State of Alaska
Department of Fish and Game
Division of Sport Fish

Nomination Form
Anadromous Waters Catalog

SE

Region: ARC / INT

USGS Quad(s): UNK

Anadromous Waters Catalog Number of Waterway: UNK

Name of Waterway: UNK ☐ USGS Name ☐ Local Name

☐ Addition ☐ Deletion ☐ Correction ☒ Backup Information

For Office Use

Nomination #: 13-344

Revision Year: 2014

Revision to: Atlas ____ Catalog ____ Both X

Revision Code: F-1

Fisheries Scientist	Date
Habitat Operations Manager	Date
AWC Project Biologist	Date 10/2/13
Cartographer	Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
					☐
					☐
					☐
					☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments:

Supports nom # 13-259 – 13-285

AWC # listed

Name of Observer (please print): _____

Signature: _____ Date: _____

Agency: _____

Address: _____

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Anadromous Waters Catalog.

Signature of Area Biologist: _____ Date: _____ Revision 05/08

Name of Area Biologist (please print):

Nom#	AWC	ITM Quad	QUAD	INT	REGION
13-259	331-00-10490-2307	AMBLER RIVER A-2	123	A-2	ARC
13-260	334-40-11000-2125-3661	SURVEY PASS A-2	124	A-2	ARC/INT
13-261	334-40-11000-2125-3355	Hughes D-2	116	D-2	ARC/INT
13-262	331-00-10490	SURVEY PASS A-3	124	A-3	ARC
13-263	331-00-10490-2335	AMBLER RIVER A-1	123	A-1	ARC
13-264	331-00-10490-2441	HUGHES D-4	116	D-4	ARC/INT
13-265	331-00-10490	Hughes D-4	116	D-4	ARC/INT
13-266	331-00-10490-2307	AMBLER RIVER A-2	123	A-2	ARC
13-267	334-40-11000-2125	SURVEY PASS A-1	124	A-1	INT
13-268	331-00-10490-2205	AMBLER RIVER B-2	123	B-2	ARC
13-269	334-40-11000-2125-3661	SURVEY PASS A-2	124	A-2	ARC/INT
13-270	331-00-10490-2437	SURVEY PASS A-5	124	A-5	ARC
13-271	331-00-10490-2437	Hughes D-5	116	D-5	ARC/INT
13-272	334-40-11000-2125-3740-4080	BETTLES D-2	115	D-2	INT
13-273	334-40-11000-2125-3740-4080	BETTLES D-2	115	D-2	INT
13-274	331-00-10490	SURVEY PASS A-3	124	A-3	ARC
13-275	331-00-10490	SURVEY PASS A-3	124	A-3	ARC
13-276	331-00-10490	SURVEY PASS A-4	124	A-4	ARC
13-277	334-40-11000-2125-3661-4100	WISEMAN A-6	125	A-6	INT
13-277	334-40-11000-2125-3661-4100-5041	WISEMAN A-6	125	A-6	INT
13-278	334-40-11000-2125-3661-4100	SURVEY PASS A-1	124	A-1	INT
13-279	331-00-10490-2335	AMBLER RIVER A-1	123	A-1	ARC
13-279	331-00-10490-2335	SHUNGNAK D-1	117	D-1	ARC
13-280	331-00-10490-2335	AMBLER RIVER A-1	123	A-1	ARC
13-281	331-00-10490-2335	SURVEY PASS A-6	124	A-6	ARC
13-282	331-00-10490-2335	AMBLER RIVER A-1	123	A-1	ARC
13-283	331-00-10490-2335	SURVEY PASS A-6	124	A-6	ARC
13-284	331-00-10490-2335	SURVEY PASS A-6	124	A-6	ARC
13-285	331-00-10490-2335	AMBLER RIVER A-1	123	A-1	ARC

ANADROMOUS FISH SURVEYS WITHIN THE BROOKS EAST CORRIDOR SURVEY AREA, ALASKA

DRAFT REPORT

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EXECUTIVE SUMMARY

- The Ambler Mining District Access project, administered by the Alaska Department of Transportation and Public Facilities (ADOT&PF) proposes to identify, design, and construct an access and transportation corridor to the Ambler mineral belt.
- The Brooks East corridor, which extends east from the Ambler mineral belt through Bettles to the Dalton Highway, is being evaluated as a potential corridor. Empirical data documenting the distribution of anadromous fish species within the Brooks East Corridor survey area are limited.
- The objectives of the current survey were to: 1) document the distribution of anadromous fish species within Brooks East Corridor survey area; and 2) provide updated, spatially-explicit fish distribution data.
- Surveys were conducted in July and September 2012 to determine the presence of anadromous fish species in water bodies of the Brooks East Corridor survey area. Field sampling was conducted 13–26 July 2012. Additional field sampling was conducted within Gates of the Arctic National Park and Preserve 4–9 September 2012.
- Along the preferred corridor route, 40 major stream or river crossings were identified. Another 3 crossings occurred along the northern option (through the Mauneluk River valley) and 7 along the southern option (through the Gates of the Arctic National Park and Preserve) for a total of 50 potential major stream crossings. In some cases, the same water body crossed the proposed routes more than once. In July and September 2012, fish sampling or observations were recorded at 65 survey reaches associated with these major stream crossings.
- Anadromous adult or juvenile Pacific salmon (Chinook, Coho, and Chum Salmon) were observed or sampled at 15 survey reaches associated with at least 9 major stream crossings. Over all survey reaches, 178 km of anadromous stream will be nominated for inclusion in the AWC records for Pacific salmon in the Brooks East Corridor survey area.
- Dolly Varden were sampled at 15 survey reaches associated with at least 8 major stream crossings. Over all survey reaches, 268 km of stream will be nominated for inclusion in the AFFI for Dolly Varden in the Brooks East Corridor survey area.

- Spawning areas for Chum Salmon were documented in the Upper Kobuk River subbasin the Alatna River subbasin, and in the Koyukuk Flats subbasin. Spawning Chinook Salmon were observed in the Alatna River watershed in an unnamed tributary to the Alatna River.

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ACKNOWLEDGMENTS

DOWL HKM Environmental Specialist Jessica Christianson accompanied the ABR survey crew during the reconnaissance survey and field sampling trips. Her assistance with trip and survey logistics, permitting, and field sampling was greatly appreciated and contributed to the success of this survey. Pilot Karl Terry of the Bristow Group, Inc., provided safe transport to and from the survey reaches for the majority of the field sampling. His knowledge of the survey area and assistance with survey logistics was also greatly appreciated and contributed to the success of this survey. Jay and Judy Jespersen of Brooks Range Aviation provided storage for field sampling gear while the crew was stationed in Bettles, Alaska. Accommodations were provided by the Bettles Lodge and the NOVAGOLD Dahl Creek Camp. ABR biological technicians Liz Miner and Matthew Apling assisted with the reconnaissance survey and field sampling.

INTRODUCTION

With the Ambler Mining District Access project, the Alaska Department of Transportation and Public Facilities (ADOT&PF) proposes to identify, design, and construct an access and transportation corridor to the Ambler mineral belt. Of the 8 preliminary corridors that are being evaluated, one has been selected for field work in preparation for the future NEPA process. This corridor, referred to as Brooks East, extends east from the Ambler mineral belt through Bettles to the Dalton Highway.

Anadromous fish have been documented in portions of the Brooks East Corridor survey area in the Anadromous Waters Catalog (AWC) maintained by the Alaska Department of Fish and Game (ADFG 2012a). A number of tributaries to these larger rivers are assumed to support anadromous fish species based on a GIS analysis of locations and stream gradients. However, limited data are available on the distribution of anadromous fish at proposed river crossings for the Brooks East Corridor.

DOWL HKM contracted ABR, Inc.—Environmental Research & Services (ABR) to conduct surveys to assess use of the Brooks East Corridor survey area by anadromous fish. The focus of this effort was to sample for the presence or absence of anadromous fish species in those streams that are crossed by the proposed corridor. Field surveys were timed to coincide with the period when multiple species of Pacific salmon were likely to be found on the spawning grounds and during which other facultatively anadromous species such as Dolly Varden Char (*Salvelinus malma*) were likely to be present in streams in the Brooks East Corridor survey area.

BACKGROUND

Salmon and other anadromous fish migrate from natal fresh waters to salt water and return to fresh waters to spawn. Anadromous fish import marine-derived nutrients and energy into fresh waters, frequently playing an important role in enriching otherwise unproductive aquatic and adjacent terrestrial ecosystems (Cederholm et al. 1999). The maintenance of properly functioning and connected aquatic habitats, along with proper management of harvests, is critical to preserving sustained yields of anadromous fish, as required by the Alaska Constitution. Consequently, in Alaska, habitats that are used by migrating, spawning, or rearing anadromous fish are protected under multiple administrative jurisdictions (Buckwalter 2010).

Alaska Statute (AS) 16.05.877 (the Anadromous Fish Act) affords special protection to waterbodies used by anadromous fish for migration, spawning, and/or rearing. The Alaska Department of Fish and Game (ADFG) records anadromous fish data in "The Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes," known as the Anadromous Waters Catalog (AWC) (ADFG 2012b).

The Magnuson-Stevens Fishery Conservation and Management Act is federal legislation designed to protect Essential Fish Habitat (EFH) for federally managed species, including freshwater habitats used by anadromous salmon. The responsible agency is the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries), which relies on the AWC to designate waterbodies in Alaska to be managed as EFH. It is critical that waterbodies used by anadromous fish are listed in the AWC, as only these listed water bodies are afforded state and federal protected status with consequent permit requirements and related liabilities. The following survey was conducted with the notion that the state and federal permits necessary to proceed with the Ambler Mining District Access Project will require knowledge of potential impacts on any fish-bearing waterbodies that may be traversed by the project corridor.

OBJECTIVES

- Objective 1: Document the distribution of anadromous fish within Brooks East Corridor survey area
- Objective 2: Provide updated, spatially-explicit fish distribution data

STUDY AREA

The Brooks East Corridor crosses 7 subbasins (subbasins are based on the 8th level Hydrological Unit Code (HUC) boundaries; USGS, NRCS, and EPA [http://nhd.usgs.gov/]): the Middle Kobuk River, Upper Kobuk River, Alatna River, Allakaket, Upper Koyukuk River, Koyukuk Flats and South Fork Koyukuk River subbasins (Table 1, Figure 1). The corridor crosses 19 watersheds (watersheds are based on the 10th level HUC boundaries) (Table 1, Figure 1). Within the corridor there are 2 proposed alternative routes: the Northern Road Alternative which passes entirely within the Outlet Mauneluk River watershed and the Southern Road Alternative which traverses the Beaver Creek, Reed River, Kobuk Canyon–Kobuk River,

Headwaters Hogatza River, Chebanika Creek–Alatna River, and Helpmejack Creek–Alatna River watersheds (Figure 1).

METHODS

RECONNAISSANCE AND DESIGNATION OF SURVEY REACHES

A 5-day reconnaissance survey was conducted 8–12 June 2012. The primary goal of the reconnaissance survey was to identify stream and river crossing locations for sampling in July and September. ABR biologists were assisted by Environmental Specialist Jessica Christianson (DOWL HKM) and local Subsistence Advisor Allen A. Tickett. Helicopter support was provided by Bristow Group, Inc., through an arrangement with the ADOT&PF. A Bell 407 helicopter was used for the majority of the survey. Potential stream and river crossing locations were systematically evaluated and fish survey reaches were established during the 5-day survey.

ABR and DOWL HKM staff met in Bettles, Alaska, on 7 June 2012. After reviewing maps and discussing logistics, it was determined that the initial survey should include a flight along the entire corridor. On 8 June 2012, the crew flew from the eastern edge of the project area near the Jim River, along the northern alternative route, to the western edge of the project area near the Ambler River. During the flight, Jessica Christianson of DOWL HKM identified major stream crossing locations for future sampling, which ABR biologists recorded in booklets of 10 sequential aerial photo maps of the corridor that were provided by DOWL HKM (Appendix A). The major stream crossings had previously been documented by DOWL HKM officials as possible bridge crossings (DOWL HKM, personal communication).

Major stream crossing locations were numbered 0–39 from west to east along the proposed route, N1 to N3 along the northern alternative through the Mauneluk River valley, and S1 to S7 along the southern alternative through Gates of the Arctic National Park and Preserve (Table 1; Figure 2). At each major stream crossing location, the most suitable survey reach was selected based on visual inspection of the stream or river from the air and the accessibility and proximity to a safe landing zone. These factors significantly affected the proximity of survey reaches to crossing locations. Once a survey reach was identified, its location was recorded electronically with a handheld GPS unit (Garmin 78s).

The survey team made every attempt to document physical habitat parameters at each survey reach. However, due to factors such as weather and helicopter duty-hour constraints physical habitat measurements were omitted at some survey reaches (see Appendix B). The recorded habitat parameters included wetted width, bankfull width, channel gradient, habitat unit composition (e.g., percent pools, glides, and riffles), and the dominant substrate. Water chemistry parameters were measured in each survey reach and included water temperature, dissolved oxygen saturation, dissolved oxygen concentration, conductivity, and pH (Appendix B). If the reach was near a tributary junction with a mainstem river, water chemistry parameters were measured in both the mainstem river and the tributary stream. Photographs of the survey reach also were taken, looking upstream and downstream from the water chemistry monitoring point.

During the June reconnaissance, helicopter landing permits had not yet been acquired and thus no landings were permitted in Gates of the Arctic National Park and Preserve. The survey team documented as much information as possible from the air at potential survey reaches located in the Park. This information included an assessment of the likelihood of fish communities being present in the survey reach once the survey team returned during July or September. Data gathered during the reconnaissance survey, including anecdotal information provided by Subsistence Advisors Allen A. Tickett and MacArthur L. Tickett, were used to prioritize survey reaches for field sampling in July and September 2012. The survey team agreed that the July field sampling effort would focus first on the northern alternative route in areas where data on anadromous fish species were most limited, generally west of the Kobuk River.

FIELD SAMPLING

Fish surveys were conducted in waterbodies of the Brooks East Corridor survey area in July and September 2012. The initial survey effort concentrated on the northern alternative route. During these surveys a number of passive and active sampling methods were implemented and included minnow-trapping, backpack electrofishing surveys, small-handled dipnetting, and visual observations from the ground and air.

Minnow traps were deployed in the majority of survey reaches. Each minnow trap was baited with raw salmon eggs in a clear, perforated ziploc bag which was fastened to the inside of

the trap with twine. Raw salmon eggs were disinfected by soaking in a 1/100 Betadyne solution for 10 minutes prior to use. Once baited, the traps were deployed within various habitat types to ensure the highest probability of capture if juvenile fish were present (i.e., under cut banks, near larger woody debris, in deep pools, etc.). In most survey reaches, 3 minnow traps were deployed, but as many as 5 were deployed in larger streams and rivers. Minnow traps deployed within a survey reach were left to soak overnight. The following day, the survey crew relocated and checked each trap, removed any captured fish, and placed them in a holding bucket containing cool, well-oxygenated stream water. All sampled fish were identified to species, measured (salmonids: fork length; other species: total length), and released within the survey reach. In many cases, juvenile Coho Salmon (*Oncorhynchus kisutch*) and Chinook Salmon (*Oncorhynchus tshawytscha*) were difficult to differentiate due to the overlap in external morphological characteristics between the 2 species that may result in misidentification in the field. Such fish were documented in the field as undifferentiated juvenile Coho Salmon/Chinook Salmon, photographed and/or collected as a voucher specimen for later identification in the lab. These photographs and voucher specimens were later identified to species with the assistance of the USGS, Alaska Science Center.

Backpack electrofishing methods were based on those used by ADFG for inventory and cataloging of anadromous fish throughout Alaska (Buckwalter 2010). In reaches where backpack electrofishing was the primary sampling method, a survey reach was established with a length equivalent to 40 wetted channel widths or 150 m, whichever was greater (up to 300 m). This reach length ensured adequate sampling in both smaller and larger wadeable streams. The backpack electrofishing unit settings were adjusted prior to sampling based on the conductivity of water in each reach (Buckwalter 2010). The survey crew of either 2 or 3 people began the survey at the downstream end of the reach and proceeded upstream while electrofishing. The crew moved diagonally across the channel from bank to bank to sample all habitat types present. Fish were collected using dip nets and placed in a holding bucket containing cool, well-oxygenated stream water. The water in the holding bucket was refreshed periodically to reduce physiological stress caused by warm water temperatures or low dissolved oxygen. All sampled fish were identified to species, enumerated, measured, and released live downstream of the

sampling location. Backpack electrofishing methods were not employed in stream reaches where adult fish were observed.

Voucher fish specimens were retained and preserved in 95% ethanol. Specimens were shipped to the ABR laboratory in Anchorage, AK, where they were transferred to 10% buffered formalin. Each fish specimen was verified to species and retained. Most specimens were <40 mm total length. Additionally, because anadromy cannot be assumed for Dolly Varden, particularly this far inland, in reaches where Dolly Varden were present, two specimens were retained to be made available to the National Park Service or other state or federal agencies for otolith analysis (to investigate anadromy), if desired. For AWC nomination, ADFG requires supporting information (e.g., otolith chemistry analysis) to substantiate the contention that Dolly Varden are anadromous for any given nominated waterbody (Buckwalter 2010). For the purposes of this analysis, ABR treated Dolly Varden as potentially anadromous because they have the potential to go to marine waters. ABR made a distinction between salmonids by categorizing them as known anadromous Pacific salmon or facultatively anadromous Dolly Varden. Dolly Varden-bearing streams in this survey will be nominated to the Alaska Freshwater Fish Index (AFFI) which is managed along with the AWC by ADFG.

RESULTS

Water chemistry, habitat, and fish sampling data from all survey trips, including the June reconnaissance survey, are presented in Appendices B and C. During all sampling periods, water quality data were collected a total of 93 times at 62 distinct survey reaches (Appendix B). Field sampling was conducted 13–26 July 2012 at sites outside of Gates of the Arctic National Park and Preserve and 4–9 September 2012 at sites within the Park. During the 14-day field sampling period in July 2012, 56 survey reaches were sampled in 42 different waterbodies. During the 5-day field sampling period in September 2012, 9 survey reaches were sampled in 7 different water bodies.

A total of 65 survey reaches were established during 2012 surveys (Figure 3). Fish were present in 56 of 65 survey reaches sampled in the project area (Table 1). A total of 8 species of fish were observed in the project area, including Coho Salmon, Chinook Salmon, Chum Salmon (*Oncorhynchus keta*), Dolly Varden, Arctic Grayling (*Thymallus arcticus*), Northern Pike (*Esox*

lucius), Burbot (*Lota lota*), and Slimy Sculpin (*Cottus cognatus*) (Table 2). Pacific salmon were observed in 14 of the 65 (22%) survey reaches sampled (Table 2; Figure 4). Dolly Varden were observed in 15 of 65 (23%) survey reaches sampled (Table 2; Figure 5). Slimy Sculpin was the most prevalent species observed during surveys, found in 38 of the 65 (58%) survey reaches (Table 2; Figure 6). The next most prevalent species was Arctic Grayling, observed in 18 of the 65 (27%) survey reaches (Table 2; Figure 7). Small numbers of Burbot and Northern Pike were also found during surveys (Table 2; Figure 6).

CHUM SALMON

A total of 9 juvenile Chum Salmon were observed in 4 of 65 (6%) survey reaches (Table 2). The average fork length of 9 juvenile Chum Salmon was 47 mm (range 36–58 mm) (Appendix C). Juvenile Chum Salmon were observed in the Mauneluk River and an unnamed tributary of the Mauneluk River (UN29 and MN02), in the Reed River (RD03), and in an unnamed tributary to the Malamute Fork of the Alatna River (UN14) (Table 1; Figure 4). All individuals were sampled in low gradient (<1%) backwater habitats or in isolated pools within mid-channel gravel bars using either dipnets or backpack electrofishers. Adult Chum Salmon were observed in 5 of 65 survey reaches (8%) (Table 2). Adult Chum Salmon were observed in an unnamed tributary of the Alatna River (UN25a) and an unnamed tributary to the Mauneluk River (UN30), the Reed River (RD04), the Kobuk River (KB01) and the Hogatza River (HG01) (Table 1; Figure 4).

COHO SALMON

A total of 19 juvenile Coho Salmon were captured in 6 of 65 survey reaches (9%) using a combination of electrofishers, minnow traps, and dipnets (Tables 1 and 2; Appendix C). The average fork length of these 19 fish was 56 mm (range 46–69 mm) (Appendix C). Juvenile Coho Salmon were observed in unnamed tributaries of the Malamute Fork Alatna River (UN14 and UN15), Malamute Fork John River (UN17), and Jim River (UN19 and UN24), as well as in Tobuk Creek (TB01) (Table 1; Figure 4). No adult Coho Salmon were observed during 2012 surveys.

CHINOOK SALMON

Juvenile Chinook Salmon were electrofished in 2 of 65 survey reaches (3%) (Table 2). One individual was caught in Tobuk Creek and another in an unnamed tributary to the Jim River

(Table 1; Appendix C). Spawning adult Chinook Salmon were observed in the Alatna River (UN25b) (Figure 4).

DOLLY VARDEN

Dolly Varden were observed in 15 of the 65 survey reaches (23%) and 15 of 48 waterbodies sampled (Table 2; Figure 5). The average fork length of the 80 Dolly Varden captured was 110 mm (range 69–168 mm) (Appendix C). Dolly Varden were observed in the western portion of the survey area; the easternmost extent of the observed distribution was in the Alatna River subbasin in an unnamed tributary to Helpmejack Creek (UN16) (Figure 5). Juvenile Dolly Varden were caught in minnow traps in 13 of the 15 survey reaches where Dolly Varden were observed, while backpack electrofishing methods were used to sample an additional 2 reaches (UN26 and UN31) (Table 1; Appendix C).

ANADROMOUS SPECIES IN SUBBASINS AND WATERSHEDS

MIDDLE KOBUK RIVER

The Brooks East Corridor crosses the Outlet Ambler River and Shungnak River watersheds in the Middle Kobuk River subbasin (Figure 1). While sampling did occur in the Shungnak River watershed, no sampling occurred in the Outlet Ambler River watershed. Sampling did occur in the Headwater Ambler River watershed nestled between those two watersheds to the north. Though this watershed is not crossed by the corridor, its waters are accessible to fish moving throughout all three watersheds. Previous AWC survey work found Chum Salmon, Dolly Varden, and undifferentiated whitefish at locations on the Ambler River and its tributary, the Redstone River (Figures 4 and 8). No Pacific salmon were observed at survey reaches ,within this subbasin during 2012 surveys. However, Dolly Varden were observed well upstream of crossing 0 on Ulaneak Creek (UL01) in the Headwater Ambler River watershed, an 8 km extension of the range recorded for Dolly Varden by the AFFI (Table 3; Figure 5).

UPPER KOBUK RIVER

The Brooks East Corridor crosses 7 watersheds in the Upper Kobuk River subbasin; the Kogoluktuk River, Outlet Mauneluk River, Selby River, Beaver Creek, Reed River, Kobuk Canyon–Kobuk River, and Headwaters Kobuk River watersheds (Figure 1). The proposed route

has 19 major stream crossings within this subbasin (crossings 3–21), 12 of which were associated with nearby survey reaches (Table 1; Figure 2). Prior to the current survey, Chum Salmon, Dolly Varden, and undifferentiated whitefish had been documented downstream of the proposed major road crossing on the mainstem of the Kogoluktuk River (crossing 4; AWC 331-00-10490-2307); Chum Salmon and undifferentiated whitefish were documented downstream of the proposed major crossing on the Mauneluk River (crossing 9; AWC 331-00-10490-2335); and Chum Salmon were found south of the Selby River (crossing 11; AWC 331-00-10490-2387) and downstream of major crossings on Beaver Creek (crossing 13; AWC 331-00-10490-2437). Chum, Chinook, and Pink Salmon as well as Dolly Varden, Sheefish, and undifferentiated whitefish have been documented on the mainstem Kobuk River (AWC 331-00-10490) (Figures 4 and 8).

During 2012 surveys, a total of 7 juvenile Chum Salmon were collected using electrofishing techniques in 3 survey reaches in the Upper Kobuk River subbasin: UN29 in an unnamed tributary to the Mauneluk River, MN02 in the Mauneluk River, and RD03 in the Reed River. In addition, 4 adult Chum Salmon spawning areas were observed in 3 survey reaches: KBO1 in the Kobuk River, RD04 in the Reed River, and UN30 in an unnamed tributary to the Mauneluk River (Plates 1–5) (Figure 4; Appendix C). In total, these observations add 95 km of stream habitat to the AWC (Table 3). Salmon occurred at survey reaches associated with 3 crossings in the Upper Kobuk River subbasin (crossings 9, 16, and 19).

Dolly Varden were observed in 12 survey reaches (UN03, UN04, UN05, UN06, UN10, UN26, UN31, UN34, UN35, UN37, CN01, and RI01) associated with 6 proposed crossings (1, 5, 9, 11, 15, and S3) within the Upper Kobuk River subbasin (Table 1; Figure 5). The 68 Dolly Varden captured in this subbasin averaged 111 mm (range 69–168 mm). All Dolly Varden were caught with either minnow traps or electrofishing techniques. The majority of these fish (n = 47) were caught in survey reaches associated with unnamed tributaries to the Mauneluk River (Appendix C). These observations add 218.7 km of stream habitat for Dolly Varden to the AFFI (Table 3).

KOYUKUK FLATS

The southern corridor option crosses only 1 watershed in the Koyukuk Flats subbasin, the Hogatza Hills-River watershed. Previously, Chum, Coho, and Chinook Salmon, as well as undifferentiated whitefish have been documented on the Hogatza River (AWC 334-40-11000-2125-3355), a considerable distance downstream of the 2012 survey area and just upstream of that point in an unnamed tributary (AWC 334-40-11000-2125-3355-4556). In 2012, adult spawning Chum Salmon were observed just downstream of crossing S6 at a survey reach on the Hogatza River (HG01) (Figure 4; Plate 6). This point adds 27 km of salmon stream habitat to the AWC. No Dolly Varden were documented in the Koyukuk Flats subbasin during 2012 surveys.

ALATNA RIVER

The proposed corridor route crosses 4 watersheds in the Alatna River subbasin (Helpmejack Creek-Alatna River, Chebanika Creek-Alatna River, Tobuk Creek, and Malamute Fork Alatna River) with 10 major stream crossings (22–30 and S7) (Figure 1). Survey reaches were located on streams associated with 3 major crossings in the Alatna River subbasin (S7, 24, 25) and included Helpmejack Creek and its unnamed tributaries as well as the Alatna River, Koyukuk River, Malamute Fork Alatna River, and Bedrock Creek (Figures 4 and 8). Chum and Chinook Salmon were previously documented at the confluence of the Alatna River and the Malamute Fork of the Alatna River (AWC 334-40-11000-2125-3661-4100) downstream of crossing 24. Chum and Chinook Salmon were also documented at the confluence of Mettenpherg Creek and the Malamute Fork of the Alatna River (AWC Code 334-40-11000-2125-33661-5055) (Figures 4 and 8).

During 2012 surveys, juvenile Coho and Chum Salmon were captured using dipnets at a survey reach (UN14) in an unnamed tributary to the Malamute Fork Alatna River upstream of crossing 25 (Figure 4). These anadromous fish observations add less than 0.1 km of stream habitat to the AWC but do identify the outlet of this unnamed tributary as a starting point for future surveys. Juvenile Coho and Chinook Salmon were captured using electrofishers at survey reach TBO1, also upstream of crossing 25 and adding 1.8 km of stream habitat to the AWC for anadromous salmon. Juvenile Coho Salmon were collected in minnow traps on another unnamed

tributary to the Malamute Fork Alatna River associated with crossing 25 (UN15), adding another 0.15 km of stream habitat to the AWC (Table 3).

Chum and Chinook Salmon spawning areas were observed from the air during surveys of an unnamed tributary to the Alatna River associated with crossing 24 (Figure 4). The Chum Salmon spawning (UN25a) area was located less than 1 km upstream of the confluence of the unnamed tributary with the mainstem Alatna River and extended approximately 100 m upstream (Figure 4; Plates 7 and 8). The Chinook Salmon spawning area was documented approximately 1.8 km upstream (UN25b) (Figure 6; Plates 9 and 10). In total, these 2 observations of spawning salmon add 53.7 km of stream habitat to the AWC (Table 3; Figure 4).

Juvenile Dolly Varden were collected with electrofishers and minnow traps in 2 survey reaches upstream of the S7 crossing on tributaries to the Alatna River: HJ01 in Helpmejack Creek and UN16 in an unnamed tributary to Helpmejack Creek. Together, these observations add 41.5 km of stream habitat to the AFFI for Dolly Varden (Table 3).

ALLAKAKET

The proposed route crosses 2 watersheds in the Allakaket subbasin (East Fork Henshaw Creek and Hawzerah Creek-Koyukuk River watersheds) (Figure 1). The proposed route runs along the boundary between the northern portion of the Allakaket subbasin and the southern portion of the Upper Koyukuk River subbasin, occasionally reentering the Allakaket subbasin in the Hawzerah Creek-Koyukuk River watershed. However, no major stream crossings were identified within the Allakaket subbasin and thus only limited sampling occurred there (Table 1; Figure 1). Chum Salmon have previously been documented in East Fork Henshaw Creek (AWC 334-40-11000-2125-3701-4080) and Chum, Coho, Chinook, and Sockeye Salmon, as well as Sheefish and undifferentiated whitefish have been observed within the mainstem Koyukuk River in the Hawzerah Creek-Koyukuk River watershed (Figures 4 and 8). No Pacific Salmon or Dolly Varden were captured during limited 2012 sampling at the single survey reach (SZ01) in the East Fork Henshaw Creek watershed in East Fork Sozhekla Creek (Table 1; Appendix C).

UPPER KOYUKUK RIVER

The proposed route follows the southern boundary of the Upper Koyukuk River subbasin. Three major stream crossings were identified in the Upper Koyukuk River subbasin (crossings 32–34) (Figures 1 and 2). Although it crosses 3 watersheds, major stream crossings only occur in 2, the Malemute Fork John River watershed and Timber Creek John River watershed. Minnow trapping and dipnetting were conducted at just one survey reach (UN17) and yielded juvenile Coho Salmon (Figure 4; Appendix C). The crossings of the Koyukuk River (33) and a side channel of the Koyukuk River (34) are the largest proposed crossings in the subbasin. Sampling reaches were not established in relation to these major crossings because anadromous fish presence had been previously documented upstream of each crossing on the Koyukuk River and most of its major tributaries (Figures 4 and 8).

SOUTH FORK KOYUKUK RIVER

At the east end, the Brooks East Corridor enters the South Fork Koyukuk River subbasin, traversing portions of 3 different watersheds (Lower South Fork Koyukuk River, Middle South Fork Koyukuk River, and Jim River watersheds). The eastern terminus of the corridor at the Dalton Highway lies just inside a fourth watershed, Prospect Creek. Five major stream crossings were identified in the South Fork Koyukuk River subbasin (crossings 35–39) and 4 crossings were associated with nearby survey reaches (survey reaches were not established near crossing 37 because AWC records document anadromous fish presence upstream at numerous locations). Prior to the current survey, anadromous salmon were documented upstream of crossing 39 on the mainstem of the Jim River (AWC 334-40-11000-2125-3740-4080). A total of 11 juvenile Coho Salmon and 1 juvenile Chinook Salmon were captured using electrofishers at 2 survey reaches (UN19 and UN24) on unnamed tributaries of the Jim River. Both survey reaches were upstream of locations previously recorded, adding 0.12 km of stream habitat to the AWC. No Dolly Varden were observed in this subbasin.

SUMMARY

Field surveys documenting the distribution of anadromous fish species within the Brooks East Corridor survey area have been limited to date. Stream surveys documented in this report represent only a small portion of available waters in the project area, but illustrate an efficient, practical method for sampling many waterbodies in a short period of time to document anadromous fish bearing waters in large and remote areas of Alaska. These methods, largely developed by the Alaska Department of Fish and Game, have played an important role in managing fishery resources in Alaska.

Anadromous Pacific salmon were observed in 15 of the 65 survey reaches (23%) and 9 of 17 watersheds surveyed (53%) within the survey area, adding 178 km of stream stream habitat to the AWC (Table 3; Figure 8). These segments provide spawning, rearing, and/or migration habitats for anadromous salmon. Spawning areas were documented in 3 subbasins (Upper Kobuk River, Alatna River, and Koyukuk Flats subbasins) in unnamed tributaries to the Alatna River and the Mauneluk River, and in the mainstem Reed River, Kobuk River, and Hogatza River. Spawning Chum Salmon occurred in all of these sites, while spawning Chinook Salmon were observed only in an unnamed tributary to the Alatna River. Juvenile salmon were documented in the Mauneluk River and tributaries, the Reed River, unnamed tributaries to the Malemute Fork of the Alatna River, the Koyukuk River, Tobuk Creek, and unnamed tributaries to the Jim River. Dolly Varden occurred in 15 of the 65 survey reaches (23%), adding 268 km of stream to the AFFI. Dolly Varden were observed only in the Middle Kobuk River, Upper Kobuk River, and Alatna River subbasins.

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Table 1. Waterbodies in 7 subbasins and 19 watersheds crossed by the proposed Brooks East Corridor, Alaska, and the presence or absence of fish species observed during summer 2012 sampling. Each survey reach is associated with a nearby stream crossing number along the proposed access corridor (see Figures 2 and 3).

SUBBASIN Watershed	Waterbody	Tributary to	Survey Reach	Crossing Number	Date	Latitude	Longitude	Pacific Salmon	Dolly Varden	Other Fish
ALATNA RIVER										
Helpmejack Creek-Alatna River	Helpmejack Creek	Alatna River	HJ01	S7	7/16/2012	67.05835	-153.79528	No	Yes	No
Helpmejack Creek-Alatna River	Helpmejack Creek	Alatna River	HJ02	S7	7/16/2012	67.04015	-153.66203	No	No	GRAY
Helpmejack Creek-Alatna River	Unnamed trib	Helpmejack Creek	UN16	S7	7/16/2012	67.04146	-153.66153	No	Yes	SLSC
Helpmejack Creek-Alatna River	Alatna River	Koyukuk River	AL01	24	7/23/2012	67.18136	-153.48386	No	No	SLSC
Helpmejack Creek-Alatna River	Unnamed trib	Alatna River	UN25a	24	7/23/2012	67.22524	-153.55644	CHUM	No	No
Helpmejack Creek-Alatna River	Unnamed trib	Alatna River	UN25b	24	7/23/2012	67.22868	-153.59320	KING	No	No
Malamute Fork Alatna River	Unnamed trib	Malamute Fork Alatna River	UN13	25	7/16/2012	67.06966	-153.11984	No	No	SLSC
Malamute Fork Alatna River	Unnamed trib	Malamute Fork Alatna River	UN14	25	7/16/2012	67.11074	-152.93070	COHO, CHUM	No	No
Malamute Fork Alatna River	Unnamed trib	Malamute Fork Alatna River	UN15	25	7/16/2012	67.10036	-152.74847	COHO	No	No
Malamute Fork Alatna River	Bedrock Creek	Malamute Fork Alatna River	BD01	25	7/17/2012	67.09796	-152.60043	No	No	No
Malamute Fork Alatna River	Unnamed trib	Bedrock Creek	UN18	25	7/17/2012	67.09319	-152.72504	No	No	No
Tobuk Creek	Tobuk Creek	Malamute Fork Alatna River	TB01	25	7/16/2012	67.07944	-153.18635	COHO, KING	No	No
ALLAKAKET										
East Fork Henshaw Creek	East Fork Sozhekla Creek	Sozhekla Creek	SZ01	31	7/17/2012	67.03600	-152.41211	No	No	GRAY
UPPER KOYUKUK RIVER										
Malamute Fork John River	Unnamed trib	Malamute Fork John River	UN17	32	7/17/2012	67.04867	-152.12669	COHO	No	No
SOUTH FORK KOYUKUK RIVER										
Jim River	Unnamed trib	Jim River	UN19	38	7/20/2012	66.78889	-150.85132	COHO, KING	No	SLSC, GRAY
Jim River	Unnamed trib	Jim River	UN24	39	7/23/2012	66.83560	-150.64531	COHO	No	SLSC
Lower South Fork Koyukuk River	Unnamed trib	South Fork Koyukuk River	UN20	35	7/20/2012	66.67128	-151.48851	No	No	SLSC
Middle South Fork Koyukuk River	Unnamed trib	South Fork Koyukuk River	UN21	36	7/20/2012	66.82559	-151.17087	No	No	SLSC, GRAY
KOYUKUK FLATS										
Headwaters Hogatza River	Hogatza River	Koyukuk River	HG01	S6	7/21/2012	66.82131	-153.99037	CHUM	No	SLSC
Headwaters Hogatza River	Unnamed trib	Hogatza River	UN22	S6	7/21/2012	66.86933	-154.04053	No	No	SLSC, BURB
Headwaters Hogatza River	Unnamed trib	Hogatza River	UN23	S5	7/21/2012	66.85331	-154.29780	No	No	GRAY
UPPER KOBUK RIVER										
Outlet Mauneluk River	Unnamed trib	Mauneluk River	UN03	9	7/13/2012	67.04256	-156.13206	No	Yes	SLSC
Outlet Mauneluk River	Unnamed trib	Mauneluk River	UN04	9	7/14/2012	67.12383	-156.00801	No	Yes	No
Outlet Mauneluk River	Unnamed trib	Mauneluk River	UN05	9	7/14/2012	67.05437	-155.81388	No	Yes	No
Outlet Mauneluk River	Unnamed trib	Mauneluk River	UN06	9	7/14/2012	67.02217	-155.84178	No	Yes	No
Outlet Mauneluk River	Mauneluk River	Kobuk River	MN02	9	7/25/2012	67.00295	-156.09182	CHUM	No	SLSC
Outlet Mauneluk River	Unnamed trib	Mauneluk River	UN29	9	7/25/2012	67.02696	-156.04826	CHUM	No	SLSC, PIKE
Outlet Mauneluk River	Unnamed trib	Mauneluk River	UN30	9	7/25/2012	67.03453	-156.03934	CHUM	No	GRAY

Table 1.Continued.

SUBBASIN Watershed	Waterbody	Tributary to	Survey Reach	Crossing Number	Date	Latitude	Longitude	Pacific Salmon	Dolly Varden	Other Fish
Beaver Creek	Beaver Creek	Kobuk River	BV01	13	7/15/2012	67.07523	-155.27667	No	No	SLSC, GRAY
Beaver Creek	Unnamed trib	Beaver Creek	UN08	15	7/15/2012	67.00270	-155.00900	No	No	No
Beaver Creek	Unnamed trib	Beaver Creek	UN10	11	7/15/2012	67.01060	-155.08077	No	Yes	No
Beaver Creek	Unnamed trib	Beaver Creek	UN12	13	7/15/2012	67.07503	-155.27765	No	No	No
Beaver Creek	Unnamed trib	Beaver Creek	UN26	15	7/24/2012	66.98333	-155.02530	No	Yes	SLSC
Beaver Creek	Unnamed trib	Beaver Creek	UN27	13	7/24/2012	67.12892	-155.19577	No	No	SLSC, BURB
Beaver Creek	Unnamed trib	Beaver Creek	UN28	13	7/24/2012	67.12244	-155.21069	No	No	SLSC
Headwaters Kobuk River	Unnamed trib	Kichaiakalea Creek	UN33	S3	9/4/2012	67.05337	-154.14697	No	No	SLSC
Headwaters Kobuk River	Unnamed trib	Kichaiakalea Creek	UN37	S3	9/7/2012	67.02964	-154.01124	No	Yes	SLSC
Headwaters Kobuk River	Unnamed trib	Mauneluk River	UN07	9	7/14/2012	67.11058	-155.63781	No	No	SLSC, GRAY
Headwaters Kobuk River	Mauneluk River	Kobuk River	MN01	9	7/14/2012	67.11119	-155.63925	No	No	No
Headwaters Kobuk River	Unnamed trib	Mauneluk River	UN31	9	7/26/2012	67.12433	-155.63481	No	Yes	SLSC
Kobuk Canyon-Kobuk River	Kobuk River	None	KB01	S3	9/4/2012	67.02165	-154.35763	CHUM	No	SLSC
Kobuk Canyon-Kobuk River	Unnamed trib	Kobuk River	UN32	S3	9/4/2012	66.89105	-154.47314	No	No	SLSC
Kobuk Canyon-Kobuk River	Unnamed trib	Kobuk River	UN34	S3	9/4/2012	67.01901	-154.44464	No	Yes	No
Kobuk Canyon-Kobuk River	Unnamed trib	Kobuk River	UN35	S3	9/4/2012	67.00066	-154.55439	No	Yes	SLSC
Kobuk Canyon-Kobuk River	Unnamed trib	Kobuk River	UN36	S3	9/5/2012	66.91783	-154.48701	No	No	No
Kobuk Canyon-Kobuk River	Unnamed trib	Kobuk River	UN38	S3	9/7/2012	66.99846	-154.54691	No	No	SLSC, GRAY
Kogoluktuk River	Canyon Creek	Kogoluktuk River	CN01	5	7/13/2012	67.02888	-156.66255	No	Yes	SLSC
Kogoluktuk River	Unnamed trib	Kogoluktuk River	UN01	4	7/13/2012	67.01672	-156.44185	No	No	No
Kogoluktuk River	Unnamed trib	Kogoluktuk River	UN02	4	7/13/2012	67.01543	-156.43502	No	No	SLSC, GRAY
Kogoluktuk River	Riley Creek	Kogoluktuk River	RI01	1	7/13/2012	67.05552	-156.70256	No	Yes	No
Kogoluktuk River	Kogoluktuk River	Kobuk River	KG01	4	7/26/2012	67.09536	-156.40128	No	No	SLSC, GRAY
Kogoluktuk River	Kogoluktuk River	Kobuk River	KG02	6	7/26/2012	67.01372	-156.68225	No	No	SLSC, GRAY
Reed River	Unnamed trib	Reed River	UN09	16	7/15/2012	67.19412	-154.88269	No	No	SLSC
Reed River	Reed River	Kobuk River	RD01	16	7/15/2012	67.19318	-154.88084	No	No	No
Reed River	Reed River	Kobuk River	RD02	16	7/21/2012	67.06531	-154.81343	No	No	SLSC, GRAY
Reed River	Reed River	Kobuk River	RD03	S2	7/21/2012	66.96365	-154.81606	CHUM	No	SLSC, GRAY, BURB
Reed River	Reed River	Kobuk River	RD04	S4	9/4/2012	66.88630	-154.83643	CHUM	No	No
Selby River	Unnamed trib	Narvak Lake	UN11	9	7/15/2012	66.99952	-155.61014	No	No	No
MIDDLE KOBUK RIVER										
Headwater Ambler River	Ulaneak Creek	Ambler River	UL01	0	7/13/2012	67.39883	-156.81866	No	Yes	SLSC
Shungnak River	Ruby Creek	Shungnak River	RU01	1	7/13/2012	67.09978	-156.92219	No	No	SLSC, GRAY
Shungnak River	Ruby Creek	Shungnak River	RU02	1	7/14/2012	67.11267	-156.91756	No	No	SLSC, GRAY
Shungnak River	Shungnak River	Kobuk River	SH01	1	7/14/2012	67.11272	-156.91808	No	No	SLSC
Shungnak River	Shungnak River	Kobuk River	SH02	1	7/21/2012	67.11806	-156.83575	No	No	SLSC, GRAY
Shungnak River	Shungnak River	Kobuk River	SH03	1	7/21/2012	67.08774	-157.14510	No	No	SLSC
Shungnak River	Shungnak River	Kobuk River	SH04	1	7/21/2012	66.98033	-157.30708	No	No	SLSC, GRAY

SLSC = Slimy Sculpin GRAY = Arctic Grayling BURB = Burbot PIKE = Northern Pike CHUM = Chum Salmon KING = Chinook Salmon COHO = Coho Salmon

Table 2. Number of reaches (and percent of total reaches overall and by month) in which each of 8 species of fish were observed in the Brooks East Corridor survey area, Alaska, July and September.

Common Name	Scientific Name	Life History Stage	# of Survey Reaches Observed	% of Survey Reaches Observed	# of Individuals Observed[a]	
					July	September
Chum Salmon	*Oncorhynchus keta*	Juvenile	4	6%	9 (1.3%)	–
		Adult	5	8%	4[b]	3[b]
Coho Salmon	*Oncorhynchus kisutch*	Juvenile	6	9%	19 (2.8%)	–
Chinook Salmon	*Oncorhynchus tshawytscha*	Juvenile	2	3%	2 (0.3%)	–
		Adult	1	2%	1[b]	–
Dolly Varden	*Salvelinus malma*	Any	15	23%	73 (10.7%)	7 (25.9%)
Arctic Grayling	*Thymallus arcticus*	Any	19	29%	46 (6.8%)	3 (11.1%)
Northern Pike	*Esox lucius*	Any	1	2%	2 (0.3%)	–
Burbot	*Lota lota*	Any	3	5%	4 (0.6%)	–
Slimy Sculpin	*Cottus cognatus*	Any	38	58%	525 (77.2%)	17 (63.0%)

[a] Value in parentheses represents percentage of total visually observed or captured fish of all species, exluding adult salmon.
[b] Represents the number of observations of groups of prespawning, spawning or post-spawning adults and is therefore not calculated as a percentage of total observed organisms.

Table 3. Survey reaches and the corresponding length of stream or river to be nominated for inclusion in the AWC/AFFI (based on GIS analysis) in the Brooks East Corridor survey area, Alaska.

Survey Reach	Waterbody	Tributary to	Nearest Crossing	Species	Life History Stage	Kilometers to be added to AWC/AFFI
TB01	Tobuk Creek	Malamute Fork Alatna River	25	Coho, Chinook Salmon	rearing, rearing	1.84
UN25a	Unnamed tributary	Alatna River	24	Chum Salmon	spawning	51.82
UN25b	Unnamed tributary	Alatna River	24	Chinook Salmon	spawning	1.84
RD04	Reed River	Kobuk River	S4	Chum Salmon	spawning	17.46
RD03	Reed River	Kobuk River	S2	Chum Salmon	rearing	12.82
HG01	Hogatza River	Koyukuk River	S6	Chum Salmon	spawning	26.99
UN29	Unnamed tributary	Mauneluk River	9	Chum Salmon	rearing	4.42
UN30	Unnamed tributary	Mauneluk River	9	Chum Salmon	spawning	1.11
MN02	Mauneluk River	Kobuk River	9	Chum Salmon	rearing	10.47
KB01	Kobuk River	None	S3	Chum Salmon	spawning	48.83
CN01	Canyon Creek	Kogoluktuk River	5	Dolly Varden	rearing	7.35
UN03	Unnamed tributary	Mauneluk River	9	Dolly Varden	rearing	10.67
UN04	Unnamed tributary	Mauneluk River	9	Dolly Varden	rearing	12.48
UN06	Unnamed tributary	Mauneluk River	9	Dolly Varden	rearing	19.81
UN05	Unnamed tributary	Mauneluk River	9	Dolly Varden	rearing	3.71
UN31	Unnamed tributary	Mauneluk River	9	Dolly Varden	rearing	30.28
UN35	Unnamed tributary	Kobuk River	S3	Dolly Varden	rearing	22.74
UN34	Unnamed tributary	Kobuk River	S3	Dolly Varden	rearing	18.50
UN37	Unnamed tributary	Kichaiakalea Creek	S3	Dolly Varden	rearing	29.87
UN38	Unnamed tributary	Kobuk River	S3			0.00
UL01	Ulaneak Creek	Ambler River	0	Dolly Varden	rearing	8.01
UN15	Unnamed tributary	Malamute Fork Alatna River	25	Coho Salmon	rearing	0.15
RI01	Riley Creek	Kogoluktuk River	1	Dolly Varden	rearing	6.64
UN10	Unnamed tributary	Beaver Creek	11	Dolly Varden	rearing	11.03
UN26	Unnamed tributary	Beaver Creek	15	Dolly Varden	rearing	45.57
HJ01	Helpmejack Creek	Alatna River	S7	Dolly Varden	rearing	12.41

Table 3. Continued.

Survey Reach	Waterbody	Tributary to	Nearest Crossing	Species	Life History Stage	Kilometers to be added to AWC/AFFI
UN19	Unnamed tributary	Jim River	38	Coho, Chinook Salmon	rearing, rearing	0.11
UN24	Unnamed tributary	Jim River	39	Coho Salmon	rearing	0.01
UN14	Unnamed tributary 14	Malamute Fork Alatna River	25	Coho, Chum salmon	rearing, rearing	0.1

FIGURES

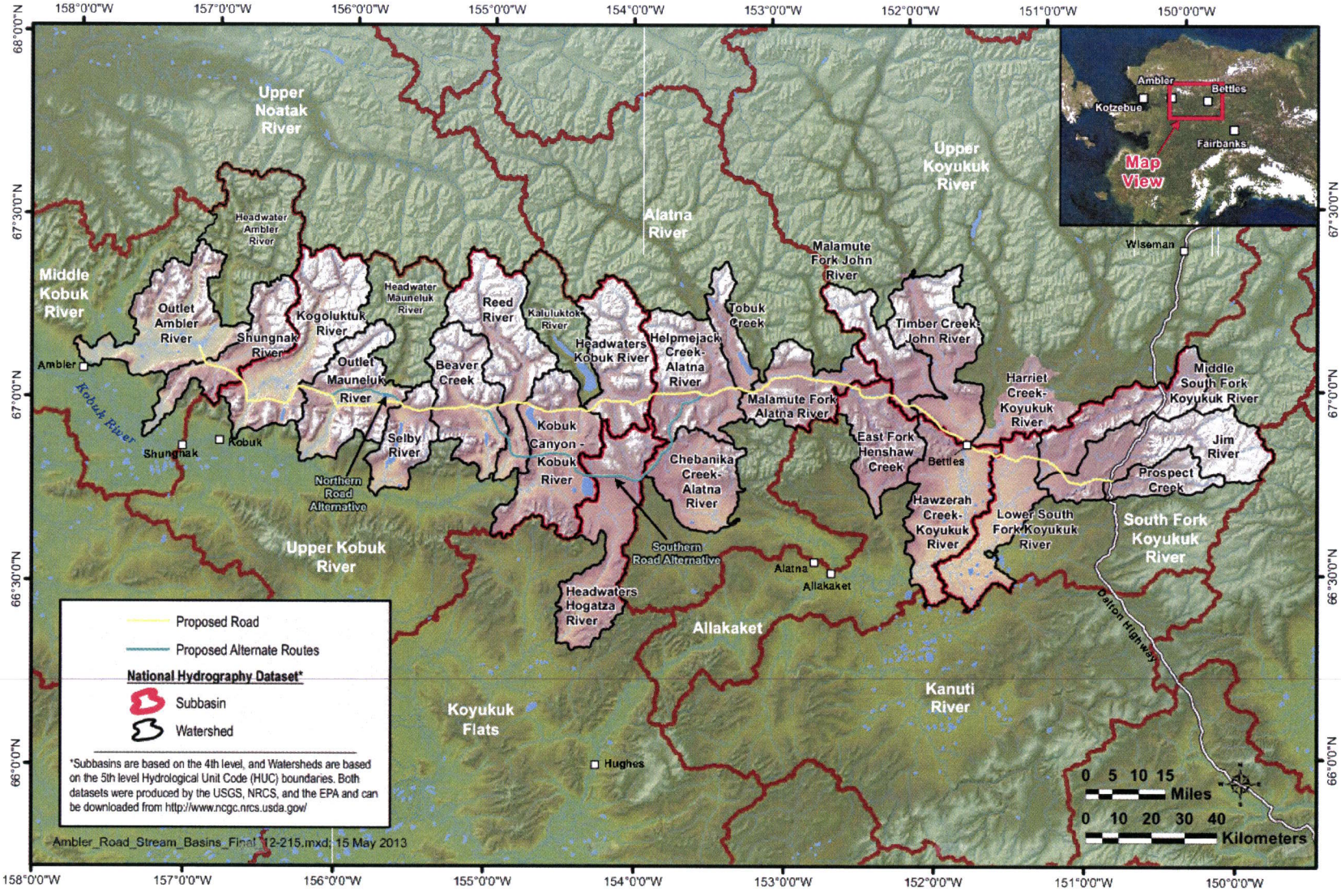


Figure 1. Subbasins and watersheds traversed by the proposed Brooks East Corridor, including the northern and southern options.

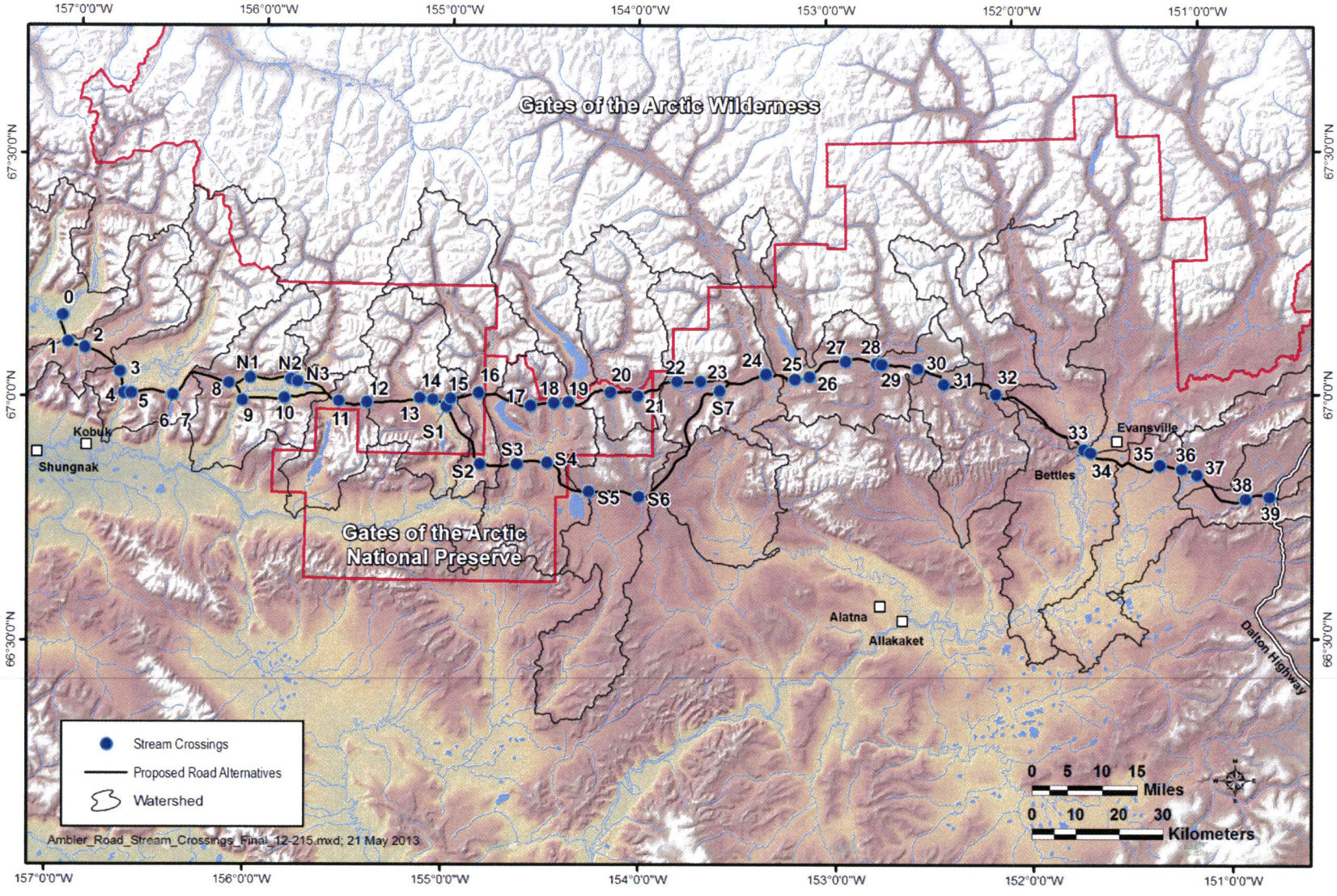


Figure 2. Major river and stream crossing locations identified in the Brooks East Corridor, including the northern and southern options.

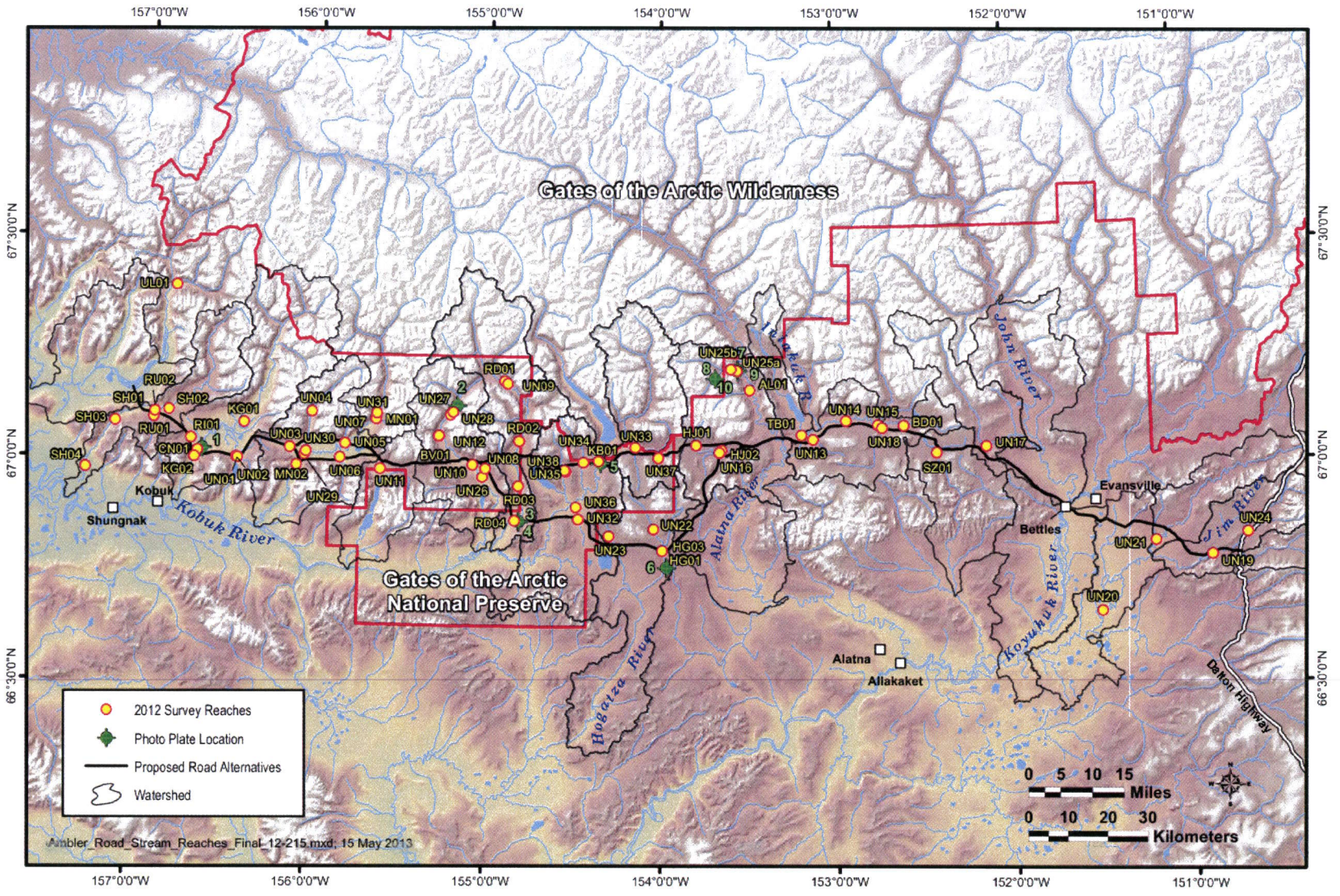


Figure 3. Survey reach locations in the Brooks East Corridor in July and September 2012.

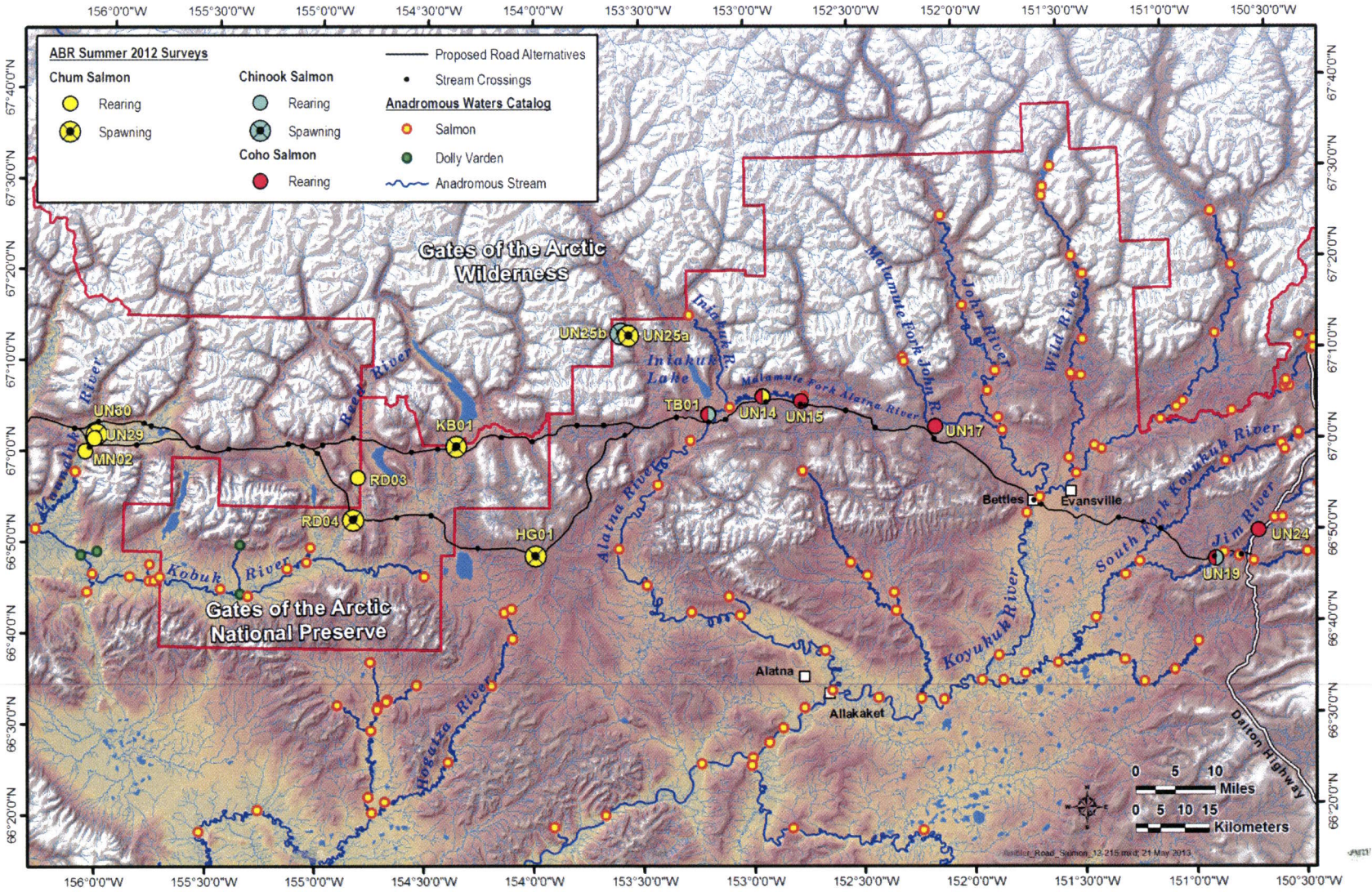


Figure 4. Survey reaches in the Brooks East Corridor where Pacific salmon (*Oncorhynchus spp.*) were observed in July and September 2012.

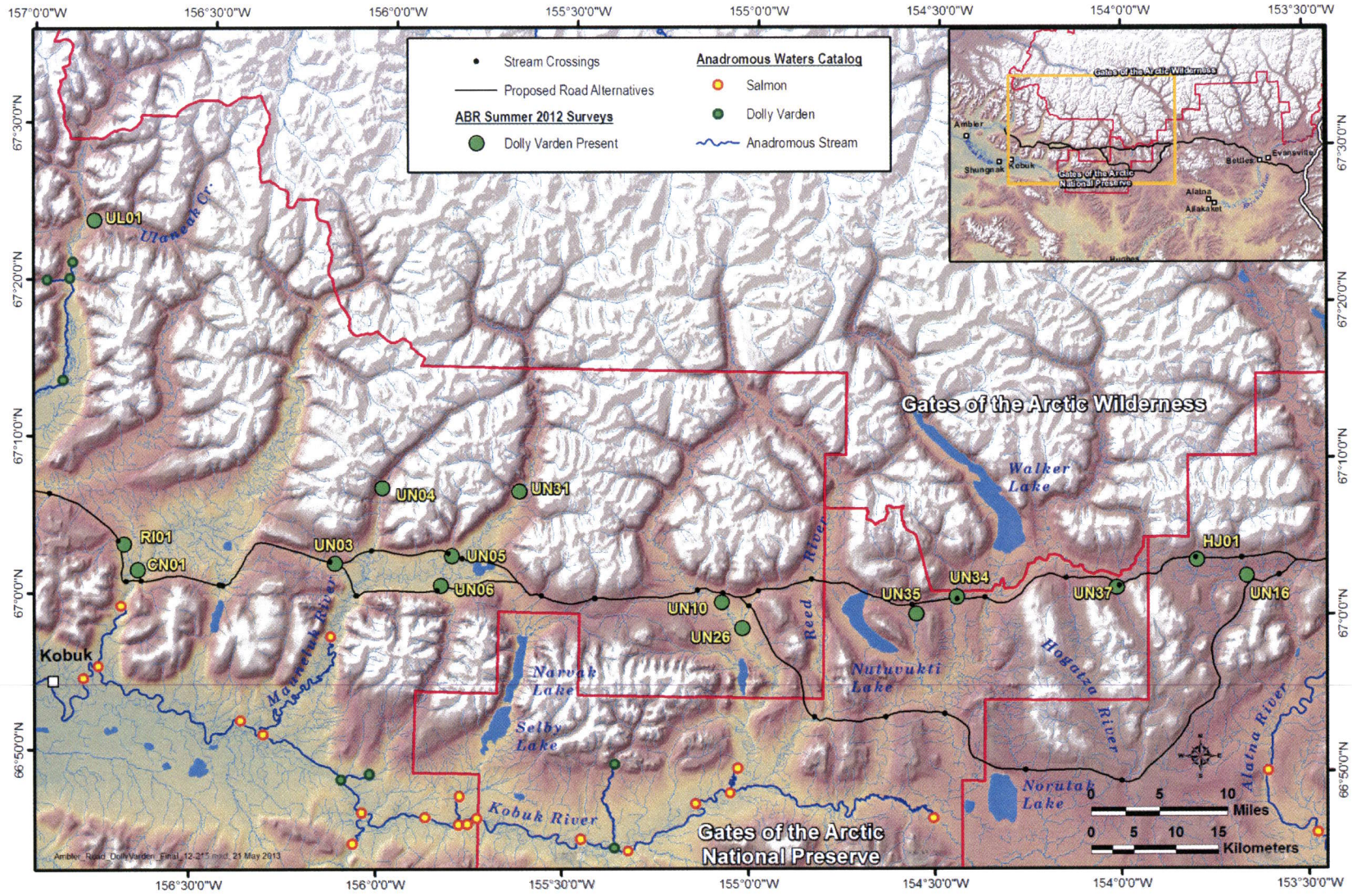


Figure 5. Survey reaches in the Brooks East Corridor where Dolly Varden (*Salvelinus malma*) were observed in July and September 2012.

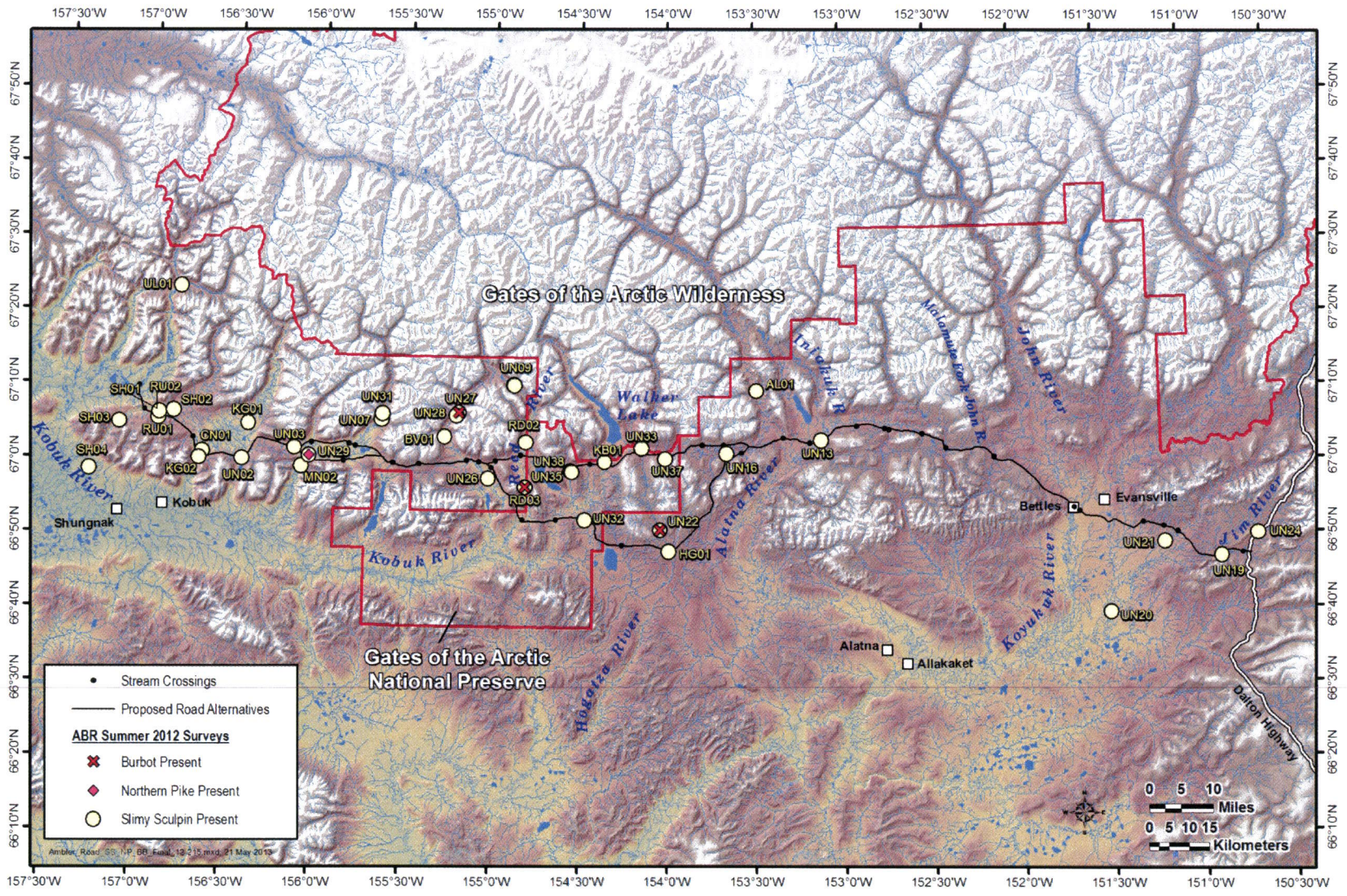


Figure 6. Survey reaches in the Brooks East Corridor where Burbot (*Lota lota*), Northern Pike (*Esox lucius*) and Slimy Sculpin (*Cottus cognatus*) were observed in July and September 2012.

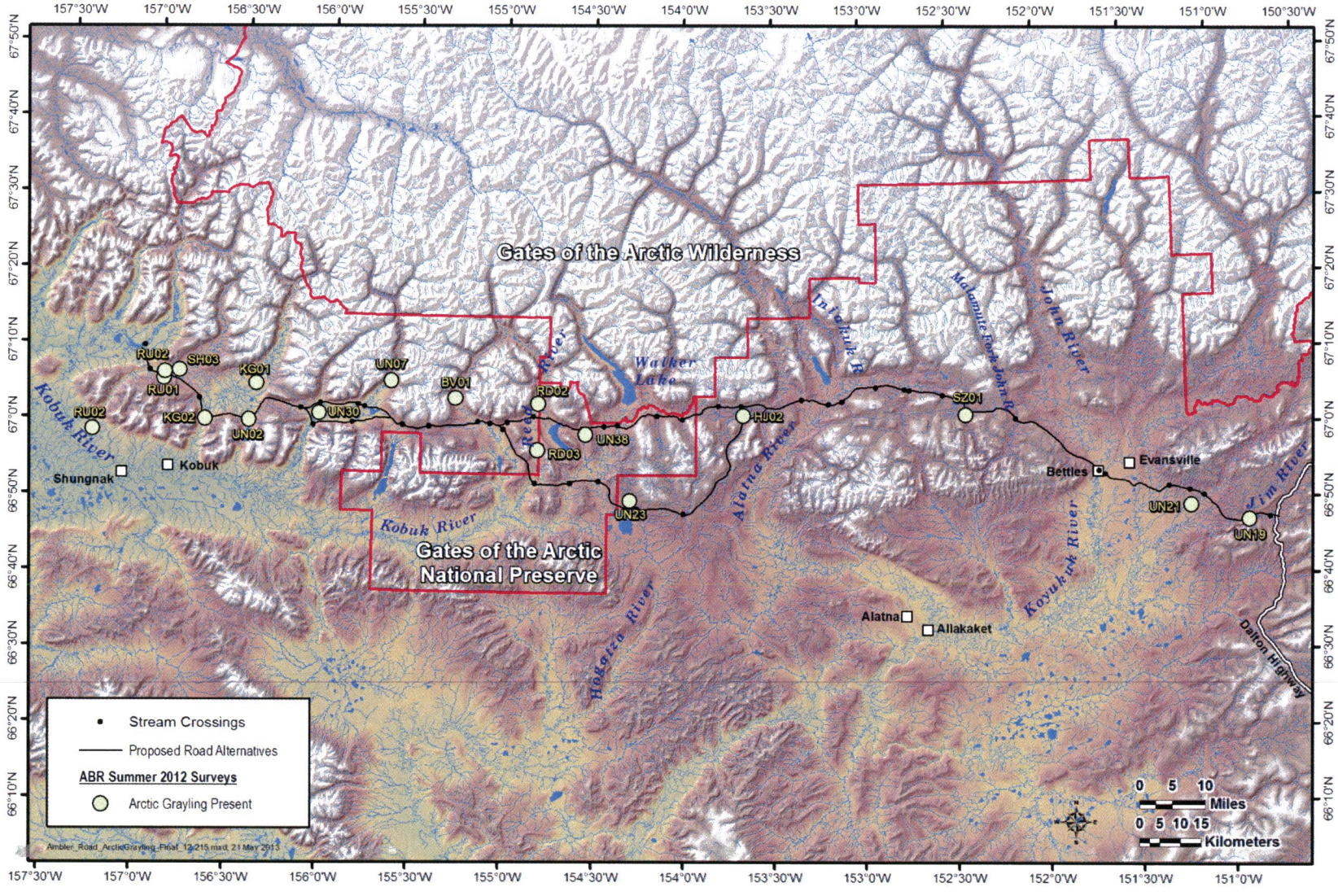


Figure 7. Survey reaches in the Brooks East Corridor where Arctic Grayling (*Thymallus arcticus*) were observed in July and September 2012.

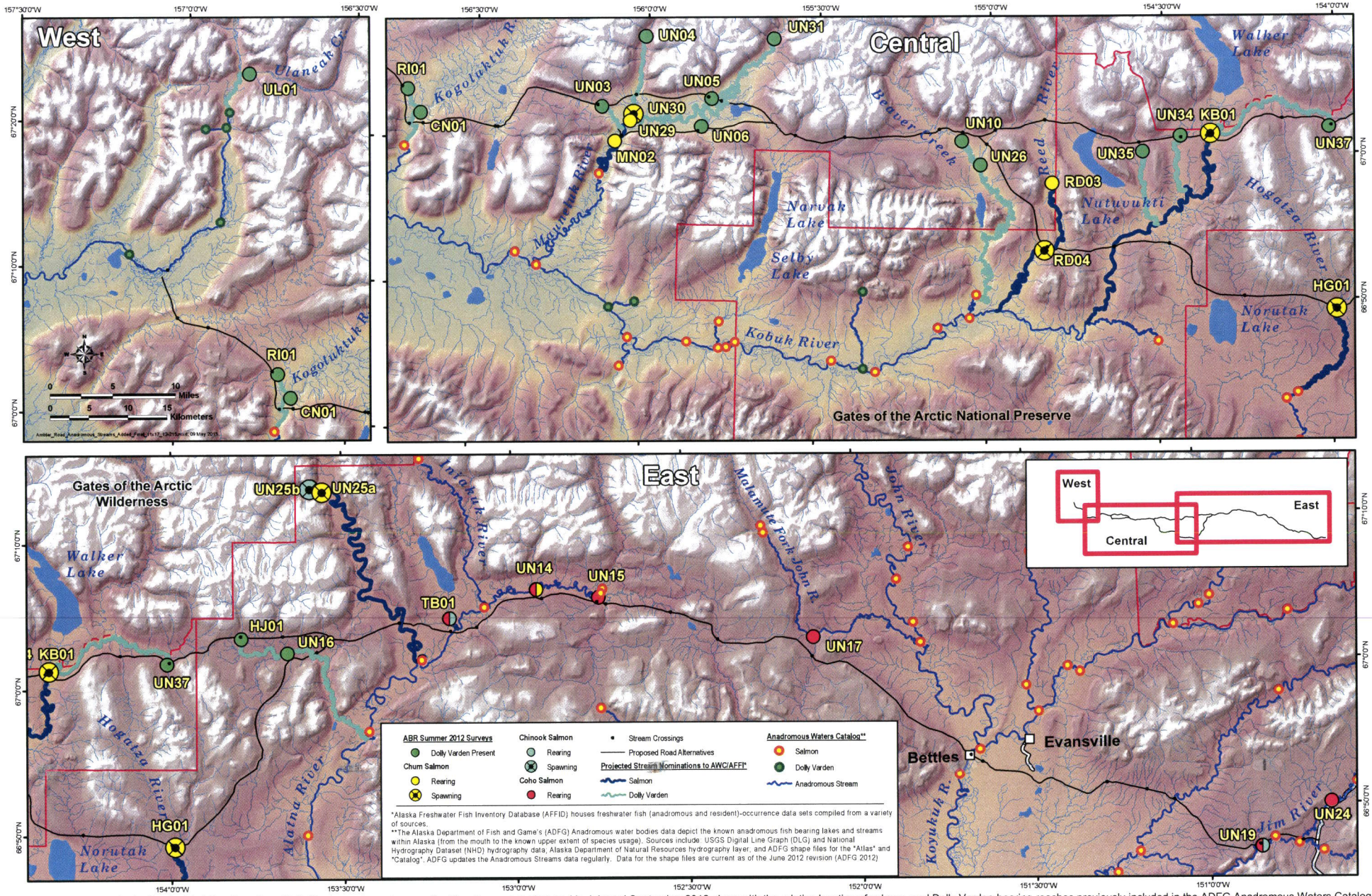


Figure 8. Survey reaches in the Brooks East Corridor where Dolly Varden and anadromous Pacific salmon were observed in July and September 2012 along with the relative location of salmon- and Dolly Varden-bearing reaches previously included in the ADFG Anadromous Waters Catalog.

PLATES

Plate 1. Aerial view of a Chum Salmon spawning area in an unnamed tributary to the Mauneluk River, Alaska, July 2012.

Plate 2. Unidentified salmon carcass observed on a gravel point bar on Beaver Creek, Alaska, September 2012.

Plate 3. Chum Salmon spawning area documented within the Reed River, Alaska, July 2012.

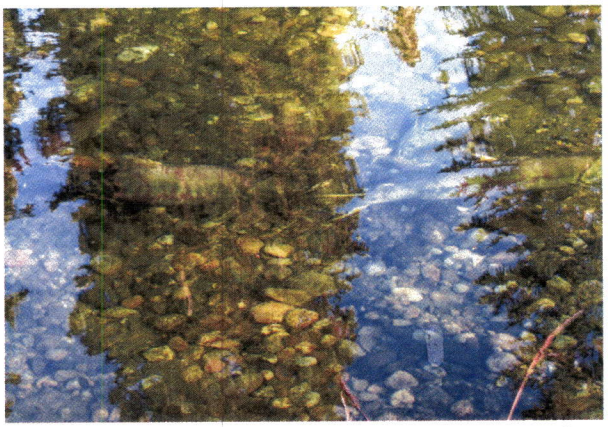


Plate 4. Chum Salmon in a spawning area in the Reed River, Alaska, September 2012.

Plate 5. Female Chum Salmon carcass near a spawning area in the Kobuk River, Alaska, September 2012.

Plate 6. Chum Salmon spawning area documented in the Hogatza River, Alaska, July 2012.

Plate 7. Aerial view of a Chum Salmon spawning area documented in an unnamed tributary to the Alatna River, Alaska, July 2012.

Plate 8. Chum Salmon in a spawning area documented within an unnamed tributary to the Alatna River, Alaska, September 2012.

Plate 9. Aerial view of a Chinook Salmon spawning area documented in an unnamed tributary to the Alatna River, Alaska, July 2012.

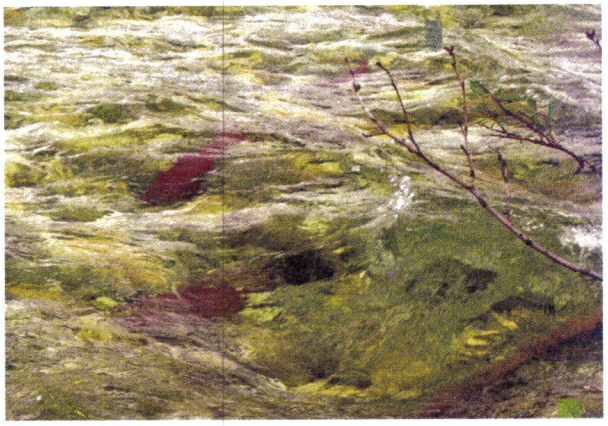
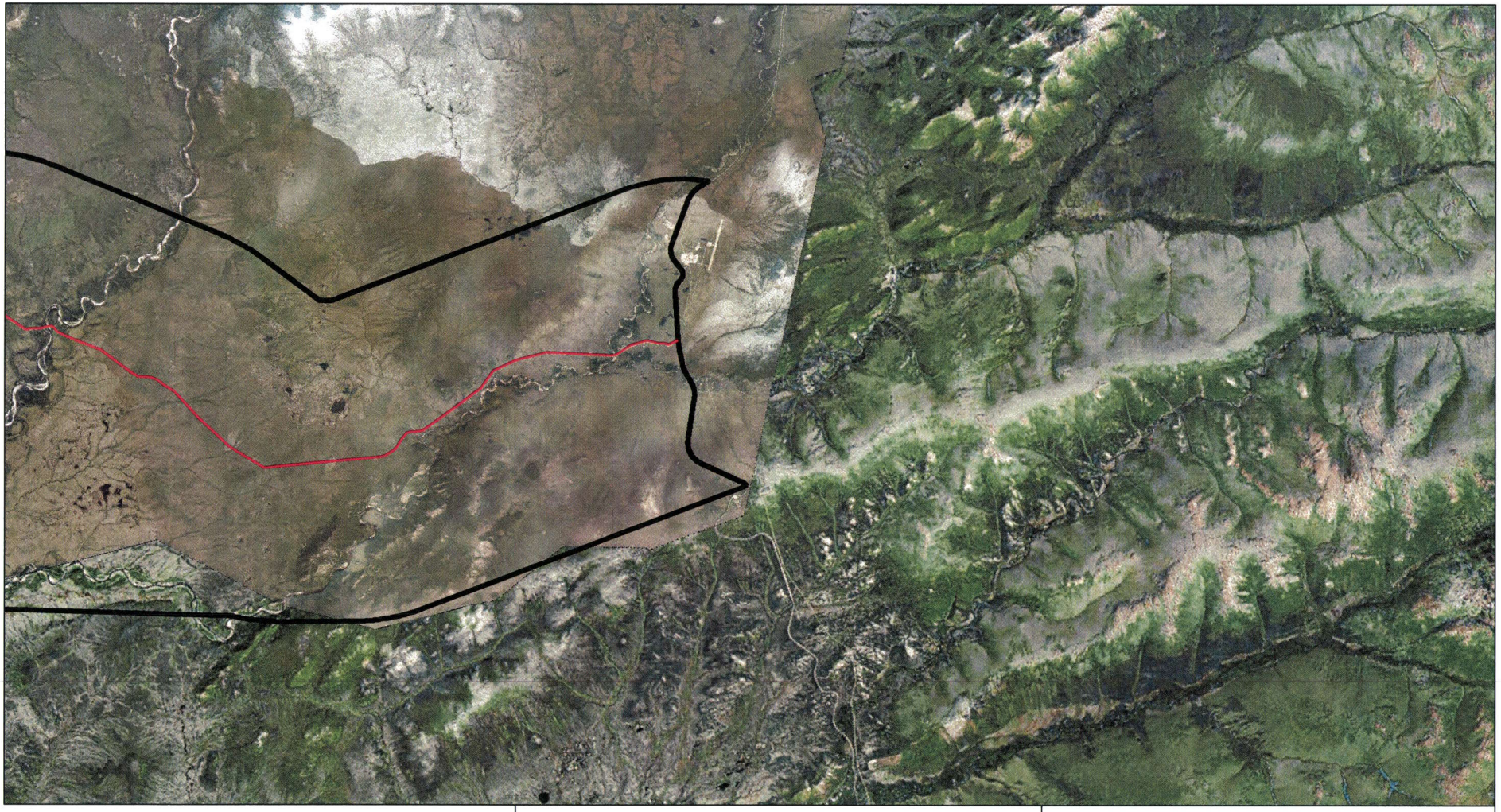
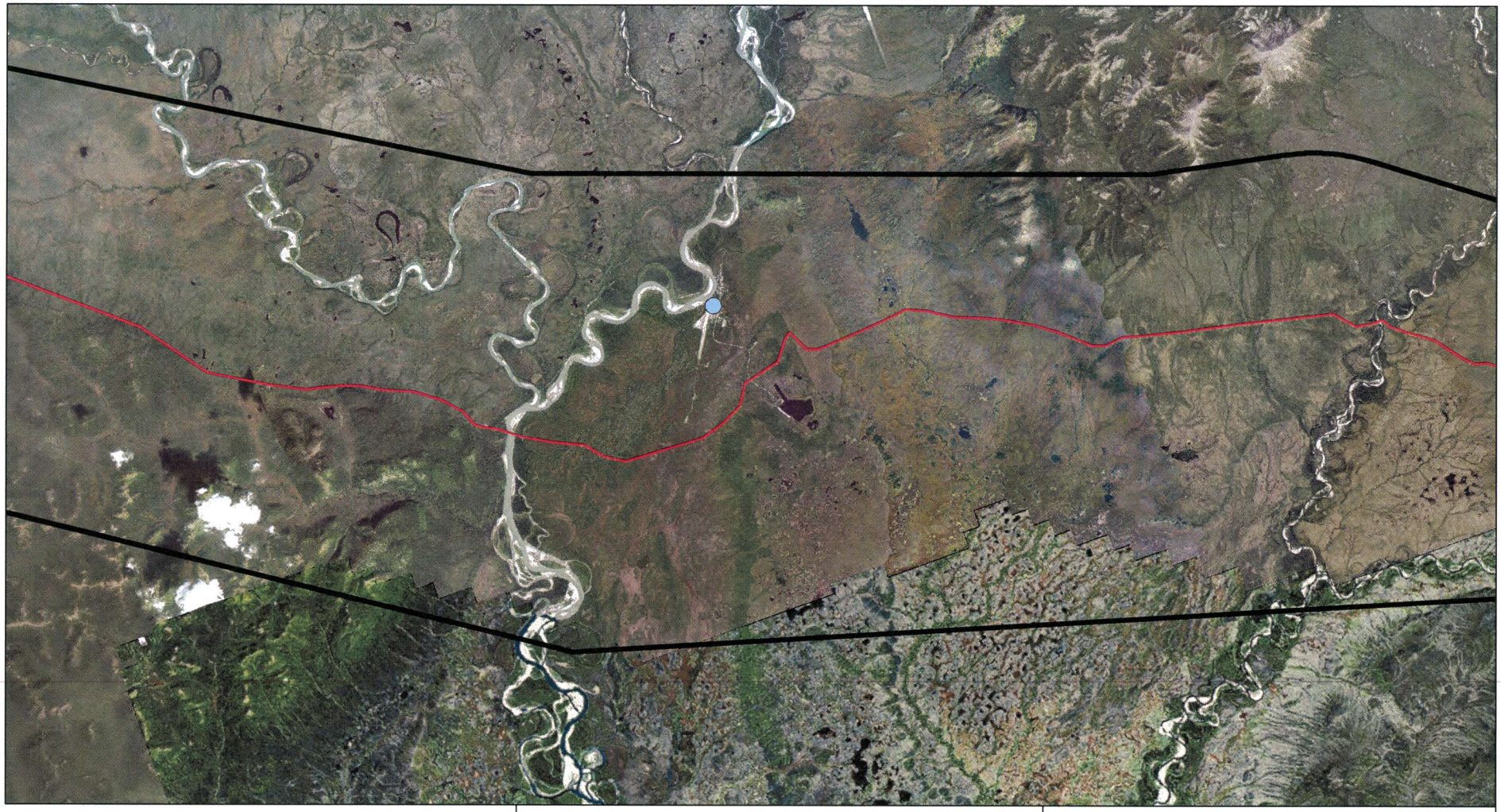


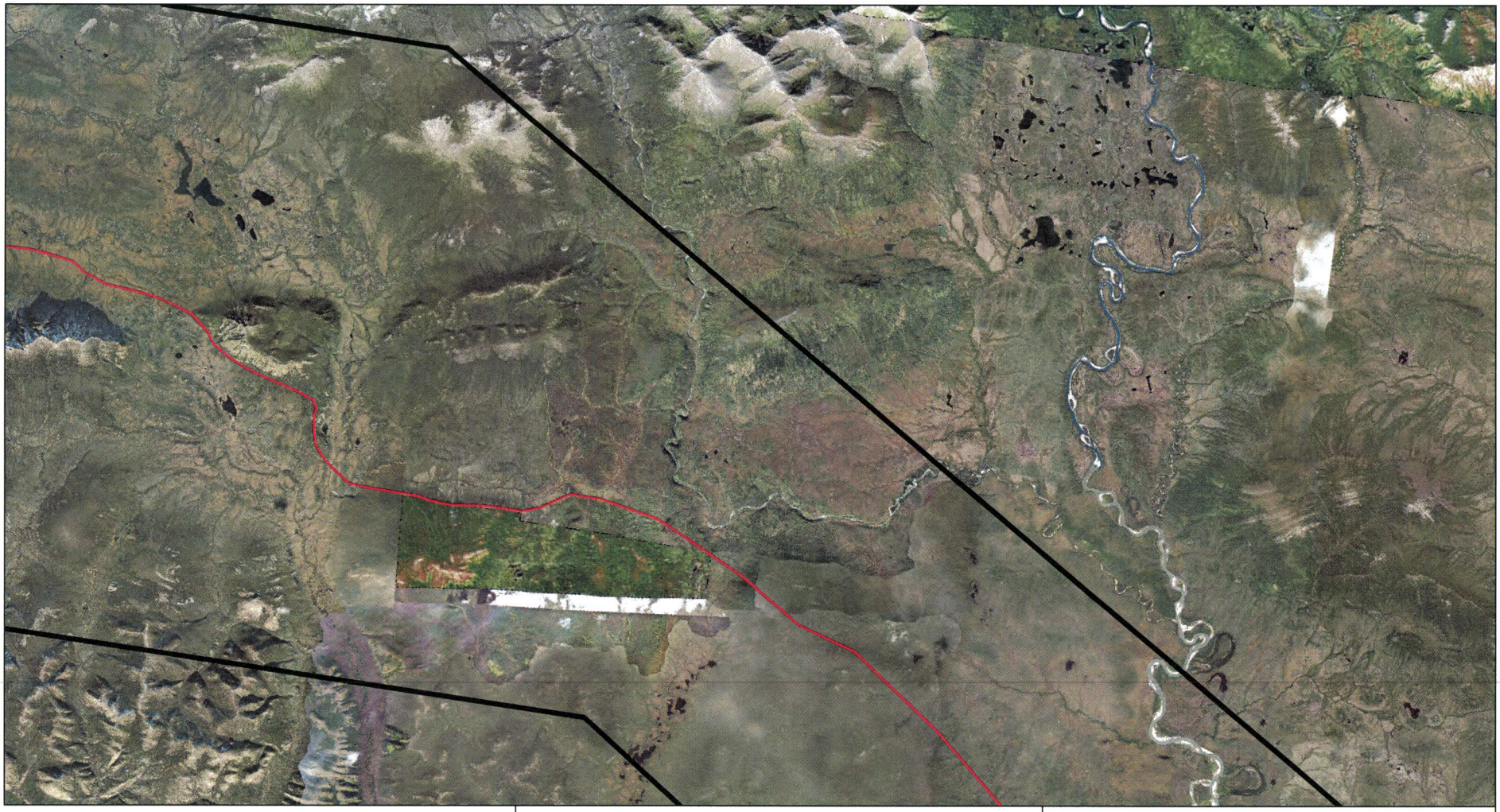
Plate 10. Chinook Salmon in a spawning area documented in an unnamed tributary to the Alatna River, Alaska, September 2012.

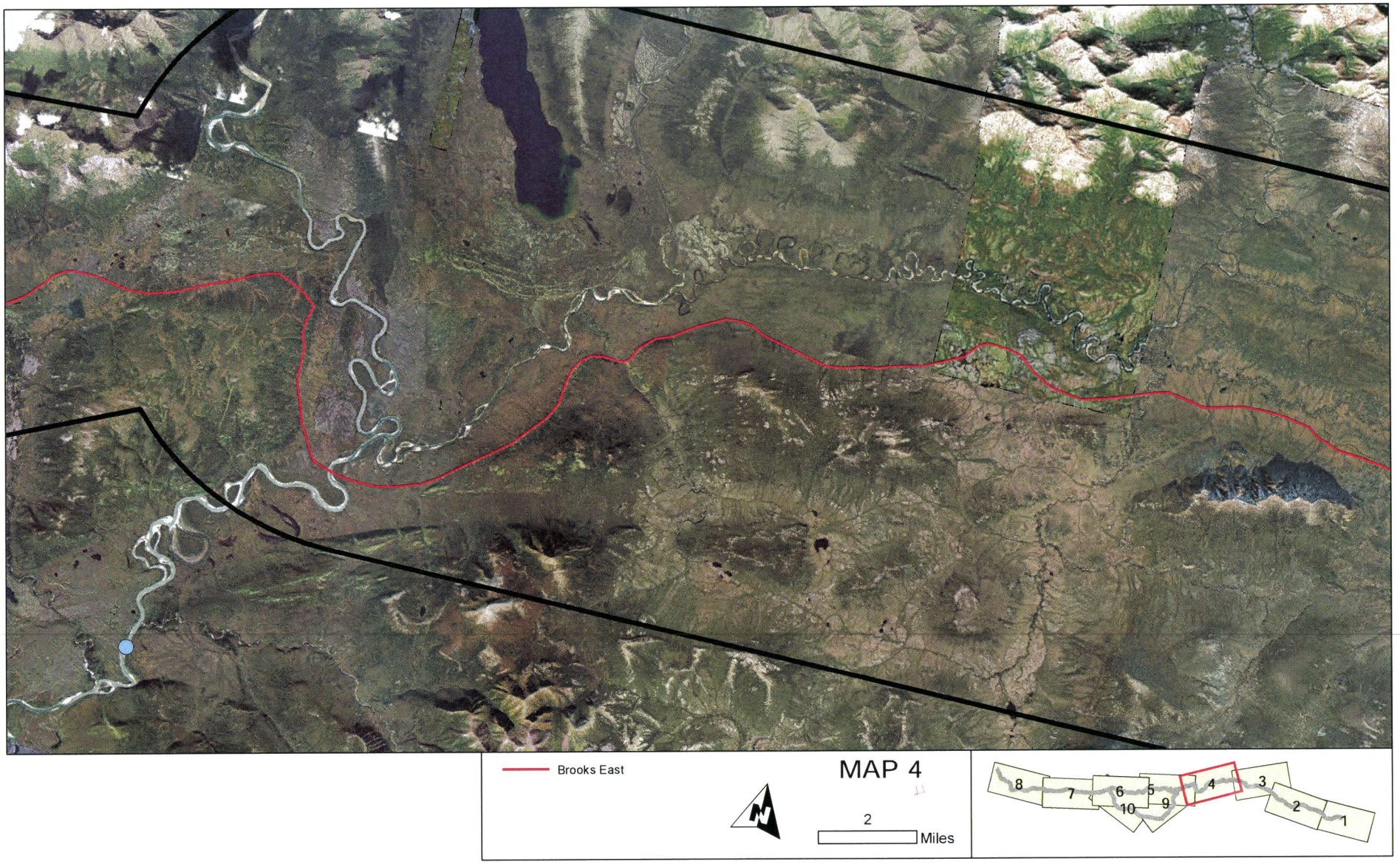
APPENDICES

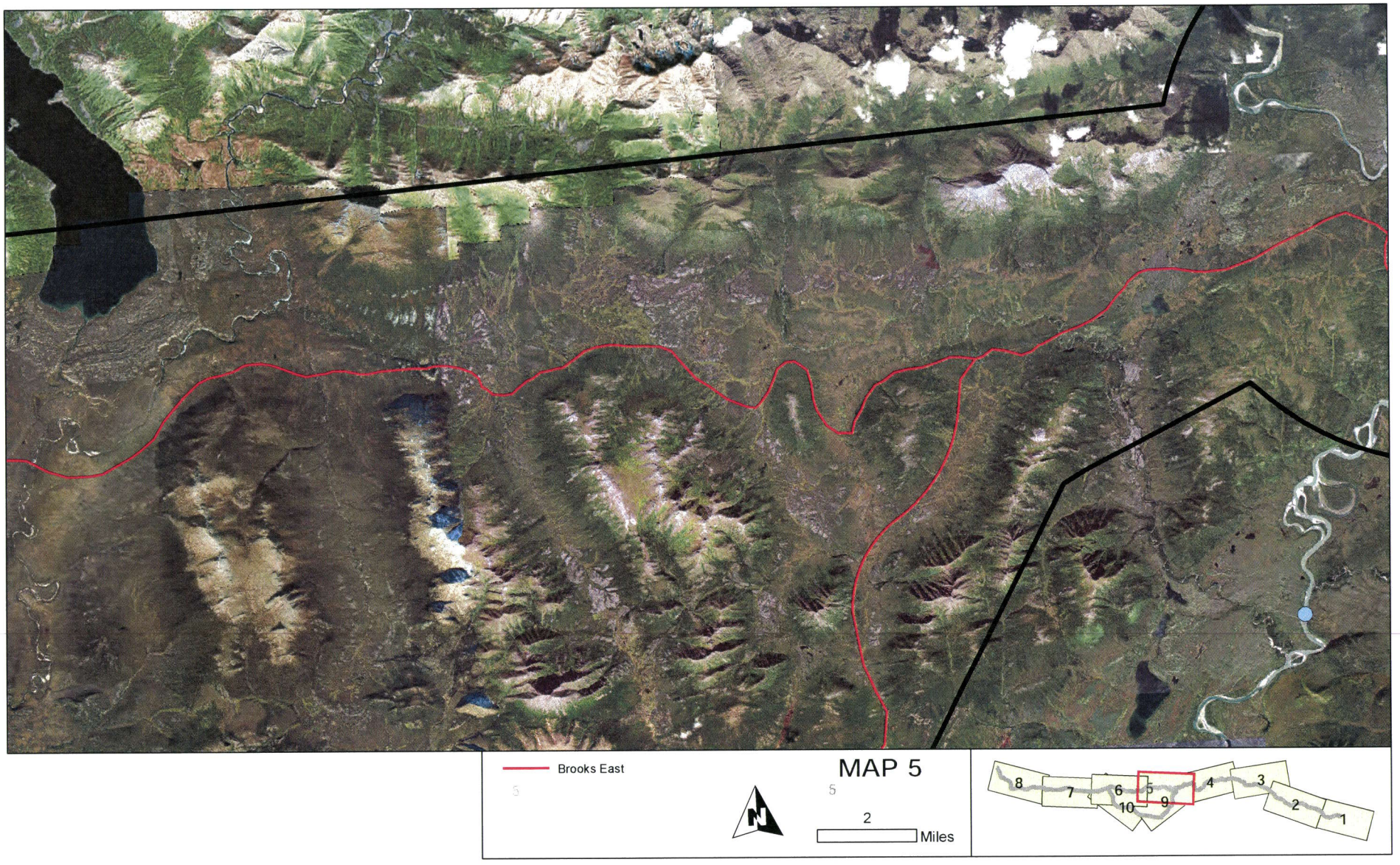
Appendix A. Field maps of the Brooks East Corridor provided by DOWL HKM and used to locate and identify river crossings and sample reaches, Alaska, 2012.

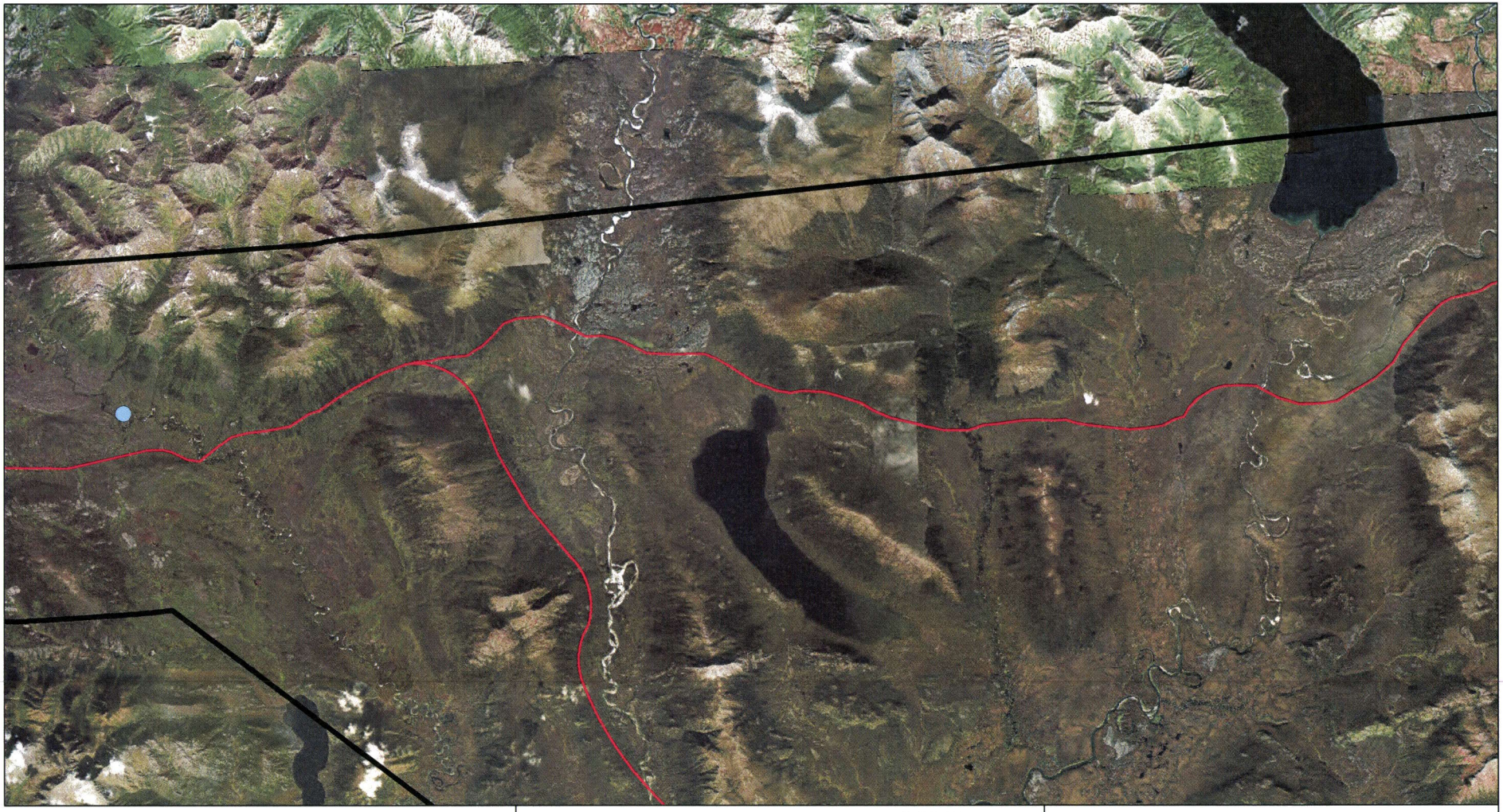

Brooks East
MAP 1
2
Miles
8
7
6
5
10
9
4
3
2
1

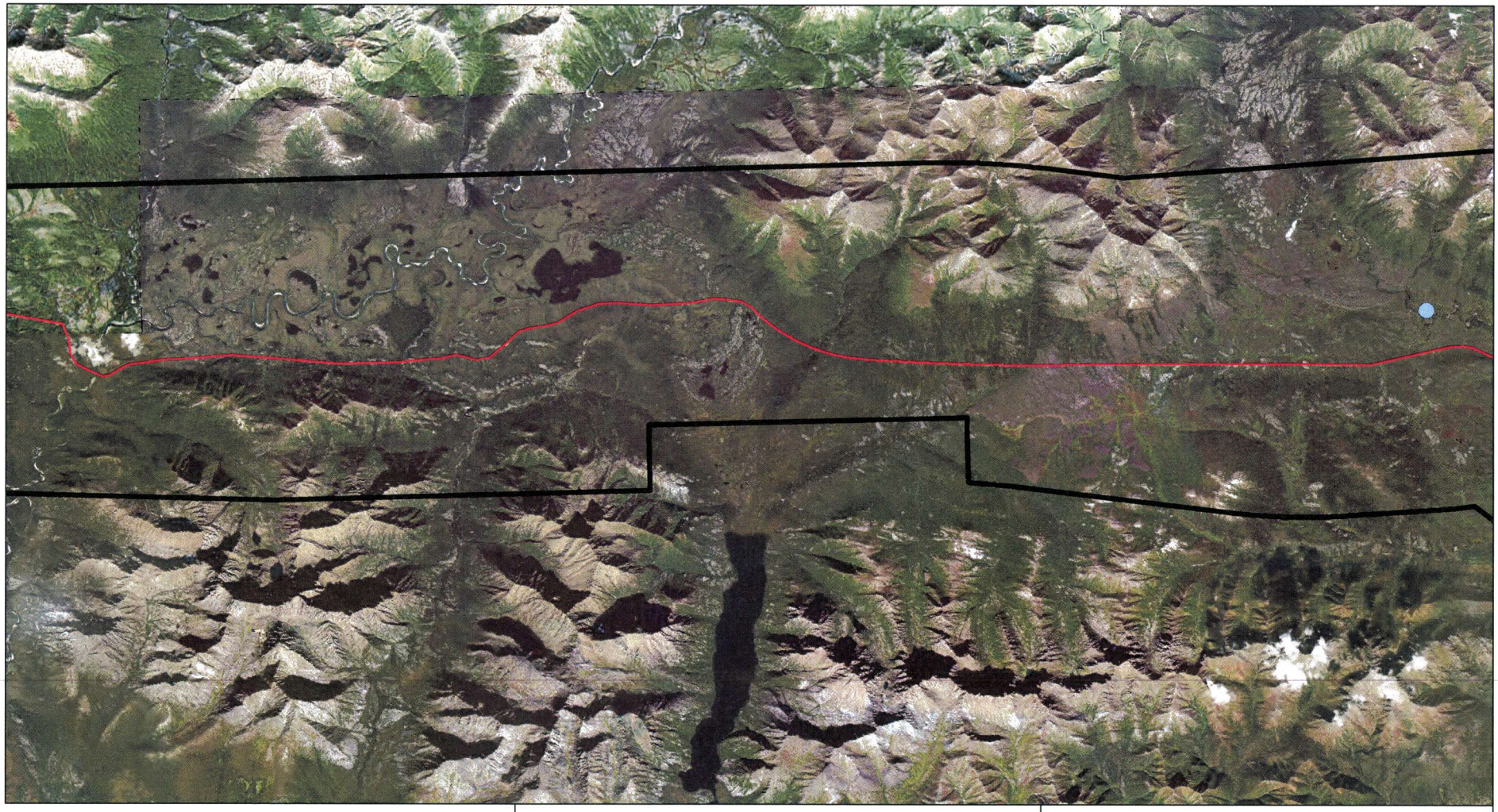

Brooks East
MAP 2
2
Miles
8
7
6
10
5
9
4
3
2
1

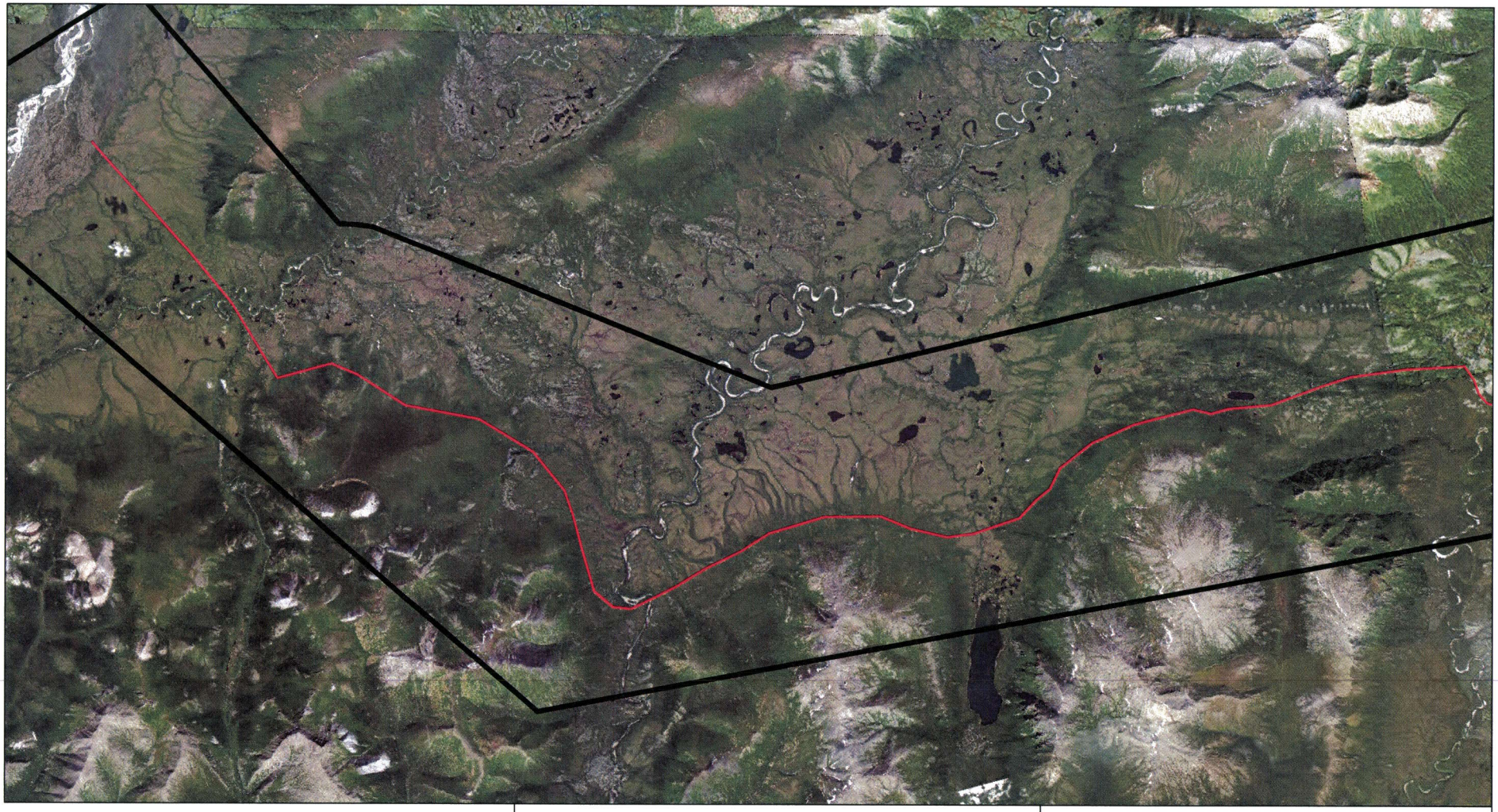

Brooks East
MAP 3
2
Miles
8
7
6
10
5
9
4
3
2
1

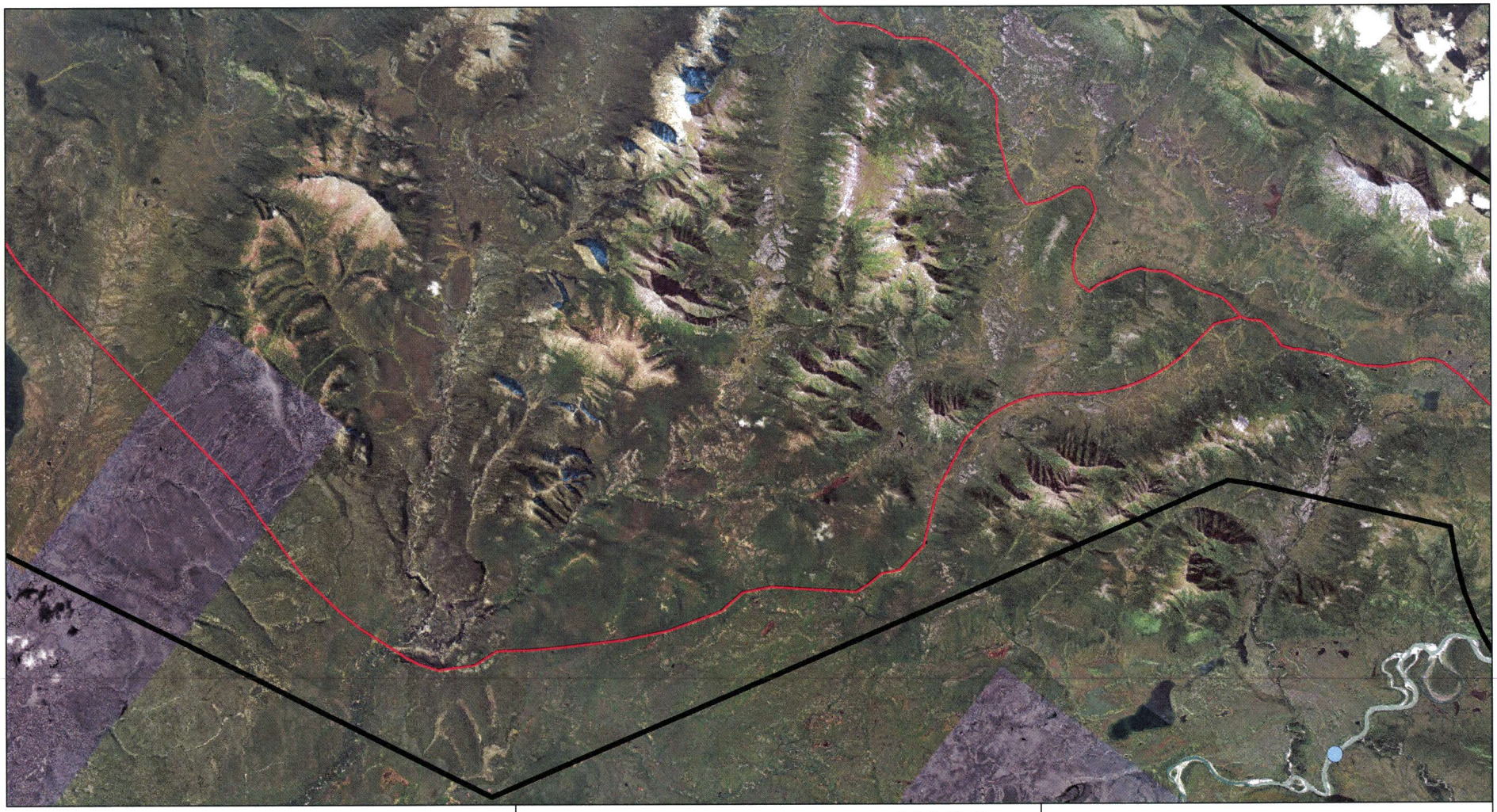

Brooks East
MAP 4
2
Miles
8
7
6
5
10
9
4
3
2
1

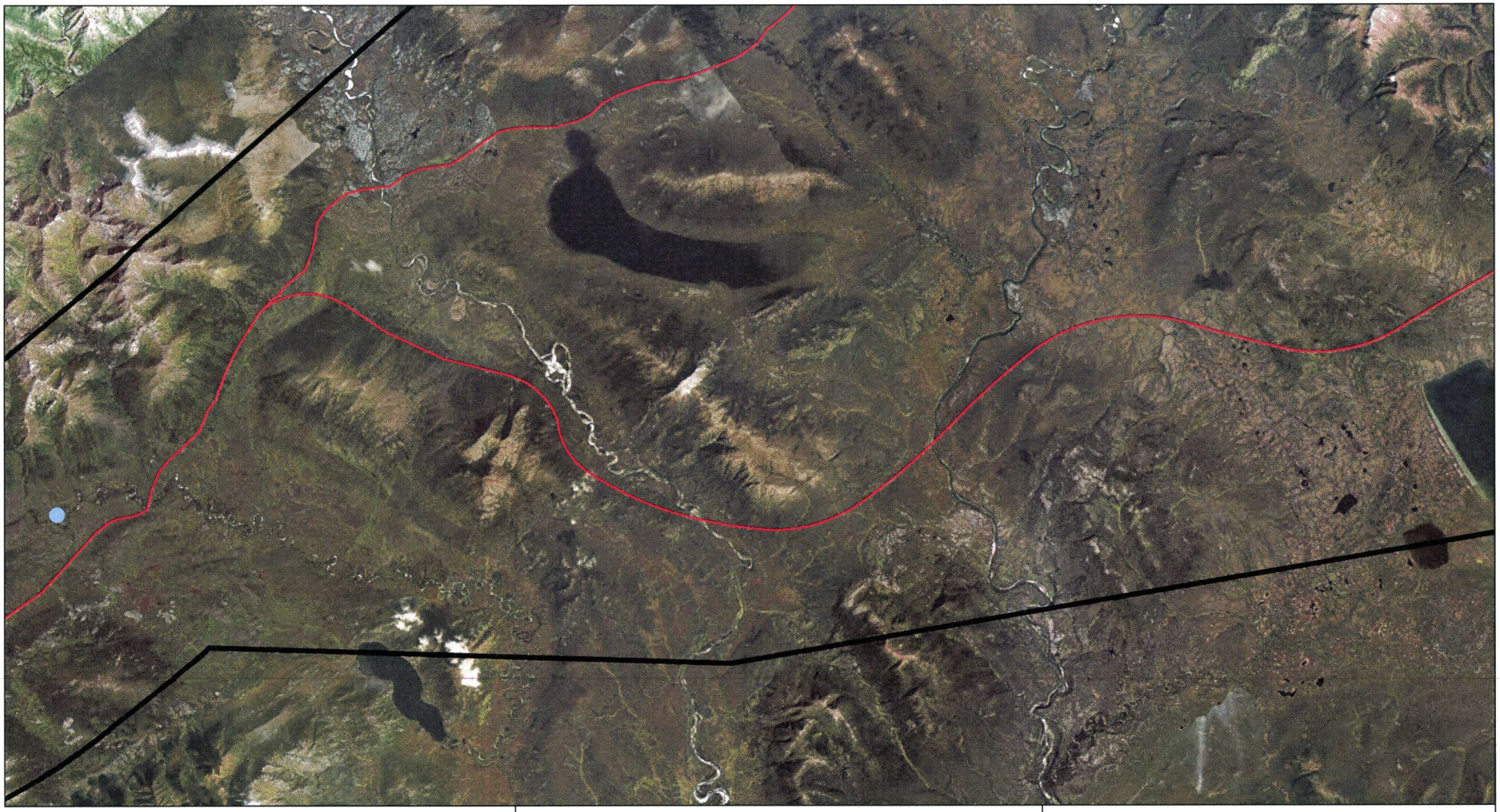

Brooks East
MAP 5
2
Miles
8
7
6
5
10
9
4
3
2
1


Brooks East
MAP 6
2
Miles
8
7
6
5
10
9
4
3
2
1


Brooks East
MAP 7
2
Miles
8
7
6
10
5
9
4
3
2
1


Brooks East
MAP 8
2
Miles
8
7
6
10
5
9
4
3
2
1


Brooks East
MAP 9
2
Miles
8
7
6
5
10
9
4
3
2
1

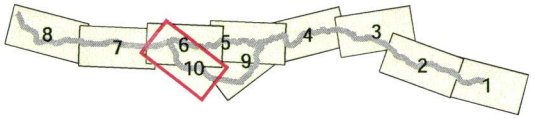


Brooks East

MAP 10

2

Miles



Appendix B. Water chemistry and physical habitat data from survey reaches associated with river and stream crossings in the Brooks East Corridor, Alaska, 2012.

Survey Reach	Nearest Crossing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Wetted Width (m)	Bankful Width (m)	Gradient (%)	Dominant Substrate[b]	Temperature °C	DO (%)	DO (mg/L)	Conductivity (µS/cm^{-1})	Specific Conductance (µS/cm^{-1})	pH
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	11.8	17.2	0.02	CB	9.5	109.2	12.25	115.6	164.2	*nm*
BD01	25	Bedrock Creek	Malamute Fork Alatna River	67.09796	-152.60043	6/11/2012	5.5	5.5	2.00	GC	8.0	93.8	10.75	105.3	155.7	6.77
BD01	25	Bedrock Creek	Malamute Fork Alatna River	67.09796	-152.60043	7/17/2012	4.8	6.3	1.25	GC	10.6	*nm*	*nm*	204.9	282.4	*nm*
BV01	13	Beaver Creek	Kobuk River	67.07523	-155.27667	7/15/2012	23.8	33.9	0.01	SA	10.3	51.9	5.76	138.2	191.9	*nm*
CN01	5	Canyon Creek	Kogoluktuk River	67.02889	-156.66256	6/8/2012	3.4	3.6	2.00	GC	7.3	106.7	12.52	136.8	206.4	7.51
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	3.4	3.6	1.50	*nm*	6.8	100.7	12.39	156.5	240.5	*nm*
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	15.7	15.8	1.50	CB	8.5	101.9	11.89	71.0	103.4	*nm*
HJ01	S7	Helpmejack Creek	Alatna River	67.05835	-153.79528	6/9/2012	16.3	18.1	2.00	CB	6.9	105.3	12.05	93.2	143.3	7.40
HJ01	S7	Helpmejack Creek	Alatna River	67.05835	-153.79528	7/16/2012	16.3	18.1	4.50	CB	8.1	91.9	10.87	157.9	233.4	*nm*
HJ02	S7	Helpmejack Creek	Alatna River	67.04015	-153.66203	6/9/2012	*nm*	*nm*	*nm*	*nm*	7.9	97.7	10.49	121.5	178.8	7.18
HJ02	S7	Helpmejack Creek	Alatna River	67.04015	-153.66203	7/16/2012	15.2	31.4	0.01	CB	12.0	92.4	9.96	165.5	220.4	*nm*
KB01	S3	Kobuk River	None	67.02165	-154.35763	9/4/2012	16.0	17.0	1.00	GC	10.1	104.1	11.68	112.9	158.1	*nm*
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	20.0	20+	0.50	CB	10.0	109.2	12.28	185.9	260.7	*nm*
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	20.0	20+	0.50	SA	12.2	105.3	11.26	75.7	99.9	*nm*
MN01	9	Mauneluk River	Kobuk River	67.11119	-155.63925	7/14/2012	*nm*	*nm*	*nm*	*nm*	11.9	106.8	11.24	160.4	213.7	*nm*
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	12.1	20.3	0.00	SA	4.5	97.1	12.49	69.9	115.2	*nm*
RD01	16	Reed River	Kobuk River	67.19412	-154.88269	6/10/2012	5.8	13.3	2.00	GC	6.4	99.5	12.07	96.5	157.0	6.93
RD01	16	Reed River	Kobuk River	66.96365	-154.81606	6/10/2012	*nm*	*nm*	*nm*	*nm*	5.7	99.1	12.21	33.4	52.5	6.35
RD01	16	Reed River	Kobuk River	67.19318	-154.88084	7/15/2012	*nm*	*nm*	*nm*	*nm*	10.7	92.6	10.81	63.9	88.0	*nm*
RD01	16	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	20.0	20.0	1.25	CB	13.2	109.3	11.41	103.9	133.9	*nm*
RD02	16	Reed River	Kobuk River	67.06531	-154.81343	7/21/2012	20.0	20.0	0.50	CB	13.2	108.4	11.37	99.8	129.0	*nm*
RI01	1	Riley Creek	Kogoluktuk River	67.05552	-156.70256	6/8/2012	8.0	8.0	2.00	CB	7.0	104.5	12.12	122.3	184.8	7.62
RI01	1	Riley Creek	Kogoluktuk River	67.05552	-156.70256	7/13/2012	8.0	8.0	1.50	CB	6.0	105.7	12.94	138.5	218.0	*nm*
RU01	1	Ruby Creek	Shungnak River	67.09978	-156.92219	6/8/2012	7.3	11.9	2.00	GC	10.6	100.3	10.47	167.3	235.5	7.48
RU01	1	Ruby Creek	Shungnak River	67.09978	-156.92219	7/13/2012	7.3	11.9	1.25	GC	12.6	93.3	9.91	205.9	269.8	*nm*
RU02	1	Ruby Creek	Shungnak River	67.11267	-156.91756	7/14/2012	7.7	7.7	0.01	GF	13.5	101.5	10.56	208.0	266.2	*nm*
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	30.0	30.0	0.01	*nm*	13.6	96.8	9.95	148.2	188.9	*nm*
SH02	1	Shungnak River	Kobuk River	67.11806	-156.83575	7/21/2012	23.5	39.1	0.50	SA	13.6	110.0	11.42	125.2	160.0	*nm*
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	21.9	29.2	0.50	GC	15.0	110.4	11.13	134.9	166.8	*nm*
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	32.4	51.1	1.50	CB	15.2	106.7	10.70	144.0	177.4	*nm*
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	6/11/2012	2.6	4.6	2.00	GC	11.4	90.3	8.52	45.2	61.3	6.76
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	2.6	4.6	0.50	GC	12.5	*nm*	*nm*	25.7	33.4	*nm*
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07949	-153.18606	6/10/2012	18.2	18.2	2.00	CB	5.8	94.0	11.42	173.3	273.5	7.88
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07944	-153.18635	7/16/2012	18.2	18.2	1.25	CB	17.0	95.5	9.23	255.6	301.9	*nm*
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	6/8/2012	17.5	20.0	2.00	CB	10.0	100.0	11.05	127.7	177.5	7.69
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	17.5	20.0	2.00	CB	10.1	98.2	11.03	207.5	288.6	*nm*
UN01	4	Unnamed trib	Kogoluktuk River	67.01671	-156.44184	6/8/2012	3.1	3.3	2.00	GF	17.5	91.6	8.56	32.9	35.7	6.55
UN01	4	Unnamed trib	Kogoluktuk River	67.01672	-156.44185	7/13/2012	3.1	3.3	0.01	GF	13.8	85.9	8.95	61.5	78.2	*nm*
UN02	4	Unnamed trib	Kogoluktuk River	67.01543	-156.43502	6/8/2012	4.7	4.9	2.00	GF	6.1	99.3	12.10	16.0	24.7	6.62

Appendix B. Continued.

Survey Reach	Nearest Crossing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Wetted Width (m)	Bankful Width (m)	Gradient (%)	Dominant Substrate[b]	Temperature °C	DO (%)	DO (mg/L)	Conductivity (µS/cm^{-1})	Specific Conductance (µS/cm^{-1})	pH
UN02	4	Unnamed trib	Kogoluktuk River	67.01543	-156.43502	7/13/2012	4.7	4.9	0.01	GF	6.5	97.4	11.78	36.2	56.1	*nm*
UN03	9	Unnamed trib	Mauneluk River	67.04256	-156.13206	7/13/2012	16.3	16.3	0.02	CB	13.5	97.6	10.12	115.7	148.6	*nm*
UN04	9	Unnamed trib	Mauneluk River	67.12383	-156.00801	6/9/2012	23.2	23.5	2.00	CB	6.1	98.8	12.03	80.6	128.5	7.36
UN04	9	Unnamed trib	Mauneluk River	67.12383	-156.00801	7/14/2012	19.8	23.5	1.25	CB	11.2	103.2	11.25	152.3	206.9	*nm*
UN05	9	Unnamed trib	Mauneluk River	67.05437	-155.81388	6/9/2012	7.8	10.7	2.00	GC	5.6	108.4	13.17	64.4	101.8	6.93
UN05	9	Unnamed trib	Mauneluk River	67.05437	-155.81388	7/14/2012	7.8	10.7	1.25	GC	9.1	108.9	12.21	105.4	151.7	*nm*
UN06	9	Unnamed trib	Mauneluk River	67.02217	-155.84178	6/12/2012	7.8	16.6	2.00	GC	6.0	99.1	12.18	50.6	79.5	6.11
UN06	9	Unnamed trib	Mauneluk River	67.02217	-155.84178	7/14/2012	7.5	14.2	0.02	CB	10.3	109.4	12.09	86.7	121.1	*nm*
UN07	9	Unnamed trib	Mauneluk River	67.11058	- 155. 63781	6/9/2012	11.5	11.7	2.00	GC	5.6	110.0	13.28	114.3	180.4	6.76
UN07	9	Unnamed trib	Mauneluk River	67.11058	-155.63781	7/14/2012	6.1	7.3	0.02	CB	8.9	100.7	11.63	190.4	276.8	*nm*
UN08	15	Unnamed trib	Beaver Creek	67.00270	-155.00900	7/15/2012	5.8	7.3	1.50	CB	9.1	94.0	10.79	81.4	116.6	*nm*
UN09	16	Unnamed trib	Reed River	67.19412	-154.88269	7/15/2012	5.8	13.3	1.25	GC	9.4	95.1	11.12	136.1	194.0	*nm*
UN10	11	Unnamed trib	Beaver Creek	67.01060	-155.08077	6/9/2012	4.7	4.7	2.00	CB	6.3	107.2	12.55	87.9	133.0	6.93
UN10	11	Unnamed trib	Beaver Creek	67.01060	-155.08077	7/15/2012	4.7	7.7	0.01	CB	9.7	63.1	7.07	126.7	178.9	*nm*
UN11	9	Unnamed trib	Narvak Lake	66.99952	-155.61014	6/9/2012	5.4	5.6	2.00	GC	6.3	98.8	11.97	284.6	442.7	7.29
UN11	9	Unnamed trib	Narvak Lake	66.99952	-155.61014	7/15/2012	3.8	5.1	0.01	GC	6.0	104.6	12.79	323.3	508.0	*nm*
UN12	13	Unnamed trib	Beaver Creek	67.07488	-155.28398	6/9/2012	7.0	7.0	2.00	GC	4.3	101.4	12.91	60.7	97.2	6.86
UN12	13	Unnamed trib	Beaver Creek	67.07503	-155.27765	7/15/2012	5.8	6.8	0.01	GC	9.6	65.2	7.38	106.3	151.2	*nm*
UN13	25	Unnamed trib	Malamute Fork Alatna River	67.06966	-153.11984	6/10/2012	10.2	10.2	2.00	CB	9.2	99.4	11.11	114.4	164.5	7.45
UN13	25	Unnamed trib	Malamute Fork Alatna River	67.06966	-153.11984	7/16/2012	10.2	10.2	1.50	CB	12.4	93.0	9.86	202.0	265.7	*nm*
UN14	25	Unnamed trib	Malamute Fork Alatna River	67.11074	-152.93070	6/10/2012	3.0	3.1	2.00	GC	7.9	90.3	10.40	83.5	124.5	6.31
UN14	25	Unnamed trib	Malamute Fork Alatna River	67.11074	-152.93070	6/10/2012	*nm*	*nm*	*nm*	*nm*	9.9	100.5	11.04	139.2	195.7	7.57
UN14	25	Unnamed trib	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	3.0	3.0	0.50	GC	9.6	*nm*	*nm*	179.4	254.5	*nm*
UN15	25	Unnamed trib	Malamute Fork Alatna River	67.10036	-152.74847	6/10/2012	3.9	3.9	2.00	CB	11.8	97.6	10.21	88.1	118.0	6.85
UN15	25	Unnamed trib	Malamute Fork Alatna River	67.10036	-152.74847	7/16/2012	3.7	4.6	0-1%	CB	12.6	*nm*	*nm*	108.6	142.0	*nm*
UN16	S7	Unnamed trib	Helpmejack Creek	67.04146	-153.66153	6/9/2012	6.1	7.5	2.00	CB	7.3	96.5	11.22	121.7	182.0	7.70
UN16	S7	Unnamed trib	Helpmejack Creek	67.04146	-153.66153	7/16/2012	6.1	7.5	0.02	CB	8.4	96.0	11.20	141.0	208.7	*nm*
UN17	32	Unnamed trib	Malamute Fork John River	67.04867	-152.12670	6/11/2012	9.3	8.5	2.00	GC	9.0	92.1	10.27	36.2	52.1	6.41
UN17	32	Unnamed trib	Malamute Fork John River	67.04867	-152.12669	7/17/2012	7.1	7.2	0.50	GC	11.3	*nm*	*nm*	128.9	174.5	*nm*
UN18	25	Unnamed trib	Bedrock Creek	67.09319	-152.72504	6/10/2012	12.8	13.0	2.00	CB	12.0	94.5	9.91	64.5	85.7	7.05
UN18	25	Unnamed trib	Bedrock Creek	67.09319	-152.72504	7/17/2012	12.8	13.0	1.50	CB	13.4	*nm*	*nm*	118.3	151.9	*nm*
UN19	38	Unnamed trib	Jim River	66.78889	-150.85132	6/11/2012	4.1	4.3	2.00	GC	9.2	97.6	10.87	10.6	15.3	5.44
UN19	38	Unnamed trib	Jim River	66.78889	-150.85132	7/20/2012	3.2	4.3	1.00	GC	11.0	80.8	8.90	16.7	22.8	*nm*
UN20	35	Unnamed trib	South Fork Koyukuk River	66.67128	-151.48851	7/20/2012	23.3	25.5	0.50	GC	13.4	78.3	8.16	140.0	179.8	*nm*
UN21	36	Unnamed trib	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	3.6	5.0	0.50	GC	8.3	82.5	9.71	125.5	184.2	*nm*
UN22	S6	Unnamed trib	Hogatza River	66.86933	-154.04053	6/9/2012	8.8	16.4	2.00	GC	8.7	101.1	11.35	51.0	74.7	6.95
UN22	S6	Unnamed trib	Hogatza River	66.86933	-154.04053	7/21/2012	5.9	16.4	1.25	GC	8.1	82.1	9.79	69.7	104.5	*nm*
UN23	S5	Unnamed trib	Hogatza River	66.85331	-154.29780	6/9/2012	3.0	4.1	2.00	GC	13.4	85.7	8.62	94.1	122.2	6.82
UN23	S5	Unnamed trib	Hogatza River	66.85331	-154.29780	7/21/2012	3.2	3.5	0.50	*nm*	10.5	96.7	10.72	111.1	153.8	*nm*
UN24	39	Unnamed trib	Jim River	66.83560	-150.64531	7/23/2012	8.2	8.8	0.50	CB	12.9	96.2	10.19	63.1	82.0	*nm*

Appendix B. Continued.

Survey Reach	Nearest Crossing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Wetted Width (m)	Bankful Width (m)	Gradient (%)	Dominant Substrate[b]	Temperature °C	DO (%)	DO (mg/L)	Conductivity (µS/cm^{-1})	Specific Conductance (µS/cm^{-1})	pH
UN25a	24	Unnamed trib	Alatna River	67.22524	-153.55644	7/23/2012	22.5	22.5	0.01	CB	10.2	105.3	11.81	176.8	246.4	*nm*
UN26	15	Unnamed trib	Beaver Creek	66.98333	-155.02530	7/24/2012	5.8	7.6	*nm*	GC	7.6	103.5	12.34	83.1	124.3	*nm*
UN27	13	Unnamed trib	Beaver Creek	67.12892	-155.19577	7/24/2012	7.2	8.0	0.50	GC	7.8	106.7	12.65	162.1	241.6	*nm*
UN28	13	Unnamed trib	Beaver Creek	67.12244	-155.21069	7/24/2012	9.0	10.8	0.03	CB	8.9	106.5	12.33	147.7	213.4	*nm*
UN29	9	Unnamed trib	Mauneluk River	67.02696	-156.04826	7/25/2012	9.8	10.9	0.50	SA	7.4	65.4	7.84	152.4	230.0	*nm*
UN30	9	Unnamed trib	Mauneluk River	67.03453	-156.03934	7/25/2012	20.0	20.0	1.00	CB	*nm*	*nm*	*nm*	*nm*	*nm*	*nm*
UN31	9	Unnamed trib	Mauneluk River	67.12433	-155.63481	7/26/2012	6.6	8.3	4.00	CB	8.5	107.6	12.58	108.4	158.2	*nm*
UN32	S3	Unnamed trib	Kobuk River	66.89105	-154.47314	9/4/2012	5.0	5.0	1.00	*nm*	6.8	91.5	11.16	45.8	70.2	*nm*
UN33	S3	Unnamed trib	Kichaiakalea Creek	67.05337	-154.14697	9/4/2012	5.0	5.0	1.00	GC	6.0	103.5	12.88	64.5	101.3	*nm*
UN34	S3	Unnamed trib	Kobuk River	67.01901	-154.44464	9/4/2012	*nm*	*nm*	1.00	GC	5.5	100.5	12.68	35.7	56.9	*nm*
UN35	S3	Unnamed trib	Kobuk River	67.00066	-154.55439	9/4/2012	3.0	3.0	0.00	FN	5.1	78.7	9.89	32.0	51.7	*nm*
UN36	S3	Unnamed trib	Kobuk River	66.91783	-154.48701	9/5/2012	25.0	12.0	0.50	*nm*	6.6	93.1	11.37	44.9	69.5	*nm*
UN37	S3	Unnamed trib	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	4.0	3.5	1.00	FN	4.7	101.1	12.99	105.6	172.3	*nm*
UN38	S3	Unnamed trib	Kobuk River	66.99846	-154.54691	9/7/2012	7.0	7.0	1.00	CB	5.1	100.6	12.80	25.6	41.3	*nm*

[a] Refer to Figure 2 for the location of crossing codes
[b] CB, cobble; GC, gravel coarse; GF, gravel fine; SA, sand; FN, fines
nm = not measured

Appendix C. Results of fishing effort in streams within the proposed Brooks East Corridor survey area, Alaska, July and September 2012.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	76
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	112
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	109
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	108
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	109
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	124
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	87
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	83
UL01	0	Ulaneak Creek	Ambler River	67.39883	-156.81866	7/13/2012	Minnow Trap	Dolly Varden	juvenile	98
RI01	1	Riley Creek	Kogoluktuk River	67.05552	-156.70256	7/13/2012	Minnow Trap	Dolly Varden	juvenile	108
RI01	1	Riley Creek	Kogoluktuk River	67.05552	-156.70256	7/13/2012	Minnow Trap	Dolly Varden	juvenile	102
RI01	1	Riley Creek	Kogoluktuk River	67.05552	-156.70256	7/13/2012	Minnow Trap	Dolly Varden	juvenile	128
RI01	1	Riley Creek	Kogoluktuk River	67.05552	-156.70256	7/13/2012	Minnow Trap	NO FISH	–	–
RU01	1	Ruby Creek	Shungnak River	67.09978	-156.92219	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	20
RU01	1	Ruby Creek	Shungnak River	67.09978	-156.92219	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	60
RU01	1	Ruby Creek	Shungnak River	67.09978	-156.92219	7/13/2012	Minnow Trap	NO FISH	–	–
RU01	1	Ruby Creek	Shungnak River	67.09978	-156.92219	7/13/2012	Visual Observation	Arctic Grayling	adult	–
RU02	1	Ruby Creek	Shungnak River	67.11267	-156.91756	7/14/2012	Minnow Trap	NO FISH	–	–
RU02	1	Ruby Creek	Shungnak River	67.11267	-156.91756	7/14/2012	Minnow Trap	NO FISH	–	–
RU02	1	Ruby Creek	Shungnak River	67.11267	-156.91756	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	74
RU02	1	Ruby Creek	Shungnak River	67.11267	-156.91756	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	79
RU02	1	Ruby Creek	Shungnak River	67.11267	-156.91756	7/14/2012	Dipnet	Arctic Grayling	juvenile	85
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	71
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	61
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	74

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	70
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	70
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	56
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	NO FISH	–	–
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	37
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Dipnet	Arctic Grayling	juvenile	39
SH01	1	Shungnak River	Kobuk River	67.11272	-156.91808	7/14/2012	Dipnet	Arctic Grayling	juvenile	34
SH02	1	Shungnak River	Kobuk River	67.11806	-156.83575	7/21/2012	Minnow Trap	NO FISH	–	–
SH02	1	Shungnak River	Kobuk River	67.11806	-156.83575	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	66
SH02	1	Shungnak River	Kobuk River	67.11806	-156.83575	7/21/2012	Minnow Trap	NO FISH	–	–
SH02	1	Shungnak River	Kobuk River	67.11806	-156.83575	7/21/2012	Minnow Trap	NO FISH	–	–
SH02	1	Shungnak River	Kobuk River	67.11806	-156.83575	7/21/2012	Visual Observation	Arctic Grayling	adult	–
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Minnow Trap	NO FISH	–	–
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	52
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Minnow Trap	NO FISH	–	–
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Minnow Trap	NO FISH	–	–
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	33
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
SH03	1	Shungnak River	Kobuk River	67.08774	-157.14510	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	33
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Minnow Trap	NO FISH	–	–
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	61
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Minnow Trap	NO FISH	–	–
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Arctic Grayling	juvenile	57
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Arctic Grayling	juvenile	52
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Arctic Grayling	juvenile	55
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Arctic Grayling	juvenile	53
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Arctic Grayling	juvenile	51
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	38
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	29

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	34
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	38
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
SH04	1	Shungnak River	Kobuk River	66.98033	-157.30708	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
UN01	4	Unnamed tributary	Kogoluktuk River	67.01672	-156.44185	7/13/2012	Minnow Trap	NO FISH	–	–
UN01	4	Unnamed tributary	Kogoluktuk River	67.01672	-156.44185	7/13/2012	Minnow Trap	NO FISH	–	–
UN01	4	Unnamed tributary	Kogoluktuk River	67.01672	-156.44185	7/13/2012	Minnow Trap	NO FISH	–	–
UN02	4	Unnamed tributary	Kogoluktuk River	67.01543	-156.43502	7/13/2012	Minnow Trap	NO FISH	–	–
UN02	4	Unnamed tributary	Kogoluktuk River	67.01543	-156.43502	7/13/2012	Minnow Trap	NO FISH	–	–
UN02	4	Unnamed tributary	Kogoluktuk River	67.01543	-156.43502	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	70
UN02	4	Unnamed tributary	Kogoluktuk River	67.01543	-156.43502	7/13/2012	Visual Observation	Arctic Grayling	adult	–
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	39
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	33
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	34
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	32
KG01	4	Kogoluktuk River	Kobuk River	67.09536	-156.40128	7/26/2012	Visual Observation	Arctic Grayling	adult	–
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	79
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	61
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Dolly Varden	juvenile	111
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Dolly Varden	juvenile	114
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	67
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	56
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	57
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	63
CN01	5	Canyon Creek	Kogoluktuk River	67.02888	-156.66255	7/13/2012	Minnow Trap	NO FISH	–	–
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	80
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	81
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	79
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Arctic Grayling	juvenile	67
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Arctic Grayling	juvenile	61
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Arctic Grayling	juvenile	59
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	75
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	87
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
KG02	6	Kogoluktuk River	Kobuk River	67.01372	-156.68225	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
UN03	9	Unnamed tributary	Mauneluk River	67.04256	-156.13206	7/13/2012	Minnow Trap	Dolly Varden	juvenile	115
UN03	9	Unnamed tributary	Mauneluk River	67.04256	-156.13206	7/13/2012	Minnow Trap	Dolly Varden	juvenile	122
UN03	9	Unnamed tributary	Mauneluk River	67.04256	-156.13206	7/13/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	85
UN03	9	Unnamed tributary	Mauneluk River	67.04256	-156.13206	7/13/2012	Minnow Trap	Dolly Varden	juvenile	139
UN03	9	Unnamed tributary	Mauneluk River	67.04256	-156.13206	7/13/2012	Minnow Trap	Dolly Varden	juvenile	115
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	87
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	107

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	129
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	112
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	119
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	94
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	101
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	150
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	99
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	97
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	98
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	102
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	73
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	88
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	87
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	80
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	95
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	96
UN04	9	Unnamed tributary	Mauneluk River	67.12383	-156.00801	7/14/2012	Minnow Trap	Dolly Varden	juvenile	69
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	Dolly Varden	juvenile	95
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	Dolly Varden	juvenile	114
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	Dolly Varden	juvenile	104
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	Dolly Varden	juvenile	126
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	Dolly Varden	juvenile	117
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	Dolly Varden	juvenile	118
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	NO FISH	–	–
UN05	9	Unnamed tributary	Mauneluk River	67.05437	-155.81388	7/14/2012	Minnow Trap	NO FISH	–	–
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	71
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Minnow Trap	NO FISH	–	–
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Minnow Trap	NO FISH	–	–

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	70
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Arctic Grayling	juvenile	109
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	76
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Visual Observation	Arctic Grayling	adult	>300
UN07	9	Unnamed tributary	Mauneluk River	67.11058	-155.63781	7/14/2012	Visual Observation	Arctic Grayling	adult	>300
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	110
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	129
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	118
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	111
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	135
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	102
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	100
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	100
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	123
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	117
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	97
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	99
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	125
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	113
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	123
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	114
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	168
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	128

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	122
UN06	9	Unnamed tributary	Mauneluk River	67.02217	-155.84178	7/14/2012	Minnow Trap	Dolly Varden	juvenile	78
MN01	9	Mauneluk River	Kobuk River	67.11119	-155.63925	7/14/2012	Minnow Trap	NO FISH	–	–
MN01	9	Mauneluk River	Kobuk River	67.11119	-155.63925	7/14/2012	Minnow Trap	NO FISH	–	–
MN01	9	Mauneluk River	Kobuk River	67.11119	-155.63925	7/14/2012	Minnow Trap	NO FISH	–	–
UN11	9	Unnamed tributary	Narvak Lake	66.99952	-155.61014	7/15/2012	Minnow Trap	NO FISH	–	–
UN11	9	Unnamed tributary	Narvak Lake	66.99952	-155.61014	7/15/2012	Minnow Trap	NO FISH	–	–
UN11	9	Unnamed tributary	Narvak Lake	66.99952	-155.61014	7/15/2012	Minnow Trap	NO FISH	–	–
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	82
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	70
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Chum Salmon	juvenile	55
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Chum Salmon	juvenile	57
MN02	9	Mauneluk River	Kobuk River	67.00295	-156.09182	7/25/2012	Electrofishing	Chum Salmon	juvenile	41
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Northern Pike	juvenile	193
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Northern Pike	juvenile	145
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	27
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Chum Salmon	juvenile	52
UN29	9	Unnamed tributary	Mauneluk River	67.02696	-156.04826	7/25/2012	Electrofishing	Chum Salmon	juvenile	58
UN30	9	Unnamed tributary	Mauneluk River	67.03453	-156.03934	7/25/2012	Visual Observation	Chum Salmon	adult	–
UN30	9	Unnamed tributary	Mauneluk River	67.03453	-156.03934	7/25/2012	Visual Observation	Arctic Grayling	adult	–
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	75
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Dolly Varden	juvenile	85
UN31	9	Unnamed tributary	Mauneluk River	67.12433	-155.63481	7/26/2012	Electrofishing	Dolly Varden	juvenile	127
UN10	11	Unnamed tributary	Beaver Creek	67.01060	-155.08077	7/15/2012	Minnow Trap	Dolly Varden	juvenile	83
UN10	11	Unnamed tributary	Beaver Creek	67.01060	-155.08077	7/15/2012	Minnow Trap	NO FISH	–	–

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN10	11	Unnamed tributary	Beaver Creek	67.01060	-155.08077	7/15/2012	Minnow Trap	Dolly Varden	juvenile	75
UN10	11	Unnamed tributary	Beaver Creek	67.01060	-155.08077	7/15/2012	Minnow Trap	Dolly Varden	juvenile	144
BV01	13	Beaver Creek	Kobuk River	67.07523	-155.27667	7/15/2012	Minnow Trap	NO FISH	–	–
BV01	13	Beaver Creek	Kobuk River	67.07523	-155.27667	7/15/2012	Minnow Trap	NO FISH	–	–
BV01	13	Beaver Creek	Kobuk River	67.07523	-155.27667	7/15/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	41
BV01	13	Beaver Creek	Kobuk River	67.07523	-155.27667	7/15/2012	Visual Observation	Arctic Grayling	adult	–
UN12	13	Unnamed tributary	Beaver Creek	67.07503	-155.27765	7/15/2012	Minnow Trap	NO FISH	–	–
UN12	13	Unnamed tributary	Beaver Creek	67.07503	-155.27765	7/15/2012	Minnow Trap	NO FISH	–	–
UN12	13	Unnamed tributary	Beaver Creek	67.07503	-155.27765	7/15/2012	Minnow Trap	NO FISH	–	–
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN27	13	Unnamed tributary	Beaver Creek	67.12892	-155.19577	7/24/2012	Electrofishing	Burbot	juvenile	111
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	70
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN28	13	Unnamed tributary	Beaver Creek	67.12244	-155.21069	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
UN08	15	Unnamed tributary	Beaver Creek	67.00270	-155.00900	7/15/2012	Minnow Trap	NO FISH	–	–
UN08	15	Unnamed tributary	Beaver Creek	67.00270	-155.00900	7/15/2012	Minnow Trap	NO FISH	–	–
UN08	15	Unnamed tributary	Beaver Creek	67.00270	-155.00900	7/15/2012	Minnow Trap	NO FISH	–	–
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	33
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	91
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	81
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	38
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	38
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	43
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	35
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	41
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Dolly Varden	juvenile	88
UN26	15	Unnamed tributary	Beaver Creek	66.98333	-155.02530	7/24/2012	Electrofishing	Dolly Varden	juvenile	98
UN09	16	Unnamed tributary	Reed River	67.19412	-154.88269	7/15/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	63
UN09	16	Unnamed tributary	Reed River	67.19412	-154.88269	7/15/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	63
UN09	16	Unnamed tributary	Reed River	67.19412	-154.88269	7/15/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	63
UN09	16	Unnamed tributary	Reed River	67.19412	-154.88269	7/15/2012	Minnow Trap	NO FISH	–	–
RD01	16	Reed River	Kobuk River	67.19318	-154.88084	7/15/2012	Minnow Trap	NO FISH	–	–
RD01	16	Reed River	Kobuk River	67.19318	-154.88084	7/15/2012	Minnow Trap	NO FISH	–	–
RD01	16	Reed River	Kobuk River	67.19318	-154.88084	7/15/2012	Minnow Trap	NO FISH	–	–
RD02	16	Reed River	Kobuk River	67.06531	-154.81343	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	47

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
RD02	16	Reed River	Kobuk River	67.06531	-154.81343	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	55
RD02	16	Reed River	Kobuk River	67.06531	-154.81343	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	49
RD02	16	Reed River	Kobuk River	67.06531	-154.81343	7/21/2012	Minnow Trap	NO FISH	–	–
RD02	16	Reed River	Kobuk River	67.06531	-154.81343	7/21/2012	Visual Observation	Arctic Grayling	juvenile/adult	–
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
AL01	24	Alatna River	Koyukuk River	67.18136	-153.48386	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
UN25a	24	Unnamed tributary	Alatna River	67.22524	-153.55644	7/23/2012	Visual Observation	Chum Salmon	adult	–
UN25b	24	Unnamed tributary	Alatna River	67.22868	-153.59320	7/23/2012	Visual Observation	Chinook Salmon	adult	–
UN13	25	Unnamed tributary	Malamute Fork Alatna River	67.06966	-153.11984	7/16/2012	Minnow Trap	NO FISH	–	–
UN13	25	Unnamed tributary	Malamute Fork Alatna River	67.06966	-153.11984	7/16/2012	Minnow Trap	NO FISH	–	–
UN13	25	Unnamed tributary	Malamute Fork Alatna River	67.06966	-153.11984	7/16/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	94
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Minnow Trap	NO FISH	–	–
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Minnow Trap	NO FISH	–	–
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Minnow Trap	NO FISH	–	–
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Dipnet	Coho Salmon	juvenile	46
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Dipnet	Coho Salmon	juvenile	48

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Dipnet	Chum Salmon	juvenile	38
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Dipnet	Chum Salmon	juvenile	44
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Dipnet	Coho Salmon	juvenile	47
UN14	25	Unnamed tributary	Malamute Fork Alatna River	67.11074	-152.93070	7/16/2012	Dipnet	Coho Salmon	juvenile	47
UN15	25	Unnamed tributary	Malamute Fork Alatna River	67.10036	-152.74847	7/16/2012	Minnow Trap	Coho Salmon	juvenile	58
UN15	25	Unnamed tributary	Malamute Fork Alatna River	67.10036	-152.74847	7/16/2012	Minnow Trap	Coho Salmon	juvenile	57
UN15	25	Unnamed tributary	Malamute Fork Alatna River	67.10036	-152.74847	7/16/2012	Minnow Trap	NO FISH	–	–
UN15	25	Unnamed tributary	Malamute Fork Alatna River	67.10036	-152.74847	7/16/2012	Minnow Trap	NO FISH	–	–
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07944	-153.18635	7/16/2012	Minnow Trap	NO FISH	–	–
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07944	-153.18635	7/16/2012	Minnow Trap	NO FISH	–	–
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07944	-153.18635	7/16/2012	Minnow Trap	NO FISH	–	–
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07944	-153.18635	7/16/2012	Electrofishing	Coho Salmon	juvenile	69
TB01	25	Tobuk Creek	Malamute Fork Alatna River	67.07944	-153.18635	7/16/2012	Electrofishing	Chinook Salmon	juvenile	74
BD01	25	Bedrock Creek	Malamute Fork Alatna River	67.09796	-152.60043	7/17/2012	Minnow Trap	NO FISH	–	–
BD01	25	Bedrock Creek	Malamute Fork Alatna River	67.09796	-152.60043	7/17/2012	Minnow Trap	NO FISH	–	–
BD01	25	Bedrock Creek	Malamute Fork Alatna River	67.09796	-152.60043	7/17/2012	Minnow Trap	NO FISH	–	–
UN18	25	Unnamed tributary	Bedrock Creek	67.09319	-152.72504	7/17/2012	Minnow Trap	NO FISH	–	–
UN18	25	Unnamed tributary	Bedrock Creek	67.09319	-152.72504	7/17/2012	Minnow Trap	NO FISH	–	–
UN18	25	Unnamed tributary	Bedrock Creek	67.09319	-152.72504	7/17/2012	Minnow Trap	NO FISH	–	–
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	Minnow Trap	NO FISH	–	–
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	Minnow Trap	NO FISH	–	–

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	Minnow Trap	NO FISH	–	–
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	Electrofishing	Arctic Grayling	juvenile	104
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	Electrofishing	Arctic Grayling	juvenile	41
SZ01	31	East Fork Sozhekla Creek	Sozhekla Creek	67.03600	-152.41211	7/17/2012	Electrofishing	Arctic Grayling	juvenile	39
UN17	32	Unnamed tributary	Malamute Fork John River	67.04867	-152.12669	7/17/2012	Minnow Trap	NO FISH	–	–
UN17	32	Unnamed tributary	Malamute Fork John River	67.04867	-152.12669	7/17/2012	Minnow Trap	NO FISH	–	–
UN17	32	Unnamed tributary	Malamute Fork John River	67.04867	-152.12669	7/17/2012	Minnow Trap	NO FISH	–	–
UN17	32	Unnamed tributary	Malamute Fork John River	67.04867	-152.12669	7/17/2012	Dipnet	Coho Salmon	juvenile	59
UN20	35	Unnamed tributary	South Fork Koyukuk River	66.67128	-151.48851	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	39
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	29
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	35
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	32
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	33
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	30
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	31
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	29
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	34
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	29
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	26
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Arctic Grayling	juvenile	137
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	85
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	76
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	80
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	77
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	77

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN21	36	Unnamed tributary	South Fork Koyukuk River	66.82559	-151.17087	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	70
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	55
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	62
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	49
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	76
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	33
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	49
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	47
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Arctic Grayling	juvenile	97
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	55
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	66
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	55
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	52
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	61
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Coho Salmon	juvenile	55
UN19	38	Unnamed tributary	Jim River	66.78889	-150.85132	7/20/2012	Electrofishing	Chinook Salmon	juvenile	48
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	81
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	81
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	79
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	86
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	75
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	91
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	37
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	40
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	55
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	29
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	31
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Slimy Sculpin	juvenile/adult	31
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Coho Salmon	juvenile	62
UN24	39	Unnamed tributary	Jim River	66.83560	-150.64531	7/23/2012	Electrofishing	Coho Salmon	juvenile	61
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Minnow Trap	NO FISH	–	–
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Minnow Trap	NO FISH	–	–
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Minnow Trap	NO FISH	–	–
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Minnow Trap	NO FISH	–	–
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Arctic Grayling	juvenile	38
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Arctic Grayling	juvenile	41
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Arctic Grayling	juvenile	39
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Chum Salmon	juvenile	38
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Chum Salmon	juvenile	36
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	46
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
RD03	S2	Reed River	Kobuk River	66.96365	-154.81606	7/21/2012	Electrofishing	Burbot	juvenile	156
KB01	S3	Kobuk River	None	67.02165	-154.35763	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	78
KB01	S3	Kobuk River	None	67.02165	-154.35763	9/4/2012	Minnow Trap	NO FISH	–	–

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
KB01	S3	Kobuk River	None	67.02165	-154.35763	9/4/2012	Minnow Trap	NO FISH	–	–
KB01	S3	Kobuk River	None	67.02165	-154.35763	9/4/2012	Visual Observation	Chum Salmon	adult	–
KB01	S3	Kobuk River	None	67.02165	-154.35763	9/4/2012	Visual Observation	Chum Salmon	adult	–
UN32	S3	Unnamed tributary	Kobuk River	66.89105	-154.47314	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	101
UN32	S3	Unnamed tributary	Kobuk River	66.89105	-154.47314	9/4/2012	Minnow Trap	NO FISH	–	–
UN32	S3	Unnamed tributary	Kobuk River	66.89105	-154.47314	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	92
UN33	S3	Unnamed tributary	Kichaiakalea Creek	67.05337	-154.14697	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	56
UN33	S3	Unnamed tributary	Kichaiakalea Creek	67.05337	-154.14697	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	86
UN33	S3	Unnamed tributary	Kichaiakalea Creek	67.05337	-154.14697	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	87
UN33	S3	Unnamed tributary	Kichaiakalea Creek	67.05337	-154.14697	9/4/2012	Minnow Trap	NO FISH	–	–
UN34	S3	Unnamed tributary	Kobuk River	67.01901	-154.44464	9/4/2012	Minnow Trap	Dolly Varden	juvenile	128
UN34	S3	Unnamed tributary	Kobuk River	67.01901	-154.44464	9/4/2012	Minnow Trap	Dolly Varden	juvenile	130
UN34	S3	Unnamed tributary	Kobuk River	67.01901	-154.44464	9/4/2012	Minnow Trap	NO FISH	–	–
UN34	S3	Unnamed tributary	Kobuk River	67.01901	-154.44464	9/4/2012	Minnow Trap	NO FISH	–	–
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	101
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	96
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	65
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	87
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Dolly Varden	juvenile	146
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Dolly Varden	juvenile	116
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Dolly Varden	juvenile	131
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	68
UN35	S3	Unnamed tributary	Kobuk River	67.00066	-154.55439	9/4/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	95
UN36	S3	Unnamed tributary	Kobuk River	66.91783	-154.48701	9/5/2012	Minnow Trap	NO FISH	–	–
UN36	S3	Unnamed tributary	Kobuk River	66.91783	-154.48701	9/5/2012	Minnow Trap	NO FISH	–	–
UN36	S3	Unnamed tributary	Kobuk River	66.91783	-154.48701	9/5/2012	Minnow Trap	NO FISH	–	–
UN37	S3	Unnamed tributary	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	Minnow Trap	Dolly Varden	juvenile	128
UN37	S3	Unnamed tributary	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	Minnow Trap	Dolly Varden	juvenile	147

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN37	S3	Unnamed tributary	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	79
UN37	S3	Unnamed tributary	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	Minnow Trap	NO FISH	–	–
UN37	S3	Unnamed tributary	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	Minnow Trap	NO FISH	–	–
UN37	S3	Unnamed tributary	Kichaiakalea Creek	67.02964	-154.01124	9/7/2012	Minnow Trap	NO FISH	–	–
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Minnow Trap	NO FISH	–	–
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Minnow Trap	NO FISH	–	–
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Minnow Trap	NO FISH	–	–
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Minnow Trap	NO FISH	–	–
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Arctic Grayling	juvenile	122
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Arctic Grayling	juvenile	123
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Arctic Grayling	juvenile	115
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Slimy Sculpin	juvenile/adult	34
UN38	S3	Unnamed tributary	Kobuk River	66.99846	-154.54691	9/7/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
RD04	S4	Reed River	Kobuk River	66.88630	-154.83643	9/4/2012	Visual Observation	Chum Salmon	adult	–
UN23	S5	Unnamed tributary	Hogatza River	66.85331	-154.29780	7/21/2012	Electrofishing	Arctic Grayling	juvenile	121
UN23	S5	Unnamed tributary	Hogatza River	66.85331	-154.29780	7/21/2012	Electrofishing	Arctic Grayling	juvenile	55
UN23	S5	Unnamed tributary	Hogatza River	66.85331	-154.29780	7/21/2012	Electrofishing	Arctic Grayling	juvenile	51
UN23	S5	Unnamed tributary	Hogatza River	66.85331	-154.29780	7/21/2012	Electrofishing	Arctic Grayling	juvenile	57
UN23	S5	Unnamed tributary	Hogatza River	66.85331	-154.29780	7/21/2012	Electrofishing	Arctic Grayling	juvenile	63
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	46
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	69
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	72
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	77
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	56
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	66
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	61

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Visual Observation	Chum Salmon	adult	–
HG01	S6	Hogatza River	Koyukuk	66.82131	-153.99037	7/21/2012	Visual Observation	Chum Salmon	adult	–
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	78
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	70
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	89
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	54
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	59
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	52
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	36
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	38

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	32
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	29
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	64
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	78
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	51
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	53
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	66
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	84
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	85
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	42
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	58
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	57
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	48
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	56
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	45
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	63
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	77
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	67
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	44
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	87
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	81
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	87

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	69
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	70
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	73
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	78
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	75
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	61
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	72
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	62
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	50
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	71
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	74
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	60
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	68
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Slimy Sculpin	juvenile/adult	65
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Burbot	juvenile	115
UN22	S6	Unnamed tributary	Hogatza River	66.86933	-154.04053	7/21/2012	Electrofishing	Burbot	juvenile	119
HJ01	S7	Helpmejack Creek	Alatna River	67.05835	-153.79528	7/16/2012	Minnow Trap	NO FISH	–	–
HJ01	S7	Helpmejack Creek	Alatna River	67.05835	-153.79528	7/16/2012	Minnow Trap	Dolly Varden	juvenile	86
HJ01	S7	Helpmejack Creek	Alatna River	67.05835	-153.79528	7/16/2012	Minnow Trap	NO FISH	–	–
HJ01	S7	Helpmejack Creek	Alatna River	67.05835	-153.79528	7/16/2012	Electrofishing	Dolly Varden	juvenile	122

Appendix C. Continued.

Survey Reach	Nearest Crosssing[a]	Waterbody	Tributary to	Latitude °N	Longitude °W	Date	Sampling Method	Species	Life History Stage	Length (mm)
HJ02	S7	Helpmejack Creek	Alatna River	67.04015	-153.66203	7/16/2012	Minnow Trap	NO FISH	–	–
HJ02	S7	Helpmejack Creek	Alatna River	67.04015	-153.66203	7/16/2012	Minnow Trap	NO FISH	–	–
HJ02	S7	Helpmejack Creek	Alatna River	67.04015	-153.66203	7/16/2012	Minnow Trap	NO FISH	–	–
HJ02	S7	Helpmejack Creek	Alatna River	67.04015	-153.66203	7/16/2012	Visual Observation	Arctic Grayling	adult	–
UN16	S7	Unnamed tributary	Helpmejack Creek	67.04146	-153.66153	7/16/2012	Minnow Trap	NO FISH	–	–
UN16	S7	Unnamed tributary	Helpmejack Creek	67.04146	-153.66153	7/16/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	86
UN16	S7	Unnamed tributary	Helpmejack Creek	67.04146	-153.66153	7/16/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	81
UN16	S7	Unnamed tributary	Helpmejack Creek	67.04146	-153.66153	7/16/2012	Minnow Trap	Slimy Sculpin	juvenile/adult	57
UN16	S7	Unnamed tributary	Helpmejack Creek	67.04146	-153.66153	7/16/2012	Minnow Trap	Dolly Varden	juvenile	94
UN16	S7	Unnamed tributary	Helpmejack Creek	67.04146	-153.66153	7/16/2012	Minnow Trap	Dolly Varden	juvenile	85

[a] Refer to Figure 2 for the location of crossing codes