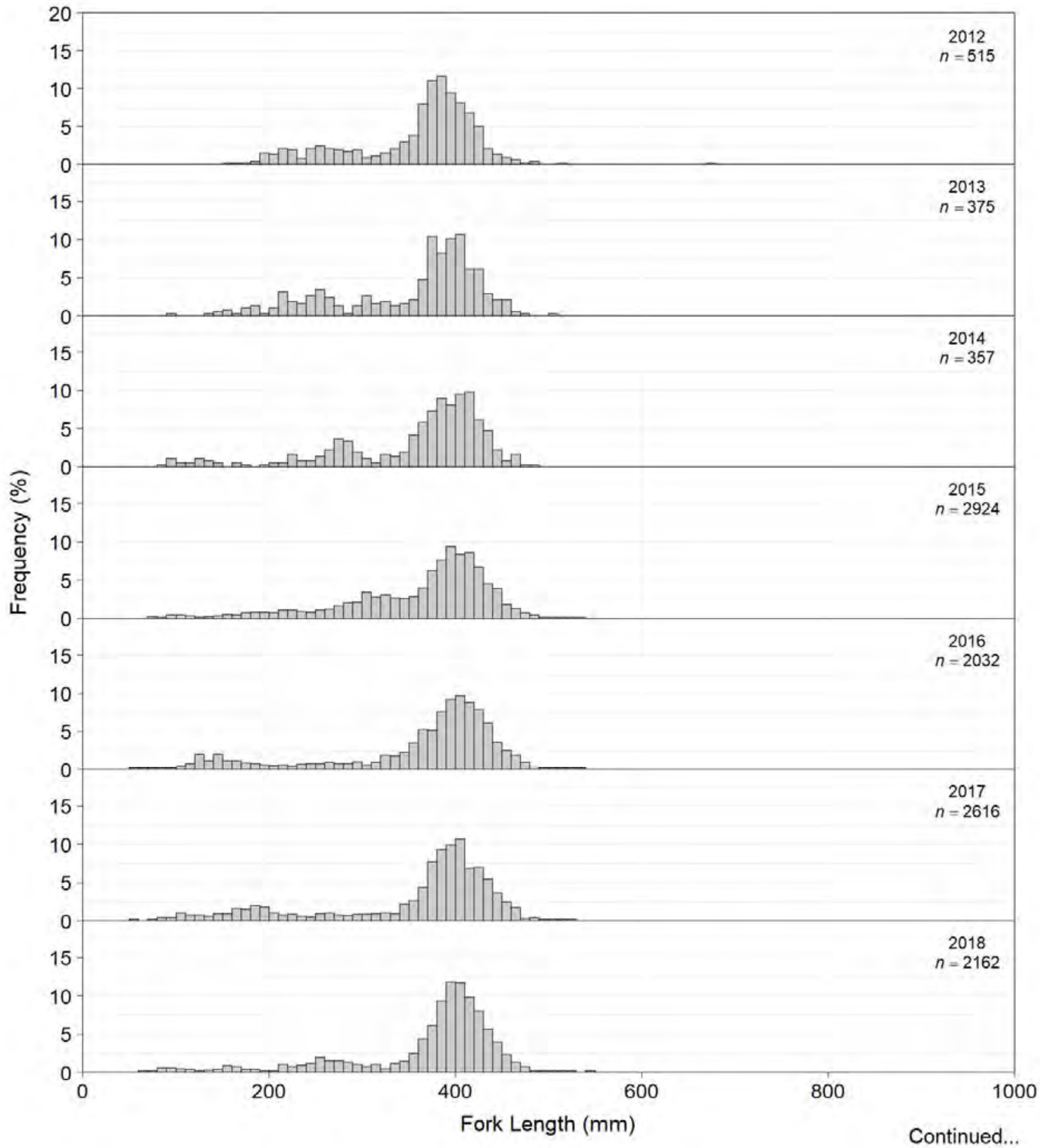
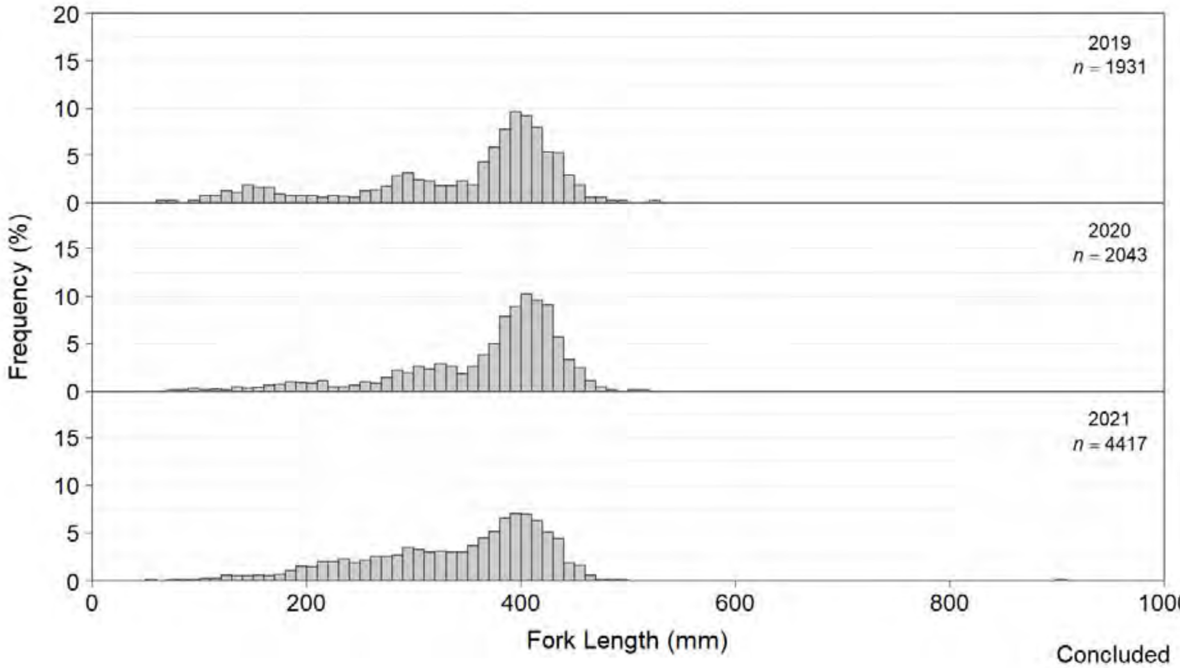


Figure F18: **Continued.**



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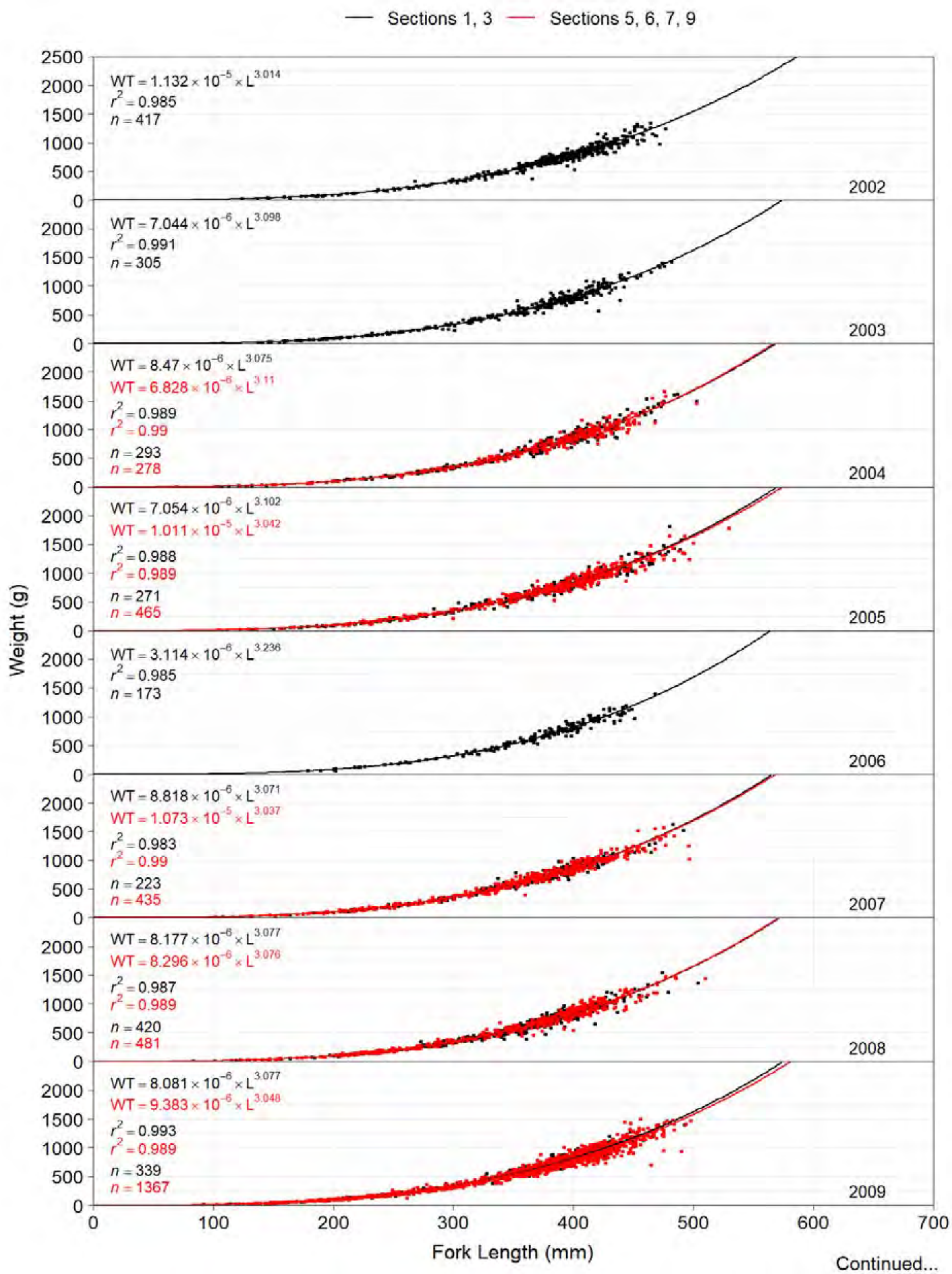
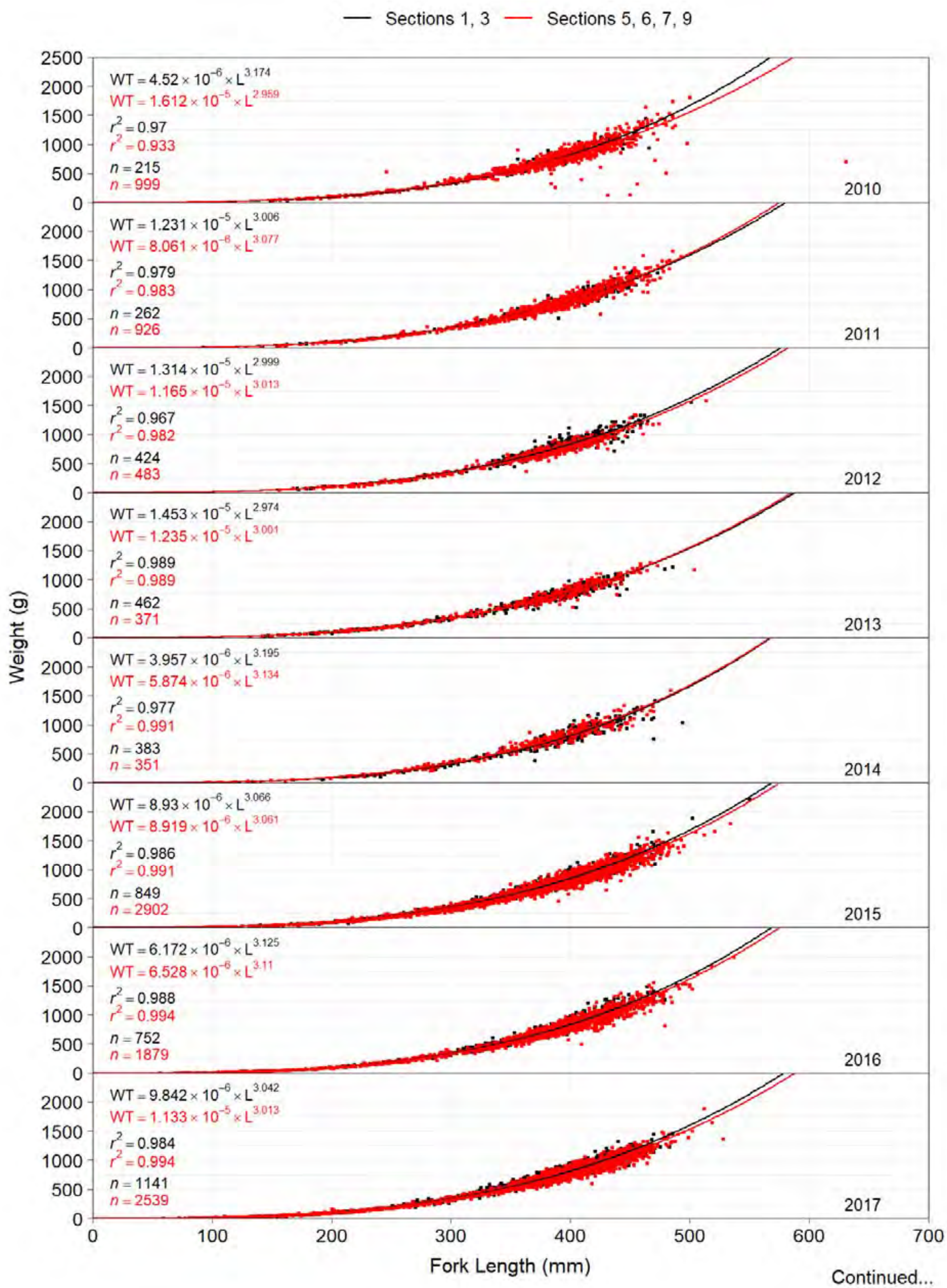


Figure F19: Length-weight regressions for Longnose Sucker captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).



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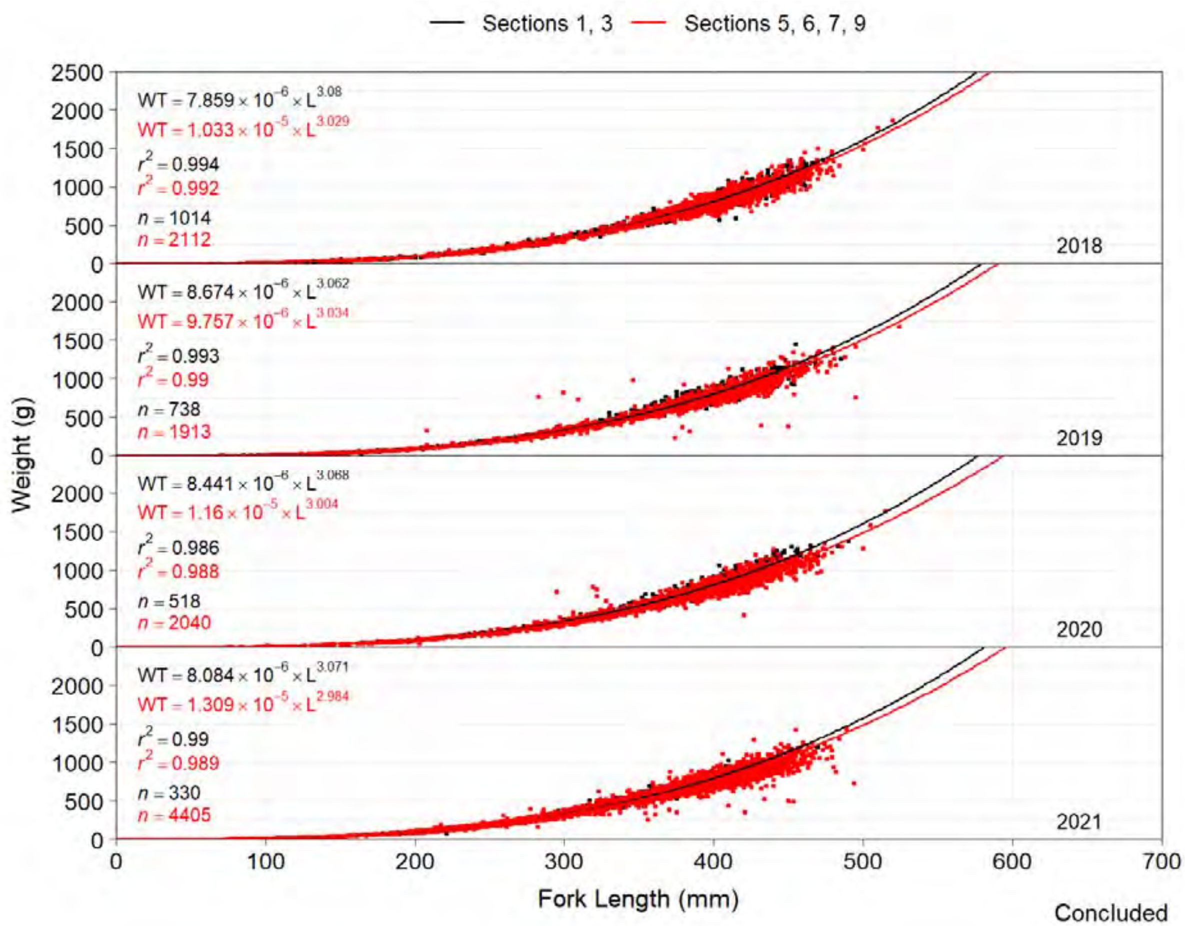

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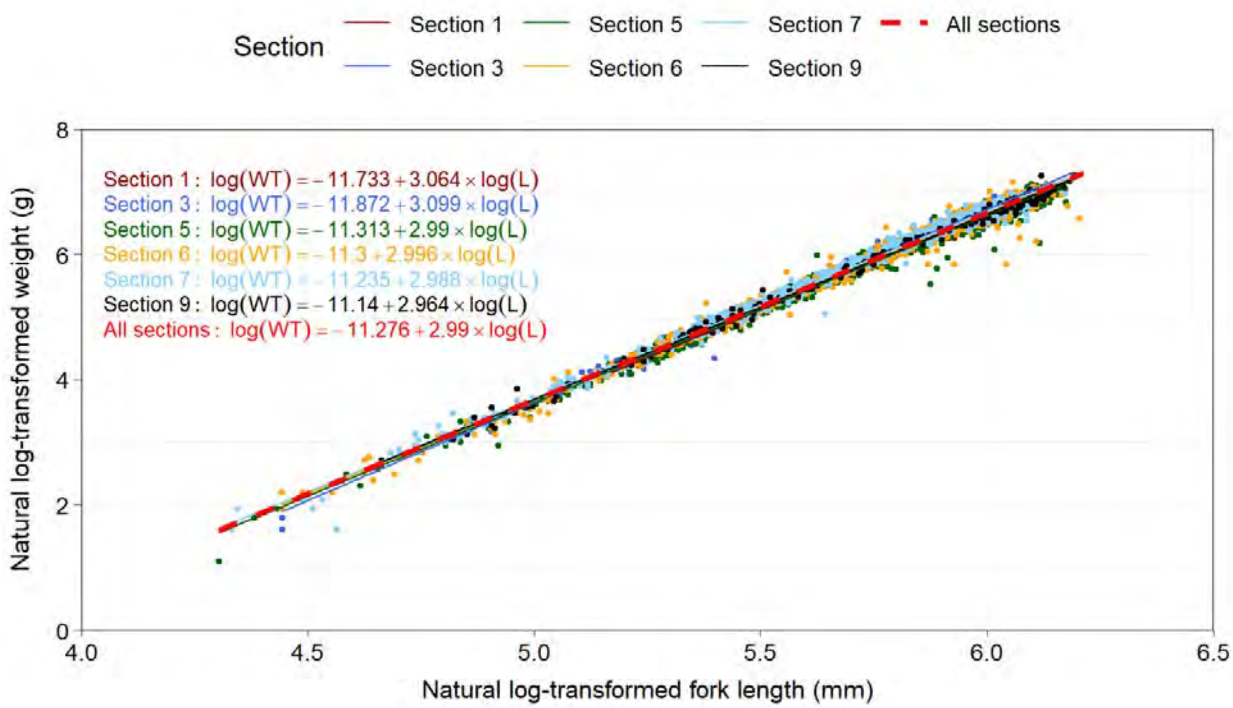

Figure F20: Log-log relationship between weight and fork length for Longnose Sucker captured by boat electroshocking in sampled sections of the Peace River, 2021.

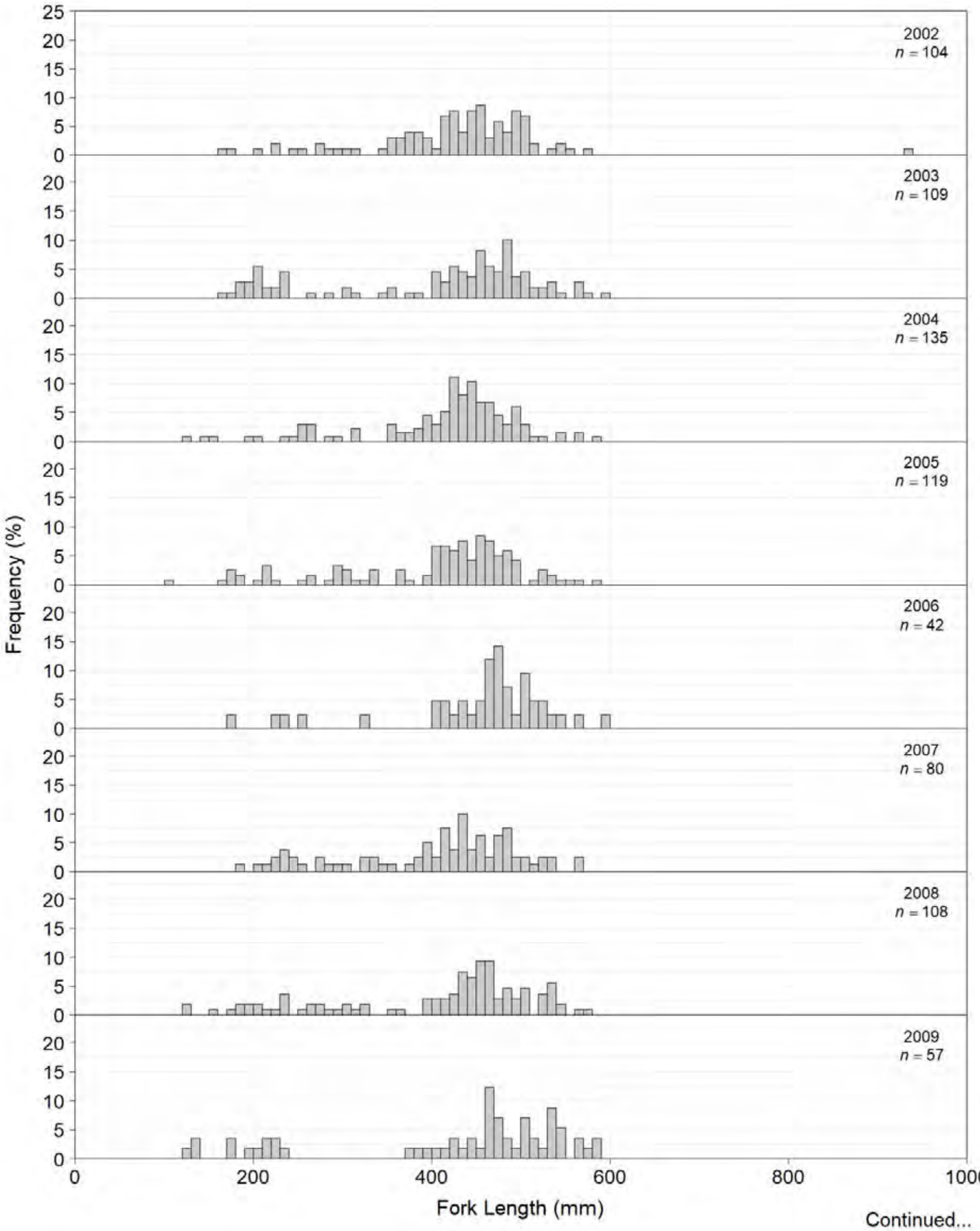

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Figure F21: Length-frequency distributions by year for Largescale Sucker captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

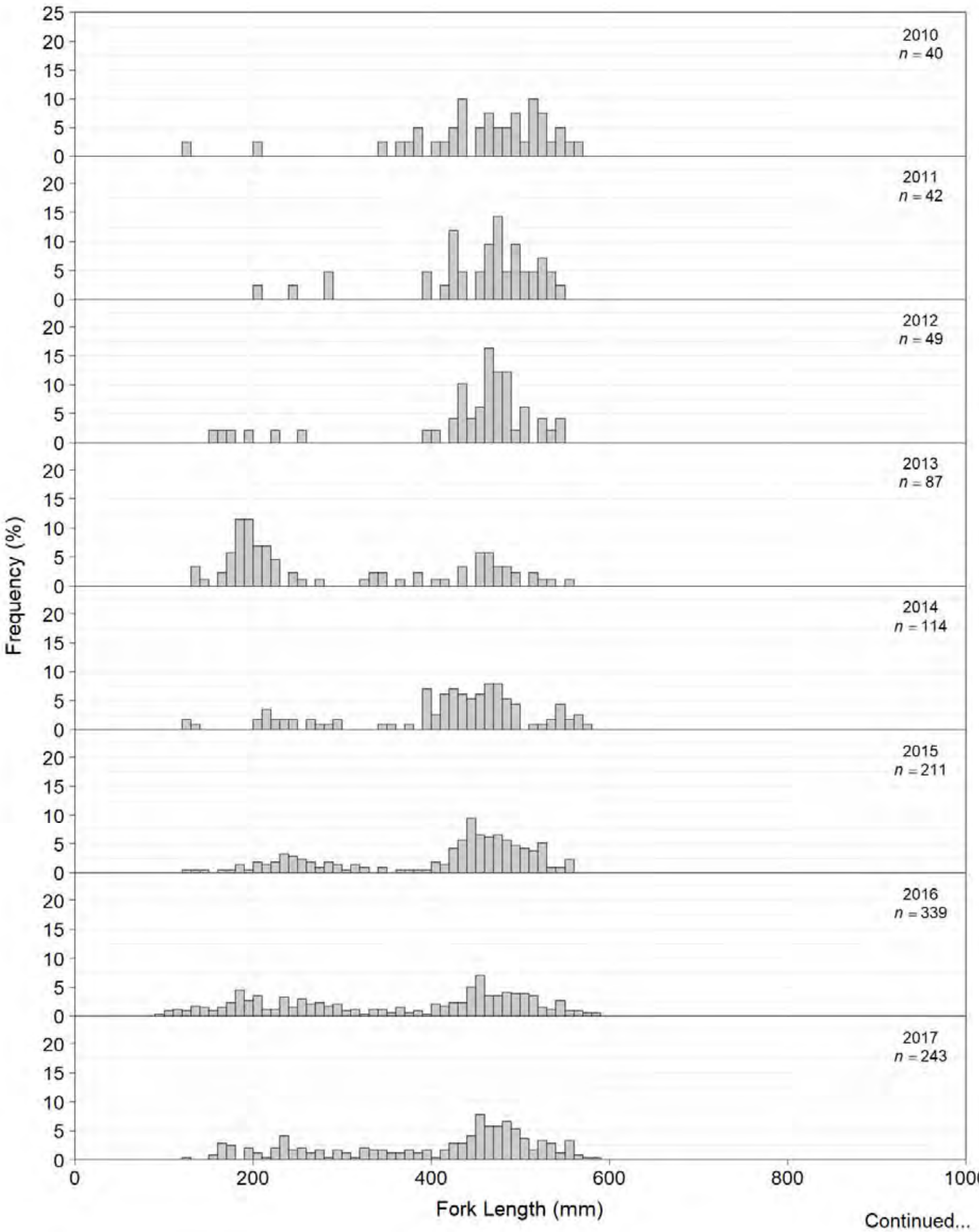

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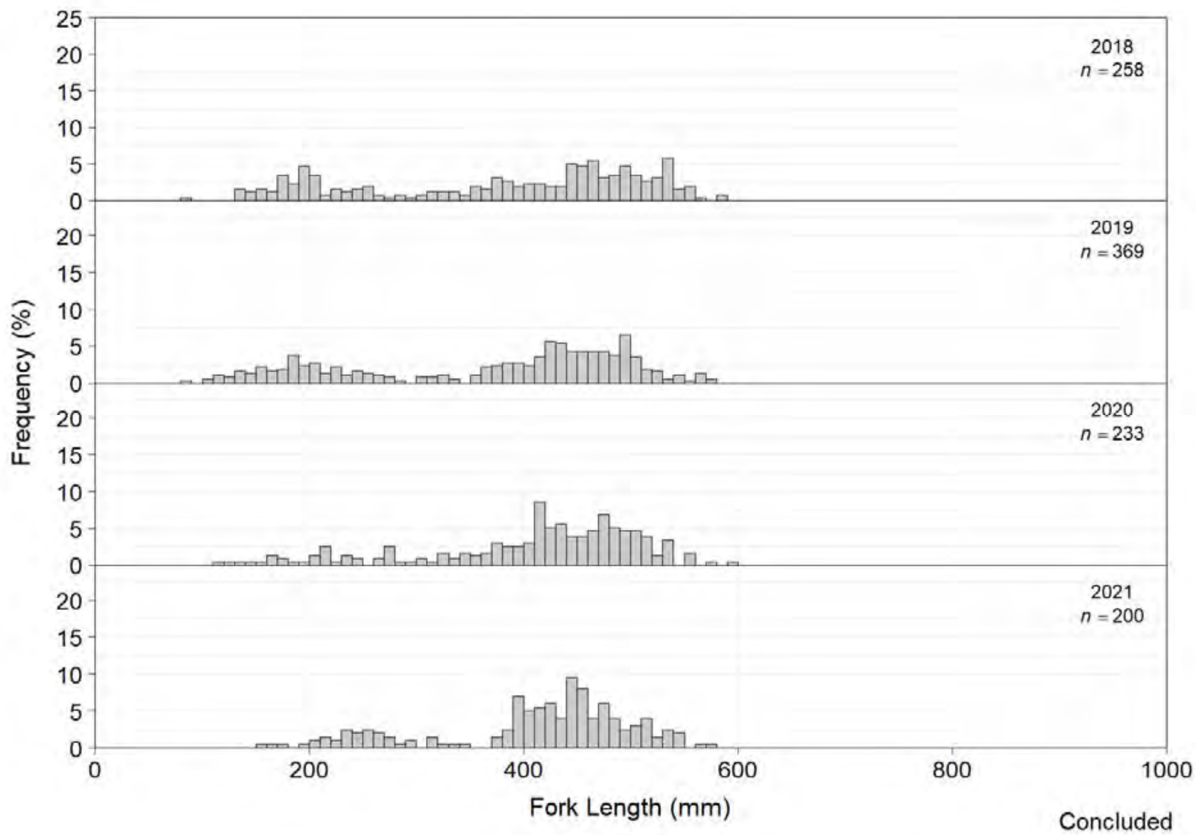
Figure F21: Continued.



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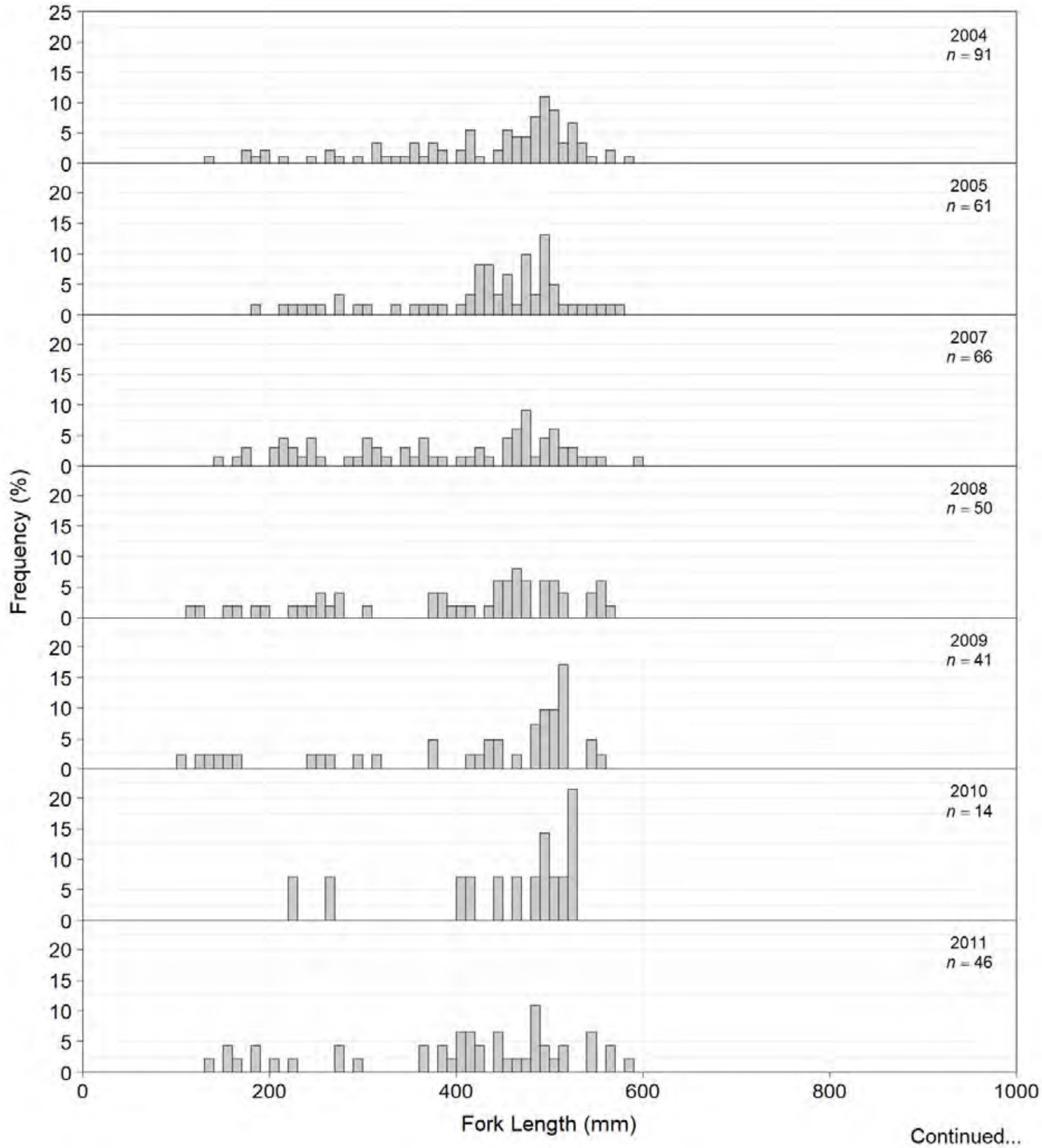

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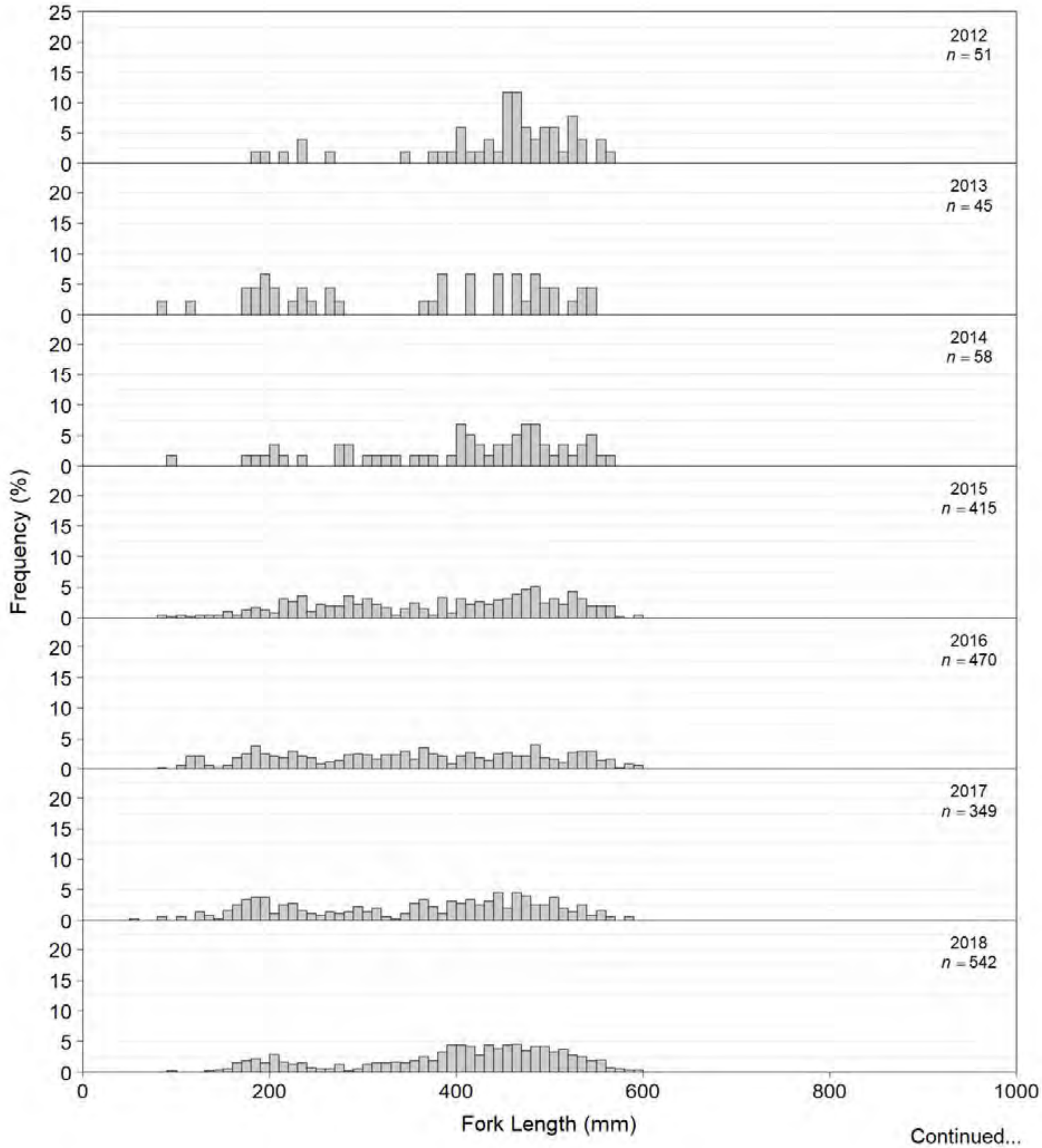
Figure F22: Length-frequency distributions by year for Largescale Sucker captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.



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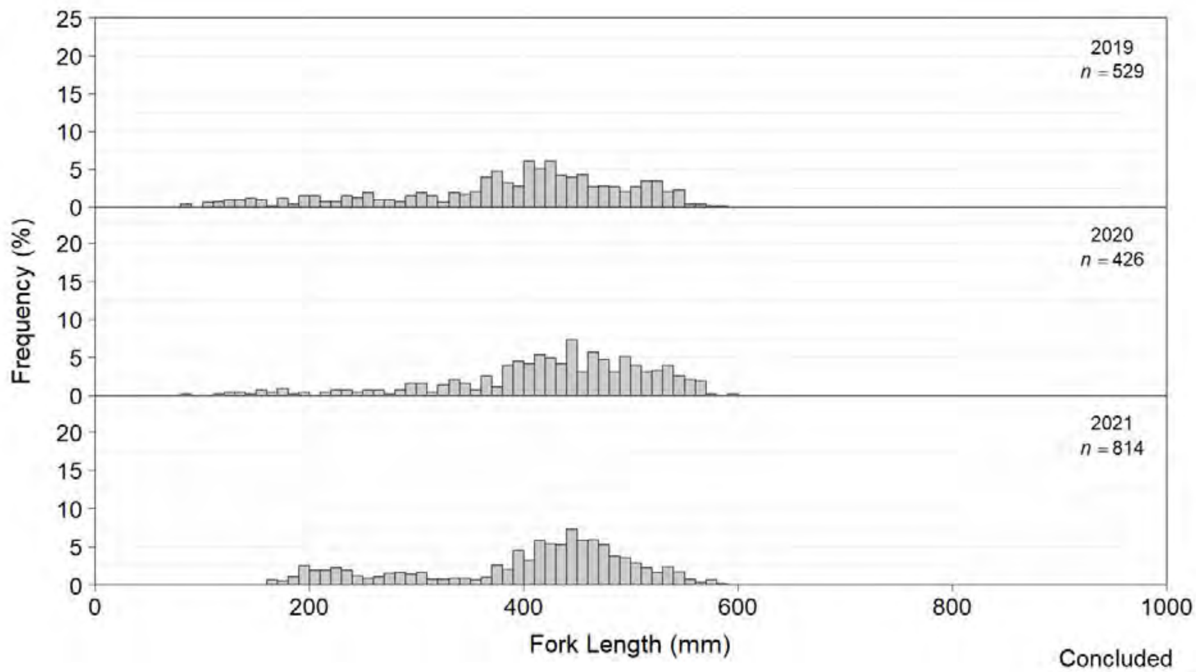

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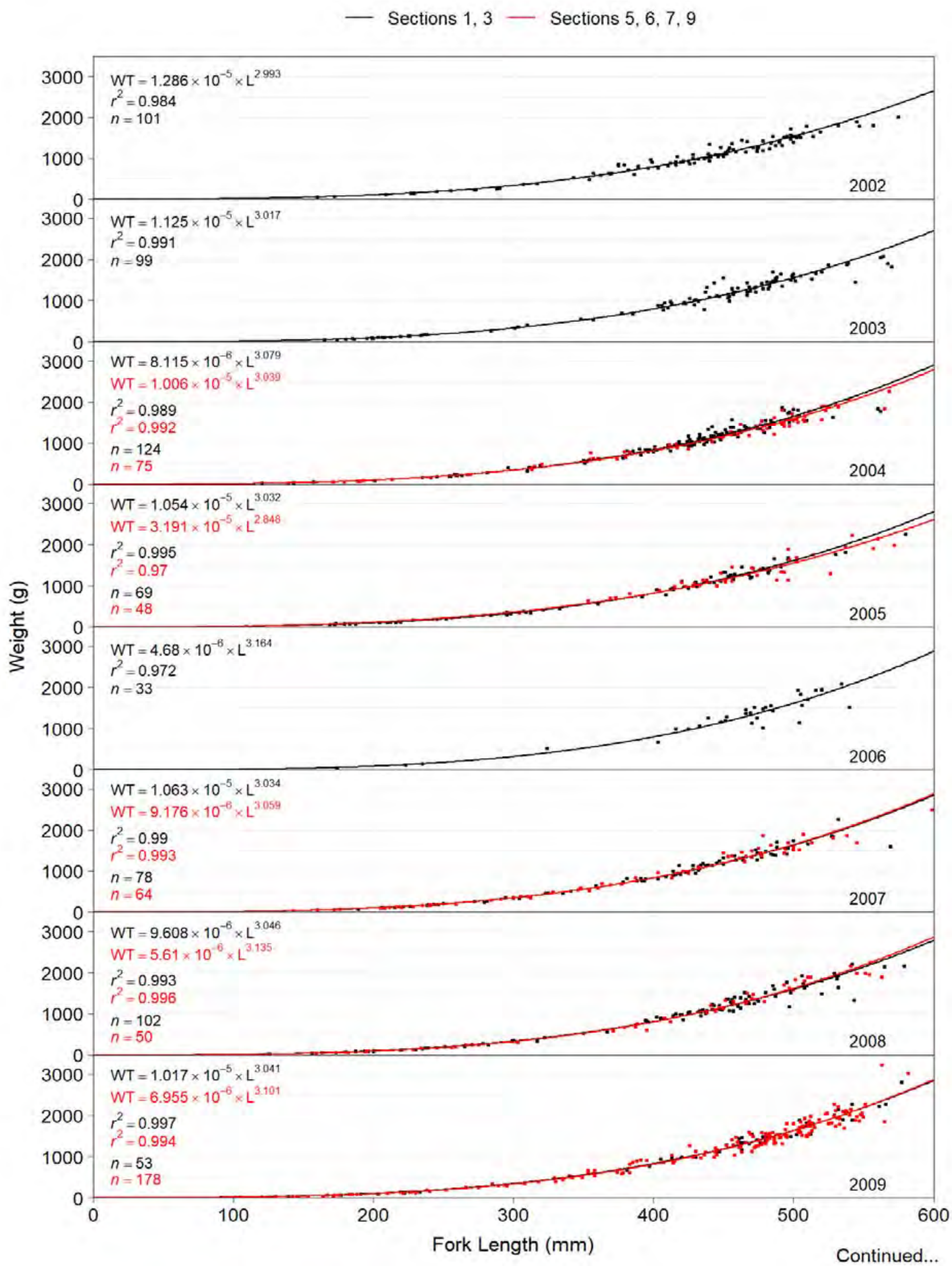

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Figure F23: Length-weight regressions for Largescale Sucker captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).

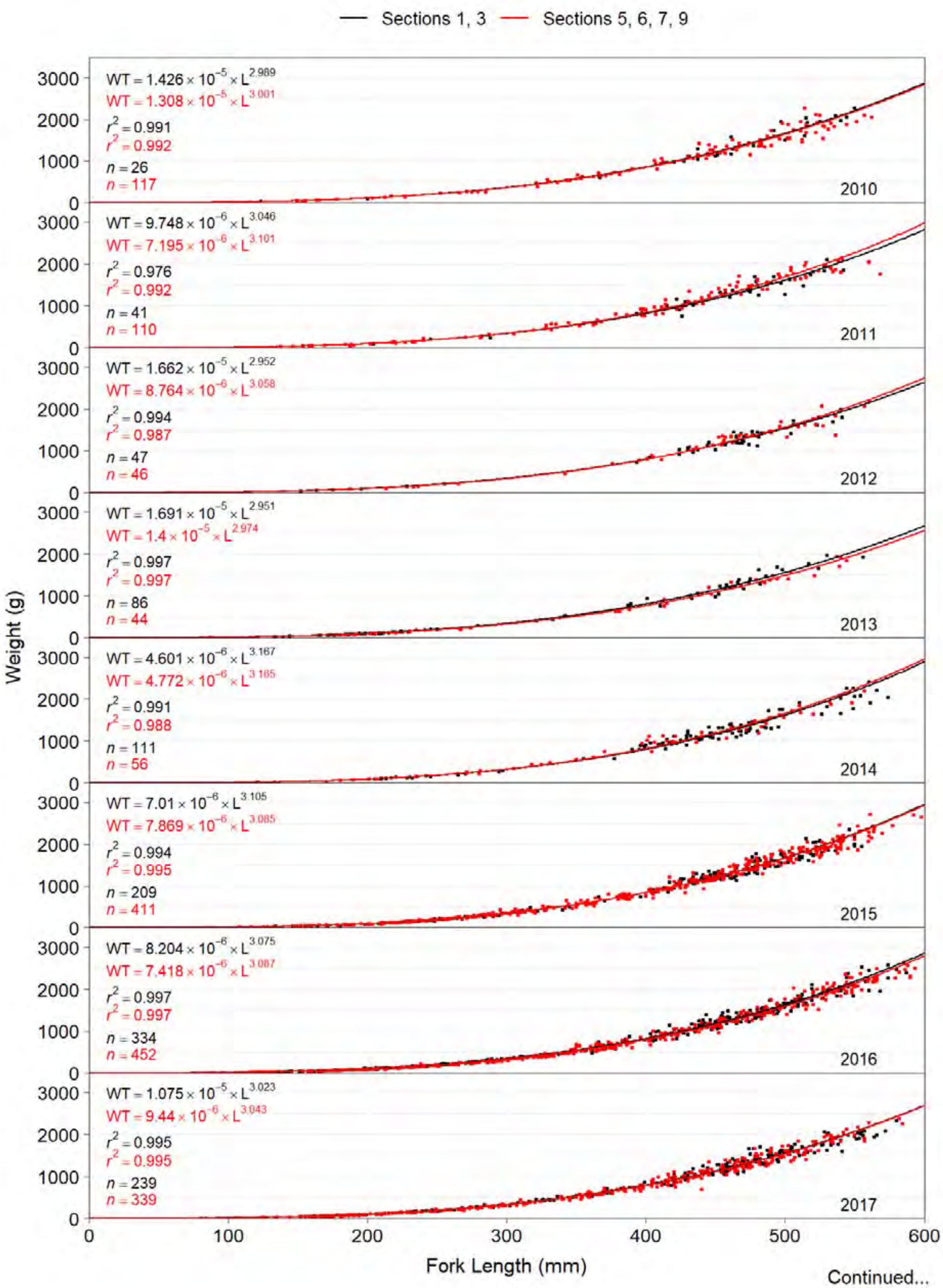

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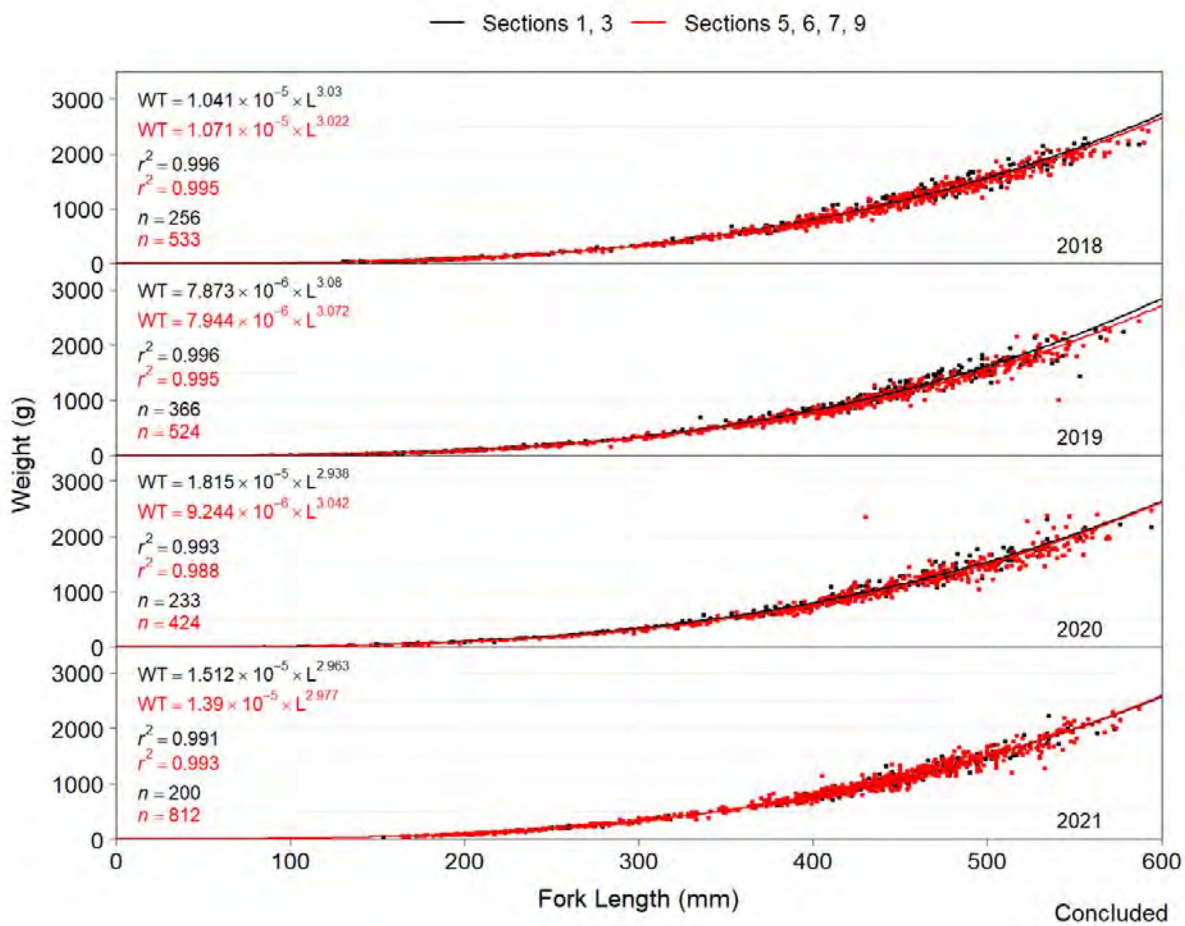
Figure F23: Continued.



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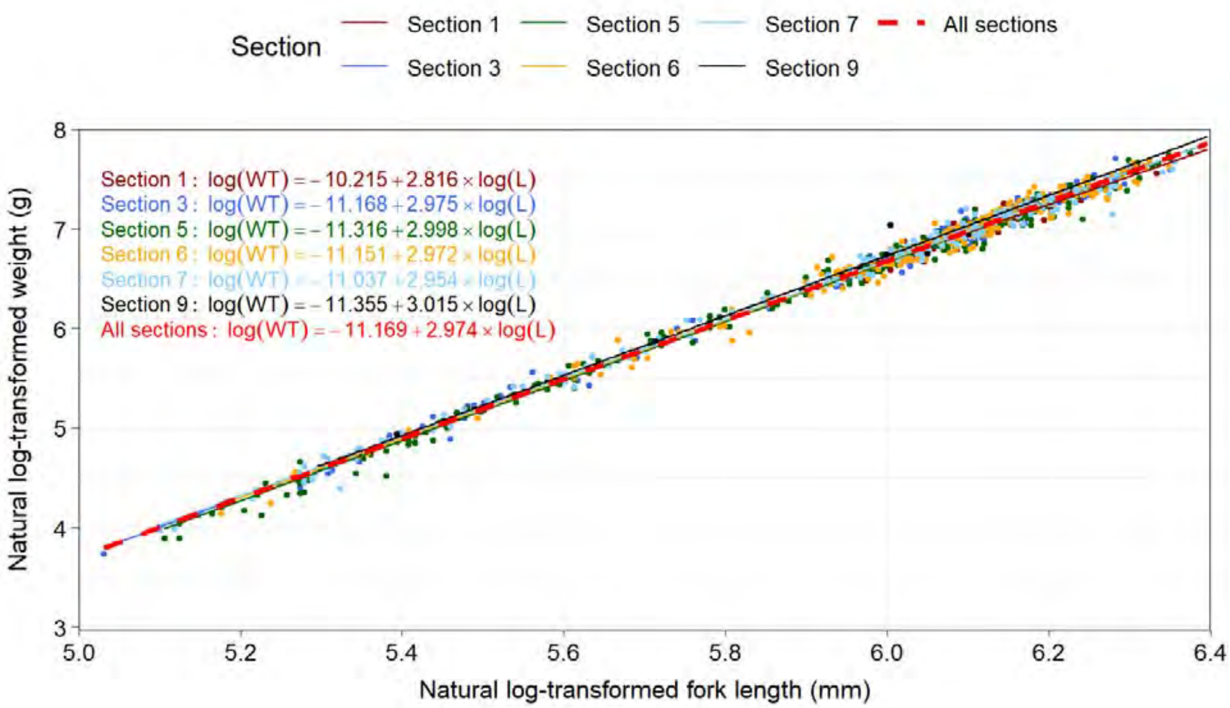

Figure F24: Log-log relationship between weight and fork length for Largescale Sucker captured by boat electroshocking in sampled sections of the Peace River, 2021.

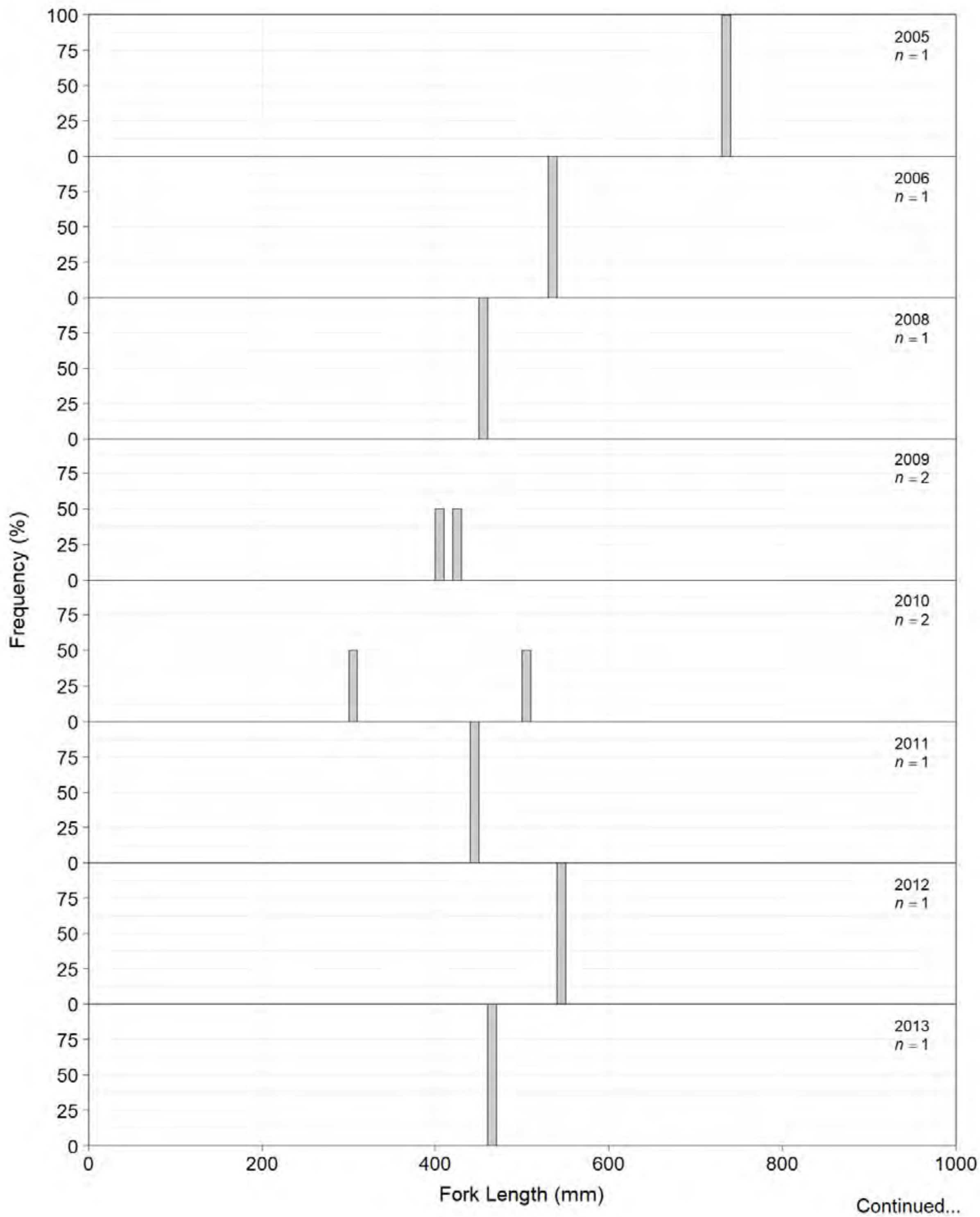

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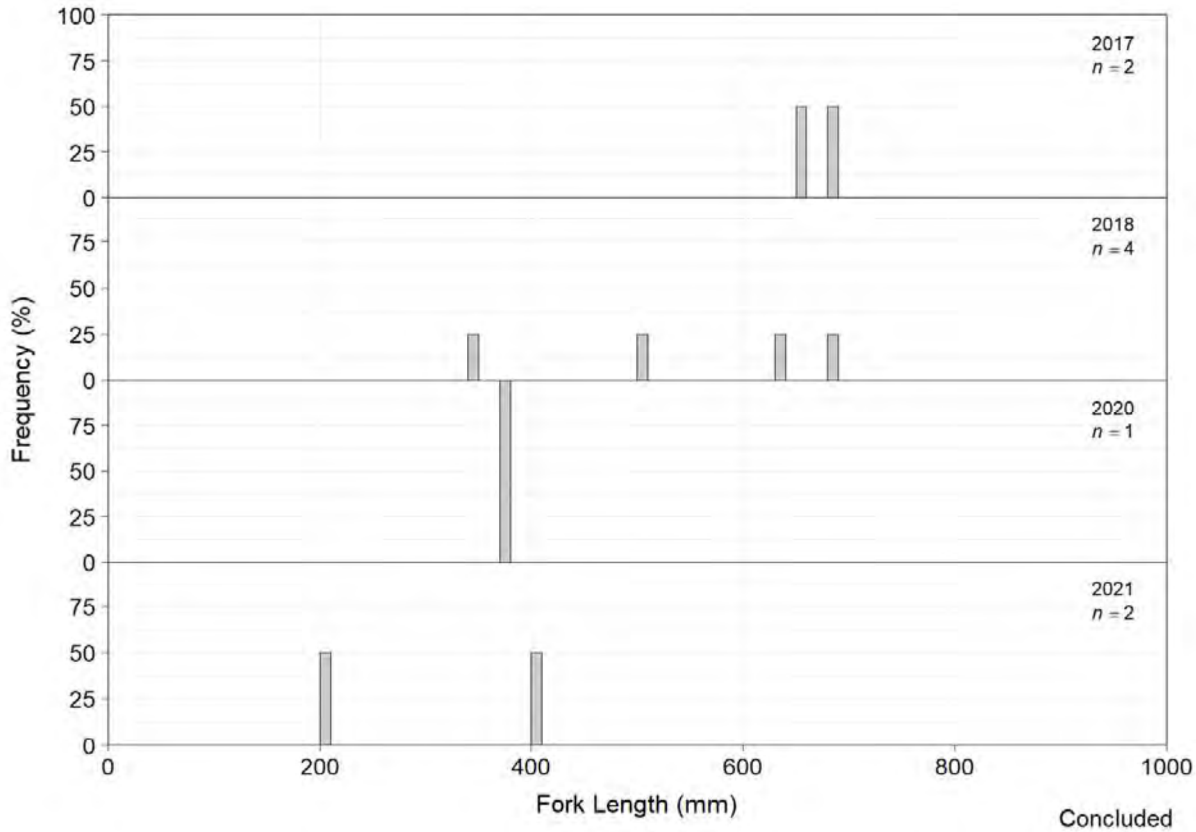
Figure F25: Length-frequency distributions by year for Northern Pike captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.



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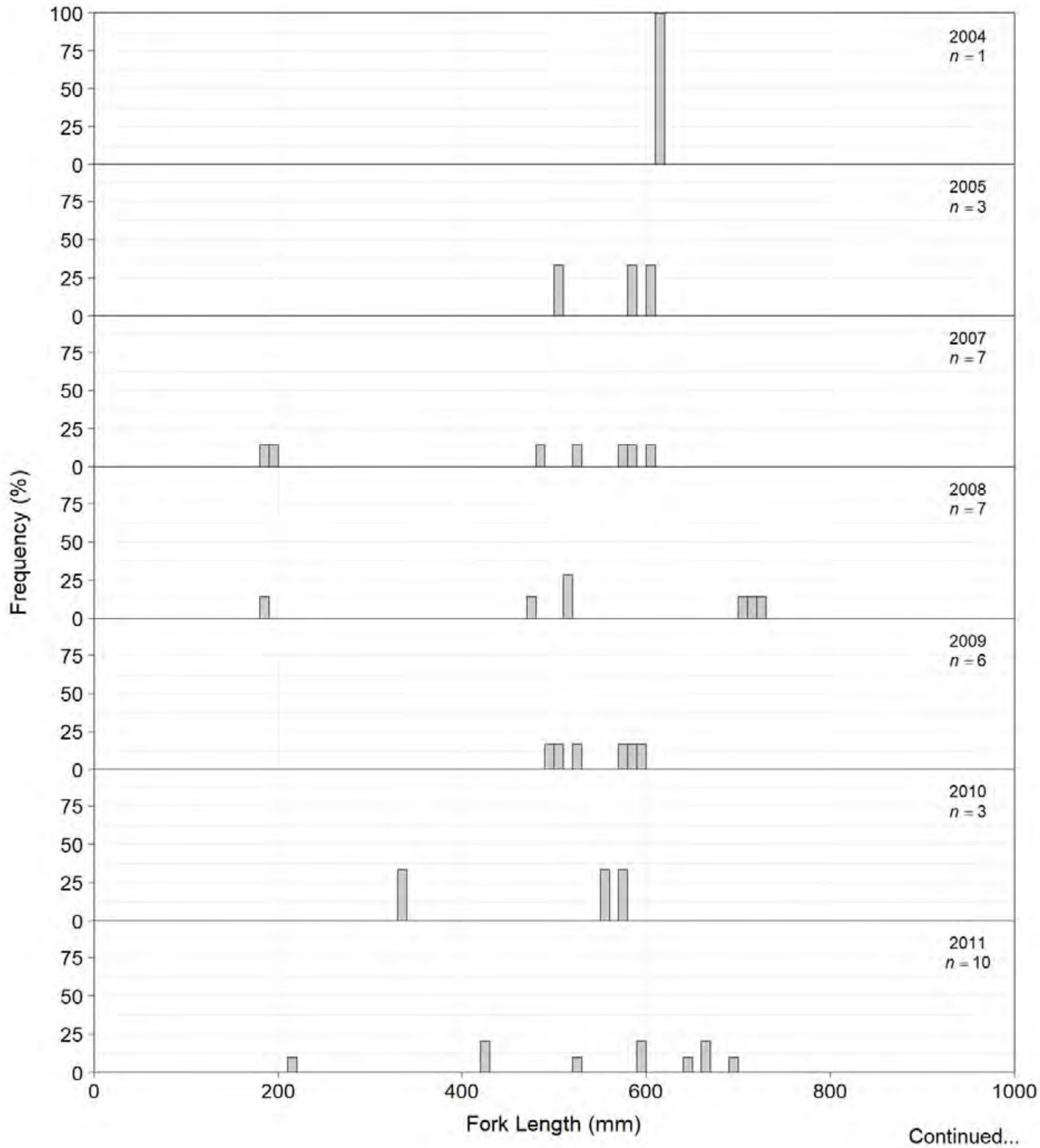

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Figure F26: Length-frequency distributions by year for Northern Pike captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

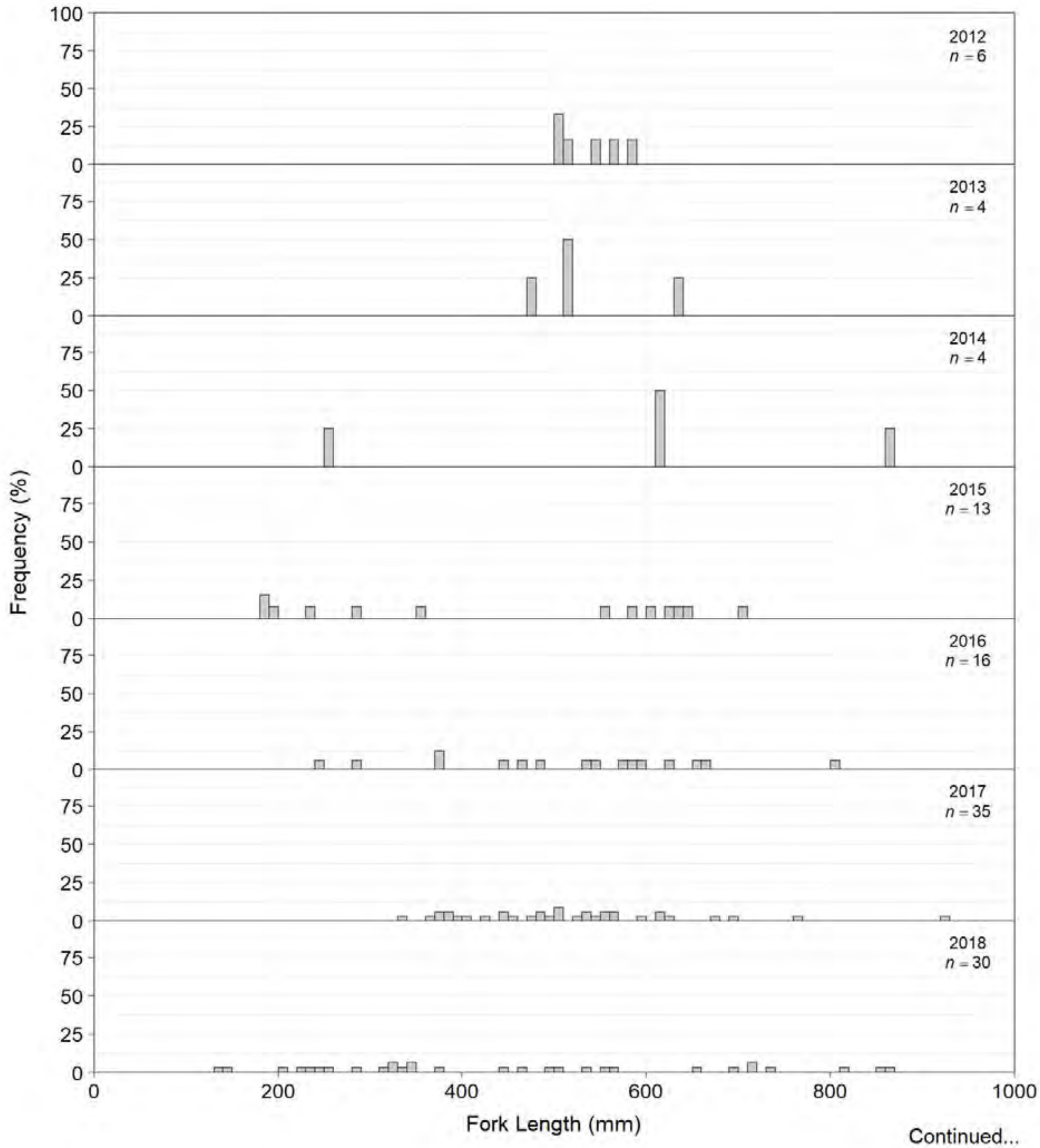

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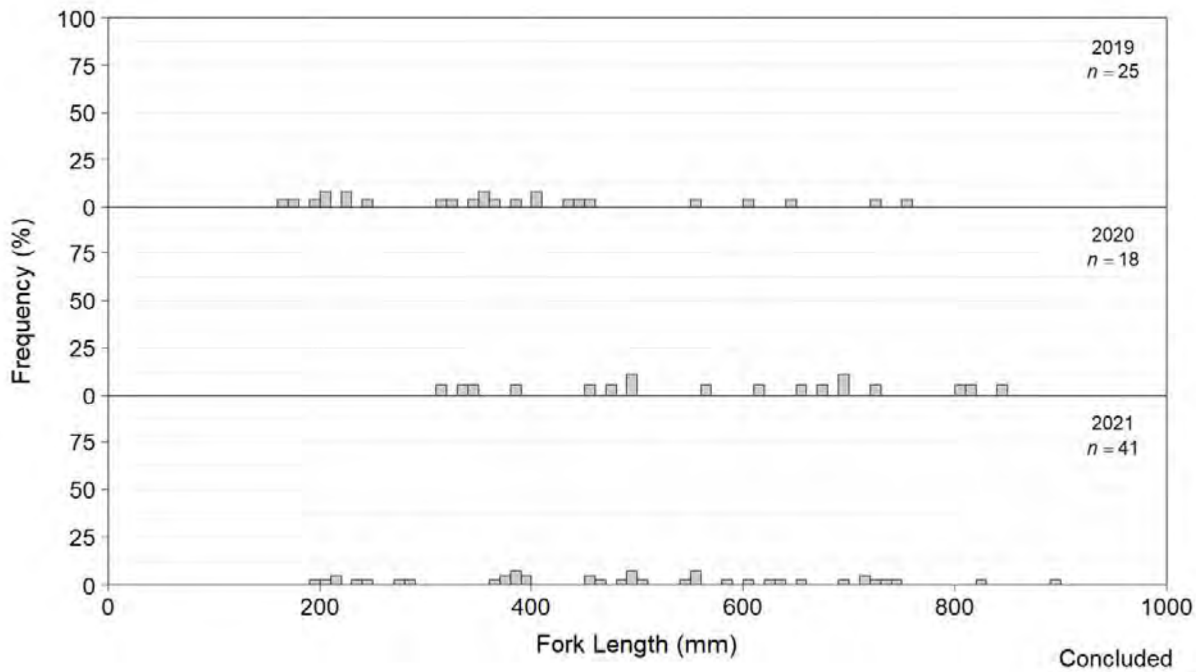
Figure F26: Continued.



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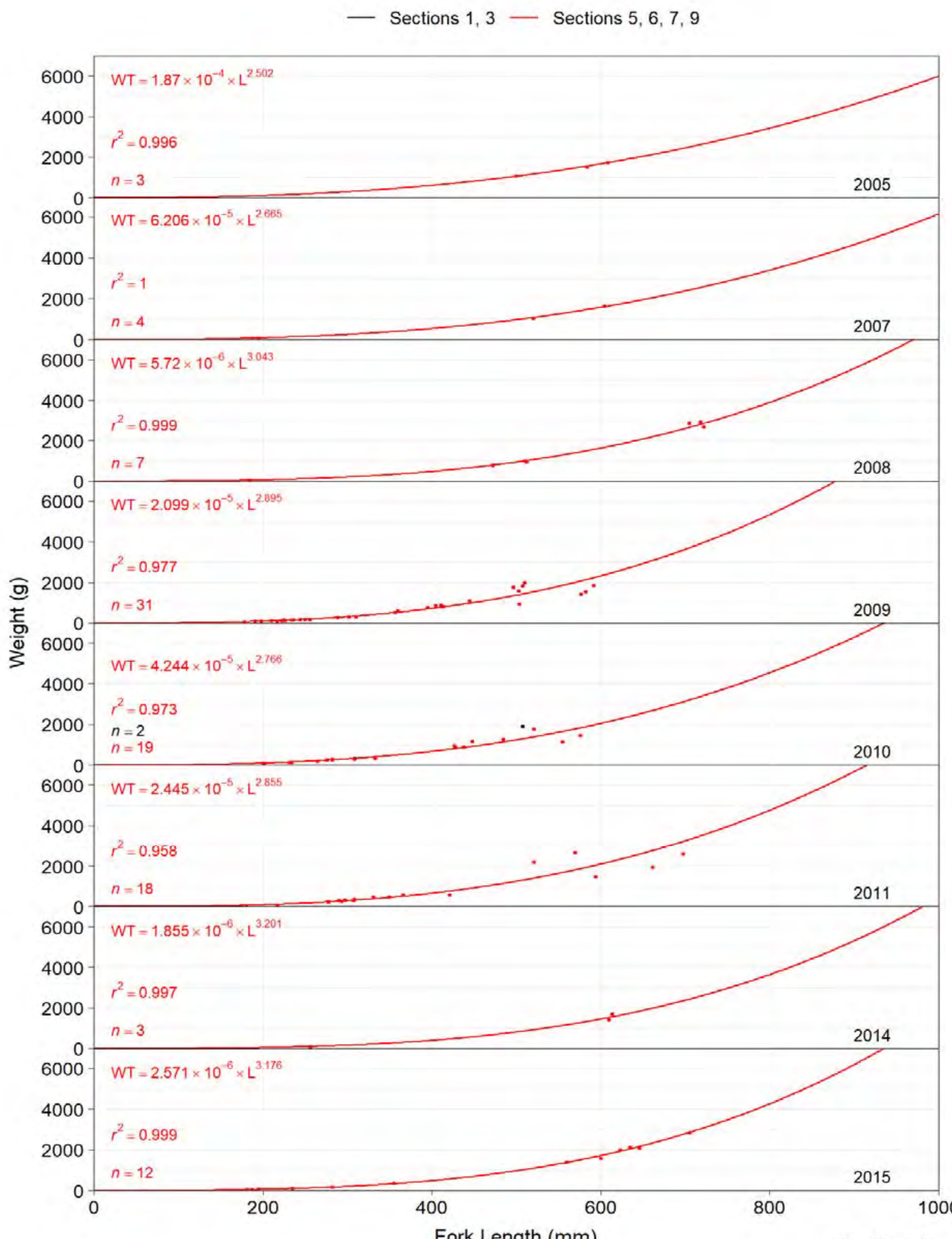

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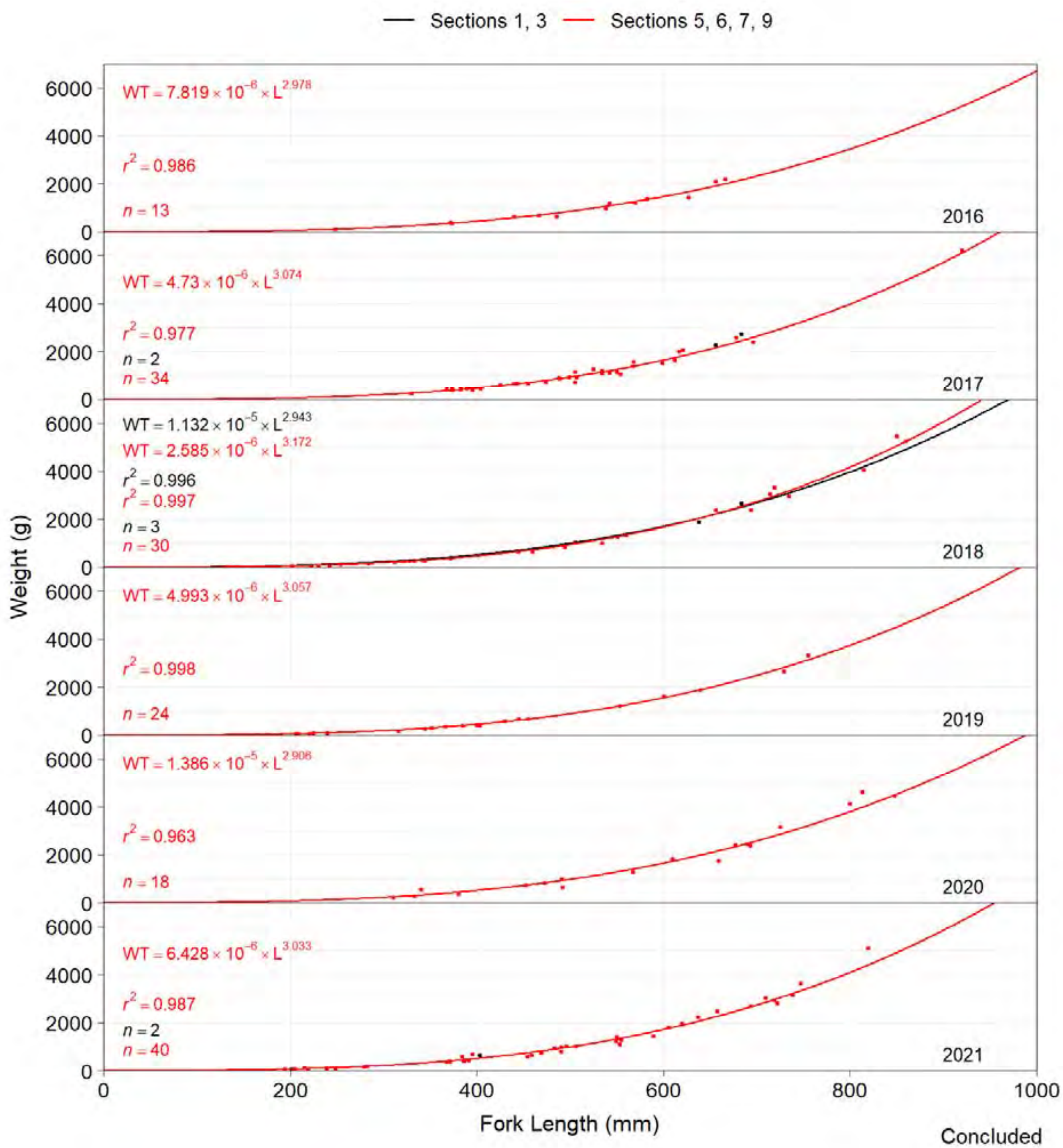
Figure F27: Length-weight regressions for Northern Pike captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).



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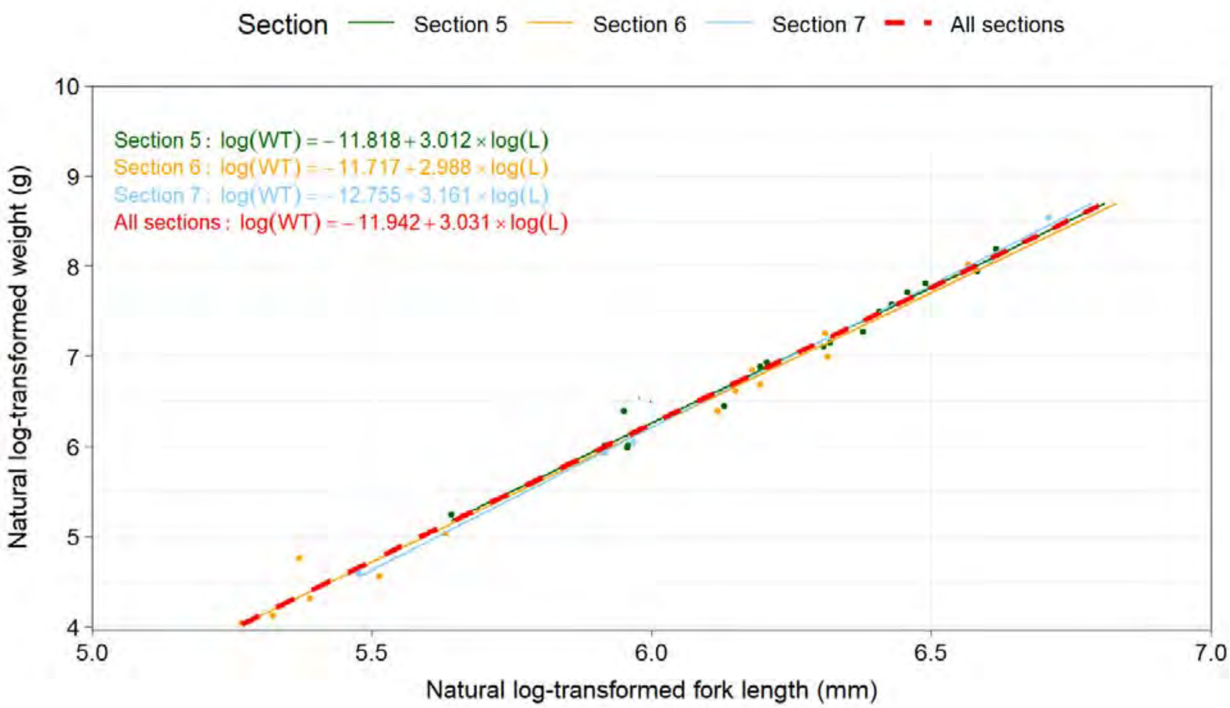

Figure F28: Log-log relationship between weight and fork length for Northern Pike captured by boat electroshocking in sampled sections of the Peace River, 2021.

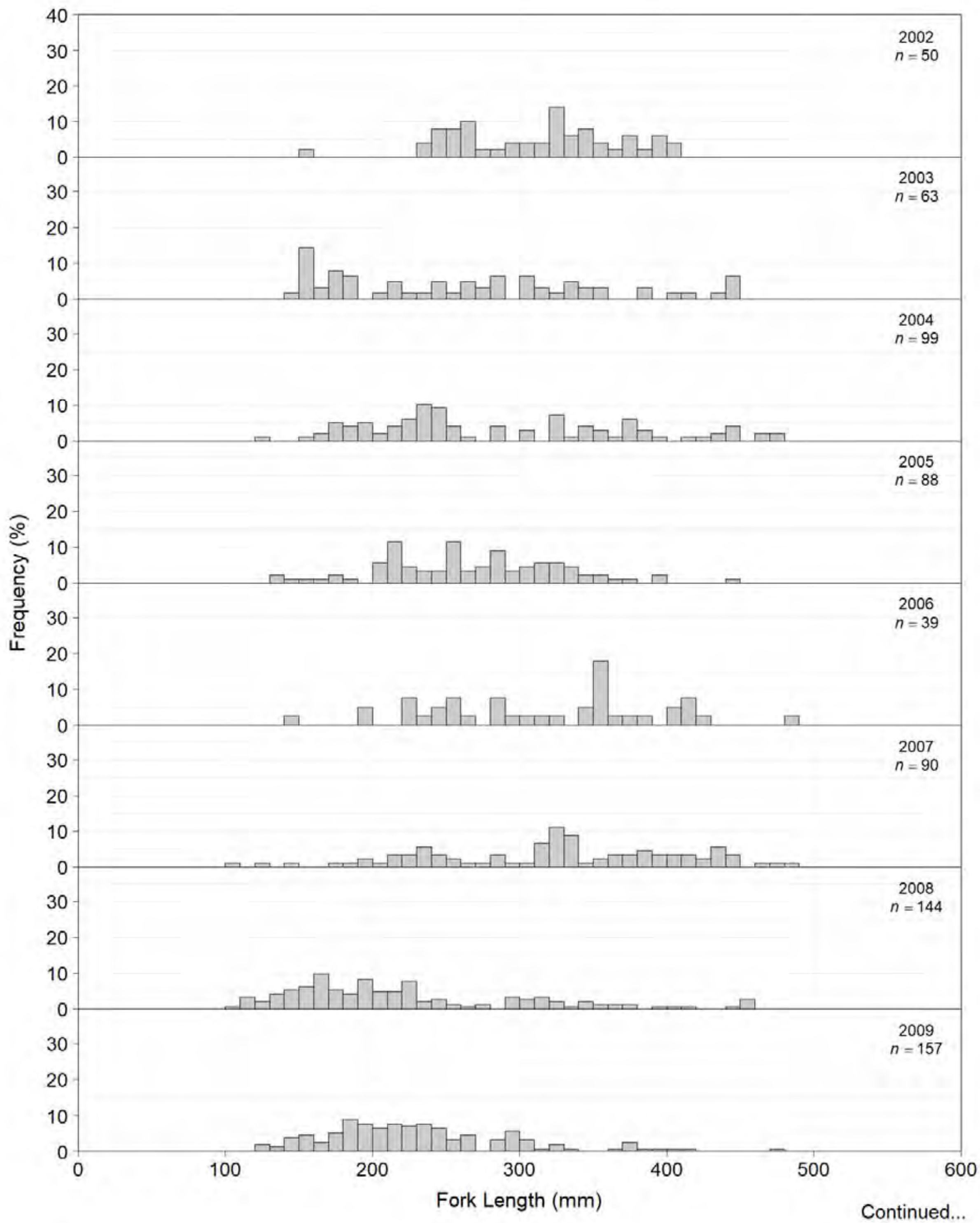

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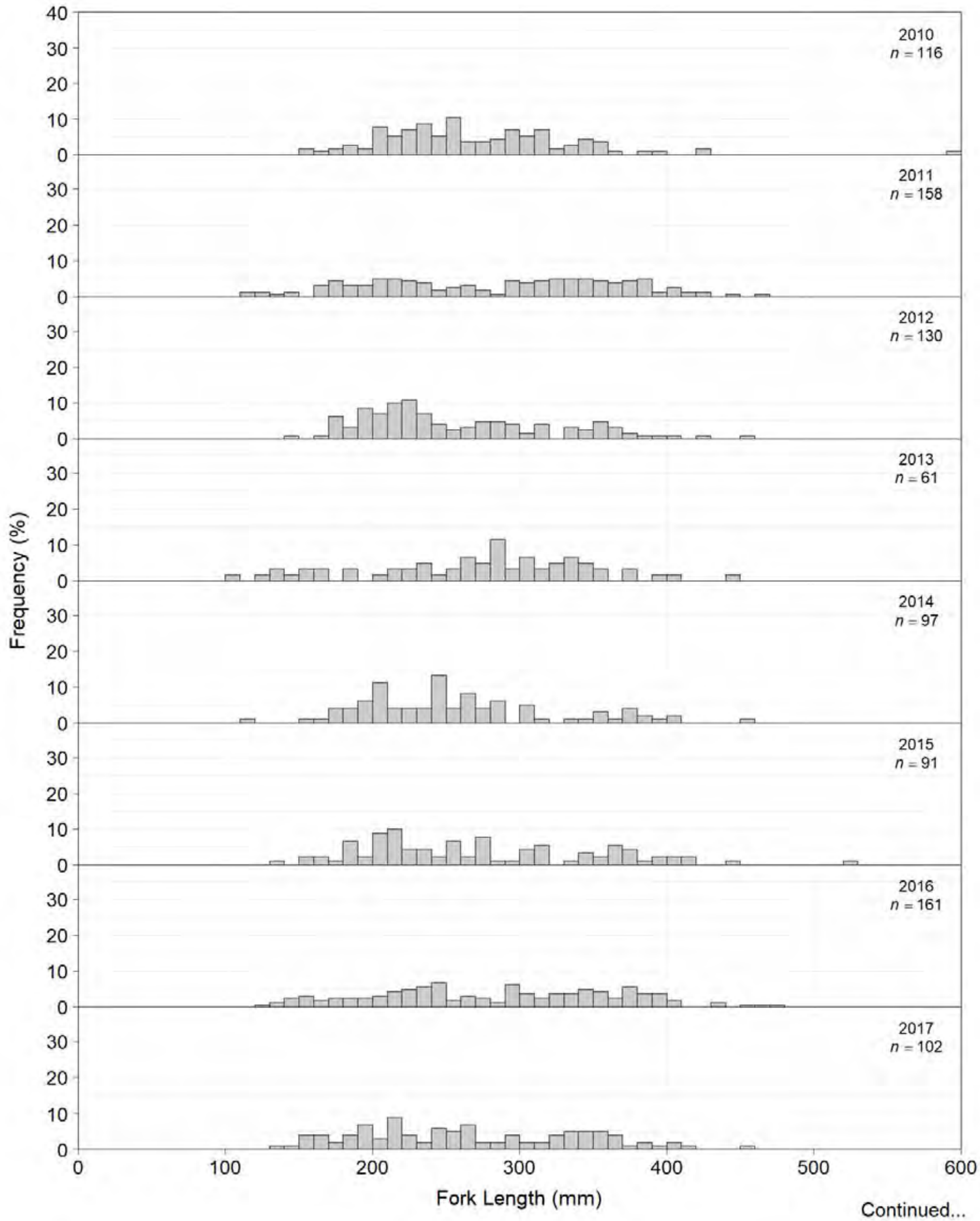
Figure F29: Length-frequency distributions by year for Rainbow Trout captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.



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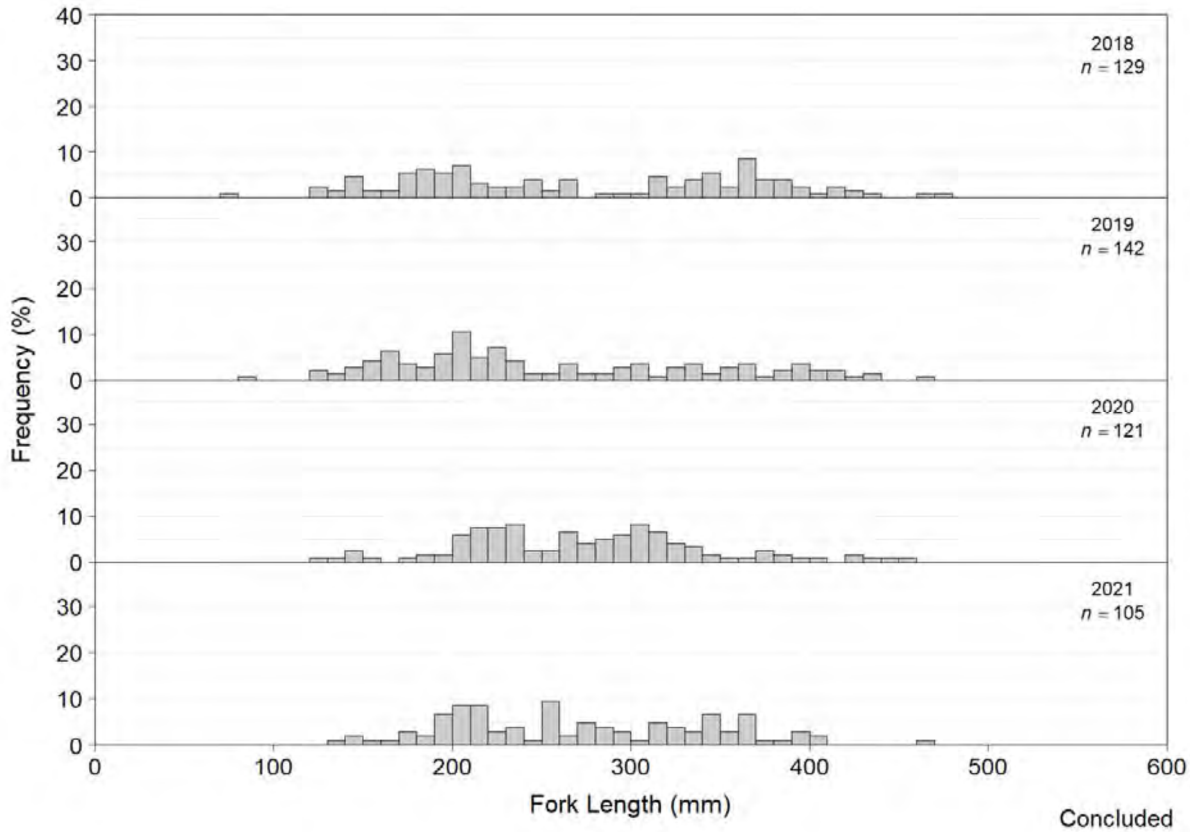

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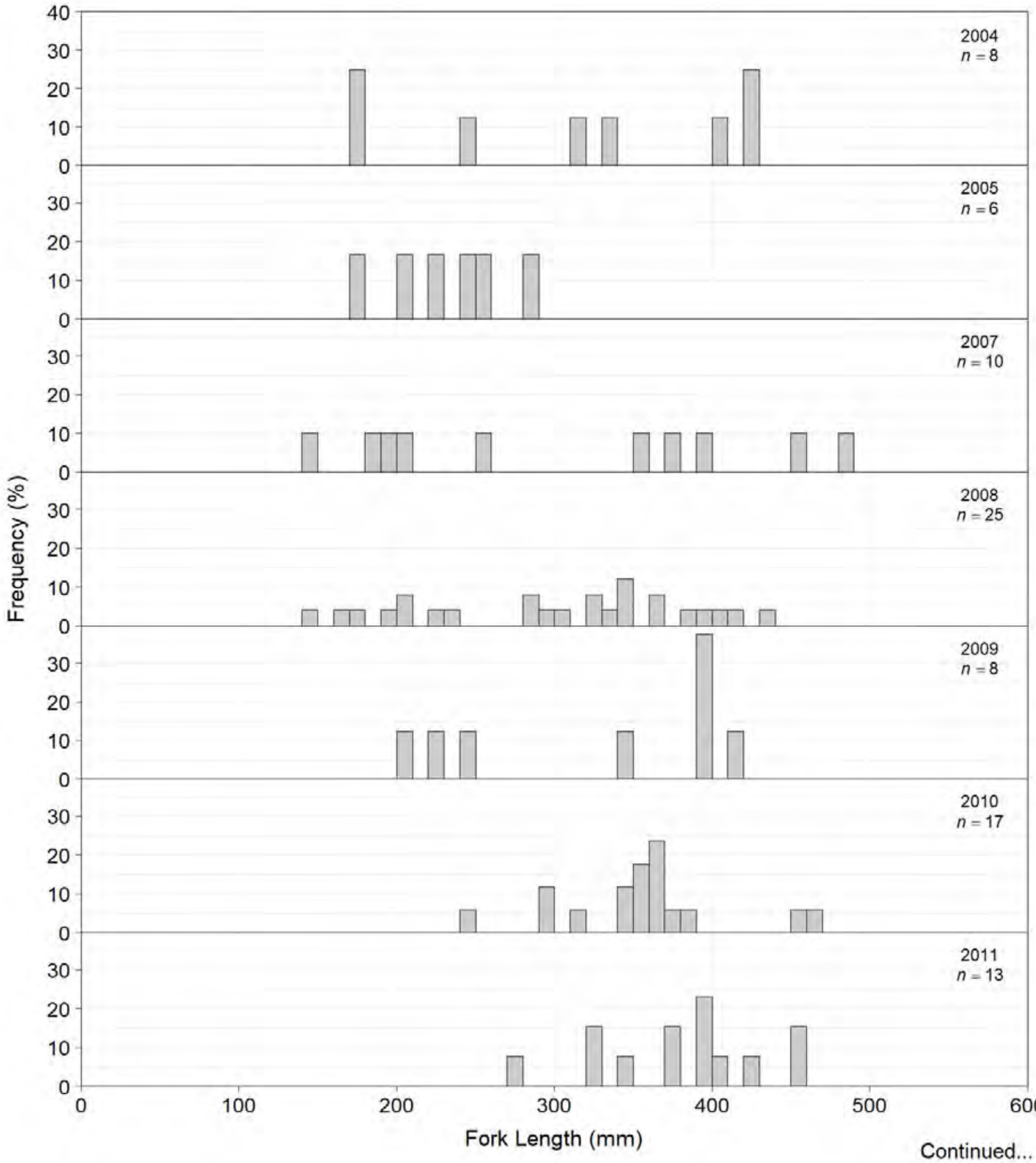
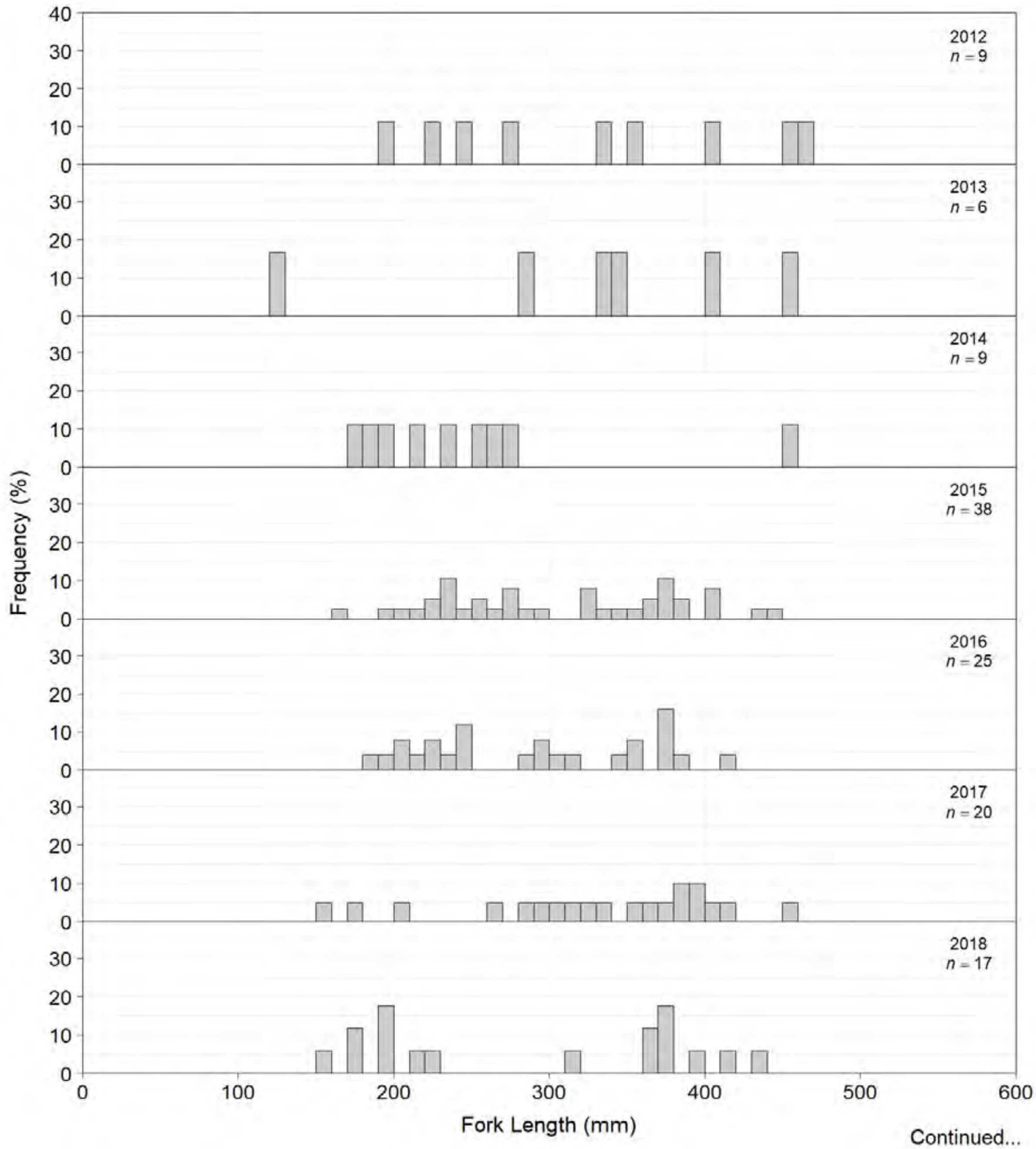


Figure F30: Length-frequency distributions by year for Rainbow Trout captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.



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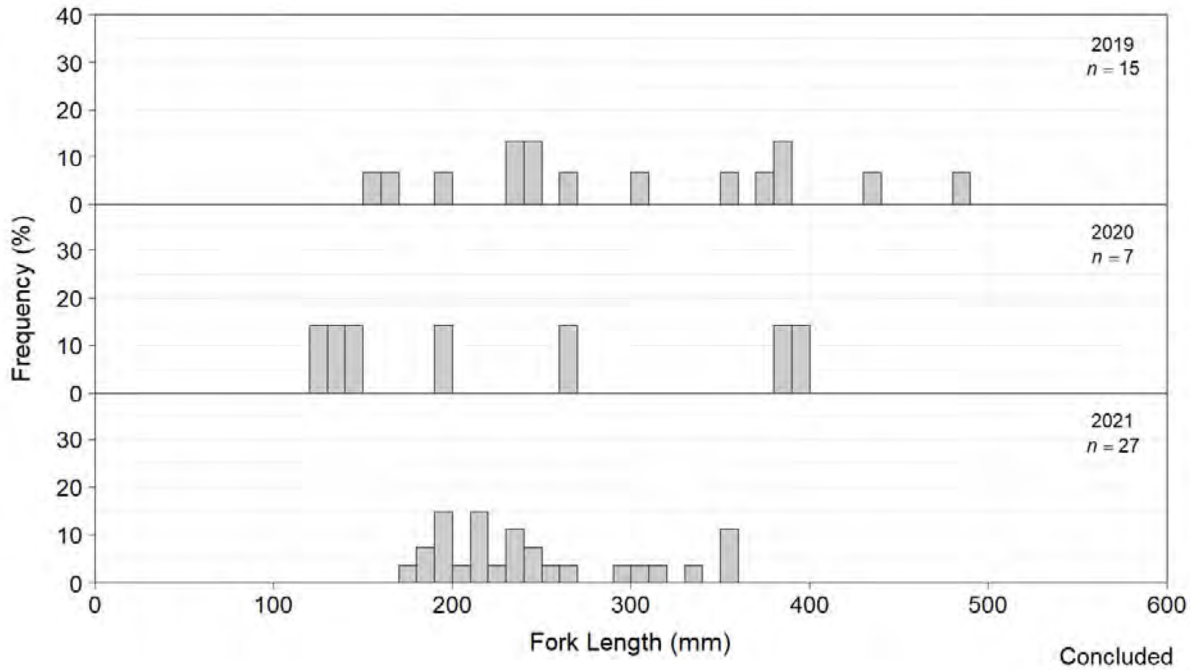

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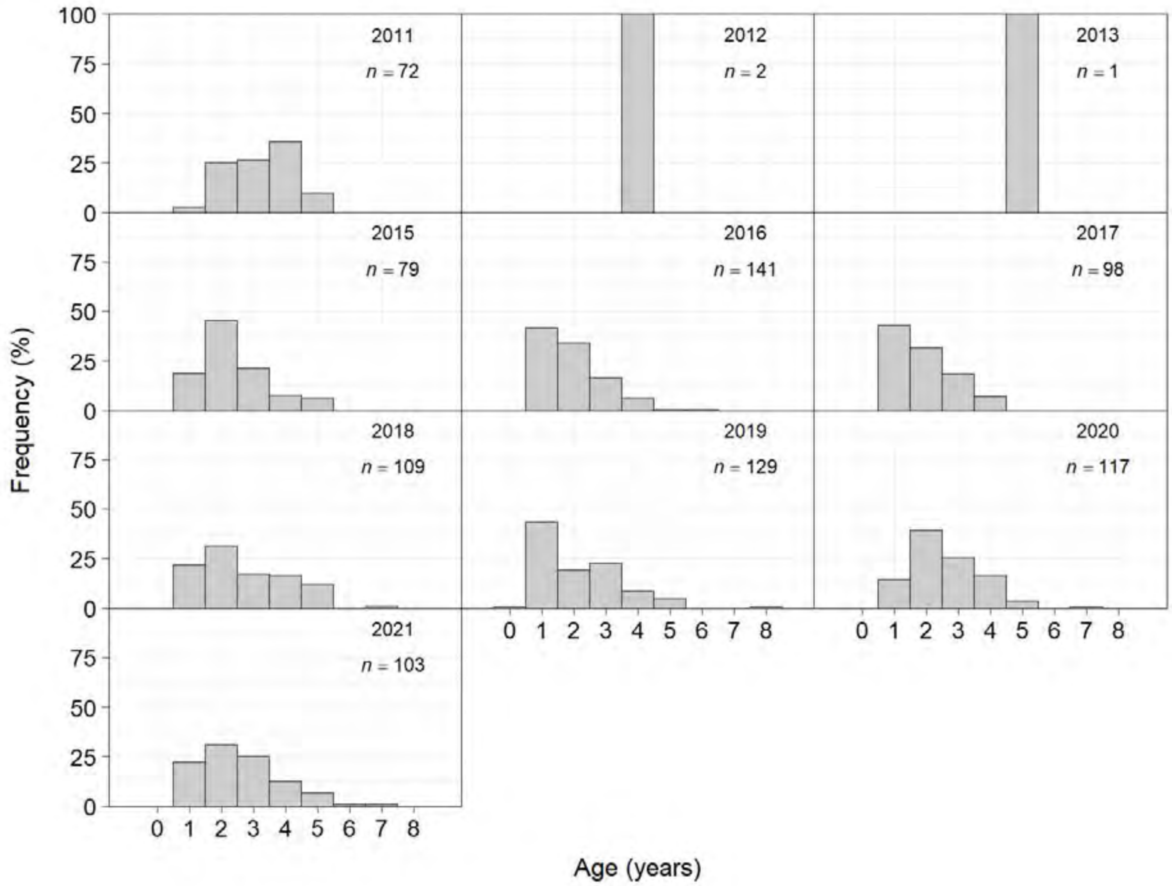

Figure F31: Age-frequency distributions by year for Rainbow Trout captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

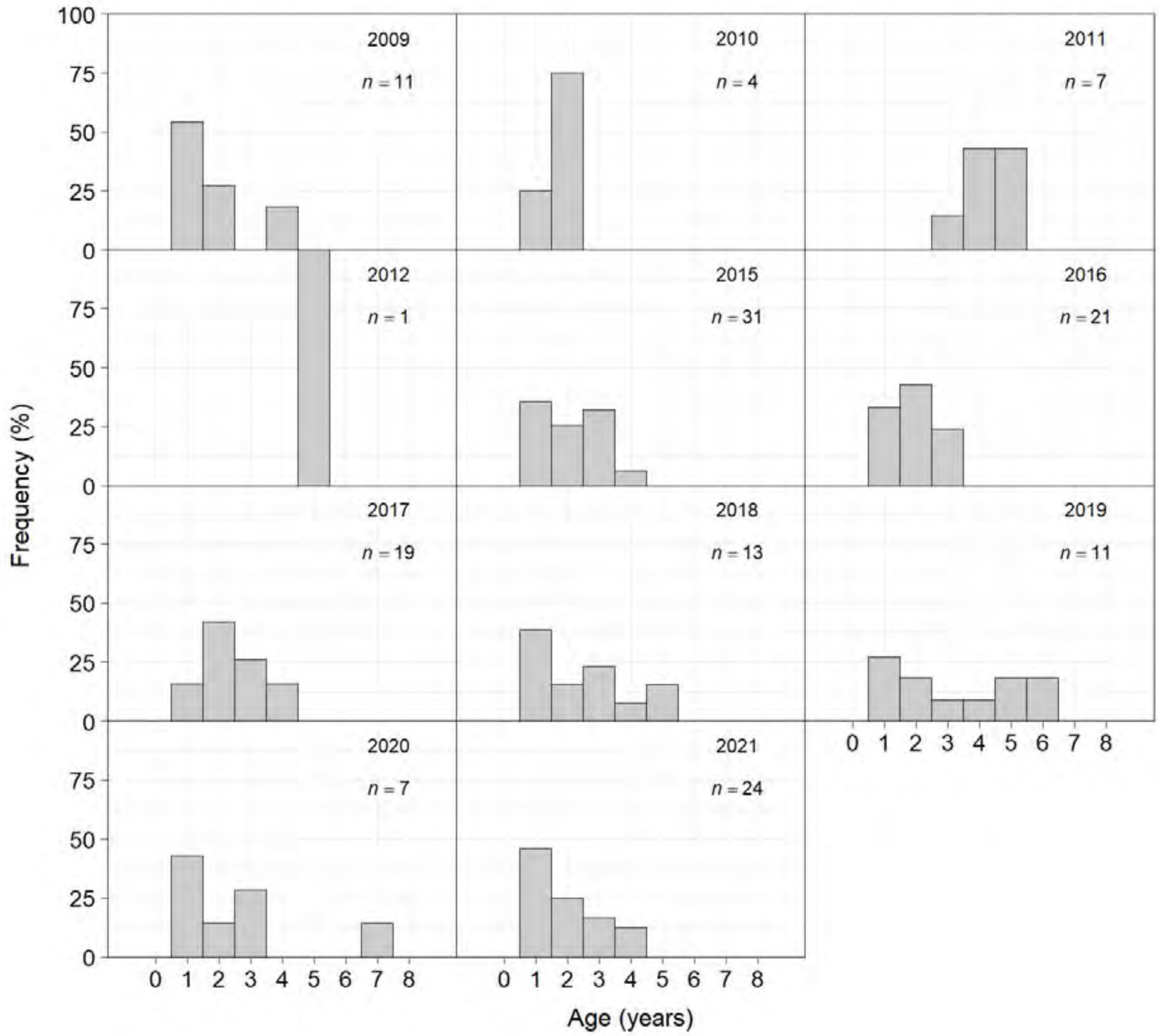

Figure F32: Age-frequency distributions by year for Rainbow Trout captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

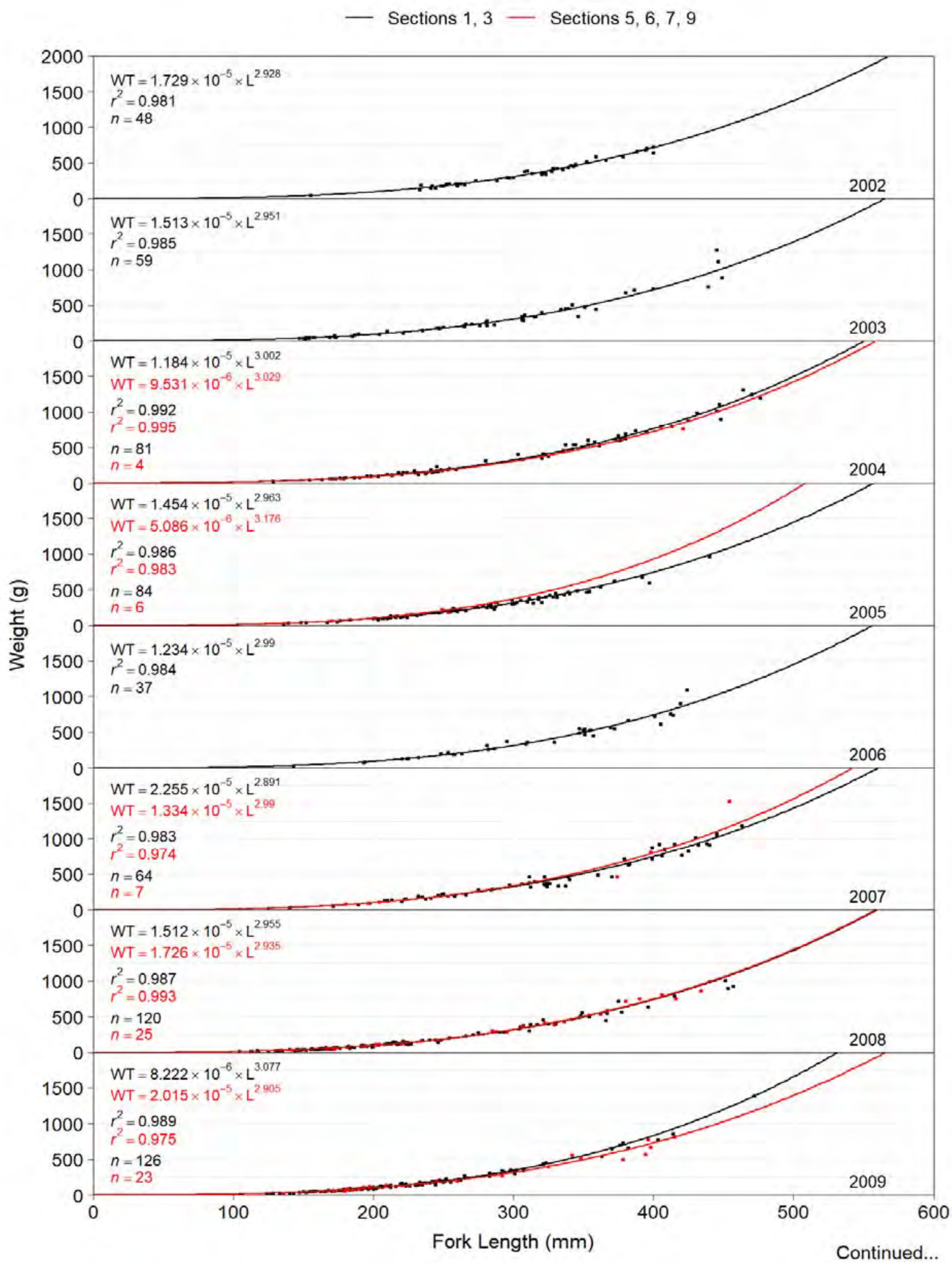

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Figure F33: Length-weight regressions for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).

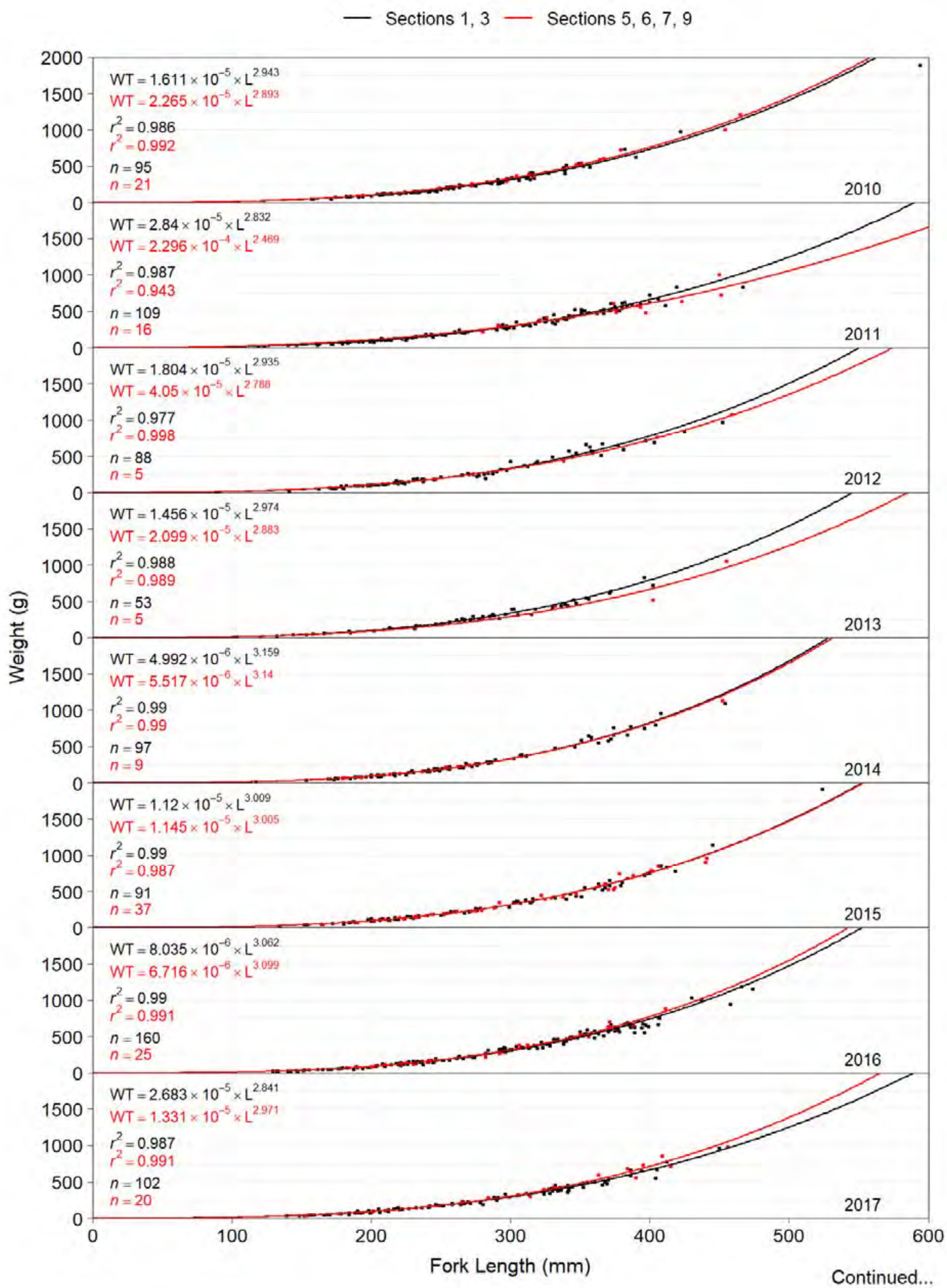

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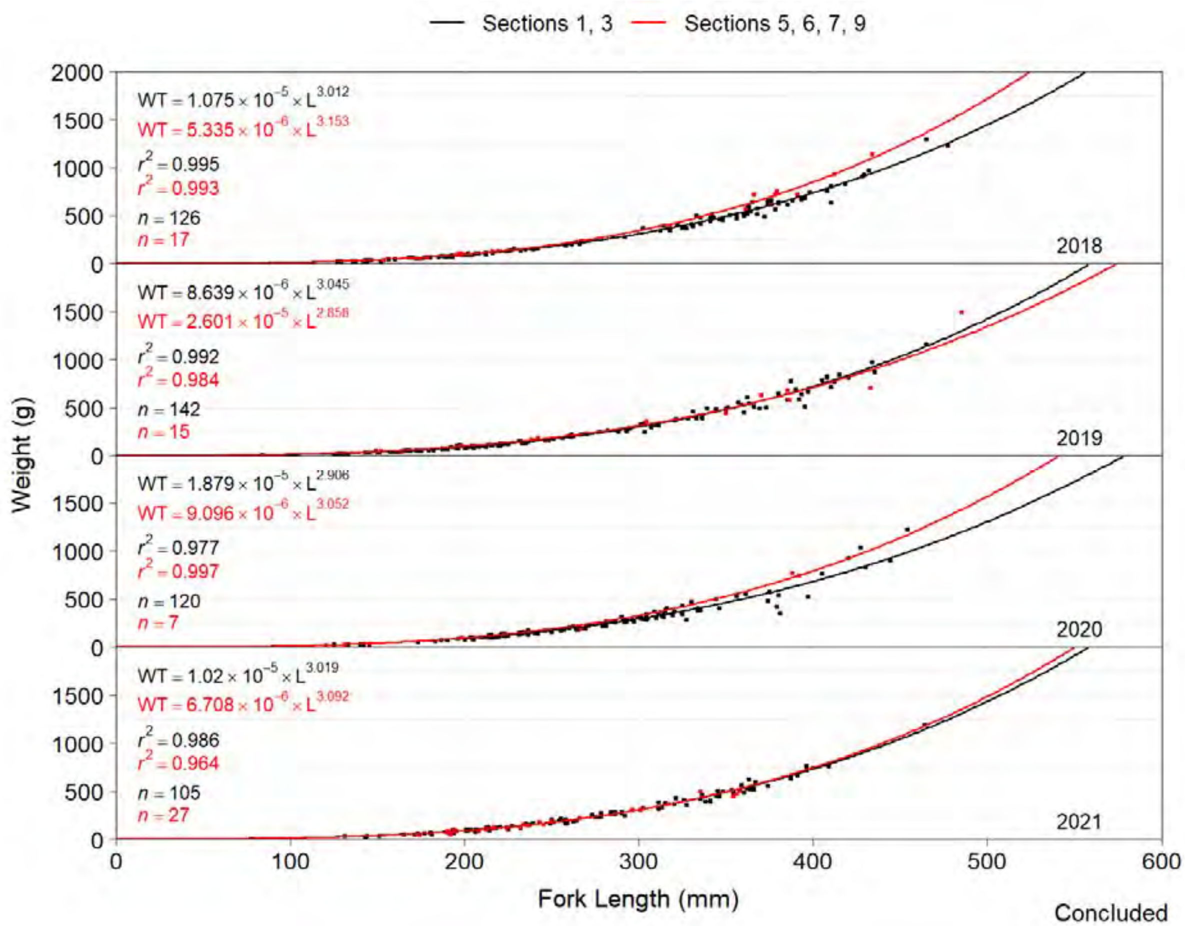
Figure F33: Continued.



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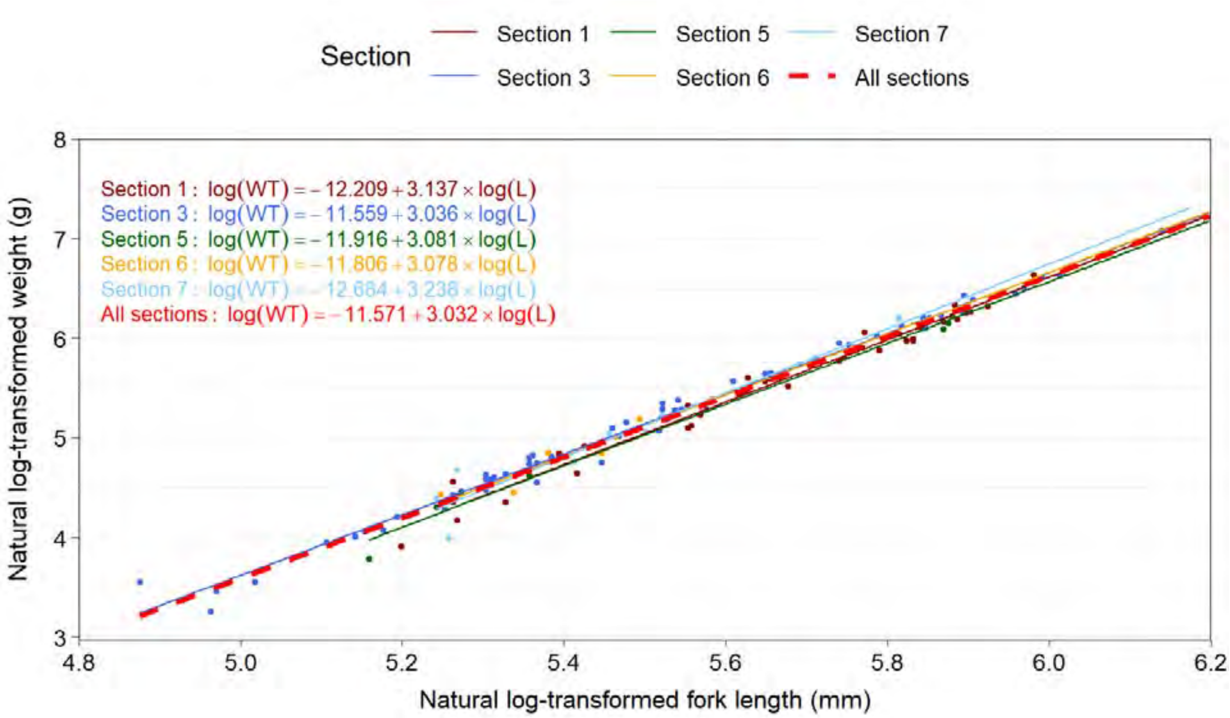


Figure F34: Log-log relationship between weight and fork length for Rainbow Trout captured by boat electroshocking in sampled sections of the Peace River, 2021.

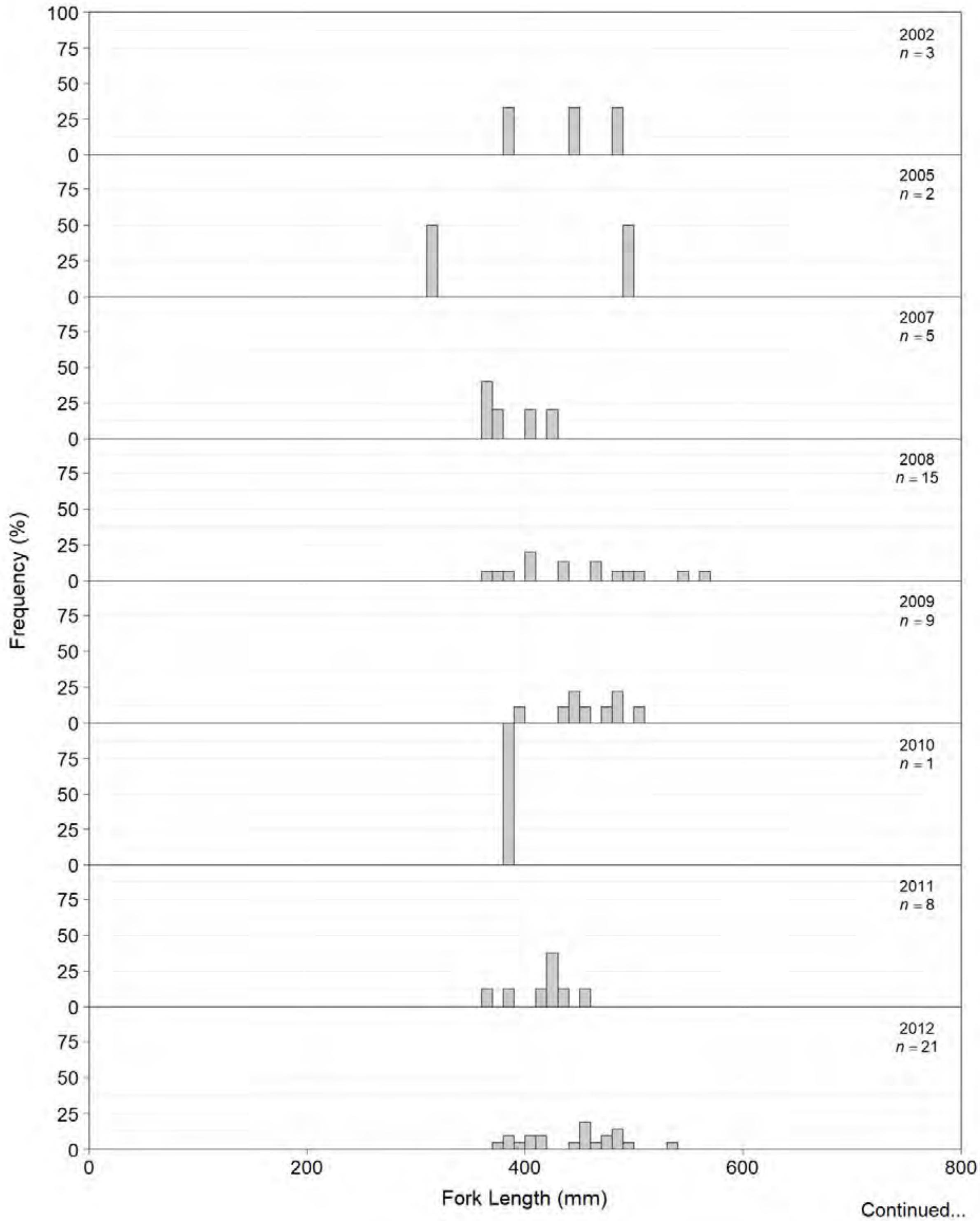
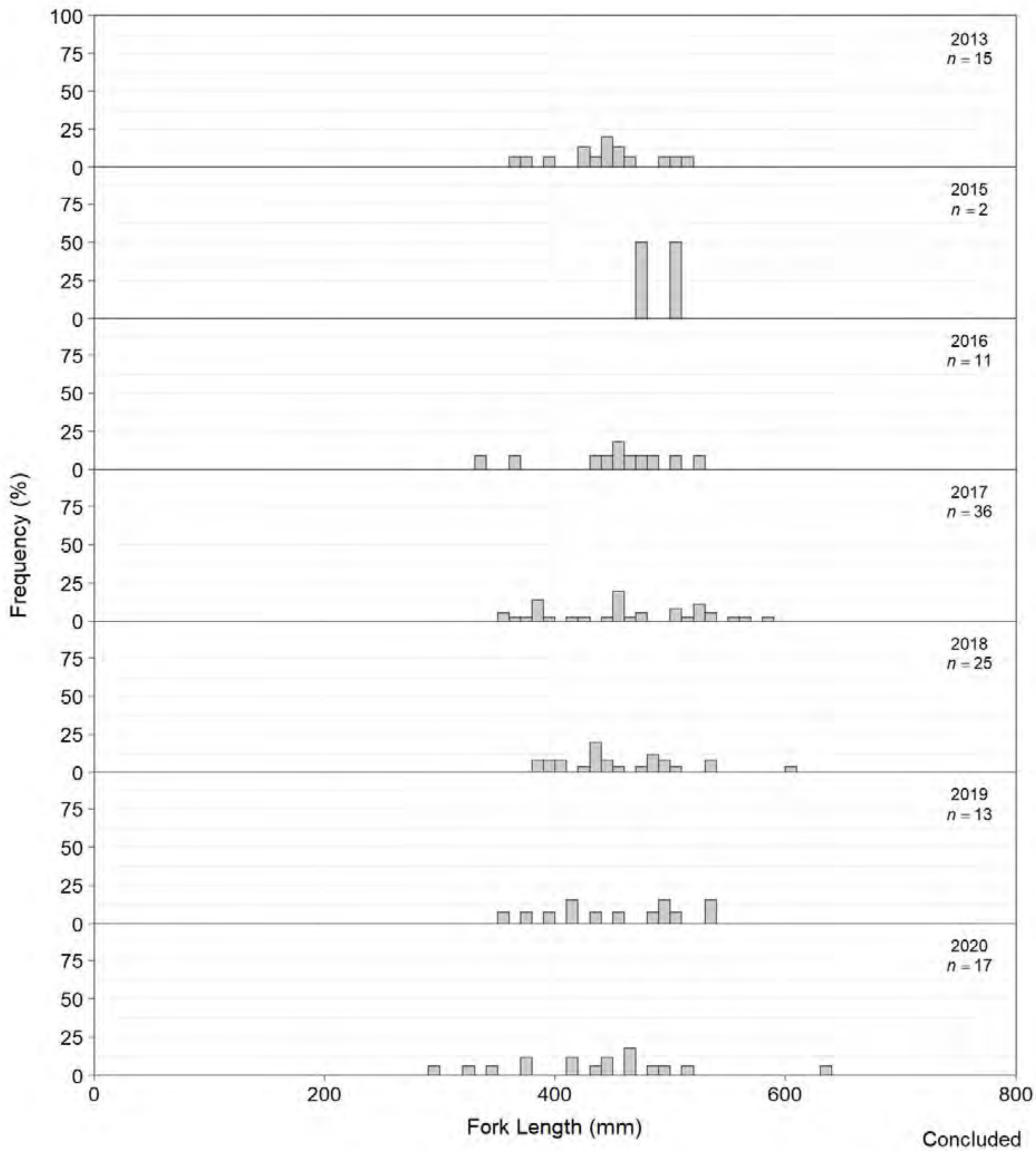


Figure F35: Length-frequency distributions by year for Walleye captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.



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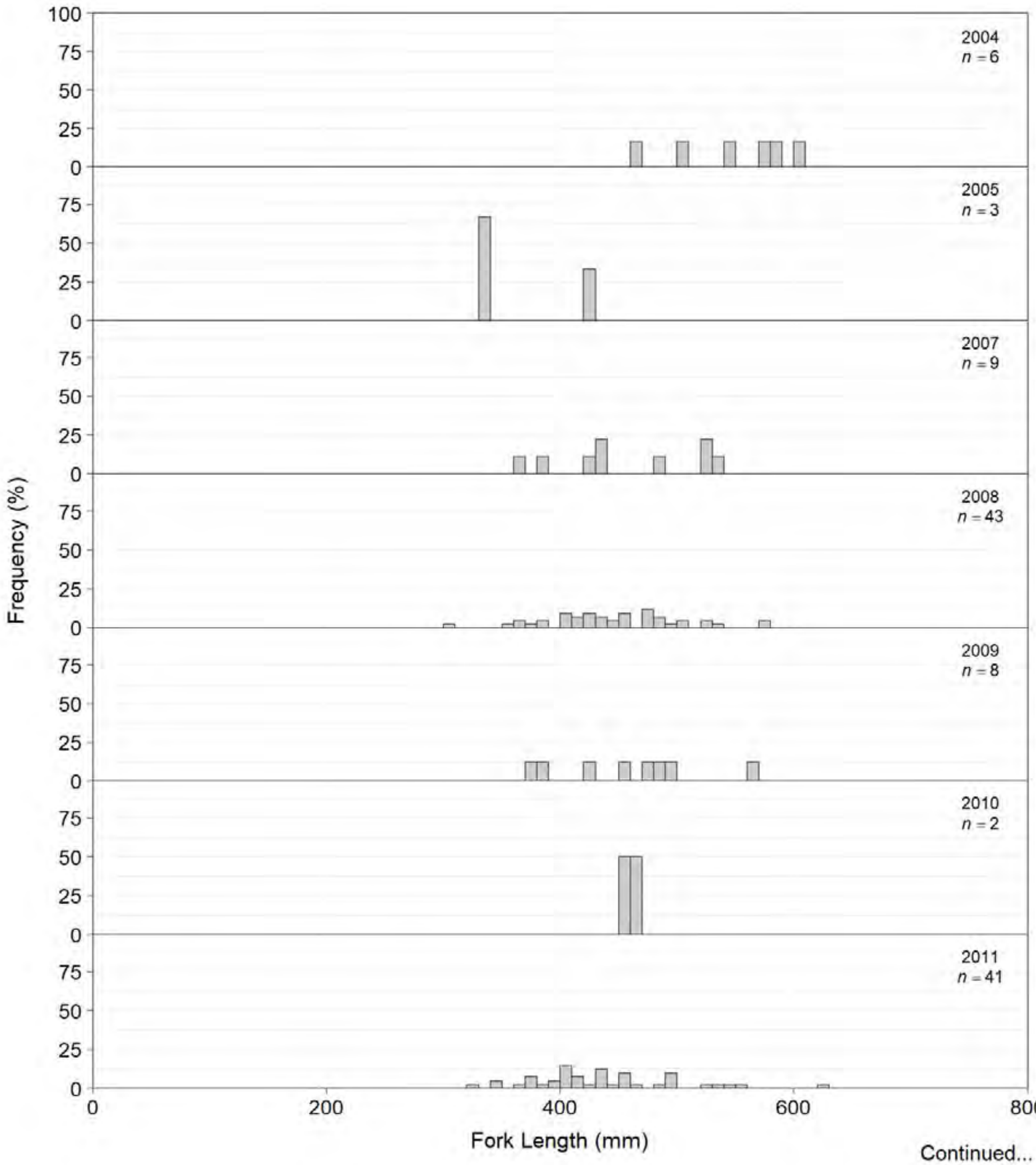


Figure F36: Length-frequency distributions by year for Walleye captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

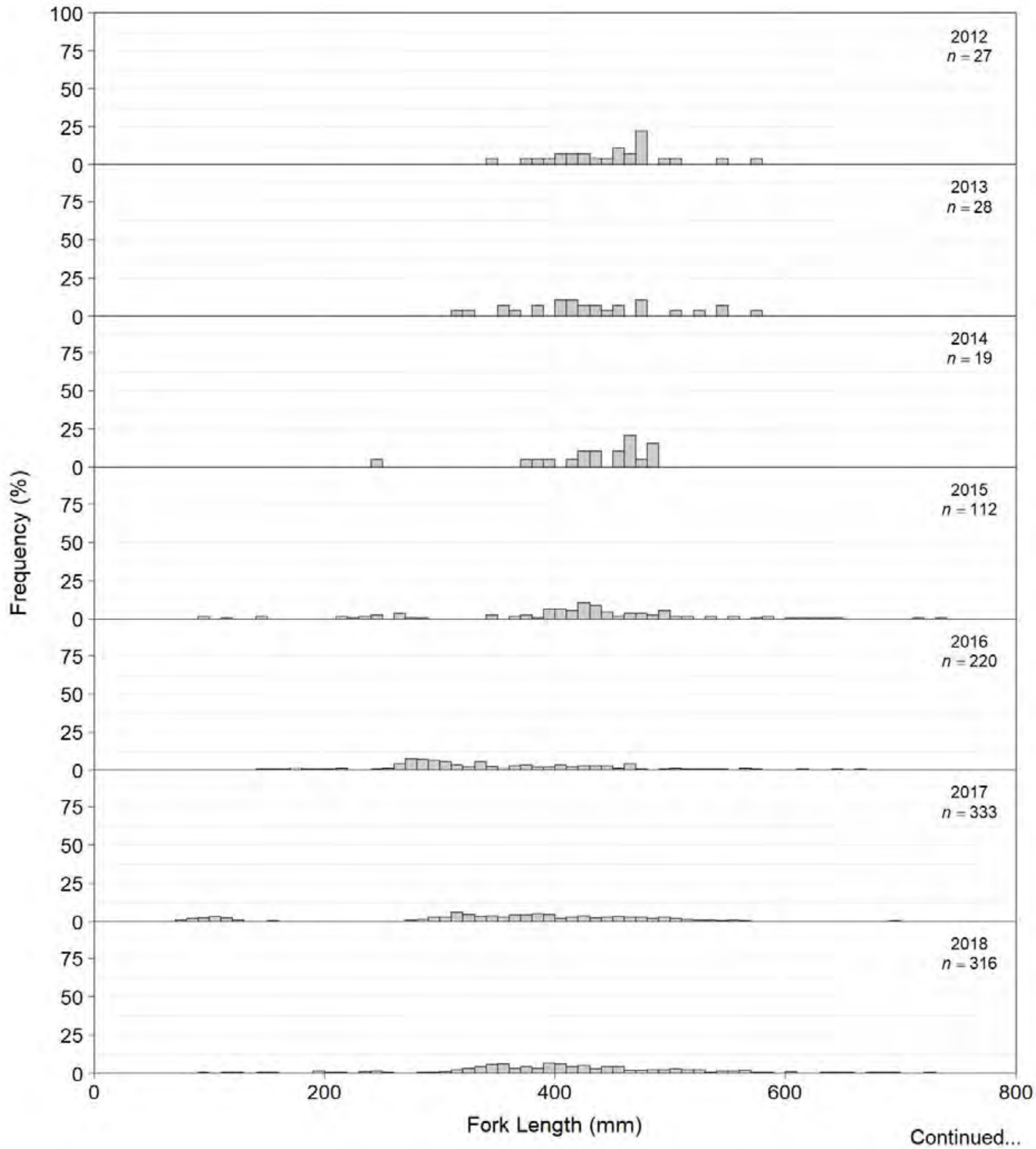
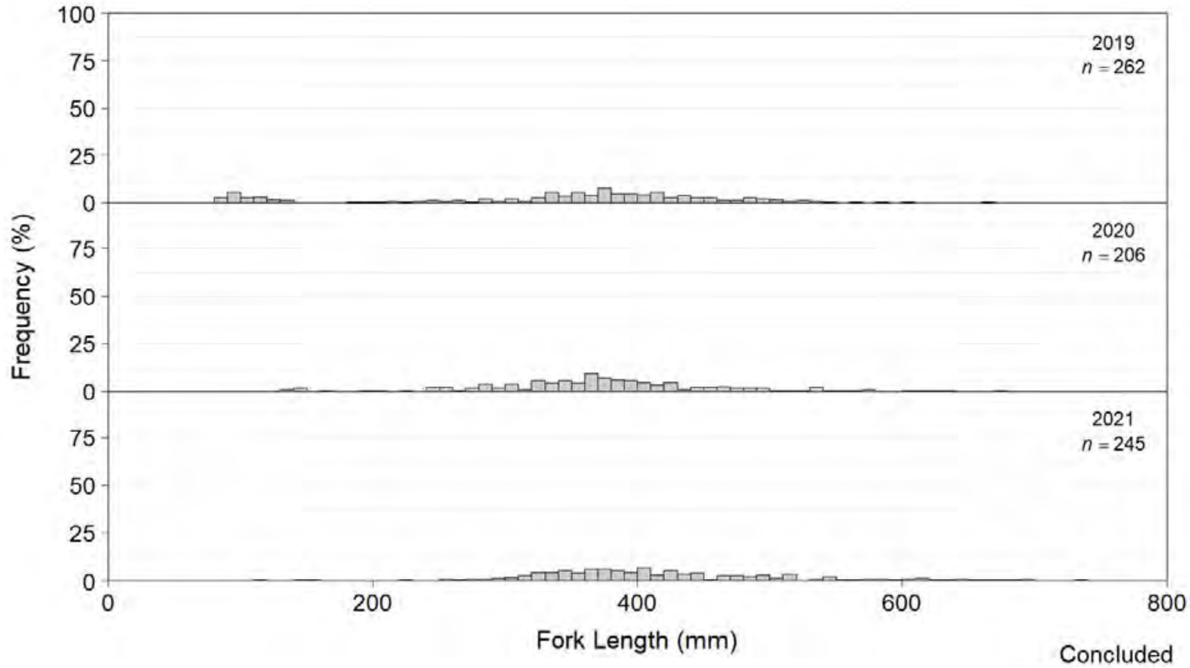


Figure F36: Continued.



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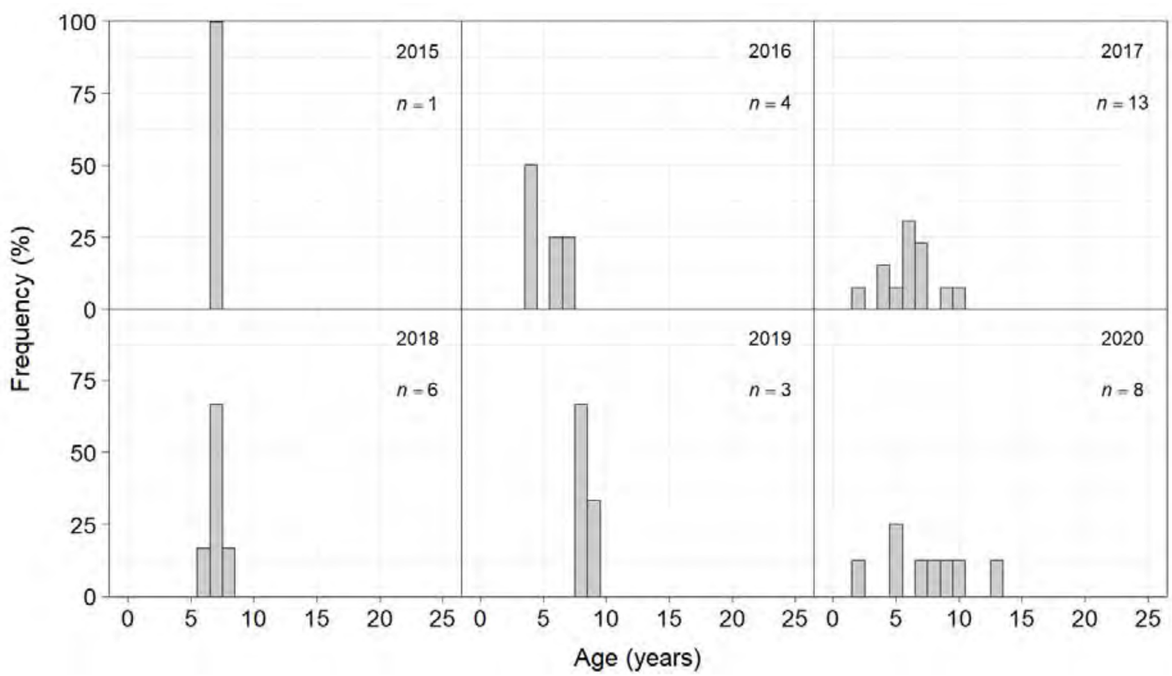

Figure F37: Age-frequency distributions by year for Walleye captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.

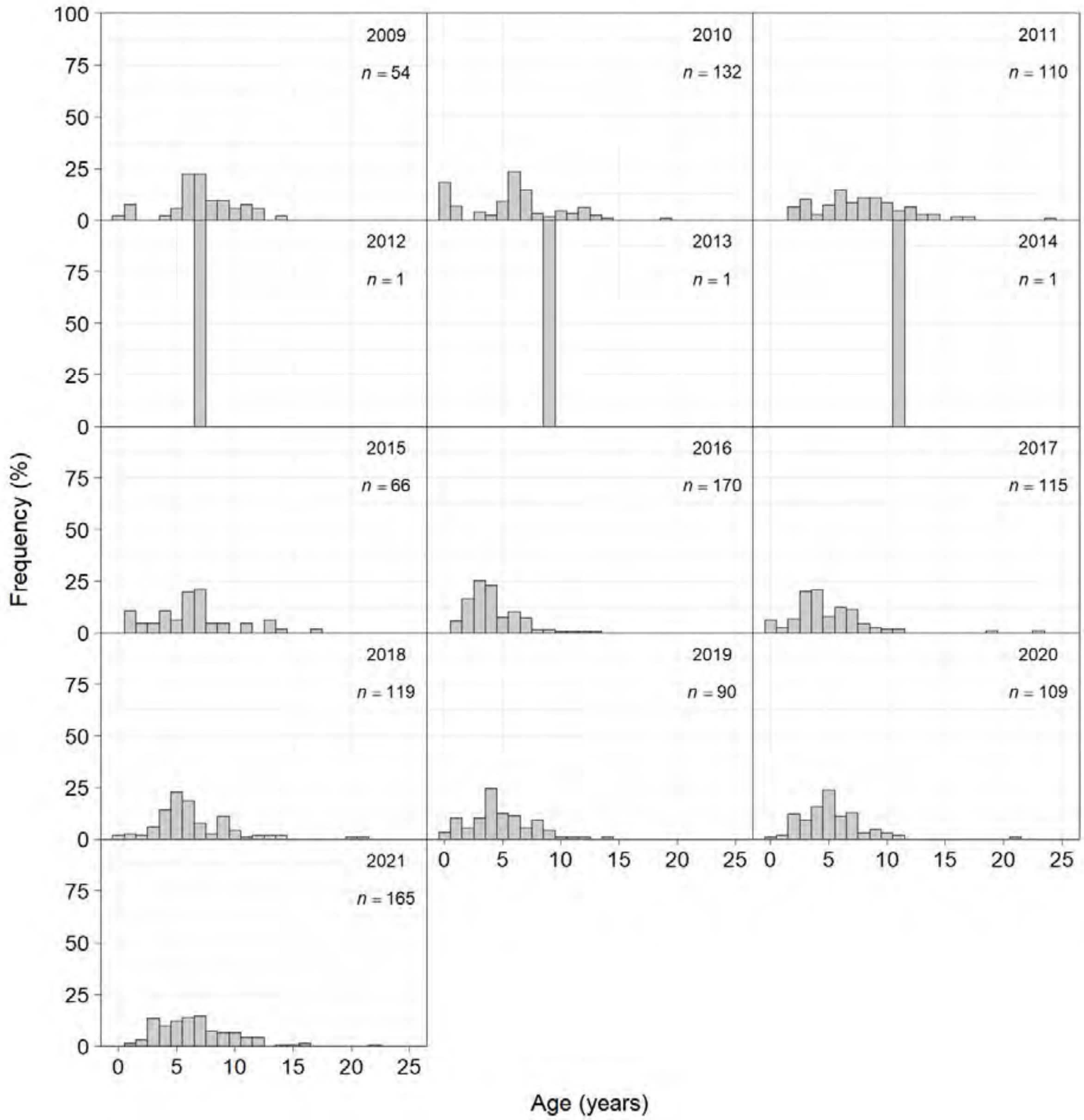

Figure F38: Age-frequency distributions by year for Walleye captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.

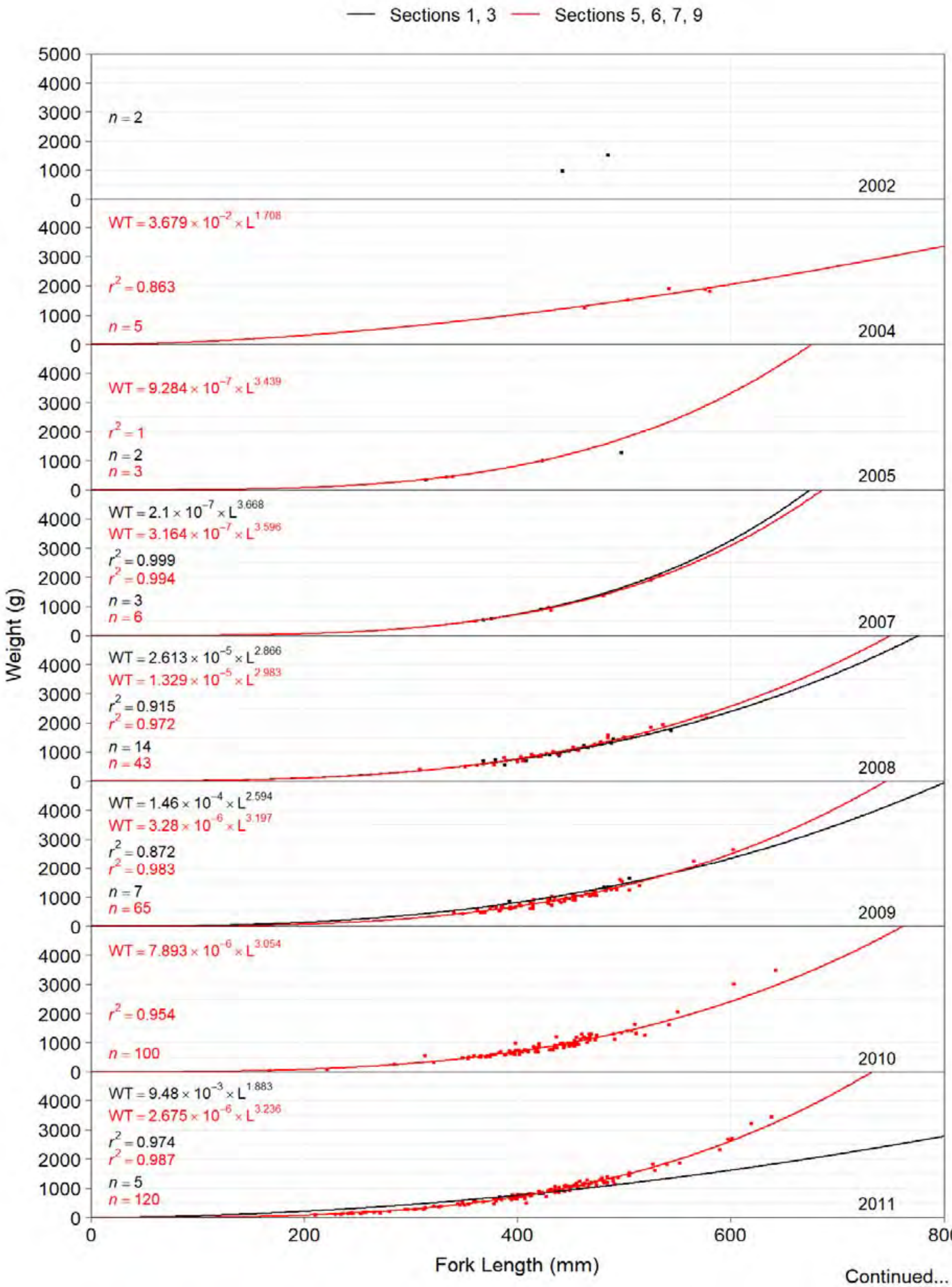

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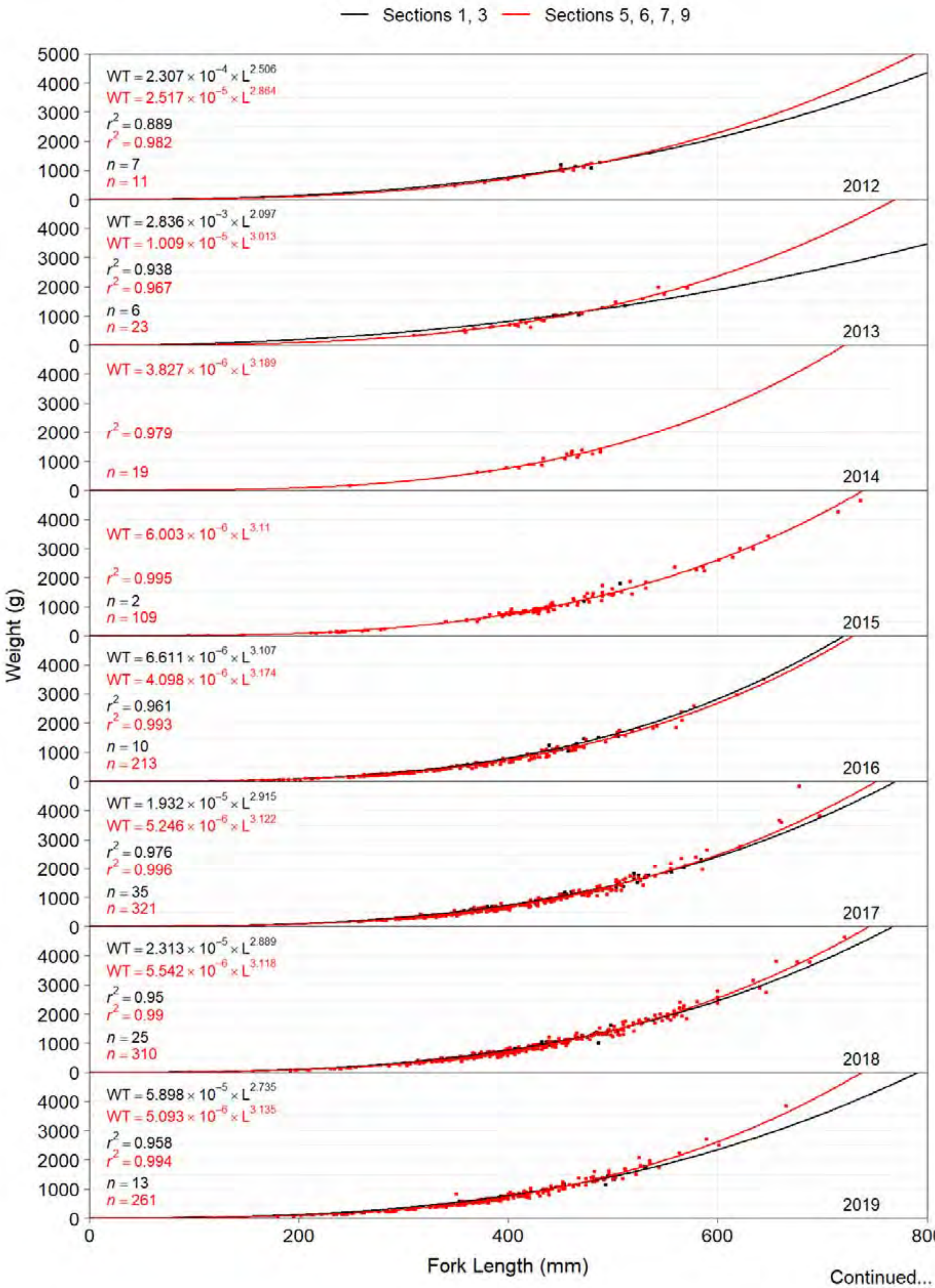
Figure F39: Length-weight regressions for Walleye captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).



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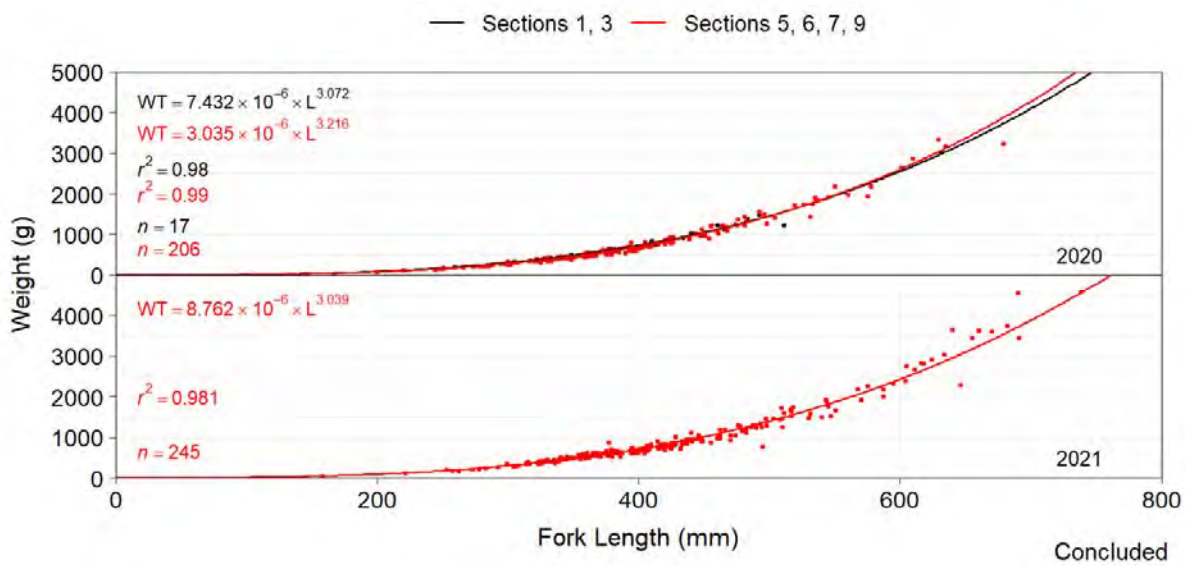

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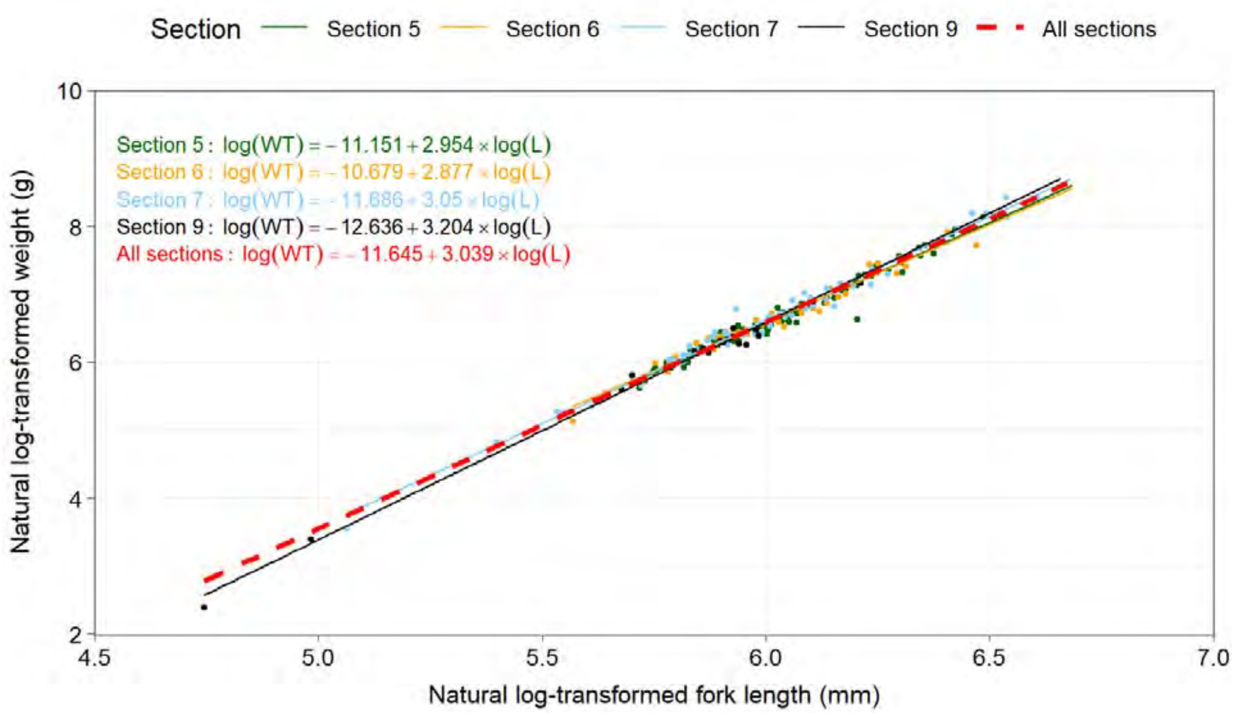

Figure F40: Log-log relationship between weight and fork length for Walleye captured by boat electroshocking in sampled sections of the Peace River, 2021.

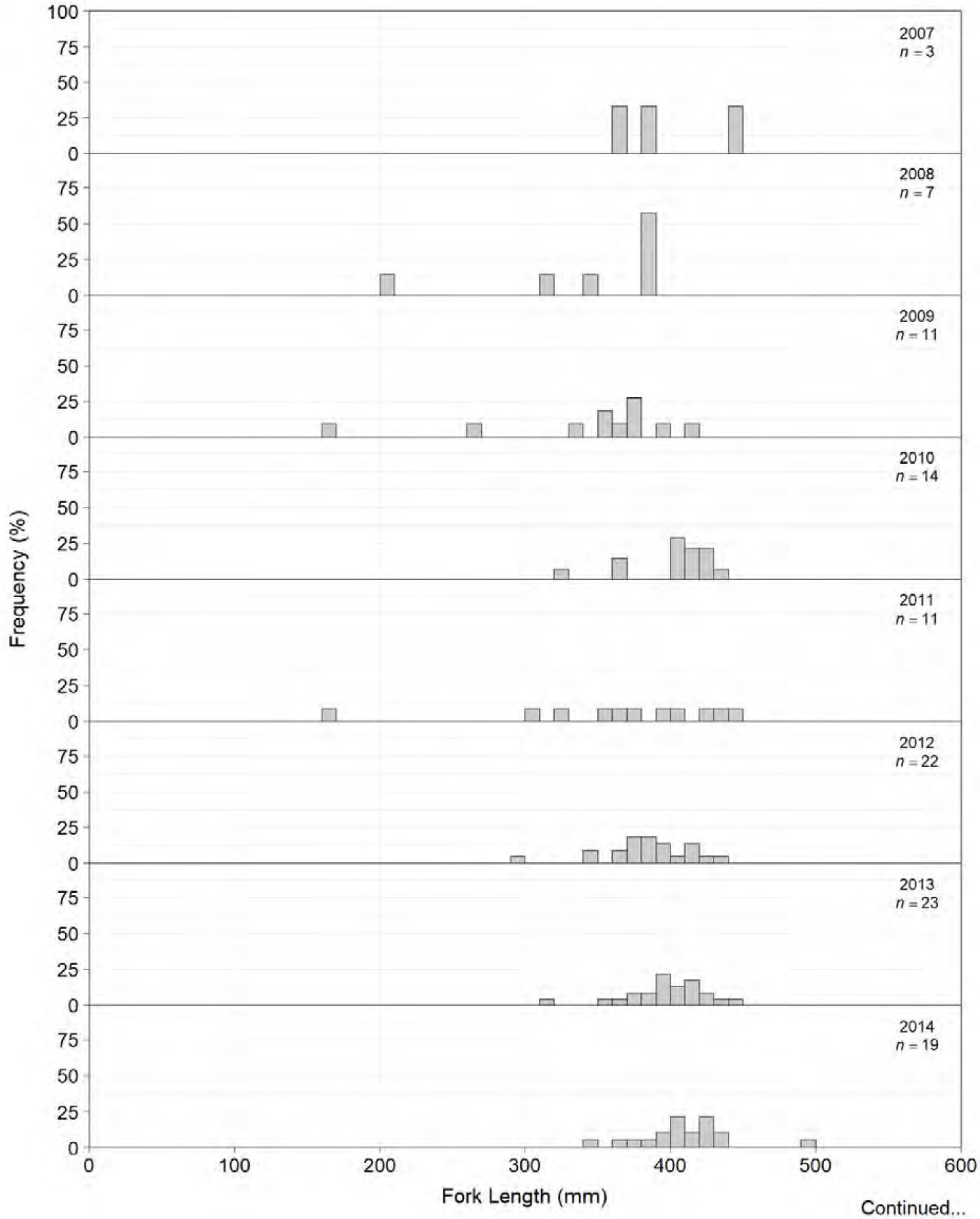

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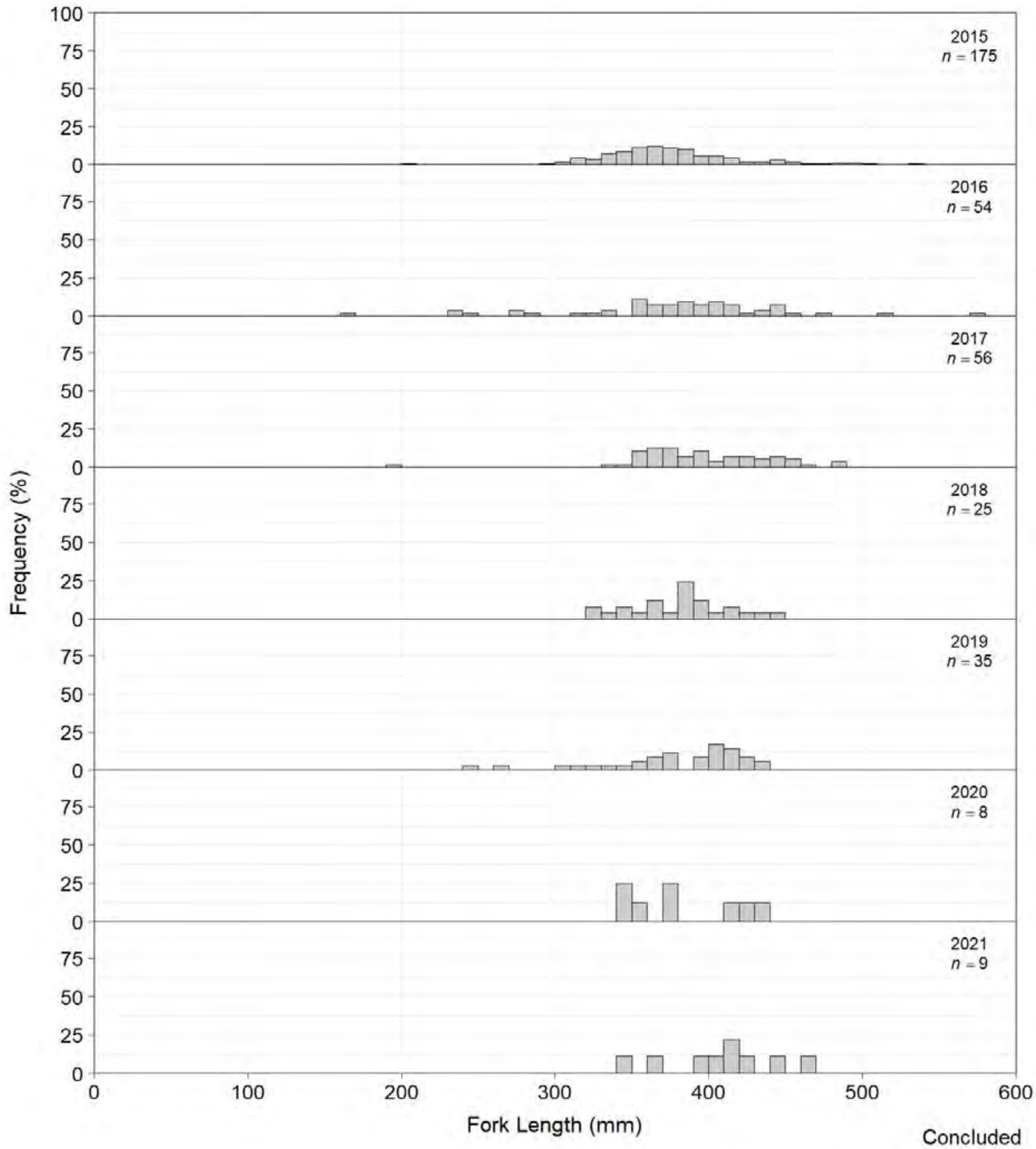
Figure F41: Length-frequency distributions by year for White Sucker captured by boat electroshocking in Sections 1 and 3 of the Peace River, 2002 to 2021.



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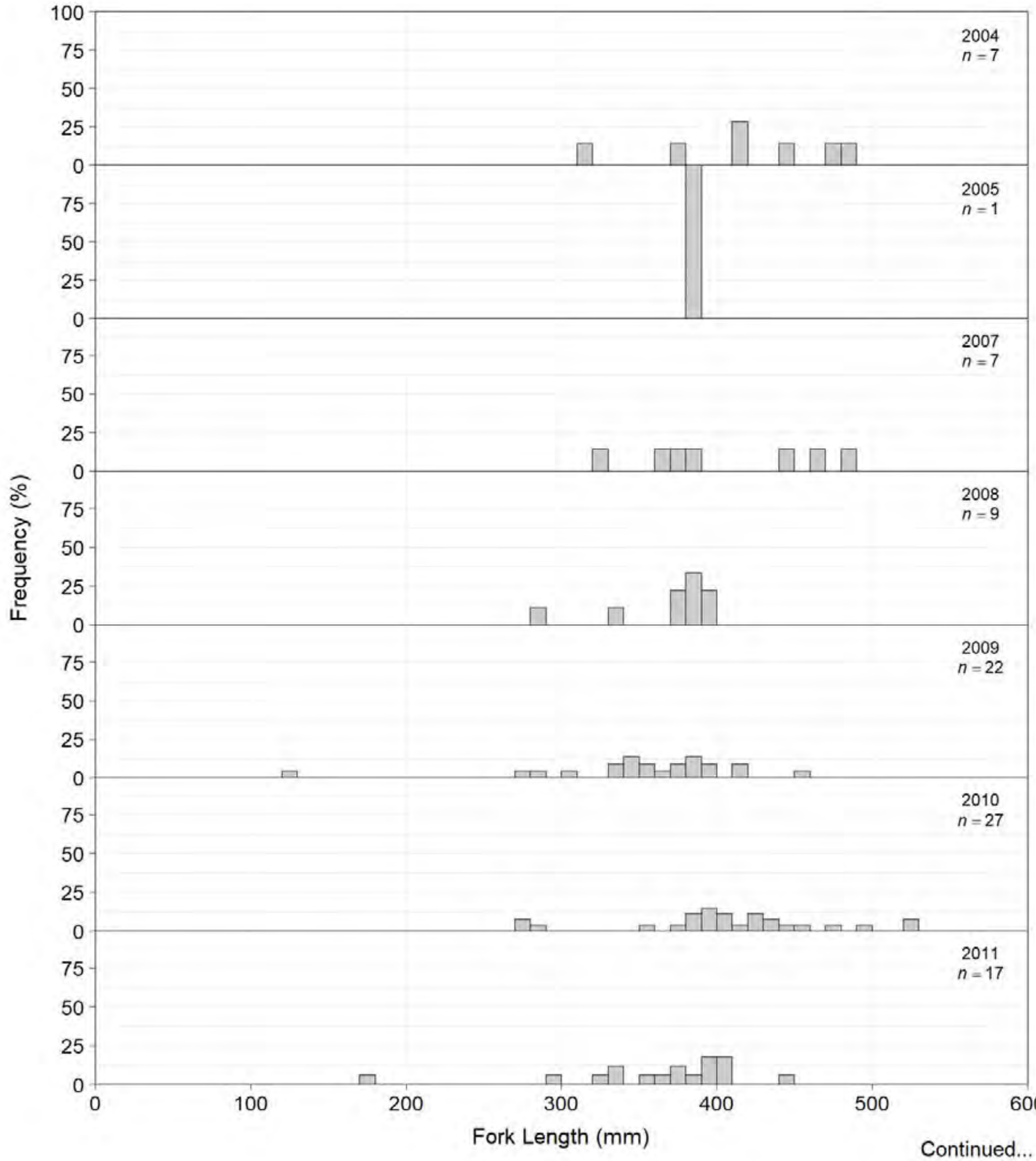
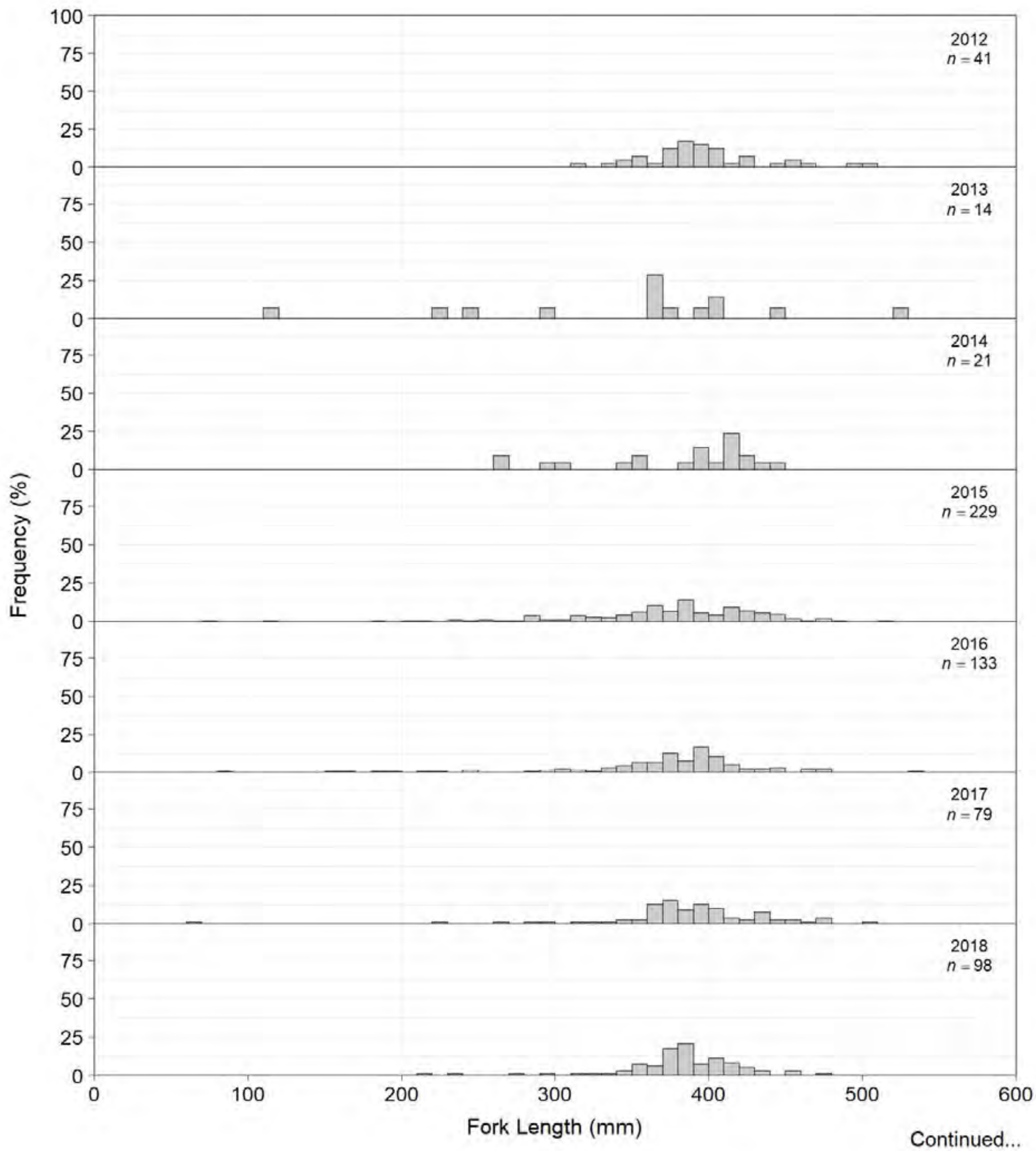


Figure F42: Length-frequency distributions by year for White Sucker captured by boat electroshocking in Sections 5, 6, 7, and 9 of the Peace River, 2002 to 2021.



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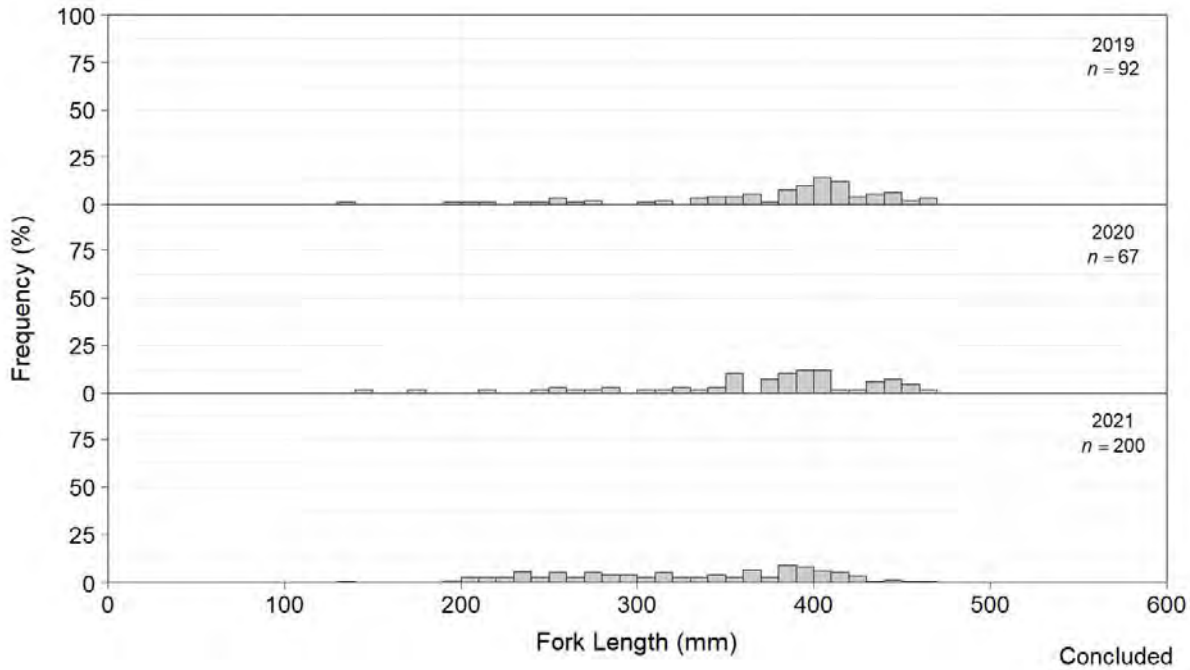

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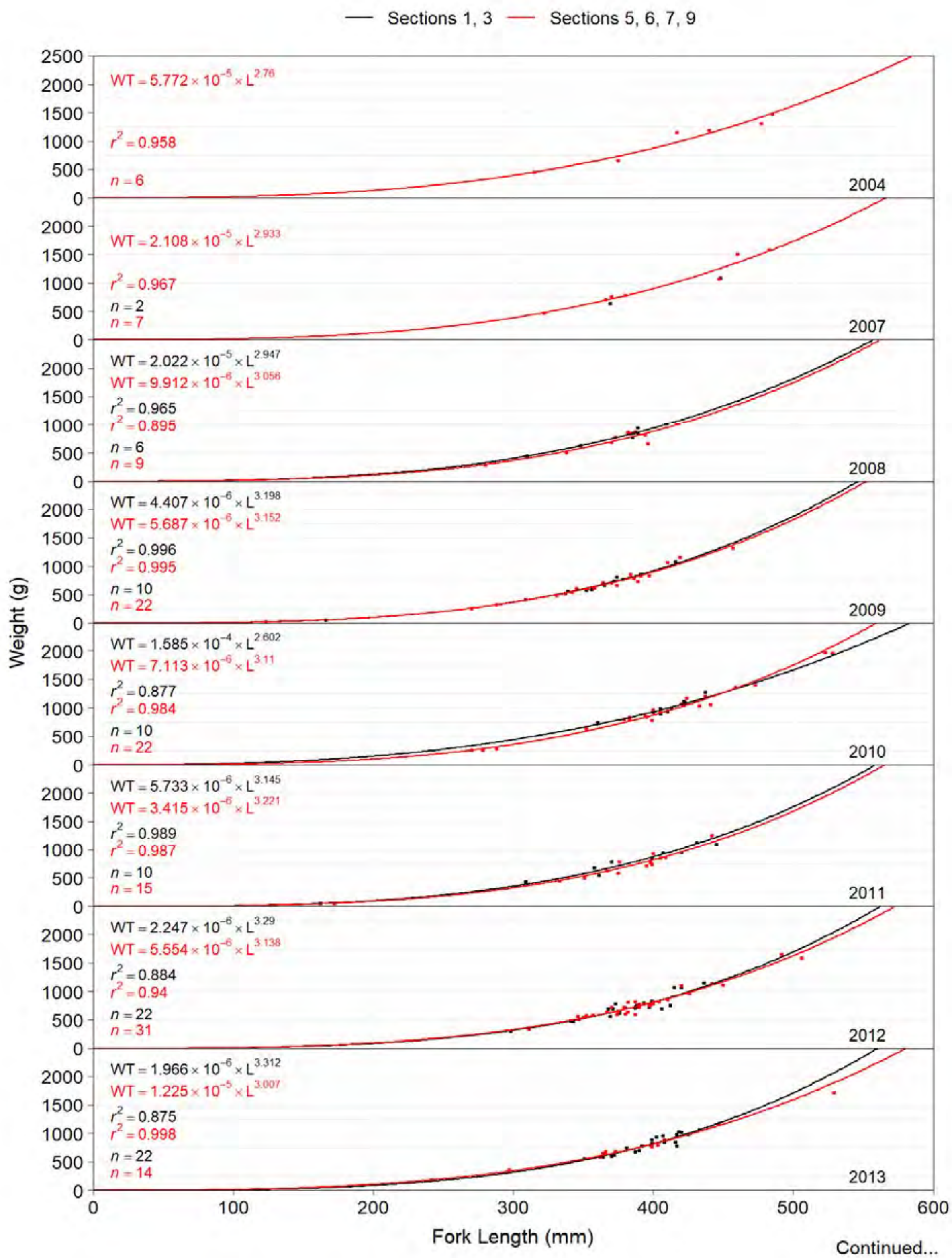
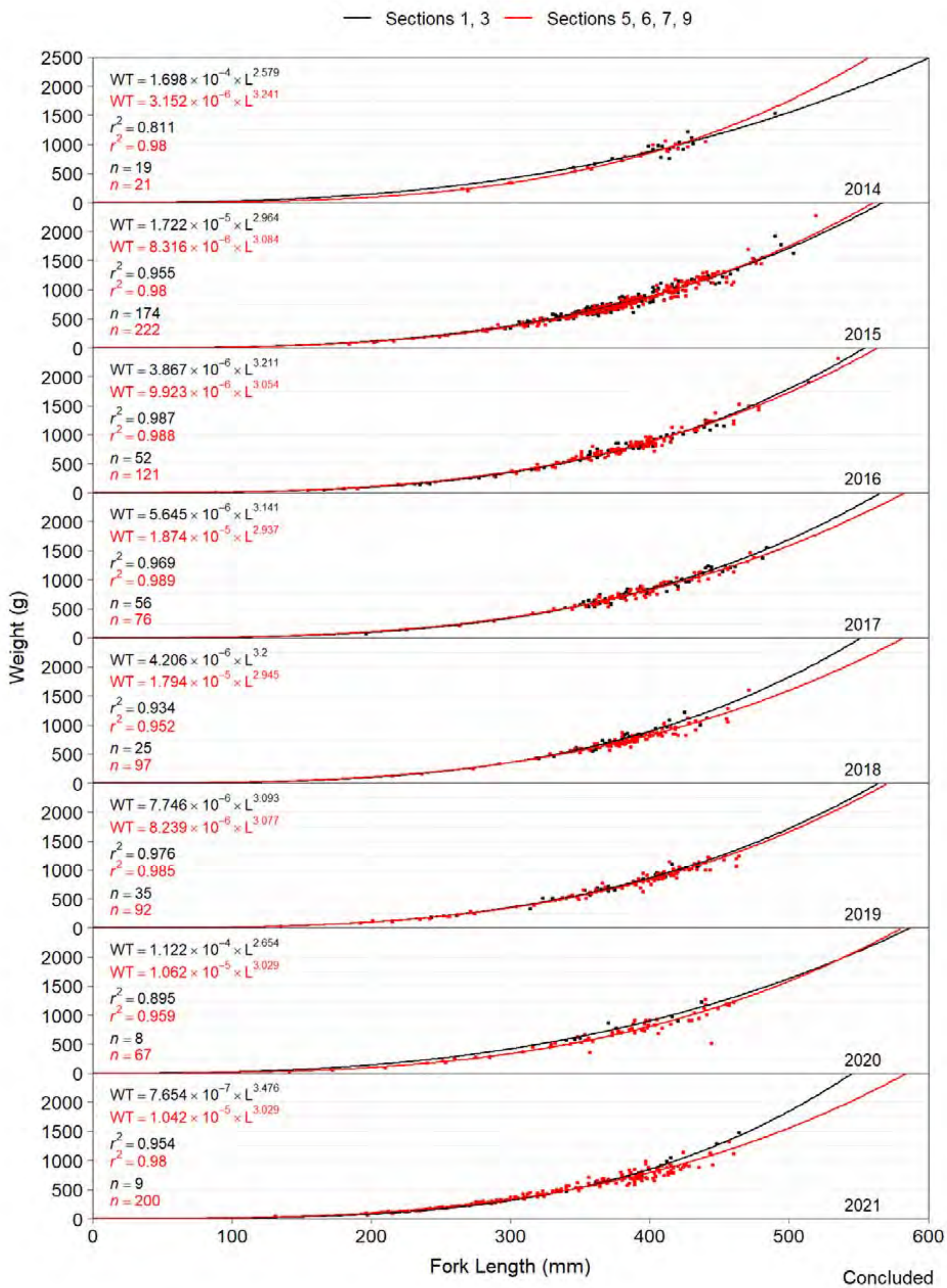


Figure F43: Length-weight regressions for White Sucker captured by boat electroshocking in sampled sections of the Peace River, 2002 to 2021. Data from Sections 6, 7, and 9 in 2009, 2010, and 2011 courtesy of BC Hydro's Site C Peace River Fish Inventory (Mainstream 2010, 2011, 2013a).



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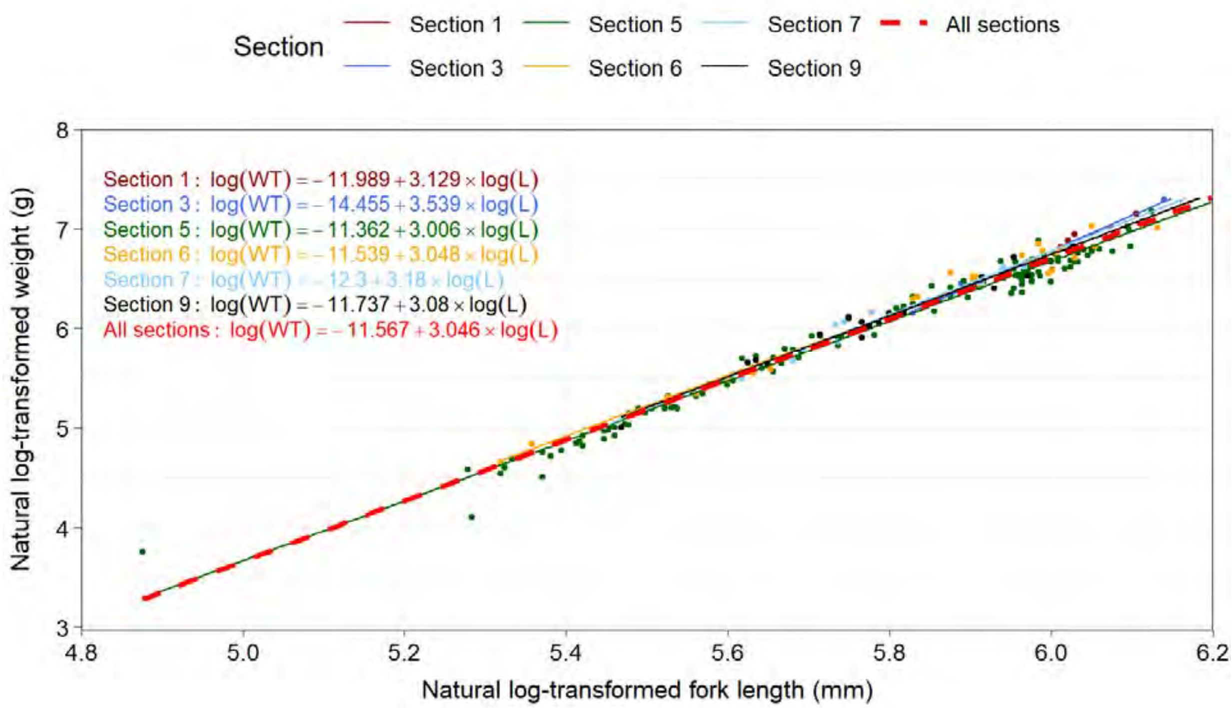

Figure F44: Log-log relationship between weight and fork length for White Sucker captured by boat electroshocking in sampled sections of the Peace River, 2021.

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