APPENDIX L. 2011 STATION REPORTS AND PHOTOS

FDS 14-04 – FULL PDF FILE DOWNLOAD (93,185 kb)

Sections:

FDS14-04 – Text, Appendices A, B, E. F, G, H, I, and J

Appendix C – Occurrence Maps

Appendix D – 2003 Station Reports and Photos

Appendix K – 2011 Station Reports and Photos

Station Info

Observers: Daniel Reed, Tim Sundlov **Date/Time:** 08/03/2011 12:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.93620	-147.28810		62.93620	-147.28810	/	62.92624	-147.26120

Elevation NED (m)(ft): 763 2503
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-1 **Legal Description (MTRS):** S033N011E24
Waterbody Name: Coal Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments: pH meter not working properly.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.17 **DO (mg/L):** 10.81 **DO (%):** 91.70 **Conductivity (µS/cm):** 23 **pH:**
Water Color: Clear **Turbidity (NTU):** 1.24 **Thalweg Velocity (m/s)(ft/s):** 0.70 2.30

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 235 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	21.5		19.8
Thalweg Depth	0.46		0.33

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Open Low Willow Shrub	0.5
5 - 10	Open White Spruce Forest	5	Closed Tall Alder-Willow Shrub	1
10 - 20	Closed Black Spruce Forest	4	Closed Tall Willow Shrub	1.5
20 - 30	Closed Black Spruce Forest	5	Open Black Spruce Forest	5

Key To Fish Sampling Methods

Estimated reach length (m): 2900 **Total Electrofishing Time (s):** 2909

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 32 **Fish Measured:** 19 **Fork Lengths (mm)** **Min:** 332 **Max:** 407 **Mean:** 356 **Median:** 369
Sampling Method (No. of fish): BEF (19) VOB (13)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 29 **Fish Measured:** 27 **Fork Lengths (mm)** **Min:** 29 **Max:** 50 **Mean:** 42 **Median:** 39
Sampling Method (No. of fish): BEF (27) VOB (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 52 **Max:** 58 **Mean:** 55 **Median:** 55
Sampling Method (No. of fish): BEF (8) VOB (7)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 296 **Max:** 325 **Mean:** 310 **Median:** 310
Sampling Method (No. of fish): BEF (6) VOB (1)
Comments:

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Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 280 **Max:** 372 **Mean:** 322 **Median:** 326
Sampling Method (No. of fish): BEF (5) VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 51 **Max:** 51 **Mean:** 51 **Median:** 51
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: Orange Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Ashley Reed **Date/Time:** 08/03/2011 11:34 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.95278	-147.00649		62.95278	-147.00649	/	62.93615	-147.00451

Elevation NED (m)(ft): 777 2549
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-1 **Legal Description (MTRS):** C014N009W31
Waterbody Name: Clearwater Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU6

Visit Comments: Stream velocity calculated from TVHR readings is 1.77 m/s.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.45 **DO (mg/L):** 11.49 **DO (%):** 95.70 **Conductivity (µS/cm):** 103 **pH:** 5.75
Water Color: Clear **Turbidity (NTU):** 1.24 **Thalweg Velocity (m/s)(ft/s):** 1.70 5.58

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 554 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	38.0		18.0
Thalweg Depth	1.50		0.75

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2.7	Closed Tall Willow Shrub	3.3
5 - 10	Closed White Spruce Forest	9	Closed Tall Willow Shrub	3.3
10 - 20	Closed White Spruce Forest	9	Closed Tall Willow Shrub	3.3
20 - 30	Closed White Spruce Forest	9	Closed Black Spruce-White Spruce Forest	13

Key To Fish Sampling Methods

Estimated reach length (m): 2500 **Total Electrofishing Time (s):** 889

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 20 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 360 **Max:** 380 **Mean:** 370 **Median:** 370
Sampling Method (No. of fish): BEF (2) VOB (18)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: Event O arctic grayling approximately 95mm.

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 297 **Max:** 307 **Mean:** 303 **Median:** 302
Sampling Method (No. of fish): BEF (3)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: handheld laser rangefinder

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Raye Ann Neustel, Joe Buckwalter **Date/Time:** 08/03/2011 9:44 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.26993	-146.42260		63.26862	-146.41500		63.26993	-146.42260

Elevation NED (m)(ft): 992 3255
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes B-5 **Legal Description (MTRS):** F019S007E16
Waterbody Name: East Fork Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments: HU101. Habitat transect down stream of the mouth of unnamed tributary.

Visit Comments: Right bank has a vegetated gravel bar below bankful level.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.40 **DO (mg/L):** 11.50 **DO (%):** 88.60 **Conductivity (µS/cm):** 68 **pH:** 6.10
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 185.00 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 49 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	41.0		20.4	**Dominant Substrate:** Cobble
Thalweg Depth	1.80		0.36	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Gravel

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Open Tall Willow Shrub	2	Closed Tall Willow Shrub	2
10 - 20	Open Tall Willow Shrub	2	Closed Tall Willow Shrub	2
20 - 30	Open Tall Willow Shrub	2	Closed Tall Willow Shrub	2

Key To Fish Sampling Methods

Estimated reach length (m): 490

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 127 **Max:** 185 **Mean:** 162 **Median:** 156
Sampling Method (No. of fish): PEF (4) VOG (6)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 59 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 56 **Max:** 66 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): PEF (14) VOG (45)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 71 **Max:** 110 **Mean:** 88 **Median:** 90
Sampling Method (No. of fish): PEF (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 35 **Max:** 48 **Mean:** 42 **Median:** 41
Sampling Method (No. of fish): PEF (5)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Joe Buckwalter **Date/Time:** 08/03/2011 3:15 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.19090	-146.42755		63.19160	-146.42471		63.18992	-146.42903

Elevation NED (m)(ft): 1035 3396
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-5 **Legal Description (MTRS):** F020S007E09
Waterbody Name: Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU46

Visit Comments: Reach discontinuously electrofished--much of the channel was too deep for wading, so we spot-shocked from the banks.

Wildlife Comments: 4 Caribou.

Water Quality \ Stream Flow

Water Temp (C): 10.88 **DO (mg/L):** 9.56 **DO (%):** 86.60 **Conductivity (µS/cm):** 16 **pH:** 5.56
Water Color: Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):** 1.42 4.66

Stream Channel

Stream Gradient (%): 0 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 83 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	13.1		12.7
Thalweg Depth	1.25		1.10

Dominant Substrate: Sand
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Boulder

Rosgen Class: E5 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Willow Shrub	0.7	Open Low Willow Shrub	0.7
5 - 10	Open Low Willow Shrub	0.7	Open Low Willow Shrub	0.7
10 - 20	Subarctic Lowland Sedge-Moss Bog Meadow	0.3	Bryoid herbaceous	0.3
20 - 30	Subarctic Lowland Sedge-Moss Bog Meadow	0.3	Bryoid herbaceous	0.3

Key To Fish Sampling Methods

Estimated reach length (m): 310

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 35 **Max:** 35 **Mean:** 35 **Median:** 35
Sampling Method (No. of fish): PEF (2) VOG (8)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 36 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 51 **Max:** 65 **Mean:** 54 **Median:** 58
Sampling Method (No. of fish): PEF (6) VOG (30)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 69 **Max:** 89 **Mean:** 79 **Median:** 79
Sampling Method (No. of fish): PEF (3)
Comments:

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Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 30 **Max:** 40 **Mean:** 36 **Median:** 35
Sampling Method (No. of fish): PEF (12)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Joe Buckwalter, Jonathan Kirsch **Date/Time:** 06/30/2011 11:30 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.41173	-148.62240		61.41173	-148.62240		61.47519	-148.71428

Elevation NED (m)(ft): 48 157
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S015N005E07
Waterbody Name: Knik River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Drove jet boat (18-ft G3 with 90/65 Yamaha 4-stroke) 20 miles up Knik River from Old Glenn Highway in 1 hr and 25 minutes. Used approx. 6 gallons of fuel or half a tank. Cruising ground speed 15-20 mph. pH unstable, drifted from 3.8 to 6.4 in 1 hour--still rising. Reach sampled along left bank.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 1.65 **DO (mg/L):** 14.94 **DO (%):** 106.00 **Conductivity (µS/cm):** 51 **pH:**
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 103.00 **Thalweg Velocity (m/s)(ft/s):** 1.90 6.23

Stream Channel

Stream Gradient (%): 0 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1055 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	380.0		309.0
Thalweg Depth	2.50		1.90

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	2.5
5 - 10	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	2.5
10 - 20	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	2.5
20 - 30	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	2.5

Key To Fish Sampling Methods

Estimated reach length (m): ####

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 40 **Fish Measured:** 20 **Fork Lengths (mm)** **Min:** 86 **Max:** 245 **Mean:** 157 **Median:** 165
Sampling Method (No. of fish): BEF (20) VOB (20)
Comments: In individual fish comments section, all fish labeled with "a" were retained for otolith extraction and finclips we

Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 63 **Max:** 63 **Mean:** 63 **Median:** 63
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** handheld sonar depth finder
Stream Velocity: GPS Float **Channel Widths:** handheld laser rangefinder
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

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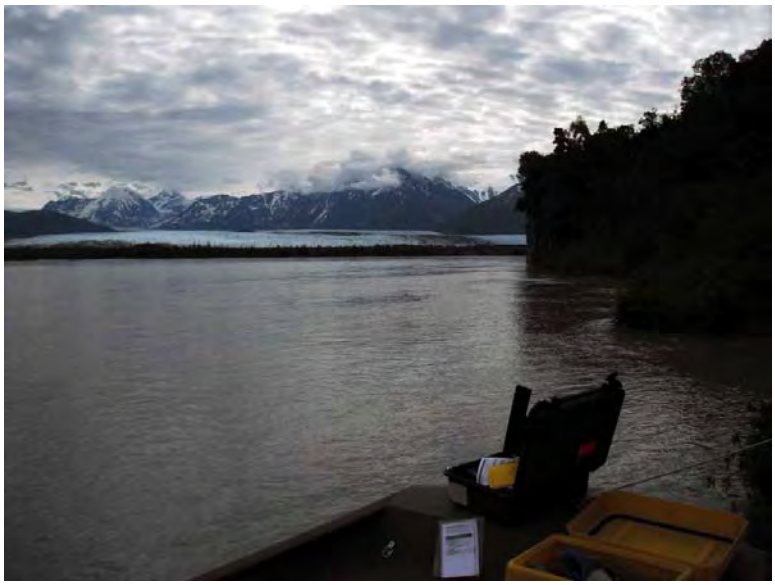

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/14/2011 11:49 AM

	Latitude	Longitude
Sample Coordinates	61.52410	-148.95267

Elevation NED (m)(ft): 16 52
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-6 **Legal Description (MTRS):** S017N003E32
Waterbody Name: Jim Creek
Anadromous Waters Catalog Number: 247-50-10200-2081
Geographic Comments:
Visit Comments: Major ATV crossing area. Minnow trapping only--no electrofishing or habitat assessment occurred.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 123 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 50 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (50)
Comments: Age 0+ fry.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 152 **Max:** 152 **Mean:** 152 **Median:** 152
Sampling Method (No. of fish): MTR (1)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/14/2011 12:18 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.50240	-148.85570	/	61.50234	-148.85697

Elevation NED (m)(ft): 16 52
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S016N003E02
Waterbody Name: Knik River
Anadromous Waters Catalog Number:
Geographic Comments: Springbrook/side channel.

Visit Comments: This site is at an ATV trail crossing. Minnow trapping only--no electrofishing or habitat assessment occurred. Set 1 trap at downstream coordinate (to the west) and another at upstream coordinate.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1.5 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Sand
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 86 **Max:** 145 **Mean:** 117 **Median:** 115
Sampling Method (No. of fish): MTR (9)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/14/2011 1:37 PM

	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
		61.49165	-148.72773	/	61.49078	-148.72762

Elevation NED (m)(ft): 47 154
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E10
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed right-bank Knik River tributary at ATV trail crossing.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred. ATVs have excavated large pools at the stream crossing.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 5 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

No Fish Found

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/14/2011 2:05 PM

	Latitude	Longitude
Sample Coordinates	61.48429	-148.71340

Elevation NED (m)(ft): 44 144
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E10
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed right-bank Knik River tributary at ATV trail crossing.
Visit Comments: No sampling occurred--too shallow for minnow traps. Recent debris flow deposits.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1101F040835.jpg

FSS1101F040836.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 10:45 AM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.76586	-148.53187	/	62.77535	-148.71770

Elevation NED (m)(ft): 637 2090
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-4 **Legal Description (MTRS):** S031N005E21
Waterbody Name: Fog Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth about 7 miles upstream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m): **Bankfull** **OHW** **Wetted** **Dominant Substrate:**
Width **Subdominant Substrate 1:**
Thalweg Depth **Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling) seen throughout. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 11:29 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	62.85363	-148.55199	/	62.82351	-148.61366

Elevation NED (m)(ft): 563 1847
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-4 **Legal Description (MTRS):** S032N005E20
Waterbody Name: Tsusena Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth to waterfall about 4 miles upstream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling) seen throughout. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

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FSS1101G020260.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 11:37 AM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.96064	-148.07760	/	62.82935	-148.25803

Elevation NED (m)(ft): 740 2428
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-3 **Legal Description (MTRS):** F022S003W35
Waterbody Name: Watana Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth to about 13 miles upstream.

Visit Comments: Water was turbid from mouth upstream about 6 miles to a landslide at GPS waypoint 013 (N62.88674 W148.14896), then clear upstream of the landslide.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling) seen throughout. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 1:39 PM

	Latitude	Longitude
Sample Coordinates	62.67335	-148.00421

Elevation NED (m)(ft): 800 2625
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-3 **Legal Description (MTRS):** S030N008E20
Waterbody Name: Kosina Creek
Anadromous Waters Catalog Number: 247-41-10200-2810
Geographic Comments: Aerial survey from mouth (62.78439, -147.94441) to about 15 miles upstream (62.60033, -148.03957).

Visit Comments: An adult Chinook salmon was observed at N62.67335 W148.00421 (WGS84). Water was clear, but visibility was poor due to turbulence.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 516 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (1) **Suspected Spawning:** Yes
Comments:

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 500 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (500)
Comments: Schools of other large fish (probably grayling and round whitefish) were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 2:20 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.83731	-147.71899	/	62.77693	-147.88850

Elevation NED (m)(ft): 823 2700
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-2 **Legal Description (MTRS):** S032N009E26
Waterbody Name: Jay Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth to about 8 miles upstream.

Visit Comments:
Wildlife Comments: Beaver pond about 8 miles up Jay Creek at GPS waypoint 016 (N62.83753 W147.72259).

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 500 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (500)
Comments: Schools of adult salmonids (probably Arctic grayling) seen throughout Jay Creek. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 5:37 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	63.11209	-147.45890	/	63.11303	-147.51917

Elevation NED (m)(ft): 814 2671
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-1 **Legal Description (MTRS):** F021S001E12
Waterbody Name: Windy Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth to about 3 miles upstream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m): **Bankfull** **OHW** **Wetted** **Dominant Substrate:**
Width **Subdominant Substrate 1:**
Thalweg Depth **Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of grayling, especially near mouth. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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FSS1101G060263.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 5:50 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.19221	-147.42788	/	63.16515	-147.50691

Elevation NED (m)(ft): 904 2966
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-1 **Legal Description (MTRS):** F020S002E07
Waterbody Name: Valdez Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth to about 3.5 miles upstream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m): **Bankfull** **OHW** **Wetted** **Dominant Substrate:**
Width **Subdominant Substrate 1:**
Thalweg Depth **Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Many grayling observed, especially near mouth. No salmon.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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FSS1101G070266.jpg

FSS1101G070267.jpg

-continued-

FSS1101G070268.jpg

FSS1101G070269.jpg

FSS1101G070270.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 6:18 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	63.32844	-147.24294	/	63.32674	-147.26762

Elevation NED (m)(ft): 785 2575
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F018S003E30
Waterbody Name: Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth to about 1 mile upstream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m): **Bankfull** **OHW** **Wetted** **Dominant Substrate:**
Width **Subdominant Substrate 1:**
Thalweg Depth **Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling) seen throughout. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 6:25 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	63.40475	-147.17250	/	63.37350	-147.19403

Elevation NED (m)(ft): 797 2615
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F017S003E33
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed right-bank East Fork Susitna River tributary.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling) seen throughout. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 6:30 PM

	Latitude	Longitude
Sample Coordinates	63.43257	-147.18558

Elevation NED (m)(ft): 846 2776
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F017S003E21
Waterbody Name: Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: Fly-by only--photos of Susitna Glacier.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1101G100272.jpg

FSS1101G100273.jpg

FSS1101G100274.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 6:40 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.34960	-147.40474	/	63.30971	-147.39042

Elevation NED (m)(ft): 859 2818
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F018S002E17
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed right-bank Susitna River tributary (Target Stream ID HU33). Aerial survey from mouth upstream about 3 miles.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m): **Bankfull** **OHW** **Wetted** **Dominant Substrate:**
Width **Subdominant Substrate 1:**
Thalweg Depth **Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/27/2011 7:04 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.30764	-147.65388	/	63.30496	-147.53951

Elevation NED (m)(ft): 789 2589
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-2 **Legal Description (MTRS):** F018S001W36
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed right-bank West Fork Susitna River tributary. Aerial survey from lake down to mouth (about 4 miles).

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Daniel Reed, David Pluth **Date/Time:** 08/04/2011 9:53 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	63.06144	-147.60517	**Sample Coordinates**	63.06142	-147.60439	/	63.06053	-147.55556

Elevation NED (m)(ft): 762 2500
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-2 **Legal Description (MTRS):** F021S001E29
Waterbody Name: Butte Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU8

Visit Comments: pH sensor was malfunctioning.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.28 **DO (mg/L):** 11.07 **DO (%):** 94.60 **Conductivity (µS/cm):** 35 **pH:**
Water Color: Clear **Turbidity (NTU):** 0.32 **Thalweg Velocity (m/s)(ft/s):** 1.10 3.61

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 434 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	29.0		18.9	**Dominant Substrate:** Cobble
Thalweg Depth	1.12		0.66	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Willow Shrub	1	Unvegetated	
5 - 10	Open Low Willow Shrub	1.5	Unvegetated	
10 - 20	Open Low Willow Shrub	3	Open Low Willow Shrub	1.5
20 - 30	Open Black Spruce Forest	5	Open Low Willow Shrub	1.5

Key To Fish Sampling Methods

Estimated reach length (m): 3100 **Total Electrofishing Time (s):** 2098

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat
(VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 46 **Fish Measured:** 33 **Fork Lengths (mm)** **Min:** 123 **Max:** 411 **Mean:** 285 **Median:** 267
Sampling Method (No. of fish): BEF (33) VOB (9) VOG (4)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 196 **Max:** 429 **Mean:** 358 **Median:** 312
Sampling Method (No. of fish): BEF (7) VOG (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 31 **Max:** 58 **Mean:** 47 **Median:** 44
Sampling Method (No. of fish): BEF (10)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 66 **Max:** 83 **Mean:** 76 **Median:** 74
Sampling Method (No. of fish): BEF (3) VOB (1)
Comments:

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Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 263 **Max:** 263 **Mean:** 263 **Median:** 263
Sampling Method (No. of fish): BEF (1)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 320 **Max:** 320 **Mean:** 320 **Median:** 320
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: Orange Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Ashley Reed **Date/Time:** 08/04/2011 10:25 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.85475	-148.22310		62.85475	-148.22310		62.84066	-148.24245

Elevation NED (m)(ft): 509 1670
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-3 **Legal Description (MTRS):** S032N007E19
Waterbody Name: Watana Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU21

Visit Comments: pH sensor was malfunctioning.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 11.75 **DO (mg/L):** 10.70 **DO (%):** 98.70 **Conductivity (µS/cm):** 44 **pH:**
Water Color: Clear **Turbidity (NTU):** 6.33 **Thalweg Velocity (m/s)(ft/s):** 1.50 4.92

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 422 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	22.0		14.0
Thalweg Depth	1.00		0.60

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Boulder

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	15
5 - 10	Closed Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	15
10 - 20	Closed Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	15
20 - 30	Closed Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	15

Key To Fish Sampling Methods

Estimated reach length (m): 2200 **Total Electrofishing Time (s):** 659

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 91 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 235 **Max:** 252 **Mean:** 243 **Median:** 243
Sampling Method (No. of fish): BEF (2) VOB (89)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 103 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 190 **Max:** 315 **Mean:** 249 **Median:** 252
Sampling Method (No. of fish): BEF (5) VOB (98)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 110 **Max:** 145 **Mean:** 128 **Median:** 127
Sampling Method (No. of fish): BEF (5)
Comments:

-continued-

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 195 **Max:** 195 **Mean:** 195 **Median:** 195
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Joe Buckwalter **Date/Time:** 08/04/2011 9:21 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.40550	-147.17411		63.40664	-147.17268		63.40526	-147.17453

Elevation NED (m)(ft): 797 2615
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F017S003E28
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU88. Within sight of Susitna Glacier Moraine. Unnamed trib to East Fork Susitna.

Visit Comments:
Wildlife Comments: Beaver dam complex (upstream & downstream).

Water Quality \ Stream Flow

Water Temp (C): 8.20 **DO (mg/L):** 9.93 **DO (%):** 84.30 **Conductivity (µS/cm):** 84 **pH:** 6.24
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 0.96 3.15

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 31 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	22.6		7.6
Thalweg Depth	1.00		0.70

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	0.7	Closed Tall Willow Shrub	0.9
5 - 10	Halophytic Grass Wet Meadow	0.3	Closed Tall Willow Shrub	0.9
10 - 20	Halophytic Grass Wet Meadow	0.3	Closed Tall Willow Shrub	0.9
20 - 30	Halophytic Grass Wet Meadow	0.3	Closed Tall Willow Shrub	0.9

Key To Fish Sampling Methods

Estimated reach length (m): 276

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (12)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (6)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 40 **Max:** 40 **Mean:** 40 **Median:** 40
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 90 **Max:** 90 **Mean:** 90 **Median:** 90
Sampling Method (No. of fish): PEF (1)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Joe Buckwalter **Date/Time:** 08/04/2011 11:28 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.30010	-147.06947		63.29864	-147.06781		63.30010	-147.06947

Elevation NED (m)(ft): 1082 3550
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F019S004E06
Waterbody Name: Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU48. Habitat transect located downstream of one clear tributary & one glacial tributary.
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.37 **DO (mg/L):** 10.25 **DO (%):** 85.30 **Conductivity (µS/cm):** 85 **pH:** 6.67
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 8.80 **Thalweg Velocity (m/s)(ft/s):** 0.59 1.94

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 71 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	27.2		17.3
Thalweg Depth	1.10		0.45

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1.3	Closed Low Willow Shrub	1.9
5 - 10	Closed Low Willow Shrub	1.3	Closed Tall Willow Shrub	1.9
10 - 20	Closed Low Willow Shrub	1.3	Closed Tall Willow Shrub	1.9
20 - 30	Closed Low Willow Shrub	1.3	Closed Tall Willow Shrub	1.9

Key To Fish Sampling Methods

Estimated reach length (m): 337

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 35 **Max:** 35 **Mean:** 35 **Median:** 35
Sampling Method (No. of fish): PEF (1) VOG (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 53 **Max:** 53 **Mean:** 53 **Median:** 53
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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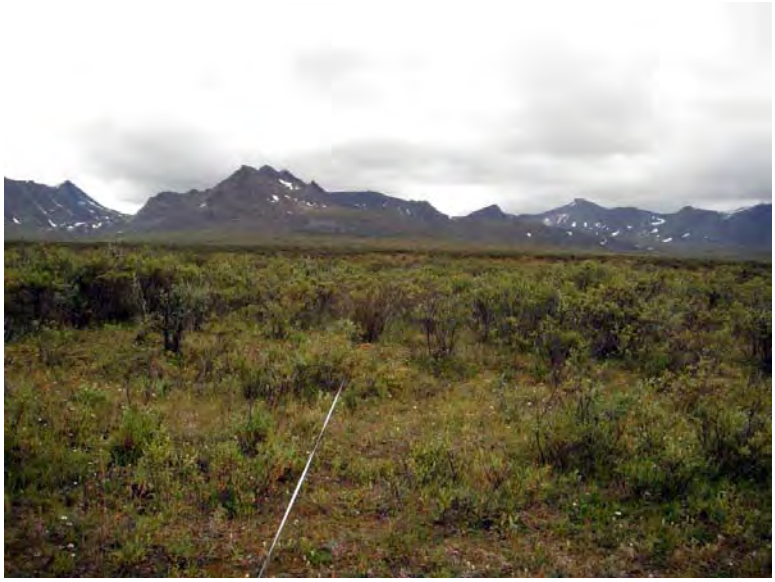

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Station Info

Observers: Raye Ann Neustel, Joe Buckwalter **Date/Time:** 08/04/2011 1:41 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.21684	-147.22313		63.21714	-147.21956		63.21684	-147.22313

Elevation NED (m)(ft): 1071 3514
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-1 **Legal Description (MTRS):** F020S003E05
Waterbody Name: Valdez Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU34

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 9.27 **DO (mg/L):** 9.89 **DO (%):** 86.10 **Conductivity (µS/cm):** 112 **pH:** 6.70
Water Color: Clear **Turbidity (NTU):** 0.10 **Thalweg Velocity (m/s)(ft/s):** 0.96 3.15

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 38 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	42.0		9.0
Thalweg Depth	0.70		0.30

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Willow Shrub	0.7	Open Low Willow Shrub	1.35
5 - 10	Open Low Willow Shrub	0.7	Open Low Willow Shrub	1.35
10 - 20	Open Low Willow Shrub	0.7	Open Low Willow Shrub	1.35
20 - 30	Open Low Willow Shrub	0.7	Open Low Willow Shrub	1.35

Key To Fish Sampling Methods

Estimated reach length (m): 279

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 29 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 24 **Max:** 36 **Mean:** 29 **Median:** 30
Sampling Method (No. of fish): PEF (7) VOG (22)
Comments: 20 fry and 2 parr around 150mm

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 30 **Max:** 41 **Mean:** 35 **Median:** 35
Sampling Method (No. of fish): PEF (5) VOG (3)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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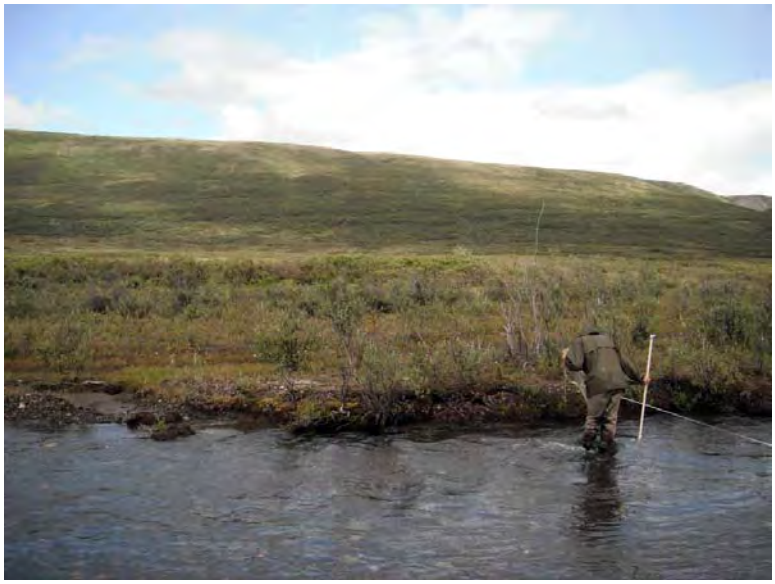

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Station Info

Observers: Raye Ann Neustel, Joe Buckwalter **Date/Time:** 08/04/2011 3:52 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.11140	-147.47812		63.11157	-147.47378		63.11140	-147.47812

Elevation NED (m)(ft): 779 2556
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-1 **Legal Description (MTRS):** F021S001E12
Waterbody Name: Windy Creek
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 10.64 **DO (mg/L):** 9.54 **DO (%):** 85.80 **Conductivity (µS/cm):** 92 **pH:** 6.56
Water Color: Clear **Turbidity (NTU):** 0.60 **Thalweg Velocity (m/s)(ft/s):** 1.47 4.82

Stream Channel

Stream Gradient (%): 3 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 134 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	23.0		15.1
Thalweg Depth	0.75		0.50

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Gravel

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Alder-Willow Shrub	1.3	Closed Tall Alder-Willow Shrub	2.5
5 - 10	Open White Spruce Forest	30	Closed White Spruce Forest	30
10 - 20	Open White Spruce Forest	30	Closed White Spruce Forest	30
20 - 30	Closed Low Willow Shrub	1.3	Closed White Spruce Forest	30

Key To Fish Sampling Methods

Estimated reach length (m): 320

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 275 **Max:** 275 **Mean:** 275 **Median:** 275
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 35 **Max:** 161 **Mean:** 103 **Median:** 98
Sampling Method (No. of fish): PEF (5) VOG (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 97 **Max:** 103 **Mean:** 100 **Median:** 100
Sampling Method (No. of fish): PEF (3) VOG (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 35 **Max:** 44 **Mean:** 40 **Median:** 39
Sampling Method (No. of fish): PEF (5)
Comments:

-continued-

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 205 **Max:** 205 **Mean:** 205 **Median:** 205
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Joe Buckwalter, Jonathan Kirsch **Date/Time:** 07/12/2011 10:48 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.10807	-151.49313		62.10807	-151.49313		61.98945	-151.26994

Elevation NED (m)(ft): 51 167
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-3 **Legal Description (MTRS):** S023N012W04
Waterbody Name: Yentna River
Anadromous Waters Catalog Number: 247-41-10200-2053
Geographic Comments:

Visit Comments: Electrofished 9 subreaches on 7/12/11 and 1 more on 7/13/11.

Wildlife Comments: 2 beavers in sampling event N.

Water Quality \ Stream Flow

Water Temp (C): 5.74 **DO (mg/L):** 13.25 **DO (%):** 104.20 **Conductivity (µS/cm):** 106 **pH:** 7.94
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 128.00 **Thalweg Velocity (m/s)(ft/s):** 1.80 5.90

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 3313 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	230.0		195.0
Thalweg Depth	4.60		2.70

Dominant Substrate: Sand
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class: D5 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	7	Closed Balsam Poplar-White Spruce Forest	33
5 - 10	Closed Tall Alder-Willow Shrub	7	Closed Balsam Poplar-White Spruce Forest	33
10 - 20	Closed Tall Alder-Willow Shrub	7	Closed Balsam Poplar-White Spruce Forest	33
20 - 30	Open White Spruce Forest	26	Closed Balsam Poplar-White Spruce Forest	33

Key To Fish Sampling Methods

Estimated reach length (m): 2100 **Total Electrofishing Time (s):** ####

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 196 **Max:** 196 **Mean:** 196 **Median:** 196
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: ~20 lb, chrome bright.

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 16 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 81 **Max:** 89 **Mean:** 85 **Median:** 85
Sampling Method (No. of fish): BEF (6) VOB (10)
Comments: ID of retained specimens confirmed in the lab. Tag # 02D01_4:

Species: threespine stickleback **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 82 **Max:** 82 **Mean:** 82 **Median:** 82
Sampling Method (No. of fish): BEF (2)
Comments:

-continued-

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 13 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): BEF (2) VOB (11)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: pink salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 390 **Max:** 390 **Mean:** 390 **Median:** 390
Sampling Method (No. of fish): BEF (1)
Comments:

Species: whitefish-unspecified **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: northern pike **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

FSS1102D010206.jpg

FSS1102D010207.jpg

FSS1102D010209.jpg

-continued-

FSS1102D010210.jpg
Chinook salmon juvenile.

FSS1102D010211.jpg

FSS1102D010212.jpg

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 11:17 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.49675	-148.83879	/	61.49657	-148.84011

Elevation NED (m)(ft): 17 56
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N003E12
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Knik River tributary, flows along north edge of Knik River braid plain.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred. Set 1 trap at downstream coordinate (to the west) and another at upstream coordinate.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Silt/Clay
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 8 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 58 **Max:** 91 **Mean:** 69 **Median:** 74
Sampling Method (No. of fish): MTR (8)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 82 **Max:** 82 **Mean:** 82 **Median:** 82
Sampling Method (No. of fish): MTR (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 103 **Max:** 144 **Mean:** 117 **Median:** 123
Sampling Method (No. of fish): MTR (4)
Comments:

-continued-

Instruments

Stream Gradient:

Stream Velocity:

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

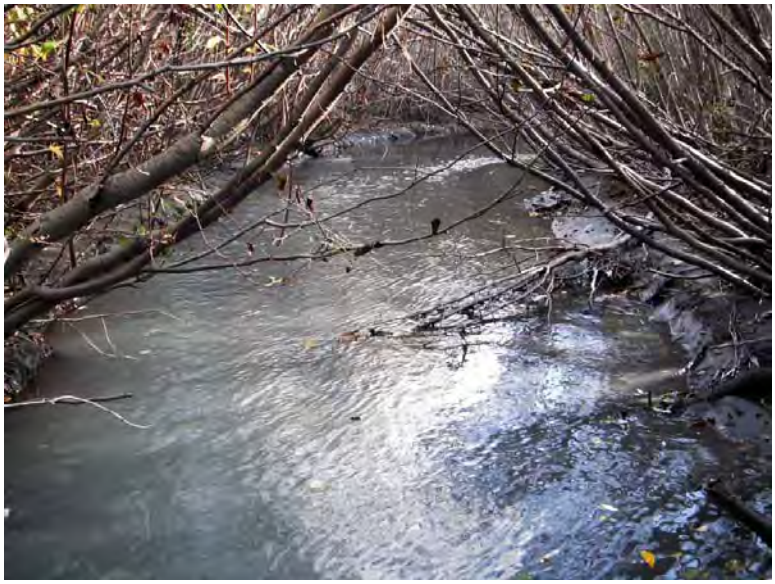
-continued-

FSS1102F010841.jpg
Site 02F01.

FSS1102F010842.jpg
Site 02F01.

FSS1102F010845.jpg
Site 02F01.

-continued-



FSS1102F010846.jpg
Site 02F01.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 11:34 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.48809	-148.80398	/	61.48820	-148.80538

Elevation NED (m)(ft): 24 79
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E07
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Knik River tributary, flows along north edge of Knik River braid plain.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred. Set 1 trap at downstream coordinate (to the west) and another at upstream coordinate.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 2 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 66 **Max:** 66 **Mean:** 66 **Median:** 66
Sampling Method (No. of fish): MTR (1)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 67 **Max:** 67 **Mean:** 67 **Median:** 67
Sampling Method (No. of fish): MTR (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 86 **Max:** 86 **Mean:** 86 **Median:** 86
Sampling Method (No. of fish): MTR (1)
Comments:

-continued-

Instruments

Stream Gradient:

Stream Velocity:

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

-continued-

FSS1102F020848.jpg
Site 02F02.

FSS1102F020849.jpg
Site 02F02.

FSS1102F020850.jpg
Site 02F02.

-continued-

FSS1102F020852.jpg
Site 02F02.

FSS1102F020853.jpg
Site 02F02.

FSS1102F020891.jpg
Site 02F02. Juvenile Chinook salmon.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 11:48 AM

	Latitude	Longitude
Sample Coordinates	61.48469	-148.79094

Elevation NED (m)(ft): 23 75
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E08
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear right-bank Knik River tributary--source appears to be springs along the margin of the Knik River braid plain at the base of the Friday Creek alluvial fan.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 0.5 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Silt/Clay
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 25 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 46 **Max:** 59 **Mean:** 54 **Median:** 52
Sampling Method (No. of fish): MTR (25)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1102F030854.jpg
Site 02F03.

FSS1102F030855.jpg
Site 02F03.

FSS1102F030856.jpg
Site 02F03.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 1:08 PM

	Latitude	Longitude
Sample Coordinates	61.47498	-148.69513

Elevation NED (m)(ft): 54 177
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E14
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear, right-bank Knik River tributary. This stream flows along the edge of the Knik River floodplain in an area dominated by mature-stage cottonwood and alder, which was abandoned by the main channel, but may still be flooded annually.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred. ATV trails run up stream bed through sockeye salmon spawning area.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 31 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Sand
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 57 **Max:** 63 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): MTR (2)
Comments:

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 15 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (15)
Comments:

Species: sockeye salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (4) **Suspected Spawning:** Yes
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments: ~ 200 mm.

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments: On redd.

Instruments

Stream Gradient:
Stream Velocity:
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher:
Transparency:

FSS1102F040859.jpg
Sockeye salmon carcass.

FSS1102F040861.jpg

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 1:22 PM

	Latitude	Longitude
Sample Coordinates	61.46956	-148.69250

Elevation NED (m)(ft): 48 157
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E23
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear, right-bank Knik River tributary.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 30 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Sand
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

No Fish Found

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1102F050863.jpg

FSS1102F050864.jpg

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 1:30 PM

	Latitude	Longitude
Sample Coordinates	61.46892	-148.68853

Elevation NED (m)(ft): 50 164
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E23
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Downstream of 02F07.

Visit Comments: Visual observations of salmon only--no electrofishing or habitat assessment occurred. ATV trail in stream bed through sockeye salmon spawning area.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 30 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments: On redd.

Species: sockeye salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1102F060865.jpg

FSS1102F060866.jpg
Sockeye redd.

FSS1102F060867.jpg
Adult sockeye.

-continued-

FSS1102F060868.jpg

FSS1102F060869.jpg

FSS1102F060870.jpg

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/15/2011 1:44 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.46707	-148.67900	/	61.46768	-148.68591

Elevation NED (m)(ft): 51 167
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E23
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Tributary to stream at sites 21B02, 02F04, 03F03, and 21A01 (mouth).

Visit Comments: Visual observations of salmon only--no electrofishing or habitat assessment occurred. ATV trail in stream bed through sockeye salmon spawning area. Sockeye salmon were observed spawning at upstream and downstream ends of this reach.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 29 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (4)
Comments:

Species: sockeye salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (4) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1102F070873.jpg

FSS1102F070874.jpg

FSS1102F070875.jpg

-continued-

FSS1102F070876.jpg

FSS1102F070877.jpg

FSS1102F070878.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 8:17 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	62.37194	-147.49338	/	62.63921	-147.38654

Elevation NED (m)(ft): 902 2959
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-1 **Legal Description (MTRS):** S026N011E06
Waterbody Name: Oshetna River
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth 24 miles upstream to confluence with Little Oshetna River.

Visit Comments: Poor visibility in water. Lower Oshetna River is turbid (glacial) from Black River confluence down and is fast and turbulent.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

No Fish Found

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 9:15 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	62.30842	-147.50415	/	62.37084	-147.49115

Elevation NED (m)(ft): 991 3251
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-2 **Legal Description (MTRS):** S026N010E25
Waterbody Name: Little Oshetna River
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth 5.7 miles upstream.

Visit Comments: Clear water.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 500 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (500)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1102G020278.jpg

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 9:35 AM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.28247	-147.45091	/	62.58866	-147.20250

Elevation NED (m)(ft): 1126 3694
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-1 **Legal Description (MTRS):** S025N011E05
Waterbody Name: Tyone Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from headwaters (Sanona Creek) 33 miles downstream.

Visit Comments:
Wildlife Comments: Beaver dam complex in Joe Creek (Sonona Creek tributary) at GPS waypoint 018 (N62.32009 W147.42480).

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 10:18 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	62.66577	-147.03624	/	62.67947	-147.15283

Elevation NED (m)(ft): 715 2346
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-1 **Legal Description (MTRS):** C010N010W11
Waterbody Name: Tyone River
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey of lower Tyone River from Tyone Creek confluence downstream 6 miles.
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (200)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 11:52 AM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.05892	-146.93490	/	62.89566	-147.13509

Elevation NED (m)(ft): 904 2966
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F021S004E35
Waterbody Name: Clearwater Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth upstream 22 miles to about 3 miles upstream of the Denali Highway crossing.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (100)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 12:36 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.06563	-146.86098	/	63.04264	-146.88088

Elevation NED (m)(ft): 940 3084
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F021S005E30
Waterbody Name: Little Clearwater Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth (just upstream of Denali Highway crossing) about 2 miles upstream.
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (100)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 1:41 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	63.18642	-146.71754	/	63.16080	-146.54941

Elevation NED (m)(ft): 950 3117
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F020S005E13
Waterbody Name: West Fork Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey of lower 7 miles.

Visit Comments: Glacial, high turbidity.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

No Fish Found

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 1:57 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	63.27272	-146.51971	/	62.83702	-147.12493

Elevation NED (m)(ft): 931 3054
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes B-6 **Legal Description (MTRS):** F019S006E13
Waterbody Name: Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from glacier to mouth.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

No Fish Found

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 2:07 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.16850	-146.49593	/	63.13440	-146.51462

Elevation NED (m)(ft): 892 2927
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-5 **Legal Description (MTRS):** F020S006E24
Waterbody Name: Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments: Aerial survey from mouth 3.7 miles upstream.

Visit Comments: Clear stream.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 300 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (300)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Raye Ann Neustel **Date/Time:** 07/28/2011 2:32 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	62.94556	-146.47989	/	62.94567	-146.53054

Elevation NED (m)(ft): 845 2772
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Gulkana D-5 **Legal Description (MTRS):** C014N007W36
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed left-bank Maclaren River tributary (Target Stream ID IU34).

Visit Comments: Clear stream.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: salmonid-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 300 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (300)
Comments: Schools of adult salmonids (probably Arctic grayling or whitefish sp.) seen. No salmon were observed.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

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Station Info

Observers: Joe Buckwalter, David Pluth **Date/Time:** 08/05/2011 1:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.50381	-147.06345		62.50381	-147.06345	/	62.51550	-147.05959

Elevation NED (m)(ft): 785 2575
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-1 **Legal Description (MTRS):** C008N010W03
Waterbody Name: Tyone Creek
Anadromous Waters Catalog Number:
Geographic Comments: Floodprone width is 30 m.

Visit Comments: Dissolved oxygen probe not working on YSI 556 water quality meter.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 10.03 **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** 283 **pH:** 7.15
Water Color: Clear **Turbidity (NTU):** 2.19 **Thalweg Velocity (m/s)(ft/s):** 0.50 1.64

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Entrenched
Catchment Area(sq. km): 463 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	23.5		22.6
Thalweg Depth	1.02		0.65

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2: Cobble

Rosgen Class: F4 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	0.4	Closed Low Willow Shrub	0.4
5 - 10	Closed Low Willow Shrub	0.4	Closed Low Willow Shrub	0.4
10 - 20	Open Black Spruce Forest	5	Closed Black Spruce-White Spruce Forest	7
20 - 30	Open Black Spruce Forest	5	Closed Black Spruce-White Spruce Forest	7

Key To Fish Sampling Methods

Estimated reach length (m): 4200 **Total Electrofishing Time (s):** 4157

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 249 **Max:** 330 **Mean:** 290 **Median:** 289
Sampling Method (No. of fish): BEF (5) VOB (5)
Comments: Longnose sucker in Event AA was approximately 300 mm.

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 105 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 53 **Max:** 67 **Mean:** 61 **Median:** 60
Sampling Method (No. of fish): BEF (29) VOB (76)
Comments: Slimy Sculpin in Event AA was approximately 50 mm.

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 370 **Max:** 430 **Mean:** 410 **Median:** 400
Sampling Method (No. of fish): BEF (6) VOB (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 25 **Fish Measured:** 24 **Fork Lengths (mm)** **Min:** 19 **Max:** 50 **Mean:** 39 **Median:** 34
Sampling Method (No. of fish): BEF (24) VOB (1)
Comments:

-continued-

Species: salmonid-unspecified **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: Salmonid referred to in event a approximately 150 mm and probobly round whitefish.

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 297 **Max:** 297 **Mean:** 297 **Median:** 297
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 63 **Max:** 73 **Mean:** 67 **Median:** 68
Sampling Method (No. of fish): BEF (4)
Comments: Arctic grayling in event L approximately 60 mm.

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 40 **Max:** 40 **Mean:** 40 **Median:** 40
Sampling Method (No. of fish): BEF (1) VOB (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 70 **Max:** 76 **Mean:** 72 **Median:** 73
Sampling Method (No. of fish): BEF (3)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 202 **Max:** 256 **Mean:** 229 **Median:** 229
Sampling Method (No. of fish): BEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: Orange Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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FSS1103A010381.jpg

FSS1103A010383.jpg

-continued-

FSS1103A010385.jpg

FSS1103A010387.jpg

Station Info

Observers: Jonathan Kirsch, Ashley Reed **Date/Time:** 08/05/2011 9:22 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.30016	-146.60692		62.29481	-146.61988		62.30854	-146.60589

Elevation NED (m)(ft): 722 2369
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Gulkana B-6 **Legal Description (MTRS):** C006N008W13
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: IU4. Unnamed stream connecting Little Lake Louise with Lake Louise.

Visit Comments: Habitat transect (pictures 312-313) was established downstream from upper reach point Pictures 309-311 are of upper reach point. Stream velocity calculated from TVHR readings is .61 m/s.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 11.52 **DO (mg/L):** 10.51 **DO (%):** 92.00 **Conductivity (µS/cm):** 88 **pH:** 7.45
Water Color: Clear **Turbidity (NTU):** 1.71 **Thalweg Velocity (m/s)(ft/s):** 0.50 1.64

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 311 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	13.0		10.0
Thalweg Depth	0.80		0.40

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed White Spruce Forest	12	Closed White Spruce Forest	14
5 - 10	Closed White Spruce Forest	12	Closed White Spruce Forest	14
10 - 20	Closed Black Spruce-White Spruce Forest	8	Closed Black Spruce-White Spruce Forest	9
20 - 30	Closed Black Spruce-White Spruce Forest	8	Closed Black Spruce-White Spruce Forest	9

Key To Fish Sampling Methods

Estimated reach length (m): 2270 **Total Electrofishing Time (s):** 1102

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6507 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 285 **Max:** 345 **Mean:** 315 **Median:** 315
Sampling Method (No. of fish): BEF (2) VOB (6505)
Comments:

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (200)
Comments: Event B observations were of tiny longnose sucker fry.

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 39 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (39)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 385 **Max:** 440 **Mean:** 412 **Median:** 412
Sampling Method (No. of fish): BEF (2) VOB (6)
Comments:

-continued-

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 859 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 210 **Max:** 245 **Mean:** 220 **Median:** 227
Sampling Method (No. of fish): BEF (4) VOB (855)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 175 **Max:** 225 **Mean:** 195 **Median:** 200
Sampling Method (No. of fish): BEF (5)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 127 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 253 **Max:** 255 **Mean:** 254 **Median:** 254
Sampling Method (No. of fish): BEF (2) VOB (125)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 385 **Max:** 385 **Mean:** 385 **Median:** 385
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 45 **Max:** 45 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): BEF (1)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 145 **Max:** 193 **Mean:** 163 **Median:** 169
Sampling Method (No. of fish): BEF (5)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 88 **Max:** 186 **Mean:** 137 **Median:** 137
Sampling Method (No. of fish): BEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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FSS1103B010311.jpg

FSS1103B010312.jpg

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FSS1103B010315.jpg

FSS1103B010316.jpg

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/05/2011 9:53 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.32573	-147.36840		62.32449	-147.37042		62.32573	-147.36840

Elevation NED (m)(ft): 997 3271
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-1 **Legal Description (MTRS):** S026N011E23
Waterbody Name: Tyone Creek
Anadromous Waters Catalog Number:
Geographic Comments: Mining marker 300 meters off of right bank & near transect site.
Visit Comments: Thalweg on river left.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.52 **DO (mg/L):** 12.23 **DO (%):** 99.70 **Conductivity (µS/cm):** 257 **pH:** 7.02
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 94 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	10.4		9.9
Thalweg Depth	0.83		0.60

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	2.1	Closed Low Willow Shrub	1.3
5 - 10	Closed Tall Alder-Willow Shrub	2.1	Closed Low Willow Shrub	1.3
10 - 20	Closed Tall Alder-Willow Shrub	1.5	Closed Low Willow Shrub	1.3
20 - 30	Closed Tall Alder-Willow Shrub	1.5	Closed Tall Alder-Willow Shrub	2.3

Key To Fish Sampling Methods

Estimated reach length (m): 250

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 200 **Max:** 324 **Mean:** 263 **Median:** 262
Sampling Method (No. of fish): PEF (6) VOG (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 21 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 54 **Max:** 66 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): PEF (11) VOG (10)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 124 **Max:** 173 **Mean:** 149 **Median:** 148
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 69 **Max:** 91 **Mean:** 80 **Median:** 80
Sampling Method (No. of fish): PEF (9)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 41 **Max:** 41 **Mean:** 41 **Median:** 41
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/05/2011 1:52 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.74560	-147.47480		62.74645	-147.47723		62.74544	-147.47428

Elevation NED (m)(ft): 862 2828
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-1 **Legal Description (MTRS):** S031N011E30
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Mining camp approximately 1 mile downstream. Unnamed tributary to Susitna River
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.96 **DO (mg/L):** 10.35 **DO (%):** 89.60 **Conductivity (µS/cm):** 127 **pH:** 7.41
Water Color: Humic **Turbidity (NTU):** 0.60 **Thalweg Velocity (m/s)(ft/s):** 1.41 4.62

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 63 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	4.8		4.5
Thalweg Depth	0.70		0.35

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: E3 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	0.7	Closed Low Willow Shrub	0.6
5 - 10	Closed Low Willow Shrub	0.7	Closed Low Willow Shrub	0.6
10 - 20	Closed Low Willow Shrub	0.7	Closed Low Willow Shrub	0.6
20 - 30	Closed Low Willow Shrub	0.7	Closed Low Willow Shrub	0.6

Key To Fish Sampling Methods

Estimated reach length (m): 255

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Joe Buckwalter, Jonathan Kirsch **Date/Time:** 07/13/2011 10:00 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.86531	-151.44310		61.86531	-151.44310		61.95488	-151.25152

Elevation NED (m)(ft): 68 223
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-4 **Legal Description (MTRS):** S021N012W34
Waterbody Name: Skwentna River
Anadromous Waters Catalog Number: 247-41-10200-2053-3205
Geographic Comments:

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.28 **DO (mg/L):** 11.36 **DO (%):** 94.30 **Conductivity (µS/cm):** 79 **pH:** 7.60
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 167.00 **Thalweg Velocity (m/s)(ft/s):** 2.22 7.28

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 4584 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	265.0		190.0	**Subdominant Substrate 1:** Sand
Thalweg Depth	3.32		2.00	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	18	Closed Tall Alder-Willow Shrub	4
5 - 10	Closed Spruce-Paper Birch Forest	18	Closed Tall Alder-Willow Shrub	4
10 - 20	Closed Spruce-Paper Birch Forest	18	Closed Tall Alder-Willow Shrub	4
20 - 30	Closed Spruce-Paper Birch Forest	18	Open Balsam Poplar (Black Cottonwood) Forest	24

Key To Fish Sampling Methods

Estimated reach length (m): 2080 **Total Electrofishing Time (s):** 5715

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: Pacific salmon-unspecified **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: possibly sockeye.

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments:

Species: pink salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 335 **Max:** 335 **Mean:** 335 **Median:** 335
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): BEF (1) VOB (5)
Comments:

Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: probably burbot

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 309 **Max:** 309 **Mean:** 309 **Median:** 309
Sampling Method (No. of fish): BEF (1)
Comments:

Species: sculpin-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 70 **Max:** 70 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/23/2011 11:20 AM

	Latitude	Longitude
Sample Coordinates	61.48228	-148.78775

Elevation NED (m)(ft): 22 72
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E17
Waterbody Name: Knik River
Anadromous Waters Catalog Number: 247-50-10200
Geographic Comments: Knik River side channel flowing with clear hyporheic water (spring-fed). This channel is located within the currently-active braid plain of the Knik River along the outer margin of the Friday Creek alluvial fan.

Visit Comments: Fish sampling only--no habitat assessment occurred. Heavy ATV use in and around channel.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 0.6 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(PEF) Backpack Electrofisher
(VOG) Visual Observation, Ground
(MTR) Minnow Trap

Fish Observations

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 44 **Max:** 44 **Mean:** 44 **Median:** 44
Sampling Method (No. of fish): MTR (1)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 109 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 33 **Max:** 58 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): PEF (9) VOG (100)
Comments:

Species: Pacific salmon-unspecified **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 20 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (20)
Comments: 60-80 mm.

-continued-

Instruments

Stream Gradient:

Stream Velocity:

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

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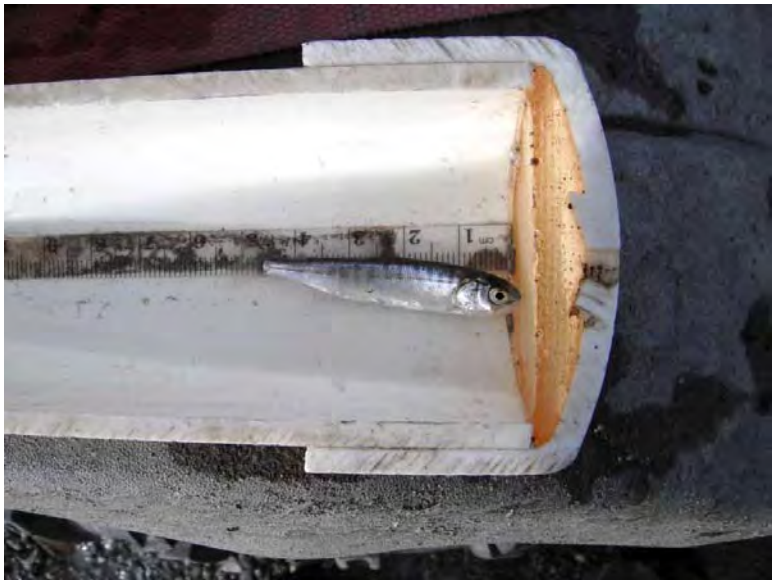

FSS1103F010945.jpg
Sockeye salmon juvenile.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/23/2011 12:10 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.51030	-148.74270	/	61.50711	-148.74389

Elevation NED (m)(ft): 131 430
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S016N004E04
Waterbody Name: Friday Creek
Anadromous Waters Catalog Number:
Geographic Comments: Upstream end of reach located where channel runs against left-bank bedrock canyon wall.

Visit Comments: Fish sampled--habitat assessed only qualitatively. Water had some glacial turbidity (~5 NTU), but was fairly clear. Low voltage required for electrofishing implies water conductivity was high. Wetted width visually estimated at 10 m. Bankfull width visually estimated at 60 m.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): 4 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 149 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Paper Birch Forest	18	Unvegetated	
5 - 10	Closed Paper Birch Forest	18	Unvegetated	
10 - 20	Closed Paper Birch Forest	18	Unvegetated	
20 - 30	Closed Paper Birch Forest	18	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 380

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (3)
Comments: Bright yellow spots.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 19 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 105 **Max:** 225 **Mean:** 149 **Median:** 165
Sampling Method (No. of fish): PEF (12) VOG (7)
Comments:

Instruments

Stream Gradient: handheld optical clinometer **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:** Smith-Root LR-24
Water Quality: **Transparency:**

-continued-

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FSS1103F020900.jpg

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/23/2011 2:15 PM

	Latitude	Longitude
Sample Coordinates	61.47714	-148.70383

Elevation NED (m)(ft): 51 167
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E15
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear, right-bank Knik River tributary at ATV trail crossing. This stream flows along the edge of the Knik River floodplain in an area dominated by mature-stage cottonwood and alder, which was abandoned by the main channel, but may still be flooded annually.

Visit Comments: Visual observations of salmon only--no electrofishing or habitat assessment occurred. ATV trail in stream bed through sockeye salmon spawning area.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 28 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5)
Comments: Salmon were on redds.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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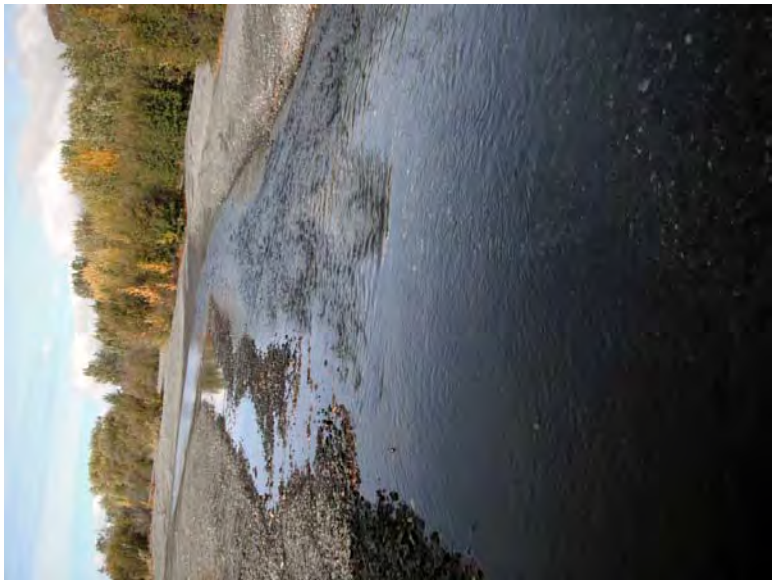
Sockeye redd.



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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/23/2011 2:35 PM

	Latitude	Longitude
Sample Coordinates	61.46702	-148.70517

Elevation NED (m)(ft): 34 112
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E22
Waterbody Name: Knik River
Anadromous Waters Catalog Number: 247-50-10200
Geographic Comments: Knik River side channel flowing with clear hyporheic water (spring-fed). This channel is located within the currently-active braid plain of the Knik River.

Visit Comments: Minnow trapping and visual observations only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 3 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 103 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 48 **Max:** 53 **Mean:** 50 **Median:** 50
Sampling Method (No. of fish): MTR (3) VOG (100) **Suspected Spawning:** Yes
Comments: ~50 mm. Redds present (photo 909).

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Suspected salmon (sockeye) redds.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/23/2011 3:07 PM

	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
		61.43610	-148.64620	/	61.43606	-148.67074

Elevation NED (m)(ft): 46 151
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E36
Waterbody Name: Knik River
Anadromous Waters Catalog Number: 247-50-10200
Geographic Comments: Clear Knik River side channel--apparently an abandoned mainstem channel (see topo map, attached), now flowing with hyporheic water (spring-fed). This channel is located within the currently-active braid plain of the Knik River. This channel is visible on Bing Maps Aerial Imagery (attached), and has apparently been stable in its current configuration since at least 1996 (based on historical Google Earth image, attached).

Visit Comments: Upstream waypoint located at source of continuously-wetted channel. Visual observations of salmon only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (100)
Comments: Spread throughout reach in pools and glides, on redds.

Species: sockeye salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (4) **Suspected Spawning:** Yes
Comments:

-continued-

Instruments

Stream Gradient:

Stream Velocity:

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

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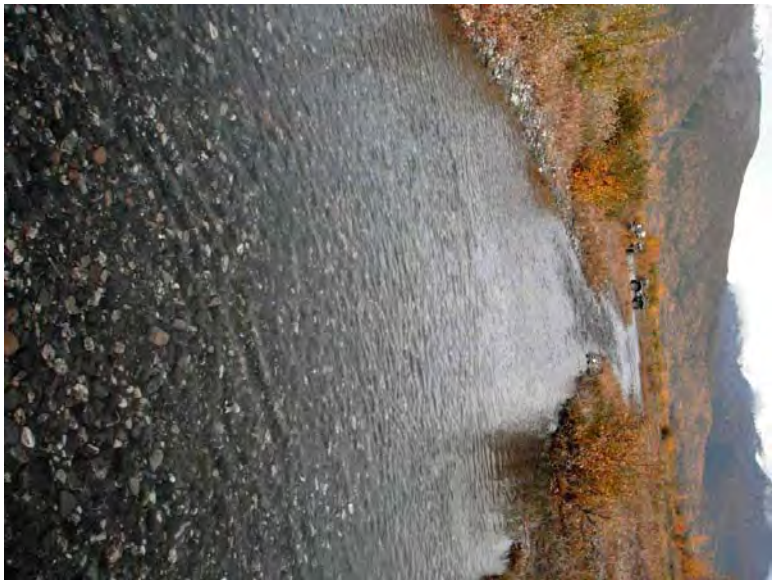
FSS1103F050921.jpg

FSS1103F050922.jpg
Sockeye redd.



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FSS1103F050924.jpg
Sockeye spawning.

FSS1103F050926.jpg
Sockeye carcasses.

FSS1103F050928.jpg

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FSS1103F050931.jpg
Sockeye on redd.

FSS1103F050933.jpg

FSS1103F050935.jpg
Upstream end of wetted channel.

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FSS1103F050936.jpg
Upstream end of wetted channel.

FSS1103F050937.jpg
Spawning sockeye near
upstream end of wetted channel.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 09/23/2011 3:52 PM

	Latitude	Longitude
Sample Coordinates	61.46739	-148.70594

Elevation NED (m)(ft): 34 112
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E22
Waterbody Name: Knik River
Anadromous Waters Catalog Number: 247-50-10200
Geographic Comments: See 03F04 comments.

Visit Comments: Visual observations of salmon only--no fish collection or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 3 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 10 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (10)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1103F060940.jpg
Sockeye salmon on redd.

FSS1103F060941.jpg

FSS1103F060942.jpg

Station Info

Observers: Joe Buckwalter **Date/Time:** 08/17/2011 9:54 AM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	62.81148	-149.10049	/	62.83282	-149.42515

Elevation NED (m)(ft): 385 1263
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-5 **Legal Description (MTRS):** S031N002E04
Waterbody Name: Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: This site represents Devils Canyon. No data were collected.

Visit Comments: This site represents Devils Canyon. No data were collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, David Pluth **Date/Time:** 08/06/2011 9:30 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.65552	-147.31278		62.65552	-147.31278		62.69473	-147.46353

Elevation NED (m)(ft): 674 2211
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-1 **Legal Description (MTRS):** S030N011E25
Waterbody Name: Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: MU9.

Visit Comments: pH sensor not working. Generator low on gas, so sampling crew skipped approximately 1 subreach after subreach 5 in order to reach Oshetna River mouth (subreach 6). Then skipped to mouth of Goose Creek and then to mouth of Jay creek to sample.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.75 **DO (mg/L):** 10.95 **DO (%):** 89.60 **Conductivity (µS/cm):** 86 **pH:**
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 254.00 **Thalweg Velocity (m/s)(ft/s):** 2.50 8.20

Stream Channel

Stream Gradient (%): **Entrenchment:** Entrenched
Catchment Area(sq. km): 8637 **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	153.0		139.0
Thalweg Depth	3.80		2.30

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class: F2 Entrenched, relatively low to moderate sinuosity, riffle/pool channel on low gradients with high width/depth ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Black Spruce-White Spruce Forest	7	Open White Spruce Forest	7
5 - 10	Open Black Spruce-White Spruce Forest	7	Open White Spruce Forest	7
10 - 20	Open Black Spruce-White Spruce Forest	7	Open White Spruce Forest	7
20 - 30	Open Black Spruce-White Spruce Forest	7	Open White Spruce Forest	7

Key To Fish Sampling Methods

Estimated reach length (m): #### **Total Electrofishing Time (s):** 5827

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 224 **Max:** 231 **Mean:** 228 **Median:** 227
Sampling Method (No. of fish): BEF (3) VOB (4)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 158 **Max:** 181 **Mean:** 167 **Median:** 169
Sampling Method (No. of fish): BEF (4) VOB (1)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

-continued-

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 17 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 362 **Max:** 405 **Mean:** 379 **Median:** 383
Sampling Method (No. of fish): BEF (8) VOB (9)
Comments:

Species: whitefish-unspecified **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 87 **Max:** 87 **Mean:** 87 **Median:** 87
Sampling Method (No. of fish): BEF (1)
Comments:

Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 223 **Max:** 333 **Mean:** 262 **Median:** 278
Sampling Method (No. of fish): BEF (4) VOB (3)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 196 **Max:** 324 **Mean:** 233 **Median:** 260
Sampling Method (No. of fish): BEF (6)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 135 **Max:** 273 **Mean:** 223 **Median:** 204
Sampling Method (No. of fish): BEF (3)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 335 **Max:** 360 **Mean:** 347 **Median:** 347
Sampling Method (No. of fish): BEF (2) VOB (10)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 320 **Max:** 325 **Mean:** 322 **Median:** 322
Sampling Method (No. of fish): BEF (2)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 497 **Max:** 497 **Mean:** 497 **Median:** 497
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 70 **Max:** 70 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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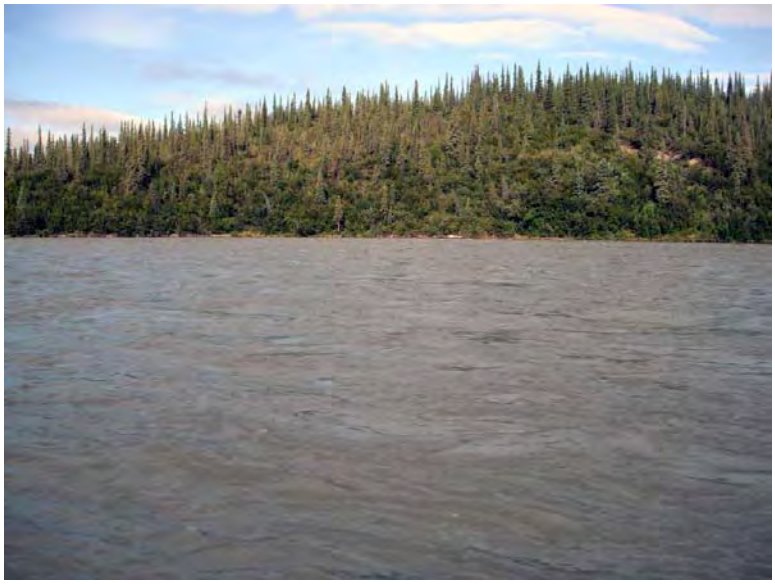

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Round whitefish with fungus.

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Looking downstream at Watana Canyon from sample reach.

Station Info

Observers: Jonathan Kirsch, Ashley Reed **Date/Time:** 08/06/2011 10:35 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.76426	-148.46492		62.76426	-148.46492	/	62.76308	-148.48293

Elevation NED (m)(ft): 681 2234
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-3 **Legal Description (MTRS):** S031N005E23
Waterbody Name: Fog Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU25

Visit Comments: Large salmon redds (almost certainly Chinook) were observed at waypoint "SCKred". Photos 321-327 were taken in an effort to document these redds, but none came out particularly good. Stream velocity calculated from TVHR readings is 1.14 m/s.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.33 **DO (mg/L):** 12.50 **DO (%):** 101.30 **Conductivity (µS/cm):** 78 **pH:** 5.58
Water Color: Clear **Turbidity (NTU):** 16.80 **Thalweg Velocity (m/s)(ft/s):** 1.10 3.61

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 156 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	18.0		14.0
Thalweg Depth	0.80		0.50

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Spruce-Paper Birch Forest	14
5 - 10	Closed Tall Alder-Willow Shrub	3	Closed Spruce-Paper Birch Forest	14
10 - 20	Closed Spruce-Paper Birch Forest	18	Closed Spruce-Paper Birch Forest	14
20 - 30	Closed Spruce-Paper Birch Forest	18	Closed Spruce-Paper Birch Forest	14

Key To Fish Sampling Methods

Estimated reach length (m): 2200 **Total Electrofishing Time (s):** 947

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 28 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 100 **Max:** 245 **Mean:** 189 **Median:** 172
Sampling Method (No. of fish): BEF (8) VOB (20)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 14 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (14)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 50 **Max:** 50 **Mean:** 50 **Median:** 50
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 125 **Max:** 125 **Mean:** 125 **Median:** 125
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

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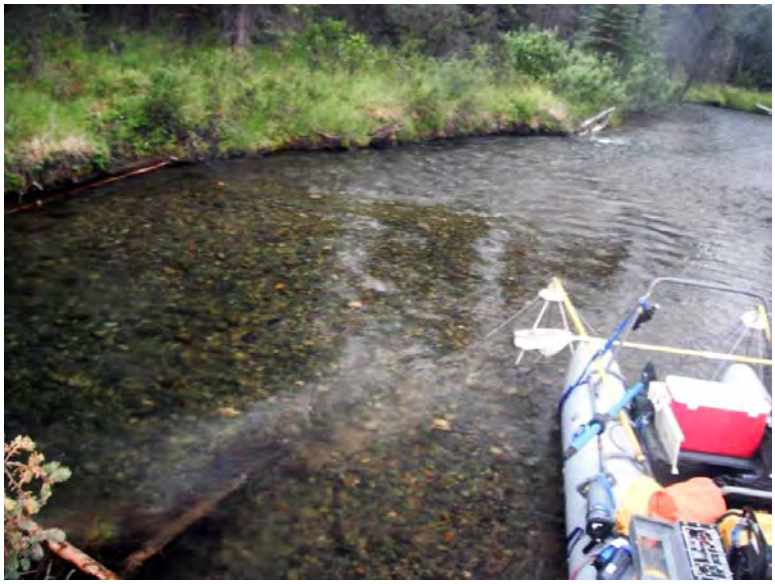

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/06/2011 7:56 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.68477	-148.58492		62.68394	-148.58511		62.68501	-148.58498

Elevation NED (m)(ft): 874 2867
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-4 **Legal Description (MTRS):** S030N005E18
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Fog Creek has a series of 4 ledges less than 15 ft each, last 2 km before confluence with Susitna River. Unnamed tributary of Fog Creek. HU56

Visit Comments: Very fast moving water in main channel with rearing habitat parallel to river continually until canyon section approximately 2 km above confluence with Susitna River.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.38 **DO (mg/L):** 10.86 **DO (%):** 88.10 **Conductivity (µS/cm):** 43 **pH:** 7.68
Water Color: Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):** 1.68 5.51

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 94 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	18.6		11.1
Thalweg Depth	1.00		0.60

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	5	Closed Tall Willow Shrub	5
5 - 10	Closed Tall Willow Shrub	5	Tall Scrub	6
10 - 20	Closed Tall Willow Shrub	5	Fireweed	3
20 - 30	Closed Tall Willow Shrub	5	Closed Tall Willow Shrub	5

Key To Fish Sampling Methods

Estimated reach length (m): 160

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 8 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 49 **Max:** 61 **Mean:** 55 **Median:** 55
Sampling Method (No. of fish): PEF (5) VOG (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 94 **Max:** 94 **Mean:** 94 **Median:** 94
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 51 **Max:** 52 **Mean:** 51 **Median:** 51
Sampling Method (No. of fish): PEF (2) VOG (2)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 43 **Max:** 50 **Mean:** 46 **Median:** 46
Sampling Method (No. of fish): PEF (3)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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Looking dowstream from transect site.

FSS1104c010074.jpg

Looking upstream from transect site.

FSS1104c010076.jpg

-continued-

FSS1104c010077.jpg
Aerial photo of Fog Creek

FSS1104c010078.jpg
Aerial photo of Fog Creek

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/06/2011 10:12 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.61421	-148.31099		62.61258	-148.31368		62.61421	-148.31099

Elevation NED (m)(ft): 1031 3383
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-3 **Legal Description (MTRS):** S029N006E10
Waterbody Name: Tsisi Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.29 **DO (mg/L):** 10.90 **DO (%):** 88.30 **Conductivity (µS/cm):** 69 **pH:** 7.91
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 1.36 4.46

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 79 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	21.6		20.1	**Subdominant Substrate 1:** Cobble
Thalweg Depth	0.94		0.53	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Boulder

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Closed Tall Willow Shrub	4
5 - 10	Closed Tall Willow Shrub	3.5	Closed Tall Willow Shrub	2.5
10 - 20	Closed Tall Willow Shrub	3.5	Closed Tall Willow Shrub	2.5
20 - 30	Closed Tall Willow Shrub	3.5	Closed Tall Willow Shrub	2.5

Key To Fish Sampling Methods

Estimated reach length (m): 285

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 78 **Max:** 92 **Mean:** 87 **Median:** 85
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 52 **Max:** 59 **Mean:** 54 **Median:** 55
Sampling Method (No. of fish): PEF (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 30 **Max:** 50 **Mean:** 43 **Median:** 40
Sampling Method (No. of fish): PEF (6) VOG (5)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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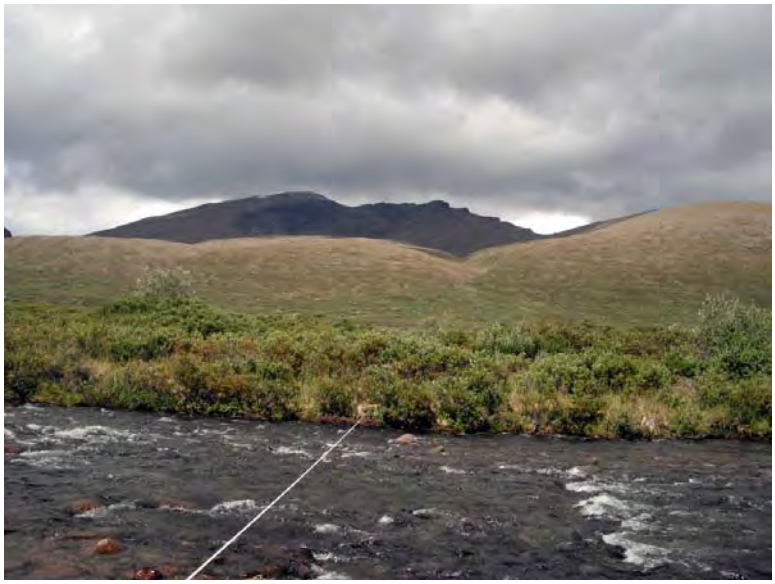

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/06/2011 7:41 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.76374	-148.40418		62.76321	-148.40220		62.76370	-148.40413

Elevation NED (m)(ft): 721 2365
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-3 **Legal Description (MTRS):** S031N006E19
Waterbody Name: Fog Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.26 **DO (mg/L):** 10.95 **DO (%):** 93.10 **Conductivity (µS/cm):** 87 **pH:** 8.09
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 1.44 4.72

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 141 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	9.9		9.4
Thalweg Depth	1.07		0.50

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: E3 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3.5	Open White Spruce Forest	25
5 - 10	Closed Tall Alder-Willow Shrub	3.5	Open White Spruce Forest	25
10 - 20	Closed Tall Alder-Willow Shrub	3.5	Open White Spruce Forest	25
20 - 30	Closed Tall Alder-Willow Shrub	3.5	Open White Spruce Forest	25

Key To Fish Sampling Methods

Estimated reach length (m): 185

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 15 **Fork Lengths (mm)** **Min:** 30 **Max:** 50 **Mean:** 42 **Median:** 40
Sampling Method (No. of fish): PEF (15)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 21 **Fish Measured:** 15 **Fork Lengths (mm)** **Min:** 84 **Max:** 265 **Mean:** 123 **Median:** 174
Sampling Method (No. of fish): PEF (15) VOG (6)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 15 **Fork Lengths (mm)** **Min:** 70 **Max:** 111 **Mean:** 88 **Median:** 90
Sampling Method (No. of fish): PEF (15)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 35 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 54 **Max:** 64 **Mean:** 58 **Median:** 59
Sampling Method (No. of fish): PEF (17) VOG (18)
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 18 **Fish Measured:** 18 **Fork Lengths (mm)** **Min:** 39 **Max:** 79 **Mean:** 46 **Median:** 59
Sampling Method (No. of fish): PEF (18)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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FSS1104c030088.jpg

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FSS1104c030090.jpg

FSS1104c030091.jpg

Station Info

Observers: Joe Buckwalter, Jonathan Kirsch **Date/Time:** 07/14/2011 10:30 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.96491	-150.73813		61.96491	-150.73813		61.92617	-150.69155

Elevation NED (m)(ft): 75 246
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-2 **Legal Description (MTRS):** S022N008W28
Waterbody Name: Kahiltna River
Anadromous Waters Catalog Number: 247-41-10200-2053-3150
Geographic Comments:

Visit Comments: pH displayed 7, but did not stabilize (drifting down), probably due to low conductivity.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.09 **DO (mg/L):** 10.94 **DO (%):** 92.50 **Conductivity (µS/cm):** 45 **pH:**
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 250.00 **Thalweg Velocity (m/s)(ft/s):** 2.78 9.12

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 2357 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	120.0		80.0
Thalweg Depth	2.82		1.50

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	5	Closed Tall Alder-Willow Shrub	5
5 - 10	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	27	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	27
10 - 20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	27	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	27
20 - 30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	27	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	27

Key To Fish Sampling Methods

Estimated reach length (m): 1090 **Total Electrofishing Time (s):** 2374

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments:

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Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: whitefish-unspecified **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments: Looked like humpback whitefish.

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Joe Buckwalter, David Pluth **Date/Time:** 08/07/2011 9:24 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.49302	-147.47168		62.49302	-147.47168	/	62.53251	-147.45820

Elevation NED (m)(ft): 819 2687
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-1 **Legal Description (MTRS):** S028N011E29
Waterbody Name: Oshetna River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Put-in above and took out below the confluence with the Black River. Oshetna River is clear while the Black River is turbid (glacial). pH sensor was not working. Habitat transect at large, light-colored granite boulder (1 M long) at wetted edge of right bank. At end of sample reach, continued to raft down the Oshetna River to within a mile of IU58, electrofishing intermittently (2311 seconds total). Observed all the same species that were caught/observed during sample reach. Took out at N 62 36.72', W 147 23.46'. Turbidity sample was contaminated.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.02 **DO (mg/L):** 11.21 **DO (%):** 92.50 **Conductivity (µS/cm):** 124 **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 1.94 6.36

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 891 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	48.0		30.0
Thalweg Depth	1.62		0.80

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Black Spruce-White Spruce Forest	13	Closed Low Willow Shrub	1.4
5 - 10	Open Black Spruce-White Spruce Forest	13	Closed White Spruce Forest	14
10 - 20	Open Black Spruce-White Spruce Forest	13	Closed White Spruce Forest	14
20 - 30	Open Black Spruce-White Spruce Forest	13	Closed White Spruce Forest	14

Key To Fish Sampling Methods

Estimated reach length (m): 5200 **Total Electrofishing Time (s):** 3188

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 31 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 54 **Max:** 61 **Mean:** 56 **Median:** 57
Sampling Method (No. of fish): BEF (7) VOB (24)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 336 **Max:** 415 **Mean:** 360 **Median:** 375
Sampling Method (No. of fish): BEF (6) VOB (5)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 13 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 200 **Max:** 326 **Mean:** 251 **Median:** 263
Sampling Method (No. of fish): BEF (12) VOB (1)
Comments:

-continued-

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 341 **Max:** 408 **Mean:** 387 **Median:** 374
Sampling Method (No. of fish): BEF (6) VOB (1)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 16 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 380 **Max:** 411 **Mean:** 389 **Median:** 395
Sampling Method (No. of fish): BEF (8) VOB (8)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: Event N is probobly a round whitefish at approximately 200mm.

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 332 **Max:** 341 **Mean:** 336 **Median:** 336
Sampling Method (No. of fish): BEF (2)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 261 **Max:** 318 **Mean:** 296 **Median:** 289
Sampling Method (No. of fish): BEF (3)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 70 **Max:** 188 **Mean:** 146 **Median:** 129
Sampling Method (No. of fish): BEF (7) VOB (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 82 **Max:** 82 **Mean:** 82 **Median:** 82
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 24 **Max:** 49 **Mean:** 35 **Median:** 36
Sampling Method (No. of fish): BEF (6)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity:
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Lesions on round whitefish.

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Station Info

Observers: Jonathan Kirsch, Ashley Reed **Date/Time:** 08/07/2011 10:48 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.50195	-147.17393		62.50195	-147.17393	/	62.51330	-147.16673

Elevation NED (m)(ft): 790 2592
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-1 **Legal Description (MTRS):** S028N012E23
Waterbody Name: Sonona Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU12

Visit Comments: pH sensor may have been malfunctioning. Stream velocity calculated from TVHR readings is 1.14 m/s.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.92 **DO (mg/L):** 10.71 **DO (%):** 90.00 **Conductivity (µS/cm):** 184 **pH:** 4.45
Water Color: Clear **Turbidity (NTU):** 15.00 **Thalweg Velocity (m/s)(ft/s):** 1.10 3.61

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 372 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	25.5		11.2	**Subdominant Substrate 1:** Gravel
Thalweg Depth	1.20		0.65	**Subdominant Substrate 2:** Silt/Clay

Dominant Substrate: Cobble

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2.2	Open Tall Willow Shrub	0.8
5 - 10	Open Tall Willow Shrub	2.2	Closed White Spruce Forest	22
10 - 20	Open Tall Willow Shrub	2.2	Closed White Spruce Forest	22
20 - 30	Open White Spruce Forest	20	Closed White Spruce Forest	22

Key To Fish Sampling Methods

Estimated reach length (m): 2100 **Total Electrofishing Time (s):** 921

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 100 **Max:** 100 **Mean:** 100 **Median:** 100
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 21 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 52 **Max:** 52 **Mean:** 52 **Median:** 52
Sampling Method (No. of fish): BEF (1) VOB (20)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 290 **Max:** 290 **Mean:** 290 **Median:** 290
Sampling Method (No. of fish): BEF (1) VOB (5)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/07/2011 9:24 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.17855	-147.36518		62.17954	-147.36516		62.17855	-147.36518

Elevation NED (m)(ft): 1085 3560
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-1 **Legal Description (MTRS):** S024N011E12
Waterbody Name: Tyone Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU2.

Visit Comments: Possible mining downstream, heavy equipment, Atcos staged, photos 99 & 100.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.60 **DO (mg/L):** 12.80 **DO (%):** 96.90 **Conductivity (µS/cm):** 309 **pH:** 8.01
Water Color: Clear **Turbidity (NTU):** 0.10 **Thalweg Velocity (m/s)(ft/s):** 1.00 3.28

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 60 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	15.9		5.9	**Subdominant Substrate 1:** Sand
Thalweg Depth	0.85		0.57	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	0.9	Scrub	0.75
5 - 10	Closed Low Willow Shrub	0.9	Closed Low Willow Shrub	0.75
10 - 20	Closed Low Willow Shrub	0.9	Closed Low Willow Shrub	0.75
20 - 30	Closed Low Willow Shrub	0.9	Closed Low Willow Shrub	0.75

Key To Fish Sampling Methods

Estimated reach length (m): 175

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 32 **Max:** 44 **Mean:** 39 **Median:** 38
Sampling Method (No. of fish): PEF (5) VOG (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 14 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 201 **Max:** 300 **Mean:** 231 **Median:** 250
Sampling Method (No. of fish): PEF (11) VOG (3)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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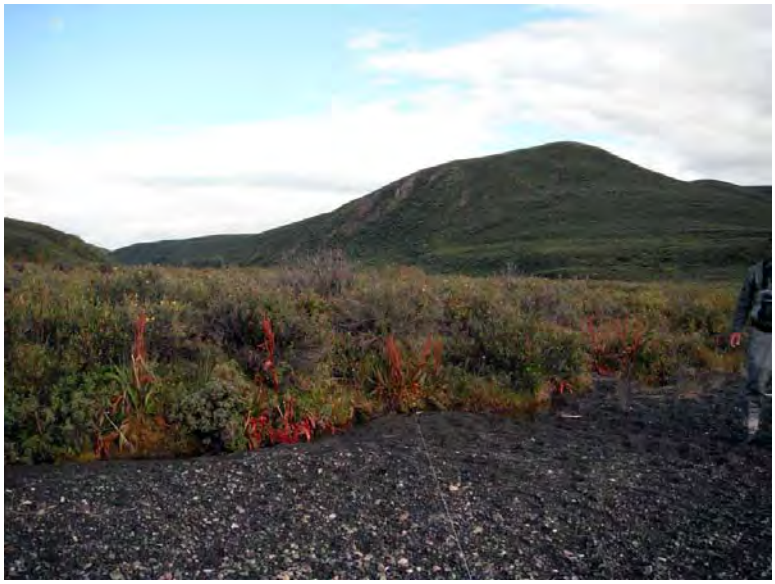

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/07/2011 10:28 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.18553	-147.71104		62.18462	-147.71460		62.18588	-147.71058

Elevation NED (m)(ft): 1197 3927
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-2 **Legal Description (MTRS):** S024N009E12
Waterbody Name: Little Oshetna River
Anadromous Waters Catalog Number:
Geographic Comments: HU15. Probable barrier to fish passage 300 m upriver, waterfalls (3) photos 101-103.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.46 **DO (mg/L):** 12.21 **DO (%):** 96.80 **Conductivity (µS/cm):** 161 **pH:** 7.96
Water Color: Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):** 0.74 2.43

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Entrenched
Catchment Area(sq. km): 49 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	43.0		10.6	**Dominant Substrate:** Boulder
Thalweg Depth	0.78		0.38	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Gravel

Rosgen Class: F2 Entrenched, relatively low to moderate sinuosity, riffle/pool channel on low gradients with high width/depth ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Willow Dwarf Shrub Tundra	0.1	Open Low Willow Shrub	0.6
5 - 10	Willow Dwarf Shrub Tundra	0.1	Open Low Willow Shrub	0.6
10 - 20	Open Tall Willow Shrub	1.7	Open Low Willow Shrub	0.6
20 - 30	Open Tall Willow Shrub	1.7	Open Low Willow Shrub	0.6

Key To Fish Sampling Methods

Estimated reach length (m): 360

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 200 **Max:** 214 **Mean:** 208 **Median:** 207
Sampling Method (No. of fish): PEF (3) VOG (5)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 17 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 71 **Max:** 115 **Mean:** 88 **Median:** 93
Sampling Method (No. of fish): PEF (17)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 28 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 57 **Max:** 57 **Mean:** 57 **Median:** 57
Sampling Method (No. of fish): PEF (1) VOG (27)
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 81 **Max:** 81 **Mean:** 81 **Median:** 81
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/07/2011 12:38 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.28793	-147.70688		62.28690	-147.70756		62.28813	-147.70661

Elevation NED (m)(ft): 1086 3563
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-2 **Legal Description (MTRS):** S025N009E01
Waterbody Name: Gold Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU95

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.20 **DO (mg/L):** 11.26 **DO (%):** 91.10 **Conductivity (µS/cm):** 105 **pH:** 7.20
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 0.74 2.43

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 53 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	29.5		9.1	**Subdominant Substrate 1:** Gravel
Thalweg Depth	0.87		0.38	**Subdominant Substrate 2:** Boulder

Dominant Substrate: Cobble

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Seral Herbs	0.7	Seral Herbs	0.3
5 - 10	Seral Herbs	0.7	Closed Low Willow Shrub	1
10 - 20	Seral Herbs	0.7	Closed Low Willow Shrub	1
20 - 30	Open Tall Willow Shrub	1.5	Closed Low Willow Shrub	1

Key To Fish Sampling Methods

Estimated reach length (m): 200

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 79 **Max:** 79 **Mean:** 79 **Median:** 79
Sampling Method (No. of fish): PEF (1) VOG (1)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 364 **Max:** 364 **Mean:** 364 **Median:** 364
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (3)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/07/2011 2:18 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.44684	-147.54768		62.44560	-147.54899		62.44684	-147.54768

Elevation NED (m)(ft): 970 3182
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-2 **Legal Description (MTRS):** S027N010E11
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU113. Unnamed tributary to Black River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 10.15 **DO (mg/L):** 10.33 **DO (%):** 91.90 **Conductivity (µS/cm):** 36 **pH:** 7.38
Water Color: Clear **Turbidity (NTU):** 0.70 **Thalweg Velocity (m/s)(ft/s):** 1.18 3.87

Stream Channel

Stream Gradient (%): 1.75 **Entrenchment:** Entrenched
Catchment Area(sq. km): 44 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	7.4		6.7
Thalweg Depth	0.75		0.30

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class: G2 Entrenched "gully" step/pool and low width/depth ratio on moderate gradients.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Shrub Birch	1	Closed Tall Willow Shrub	1.8
5 - 10	Closed Low Shrub Birch	1	Closed Tall Willow Shrub	1.8
10 - 20	Closed Low Shrub Birch	1	Closed Tall Willow Shrub	1.8
20 - 30	Closed Low Shrub Birch	1	Closed Tall Willow Shrub	1.8

Key To Fish Sampling Methods

Estimated reach length (m): 230

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 93 **Max:** 93 **Mean:** 93 **Median:** 93
Sampling Method (No. of fish): PEF (1) VOG (9)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 87 **Max:** 118 **Mean:** 100 **Median:** 102
Sampling Method (No. of fish): PEF (5)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/07/2011 4:25 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.52160	-147.76030		62.52246	-147.76267	/	62.52160	-147.76030

Elevation NED (m)(ft): 1107 3632
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-2 **Legal Description (MTRS):** S028N009E15
Waterbody Name: Goose Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU16

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.80 **DO (mg/L):** 10.57 **DO (%):** 91.00 **Conductivity (µS/cm):** 25 **pH:** 6.80
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 0.68 2.23

Stream Channel

Stream Gradient (%): 0.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 51 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	19.9		19.3
Thalweg Depth	0.60		0.39

Dominant Substrate: Sand
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Cobble

Rosgen Class: C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Mixed Shrub-Sedge Tussock Bog	0.3	Crustose Lichen	0.4
5 - 10	Open Low Mixed Shrub-Sedge Tussock Bog	0.3	Wet Graminoid Herbaceous (emergent)	0.4
10 - 20	Open Low Mixed Shrub-Sedge Tussock Bog	0.3	Wet Graminoid Herbaceous (emergent)	0.4
20 - 30	Unvegetated		Wet Graminoid Herbaceous (emergent)	0.4

Key To Fish Sampling Methods

Estimated reach length (m): 340

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (12)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 20 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 36 **Max:** 189 **Mean:** 74 **Median:** 112
Sampling Method (No. of fish): PEF (8) VOG (12)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 73 **Max:** 116 **Mean:** 94 **Median:** 94
Sampling Method (No. of fish): PEF (4) VOG (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 73 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 53 **Max:** 64 **Mean:** 58 **Median:** 58
Sampling Method (No. of fish): PEF (10) VOG (63)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 16 **Fish Measured:** 16 **Fork Lengths (mm)** **Min:** 31 **Max:** 50 **Mean:** 38 **Median:** 40
Sampling Method (No. of fish): PEF (16)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Joe Buckwalter, Jonathan Kirsch **Date/Time:** 07/14/2011 3:30 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.74941	-150.69255		61.74941	-150.69255		61.70139	-150.64966

Elevation NED (m)(ft): 26 85
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek C-2 **Legal Description (MTRS):** S019N008W10
Waterbody Name: Yentna River
Anadromous Waters Catalog Number: 247-41-10200-2053
Geographic Comments: MA5. Lower Yentna River, downstream of Kahiltna River and Moose Creek mouths.

Visit Comments: Completed habitat transect and electrofished right-bank tributary mouth on 7/14/11. E-fished subreaches 1-3 on 7/15/11.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 10.84 **DO (mg/L):** 10.28 **DO (%):** 92.80 **Conductivity (µS/cm):** 81 **pH:** 8.00
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 290.00 **Thalweg Velocity (m/s)(ft/s):** 1.67 5.48

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 15755 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	410.0		403.0
Thalweg Depth	6.24		3.80

Dominant Substrate: Gravel
Subdominant Substrate 1: Sand
Subdominant Substrate 2:

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	10.5	Closed Tall Alder Shrub	3
5 - 10	Closed Spruce-Paper Birch Forest	10.5	Open Spruce-Paper Birch Forest	10.5
10 - 20	Closed Spruce-Paper Birch Forest	10.5	Open Spruce-Paper Birch Forest	10.5
20 - 30	Closed Spruce-Paper Birch Forest	10.5	Closed Spruce-Paper Birch Forest	10.5

Key To Fish Sampling Methods

Estimated reach length (m): #### **Total Electrofishing Time (s):** 7191

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: threespine stickleback **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 70 **Max:** 70 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): BEF (1)
Comments:

Species: threespine stickleback **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 209 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 27 **Max:** 27 **Mean:** 27 **Median:** 27
Sampling Method (No. of fish): BEF (9) VOB (200)
Comments:

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 115 **Max:** 115 **Mean:** 115 **Median:** 115
Sampling Method (No. of fish): BEF (1)
Comments:

Species: northern pike **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments: estimated at 24".

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Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 62 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (62)
Comments:

Species: humpback whitefish **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 390 **Max:** 458 **Mean:** 424 **Median:** 424
Sampling Method (No. of fish): BEF (2) VOB (2)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (5)
Comments:

Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 60 **Max:** 60 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): BEF (1) VOB (6)
Comments:

Species: pink salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 7 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (7)
Comments:

Species: lamprey-unspecified **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 193 **Max:** 213 **Mean:** 203 **Median:** 203
Sampling Method (No. of fish): BEF (2)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 355 **Max:** 365 **Mean:** 360 **Median:** 360
Sampling Method (No. of fish): BEF (2) VOB (1)
Comments:

Species: lamprey-unspecified **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 178 **Max:** 178 **Mean:** 178 **Median:** 178
Sampling Method (No. of fish): BEF (1)
Comments:

Species: sculpin-unspecified **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 37 **Max:** 55 **Mean:** 47 **Median:** 46
Sampling Method (No. of fish): BEF (6)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 230 **Max:** 230 **Mean:** 230 **Median:** 230
Sampling Method (No. of fish): BEF (1)
Comments:

Species: sculpin-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: handheld sonar depth finder

Channel Widths: handheld laser rangefinder

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Joe Buckwalter, David Pluth **Date/Time:** 08/08/2011 10:00 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.30504	-147.38915		63.31106	-147.39440		63.28021	-147.44041

Elevation NED (m)(ft): 768 2520
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F018S002E32
Waterbody Name: Susitna River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Upper point of reach in a clear, right bank Susitna River tributary. We floated/electrofished down to the Susitna River mainstem and established a habitat transect. pH meter was not working.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.96 **DO (mg/L):** 12.34 **DO (%):** 96.60 **Conductivity (µS/cm):** 89 **pH:**
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 41.50 **Thalweg Velocity (m/s)(ft/s):** 1.31 4.30

Stream Channel

Stream Gradient (%): 0 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 623 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	83.0		78.0
Thalweg Depth	1.88		1.10

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Willow Shrub	1.4	Open Low Willow Shrub	1.4
5 - 10	Open Low Willow Shrub	1.4	Open Low Willow Shrub	1.4
10 - 20	Open Low Willow Shrub	1.4	Open Low Willow Shrub	1.4
20 - 30	Open Low Willow Shrub	1.4	Closed Low Willow Shrub	1.4

Key To Fish Sampling Methods

Estimated reach length (m): 7100 **Total Electrofishing Time (s):** 4087

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 22 **Fish Measured:** 14 **Fork Lengths (mm)** **Min:** 349 **Max:** 415 **Mean:** 381 **Median:** 382
Sampling Method (No. of fish): BEF (14) VOB (8)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 56 **Max:** 56 **Mean:** 56 **Median:** 56
Sampling Method (No. of fish): BEF (1) VOB (7)
Comments:

Species: whitefish-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

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Species: humpback whitefish **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 378 **Max:** 443 **Mean:** 413 **Median:** 410
Sampling Method (No. of fish): BEF (5)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 410 **Max:** 410 **Mean:** 410 **Median:** 410
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 215 **Max:** 310 **Mean:** 262 **Median:** 262
Sampling Method (No. of fish): BEF (3) VOB (1)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 63 **Max:** 167 **Mean:** 115 **Median:** 115
Sampling Method (No. of fish): BEF (2) VOB (2)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 205 **Max:** 296 **Mean:** 255 **Median:** 250
Sampling Method (No. of fish): BEF (6) VOB (3)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 104 **Max:** 154 **Mean:** 129 **Median:** 129
Sampling Method (No. of fish): BEF (2)
Comments:

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 336 **Max:** 345 **Mean:** 340 **Median:** 340
Sampling Method (No. of fish): BEF (2) VOB (4)
Comments:

Species: humpback whitefish **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 82 **Max:** 272 **Mean:** 182 **Median:** 177
Sampling Method (No. of fish): BEF (4)
Comments:

Species: humpback whitefish **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 295 **Max:** 325 **Mean:** 307 **Median:** 310
Sampling Method (No. of fish): BEF (3) VOB (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 80 **Max:** 112 **Mean:** 90 **Median:** 96
Sampling Method (No. of fish): BEF (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 47 **Max:** 47 **Mean:** 47 **Median:** 47
Sampling Method (No. of fish): BEF (1)
Comments:

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 178 **Max:** 178 **Mean:** 178 **Median:** 178
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Ashley Reed **Date/Time:** 08/08/2011 10:35 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.37322	-147.00434		63.37322	-147.00434	/	63.36795	-147.08594

Elevation NED (m)(ft): 816 2677
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F018S004E09
Waterbody Name: East Fork Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: IU10

Visit Comments: Most fish caught within subreaches straddling the mouths of clearwater tributaries. Large number of caddis fly larvae present. Stream velocity calculated from TVHR readings is 1.25 m/s.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.85 **DO (mg/L):** 10.72 **DO (%):** 81.50 **Conductivity (µS/cm):** 39 **pH:** 7.85
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 150.00 **Thalweg Velocity (m/s)(ft/s):** 1.30 4.26

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 206 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	40.0		15.0
Thalweg Depth	2.00		1.10

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Low Willow Shrub	1.5
5 - 10	Closed Tall Willow Shrub	2	Closed Low Willow Shrub	1.5
10 - 20	Closed Tall Willow Shrub	2	Closed Low Willow Shrub	1.5
20 - 30	Closed Tall Willow Shrub	2	Closed Low Willow Shrub	1.5

Key To Fish Sampling Methods

Estimated reach length (m): 6800 **Total Electrofishing Time (s):** 2304

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 347 **Max:** 404 **Mean:** 375 **Median:** 375
Sampling Method (No. of fish): BEF (2) VOB (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 45 **Max:** 45 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): BEF (1)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 235 **Max:** 316 **Mean:** 280 **Median:** 275
Sampling Method (No. of fish): BEF (3) VOB (7)
Comments:

-continued-

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 17 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 210 **Max:** 295 **Mean:** 239 **Median:** 252
Sampling Method (No. of fish): BEF (5) VOB (12)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 122 **Max:** 122 **Mean:** 122 **Median:** 122
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 115 **Max:** 170 **Mean:** 142 **Median:** 142
Sampling Method (No. of fish): BEF (2)
Comments:

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 348 **Max:** 348 **Mean:** 348 **Median:** 348
Sampling Method (No. of fish): BEF (1)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 250 **Max:** 255 **Mean:** 252 **Median:** 252
Sampling Method (No. of fish): BEF (2)
Comments:

Species: sculpin-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 70 **Max:** 70 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

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FSS1106B010339.jpg

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FSS1106B010340.jpg

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/08/2011 9:34 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.73537	-149.39327		62.73396	-149.39626		62.73537	-149.39327

Elevation NED (m)(ft): 930 3051
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-5 **Legal Description (MTRS):** S031N001W35
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU85 Small dirt road parallel to creek approximately 50 M upriver of transect site and ending at that point. Unnamed tributary of Susitna River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.38 **DO (mg/L):** 11.03 **DO (%):** 91.80 **Conductivity (µS/cm):** 16 **pH:** 7.23
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 0.80 2.62

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 34 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	24.5		11.2	**Dominant Substrate:** Cobble
Thalweg Depth	1.06		0.85	**Subdominant Substrate 1:** Sand
				Subdominant Substrate 2: Boulder

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Mixed Shrub-Sedge Tussock Tundra	0.4	Open Low Willow Shrub	0.2
5 - 10	Open Low Willow Shrub	0.3	Unvegetated	
10 - 20	Crustose Lichen	0.1	Fireweed	0.2
20 - 30	Crustose Lichen	0.1	Mixed Herbs	0.2

Key To Fish Sampling Methods

Estimated reach length (m): 290

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 32 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 91 **Max:** 154 **Mean:** 122 **Median:** 122
Sampling Method (No. of fish): PEF (7) VOG (25)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 11 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 36 **Max:** 79 **Mean:** 47 **Median:** 57
Sampling Method (No. of fish): PEF (11)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 69 **Max:** 78 **Mean:** 72 **Median:** 73
Sampling Method (No. of fish): PEF (3)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 56 **Max:** 56 **Mean:** 56 **Median:** 56
Sampling Method (No. of fish): PEF (1) VOG (7)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 36 **Max:** 37 **Mean:** 36 **Median:** 36
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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FSS1106c010138.jpg

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FSS1106c010142.jpg

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/08/2011 12:12 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.66417	-149.33535		62.66400	-149.33536		62.66472	-149.33715

Elevation NED (m)(ft): 787 2582
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-5 **Legal Description (MTRS):** S030N001E30
Waterbody Name: Chunilna Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU79

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.23 **DO (mg/L):** 10.31 **DO (%):** 85.40 **Conductivity (µS/cm):** 24 **pH:** 6.36
Water Color: Clear **Turbidity (NTU):** 0.10 **Thalweg Velocity (m/s)(ft/s):** 0.21 0.69

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 48 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	25.1		24.0
Thalweg Depth	0.92		0.77

Dominant Substrate: Sand
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Wet Sedge-Grass Meadow Tundra	0.2	Wet Sedge-Grass Meadow Tundra	0.2
5 - 10	Wet Sedge-Grass Meadow Tundra	0.2	Wet Sedge-Grass Meadow Tundra	0.2
10 - 20	Wet Sedge-Grass Meadow Tundra	0.2	Wet Sedge-Grass Meadow Tundra	0.2
20 - 30	Wet Sedge-Grass Meadow Tundra	0.2	Wet Sedge-Grass Meadow Tundra	0.2

Key To Fish Sampling Methods

Estimated reach length (m): 157

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 43 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 88 **Max:** 152 **Mean:** 127 **Median:** 120
Sampling Method (No. of fish): PEF (12) VOG (31)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 68 **Max:** 82 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): PEF (9)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 58 **Max:** 65 **Mean:** 62 **Median:** 61
Sampling Method (No. of fish): PEF (3) VOG (8)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 29 **Max:** 37 **Mean:** 34 **Median:** 33
Sampling Method (No. of fish): PEF (4)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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FSS1106c020146.jpg

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FSS1106c020149.jpg

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/08/2011 2:49 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude
	62.65472	-148.98683		62.65472	-148.98683

Elevation NED (m)(ft): 528 1732
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-4 **Legal Description (MTRS):** S030N002E25
Waterbody Name: Prairie Creek
Anadromous Waters Catalog Number: 247-41-10200-2370-3301
Geographic Comments:

Visit Comments: No electrofishing event due to numerous spawning Chinook salmon and suspected spawning sockeye salmon through entire sample reach.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 10.43 **DO (mg/L):** 11.40 **DO (%):** 102.00 **Conductivity (µS/cm):** 88 **pH:** 7.77
Water Color: Clear **Turbidity (NTU):** 0.40 **Thalweg Velocity (m/s)(ft/s):** 1.33 4.36

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 285 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	50.0		11.0
Thalweg Depth	1.10		0.60

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	35	Sedge-Willow Tundra	0.5
5 - 10	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	35	Sedge-Willow Tundra	0.5
10 - 20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	35	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	25
20 - 30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	35	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	25

Key To Fish Sampling Methods

Estimated reach length (m): 300

(DIP) Dip Net (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 32 **Fish Measured:** 0 **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (32)
Comments: photo # 157

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 34 **Max:** 35 **Mean:** 34 **Median:** 34
Sampling Method (No. of fish): DIP (2)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 10 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 32 **Max:** 36 **Mean:** 33 **Median:** 34
Sampling Method (No. of fish): DIP (10)
Comments:

-continued-

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments: photo # 171

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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Spawned out Chinnok salmon.

FSS1106c040164.jpg
spawning chinook

FSS1106c040171.jpg
sockeye salmon

-continued-

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FSS1106c040175.jpg

aerial photo of stream with 2 adult salmon species and 3 juvenile salmon species documented

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/08/2011 4:07 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.96210	-148.07029		62.96324	-148.06820	/	62.96210	-148.07029

Elevation NED (m)(ft): 743 2438
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-3 **Legal Description (MTRS):** F022S003W35
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU54. Unnamed tributary of Watana Creek.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.90 **DO (mg/L):** 10.58 **DO (%):** 89.20 **Conductivity (µS/cm):** 131 **pH:** 7.62
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 0.68 2.23

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 90 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	14.8		9.6	**Dominant Substrate:** Cobble
Thalweg Depth	0.49		0.32	**Subdominant Substrate 1:** Sand
				Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	1.2	Wet Sedge-Grass Meadow Tundra	0.4
5 - 10	Closed Tall Willow Shrub	1.2	Wet Sedge-Grass Meadow Tundra	0.4
10 - 20	Closed Tall Willow Shrub	1.2	Closed Tall Willow Shrub	1.5
20 - 30	Closed Tall Willow Shrub	1.2	Closed Tall Willow Shrub	1.5

Key To Fish Sampling Methods

Estimated reach length (m): 250

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 330 **Max:** 349 **Mean:** 339 **Median:** 339
Sampling Method (No. of fish): PEF (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 32 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 199 **Max:** 315 **Mean:** 264 **Median:** 257
Sampling Method (No. of fish): PEF (11) VOG (21)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 24 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 32 **Max:** 94 **Mean:** 42 **Median:** 63
Sampling Method (No. of fish): PEF (10) VOG (14)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 69 **Max:** 103 **Mean:** 78 **Median:** 86
Sampling Method (No. of fish): PEF (4)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 52 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 52 **Max:** 65 **Mean:** 58 **Median:** 58
Sampling Method (No. of fish): PEF (7) VOG (45)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 38 **Max:** 40 **Mean:** 39 **Median:** 39
Sampling Method (No. of fish): PEF (4)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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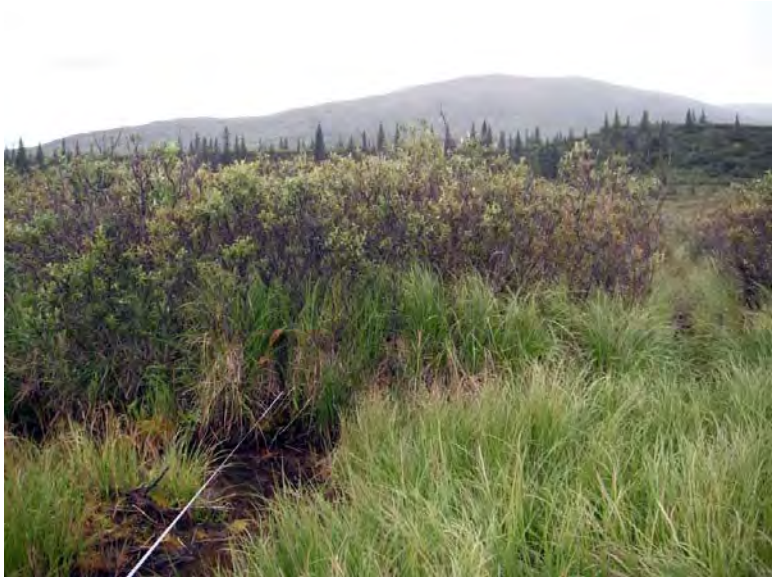

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Station Info

Observers: Joe Buckwalter, Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 07/19/2011 2:30 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.52663	-150.11449		62.53343	-150.10374		62.45053	-150.12639

Elevation NED (m)(ft): 145 476
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna C-1 **Legal Description (MTRS):** S028N005W12
Waterbody Name: Susitna River
Anadromous Waters Catalog Number: 247-41-10200
Geographic Comments: 16 miles upstream of Talkeetna. Railroad runs along left bank. Upstream end of fish-collection reach located at mouth of Lane Creek (left bank Susitna River tributary).

Visit Comments: Most of the fish (except suckers) from this reach were collected from clear water (Lane Creek) at the upstream end of the reach.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 12.73 **DO (mg/L):** 10.95 **DO (%):** 103.40 **Conductivity (µS/cm):** 80 **pH:** 7.81
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 103.10 **Thalweg Velocity (m/s)(ft/s):** 2.22 7.28

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 16180 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	167.0		157.0
Thalweg Depth	5.14		2.90

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Balsam Poplar (Black Cottonwood) Forest	32	Closed Tall Alder-Willow Shrub	3
5 - 10	Open Balsam Poplar (Black Cottonwood) Forest	32	Closed Tall Alder-Willow Shrub	3
10 - 20	Open Balsam Poplar (Black Cottonwood) Forest	32	Closed Tall Alder-Willow Shrub	3
20 - 30	Low Scrub	1.1	Open Balsam Poplar (Black Cottonwood) Forest	32

Key To Fish Sampling Methods

Estimated reach length (m): #### **Total Electrofishing Time (s):** 4310

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 219 **Max:** 310 **Mean:** 274 **Median:** 264
Sampling Method (No. of fish): BEF (8) VOB (3)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 27 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 56 **Max:** 73 **Mean:** 65 **Median:** 64
Sampling Method (No. of fish): BEF (11) VOB (16)
Comments:

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 47 **Fish Measured:** 21 **Fork Lengths (mm)** **Min:** 190 **Max:** 345 **Mean:** 275 **Median:** 267
Sampling Method (No. of fish): BEF (21) VOB (26)
Comments:

-continued-

Species: rainbow trout **Life Stage:** adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (11)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (10)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 108 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 51 **Max:** 66 **Mean:** 60 **Median:** 58
Sampling Method (No. of fish): BEF (17) VOB (91)
Comments:

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (6)
Comments:

Species: burbot **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 179 **Max:** 179 **Mean:** 179 **Median:** 179
Sampling Method (No. of fish): BEF (1)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 109 **Max:** 168 **Mean:** 147 **Median:** 138
Sampling Method (No. of fish): BEF (3)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 372 **Max:** 410 **Mean:** 391 **Median:** 391
Sampling Method (No. of fish): BEF (2)
Comments:

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 153 **Max:** 385 **Mean:** 269 **Median:** 269
Sampling Method (No. of fish): BEF (2)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 148 **Max:** 275 **Mean:** 211 **Median:** 211
Sampling Method (No. of fish): BEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 33 **Max:** 50 **Mean:** 45 **Median:** 41
Sampling Method (No. of fish): BEF (11)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 70 **Max:** 110 **Mean:** 79 **Median:** 90
Sampling Method (No. of fish): BEF (12)
Comments:

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 185 **Max:** 185 **Mean:** 185 **Median:** 185
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: handheld sonar depth finder

Channel Widths: handheld laser rangefinder

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/09/2011 2:28 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.29768	-147.51377		63.31049	-147.55004		63.28756	-147.50504

Elevation NED (m)(ft): 776 2546
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-2 **Legal Description (MTRS):** F018S001E33
Waterbody Name: West Fork Susitna River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Started reach in a clear, right bank tributary for sampling events A and B. Waypoint 009 is mouth of clear tributary.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 2.43 **DO (mg/L):** 12.46 **DO (%):** 91.30 **Conductivity (µS/cm):** 81 **pH:** 7.89
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 210.00 **Thalweg Velocity (m/s)(ft/s):** 1.94 6.36

Stream Channel

Stream Gradient (%): 0.2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 564 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	76.0		54.0	**Subdominant Substrate 1:** Gravel
Thalweg Depth	1.70		0.80	**Subdominant Substrate 2:** Boulder

Dominant Substrate: Silt/Clay

Rosgen Class: B5 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	1.6	Closed Tall Willow Shrub	1.6
5 - 10	Open Tall Willow Shrub	1.6	Closed Tall Willow Shrub	1.6
10 - 20	Open Tall Willow Shrub	1.6	Closed Tall Willow Shrub	1.6
20 - 30	Open Tall Willow Shrub	1.6	Closed Tall Willow Shrub	1.6

Key To Fish Sampling Methods

Estimated reach length (m): 4000 **Total Electrofishing Time (s):** 2148

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 40 **Max:** 46 **Mean:** 43 **Median:** 43
Sampling Method (No. of fish): BEF (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 66 **Fish Measured:** 31 **Fork Lengths (mm)** **Min:** 156 **Max:** 353 **Mean:** 277 **Median:** 254
Sampling Method (No. of fish): BEF (44) VOB (22)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments:

-continued-

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 33 **Fish Measured:** 16 **Fork Lengths (mm)** **Min:** 165 **Max:** 407 **Mean:** 252 **Median:** 286
Sampling Method (No. of fish): BEF (16) VOB (17)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 372 **Max:** 458 **Mean:** 419 **Median:** 415
Sampling Method (No. of fish): BEF (6)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 314 **Max:** 314 **Mean:** 314 **Median:** 314
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 338 **Max:** 339 **Mean:** 338 **Median:** 338
Sampling Method (No. of fish): BEF (6)
Comments:

Species: humpback whitefish **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 400 **Max:** 435 **Mean:** 420 **Median:** 417
Sampling Method (No. of fish): BEF (5)
Comments:

Species: humpback whitefish **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 345 **Max:** 390 **Mean:** 366 **Median:** 367
Sampling Method (No. of fish): BEF (3)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/09/2011 12:53 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.07611	-147.52875		63.10460	-147.51791		63.02283	-147.41879

Elevation NED (m)(ft): 741 2431
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-2 **Legal Description (MTRS):** F021S001E10
Waterbody Name: Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: MU10

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.42 **DO (mg/L):** 11.08 **DO (%):** 87.80 **Conductivity (µS/cm):** 89 **pH:** 7.06
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 108.00 **Thalweg Velocity (m/s)(ft/s):** 1.00 3.28

Stream Channel

Stream Gradient (%): 0.1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 2405 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	210.0		200.0	**Subdominant Substrate 1:**
Thalweg Depth	3.20		2.20	**Subdominant Substrate 2:**

Dominant Substrate: Silt/Clay

Rosgen Class: B5 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3.3	Open Black Spruce Forest	5
5 - 10	Closed Tall Alder-Willow Shrub	3.3	Open Black Spruce Forest	5
10 - 20	Closed Tall Alder-Willow Shrub	3.3	Open Black Spruce Forest	5
20 - 30	Closed Tall Alder-Willow Shrub	3.3	Closed Tall Willow Shrub	1

Key To Fish Sampling Methods

Estimated reach length (m): #### **Total Electrofishing Time (s):** 8098

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 300 **Max:** 340 **Mean:** 320 **Median:** 320
Sampling Method (No. of fish): BEF (2) VOB (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 210 **Max:** 210 **Mean:** 210 **Median:** 210
Sampling Method (No. of fish): BEF (1) VOB (6)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 235 **Max:** 280 **Mean:** 250 **Median:** 257
Sampling Method (No. of fish): BEF (3) VOB (5)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 130 **Max:** 130 **Mean:** 130 **Median:** 130
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Species: humpback whitefish **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 13 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 365 **Max:** 415 **Mean:** 391 **Median:** 390
Sampling Method (No. of fish): BEF (3) VOB (10)
Comments:

Species: humpback whitefish **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 320 **Max:** 325 **Mean:** 322 **Median:** 322
Sampling Method (No. of fish): BEF (2) VOB (4)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 340 **Max:** 365 **Mean:** 352 **Median:** 352
Sampling Method (No. of fish): BEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 355 **Max:** 415 **Mean:** 391 **Median:** 385
Sampling Method (No. of fish): BEF (3)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 165 **Max:** 165 **Mean:** 165 **Median:** 165
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/09/2011 10:08 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.05451	-146.76549		63.05533	-146.76440		63.05436	-146.76554

Elevation NED (m)(ft): 942 3091
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F021S005E34
Waterbody Name: Osar Creek
Anadromous Waters Catalog Number:
Geographic Comments: Approximately 20M from Denali Highway and Osar creek crossing.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 9.70 **DO (mg/L):** 9.14 **DO (%):** 80.40 **Conductivity (µS/cm):** 52 **pH:** 8.60
Water Color: Humic **Turbidity (NTU):** 2.20 **Thalweg Velocity (m/s)(ft/s):** 0.80 2.62

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 38 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	4.4		3.4	**Dominant Substrate:** Cobble
Thalweg Depth	0.51		0.44	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2:

Rosgen Class: E3 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	12	Closed Tall Willow Shrub	8
5 - 10	Closed Tall Willow Shrub	12	Closed Tall Willow Shrub	8
10 - 20	Closed Tall Willow Shrub	12	Closed Tall Willow Shrub	8
20 - 30	Closed Tall Willow Shrub	12	Closed Tall Willow Shrub	8

Key To Fish Sampling Methods

Estimated reach length (m): 165

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 141 **Max:** 147 **Mean:** 144 **Median:** 144
Sampling Method (No. of fish): PEF (2)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 337 **Max:** 337 **Mean:** 337 **Median:** 337
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 32 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 214 **Max:** 244 **Mean:** 227 **Median:** 229
Sampling Method (No. of fish): PEF (3) VOG (29)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 135 **Max:** 135 **Mean:** 135 **Median:** 135
Sampling Method (No. of fish): PEF (1)
Comments:

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Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 79 **Max:** 115 **Mean:** 97 **Median:** 97
Sampling Method (No. of fish): PEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 67 **Max:** 67 **Mean:** 67 **Median:** 67
Sampling Method (No. of fish): PEF (1) VOG (11)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 19 **Max:** 25 **Mean:** 21 **Median:** 22
Sampling Method (No. of fish): PEF (3)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 265 **Max:** 289 **Mean:** 277 **Median:** 277
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/09/2011 1:36 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.11925	-146.79703		63.12165	-146.79579		63.11925	-146.79703

Elevation NED (m)(ft): 1081 3547
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F021S005E04
Waterbody Name: Little Clearwater Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU52

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.55 **DO (mg/L):** 10.35 **DO (%):** 84.30 **Conductivity (µS/cm):** 23 **pH:** 7.25
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 55 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	30.6		11.3
Thalweg Depth	1.01		0.70

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	1.8	Unvegetated	
5 - 10	Closed Tall Willow Shrub	1.8	Unvegetated	
10 - 20	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	1.5
20 - 30	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	1.5

Key To Fish Sampling Methods

Estimated reach length (m): 415

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 70 **Max:** 80 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): PEF (2) VOG (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 69 **Max:** 69 **Mean:** 69 **Median:** 69
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 13 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 52 **Max:** 63 **Mean:** 59 **Median:** 57
Sampling Method (No. of fish): PEF (4) VOG (9)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 24 **Max:** 43 **Mean:** 34 **Median:** 33
Sampling Method (No. of fish): PEF (6)
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 87 **Max:** 87 **Mean:** 87 **Median:** 87
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/09/2011 3:33 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.97010	-147.20495	**Sample Coordinates**	62.96847	-147.20762	/	62.97010	-147.20495

Elevation NED (m)(ft): 725 2379
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-1 **Legal Description (MTRS):** F022S003E32
Waterbody Name: Waterfall Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU106

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.77 **DO (mg/L):** 10.85 **DO (%):** 91.10 **Conductivity (µS/cm):** 52 **pH:** 7.47
Water Color: Feric **Turbidity (NTU):** 7.30 **Thalweg Velocity (m/s)(ft/s):** 1.00 3.28

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 95 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	9.5		6.5	**Dominant Substrate:** Gravel
Thalweg Depth	1.32		0.90	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Sand

Rosgen Class: E4 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Closed Low Willow Shrub	0.7
5 - 10	Closed Low Willow Shrub	1	Closed Low Willow Shrub	0.7
10 - 20	Closed Low Willow Shrub	1	Closed Low Willow Shrub	0.7
20 - 30	Open White Spruce Forest	28	Closed Low Willow Shrub	0.7

Key To Fish Sampling Methods

Estimated reach length (m): 350

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 71 **Max:** 122 **Mean:** 96 **Median:** 96
Sampling Method (No. of fish): PEF (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 246 **Max:** 265 **Mean:** 255 **Median:** 255
Sampling Method (No. of fish): PEF (2) VOG (9)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 42 **Max:** 111 **Mean:** 62 **Median:** 76
Sampling Method (No. of fish): PEF (6)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 69 **Max:** 86 **Mean:** 74 **Median:** 77
Sampling Method (No. of fish): PEF (4)
Comments:

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Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 20 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 53 **Max:** 67 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): PEF (3) VOG (17)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 18 **Fish Measured:** 18 **Fork Lengths (mm)** **Min:** 30 **Max:** 50 **Mean:** 41 **Median:** 40
Sampling Method (No. of fish): PEF (18)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 134 **Max:** 134 **Mean:** 134 **Median:** 134
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Joe Buckwalter, Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 07/20/2011 11:40 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.68833	-150.30287		61.69322	-150.31167		61.59277	-150.38058

Elevation NED (m)(ft): 17 56
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek C-1 **Legal Description (MTRS):** S019N006W35
Waterbody Name: Susitna River
Anadromous Waters Catalog Number: 247-41-10200
Geographic Comments: Downstream of the Deshka River mouth.

Visit Comments: Lots of pink and sockeye salmon in the river. Our electrofishing efficiency was reduced by trying to avoid adult salmon. Anglers fishing the lower Deshka River reported catching coho salmon, but we did not find any in the mainstem Susitna River during this visit.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 11.30 **DO (mg/L):** 11.16 **DO (%):** 102.00 **Conductivity (µS/cm):** 63 **pH:** 7.62
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 108.40 **Thalweg Velocity (m/s)(ft/s):** 2.50 8.20

Stream Channel

Stream Gradient (%): 0.1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 33787 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	300.0		250.0	**Subdominant Substrate 1:** Cobble
Thalweg Depth	8.20		6.70	**Subdominant Substrate 2:** Sand

Dominant Substrate: Gravel

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Alder-Willow Shrub	1.2	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Low Alder-Willow Shrub	1.2	Closed Tall Alder-Willow Shrub	3
10 - 20	Closed Low Alder-Willow Shrub	1.2	Closed Tall Alder-Willow Shrub	3
20 - 30	Closed Low Alder-Willow Shrub	1.2	Closed Spruce-Paper Birch Forest	30

Key To Fish Sampling Methods

Estimated reach length (m): #### **Total Electrofishing Time (s):** 4438

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 205 **Max:** 273 **Mean:** 235 **Median:** 239
Sampling Method (No. of fish): BEF (4) VOB (11)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 13 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 52 **Max:** 63 **Mean:** 56 **Median:** 57
Sampling Method (No. of fish): BEF (6) VOB (7)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 94 **Max:** 94 **Mean:** 94 **Median:** 94
Sampling Method (No. of fish): BEF (1)
Comments:

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Species: lamprey-unspecified **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 43 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 125 **Max:** 125 **Mean:** 125 **Median:** 125
Sampling Method (No. of fish): BEF (10) VOB (33)
Comments: fork length estimated

Species: pink salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1295 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1295)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 890 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (890)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (8)
Comments:

Species: rainbow trout **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: lamprey-unspecified **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 125 **Max:** 125 **Mean:** 125 **Median:** 125
Sampling Method (No. of fish): BEF (2)
Comments: Lengths estimated (difficult to measure).

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 40 **Max:** 50 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): BEF (4)
Comments:

Species: lamprey-unspecified **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 131 **Max:** 131 **Mean:** 131 **Median:** 131
Sampling Method (No. of fish): BEF (1) VOB (4)
Comments:

Species: Pacific salmon-unspecified **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 355 **Max:** 355 **Mean:** 355 **Median:** 355
Sampling Method (No. of fish): BEF (1)
Comments:

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 102 **Max:** 145 **Mean:** 117 **Median:** 123
Sampling Method (No. of fish): BEF (6)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/10/2011 11:51 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.45961	-147.58261		62.45961	-147.58261		62.47370	-147.53950

Elevation NED (m)(ft): 911 2989
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-2 **Legal Description (MTRS):** S027N010E03
Waterbody Name: Black River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Wetted width measured to edge of flowing water--some standing water between boulders on right bank was not included.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.85 **DO (mg/L):** 10.68 **DO (%):** 87.70 **Conductivity (µS/cm):** 46 **pH:** 7.55
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 7.63 **Thalweg Velocity (m/s)(ft/s):** 1.39 4.56

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 332 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	37.0		21.0
Thalweg Depth	1.50		1.00

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
5 - 10	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
10 - 20	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
20 - 30	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1

Key To Fish Sampling Methods

Estimated reach length (m): 3500 **Total Electrofishing Time (s):** 1700

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 215 **Max:** 305 **Mean:** 278 **Median:** 260
Sampling Method (No. of fish): BEF (5) VOB (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (6)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (5)
Comments: Event B probobly round whitefish.

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 70 **Max:** 87 **Mean:** 79 **Median:** 78
Sampling Method (No. of fish): BEF (5) VOB (3)
Comments:

-continued-

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 160 **Max:** 185 **Mean:** 173 **Median:** 172
Sampling Method (No. of fish): BEF (3) VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 210 **Max:** 305 **Mean:** 251 **Median:** 257
Sampling Method (No. of fish): BEF (5) VOB (7)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 345 **Max:** 345 **Mean:** 345 **Median:** 345
Sampling Method (No. of fish): BEF (1) VOB (3)
Comments:

Species: salmonid-unspecified **Life Stage:** not recorded **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 50 **Max:** 50 **Mean:** 50 **Median:** 50
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/10/2011 9:09 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.30904	-147.50218		62.30904	-147.50218		62.32078	-147.48383

Elevation NED (m)(ft): 989 3245
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-1 **Legal Description (MTRS):** S026N011E30
Waterbody Name: Little Oshetna River
Anadromous Waters Catalog Number:
Geographic Comments: IU23

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.68 **DO (mg/L):** 11.70 **DO (%):** 91.00 **Conductivity (µS/cm):** 186 **pH:** 7.86
Water Color: Clear **Turbidity (NTU):** 1.42 **Thalweg Velocity (m/s)(ft/s):** 1.60 5.25

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 231 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	25.5		12.0
Thalweg Depth	1.50		0.52

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Bedrock

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2.5	Closed Tall Willow Shrub	2.5
5 - 10	Open Tall Willow Shrub	2.5	Closed Tall Willow Shrub	2.5
10 - 20	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	2.5
20 - 30	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	2.5

Key To Fish Sampling Methods

Estimated reach length (m): 2100 **Total Electrofishing Time (s):** 932

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 330 **Max:** 365 **Mean:** 341 **Median:** 347
Sampling Method (No. of fish): BEF (10)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 36 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 280 **Max:** 300 **Mean:** 290 **Median:** 290
Sampling Method (No. of fish): BEF (2) VOB (34)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: GPS Float **Channel Widths:** handheld laser rangefinder
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/10/2011 9:20 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.13928	-147.92662		63.14078	-147.92446		63.13915	-147.92661

Elevation NED (m)(ft): 978 3209
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-2 **Legal Description (MTRS):** F020S002W34
Waterbody Name: Butte Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU11

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.13 **DO (mg/L):** 11.33 **DO (%):** 91.30 **Conductivity (µS/cm):** 85 **pH:** 7.72
Water Color: Clear **Turbidity (NTU):** 0.50 **Thalweg Velocity (m/s)(ft/s):** 0.53 1.74

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 77 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	20.9		20.6	**Subdominant Substrate 1:** Boulder
Thalweg Depth	0.50		0.31	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Midgrass-Shrub	1.5	Open Tall Willow Shrub	1.8
5 - 10	Midgrass-Shrub	1.5	Open Tall Willow Shrub	1.8
10 - 20	Midgrass-Shrub	1.5	Open Tall Willow Shrub	1.8
20 - 30	Midgrass-Shrub	1.5	Open Tall Willow Shrub	1.8

Key To Fish Sampling Methods

Estimated reach length (m): 245

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 30 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 207 **Max:** 305 **Mean:** 250 **Median:** 256
Sampling Method (No. of fish): PEF (5) VOG (25)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 37 **Max:** 182 **Mean:** 63 **Median:** 109
Sampling Method (No. of fish): PEF (6)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 70 **Max:** 97 **Mean:** 81 **Median:** 83
Sampling Method (No. of fish): PEF (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 57 **Max:** 65 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): PEF (2) VOG (8)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 42 **Max:** 42 **Mean:** 42 **Median:** 42
Sampling Method (No. of fish): PEF (1)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 293 **Max:** 293 **Mean:** 293 **Median:** 293
Sampling Method (No. of fish): VOG (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/10/2011 11:38 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.15421	-149.71345		63.15593	-149.71823		63.15421	-149.71345

Elevation NED (m)(ft): 766 2513
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-6 **Legal Description (MTRS):** F020S011W30
Waterbody Name: Copeland Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU89

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.42 **DO (mg/L):** 12.66 **DO (%):** 97.30 **Conductivity (µS/cm):** 220 **pH:** 8.26
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 10.00 **Thalweg Velocity (m/s)(ft/s):** 0.96 3.15

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 30 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	11.1		7.6
Thalweg Depth	1.02		0.59

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Gravel

Rosgen Class: B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Alder-Willow Shrub	3	Ferns	0.4
5 - 10	Open Tall Alder-Willow Shrub	3	Ferns	0.4
10 - 20	Open Tall Alder-Willow Shrub	3	Fireweed	0.5
20 - 30	Open Tall Alder-Willow Shrub	3	Closed Low Willow Shrub	0.7

Key To Fish Sampling Methods

Estimated reach length (m): 450

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 104 **Max:** 143 **Mean:** 124 **Median:** 123
Sampling Method (No. of fish): PEF (5) VOG (5)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 35 **Max:** 47 **Mean:** 40 **Median:** 41
Sampling Method (No. of fish): PEF (5)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/10/2011 1:24 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.24879	-148.99004		63.24705	-148.98905		63.24879	-148.99004

Elevation NED (m)(ft): 895 2936
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-4 **Legal Description (MTRS):** F019S008W24
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU160. Unnamed tributary to Middle Fork Chulitna River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.67 **DO (mg/L):** 10.62 **DO (%):** 84.70 **Conductivity (µS/cm):** 134 **pH:** 7.89
Water Color: Clear **Turbidity (NTU):** 0.30 **Thalweg Velocity (m/s)(ft/s):** 1.59 5.22

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 47 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	26.5		8.4	**Dominant Substrate:** Cobble
Thalweg Depth	0.85		0.57	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Gravel

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	3	Unvegetated	
5 - 10	Closed Tall Willow Shrub	3	Unvegetated	
10 - 20	Closed Tall Willow Shrub	3	Unvegetated	
20 - 30	Closed Tall Willow Shrub	1.7	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 260

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 18 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 95 **Max:** 210 **Mean:** 149 **Median:** 152
Sampling Method (No. of fish): PEF (6) VOG (12)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 13 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 35 **Max:** 74 **Mean:** 56 **Median:** 54
Sampling Method (No. of fish): PEF (13)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/10/2011 2:36 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.27781	-148.92708		63.27874	-148.92532		63.27781	-148.92708

Elevation NED (m)(ft): 948 3110
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-4 **Legal Description (MTRS):** F019S007W08
Waterbody Name: Middle Fork Chulitna River
Anadromous Waters Catalog Number: 247-41-10200-2381
Geographic Comments: HU49

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.88 **DO (mg/L):** 11.01 **DO (%):** 90.50 **Conductivity (µS/cm):** 203 **pH:** 7.85
Water Color: Clear **Turbidity (NTU):** 0.30 **Thalweg Velocity (m/s)(ft/s):** 1.09 3.58

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 54 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	13.1		12.6
Thalweg Depth	0.57		0.47

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	3	Closed Low Willow Shrub	1.2
5 - 10	Closed Tall Willow Shrub	3	Closed Low Willow Shrub	1.2
10 - 20	Closed Tall Willow Shrub	3	Closed Low Willow Shrub	1.2
20 - 30	Closed Low Willow Shrub	1.3	Closed Low Willow Shrub	1.2

Key To Fish Sampling Methods

Estimated reach length (m): 162

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 55 **Max:** 60 **Mean:** 58 **Median:** 57
Sampling Method (No. of fish): PEF (4)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 43 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 35 **Max:** 53 **Mean:** 44 **Median:** 44
Sampling Method (No. of fish): PEF (13) VOG (30)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 53 **Max:** 53 **Mean:** 53 **Median:** 53
Sampling Method (No. of fish): PEF (1)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Juvenile coho salmon.

FSS1108c040259.jpg
Juvenile coho salmon.

FSS1108c040260.jpg
Juvenile Chinook salmon, anal fin is not sickle shaped and leading edge is not longer than length of anal fin base.

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/10/2011 5:08 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.02336	-147.54752		63.02121	-147.54747		63.02336	-147.54752

Elevation NED (m)(ft): 742 2434
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-2 **Legal Description (MTRS):** F022S001E09
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU142. Unnamed tributary of Susitna River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.83 **DO (mg/L):** 10.46 **DO (%):** 85.80 **Conductivity (µS/cm):** 44 **pH:** 6.07
Water Color: Clear **Turbidity (NTU):** 0.10 **Thalweg Velocity (m/s)(ft/s):** 1.14 3.74

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 45 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	18.0		3.5
Thalweg Depth	1.22		0.31

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open White Spruce Forest	28	Closed Tall Willow Shrub	6
5 - 10	Open White Spruce Forest	28	Open White Spruce Forest	29
10 - 20	Open White Spruce Forest	28	Open White Spruce Forest	29
20 - 30	Open White Spruce Forest	28	Closed Tall Willow Shrub	3

Key To Fish Sampling Methods

Estimated reach length (m): 280

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 109 **Max:** 151 **Mean:** 121 **Median:** 130
Sampling Method (No. of fish): PEF (4)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 39 **Max:** 45 **Mean:** 42 **Median:** 42
Sampling Method (No. of fish): PEF (3)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 138 **Max:** 138 **Mean:** 138 **Median:** 138
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 244 **Max:** 300 **Mean:** 274 **Median:** 272
Sampling Method (No. of fish): PEF (3) VOG (5)
Comments:

-continued-

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 117 **Max:** 117 **Mean:** 117 **Median:** 117
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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FSS1108c050268.jpg

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FSS1108c050270.jpg

FSS1108c050272.jpg

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/10/2011 11:38 AM

	Latitude	Longitude
Sample Coordinates	63.24817	-149.27878

Elevation NED (m)(ft): 672 2205
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-5 **Legal Description (MTRS):** F019S009W21
Waterbody Name: Squaw Creek
Anadromous Waters Catalog Number:
Geographic Comments: Waterfall.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m): **Bankfull** **OHW** **Wetted** **Dominant Substrate:**
Width **Subdominant Substrate 1:**
Thalweg Depth **Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 07/21/2011 11:00 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.78589	-150.34673		61.78589	-150.34673	/	61.76472	-150.33906

Elevation NED (m)(ft): 30 98
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-1 **Legal Description (MTRS):** S020N006W34
Waterbody Name: Deshka River
Anadromous Waters Catalog Number: 247-41-10200-2081
Geographic Comments:

Visit Comments: Habitat transect at orange sign just upstream of weir. Turbidity meter not working (ERR 2/3), but water was very clear (probably <1 NTU). Fresh water mussels and one unidentified frog were observed.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 17.94 **DO (mg/L):** 8.55 **DO (%):** 90.20 **Conductivity (µS/cm):** 63 **pH:** 7.26
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 0.78 2.56

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1524 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	62.0		47.0
Thalweg Depth	2.90		0.90

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	1.5	Closed Spruce-Paper Birch Forest	14.2
5 - 10	Open Tall Willow Shrub	1.5	Closed Spruce-Paper Birch Forest	14.2
10 - 20	Closed Tall Willow Shrub	2.5	Closed Spruce-Paper Birch Forest	14.2
20 - 30	Closed Spruce-Paper Birch Forest	14.2	Closed Spruce-Paper Birch Forest	14.2

Key To Fish Sampling Methods

Estimated reach length (m): 3100 **Total Electrofishing Time (s):** 2393

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 104 **Max:** 146 **Mean:** 118 **Median:** 125
Sampling Method (No. of fish): BEF (3)
Comments:

Species: longnose sucker **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 107 **Max:** 184 **Mean:** 154 **Median:** 145
Sampling Method (No. of fish): BEF (4)
Comments:

Species: Pacific lamprey **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 500 **Max:** 500 **Mean:** 500 **Median:** 500
Sampling Method (No. of fish): BEF (1)
Comments: ID confirmed in lab. 3 cusps on supraoral bar (see photo 259) indicate L. tridentata.

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 37 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 208 **Max:** 219 **Mean:** 213 **Median:** 213
Sampling Method (No. of fish): BEF (2) VOB (35)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 13 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 17 **Max:** 50 **Mean:** 40 **Median:** 33
Sampling Method (No. of fish): BEF (13)
Comments:

Species: Arctic lamprey **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 9 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 100 **Max:** 110 **Mean:** 103 **Median:** 105
Sampling Method (No. of fish): BEF (5) VOB (4)
Comments: ID confirmed by Joe Buckwalter and Raye Ann Neustel on 10/5/11 (see key in Mecklenburg et al 2002). 2 cusp

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 53 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (53)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 49 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 53 **Max:** 67 **Mean:** 57 **Median:** 60
Sampling Method (No. of fish): BEF (9) VOB (40)
Comments:

Species: threespine stickleback **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 36 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 22 **Max:** 26 **Mean:** 25 **Median:** 24
Sampling Method (No. of fish): BEF (26) VOB (10)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 53 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 355 **Max:** 390 **Mean:** 375 **Median:** 372
Sampling Method (No. of fish): BEF (3) VOB (50)
Comments:

Species: Arctic lamprey **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 29 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 25 **Max:** 25 **Mean:** 25 **Median:** 25
Sampling Method (No. of fish): BEF (24) VOB (5)
Comments: Ammocoetes. 5 collected during C event all retained. ID confirmed by Joe Buckwalter and Raye Ann Neustel o

Species: pink salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments:

Species: Arctic lamprey **Life Stage:** juvenile/adult **Life History:** Anadromous
Total Fish Count: 27 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (27)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 50 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 50 **Max:** 68 **Mean:** 56 **Median:** 59
Sampling Method (No. of fish): BEF (17) VOB (33)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: northern pike **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 330 **Max:** 330 **Mean:** 330 **Median:** 330
Sampling Method (No. of fish): BEF (1)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 241 **Max:** 241 **Mean:** 241 **Median:** 241
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 44 **Max:** 48 **Mean:** 46 **Median:** 46
Sampling Method (No. of fish): BEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

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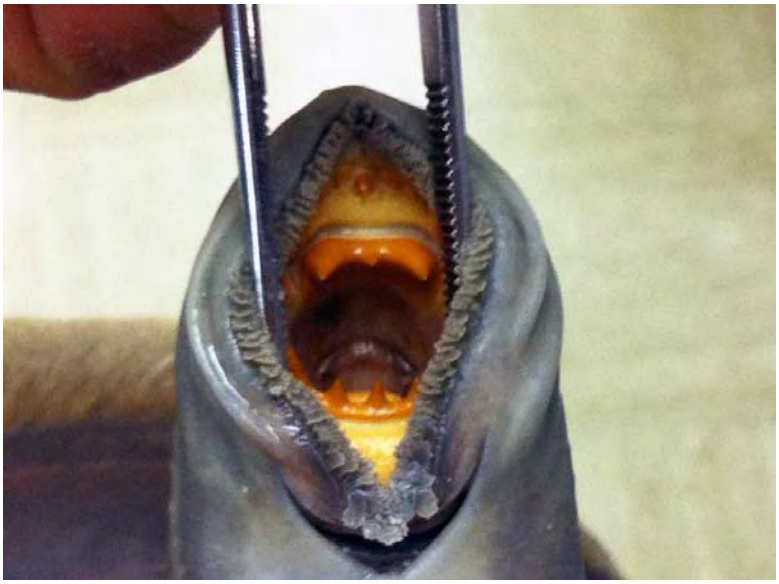
FSS1108D010257.jpg

FSS1108D010258.jpg
Chinook salmon juvenile.



FSS1108D010259.jpg
Pacific lamprey dentition.

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/11/2011 9:30 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	63.05169	-149.60029	**Sample Coordinates**	63.05169	-149.60029	/	62.99753	-149.65036

Elevation NED (m)(ft): 430 1411

Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84

USGS Quadrangle: Healy A-6 **Legal Description (MTRS):** F021S011W35

Waterbody Name: Chulitna River

Anadromous Waters Catalog Number: 247-41-10200-2381

Geographic Comments: Habitat transect and upstream end of fish-collection reach located just downstream of confluence of Middle and East Forks Chulitna River and Honolulu Creek.

Visit Comments: Water quality sampled on right bank from turbid Middle Fork flow, left bank runs clearer (initially, until mixed). Electrofishing was conducted along left-bank side of thalweg.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.26 **DO (mg/L):** 9.34 **DO (%):** 73.70 **Conductivity (µS/cm):** 203 **pH:** 7.86

Water Color: Glacial, High Turbidit **Turbidity (NTU):** 107.00 **Thalweg Velocity (m/s)(ft/s):** 3.33 10.92

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched

Catchment Area(sq. km): 2006 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	90.0		55.0	**Dominant Substrate:** Cobble
Thalweg Depth	2.10		1.30	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Boulder

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	4	Closed Tall Alder Shrub	4
5 - 10	Closed Black Cottonwood Forest	18	Open Spruce-Paper Birch Forest	23
10 - 20	Closed Black Cottonwood Forest	18	Open Spruce-Paper Birch Forest	23
20 - 30	Closed Black Cottonwood Forest	18	Open Spruce-Paper Birch Forest	23

Key To Fish Sampling Methods

Estimated reach length (m): #### **Total Electrofishing Time (s):** 4117

(BEF) Boat-Mounted Electrofisher (DIP) Dip Net
(VOB) Visual Observation, Boat

Fish Observations

Species: rainbow trout **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 412 **Max:** 412 **Mean:** 412 **Median:** 412
Sampling Method (No. of fish): BEF (1)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 240 **Max:** 315 **Mean:** 277 **Median:** 277
Sampling Method (No. of fish): BEF (2) VOB (2)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 335 **Max:** 335 **Mean:** 335 **Median:** 335
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 28 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 56 **Max:** 67 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): BEF (10) VOB (18)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 210 **Fish Measured:** 33 **Fork Lengths (mm)** **Min:** 50 **Max:** 70 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): BEF (76) DIP (3) VOB (131)
Comments:

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: salmonid-unspecified **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (12)
Comments:

Species: pink salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2) **Suspected Spawning:** Yes
Comments: Really rotten.

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 33 **Max:** 50 **Mean:** 40 **Median:** 41
Sampling Method (No. of fish): BEF (5)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 385 **Max:** 385 **Mean:** 385 **Median:** 385
Sampling Method (No. of fish): BEF (1)
Comments:

Species: pink salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 120 **Max:** 120 **Mean:** 120 **Median:** 120
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Pacific salmon-unspecified **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments: Blush color.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 90 **Max:** 90 **Mean:** 90 **Median:** 90
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 73 **Max:** 89 **Mean:** 79 **Median:** 81
Sampling Method (No. of fish): BEF (6)
Comments:

-continued-

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 195 **Max:** 235 **Mean:** 215 **Median:** 215
Sampling Method (No. of fish): BEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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FSS1109A010466.jpg

FSS1109A010468.jpg

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FSS1109A010469.jpg

FSS1109A010471.jpg
Chinook salmon juveniles.

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FSS1109A010473.jpg

FSS1109A010474.jpg
Mouth of Hurricane Gulch.

FSS1109A010476.jpg

-continued-

FSS1109A010477.jpg

Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/11/2011 9:09 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.18811	-146.71994		63.18811	-146.71994		63.17903	-146.70401

Elevation NED (m)(ft): 951 3120
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F020S005E14
Waterbody Name: West Fork Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments: IU3

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.75 **DO (mg/L):** 12.65 **DO (%):** 103.70 **Conductivity (µS/cm):** 147 **pH:** 7.19
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 13.80 **Thalweg Velocity (m/s)(ft/s):** 0.95 3.12

Stream Channel

Stream Gradient (%): 0.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 199 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	43.0		19.2
Thalweg Depth	2.00		1.10

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	2.2
5 - 10	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	2.2
10 - 20	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	2.2
20 - 30	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	2.2

Key To Fish Sampling Methods

Estimated reach length (m): 2500 **Total Electrofishing Time (s):** 1140

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 48 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 230 **Max:** 310 **Mean:** 260 **Median:** 270
Sampling Method (No. of fish): BEF (4) VOB (44)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 60 **Max:** 155 **Mean:** 107 **Median:** 107
Sampling Method (No. of fish): BEF (2)
Comments:

-continued-

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 320 **Max:** 320 **Mean:** 320 **Median:** 320
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/11/2011 9:14 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.00426	-148.84548		63.00527	-148.84350		63.00402	-148.84622

Elevation NED (m)(ft): 771 2530
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-4 **Legal Description (MTRS):** F022S007W14
Waterbody Name: Portage Creek
Anadromous Waters Catalog Number: 247-41-10200-2585
Geographic Comments: HU59

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.57 **DO (mg/L):** 12.77 **DO (%):** 98.90 **Conductivity (µS/cm):** 43 **pH:** 5.71
Water Color: Clear **Turbidity (NTU):** 0.75 **Thalweg Velocity (m/s)(ft/s):** 1.09 3.58

Stream Channel

Stream Gradient (%): 1.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 56 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	15.9		13.6
Thalweg Depth	1.32		0.62

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Shrub Birch-Willow Shrub	12	Closed Tall Alder-Willow Shrub	24
5 - 10	Closed Tall Shrub Birch-Willow Shrub	12	Closed Tall Alder-Willow Shrub	24
10 - 20	Closed Tall Shrub Birch-Willow Shrub	12	Closed Tall Alder-Willow Shrub	24
20 - 30	Closed Tall Shrub Birch-Willow Shrub	12	Closed Tall Alder-Willow Shrub	24

Key To Fish Sampling Methods

Estimated reach length (m): 225

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 18 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 115 **Max:** 115 **Mean:** 115 **Median:** 115
Sampling Method (No. of fish): PEF (1) VOG (17)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 12 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 57 **Max:** 81 **Mean:** 71 **Median:** 69
Sampling Method (No. of fish): PEF (12)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 37 **Max:** 37 **Mean:** 37 **Median:** 37
Sampling Method (No. of fish): PEF (1) VOG (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 75 **Max:** 81 **Mean:** 79 **Median:** 78
Sampling Method (No. of fish): PEF (4)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 65 **Max:** 65 **Mean:** 65 **Median:** 65
Sampling Method (No. of fish): PEF (2) VOG (5)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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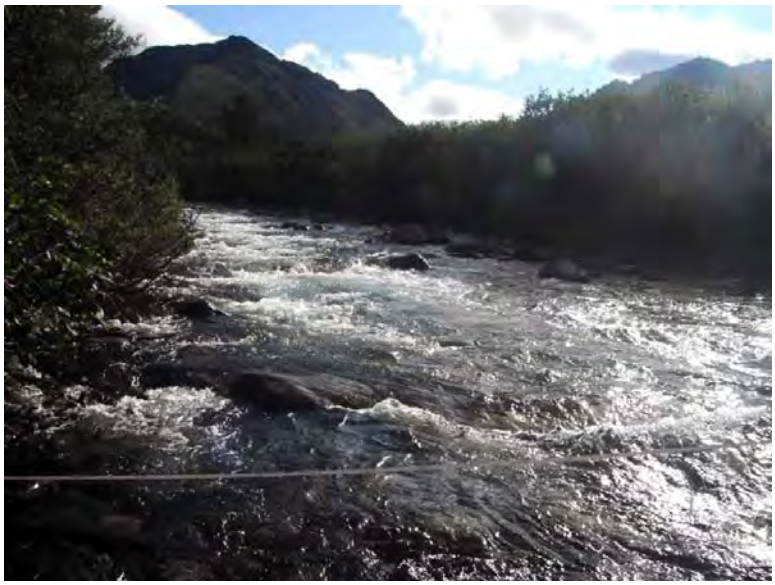

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/11/2011 11:18 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.14352	-149.86998		63.14658	-149.87417		63.14352	-149.86998

Elevation NED (m)(ft): 694 2277
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-6 **Legal Description (MTRS):** F020S012W28
Waterbody Name: Ohio Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU17. This creek was sampled just downstream of Denali National Park boundary.

Visit Comments: No photos were taken of sample site. Cataraft Team-B floated a section of this creek (10B01) approximately 4 km downstream of this site, photos 357-361.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.76 **DO (mg/L):** 13.21 **DO (%):** 100.30 **Conductivity (µS/cm):** 149 **pH:** 7.37
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 7.00 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 117 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	80.0		10.5
Thalweg Depth	2.12		0.90

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Shrub Birch-Willow Shrub	30	Unvegetated	
5 - 10	Open Tall Shrub Birch-Willow Shrub	30	Unvegetated	
10 - 20	Open Tall Shrub Birch-Willow Shrub	30	Unvegetated	
20 - 30	Open Tall Shrub Birch-Willow Shrub	30	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 480

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 129 **Max:** 129 **Mean:** 129 **Median:** 129
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 74 **Max:** 74 **Mean:** 74 **Median:** 74
Sampling Method (No. of fish): PEF (1) VOG (2)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/11/2011 11:22 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.13390	-149.12913		63.13327	-149.12960		63.13386	-149.13080

Elevation NED (m)(ft): 759 2490
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-5 **Legal Description (MTRS):** F020S008W32
Waterbody Name: Crooked Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU109

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.63 **DO (mg/L):** 11.54 **DO (%):** 94.10 **Conductivity (µS/cm):** 38 **pH:** 5.95
Water Color: Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):** 1.14 3.74

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 73 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	15.3		9.7
Thalweg Depth	1.20		0.60

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Open White Spruce Forest	16
5 - 10	Unvegetated		Open White Spruce Forest	16
10 - 20	Unvegetated		Open White Spruce Forest	16
20 - 30	Unvegetated		Open White Spruce Forest	16

Key To Fish Sampling Methods

Estimated reach length (m): 330

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 36 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 58 **Max:** 64 **Mean:** 60 **Median:** 61
Sampling Method (No. of fish): PEF (7) VOG (29)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 28 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 58 **Max:** 62 **Mean:** 59 **Median:** 60
Sampling Method (No. of fish): PEF (6) VOG (22)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 47 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 48 **Max:** 59 **Mean:** 51 **Median:** 53
Sampling Method (No. of fish): PEF (17) VOG (30)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

-continued-

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Photo used as documentation of riparian zone.

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Looking downstream from transect site, three species of juvenile salmon were caught near debris on river right.

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Looking upstream from transect site.

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Juvenile coho and chinook salmon.

FSS1109c030289.jpg

Juvenile sockeye salmon

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/11/2011 3:22 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	63.13526	-148.88396	**Sample Coordinates**	63.13601	-148.87979	/	63.13526	-148.88396

Elevation NED (m)(ft): 947 3107
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-4 **Legal Description (MTRS):** F020S007W34
Waterbody Name: East Fork Chulitna River
Anadromous Waters Catalog Number:
Geographic Comments: HU20

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.98 **DO (mg/L):** 11.97 **DO (%):** 96.50 **Conductivity (µS/cm):** 194 **pH:** 7.36
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 1.18 3.87

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 50 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	85.0		18.5	**Dominant Substrate:** Cobble
Thalweg Depth	0.88		0.48	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Gravel

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2	Unvegetated	
5 - 10	Open Tall Willow Shrub	2	Unvegetated	
10 - 20	Open Tall Willow Shrub	2	Unvegetated	
20 - 30	Open Tall Willow Shrub	2	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 340

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 28 **Fish Measured:** 20 **Fork Lengths (mm)** **Min:** 86 **Max:** 169 **Mean:** 116 **Median:** 127
Sampling Method (No. of fish): PEF (20) VOG (8)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 37 **Max:** 75 **Mean:** 64 **Median:** 56
Sampling Method (No. of fish): PEF (4)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 25 **Max:** 34 **Mean:** 30 **Median:** 29
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 83 **Max:** 105 **Mean:** 90 **Median:** 94
Sampling Method (No. of fish): PEF (4)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Jonathan Kirsch **Date/Time:** 08/11/2011 7:40 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.02710	-147.28957		63.02699	-147.28604		63.02710	-147.28957

Elevation NED (m)(ft): 770 2526
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-1 **Legal Description (MTRS):** F022S002E12
Waterbody Name: Alpine Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU157

Visit Comments: Drove to sampling site from Alpine Creek Lodge via ATV.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.98 **DO (mg/L):** 11.55 **DO (%):** 90.40 **Conductivity (µS/cm):** 65 **pH:** 7.65
Water Color: Clear **Turbidity (NTU):** 3.00 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 25 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	7.8		6.2
Thalweg Depth	1.60		0.80

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class: E3 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	28	Closed Spruce-Paper Birch Forest	25
5 - 10	Closed Spruce-Paper Birch Forest	28	Closed Spruce-Paper Birch Forest	25
10 - 20	Closed Spruce-Paper Birch Forest	28	Closed Spruce-Paper Birch Forest	25
20 - 30	Closed Spruce-Paper Birch Forest	28	Closed Spruce-Paper Birch Forest	25

Key To Fish Sampling Methods

Estimated reach length (m): 244

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 16 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 334 **Max:** 334 **Mean:** 334 **Median:** 334
Sampling Method (No. of fish): PEF (2) VOG (14)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 265 **Max:** 320 **Mean:** 286 **Median:** 292
Sampling Method (No. of fish): PEF (11)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 15 **Fork Lengths (mm)** **Min:** 65 **Max:** 116 **Mean:** 104 **Median:** 90
Sampling Method (No. of fish): PEF (15)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/11/2011 12:50 PM

	Latitude	Longitude
Sample Coordinates	63.02794	-149.29144

Elevation NED (m)(ft): 913 2995
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-5 **Legal Description (MTRS):** F022S009W09
Waterbody Name: Honolulu Creek
Anadromous Waters Catalog Number:
Geographic Comments: Waterfall (approximate location).

Visit Comments: HU36/Honolulu Creek was the target stream. There is a waterfall approximately 12 km upstream of the Honolulu Creek/Chulitna River confluence. No sampling data collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/12/2011 12:40 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.20435	-146.55463		63.20932	-146.55297		63.16215	-146.54977

Elevation NED (m)(ft): 892 2927
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes A-6 **Legal Description (MTRS):** F020S006E02
Waterbody Name: Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Put in at the mouth of a clear right bank tributary (photos 484-485) with water quality readings of 9.6 C, 74 uS/cm conductivity, 59.5% saturation for dissolved oxygen, 6.78 mg/L dissolved oxygen, pH 7.59} and electrofished down into Maclaren River, almost to confluence with West Fork of Maclaren River.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.47 **DO (mg/L):** 7.32 **DO (%):** 61.10 **Conductivity (µS/cm):** 85 **pH:** 7.78
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 25.70 **Thalweg Velocity (m/s)(ft/s):** 1.30 4.26

Stream Channel

Stream Gradient (%): 0.1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 278 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	70.0		31.0
Thalweg Depth	1.52		1.10

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Willow Shrub	1	Open Low Willow Shrub	1
5 - 10	Open Low Willow Shrub	1	Open Low Willow Shrub	1
10 - 20	Open Low Willow Shrub	1	Open Low Willow Shrub	1
20 - 30	Open Low Willow Shrub	1	Open Low Willow Shrub	1

Key To Fish Sampling Methods

Estimated reach length (m): 7400 **Total Electrofishing Time (s):** 3839

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 13 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 199 **Max:** 293 **Mean:** 251 **Median:** 246
Sampling Method (No. of fish): BEF (6) VOB (7)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 24 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 340 **Max:** 350 **Mean:** 345 **Median:** 345
Sampling Method (No. of fish): BEF (3) VOB (21)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 28 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 51 **Max:** 68 **Mean:** 57 **Median:** 59
Sampling Method (No. of fish): BEF (9) VOB (19)
Comments:

-continued-

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 10 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 195 **Max:** 306 **Mean:** 260 **Median:** 250
Sampling Method (No. of fish): BEF (9) VOB (1)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 52 **Max:** 52 **Mean:** 52 **Median:** 52
Sampling Method (No. of fish): BEF (1) VOB (4)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 72 **Max:** 160 **Mean:** 115 **Median:** 116
Sampling Method (No. of fish): BEF (7) VOB (2)
Comments:

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 246 **Max:** 314 **Mean:** 287 **Median:** 280
Sampling Method (No. of fish): BEF (3)
Comments:

Species: general fish observation, no s **Life Stage:** not recorded **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 98 **Max:** 98 **Mean:** 98 **Median:** 98
Sampling Method (No. of fish): BEF (1)
Comments:

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (9)
Comments: Event X either round whitefish or arctic grayling.

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 38 **Max:** 50 **Mean:** 44 **Median:** 44
Sampling Method (No. of fish): BEF (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 69 **Max:** 87 **Mean:** 75 **Median:** 78
Sampling Method (No. of fish): BEF (4)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 325 **Max:** 325 **Mean:** 325 **Median:** 325
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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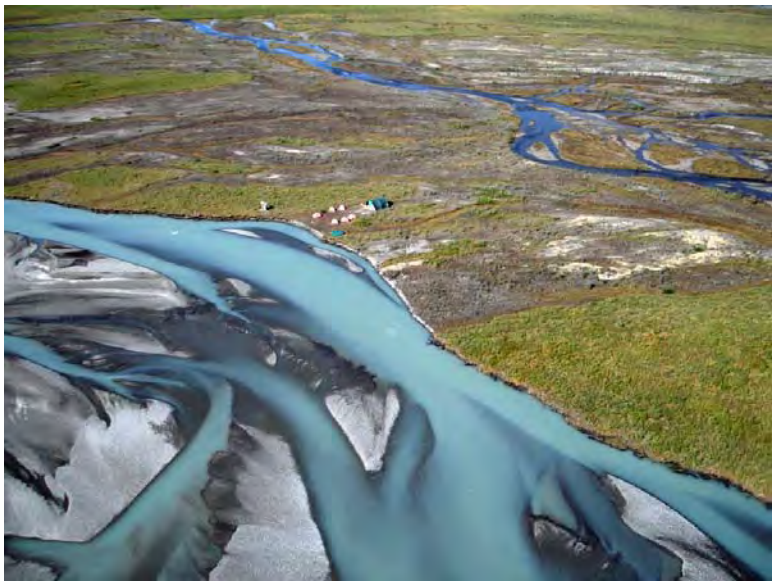

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/12/2011 11:01 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.07291	-149.78012		63.07291	-149.78012		63.05680	-149.73851

Elevation NED (m)(ft): 539 1768
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-6 **Legal Description (MTRS):** F021S012W25
Waterbody Name: Ohio Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU19

Visit Comments: Sampling efficiency very poor for all subreaches. River was very swift with multiple channels and large boulders, large woody debris as well. Given a backpack electrofisher/minnow traps it would be highly likely that juvenile salmon would be documented here as habitat was favorable.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.47 **DO (mg/L):** 11.12 **DO (%):** 83.80 **Conductivity (µS/cm):** 156 **pH:** 7.37
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 47.50 **Thalweg Velocity (m/s)(ft/s):** 3.33 10.92

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 199 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	85.0		19.8	**Dominant Substrate:** Gravel
Thalweg Depth	2.20		0.90	**Subdominant Substrate 1:** Sand
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2.5	Open Tall Willow Shrub	2
5 - 10	Open Tall Willow Shrub	2.5	Open Tall Willow Shrub	2
10 - 20	Open Tall Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	13
20 - 30	Closed Tall Willow Shrub	2.5	Closed Paper Birch Forest	13

Key To Fish Sampling Methods

Estimated reach length (m): 3100 **Total Electrofishing Time (s):** 890

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 510 **Max:** 510 **Mean:** 510 **Median:** 510
Sampling Method (No. of fish): BEF (1) VOB (1)
Comments: Spawning activity suspected for event I.

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: handheld laser rangefinder

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/12/2011 9:19 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.67037	-147.87374		62.66996	-147.87193		62.67037	-147.87374

Elevation NED (m)(ft): 866 2841
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-2 **Legal Description (MTRS):** S030N008E24
Waterbody Name: Clarence Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU133 Down river of lake. There is a smaller creek flowing out of the opposite end of the lake as well.

Visit Comments:
Wildlife Comments: River otter 10m below transect site.

Water Quality \ Stream Flow

Water Temp (C): 6.99 **DO (mg/L):** 12.07 **DO (%):** 99.20 **Conductivity (µS/cm):** 67 **pH:** 5.81
Water Color: Clear **Turbidity (NTU):** 0.50 **Thalweg Velocity (m/s)(ft/s):** 0.68 2.23

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 221 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	17.2		16.5	**Dominant Substrate:** Sand
Thalweg Depth	1.15		0.74	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Gravel

Rosgen Class: C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Mesic Sedge-Grass Meadow Tundra	0.5	Bluejoint Meadow	0.5
5 - 10	Mesic Sedge-Grass Meadow Tundra	0.5	Bluejoint Meadow	0.5
10 - 20	Mesic Sedge-Grass Meadow Tundra	0.5	Bluejoint Meadow	0.5
20 - 30	Bluejoint Meadow	0.5	Fresh Grass Marsh	0.5

Key To Fish Sampling Methods

Estimated reach length (m): 150

(PEF) Backpack Electrofisher

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 25 **Fish Measured:** 25 **Fork Lengths (mm)** **Min:** 35 **Max:** 157 **Mean:** 57 **Median:** 96
Sampling Method (No. of fish): PEF (25)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 69 **Max:** 77 **Mean:** 73 **Median:** 73
Sampling Method (No. of fish): PEF (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 52 **Max:** 63 **Mean:** 55 **Median:** 57
Sampling Method (No. of fish): PEF (6)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 15 **Fork Lengths (mm)** **Min:** 23 **Max:** 49 **Mean:** 38 **Median:** 36
Sampling Method (No. of fish): PEF (15)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/12/2011 11:10 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.16504	-147.95327		62.16392	-147.95414		62.16504	-147.95327

Elevation NED (m)(ft): 1240 4068
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-2 **Legal Description (MTRS):** S024N008E15
Waterbody Name: Oshetna River
Anadromous Waters Catalog Number:
Geographic Comments: HU5

Visit Comments: Upstream electrofishing pass only, electrofisher malfunction.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.14 **DO (mg/L):** 12.58 **DO (%):** 99.30 **Conductivity (µS/cm):** 68 **pH:** 6.57
Water Color: Clear **Turbidity (NTU):** 0.85 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 106 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	84.9		20.9	**Dominant Substrate:** Boulder
Thalweg Depth	1.18		0.38	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Gravel

Rosgen Class: B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Crustose Lichen	0.1
5 - 10	Unvegetated		Crustose Lichen	0.1
10 - 20	Unvegetated		Crustose Lichen	0.1
20 - 30	Unvegetated		Crustose Lichen	0.1

Key To Fish Sampling Methods

Estimated reach length (m): 150

(PEF) Backpack Electrofisher

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 155 **Max:** 155 **Mean:** 155 **Median:** 155
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/12/2011 1:21 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.49775	-148.13780		62.49724	-148.13784		62.49835	-148.13671

Elevation NED (m)(ft): 1008 3307
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-3 **Legal Description (MTRS):** S028N007E22
Waterbody Name: John Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU97

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 11.62 **DO (mg/L):** 8.74 **DO (%):** 82.20 **Conductivity (µS/cm):** 56 **pH:** 6.86
Water Color: Clear **Turbidity (NTU):** 0.52 **Thalweg Velocity (m/s)(ft/s):** 0.40 1.31

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 47 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	21.0		19.9
Thalweg Depth	1.17		1.02

Dominant Substrate: Boulder
Subdominant Substrate 1: Sand
Subdominant Substrate 2: Cobble

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Wet Sedge Meadow Tundra	0.2	Closed Low Ericaceous Shrub	0.5
5 - 10	Closed Low Ericaceous Shrub	0.5	Closed Low Ericaceous Shrub	0.5
10 - 20	Closed Low Ericaceous Shrub	0.5	Closed Low Ericaceous Shrub	0.5
20 - 30	Closed Low Ericaceous Shrub	0.5	Wet Sedge Meadow Tundra	0.2

Key To Fish Sampling Methods

Estimated reach length (m): 245

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 36 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 80 **Max:** 150 **Mean:** 101 **Median:** 115
Sampling Method (No. of fish): PEF (13) VOG (23)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 70 **Max:** 84 **Mean:** 75 **Median:** 77
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 29 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 51 **Max:** 58 **Mean:** 54 **Median:** 54
Sampling Method (No. of fish): PEF (2) VOG (27)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/12/2011 1:22 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.41757	-148.42772		62.41757	-148.42772	/	62.41685	-148.43073

Elevation NED (m)(ft): 1017 3337
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-3 **Legal Description (MTRS):** S027N006E19
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU73. Unnamed tributary to the Talkeetna River.

Visit Comments:
Wildlife Comments: 1 caribou.

Water Quality \ Stream Flow

Water Temp (C): 13.93 **DO (mg/L):** 10.72 **DO (%):** 103.90 **Conductivity (µS/cm):** 65 **pH:** 7.38
Water Color: Clear **Turbidity (NTU):** 0.50 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 83 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	75.0		22.4	**Dominant Substrate:** Cobble
Thalweg Depth	0.84		0.42	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Gravel

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Willow Dwarf Shrub Tundra	0.2	Willow Dwarf Shrub Tundra	0.3
5 - 10	Willow Dwarf Shrub Tundra	0.2	Willow Dwarf Shrub Tundra	0.3
10 - 20	Willow Dwarf Shrub Tundra	0.2	Willow Dwarf Shrub Tundra	0.3
20 - 30	Willow Dwarf Shrub Tundra	0.2	Willow Dwarf Shrub Tundra	0.3

Key To Fish Sampling Methods

Estimated reach length (m): 285

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/12/2011 4:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.57510	-147.90150		62.57313	-147.90164		62.57510	-147.90150

Elevation NED (m)(ft): 1131 3711
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-2 **Legal Description (MTRS):** S029N008E26
Waterbody Name: Gilbert Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU23

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 10.01 **DO (mg/L):** 11.31 **DO (%):** 100.10 **Conductivity (µS/cm):** 20 **pH:** 6.62
Water Color: Feric **Turbidity (NTU):** 0.76 **Thalweg Velocity (m/s)(ft/s):** 0.53 1.74

Stream Channel

Stream Gradient (%): 0.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 40 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	11.1		9.7
Thalweg Depth	1.22		0.91

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: E3 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Tussock Tundra	0.2	Tussock Tundra	0.3
5 - 10	Tussock Tundra	0.2	Tussock Tundra	0.3
10 - 20	Tussock Tundra	0.2	Tussock Tundra	0.3
20 - 30	Tussock Tundra	0.2	Tussock Tundra	0.3

Key To Fish Sampling Methods

Estimated reach length (m): 238

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 71 **Max:** 71 **Mean:** 71 **Median:** 71
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 31 **Max:** 50 **Mean:** 36 **Median:** 40
Sampling Method (No. of fish): PEF (5)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/13/2011 10:00 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.27483	-149.35990		63.27483	-149.35990		63.23116	-149.40481

Elevation NED (m)(ft): 688 2257
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-5 **Legal Description (MTRS):** F019S009W18
Waterbody Name: Bull River
Anadromous Waters Catalog Number: 247-41-10200-2381-3239-4502
Geographic Comments:

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.93 **DO (mg/L):** 12.28 **DO (%):** 98.60 **Conductivity (µS/cm):** 254 **pH:** 7.85
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 50.00 **Thalweg Velocity (m/s)(ft/s):** 2.30 7.54

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Entrenched
Catchment Area(sq. km): 194 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	25.0		20.2
Thalweg Depth	0.85		0.48

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Boulder

Rosgen Class: F3 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	1.5	Open Tall Willow Shrub	1.5
5 - 10	Closed Tall Willow Shrub	2.5	Closed Tall Willow Shrub	2.5
10 - 20	Closed Tall Willow Shrub	2.5	Closed Tall Willow Shrub	2.5
20 - 30	Closed Tall Willow Shrub	2.5	Closed Tall Willow Shrub	2.5

Key To Fish Sampling Methods

Estimated reach length (m): 6300 **Total Electrofishing Time (s):** 2291

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 125 **Max:** 162 **Mean:** 138 **Median:** 143
Sampling Method (No. of fish): BEF (3) VOB (4)
Comments: Event BB Dolly Varden were observed at the mouth of a clear tributary.

Species: Chinook salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments: event BB photos: 501-502, eggs eaten.

Species: salmonid-unspecified **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments: Event BB-probobly a Dolly Varden.

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 105 **Max:** 105 **Mean:** 105 **Median:** 105
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 47 **Max:** 65 **Mean:** 56 **Median:** 56
Sampling Method (No. of fish): BEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: Chinook salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 520 **Max:** 520 **Mean:** 520 **Median:** 520
Sampling Method (No. of fish): BEF (1) **Suspected Spawning:** Yes
Comments:

Species: Chinook salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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FSS1111A010497.jpg

FSS1111A010498.jpg

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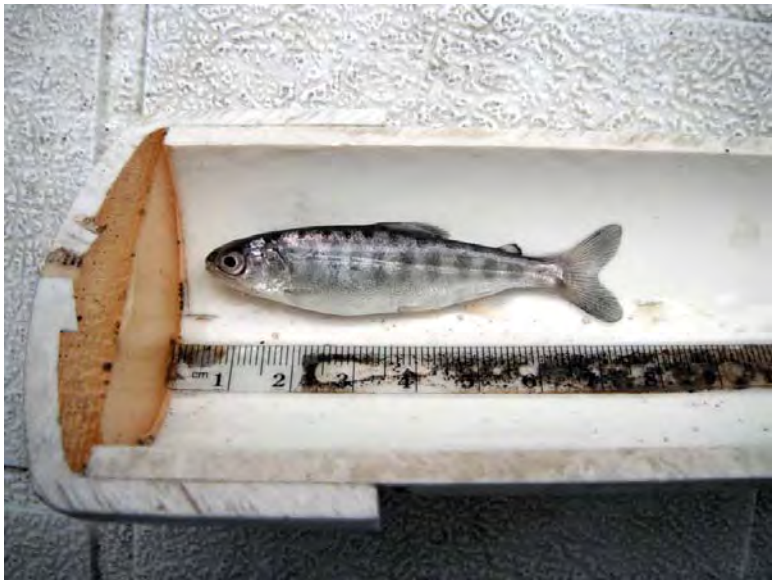
FSS1111A010499.jpg

FSS1111A010501.jpg
Chinook salmon carcass.



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Chinook salmon juvenile.

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FSS1111A010506.jpg

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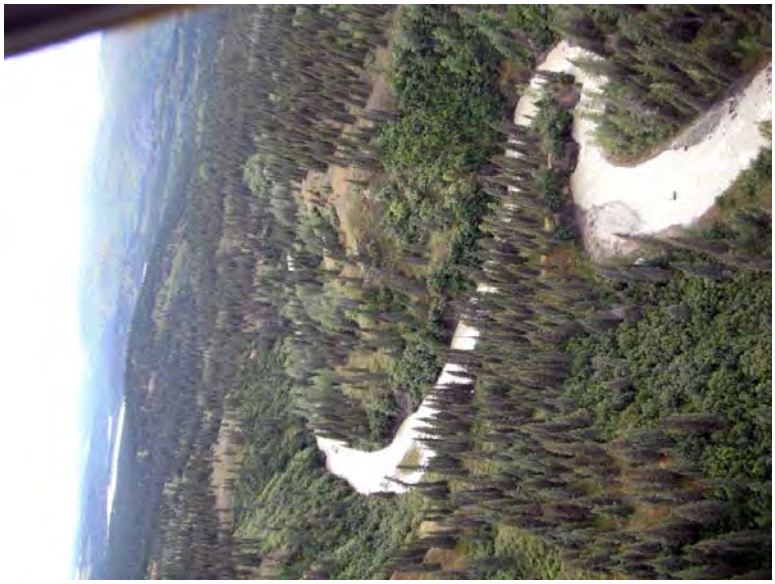

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/13/2011 12:23 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.16078	-149.15019		63.16078	-149.15019		63.18226	-149.18593

Elevation NED (m)(ft): 734 2408
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-5 **Legal Description (MTRS):** F020S008W19
Waterbody Name: East Fork Chulitna River
Anadromous Waters Catalog Number: 247-41-10200-2381-3260
Geographic Comments: IU30

Visit Comments: Stopped sampling short of sufficiency goals due to narrow canyon section.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.64 **DO (mg/L):** 11.16 **DO (%):** 91.10 **Conductivity (µS/cm):** 78 **pH:** 6.76
Water Color: Clear **Turbidity (NTU):** 1.75 **Thalweg Velocity (m/s)(ft/s):** 2.36 7.74

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 299 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	25.0		21.5
Thalweg Depth	1.10		0.60

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3.5	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Tall Alder-Willow Shrub	3.5	Closed Spruce-Paper Birch Forest	29
10 - 20	Closed Tall Alder-Willow Shrub	3.5	Closed Spruce-Paper Birch Forest	29
20 - 30	Closed Tall Alder-Willow Shrub	3.5	Open Spruce-Paper Birch Forest	29

Key To Fish Sampling Methods

Estimated reach length (m): 3500 **Total Electrofishing Time (s):** 1193

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 20 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 330 **Max:** 400 **Mean:** 360 **Median:** 365
Sampling Method (No. of fish): BEF (3) VOB (17)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 110 **Max:** 210 **Mean:** 168 **Median:** 160
Sampling Method (No. of fish): BEF (3) VOB (3)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 6 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 58 **Max:** 65 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): BEF (2) VOB (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

-continued-

Species: Chinook salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3) **Suspected Spawning:** Yes
Comments: Event MM suspected spawning activity. Event NN spawning activity observed.

Species: rainbow trout **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 70 **Max:** 70 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/13/2011 3:20 PM

	Latitude	Longitude
Sample Coordinates	63.14770	-149.14000

Elevation NED (m)(ft): 748 2454
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-5 **Legal Description (MTRS):** F020S008W29
Waterbody Name: Crooked Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments: No habitat data collected, this site was by aerial survey only.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 76 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (4)
Comments: These coho salmon were observed by aerial survey.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 10:08 AM

	Latitude	Longitude
Sample Coordinates	62.84751	-149.03675

Elevation NED (m)(ft): 642 2106
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-5 **Legal Description (MTRS):** S032N002E23
Waterbody Name: Devil Creek
Anadromous Waters Catalog Number:
Geographic Comments: This site represents a waterfall barrier below target stream points HU39. No sampling occurred.

Visit Comments: No sampling effort.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 10:16 AM

	Latitude	Longitude
Sample Coordinates	62.83438	-148.64878

Elevation NED (m)(ft): 503 1650
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-4 **Legal Description (MTRS):** S032N004E26
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: This site represents a waterfall barrier below target stream points HUHU74. No sampling occurred.

Visit Comments: No sampling occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 10:53 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.91655	-147.90203		62.91655	-147.89921		62.91660	-147.90254

Elevation NED (m)(ft): 864 2835
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-2 **Legal Description (MTRS):** S033N008E26
Waterbody Name: Watana Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU18 Beaver dam complex approximately 200m upstream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.24 **DO (mg/L):** 8.99 **DO (%):** 74.40 **Conductivity (µS/cm):** 118 **pH:** 5.89
Water Color: Clear **Turbidity (NTU):** 0.20 **Thalweg Velocity (m/s)(ft/s):** 0.64 2.10

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 61 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	15.1		13.1	**Subdominant Substrate 1:** Cobble
Thalweg Depth	0.55		0.38	**Subdominant Substrate 2:** Sand

Dominant Substrate: Gravel

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Unvegetated	
5 - 10	Crustose Lichen	0.2	Unvegetated	
10 - 20	Crustose Lichen	0.2	Closed Low Willow Shrub	0.3
20 - 30	Crustose Lichen	0.2	Closed Tall Alder-Willow Shrub	1.1

Key To Fish Sampling Methods

Estimated reach length (m): 240

(PEF) Backpack Electrofisher

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 34 **Fish Measured:** 34 **Fork Lengths (mm)** **Min:** 83 **Max:** 270 **Mean:** 133 **Median:** 176
Sampling Method (No. of fish): PEF (34)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 13 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 35 **Max:** 78 **Mean:** 47 **Median:** 56
Sampling Method (No. of fish): PEF (13)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 73 **Max:** 108 **Mean:** 88 **Median:** 90
Sampling Method (No. of fish): PEF (6)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 54 **Max:** 68 **Mean:** 59 **Median:** 61
Sampling Method (No. of fish): PEF (5)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 12:04 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.99728	-149.08085		62.99728	-149.08085		62.99614	-149.08337

Elevation NED (m)(ft): 659 2162
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-5 **Legal Description (MTRS):** F022S008W21
Waterbody Name:
Anadromous Waters Catalog Number: 247-41-10200-2585-3223
Geographic Comments: HU111. Unnamed tributary of Portage Creek.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.78 **DO (mg/L):** 11.98 **DO (%):** 95.60 **Conductivity (µS/cm):** 82 **pH:** 6.43
Water Color: Clear **Turbidity (NTU):** 0.10 **Thalweg Velocity (m/s)(ft/s):** 1.33 4.36

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 62 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	22.8		15.7
Thalweg Depth	1.81		0.76

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Gravel

Rosgen Class: B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Shrub Birch-Willow Shrub	35	Fireweed	2
5 - 10	Closed Tall Shrub Birch-Willow Shrub	35	Open Tall Willow Shrub	5
10 - 20	Closed Tall Shrub Birch-Willow Shrub	35	Open Low Mixed Shrub-Sedge Tussock Tundra	0.5
20 - 30	Closed Tall Shrub Birch-Willow Shrub	35	Closed Tall Alder Shrub	4

Key To Fish Sampling Methods

Estimated reach length (m): 242

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 28 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 85 **Max:** 167 **Mean:** 119 **Median:** 126
Sampling Method (No. of fish): PEF (9) VOG (19)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 76 **Fish Measured:** 37 **Fork Lengths (mm)** **Min:** 38 **Max:** 66 **Mean:** 44 **Median:** 52
Sampling Method (No. of fish): PEF (37) VOG (39)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 27 **Fish Measured:** 27 **Fork Lengths (mm)** **Min:** 33 **Max:** 81 **Mean:** 63 **Median:** 57
Sampling Method (No. of fish): PEF (27)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 3:03 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.16846	-147.03502		63.16788	-147.03713		63.16846	-147.03502

Elevation NED (m)(ft): 981 3219
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy A-1 **Legal Description (MTRS):** F020S004E19
Waterbody Name: Pass Creek
Anadromous Waters Catalog Number:
Geographic Comments: HU6

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.51 **DO (mg/L):** 10.21 **DO (%):** 87.30 **Conductivity (µS/cm):** 118 **pH:** 6.99
Water Color: Clear **Turbidity (NTU):** 0.03 **Thalweg Velocity (m/s)(ft/s):** 0.85 2.79

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 53 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	13.8		12.4
Thalweg Depth	0.85		0.45

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	13	Dry Forb Herbaceous	0.3
5 - 10	Closed Tall Willow Shrub	13	Closed Tall Willow Shrub	0.3
10 - 20	Closed Tall Willow Shrub	13	Dry Forb Herbaceous	0.3
20 - 30	Closed Tall Willow Shrub	13	Closed Tall Scrub	5

Key To Fish Sampling Methods

Estimated reach length (m): 218

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 61 **Max:** 61 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): PEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 9:56 AM

	Latitude	Longitude
Sample Coordinates	62.99865	-148.86176

Elevation NED (m)(ft): 748 2454
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-4 **Legal Description (MTRS):** F022S007W22
Waterbody Name: Portage Creek
Anadromous Waters Catalog Number: 247-41-10200-2585
Geographic Comments: HU59

Visit Comments: No habitat data recorded. This target stream was first visited on 08/11/2011 (Station ID 09C01)--habitat data was collected during that visit. At 11C09 on 8/13/11, we sampled fish in a short reach (~100 m) approximately 1 km downstream of 09C01 to confirm the occurrence of juvenile Chinook salmon.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 60 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

Estimated reach length (m): 50

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 25 **Fish Measured:** 14 **Fork Lengths (mm)** **Min:** 38 **Max:** 48 **Mean:** 42 **Median:** 43
Sampling Method (No. of fish): PEF (14) VOG (11)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (10)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/13/2011 3:19 PM

	Latitude	Longitude
Sample Coordinates	62.81700	-147.83733

Elevation NED (m)(ft): 850 2789
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts D-2 **Legal Description (MTRS):** S032N009E31
Waterbody Name: Jay Creek
Anadromous Waters Catalog Number:
Geographic Comments: No landing zone was found to sample target stream HU45

Visit Comments: No sampling occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/14/2011 11:15 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.26967	-148.43635		62.26967	-148.43635	/	62.29387	-148.45131

Elevation NED (m)(ft): 834 2736
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-3 **Legal Description (MTRS):** S025N005E12
Waterbody Name: Talkeetna River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Habitat transect was about 50 m downstream of Clear Creek confluence. Right-bank (Clear Creek) flow is less turbid than left-bank (Talkeetna River) flow. Water quality was sampled approximately 100 m downstream where flow was mixed. At the transect site there is an alluvial fan behind the right bank affecting riparian vegetation.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.46 **DO (mg/L):** 11.30 **DO (%):** 89.60 **Conductivity (µS/cm):** 60 **pH:** 7.58
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 35.00 **Thalweg Velocity (m/s)(ft/s):** 2.80 9.18

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 290 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	36.0		18.0
Thalweg Depth	1.58		0.60

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	1.2
5 - 10	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	1.2
10 - 20	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	1.2
20 - 30	Closed Tall Alder-Willow Shrub	2.5	Closed Tall Alder-Willow Shrub	1.2

Key To Fish Sampling Methods

Estimated reach length (m): 3090 **Total Electrofishing Time (s):** 1286

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 45 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 120 **Max:** 148 **Mean:** 137 **Median:** 134
Sampling Method (No. of fish): BEF (7) VOB (38)
Comments: Event AA and BB Dolly Varden approximately 60-100 mm.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 112 **Max:** 191 **Mean:** 158 **Median:** 151
Sampling Method (No. of fish): BEF (3)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: GPS Float **Channel Widths:** handheld laser rangefinder
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

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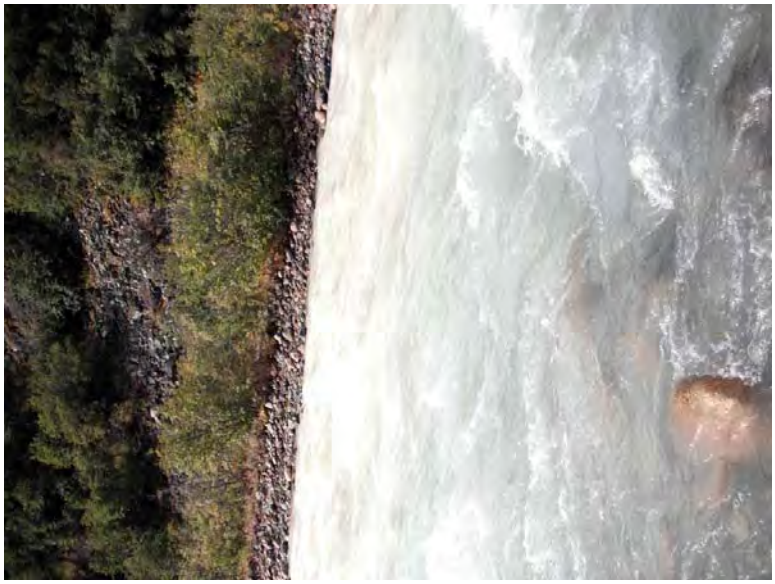

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/14/2011 4:18 PM

	Latitude	Longitude
Sample Coordinates	62.47276	-148.63006

Elevation NED (m)(ft): 751 2464
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-4 **Legal Description (MTRS):** S028N004E36
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Impassible waterfall downstream of target-stream ID HU53. Location originally marked in GPS as waypoint 010. Unnamed tributary to the Talkeetna River.

Visit Comments: Fly-by and photo only.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/14/2011 9:11 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.63762	-148.02504	**Sample Coordinates**	62.63762	-148.02504	/	62.67307	-148.00257

Elevation NED (m)(ft): 831 2726
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-3 **Legal Description (MTRS):** S029N008E06
Waterbody Name: Kosina Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU15

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.22 **DO (mg/L):** 11.23 **DO (%):** 95.30 **Conductivity (µS/cm):** 44 **pH:** 6.46
Water Color: Clear **Turbidity (NTU):** 10.10 **Thalweg Velocity (m/s)(ft/s):** 2.28 7.48

Stream Channel

Stream Gradient (%): 0.3 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 486 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	38.0		29.0	**Dominant Substrate:** Cobble
Thalweg Depth	2.60		1.80	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Boulder

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	0.3	Closed Low Willow Shrub	0.8
5 - 10	Closed Low Willow Shrub	0.3	Closed Low Willow Shrub	0.8
10 - 20	Closed Low Willow Shrub	0.3	Closed Low Willow Shrub	0.8
20 - 30	Closed Tall Willow Shrub	1.5	Closed Low Willow Shrub	0.8

Key To Fish Sampling Methods

Estimated reach length (m): 5400 **Total Electrofishing Time (s):** 2730

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 16 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 55 **Max:** 65 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): BEF (3) VOB (13)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 14 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 295 **Max:** 295 **Mean:** 295 **Median:** 295
Sampling Method (No. of fish): BEF (1) VOB (13)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 385 **Max:** 385 **Mean:** 385 **Median:** 385
Sampling Method (No. of fish): BEF (1)
Comments:

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Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 85 **Max:** 85 **Mean:** 85 **Median:** 85
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 35 **Max:** 35 **Mean:** 35 **Median:** 35
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/14/2011 8:59 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.42035	-147.33152		63.42189	-147.33146		63.42035	-147.33152

Elevation NED (m)(ft): 1054 3458
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Healy B-1 **Legal Description (MTRS):** F017S002E22
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU33 Glacier within site of transect. Unnamed tributary of the Susitna River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.55 **DO (mg/L):** 10.25 **DO (%):** 79.30 **Conductivity (µS/cm):** 117 **pH:** 5.06
Water Color: Clear **Turbidity (NTU):** 2.00 **Thalweg Velocity (m/s)(ft/s):** 0.96 3.15

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 51 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	35.7		13.9
Thalweg Depth	1.03		0.60

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Unvegetated	
5 - 10	Closed Low Willow Shrub	1	Alpine Herbs	0.1
10 - 20	Closed Low Willow Shrub	1	Alpine Herbs	0.1
20 - 30	Closed Low Willow Shrub	1	Open Low Willow Shrub	1.2

Key To Fish Sampling Methods

Estimated reach length (m): 195

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 84 **Max:** 156 **Mean:** 120 **Median:** 120
Sampling Method (No. of fish): PEF (2) VOG (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 49 **Max:** 49 **Mean:** 49 **Median:** 49
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 330 **Max:** 335 **Mean:** 332 **Median:** 332
Sampling Method (No. of fish): PEF (2)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 8 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 275 **Max:** 280 **Mean:** 277 **Median:** 277
Sampling Method (No. of fish): PEF (2) VOG (6)
Comments:

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Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 37 **Max:** 37 **Mean:** 37 **Median:** 37
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 91 **Max:** 101 **Mean:** 96 **Median:** 96
Sampling Method (No. of fish): PEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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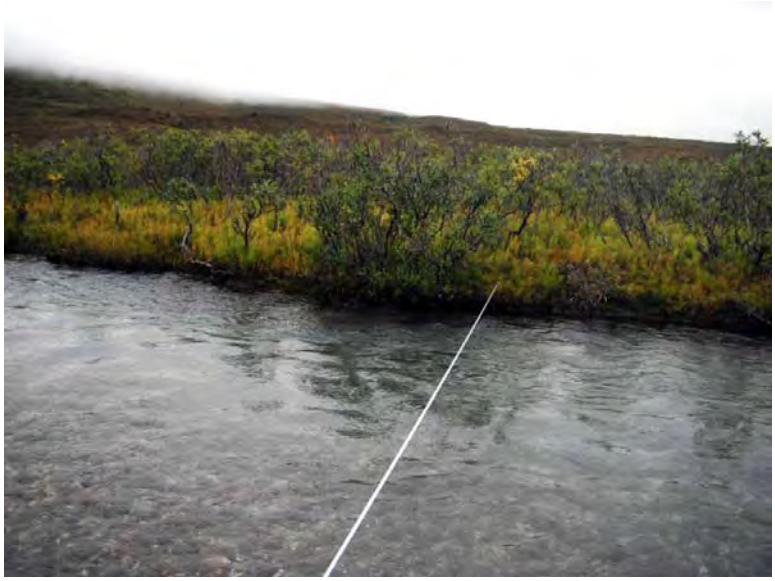

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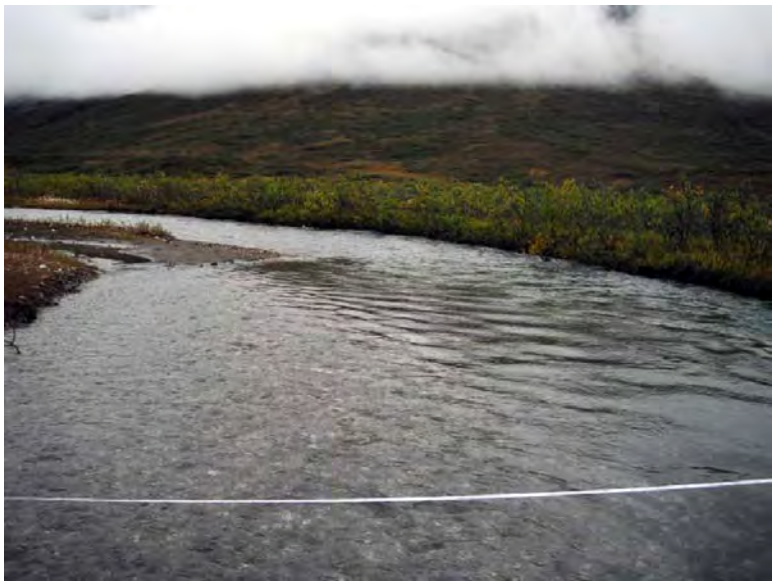

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/14/2011 9:14 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	63.32985	-146.70624	**Sample Coordinates**	63.33120	-146.70943	/	63.32985	-146.70624

Elevation NED (m)(ft): 1030 3379
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes B-6 **Legal Description (MTRS):** F018S005E25
Waterbody Name: West Fork McLaren River
Anadromous Waters Catalog Number:
Geographic Comments: HU3

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.20 **DO (mg/L):** 11.49 **DO (%):** 88.20 **Conductivity (µS/cm):** 111 **pH:** 5.70
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 48.00 **Thalweg Velocity (m/s)(ft/s):** 1.09 3.58

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 50 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	14.7		10.0	**Dominant Substrate:** Cobble
Thalweg Depth	1.17		0.54	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2:

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Closed Tall Willow Shrub	3
20 - 30	Unvegetated		Closed Tall Willow Shrub	4

Key To Fish Sampling Methods

Estimated reach length (m): 205

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 83 **Max:** 83 **Mean:** 83 **Median:** 83
Sampling Method (No. of fish): PEF (1) VOG (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/14/2011 11:06 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.94925	-146.54038		62.94959	-146.53900		62.94930	-146.54235

Elevation NED (m)(ft): 839 2753
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Gulkana D-6 **Legal Description (MTRS):** C014N007W34
Waterbody Name: Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments: IU34

Visit Comments: Large braided river. Sampled 1 braid and side-channel habitat.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.26 **DO (mg/L):** 10.86 **DO (%):** 90.00 **Conductivity (µS/cm):** 98 **pH:** 7.74
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 51.50 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 0.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 969 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	93.6		47.2
Thalweg Depth	1.50		0.70

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Wet Sedge-Herb Meadow Tundra	0.3	Mesic Sedge-Grass Meadow Tundra	0.3
5 - 10	Wet Sedge-Herb Meadow Tundra	0.3	Mesic Sedge-Grass Meadow Tundra	0.3
10 - 20	Wet Sedge-Herb Meadow Tundra	0.3	Mesic Sedge-Grass Meadow Tundra	0.3
20 - 30	Wet Sedge-Herb Meadow Tundra	0.3	Closed Low Willow Shrub	2

Key To Fish Sampling Methods

Estimated reach length (m): 215

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: burbot **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 174 **Max:** 174 **Mean:** 174 **Median:** 174
Sampling Method (No. of fish): PEF (1) VOG (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 220 **Max:** 220 **Mean:** 220 **Median:** 220
Sampling Method (No. of fish): PEF (1) VOG (14)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 62 **Max:** 174 **Mean:** 118 **Median:** 118
Sampling Method (No. of fish): PEF (5) VOG (10)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 71 **Fish Measured:** 16 **Fork Lengths (mm)** **Min:** 52 **Max:** 63 **Mean:** 56 **Median:** 57
Sampling Method (No. of fish): PEF (16) VOG (55)
Comments:

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Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 73 **Max:** 75 **Mean:** 74 **Median:** 74
Sampling Method (No. of fish): PEF (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 17 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 26 **Max:** 50 **Mean:** 41 **Median:** 38
Sampling Method (No. of fish): PEF (17)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths:
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/14/2011 12:57 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.86964	-146.93925	**Sample Coordinates**	62.86964	-146.93925	/	62.86941	-146.94139

Elevation NED (m)(ft): 738 2421
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Gulkana D-6 **Legal Description (MTRS):** C013N009W33
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HU149. Unnamed tributary to the Maclaren River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.41 **DO (mg/L):** 10.71 **DO (%):** 86.90 **Conductivity (µS/cm):** 71 **pH:** 7.22
Water Color: Clear **Turbidity (NTU):** 1.77 **Thalweg Velocity (m/s)(ft/s):** 1.00 3.28

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 54 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	5.8		5.5	**Dominant Substrate:** Gravel
Thalweg Depth	0.51		0.31	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2:

Rosgen Class: E4 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open White Spruce Forest	16	Open White Spruce Forest	18
5 - 10	Open White Spruce Forest	16	Open White Spruce Forest	18
10 - 20	Open White Spruce Forest	16	Open White Spruce Forest	18
20 - 30	Open White Spruce Forest	16	Open White Spruce Forest	18

Key To Fish Sampling Methods

Estimated reach length (m): 270

(PEF) Backpack Electrofisher

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 112 **Max:** 118 **Mean:** 115 **Median:** 115
Sampling Method (No. of fish): PEF (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 69 **Max:** 74 **Mean:** 71 **Median:** 71
Sampling Method (No. of fish): PEF (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 61 **Max:** 68 **Mean:** 63 **Median:** 64
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 39 **Max:** 50 **Mean:** 43 **Median:** 44
Sampling Method (No. of fish): PEF (4)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Daniel Reed **Date/Time:** 08/14/2011 7:18 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	63.39439	-146.87052		63.39560	-146.86753		63.39439	-146.87052

Elevation NED (m)(ft): 876 2874
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Mt Hayes B-6 **Legal Description (MTRS):** F017S005E31
Waterbody Name: East Fork Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: HU1 Within site of Susitna glacier.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 2.75 **DO (mg/L):** 12.15 **DO (%):** 89.80 **Conductivity (µS/cm):** 43 **pH:** 7.19
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 92.10 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 79 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	38.0		35.0
Thalweg Depth	0.70		0.40

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2:

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Closed Tall Willow Shrub	3.4
5 - 10	Open Low Willow Shrub	1.3	Closed Tall Willow Shrub	3.4
10 - 20	Open Low Willow Shrub	1.3	Closed Tall Willow Shrub	3.4
20 - 30	Open Low Willow Shrub	1.3	Closed Tall Willow Shrub	3.4

Key To Fish Sampling Methods

Estimated reach length (m): 290

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/15/2011 9:52 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.88313	-146.95309	**Sample Coordinates**	62.88313	-146.95309	/	62.84805	-147.03869

Elevation NED (m)(ft): 734 2408
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Gulkana D-6 **Legal Description (MTRS):** C013N009W28
Waterbody Name: Maclaren River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.46 **DO (mg/L):** 13.11 **DO (%):** 109.30 **Conductivity (µS/cm):** 101 **pH:** 7.25
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 41.00 **Thalweg Velocity (m/s)(ft/s):** 1.67 5.48

Stream Channel

Stream Gradient (%): 0.6 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1453 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	62.0		55.0	**Subdominant Substrate 1:** Gravel
Thalweg Depth	2.42		1.32	**Subdominant Substrate 2:** Silt/Clay

Dominant Substrate: Cobble

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Closed White Spruce Forest	14
5 - 10	Open Spruce-Balsam Poplar	13	Closed White Spruce Forest	14
10 - 20	Open Spruce-Balsam Poplar	13	Closed White Spruce Forest	14
20 - 30	Open Spruce-Balsam Poplar	13	Closed White Spruce Forest	14

Key To Fish Sampling Methods

Estimated reach length (m): 7500 **Total Electrofishing Time (s):** 4753

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 157 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 51 **Max:** 68 **Mean:** 58 **Median:** 59
Sampling Method (No. of fish): BEF (16) VOB (141)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (3)
Comments: Event AA possibly longnose sucker.

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 60 **Fish Measured:** 24 **Fork Lengths (mm)** **Min:** 216 **Max:** 312 **Mean:** 255 **Median:** 264
Sampling Method (No. of fish): BEF (30) VOB (30)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 205 **Max:** 314 **Mean:** 274 **Median:** 259
Sampling Method (No. of fish): BEF (8) VOB (1)
Comments:

-continued-

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 22 **Fish Measured:** 16 **Fork Lengths (mm)** **Min:** 257 **Max:** 345 **Mean:** 296 **Median:** 301
Sampling Method (No. of fish): BEF (16) VOB (6)
Comments:

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 20 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (20)
Comments: Event BB possibly arctic grayling or round whitefish.

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 380 **Max:** 380 **Mean:** 380 **Median:** 380
Sampling Method (No. of fish): BEF (1) VOB (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 33 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 33 **Max:** 50 **Mean:** 41 **Median:** 41
Sampling Method (No. of fish): BEF (13) VOB (20)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 110 **Max:** 139 **Mean:** 124 **Median:** 124
Sampling Method (No. of fish): BEF (3) VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): BEF (2) VOB (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 92 **Max:** 189 **Mean:** 120 **Median:** 140
Sampling Method (No. of fish): BEF (9)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 17 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (17)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (7)
Comments:

Species: humpback whitefish **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 66 **Max:** 66 **Mean:** 66 **Median:** 66
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 69 **Max:** 86 **Mean:** 76 **Median:** 77
Sampling Method (No. of fish): BEF (9)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: handheld sonar depth finder
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/15/2011 9:11 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.65724	-147.03872		62.65724	-147.03872		62.66999	-147.10063

Elevation NED (m)(ft): 708 2323
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-1 **Legal Description (MTRS):** C010N010W11
Waterbody Name: Tyone River
Anadromous Waters Catalog Number:
Geographic Comments: IU12

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 9.84 **DO (mg/L):** 10.90 **DO (%):** 96.30 **Conductivity (µS/cm):** 256 **pH:** 7.68
Water Color: Humic **Turbidity (NTU):** 6.46 **Thalweg Velocity (m/s)(ft/s):** 1.28 4.20

Stream Channel

Stream Gradient (%): 0.3 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 2315 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	50.0		26.5	**Subdominant Substrate 1:** Silt/Clay
Thalweg Depth	1.80		0.98	**Subdominant Substrate 2:** Cobble

Dominant Substrate: Gravel

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Black Spruce-White Spruce Forest	22	Closed Tall Alder-Willow Shrub	4
5 - 10	Closed Black Spruce-White Spruce Forest	22	Closed Black Spruce-White Spruce Forest	20
10 - 20	Closed Black Spruce-White Spruce Forest	22	Closed Black Spruce-White Spruce Forest	20
20 - 30	Closed Black Spruce-White Spruce Forest	22	Closed Black Spruce-White Spruce Forest	20

Key To Fish Sampling Methods

Estimated reach length (m): 7700 **Total Electrofishing Time (s):** 4500

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: longnose sucker **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 236 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 290 **Max:** 345 **Mean:** 325 **Median:** 317
Sampling Method (No. of fish): BEF (4) VOB (232)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 203 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 55 **Max:** 68 **Mean:** 60 **Median:** 61
Sampling Method (No. of fish): BEF (11) VOB (192)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 44 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 64 **Max:** 150 **Mean:** 82 **Median:** 107
Sampling Method (No. of fish): BEF (7) VOB (37)
Comments:

Species: burbot **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

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Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (7)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 11 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 250 **Max:** 295 **Mean:** 273 **Median:** 272
Sampling Method (No. of fish): BEF (3) VOB (8)
Comments:

Species: longnose sucker **Life Stage:** adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 349 **Max:** 410 **Mean:** 385 **Median:** 379
Sampling Method (No. of fish): BEF (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 45 **Max:** 45 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): BEF (1)
Comments:

Species: round whitefish **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 177 **Max:** 177 **Mean:** 177 **Median:** 177
Sampling Method (No. of fish): BEF (1)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 9:09 AM

	Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.47225	-152.79174	**Sample Coordinates**	61.46988	-152.78895

Elevation NED (m)(ft): 793 2602
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek B-8 **Legal Description (MTRS):** S016N020W13
Waterbody Name: Skwentna River
Anadromous Waters Catalog Number:
Geographic Comments: HY132. This site is within site of glacial moraine. Clearwater stream just upstream of sample site. Site HY29 is upriver of this site and located on a glacier.

Visit Comments: Small clearwater stream confluencing with Skwentna River in sample reach. No pictures taken at site.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.96 **DO (mg/L):** 11.21 **DO (%):** 88.60 **Conductivity (µS/cm):** 72 **pH:** 5.94
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 242.00 **Thalweg Velocity (m/s)(ft/s):** 1.33 4.36

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 243 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	16.0		14.2	**Dominant Substrate:** Cobble
Thalweg Depth	0.70		0.40	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Sand

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Unvegetated	
20 - 30	Unvegetated		Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 340

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 147 **Max:** 158 **Mean:** 152 **Median:** 152
Sampling Method (No. of fish): PEF (3)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (12)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 19 **Fish Measured:** 19 **Fork Lengths (mm)** **Min:** 32 **Max:** 78 **Mean:** 54 **Median:** 55
Sampling Method (No. of fish): PEF (19)
Comments:

-continued-

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 38 **Max:** 59 **Mean:** 44 **Median:** 48
Sampling Method (No. of fish): PEF (4)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: Visual estimate
Electrofisher: Smith-Root LR-24
Transparency:

Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 10:59 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.67820	-152.79501		61.67820	-152.79501		61.67951	-152.79761

Elevation NED (m)(ft): 609 1998
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek C-8 **Legal Description (MTRS):** S018N019W06
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HY87. Short stream, sample site located approximately 1km before creek becomes very steep, with large boulders. Unnamed tributary to the Skwentna River.

Visit Comments: Channel widths were estimated excessive depth.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 1.68 **DO (mg/L):** 13.05 **DO (%):** 93.40 **Conductivity (µS/cm):** 40 **pH:** 6.86
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 433.00 **Thalweg Velocity (m/s)(ft/s):** 1.85 6.07

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 146 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	52.0		23.0
Thalweg Depth	0.95		0.42

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Silt/Clay

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Fireweed	0.4
5 - 10	Unvegetated		Fireweed	0.4
10 - 20	Unvegetated		Fireweed	0.4
20 - 30	Unvegetated		Fireweed	0.4

Key To Fish Sampling Methods

Estimated reach length (m): 305

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 15 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 104 **Max:** 182 **Mean:** 140 **Median:** 143
Sampling Method (No. of fish): PEF (7) VOG (8)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** Visual estimate
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 12:26 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.81662	-152.71891		61.81557	-152.71549		61.81662	-152.71891

Elevation NED (m)(ft): 435 1427
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-8 **Legal Description (MTRS):** S020N019W22
Waterbody Name: Black and Tan Creek
Anadromous Waters Catalog Number:
Geographic Comments: HY110

Visit Comments: Thalweg too fast and deep to wade, channel widths estimated.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 1.95 **DO (mg/L):** 13.91 **DO (%):** 100.40 **Conductivity (µS/cm):** 81 **pH:** 7.17
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 235.00 **Thalweg Velocity (m/s)(ft/s):** 1.85 6.07

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 92 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	29.0		16.0
Thalweg Depth	0.88		0.40

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Mixed Herbs	0.1
5 - 10	Unvegetated		Mixed Herbs	0.1
10 - 20	Unvegetated		Mixed Herbs	0.1
20 - 30	Mixed Herbs	0.1	Mixed Herbs	0.1

Key To Fish Sampling Methods

Estimated reach length (m): 266

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 68 **Max:** 68 **Mean:** 68 **Median:** 68
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** Visual estimate
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 2:09 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.86274	-152.73219		61.86228	-152.73510		61.86274	-152.73219

Elevation NED (m)(ft): 389 1276

Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84

USGS Quadrangle: Tyonek D-8 **Legal Description (MTRS):** S021N019W34

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: This creek is a small tributary flowing into main channel of Skwentna River on river left. This creek parallels muddy creek which is a target stream with a barrier to fish passage.

Visit Comments: This sample site has a steep stream flowing off of the hillside approximately 1 km upriver from the confluence with Skwentna River. Excellent rearing habitat until stream reaches hillside.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.82 **DO (mg/L):** 11.40 **DO (%):** 88.80 **Conductivity (µS/cm):** 83 **pH:** 5.42

Water Color: Clear **Turbidity (NTU):** 1.90 **Thalweg Velocity (m/s)(ft/s):** 0.52 1.71

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Moderatley Entrenched

Catchment Area(sq. km): 10 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	8.0		4.9
Thalweg Depth	0.80		0.50

Dominant Substrate: Silt/Clay

Subdominant Substrate 1: Gravel

Subdominant Substrate 2: Boulder

Rosgen Class: B5 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	21	Unvegetated	
5 - 10	Closed Spruce-Paper Birch Forest	21	Unvegetated	
10 - 20	Closed Spruce-Paper Birch Forest	21	Unvegetated	
20 - 30	Closed Spruce-Paper Birch Forest	21	Fireweed	0.3

Key To Fish Sampling Methods

Estimated reach length (m): 255

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown

Total Fish Count: 30 **Fish Measured:** 16 **Fork Lengths (mm)** **Min:** 89 **Max:** 203 **Mean:** 141 **Median:** 146

Sampling Method (No. of fish): PEF (16) VOG (14)

Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous

Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 37 **Max:** 37 **Mean:** 37 **Median:** 37

Sampling Method (No. of fish): PEF (1)

Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous

Total Fish Count: 5 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 34 **Max:** 37 **Mean:** 35 **Median:** 35

Sampling Method (No. of fish): PEF (2) VOG (3)

Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 66 **Max:** 66 **Mean:** 66 **Median:** 66
Sampling Method (No. of fish): PEF (1) VOG (8)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 36 **Max:** 62 **Mean:** 47 **Median:** 49
Sampling Method (No. of fish): PEF (3)
Comments:

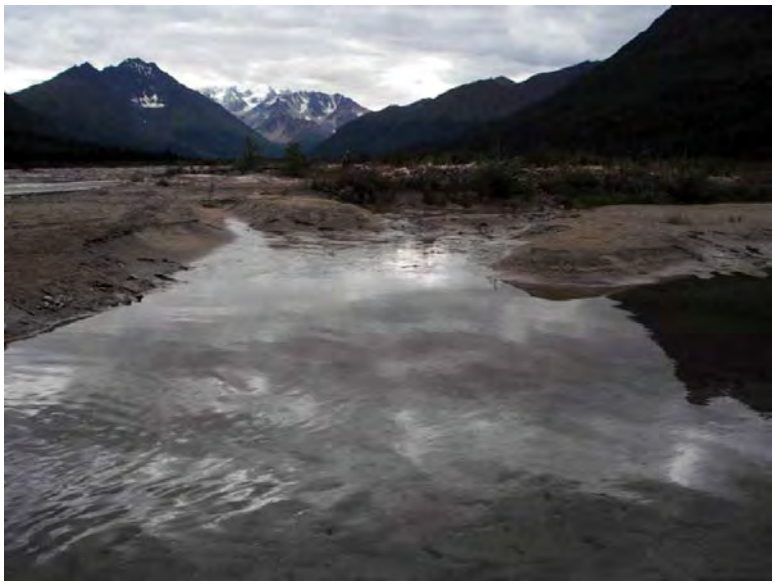
Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 35 **Max:** 37 **Mean:** 36 **Median:** 36
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

FSS1113C040462.jpg



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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 3:18 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude
	61.91636	-152.65358		61.91636	-152.65358

Elevation NED (m)(ft): 357 1171
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-8 **Legal Description (MTRS):** S021N018W18
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed tributary of Skwentna River. This small tributary parallels Skwentna main channel for approximately 1km and ending in a large pond at upstream end.
Visit Comments: Visual observations and dipnet only--Did not electrofish due to presence of spawning sockeye salmon.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.45 **DO (mg/L):** 11.01 **DO (%):** 91.90 **Conductivity (µS/cm):** 48 **pH:** 6.98
Water Color: Clear **Turbidity (NTU):** 2.00 **Thalweg Velocity (m/s)(ft/s):** 0.66 2.16

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 1286 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	21.1		14.0
Thalweg Depth	0.85		0.43

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class: B4 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Fireweed	0.3	Closed Tall Willow Shrub	8
5 - 10	Fireweed	0.3	Closed Tall Willow Shrub	8
10 - 20	Open Tall Willow Shrub	5	Closed Tall Willow Shrub	8
20 - 30	Unvegetated		Closed Tall Willow Shrub	8

Key To Fish Sampling Methods

Estimated reach length (m): 319

(DIP) Dip Net (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 38 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 35 **Max:** 39 **Mean:** 36 **Median:** 37
Sampling Method (No. of fish): DIP (5) VOG (33)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 24 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 36 **Max:** 38 **Mean:** 37 **Median:** 37
Sampling Method (No. of fish): DIP (4) VOG (20)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 307 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 33 **Max:** 36 **Mean:** 33 **Median:** 34
Sampling Method (No. of fish): DIP (7) VOG (300)
Comments:

-continued-

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 350 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (350)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher:
Transparency:

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 4:11 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.98745	-152.69463	**Sample Coordinates**	61.98716	-152.69457	/	61.98810	-152.69252

Elevation NED (m)(ft): 541 1775
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-8 **Legal Description (MTRS):** S022N019W23
Waterbody Name: Portage Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3205-4120
Geographic Comments: HY57

Visit Comments: This site is upstream of an exploratory mining camp. Access roads are being built parallel to creek using corregated timber construction for large machinery to cross wetland areas next to stream. Photos and waypoint for this activity are documented under 13C08.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.32 **DO (mg/L):** 10.95 **DO (%):** 90.08 **Conductivity (µS/cm):** 56 **pH:** 6.99
Water Color: Clear **Turbidity (NTU):** 4.21 **Thalweg Velocity (m/s)(ft/s):** 1.06 3.48

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 147 **Embeddedness:** High

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	33.9		23.4	**Dominant Substrate:** Cobble
Thalweg Depth	0.49		0.33	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Sand

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open White Spruce Forest	35	Unvegetated	0.3
5 - 10	Open White Spruce Forest	35	Fireweed	0.3
10 - 20	Open White Spruce Forest	35	Open Low Willow Shrub	0.7
20 - 30	Open White Spruce Forest	35	Open Low Willow Shrub	0.7

Key To Fish Sampling Methods

Estimated reach length (m): 175

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 112 **Max:** 117 **Mean:** 114 **Median:** 114
Sampling Method (No. of fish): PEF (2) VOG (8)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 62 **Fish Measured:** 24 **Fork Lengths (mm)** **Min:** 33 **Max:** 56 **Mean:** 44 **Median:** 44
Sampling Method (No. of fish): PEF (24) VOG (38)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 12 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 30 **Max:** 71 **Mean:** 43 **Median:** 50
Sampling Method (No. of fish): PEF (12)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 5:36 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.89986	-152.53145	**Sample Coordinates**	61.89682	-152.53152	/	61.89986	-152.53145

Elevation NED (m)(ft): 591 1939
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-7 **Legal Description (MTRS):** S021N018W23
Waterbody Name: Chickak Creek
Anadromous Waters Catalog Number:
Geographic Comments: HY47

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.15 **DO (mg/L):** 12.01 **DO (%):** 94.50 **Conductivity (µS/cm):** 184 **pH:** 7.49
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 86.00 **Thalweg Velocity (m/s)(ft/s):** 1.74 5.71

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 37 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	17.0		13.0	**Dominant Substrate:** Cobble
Thalweg Depth	1.10		0.80	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Gravel

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Open Low Willow Shrub	0.4
5 - 10	Unvegetated		Open Low Willow Shrub	0.4
10 - 20	Unvegetated		Open Low Willow Shrub	0.4
20 - 30	Unvegetated		Open Low Willow Shrub	0.4

Key To Fish Sampling Methods

Estimated reach length (m): 360

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 128 **Max:** 165 **Mean:** 151 **Median:** 146
Sampling Method (No. of fish): PEF (3) VOG (3)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 3:31 PM

	Latitude	Longitude
Sample Coordinates	61.96524	-152.57996

Elevation NED (m)(ft): 323 1060
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-7 **Legal Description (MTRS):** S022N018W28
Waterbody Name: Skwentna River
Anadromous Waters Catalog Number: 247-41-10200-2053-3205
Geographic Comments: This waypoint was created at a large mining camp on the Skwentna River (fly-by only).
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/16/2011 11:59 AM

	Latitude	Longitude
Sample Coordinates	61.80640	-152.74854

Elevation NED (m)(ft): 537 1762
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-8 **Legal Description (MTRS):** S020N019W20
Waterbody Name: Emerald Creek
Anadromous Waters Catalog Number:
Geographic Comments: Waterfall at site waypoint, approximately .5 km upstream of confluence with Skwentna River.

Visit Comments: There is a waterfall on this target stream (HY139), approximately .5 km from confluence with Skwentna River.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Joe Giefer **Date/Time:** 08/16/2011 11:19 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.59757	-149.07303		62.59899	-149.06262		62.57173	-149.15877

Elevation NED (m)(ft): 441 1447
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-5 **Legal Description (MTRS):** S029N002E15
Waterbody Name: Talkeetna River
Anadromous Waters Catalog Number: 247-41-10200-2370
Geographic Comments: At Prairie Creek mouth.

Visit Comments: Electrofished along right bank starting at Prairie Creek mouth. Habitat transect located 500 m downstream of Prairie Creek mouth, but water quality (temp, cond, pH, turb, DO) sampled at put-in on left bank just upstream of Prairie Creek mouth.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.24 **DO (mg/L):** 13.49 **DO (%):** 111.80 **Conductivity (µS/cm):** 95 **pH:** 7.43
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 32.00 **Thalweg Velocity (m/s)(ft/s):** 2.10 6.89

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1826 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	52.0		47.0	**Subdominant Substrate 1:** Gravel
Thalweg Depth	1.73		1.10	**Subdominant Substrate 2:** Sand

Dominant Substrate: Cobble

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Black Spruce-White Spruce Forest	9	Closed White Spruce Forest	16
5 - 10	Open Black Spruce-White Spruce Forest	9	Closed White Spruce Forest	16
10 - 20	Open Black Spruce-White Spruce Forest	9	Closed White Spruce Forest	16
20 - 30	Open Black Spruce-White Spruce Forest	9	Closed White Spruce Forest	16

Key To Fish Sampling Methods

Estimated reach length (m): 7500 **Total Electrofishing Time (s):** 3449

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 72 **Fish Measured:** 30 **Fork Lengths (mm)** **Min:** 83 **Max:** 403 **Mean:** 179 **Median:** 243
Sampling Method (No. of fish): BEF (33) VOB (39)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 12 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 282 **Max:** 305 **Mean:** 291 **Median:** 293
Sampling Method (No. of fish): BEF (5) VOB (7)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 18 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 540 **Max:** 545 **Mean:** 542 **Median:** 542
Sampling Method (No. of fish): BEF (2) VOB (16)
Comments:

-continued-

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 148 **Fish Measured:** 28 **Fork Lengths (mm)** **Min:** 51 **Max:** 76 **Mean:** 63 **Median:** 63
Sampling Method (No. of fish): BEF (40) VOB (108)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 53 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 52 **Max:** 66 **Mean:** 57 **Median:** 59
Sampling Method (No. of fish): BEF (11) VOB (42)
Comments:

Species: Chinook salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 11 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (11)
Comments:

Species: Pacific salmon-unspecified **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments: Coho or Chinook.

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 96 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 79 **Max:** 82 **Mean:** 80 **Median:** 80
Sampling Method (No. of fish): BEF (14) VOB (82)
Comments:

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 331 **Max:** 331 **Mean:** 331 **Median:** 331
Sampling Method (No. of fish): BEF (1)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 500 **Max:** 500 **Mean:** 500 **Median:** 500
Sampling Method (No. of fish): BEF (1)
Comments:

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments: ~350 mm.

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 74 **Max:** 76 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 43 **Max:** 50 **Mean:** 46 **Median:** 46
Sampling Method (No. of fish): BEF (7)
Comments:

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 204 **Max:** 204 **Mean:** 204 **Median:** 204
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/16/2011 10:28 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.66908	-147.86698		62.66908	-147.86698		62.66764	-147.90938

Elevation NED (m)(ft): 868 2848
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts C-2 **Legal Description (MTRS):** S030N008E24
Waterbody Name: Gilbert Creek
Anadromous Waters Catalog Number:
Geographic Comments: IU28

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 9.86 **DO (mg/L):** 11.50 **DO (%):** 98.00 **Conductivity (µS/cm):** 64 **pH:** 6.94
Water Color: Clear **Turbidity (NTU):** 6.80 **Thalweg Velocity (m/s)(ft/s):** 0.28 0.92

Stream Channel

Stream Gradient (%): 0.1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 221 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	22.0		20.0
Thalweg Depth	2.50		1.60

Dominant Substrate: Silt/Clay
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Cobble

Rosgen Class: E5 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	0.9	Closed Low Willow Shrub	0.8
5 - 10	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	0.9	Closed Low Willow Shrub	0.8
10 - 20	Closed Low Willow Shrub	0.9	Closed Low Willow Shrub	0.8
20 - 30	Closed Low Willow Shrub	0.9	Closed Low Willow Shrub	0.8

Key To Fish Sampling Methods

Estimated reach length (m): 3000 **Total Electrofishing Time (s):** 1465

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 223 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 220 **Max:** 325 **Mean:** 265 **Median:** 272
Sampling Method (No. of fish): BEF (3) VOB (220)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 33 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (33)
Comments:

Species: Arctic grayling **Life Stage:** adult **Life History:** Resident
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 350 **Max:** 425 **Mean:** 388 **Median:** 387
Sampling Method (No. of fish): BEF (9)
Comments:

-continued-

Species: round whitefish **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 335 **Max:** 450 **Mean:** 413 **Median:** 392
Sampling Method (No. of fish): BEF (4)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 9:41 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.54074	-151.51735		62.54048	-151.52004		62.54074	-151.51735

Elevation NED (m)(ft): 430 1411
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna C-4 **Legal Description (MTRS):** S028N012W04
Waterbody Name: Cripple Creek
Anadromous Waters Catalog Number:
Geographic Comments: HY 130 Approximately 1000 meter, downstream of 4 velocity barriers, 1000 meters upstream of Chelatna Lake photos 509-510.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.10 **DO (mg/L):** 11.79 **DO (%):** 94.80 **Conductivity (µS/cm):** 9 **pH:** 5.49
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 80.00 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 79 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	20.2		13.7	**Subdominant Substrate 1:** Boulder
Thalweg Depth	0.68		0.55	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	3	Unvegetated	
5 - 10	Closed Tall Willow Shrub	3	Unvegetated	
10 - 20	Closed Tall Willow Shrub	3	Unvegetated	
20 - 30	Closed Tall Willow Shrub	3	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 203

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 11 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 85 **Max:** 161 **Mean:** 114 **Median:** 123
Sampling Method (No. of fish): PEF (4) VOG (7)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 55 **Max:** 81 **Mean:** 72 **Median:** 68
Sampling Method (No. of fish): PEF (6)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 12:11 PM

	Latitude	Longitude
Sample Coordinates	62.54359	-151.53232

Elevation NED (m)(ft): 443 1453
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna C-4 **Legal Description (MTRS):** S028N012W05
Waterbody Name: Cripple Creek
Anadromous Waters Catalog Number:
Geographic Comments: This is a waterfall waypoint.

Visit Comments: A sampling event took place downstream of this site (14C01). This site is a waterfall/barrier to fish passage.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

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Station Info

Observers: Raye Ann Neustel, Raye Ann Neustel **Date/Time:** 08/17/2011 10:28 AM

	Latitude	Longitude
Sample Coordinates	62.51562	-151.47255

Elevation NED (m)(ft): 421 1381
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna C-3 **Legal Description (MTRS):** S028N012W15
Waterbody Name: Coffee Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170-4088
Geographic Comments:
Visit Comments: This creek was not a target stream but aerial surveyed.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 50 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

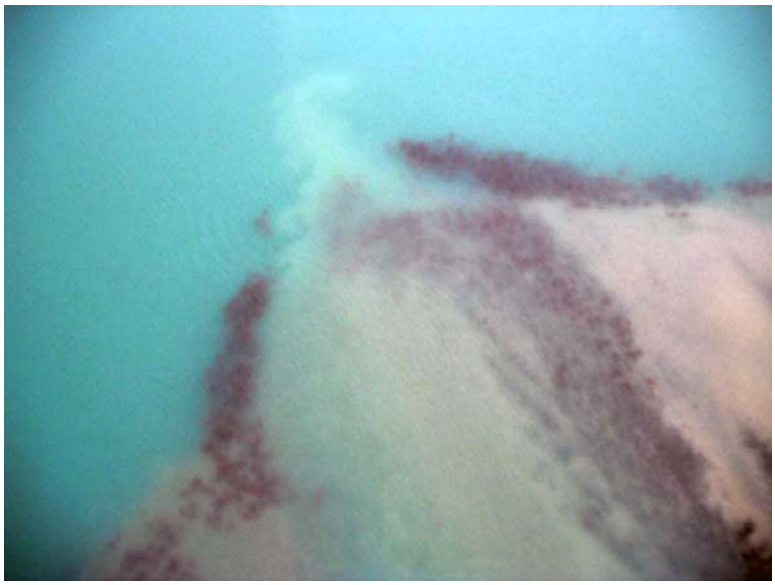
Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 1500 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (1500)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-



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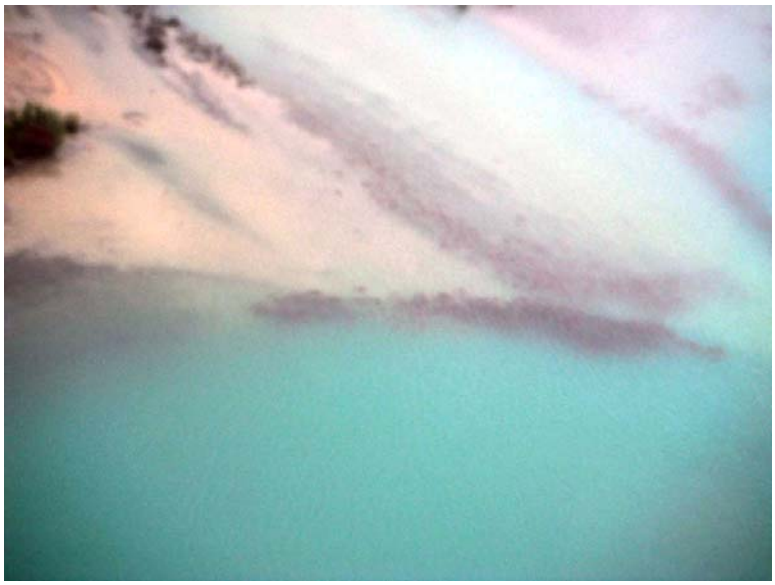

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 12:12 PM

	Latitude	Longitude
Sample Coordinates	62.39438	-151.32061

Elevation NED (m)(ft): 414 1358
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna B-3 **Legal Description (MTRS):** S027N011W28
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments: This was a visual observation from a helicopter. No data collected.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 234 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: Pacific salmon-unspecified **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 15 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (15)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 1:56 PM

	Latitude	Longitude
Sample Coordinates	61.87301	-151.95566

Elevation NED (m)(ft): 396 1299
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-6 **Legal Description (MTRS):** S021N015W36
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: This is a waterfall 6 km upstream of Hayes River confluence. Unnamed tributary to Hayes River.

Visit Comments: No sampling data collected. This is a waypoint for a waterfall and no possible landing site below to sample.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 77 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 2:16 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.82133	-152.18743	**Sample Coordinates**	61.82133	-152.18743	/	61.82209	-152.18575

Elevation NED (m)(ft): 305 1001

Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84

USGS Quadrangle: Tyonek D-6 **Legal Description (MTRS):** S020N016W16

Waterbody Name: Hayes River

Anadromous Waters Catalog Number:

Geographic Comments: Glacial moraine 150 meters downstream, will be sampling side Chanel. glacier is close to site and Skwentna River Confluence

Visit Comments: Sampled side stream due to no-landing area upstream. Glacier approximately 0.5 km upstream of transect site. Very large turbid river. Stream was not wadeable so channel widths were estimated. Rosgan clasification (C3) pertains only to the variables associated with the side channel and does not take into account the variable associated with the river as a whole.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 1.22 **DO (mg/L):** 13.58 **DO (%):** 96.00 **Conductivity (µS/cm):** 48 **pH:** 7.15

Water Color: Glacial, High Turbidit **Turbidity (NTU):** 632.00 **Thalweg Velocity (m/s)(ft/s):** 1.25 4.10

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched

Catchment Area(sq. km): 385 **Embeddedness:** High

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	10.8		8.7	**Dominant Substrate:** Cobble
Thalweg Depth	0.80		0.55	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2.5	Unvegetated	
5 - 10	Closed Tall Willow Shrub	2.5	Unvegetated	
10 - 20	Closed Tall Willow Shrub	2.5	Unvegetated	
20 - 30	Closed Tall Willow Shrub	2.5	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 205

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod

Stream Velocity: transparent velocity head rod **Channel Widths:**

Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24

Water Quality: YSI 556 **Transparency:**

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FSS1114C070527.jpg

FSS1114C070528.jpg

Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 4:33 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.92752	-152.28233		61.92740	-152.28527		61.92752	-152.28233

Elevation NED (m)(ft): 356 1168
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-7 **Legal Description (MTRS):** S021N016W07
Waterbody Name: Old Man Creek
Anadromous Waters Catalog Number:
Geographic Comments: HY68

Visit Comments: Picture of GPS screen taken at end of sampling event. Actual start time: 1348.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.32 **DO (mg/L):** 12.50 **DO (%):** 101.30 **Conductivity (µS/cm):** 153 **pH:** 7.57
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 29.30 **Thalweg Velocity (m/s)(ft/s):** 1.77 5.81

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Entrenched
Catchment Area(sq. km): 57 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	82.0		13.2	**Subdominant Substrate 1:** Boulder
Thalweg Depth	1.05		0.65	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	35	Unvegetated	
5 - 10	Closed Tall Willow Shrub	35	Unvegetated	
10 - 20	Closed Tall Willow Shrub	35	Unvegetated	
20 - 30	Open Balsam Poplar (Black Cottonwood) Forest	35	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 270

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 13 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 91 **Max:** 160 **Mean:** 130 **Median:** 125
Sampling Method (No. of fish): PEF (4) VOG (9)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 27 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 33 **Max:** 37 **Mean:** 35 **Median:** 35
Sampling Method (No. of fish): PEF (6) VOG (21)
Comments:

Species: round whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 208 **Max:** 208 **Mean:** 208 **Median:** 208
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 27 **Fish Measured:** 27 **Fork Lengths (mm)** **Min:** 31 **Max:** 64 **Mean:** 46 **Median:** 47
Sampling Method (No. of fish): PEF (27)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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FSS1114C080534.jpg

-continued-

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Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/17/2011 5:47 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude
	62.08061	-152.71710		62.08162	-152.71817

Elevation NED (m)(ft): 568 1864
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-6 **Legal Description (MTRS):** S023N019W14
Waterbody Name: Squaw Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3205-4112-5045
Geographic Comments: Puntilla Lake upstream approximately 500m.

Visit Comments: Transect site located approximately 500m downriver from Puntilla Lake. Visual observation only as salmon spawning behavior observed. This site was sampled due to no-fly conditions. Accessed site by hiking a four wheeler trail downriver from lake. Many salmon redds observed within sample reach.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 9.14 **DO (mg/L):** 10.91 **DO (%):** 94.70 **Conductivity (µS/cm):** 92 **pH:** 7.43
Water Color: Clear **Turbidity (NTU):** 8.70 **Thalweg Velocity (m/s)(ft/s):** 0.74 2.43

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 32 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	10.9		9.2
Thalweg Depth	0.74		0.30

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Sand

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Subalpine Fir Forest	35	Closed White Spruce Forest	38
5 - 10	Closed Subalpine Fir Forest	35	Closed White Spruce Forest	38
10 - 20	Closed Subalpine Fir Forest	35	Closed White Spruce Forest	38
20 - 30	Closed Subalpine Fir Forest	35	Closed White Spruce Forest	38

Key To Fish Sampling Methods

Estimated reach length (m): 468

(DIP) Dip Net (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (4)
Comments:

Species: Chinook salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments: photo # 765

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 110 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (110)
Comments: photo #'s 540-544

-continued-

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 68 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 42 **Max:** 48 **Mean:** 44 **Median:** 45
Sampling Method (No. of fish): DIP (6) VOG (62)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 47 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 52 **Max:** 58 **Mean:** 55 **Median:** 55
Sampling Method (No. of fish): DIP (6) VOG (41)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher:
Transparency:

-continued-

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Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/18/2011 11:40 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.21695	-148.67786		61.21695	-148.67786		61.25587	-148.62461

Elevation NED (m)(ft): 107 351
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage A-5 **Legal Description (MTRS):** S013N004E14
Waterbody Name: Lake Fork Knik River
Anadromous Waters Catalog Number: 247-50-10200-2160
Geographic Comments: IM18. Habitat transect and upper end of reach just downstream of a left-bank tributary mouth alluvial fan. Upper Lake George is drained. Lake Fork Knik River flows, braided, over the former lake bed.

Visit Comments: Photos 594-602 were taken of Knik glacier and Lake George, just below the sample reach.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.73 **DO (mg/L):** 12.01 **DO (%):** 92.00 **Conductivity (µS/cm):** 41 **pH:** 7.62
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 112.00 **Thalweg Velocity (m/s)(ft/s):** 2.10 6.89

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 386 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	75.0		55.0
Thalweg Depth	2.50		1.50

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Alder-Willow Shrub	1.6	Closed Tall Alder-Willow Shrub	3
5 - 10	Open Tall Alder-Willow Shrub	1.6	Closed Black Cottonwood Forest	14.5
10 - 20	Open Tall Alder-Willow Shrub	1.6	Closed Black Cottonwood Forest	14.5
20 - 30	Closed Black Cottonwood Forest	14.5	Closed Black Cottonwood Forest	14.5

Key To Fish Sampling Methods

Estimated reach length (m): 6600 **Total Electrofishing Time (s):** 4147

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (1)
Comments:

Species: general fish observation, no s **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (6)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 202 **Max:** 215 **Mean:** 208 **Median:** 208
Sampling Method (No. of fish): BEF (2) VOB (1)
Comments:

-continued-

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (6)
Comments:

Species: salmonid-unspecified **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Species: pygmy whitefish **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 109 **Max:** 109 **Mean:** 109 **Median:** 109
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

FSS1115A010603.jpg

Looking upstream at habitat transect (put-in--alluvial fan on right).

FSS1115A010604.jpg

Looking downstream from habitat transect (put-in).

FSS1115A010605.jpg

Looking upstream from habitat transect (put-in).

-continued-

FSS1115A010606.jpg

Looking downstream from habitat transect (put-in).

FSS1115A010607.jpg

Right bank at habitat transect (put-in).

FSS1115A010608.jpg

Left bank at habitat transect (put-in).

-continued-

FSS1115A010609.jpg

Looking upstream from downstream end of reach.

FSS1115A010610.jpg

Looking downstream from downstream end of reach. Lake George and Knik Glacier in the background.

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/18/2011 5:33 PM

	Latitude	Longitude
Sample Coordinates	61.40919	-148.42451

Elevation NED (m)(ft): 299 981
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-4 **Legal Description (MTRS):** S015N006E08
Waterbody Name: Glacier Fork Knik River
Anadromous Waters Catalog Number:
Geographic Comments: Fly-by only. Slot canyon (photos 613-614) appears to be a fish-passage barrier. Photo 615 shows Grasshopper Valley upstream of the canyon.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1115A020613.jpg

FSS1115A020615.jpg

Station Info

Observers: Jonathan Kirsch, Stormy Haught **Date/Time:** 08/18/2011 9:20 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.48641	-148.46815		61.48641	-148.46815		61.47360	-148.47881

Elevation NED (m)(ft): 261 856
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-4 **Legal Description (MTRS):** S016N005E12
Waterbody Name: Metal Creek
Anadromous Waters Catalog Number:
Geographic Comments: IM33

Visit Comments: Very swift and muddy, continuous whitewater.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.71 **DO (mg/L):** 12.78 **DO (%):** **Conductivity (µS/cm):** 215 **pH:** 7.62
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 350.00 **Thalweg Velocity (m/s)(ft/s):** 3.75 12.30

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Entrenched
Catchment Area(sq. km): 209 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	18.0		10.0
Thalweg Depth	1.65		0.75

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Sand

Rosgen Class: G3 Entrenched "gully" step/pool and low width/depth ratio on moderate gradients.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	2.2	Closed Tall Alder Shrub	2
5 - 10	Closed Tall Alder Shrub	2.2	Closed Black Cottonwood Forest	21
10 - 20	Closed Tall Alder Shrub	2.2	Closed Black Cottonwood Forest	21
20 - 30	Open Balsam Poplar (Black Cottonwood) Forest	16	Closed Black Cottonwood Forest	21

Key To Fish Sampling Methods

Estimated reach length (m): 1700 **Total Electrofishing Time (s):** 240

(BEF) Boat-Mounted Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

FSS1115B010392.jpg

FSS1115B010393.jpg

FSS1115B010394.jpg

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FSS1115B010395.jpg

Station Info

Observers: Raye Ann Neustel, Bob Powers **Date/Time:** 08/18/2011 9:00 PM

	Latitude	Longitude
Sample Coordinates	62.09073	-152.73372

Elevation NED (m)(ft): 572 1877
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-6 **Legal Description (MTRS):** S023N019W10
Waterbody Name: Puntilla Lake
Anadromous Waters Catalog Number: 247-41-10200-2053-3205-4112-5045-0010
Geographic Comments:
Visit Comments: No habitat data collected. This is a lake site that was sampled only by visual observation due to spawning sockeye salmon.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 5 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 200 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (200)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1115C011508.jpg

FSS1115C011509.jpg

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/19/2011 10:45 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.11377	-148.84763		62.11377	-148.84763	/	62.11847	-148.84909

Elevation NED (m)(ft): 616 2021
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-4 **Legal Description (MTRS):** S023N003E02
Waterbody Name: Sheep River
Anadromous Waters Catalog Number:
Geographic Comments: IM17

Visit Comments: ph reading unstable (slowly drifting up), after soaking 10 minutes. Reach was not safely raftable. We floated through 4 subreaches (560m), electrofishing continuously, but saw no fish and decided to stop for our safety.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.37 **DO (mg/L):** 12.42 **DO (%):** 93.20 **Conductivity (µS/cm):** 44 **pH:** 6.88
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 100.00 **Thalweg Velocity (m/s)(ft/s):** 3.90 12.79

Stream Channel

Stream Gradient (%): 3 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 234 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	54.0		14.0
Thalweg Depth	3.40		0.80

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Sand

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Open Tall Alder-Willow Shrub	1.5
5 - 10	Closed Tall Alder-Willow Shrub	3	Open Tall Alder-Willow Shrub	1.5
10 - 20	Closed Tall Alder-Willow Shrub	3	Closed Black Cottonwood Forest	11.4
20 - 30	Closed Tall Alder-Willow Shrub	3	Open White Spruce Forest	14

Key To Fish Sampling Methods

Estimated reach length (m): 560 **Total Electrofishing Time (s):** 160

(BEF) Boat-Mounted Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

FSS1116A010621.jpg

FSS1116A010622.jpg

FSS1116A010629.jpg

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FSS1116A010630.jpg

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/19/2011 9:04 AM

	Latitude	Longitude
Sample Coordinates	61.94485	-149.12354

Elevation NED (m)(ft): 382 1253
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-6 **Legal Description (MTRS):** S021N002E05
Waterbody Name: Kashwitna River
Anadromous Waters Catalog Number:
Geographic Comments: Fly-by only--not safely raftable (too swift and bouldery).

Visit Comments: Fly-by only--not safely raftable (too swift and bouldery).

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

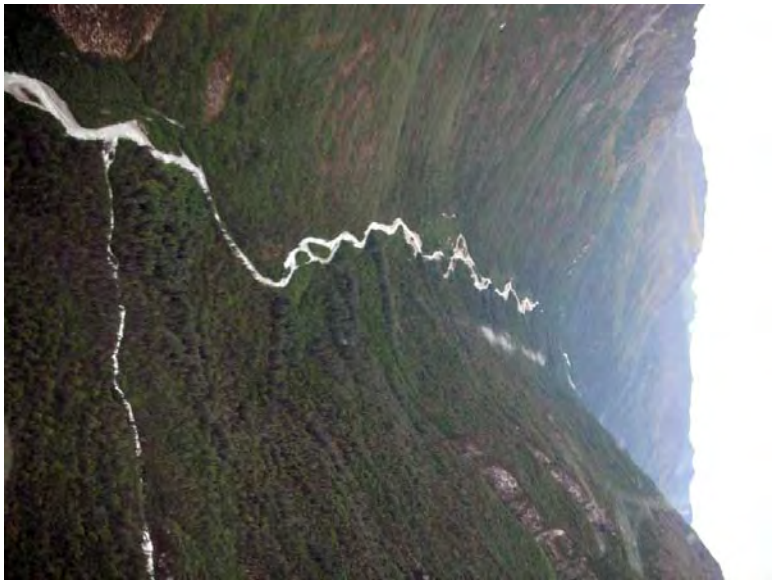
Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-



FSS1116A020616.jpg

FSS1116A020618.jpg

Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/19/2011 11:31 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.76017	-149.45406		61.76017	-149.45406	/	61.76271	-149.48494

Elevation NED (m)(ft): 677 2221
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S019N001W04
Waterbody Name: Willow Creek
Anadromous Waters Catalog Number:
Geographic Comments: Mining activity approximately 100m upstream at confluence of Willow and Canyon Creeks.

Visit Comments: Fast water due to steep gradient. No photos taken. No turbidity taken. Stream velocity calculated from TVHR readings is 1.62 m/s although readings were taken in the fringe flow rather than in the thalweg due to dangerous conditions.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.50 **DO (mg/L):** 10.10 **DO (%):** 82.10 **Conductivity (µS/cm):** 57 **pH:** 7.17
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 2.30 7.54

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 54 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	19.8		15.9	**Subdominant Substrate 1:** Cobble
Thalweg Depth	1.50		0.80	**Subdominant Substrate 2:** Sand

Dominant Substrate: Boulder

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Alder-Willow Shrub	10
5 - 10	Closed Tall Willow Shrub	2	Closed Tall Alder-Willow Shrub	10
10 - 20	Closed Tall Willow Shrub	2	Closed Tall Alder-Willow Shrub	10
20 - 30	Closed Tall Willow Shrub	2	Closed Tall Alder-Willow Shrub	10

Key To Fish Sampling Methods

Estimated reach length (m): 1600 **Total Electrofishing Time (s):** 450

(BEF) Boat-Mounted Electrofisher

Fish Observations

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 61 **Max:** 61 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: GPS Float **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/19/2011 9:50 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.09351	-148.74177		61.09351	-148.74177		61.09459	-148.73762

Elevation NED (m)(ft): 352 1155
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage A-5 **Legal Description (MTRS):** S012N004E33
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM21. Unnamed tributary to Lake Fork Knik River.
Visit Comments: pH sensor may have been malfunctioning. Stream was too deep and swift to wade, so depth was estimated.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 1.17 **DO (mg/L):** 14.63 **DO (%):** 103.50 **Conductivity (µS/cm):** 29 **pH:** 4.50
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 300.00 **Thalweg Velocity (m/s)(ft/s):** 3.61 11.84

Stream Channel

Stream Gradient (%): 3 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 45 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	28.0		13.0	**Dominant Substrate:** Boulder
Thalweg Depth	2.90		0.85	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Gravel

Rosgen Class: B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Unvegetated	
20 - 30	Unvegetated		Closed Tall Alder Shrub	2.5

Key To Fish Sampling Methods

Estimated reach length (m): 278

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:**
Stream Velocity: Orange Float **Channel Widths:** handheld laser rangefinder
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

-continued-

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FSS1116C010550.jpg

FSS1116C010551.jpg

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FSS1116C010552.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/19/2011 11:32 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.17384	-148.62821	**Sample Coordinates**	61.17367	-148.62780	/	61.17438	-148.63077

Elevation NED (m)(ft): 170 558
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage A-5 **Legal Description (MTRS):** S013N005E31
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM84. Unnamed tributary to Lake Fork Knik River.
Visit Comments: pH sensor may have been malfunctioning.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 2.58 **DO (mg/L):** 13.86 **DO (%):** 101.90 **Conductivity (µS/cm):** 24 **pH:** 5.32
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 300.00 **Thalweg Velocity (m/s)(ft/s):** 1.68 5.51

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 11 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	30.0		8.0	**Dominant Substrate:** Cobble
Thalweg Depth	2.40		0.70	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Gravel

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Closed Tall Alder Shrub	3
10 - 20	Closed Tall Alder Shrub	3	Closed Tall Alder Shrub	3
20 - 30	Closed Tall Alder Shrub	3	Closed Tall Alder Shrub	3

Key To Fish Sampling Methods

Estimated reach length (m): 206

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

-continued-

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FSS1116C020555.jpg

FSS1116C020556.jpg

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FSS1116C020557.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/19/2011 12:38 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.31829	-148.53246		61.31829	-148.53246		61.31822	-148.53826

Elevation NED (m)(ft): 106 348
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S014N005E10
Waterbody Name: Fourteen Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM131

Visit Comments: Very little current, and much of channel was nearly stagnant.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.58 **DO (mg/L):** 12.50 **DO (%):** 107.10 **Conductivity (µS/cm):** 90 **pH:** 6.59
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 150.00 **Thalweg Velocity (m/s)(ft/s):** 0.03 0.10

Stream Channel

Stream Gradient (%): 0.05 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 134 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	25.0		22.0	**Subdominant Substrate 1:**
Thalweg Depth	0.90		0.85	**Subdominant Substrate 2:**

Dominant Substrate: Silt/Clay

Rosgen Class: C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	1.5	Open Tall Willow Shrub	1.5
5 - 10	Open Tall Willow Shrub	1.5	Open Tall Willow Shrub	1.5
10 - 20	Open Tall Willow Shrub	1.5	Open Tall Willow Shrub	1.5
20 - 30	Open Tall Willow Shrub	1.5	Open Tall Willow Shrub	1.5

Key To Fish Sampling Methods

Estimated reach length (m): 320

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 18 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 125 **Max:** 260 **Mean:** 204 **Median:** 192
Sampling Method (No. of fish): PEF (6) VOG (12)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 550 **Max:** 550 **Mean:** 550 **Median:** 550
Sampling Method (No. of fish): PEF (1) VOG (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1014 **Fish Measured:** 14 **Fork Lengths (mm)** **Min:** 53 **Max:** 68 **Mean:** 59 **Median:** 60
Sampling Method (No. of fish): PEF (14) VOG (1000)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 70 **Max:** 71 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): PEF (3)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 37 **Max:** 37 **Mean:** 37 **Median:** 37
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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FSS1116C030561.jpg

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FSS1116C030562.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/19/2011 2:22 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.71464	-148.80986	**Sample Coordinates**	61.71443	-148.80947	/	61.71415	-148.81208

Elevation NED (m)(ft): 148 486
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S019N004E30
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Small tributary to Matanuska River just upstream of Sutton on River Left. Sampled Channel within Matanuska River flood plain.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.34 **DO (mg/L):** 12.40 **DO (%):** 103.00 **Conductivity (µS/cm):** 70 **pH:** 5.49
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 70.00 **Thalweg Velocity (m/s)(ft/s):** 1.36 4.46

Stream Channel

Stream Gradient (%): 0.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 32 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	12.0		6.0	**Dominant Substrate:** Gravel
Thalweg Depth	0.55		0.35	**Subdominant Substrate 1:** Sand
				Subdominant Substrate 2: Cobble

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2.1	Open Tall Willow Shrub	2
5 - 10	Closed Paper Birch Forest	18	Unvegetated	
10 - 20	Closed Paper Birch Forest	18	Unvegetated	
20 - 30	Closed Paper Birch Forest	18	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 282

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 20 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 35 **Max:** 82 **Mean:** 48 **Median:** 58
Sampling Method (No. of fish): PEF (10) VOG (10)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 5 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 59 **Max:** 66 **Mean:** 62 **Median:** 62
Sampling Method (No. of fish): PEF (2) VOG (3)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 49 **Max:** 74 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): PEF (2)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 204 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 55 **Max:** 65 **Mean:** 58 **Median:** 60
Sampling Method (No. of fish): PEF (4) VOG (200)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 100 **Max:** 100 **Mean:** 100 **Median:** 100
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 38 **Max:** 50 **Mean:** 44 **Median:** 44
Sampling Method (No. of fish): PEF (2)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 8 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 85 **Max:** 195 **Mean:** 128 **Median:** 140
Sampling Method (No. of fish): PEF (8)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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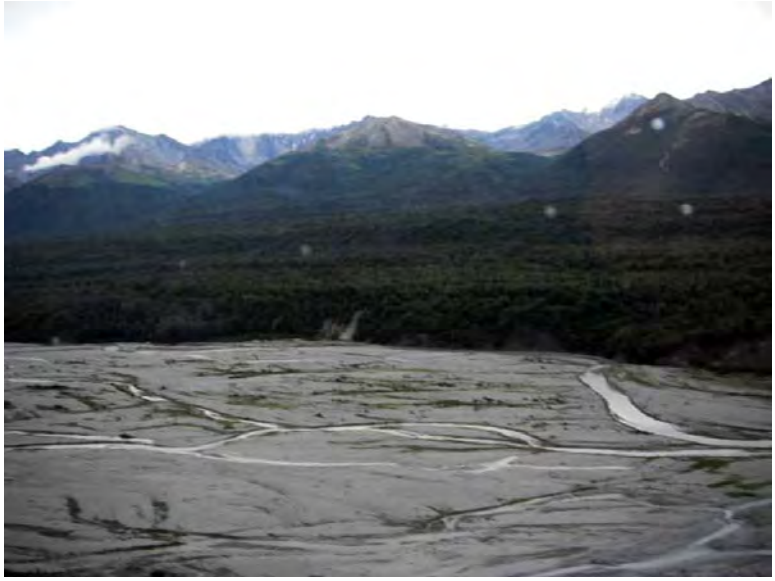

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Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/20/2011 12:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.07210	-148.19923		62.07210	-148.19923	/	62.04891	-148.21075

Elevation NED (m)(ft): 732 2402
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-3 **Legal Description (MTRS):** S023N007E20
Waterbody Name: Chickaloon River
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Continued spot electrofishing for another 8 km (719 seconds total) downstream of reach (approaching Moss Creek), and observed only Dolly Varden.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.34 **DO (mg/L):** 11.16 **DO (%):** 88.20 **Conductivity (µS/cm):** 75 **pH:** 7.66
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 41.00 **Thalweg Velocity (m/s)(ft/s):** 2.80 9.18

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 283 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	18.0		14.0
Thalweg Depth	2.00		0.80

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Bedrock

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Alder Shrub	1.3	Closed Tall Alder-Willow Shrub	2
5 - 10	Open Low Alder Shrub	1.3	Closed Paper Birch Forest	7.6
10 - 20	Open Low Alder Shrub	1.3	Closed Paper Birch Forest	7.6
20 - 30	Open Low Alder Shrub	1.3	Closed Paper Birch Forest	7.6

Key To Fish Sampling Methods

Estimated reach length (m): 3000 **Total Electrofishing Time (s):** 962

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (6)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 25 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (25)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 160 **Fish Measured:** 19 **Fork Lengths (mm)** **Min:** 104 **Max:** 215 **Mean:** 138 **Median:** 159
Sampling Method (No. of fish): BEF (19) VOB (141)
Comments: Event NN Dolly Varden suspect spawning aggregation and 2 fish greater than 250 mm.

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: handheld laser rangefinder

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/20/2011 11:06 AM

	Latitude	Longitude
Sample Coordinates	61.95751	-148.29615

Elevation NED (m)(ft): 544 1785
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-4 **Legal Description (MTRS):** S022N006E35
Waterbody Name: Chickaloon River
Anadromous Waters Catalog Number:
Geographic Comments: This site represents Hotel Rock. No data were collected.

Visit Comments: This iste represents Hotel Rock. No data were collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/20/2011 9:48 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.86244	-148.20206		61.86244	-148.20206		61.85721	-148.23699

Elevation NED (m)(ft): 823 2700
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-4 **Legal Description (MTRS):** S021N007E32
Waterbody Name: Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: ATV tracks were observed parallel to the river. The thalweg was unwadeable, so channel widths were estimated.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.16 **DO (mg/L):** 8.82 **DO (%):** 71.20 **Conductivity (µS/cm):** 253 **pH:** 7.85
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 146.00 **Thalweg Velocity (m/s)(ft/s):** 1.50 4.92

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 212 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	41.3		18.1
Thalweg Depth	2.10		1.40

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Silt/Clay

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	3	Open Tall Willow Shrub	3
5 - 10	Open Tall Willow Shrub	3	Open Tall Willow Shrub	3
10 - 20	Open Tall Willow Shrub	3	Open Tall Willow Shrub	3
20 - 30	Open Tall Willow Shrub	3	Closed Tall Alder-Willow Shrub	12

Key To Fish Sampling Methods

Estimated reach length (m): 2500 **Total Electrofishing Time (s):** 2344

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 91 **Fish Measured:** 51 **Fork Lengths (mm)** **Min:** 107 **Max:** 270 **Mean:** 156 **Median:** 188
Sampling Method (No. of fish): BEF (51) VOB (40)
Comments:

Species: rainbow trout **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 41 **Max:** 101 **Mean:** 78 **Median:** 71
Sampling Method (No. of fish): BEF (4)
Comments:

Species: rainbow trout **Life Stage:** adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: Visual estimate

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 9:21 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.26995	-148.43368	**Sample Coordinates**	62.26874	-148.42949	/	62.26943	-148.43561

Elevation NED (m)(ft): 838 2749
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-3 **Legal Description (MTRS):** S025N006E07
Waterbody Name: Upper Talkeetna River
Anadromous Waters Catalog Number:
Geographic Comments: HU86

Visit Comments: Thalweg unwadeable--channel widths estimated.

Wildlife Comments: A caribou was observed near the site.

Water Quality \ Stream Flow

Water Temp (C): 4.70 **DO (mg/L):** 12.09 **DO (%):** 93.70 **Conductivity (µS/cm):** 68 **pH:** 7.57
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 11.00 **Thalweg Velocity (m/s)(ft/s):** 3.33 10.92

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 134 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	13.0		8.0	**Dominant Substrate:** Boulder
Thalweg Depth	1.10		0.52	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Gravel

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	4	Closed Tall Alder-Willow Shrub	4
5 - 10	Closed Tall Alder-Willow Shrub	4	Closed Tall Alder-Willow Shrub	4
10 - 20	Closed Tall Alder-Willow Shrub	4	Closed Tall Alder-Willow Shrub	4
20 - 30	Closed Tall Alder-Willow Shrub	4	Closed Tall Alder-Willow Shrub	4

Key To Fish Sampling Methods

Estimated reach length (m): 400

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 12 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 162 **Max:** 190 **Mean:** 177 **Median:** 176
Sampling Method (No. of fish): PEF (5) VOG (7)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 39 **Max:** 51 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): PEF (3) VOG (4)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: Orange Float **Channel Widths:** Visual estimate
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 11:34 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.14213	-148.29440		62.14367	-148.29662		62.14184	-148.29369

Elevation NED (m)(ft): 891 2923
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-3 **Legal Description (MTRS):** S024N006E26
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM92 at the confluence with HU7. All data was collected within the unnamed tributary of the Chickaloon River, near the confluence.

Visit Comments:
Wildlife Comments: Caribou antler shed next to helicopter.

Water Quality \ Stream Flow

Water Temp (C): 5.34 **DO (mg/L):** 11.99 **DO (%):** 93.20 **Conductivity (µS/cm):** 57 **pH:** 6.95
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 11.00 **Thalweg Velocity (m/s)(ft/s):** 1.43 4.69

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 68 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	10.2		5.2
Thalweg Depth	1.10		0.50

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Closed Tall Willow Shrub	3.5	Closed Tall Willow Shrub	3
20 - 30	Closed Tall Willow Shrub	3.5	Closed Tall Willow Shrub	3

Key To Fish Sampling Methods

Estimated reach length (m): 270

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 176 **Max:** 216 **Mean:** 196 **Median:** 196
Sampling Method (No. of fish): PEF (2) VOG (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 1:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.02034	-148.27693		62.02060	-148.27962		62.01954	-148.27574

Elevation NED (m)(ft): 637 2090
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-3 **Legal Description (MTRS):** S022N006E01
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM128. Unnamed tributary to the Chickaloon River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.56 **DO (mg/L):** 11.80 **DO (%):** 96.20 **Conductivity (µS/cm):** 108 **pH:** 7.99
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 8.00 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 1.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 54 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	9.8		6.8
Thalweg Depth	1.00		0.42

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Gravel

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	16.5	Closed Tall Alder Shrub	2.1
5 - 10	Closed Spruce-Paper Birch Forest	16.5	Closed Tall Alder Shrub	2.1
10 - 20	Closed Spruce-Paper Birch Forest	16.5	Closed Tall Alder Shrub	2.1
20 - 30	Closed Paper Birch Forest	10	Closed Tall Alder Shrub	2.1

Key To Fish Sampling Methods

Estimated reach length (m): 295

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 535 **Fish Measured:** 35 **Fork Lengths (mm)** **Min:** 85 **Max:** 205 **Mean:** 130 **Median:** 145
Sampling Method (No. of fish): PEF (35) VOG (500)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 48 **Max:** 73 **Mean:** 65 **Median:** 60
Sampling Method (No. of fish): PEF (6)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/23/2011 11:33 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.89332	-148.61595		61.89332	-148.61595	/	61.87209	-148.61048

Elevation NED (m)(ft): 612 2008
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-5 **Legal Description (MTRS):** S021N005E19
Waterbody Name: Kings River
Anadromous Waters Catalog Number:
Geographic Comments: IM38 Small cabin approximately 20m from bankfull on river left. We put-in at this point.
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.21 **DO (mg/L):** 12.47 **DO (%):** 98.20 **Conductivity (µS/cm):** 79 **pH:** 7.54
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 21.00 **Thalweg Velocity (m/s)(ft/s):** 2.60 8.53

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 124 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	49.5		22.4	**Subdominant Substrate 1:** Gravel
Thalweg Depth	0.94		0.62	**Subdominant Substrate 2:** Sand

Dominant Substrate: Cobble

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Closed Tall Willow Shrub	12
5 - 10	Unvegetated		Closed Tall Willow Shrub	12
10 - 20	Unvegetated		Closed Tall Willow Shrub	12
20 - 30	Foliose and Fruticose Lichen	0.1	Closed Tall Willow Shrub	12

Key To Fish Sampling Methods

Estimated reach length (m): 3000 **Total Electrofishing Time (s):** 6975

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 238 **Fish Measured:** 71 **Fork Lengths (mm)** **Min:** 91 **Max:** 261 **Mean:** 151 **Median:** 176
Sampling Method (No. of fish): BEF (71) VOB (167)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: GPS Float **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 2:26 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.88255	-148.60060		61.88501	-148.59934		61.88255	-148.60060

Elevation NED (m)(ft): 576 1890
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-5 **Legal Description (MTRS):** S021N005E30
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM51 at confluence with HM 69. Unnamed tributary to Kings River, near the confluence.
Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.40 **DO (mg/L):** 11.62 **DO (%):** 96.50 **Conductivity (µS/cm):** 105 **pH:** 7.87
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 12.00 **Thalweg Velocity (m/s)(ft/s):** 1.71 5.61

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 126 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	19.6		10.2
Thalweg Depth	1.50		0.75

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Gravel

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	2	Open Balsam Poplar (Black Cottonwood) Forest	16
5 - 10	Open Balsam Poplar (Black Cottonwood) Forest	24	Open Balsam Poplar (Black Cottonwood) Forest	16
10 - 20	Closed Tall Alder Shrub	2	Open Balsam Poplar (Black Cottonwood) Forest	16
20 - 30	Closed Tall Alder Shrub	2	Open Balsam Poplar (Black Cottonwood) Forest	16

Key To Fish Sampling Methods

Estimated reach length (m): 310

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 33 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 89 **Max:** 157 **Mean:** 133 **Median:** 123
Sampling Method (No. of fish): PEF (13) VOG (20)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 72 **Max:** 76 **Mean:** 74 **Median:** 74
Sampling Method (No. of fish): PEF (4)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

-continued-

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 3:43 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.77470	-148.84056		61.77470	-148.84056		61.77200	-148.84100

Elevation NED (m)(ft): 366 1201
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-5 **Legal Description (MTRS):** S020N003E36
Waterbody Name: Granite Creek
Anadromous Waters Catalog Number: 247-50-10220-2105
Geographic Comments: HM61

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.69 **DO (mg/L):** 12.27 **DO (%):** 100.40 **Conductivity (µS/cm):** 85 **pH:** 7.62
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 8.00 **Thalweg Velocity (m/s)(ft/s):** 2.03 6.66

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 137 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	28.0		9.8	**Dominant Substrate:** Cobble
Thalweg Depth	1.80		0.75	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Cobble

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Paper Birch Forest	12	Closed Paper Birch Forest	10
5 - 10	Closed Paper Birch Forest	12	Closed Paper Birch Forest	10
10 - 20	Closed Paper Birch Forest	6	Closed Black Cottonwood Forest	20
20 - 30	Closed Paper Birch Forest	6	Closed Black Cottonwood Forest	20

Key To Fish Sampling Methods

Estimated reach length (m): 360

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 219 **Fish Measured:** 19 **Fork Lengths (mm)** **Min:** 85 **Max:** 201 **Mean:** 149 **Median:** 143
Sampling Method (No. of fish): PEF (19) VOG (200)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 7 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 57 **Max:** 60 **Mean:** 58 **Median:** 58
Sampling Method (No. of fish): PEF (2) VOG (5)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 35 **Max:** 48 **Mean:** 43 **Median:** 41
Sampling Method (No. of fish): PEF (9)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 11:11 AM

	Latitude	Longitude
Sample Coordinates	62.23235	-148.43828

Elevation NED (m)(ft): 1049 3442
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-3 **Legal Description (MTRS):** S025N005E25
Waterbody Name: Talkeetna River
Anadromous Waters Catalog Number:
Geographic Comments: This site represents a waterfall barrier below target stream points HU107 and HU26. No sampling occurred.

Visit Comments: No habitat or fish data collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/20/2011 11:27 AM

	Latitude	Longitude
Sample Coordinates	62.17316	-148.33479

Elevation NED (m)(ft): 1305 4281
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-3 **Legal Description (MTRS):** S024N006E15
Waterbody Name: Chickaloon River
Anadromous Waters Catalog Number:
Geographic Comments: This site represents a waterfall barrier below target stream point HU7. No sampling occurred.
Visit Comments: No habitat or fish data collected.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/21/2011 8:55 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.78461	-147.40798		61.78461	-147.40798		61.79078	-147.48864

Elevation NED (m)(ft): 673 2208
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-2 **Legal Description (MTRS):** S020N011E35
Waterbody Name: South Fork Matanuska River
Anadromous Waters Catalog Number:
Geographic Comments: IM11.

Visit Comments: Station marked at waters edge, left-bank, just upstream of left-bank tributary confluence. Stream is braided with 2 channels at habitat transect. Measurements reflect primary channel only. Left-bank vegetation at station disturbed by tributary delta. Sample reach ended just below East Fork Matanuska confluence. Right bank white spruce forest exhibiting bark beetle killed trees.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 2.28 **DO (mg/L):** 12.90 **DO (%):** 94.00 **Conductivity (µS/cm):** 86 **pH:** 7.54
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 280.00 **Thalweg Velocity (m/s)(ft/s):** 3.00 9.84

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 339 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	132.0		15.0
Thalweg Depth	2.05		1.10

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Open Low Alder-Willow Shrub	1
5 - 10	Unvegetated		Open Low Alder-Willow Shrub	1
10 - 20	Unvegetated		Open Low Alder-Willow Shrub	1
20 - 30	Unvegetated		Closed White Spruce Forest	15

Key To Fish Sampling Methods

Estimated reach length (m): 5000 **Total Electrofishing Time (s):** 2195

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 7 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 71 **Max:** 81 **Mean:** 76 **Median:** 76
Sampling Method (No. of fish): BEF (2) VOB (5)
Comments:

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 8 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (8)
Comments: Suspect Dolly Varden are spawning in side channel pools.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 19 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 92 **Max:** 302 **Mean:** 205 **Median:** 197
Sampling Method (No. of fish): BEF (12) VOB (7)
Comments:

-continued-

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 110 **Max:** 113 **Mean:** 111 **Median:** 111
Sampling Method (No. of fish): BEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

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Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/21/2011 8:15 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.74872	-147.93613		61.74872	-147.93613	/	61.76588	-147.97497

Elevation NED (m)(ft): 463 1519
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-3 **Legal Description (MTRS):** S019N008E12
Waterbody Name: Gravel Creek
Anadromous Waters Catalog Number:
Geographic Comments: IM29

Visit Comments: ATV tracks parallel creek for approximately 400 m. Creek was non-wadeable, channel widths were estimated. Anode pole was broken at this sample site due to a narrow gap (slightly more narrow than width of cataraft) between a boulder and a canyon wall with very fast current flowing around a blind corner. Stream velocity calculated from TVHR readings is 1.44 m/s, although the readings were taken in the fringe flow rather than in the thalweg due to dangerous conditions.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.40 **DO (mg/L):** 13.52 **DO (%):** 101.60 **Conductivity (µS/cm):** 152 **pH:** 7.74
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 260.00 **Thalweg Velocity (m/s)(ft/s):** 2.60 8.53

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 215 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	41.3		20.5
Thalweg Depth	0.94		0.79

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Silt/Clay

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Bluejoint-Herb	0.3	Closed Tall Shrub Birch-Willow Shrub	10
5 - 10	Bluejoint-Herb	0.3	Closed Tall Shrub Birch-Willow Shrub	10
10 - 20	Bluejoint-Herb	0.3	Closed Tall Shrub Birch-Willow Shrub	10
20 - 30	Bluejoint-Herb	0.3	Closed Tall Shrub Birch-Willow Shrub	10

Key To Fish Sampling Methods

Estimated reach length (m): 3900 **Total Electrofishing Time (s):** 1266

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 28 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 87 **Max:** 181 **Mean:** 118 **Median:** 134
Sampling Method (No. of fish): BEF (8) VOB (20)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 79 **Max:** 79 **Mean:** 79 **Median:** 79
Sampling Method (No. of fish): BEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: Visual estimate

Electrofisher: Smith-Root GPP 2.5

Transparency:

-continued-

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/21/2011 9:15 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.37458	-148.87835		62.37193	-148.87375		62.37458	-148.87835

Elevation NED (m)(ft): 907 2976
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-4 **Legal Description (MTRS):** S026N003E03
Waterbody Name: East Fork Iron Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM27

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.43 **DO (mg/L):** 12.25 **DO (%):** 94.50 **Conductivity (µS/cm):** 86 **pH:** 7.41
Water Color: Clear **Turbidity (NTU):** 2.92 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 86 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	15.0		8.5
Thalweg Depth	0.80		0.35

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Sand

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2.2	Closed Tall Willow Shrub	3
5 - 10	Willow Dwarf Shrub Tundra	0.1	Closed Tall Willow Shrub	3
10 - 20	Willow Dwarf Shrub Tundra	0.1	Closed Tall Willow Shrub	3
20 - 30	Willow Dwarf Shrub Tundra	0.1	Closed Low Willow Shrub	0.2

Key To Fish Sampling Methods

Estimated reach length (m): 415

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 1030 **Fish Measured:** 30 **Fork Lengths (mm)** **Min:** 100 **Max:** 220 **Mean:** 162 **Median:** 160
Sampling Method (No. of fish): PEF (30) VOG (1000)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 78 **Max:** 78 **Mean:** 78 **Median:** 78
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/21/2011 10:51 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.29027	-148.94952		62.28859	-148.94569		62.29068	-148.95028

Elevation NED (m)(ft): 720 2362
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-4 **Legal Description (MTRS):** S025N003E05
Waterbody Name: Iron Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM32

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.66 **DO (mg/L):** 11.97 **DO (%):** 95.50 **Conductivity (µS/cm):** 65 **pH:** 7.50
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 20.70 **Thalweg Velocity (m/s)(ft/s):** 1.59 5.22

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 168 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	40.0		14.3	**Subdominant Substrate 1:** Boulder
Thalweg Depth	1.70		0.65	**Subdominant Substrate 2:** Cobble

Dominant Substrate: Cobble

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2.1	Closed Tall Alder-Willow Shrub	6
5 - 10	Open Tall Willow Shrub	2.1	Closed Tall Alder-Willow Shrub	3
10 - 20	Open Tall Willow Shrub	2.1	Closed Tall Alder-Willow Shrub	3
20 - 30	Open Tall Willow Shrub	2.1	Closed Tall Alder-Willow Shrub	3

Key To Fish Sampling Methods

Estimated reach length (m): 450

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (10)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 65 **Max:** 82 **Mean:** 72 **Median:** 73
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 103 **Max:** 103 **Mean:** 103 **Median:** 103
Sampling Method (No. of fish): PEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/21/2011 12:24 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.10902	-149.05755		62.10772	-149.05437		62.10931	-149.05971

Elevation NED (m)(ft): 854 2802
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-5 **Legal Description (MTRS):** S023N002E03
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM37. Unnamed tributary to Sheep River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.89 **DO (mg/L):** 11.76 **DO (%):** 94.20 **Conductivity (µS/cm):** 37 **pH:** 6.97
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 53.40 **Thalweg Velocity (m/s)(ft/s):** 1.47 4.82

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 109 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	22.5		18.8	**Subdominant Substrate 1:** Cobble
Thalweg Depth	1.10		0.48	**Subdominant Substrate 2:** Sand

Dominant Substrate: Gravel

Rosgen Class: D4 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Low Willow Shrub	0.5	Open Tall Willow Shrub	1.2
5 - 10	Open Low Willow Shrub	0.5	Open Tall Willow Shrub	1.2
10 - 20	Open Low Willow Shrub	0.5	Open Tall Willow Shrub	1.2
20 - 30	Open Low Willow Shrub	0.5	Open Tall Willow Shrub	1.2

Key To Fish Sampling Methods

Estimated reach length (m): 360

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

-continued-

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/21/2011 1:49 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.02947	-149.27531	**Sample Coordinates**	62.02935	-149.27206	/	62.02939	-149.27525

Elevation NED (m)(ft): 618 2028
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-5 **Legal Description (MTRS):** S022N001E04
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM58. Unnamed tributary to the Kashwitna River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.34 **DO (mg/L):** 11.77 **DO (%):** 95.20 **Conductivity (µS/cm):** 28 **pH:** 6.97
Water Color: Clear **Turbidity (NTU):** 4.80 **Thalweg Velocity (m/s)(ft/s):** 1.68 5.51

Stream Channel

Stream Gradient (%): 0.8 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 79 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width	16.0		6.2
Thalweg Depth	1.10		0.52

Dominant Substrate: Cobble
Subdominant Substrate 1: Sand
Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	1.8
5 - 10	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	1.8
10 - 20	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	1.8
20 - 30	Closed Tall Willow Shrub	1.8	Closed Tall Willow Shrub	1.8

Key To Fish Sampling Methods

Estimated reach length (m): 259

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

-continued-

FSS1118C040608.jpg

FSS1118C040609.jpg

FSS1118C040610.jpg

-continued-

FSS1118C040611.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/21/2011 2:44 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.56700	-148.61168		61.56754	-148.60704		61.56700	-148.61168

Elevation NED (m)(ft): 854 2802
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S017N005E18
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HM60. Unnamed tributary to Friday Creek.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.94 **DO (mg/L):** 11.71 **DO (%):** 94.10 **Conductivity (µS/cm):** 168 **pH:** 7.46
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 227.00 **Thalweg Velocity (m/s)(ft/s):** 1.36 4.46

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 44 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	9.0		6.5	**Subdominant Substrate 1:** Cobble
Thalweg Depth	0.85		0.45	**Subdominant Substrate 2:** Sand

Dominant Substrate: Gravel

Rosgen Class: B4 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Low Willow Shrub	1
5 - 10	Closed Tall Willow Shrub	2	Closed Low Willow Shrub	1
10 - 20	Closed Low Willow Shrub	0.6	Closed Low Willow Shrub	1
20 - 30	Closed Low Willow Shrub	0.6	Closed Low Willow Shrub	1

Key To Fish Sampling Methods

Estimated reach length (m): 315

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

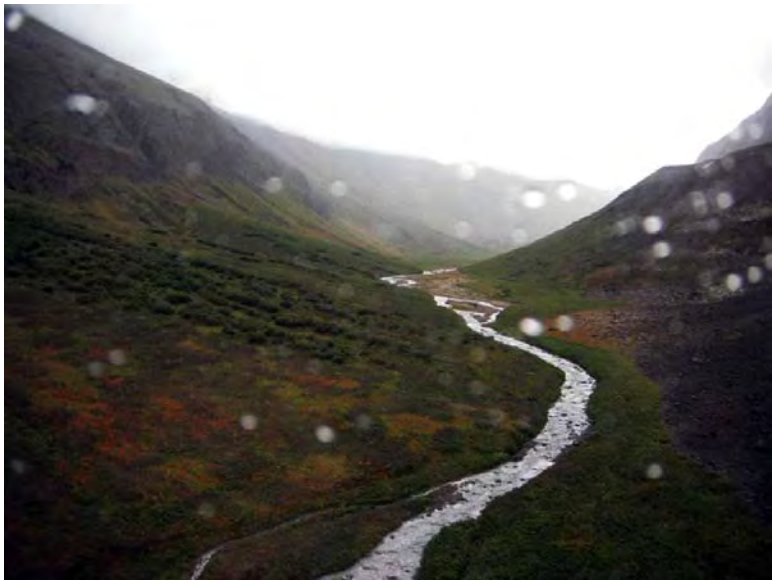
Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

-continued-

FSS1118C050613.jpg

FSS1118C050614.jpg



FSS1118C050615.jpg

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FSS1118C050616.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/21/2011 3:11 PM

	Latitude	Longitude
Sample Coordinates	61.81101	-149.00016

Elevation NED (m)(ft): 726 2382
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-6 **Legal Description (MTRS):** S020N002E24
Waterbody Name: Moose Creek
Anadromous Waters Catalog Number:
Geographic Comments: No landing zone was identified on target stream HM90. No collection effort.

Visit Comments: No sampling occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/22/2011 12:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.78645	-148.20603		61.78645	-148.20603	/	61.78771	-148.34509

Elevation NED (m)(ft): 324 1063
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-4 **Legal Description (MTRS):** S020N007E33
Waterbody Name: Matanuska River
Anadromous Waters Catalog Number: 247-50-10220
Geographic Comments: MM15. Reach ended at clear, right bank side channel mouth.

Visit Comments:
Wildlife Comments: Three goats on bluff at put-in.

Water Quality \ Stream Flow

Water Temp (C): 4.55 **DO (mg/L):** 11.85 **DO (%):** 91.80 **Conductivity (µS/cm):** 106 **pH:** 7.89
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 319.00 **Thalweg Velocity (m/s)(ft/s):** 2.80 9.18

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 2779 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	492.0		43.0	**Dominant Substrate:** Cobble
Thalweg Depth	2.76		1.50	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Sand

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	5	Closed White Spruce Forest	13
5 - 10	Closed Tall Alder-Willow Shrub	5	Closed White Spruce Forest	13
10 - 20	Closed Tall Alder-Willow Shrub	5	Closed White Spruce Forest	13
20 - 30	Closed Tall Alder-Willow Shrub	5	Closed White Spruce Forest	13

Key To Fish Sampling Methods

Estimated reach length (m): 8100 **Total Electrofishing Time (s):** 4896

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: salmonid-unspecified **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 13 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (13)
Comments: Event BB salmonids were approximately 150-200 mm. Event FF were probobly Dolly Varden.

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 33 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 500 **Max:** 610 **Mean:** 570 **Median:** 555
Sampling Method (No. of fish): BEF (3) VOB (30) **Suspected Spawning:** Yes
Comments: Color of sockeye throughout reach ranged from chrome to blush to very red. Sockeye adults in sub-6 were all (e

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 101 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 610 **Max:** 610 **Mean:** 610 **Median:** 610
Sampling Method (No. of fish): BEF (1) VOB (100)
Comments: Event RR, photo 716.

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 20 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (20)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 63 **Max:** 63 **Mean:** 63 **Median:** 63
Sampling Method (No. of fish): BEF (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 88 **Fish Measured:** 23 **Fork Lengths (mm)** **Min:** 98 **Max:** 283 **Mean:** 144 **Median:** 190
Sampling Method (No. of fish): BEF (23) VOB (65)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 540 **Max:** 540 **Mean:** 540 **Median:** 540
Sampling Method (No. of fish): BEF (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 81 **Max:** 81 **Mean:** 81 **Median:** 81
Sampling Method (No. of fish): BEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: GPS Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root GPP 2.5
Transparency:

-continued-

FSS1119A010701.jpg
Looking upstream from habitat transect.

FSS1119A010702.jpg
Looking downstream from habitat transect.

FSS1119A010705.jpg
Left bank from habitat transect.

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FSS1119A010708.jpg
Sockeye salmon.

FSS1119A010713.jpg
Dolly Varden.

FSS1119A010715.jpg
Coho salmon from clear, right-bank side channel mouth at downstream end of reach.

-continued-

FSS1119A010718.jpg

Sockeye and coho salmon in clear, right-bank side channel mouth at downstream end of reach.

FSS1119A010722.jpg

Looking upstream from the downstream end of the reach (clear side channel mouth on left of photo).

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/22/2011 5:43 PM

	Latitude	Longitude
Sample Coordinates	61.74201	-148.65976

Elevation NED (m)(ft): 198 650
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S019N004E13
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear, right-bank Matanuska River tributary.

Visit Comments: Fly-by only.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1.5 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 50 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (50)
Comments: See photos 723-724.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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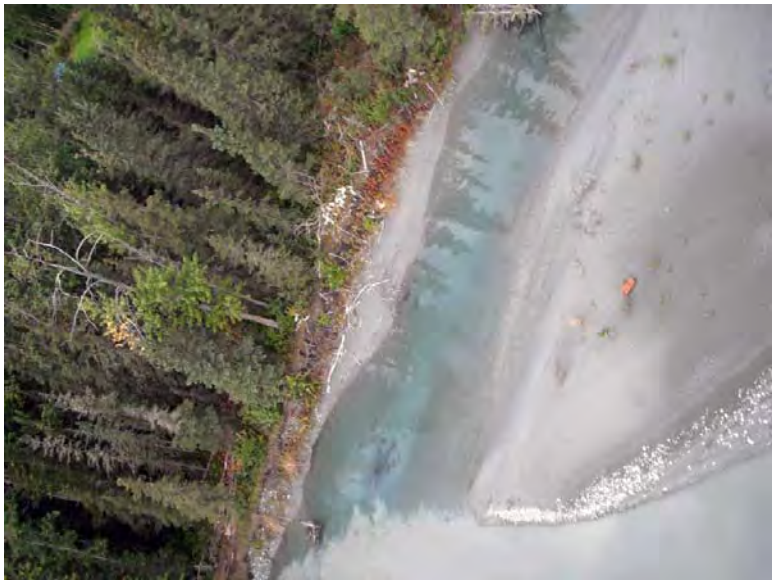


FSS1119A020723.jpg

Sockeye salmon at mouth of side channel.

FSS1119A020724.jpg

Sockeye salmon spawning in side channel.

Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/22/2011 9:45 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.73664	-147.79153	**Sample Coordinates**	61.73664	-147.79153	/	61.78731	-147.80632

Elevation NED (m)(ft): 546 1791
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-3 **Legal Description (MTRS):** S019N009E15
Waterbody Name: Glacier Creek
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments: Very fast, cold, turbid water. Stream velocity calculated from TVHR readings is 1.25 m/s, although readings were taken in the fringe flow rather than in the thalweg due to dangeraous conditions.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 2.83 **DO (mg/L):** 11.11 **DO (%):** 82.20 **Conductivity (µS/cm):** 159 **pH:** 7.63
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 233.00 **Thalweg Velocity (m/s)(ft/s):** 2.86 9.38

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 129 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	49.1		19.2	**Dominant Substrate:** Cobble
Thalweg Depth	0.88		0.48	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Unvegetated	
20 - 30	Closed Tall Willow Shrub	17	Fireweed	0.3

Key To Fish Sampling Methods

Estimated reach length (m): 6700 **Total Electrofishing Time (s):** 6605

(BEF) Boat-Mounted Electrofisher

Fish Observations

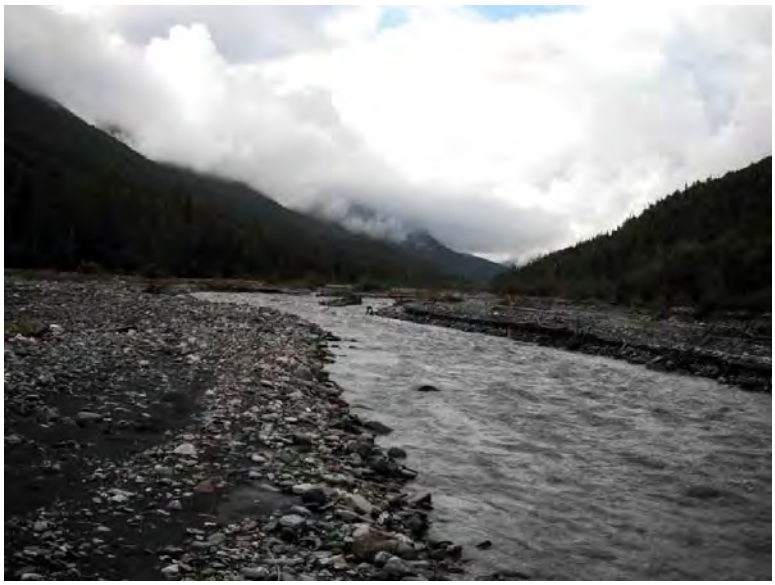
No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: GPS Float **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

-continued-

FSS1119B010433.jpg



FSS1119B010434.jpg

FSS1119B010435.jpg

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FSS1119B010437.jpg

FSS1119B010438.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 9:31 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.20223	-149.63863	**Sample Coordinates**	62.20308	-149.63455	/	62.20241	-149.63941

Elevation NED (m)(ft): 586 1923
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts A-6 **Legal Description (MTRS):** S024N002W03
Waterbody Name: South Fork Montana Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM63

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.73 **DO (mg/L):** 11.65 **DO (%):** 95.40 **Conductivity (µS/cm):** 47 **pH:** 6.43
Water Color: Clear **Turbidity (NTU):** 0.07 **Thalweg Velocity (m/s)(ft/s):** 1.56 5.12

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 59 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	12.2		6.6	**Dominant Substrate:** Cobble
Thalweg Depth	0.91		0.43	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	25	Closed Tall Alder Shrub	2.8
5 - 10	Closed Tall Alder Shrub	25	Open Balsam Poplar (Black Cottonwood) Forest	24
10 - 20	Closed Spruce-Paper Birch Forest	14	Open Balsam Poplar (Black Cottonwood) Forest	24
20 - 30	Closed Spruce-Paper Birch Forest	14	Open Balsam Poplar (Black Cottonwood) Forest	24

Key To Fish Sampling Methods

Estimated reach length (m): 285

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 23 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 85 **Max:** 122 **Mean:** 108 **Median:** 103
Sampling Method (No. of fish): PEF (3) VOG (20)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 52 **Max:** 52 **Mean:** 52 **Median:** 52
Sampling Method (No. of fish): PEF (1) VOG (6)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 30 **Max:** 72 **Mean:** 48 **Median:** 51
Sampling Method (No. of fish): PEF (9)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 70 **Max:** 74 **Mean:** 72 **Median:** 72
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

FSS1119C010618.jpg

FSS1119C010619.jpg

FSS1119C010620.jpg

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FSS1119C010621.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 10:56 AM

	Latitude	Longitude
Sample Coordinates	61.91236	-149.52512

Elevation NED (m)(ft): 736 2415
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S021N001W18
Waterbody Name: Little Willow Creek
Anadromous Waters Catalog Number:
Geographic Comments: No landing zone was identified on target stream HM118. No sampling occurred.

Visit Comments: No habitat data was collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1119C020622.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 11:05 AM

	Latitude	Longitude
Sample Coordinates	61.85954	-149.45580

Elevation NED (m)(ft): 659 2162
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S021N001W33
Waterbody Name: Peters Creek
Anadromous Waters Catalog Number:
Geographic Comments: No landing zone was identified on target stream # HM31.

Visit Comments: No data collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1119C030623.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 11:26 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.83539	-149.37911		61.83564	-149.37660		61.83557	-149.37976

Elevation NED (m)(ft): 835 2740
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S020N001W12
Waterbody Name: Purches Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM66

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.21 **DO (mg/L):** 11.60 **DO (%):** 93.90 **Conductivity (µS/cm):** 16 **pH:** 6.56
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 0.61 2.00

Stream Channel

Stream Gradient (%): 0.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 17 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	11.5		6.8
Thalweg Depth	0.94		0.42

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Boulder

Rosgen Class: C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
5 - 10	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
10 - 20	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
20 - 30	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1

Key To Fish Sampling Methods

Estimated reach length (m): 310

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 7 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 105 **Max:** 105 **Mean:** 105 **Median:** 105
Sampling Method (No. of fish): PEF (1) VOG (6)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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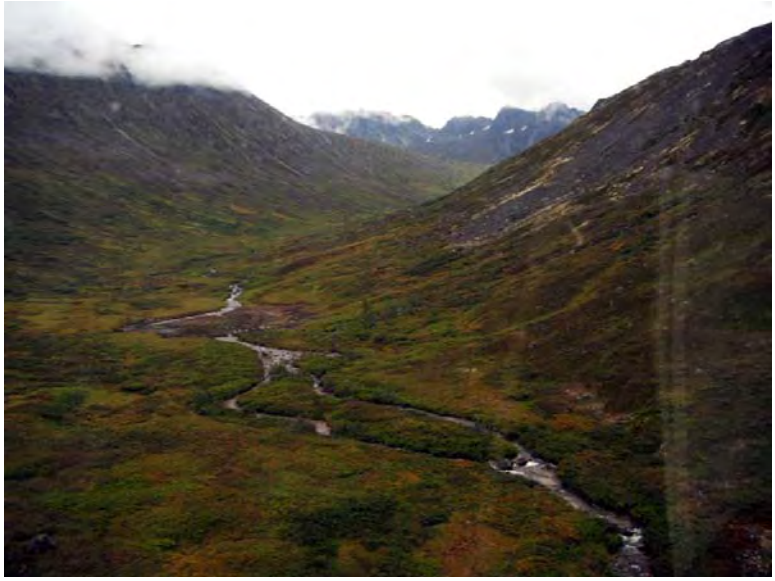

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 12:25 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.75888	-149.43730		61.75957	-149.43460		61.75846	-149.43845

Elevation NED (m)(ft): 682 2238
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S019N001W03
Waterbody Name: Willow Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM28I mining infrastructure adjacent to the stream.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.49 **DO (mg/L):** 11.63 **DO (%):** 94.60 **Conductivity (µS/cm):** 74 **pH:** 7.69
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 1.43 4.69

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 31 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	11.5		9.2
Thalweg Depth	0.95		0.41

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Gravel

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	4	Closed Tall Willow Shrub	1.2
5 - 10	Closed Tall Willow Shrub	4	Closed Tall Willow Shrub	1.2
10 - 20	Closed Tall Willow Shrub	4	Closed Tall Willow Shrub	1.2
20 - 30	Closed Tall Willow Shrub	4	Closed Tall Willow Shrub	1.2

Key To Fish Sampling Methods

Estimated reach length (m): 301

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 126 **Max:** 161 **Mean:** 143 **Median:** 143
Sampling Method (No. of fish): PEF (2) VOG (8)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 66 **Max:** 66 **Mean:** 66 **Median:** 66
Sampling Method (No. of fish): PEF (1) VOG (2)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 67 **Max:** 75 **Mean:** 71 **Median:** 71
Sampling Method (No. of fish): PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): PEF (1)
Comments:

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Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 1:41 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.68143	-148.55629		61.67941	-148.55547		61.68235	-148.55646

Elevation NED (m)(ft): 689 2260
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S018N005E04
Waterbody Name: Carpenter Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM71

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.08 **DO (mg/L):** 12.20 **DO (%):** 95.70 **Conductivity (µS/cm):** 86 **pH:** 7.66
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 80.70 **Thalweg Velocity (m/s)(ft/s):** 1.65 5.41

Stream Channel

Stream Gradient (%): 1.2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 52 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	12.5		8.5
Thalweg Depth	1.20		0.75

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Sand

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	1.8	Closed Tall Alder-Willow Shrub	5.5
5 - 10	Open Tall Willow Shrub	1.8	Closed Tall Alder-Willow Shrub	5.5
10 - 20	Open Tall Willow Shrub	1.8	Closed Black Cottonwood Forest	15
20 - 30	Open Tall Willow Shrub	1.8	Closed Tall Willow Shrub	5

Key To Fish Sampling Methods

Estimated reach length (m): 370

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 7 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (7)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 32 **Fish Measured:** 17 **Fork Lengths (mm)** **Min:** 118 **Max:** 235 **Mean:** 167 **Median:** 176
Sampling Method (No. of fish): PEF (17) VOG (15)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/22/2011 1:56 PM

	Latitude	Longitude
Sample Coordinates	61.78856	-149.14443

Elevation NED (m)(ft): 661 2169
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-6 **Legal Description (MTRS):** S020N002E29
Waterbody Name: Little Susitna River
Anadromous Waters Catalog Number:
Geographic Comments: No landing zone was observed on target stream # HM145. No data were collected.

Visit Comments: No sampling occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/23/2011 8:40 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.29761	-148.99991		62.29761	-148.99991		62.30381	-149.04293

Elevation NED (m)(ft): 661 2169
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna Mts B-4 **Legal Description (MTRS):** S026N002E36
Waterbody Name: Iron Creek
Anadromous Waters Catalog Number:
Geographic Comments:

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.86 **DO (mg/L):** 11.47 **DO (%):** 89.50 **Conductivity (µS/cm):** 52 **pH:** 7.26
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 14.00 **Thalweg Velocity (m/s)(ft/s):** 2.10 6.89

Stream Channel

Stream Gradient (%): 1.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 183 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	16.0		13.0	**Subdominant Substrate 1:** Boulder
Thalweg Depth	1.26		0.70	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	2	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Tall Alder Shrub	2	Closed Paper Birch Forest	4
10 - 20	Closed Tall Alder Shrub	2	Closed Paper Birch Forest	4
20 - 30	Closed Tall Alder Shrub	2	Closed Paper Birch Forest	4

Key To Fish Sampling Methods

Estimated reach length (m): 2600 **Total Electrofishing Time (s):** 743

(BEF) Boat-Mounted Electrofisher (VOB) Visual Observation, Boat

Fish Observations

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (4)
Comments: Event DD Dolly Varden approximately 350mm.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 30 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 134 **Max:** 431 **Mean:** 237 **Median:** 282
Sampling Method (No. of fish): BEF (9) VOB (21)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (10)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: GPS Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: handheld laser rangefinder

Electrofisher: Smith-Root GPP 2.5

Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/23/2011 9:34 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.81971	-147.37338	**Sample Coordinates**	61.82095	-147.36887	/	61.81927	-147.37443

Elevation NED (m)(ft): 764 2507
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-1 **Legal Description (MTRS):** S020N011E13
Waterbody Name: East Fork Matanuska River
Anadromous Waters Catalog Number:
Geographic Comments: HM62

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.48 **DO (mg/L):** 12.01 **DO (%):** 95.20 **Conductivity (µS/cm):** 163 **pH:** 7.29
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 24.00 **Thalweg Velocity (m/s)(ft/s):** 1.56 5.12

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 138 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	12.1		8.6	**Dominant Substrate:** Cobble
Thalweg Depth	0.99		0.51	**Subdominant Substrate 1:** Boulder
				Subdominant Substrate 2: Sand

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open Tall Alder Shrub	1.8	Closed Paper Birch Forest	9
5 - 10	Open Tall Alder Shrub	1.8	Closed Paper Birch Forest	9
10 - 20	Open Tall Alder Shrub	1.8	Closed Paper Birch Forest	14
20 - 30	Closed Tall Alder-Willow Shrub	3	Closed Paper Birch Forest	14

Key To Fish Sampling Methods

Estimated reach length (m): 430

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 31 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 90 **Max:** 134 **Mean:** 105 **Median:** 112
Sampling Method (No. of fish): PEF (11) VOG (20)
Comments:

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 118 **Max:** 121 **Mean:** 119 **Median:** 119
Sampling Method (No. of fish): PEF (2) VOG (3)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Species: rainbow trout **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 38 **Max:** 101 **Mean:** 69 **Median:** 69
Sampling Method (No. of fish): PEF (2)
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 95 **Max:** 105 **Mean:** 100 **Median:** 100
Sampling Method (No. of fish): PEF (2)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 89 **Max:** 90 **Mean:** 89 **Median:** 89
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/23/2011 11:10 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.81139	-147.71274		61.81359	-147.71596		61.81139	-147.71274

Elevation NED (m)(ft): 590 1936
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-2 **Legal Description (MTRS):** S020N010E19
Waterbody Name: Caribou Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM82, pretty steep canyon

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 6.35 **DO (mg/L):** 12.11 **DO (%):** 98.40 **Conductivity (µS/cm):** 370 **pH:** 8.16
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 134.00 **Thalweg Velocity (m/s)(ft/s):** 1.30 4.26

Stream Channel

Stream Gradient (%): 0.3 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 743 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	50.0		14.5	**Subdominant Substrate 1:** Sand
Thalweg Depth	2.20		0.80	**Subdominant Substrate 2:** Gravel

Dominant Substrate: Cobble

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	8	Closed Tall Alder Shrub	5.5
5 - 10	Closed Tall Alder-Willow Shrub	8	Closed Tall Alder Shrub	5.5
10 - 20	Closed Paper Birch Forest	14	Closed Black Cottonwood Forest	26
20 - 30	Closed Paper Birch Forest	14	Closed Black Cottonwood Forest	26

Key To Fish Sampling Methods

Estimated reach length (m): 315

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 12 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 115 **Max:** 144 **Mean:** 129 **Median:** 129
Sampling Method (No. of fish): PEF (2) VOG (10)
Comments:

Species: Arctic grayling **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 30 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (30)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 50 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (50)
Comments:

Species: Arctic grayling **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 100 **Max:** 159 **Mean:** 126 **Median:** 129
Sampling Method (No. of fish): PEF (5)
Comments:

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Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 72 **Max:** 110 **Mean:** 93 **Median:** 91
Sampling Method (No. of fish): PEF (5)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 46 **Max:** 46 **Mean:** 46 **Median:** 46
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: Orange Float
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/23/2011 12:46 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.66955	-147.79768		61.66920	-147.79760		61.67076	-147.79739

Elevation NED (m)(ft): 808 2651
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-3 **Legal Description (MTRS):** S018N009E10
Waterbody Name: Glacier Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM43. There is a glacier about a half mile upstream of site.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 0.45 **DO (mg/L):** 13.38 **DO (%):** 92.40 **Conductivity (µS/cm):** 160 **pH:** 7.14
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 248.00 **Thalweg Velocity (m/s)(ft/s):** 1.47 4.82

Stream Channel

Stream Gradient (%): 1.3 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 35 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	35.0		6.0
Thalweg Depth	1.92		0.42

Dominant Substrate: Cobble
Subdominant Substrate 1: Sand
Subdominant Substrate 2: Boulder

Rosgen Class: B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Closed Tall Alder Shrub	4.5
10 - 20	Open Low Alder Shrub	1.4	Closed Tall Alder Shrub	4.5
20 - 30	Open Low Alder Shrub	1.4	Closed Tall Alder Shrub	4.5

Key To Fish Sampling Methods

Estimated reach length (m): 230

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/23/2011 1:56 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.70482	-148.29855		61.70405	-148.29390		61.70475	-148.29957

Elevation NED (m)(ft): 709 2326
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-4 **Legal Description (MTRS):** S019N006E25
Waterbody Name: Coal Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM38
Visit Comments: Lost velocity board.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.17 **DO (mg/L):** 12.47 **DO (%):** 95.70 **Conductivity (µS/cm):** 240 **pH:** 8.09
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 83.40 **Thalweg Velocity (m/s)(ft/s):** 1.89 6.20

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 79 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	60.0		5.5	**Dominant Substrate:** Cobble
Thalweg Depth	1.20		0.38	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	6	Unvegetated	
5 - 10	Closed Tall Alder Shrub	6	Unvegetated	
10 - 20	Closed Tall Alder Shrub	6	Unvegetated	
20 - 30	Closed Tall Alder Shrub	6	Open Tall Alder Shrub	5.5

Key To Fish Sampling Methods

Estimated reach length (m): 460

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 12 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 106 **Max:** 215 **Mean:** 189 **Median:** 160
Sampling Method (No. of fish): PEF (12)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 75 **Max:** 75 **Mean:** 75 **Median:** 75
Sampling Method (No. of fish): PEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: Orange Float

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

-continued-

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FSS1120C040658.jpg

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FSS1120C040659.jpg

Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/23/2011 3:40 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.60878	-148.39329		61.60997	-148.39397		61.60818	-148.39310

Elevation NED (m)(ft): 667 2188
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-4 **Legal Description (MTRS):** S018N006E32
Waterbody Name: Metal Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM25

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 2.77 **DO (mg/L):** 13.12 **DO (%):** 97.00 **Conductivity (µS/cm):** 134 **pH:** 6.30
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 953.00 **Thalweg Velocity (m/s)(ft/s):** 2.80 9.18

Stream Channel

Stream Gradient (%): 2.75 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 62 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	15.0		6.2
Thalweg Depth	1.40		0.80

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Sand

Rosgen Class: B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	4.5	Unvegetated	
5 - 10	Closed Tall Alder-Willow Shrub	4.5	Unvegetated	
10 - 20	Closed Tall Alder-Willow Shrub	4.5	Closed Tall Alder-Willow Shrub	6.5
20 - 30	Closed Tall Alder-Willow Shrub	4.5	Closed Tall Alder-Willow Shrub	6.5

Key To Fish Sampling Methods

Estimated reach length (m): 222

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: Orange Float **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

-continued-

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FSS1120C050662.jpg

FSS1120C050663.jpg

-continued-

FSS1120C050664.jpg

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/24/2011 11:20 AM

	Latitude	Longitude
Sample Coordinates	61.47886	-148.71049

Elevation NED (m)(ft): 34 112
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E15
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Mouth of a clear, right-bank Knik River tributary. This stream flows along the edge of the Knik River floodplain in an area dominated by mature-stage cottonwood and alder, which was abandoned by the main channel, but may still be flooded annually.

Visit Comments: Visual observations only--no habitat data or fish were collected. A major ATV trail crosses this stream (probably through a sockeye spawning area), and we saw evidence of anglers targeting these salmon.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 28 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (100) **Suspected Spawning:** Yes
Comments:

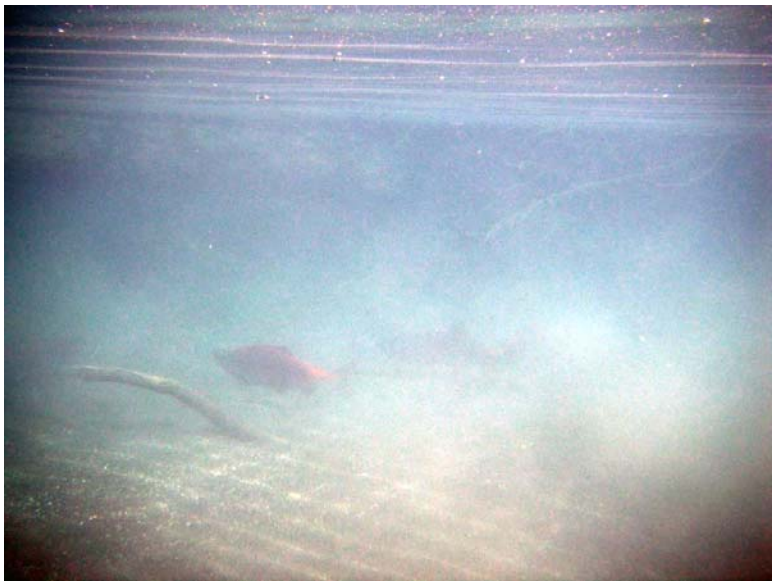
Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 30 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (30) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1121A010767.jpg



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Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/24/2011 11:46 AM

	Latitude	Longitude
Sample Coordinates	61.46990	-148.68604

Elevation NED (m)(ft): 52 171
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E14
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear, right-bank Knik River side channel.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 30 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (100)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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FSS1121A020777.jpg

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/24/2011 12:30 PM

	Latitude	Longitude
Sample Coordinates	61.52175	-148.81443

Elevation NED (m)(ft): 28 92
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S017N004E31
Waterbody Name:
Anadromous Waters Catalog Number: 247-50-10200-2081-3041
Geographic Comments: Left bank Jim Creek tributary.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 10 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 11 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (11)
Comments: around 100 mm.

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (3)
Comments: 80-100 mm

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/24/2011 12:37 PM

	Latitude	Longitude
Sample Coordinates	61.53202	-148.84128

Elevation NED (m)(ft): 28 92
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S017N003E25
Waterbody Name:
Anadromous Waters Catalog Number: 247-50-10200-2081-3041
Geographic Comments: Left bank Jim Creek tributary. Seasonally inundated by Leaf Lake.

Visit Comments: Minnow trapping only--no electrofishing or habitat assessment occurred.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 4 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (4)
Comments: 60-90 mm

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (3)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (1)
Comments: Others may have been present, but, as planktivores, were not attracted into the minnow traps.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**

-continued-

Water Quality: **Transparency:**

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FSS1121A040811.jpg

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/24/2011 1:39 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.82932	-149.49916		61.82973	-149.49645		61.82932	-149.49916

Elevation NED (m)(ft): 670 2198
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S020N001W17
Waterbody Name: Purches Creek
Anadromous Waters Catalog Number:
Geographic Comments: Appears moderately entrenched upstream of station.

Visit Comments: Thalweg was too deep to wade, so TVHR was measured along the fringe. Actual velocity is higher than reported here.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 8.20 **DO (mg/L):** 10.80 **DO (%):** 91.70 **Conductivity (µS/cm):** 18 **pH:** 6.88
Water Color: Clear **Turbidity (NTU):** 1.13 **Thalweg Velocity (m/s)(ft/s):** 1.29 4.23

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 52 **Embeddedness:** Negligible

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	13.0		11.0
Thalweg Depth	1.43		0.75

Dominant Substrate: Boulder
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class: C2 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Open White Spruce Forest	10	Closed Tall Alder-Willow Shrub	1.5
5 - 10	Open White Spruce Forest	10	Crowberry Dwarf Shrub Tundra	0.3
10 - 20	Open White Spruce Forest	10	Mesic Sedge-Grass Meadow Tundra	0.5
20 - 30	Open White Spruce Forest	10	Mesic Sedge-Grass Meadow Tundra	0.5

Key To Fish Sampling Methods

Estimated reach length (m): 260

(PEF) Backpack Electrofisher

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 33 **Max:** 77 **Mean:** 46 **Median:** 55
Sampling Method (No. of fish): PEF (9)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 61 **Max:** 61 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 45 **Max:** 45 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 84 **Max:** 126 **Mean:** 109 **Median:** 105
Sampling Method (No. of fish): PEF (5)
Comments:

-continued-

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 76 **Max:** 76 **Mean:** 76 **Median:** 76
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: handheld laser rangefinder
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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FSS1121A050780.jpg

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FSS1121A050782.jpg

FSS1121A050785.jpg

FSS1121A050786.jpg

Station Info

Observers: Joe Buckwalter, Heidi Zimmer **Date/Time:** 08/24/2011 5:08 PM

	Latitude	Longitude
Sample Coordinates	61.53677	-148.85368

Elevation NED (m)(ft): 28 92
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S017N003E26
Waterbody Name:
Anadromous Waters Catalog Number: 247-50-10200-2081-3041
Geographic Comments: Left bank Jim Creek tributary. Site is seasonally inundated by Leaf Lake.

Visit Comments: Visual observations only--no habitat data or fish were collected. Appears to be spring-fed.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOH) Visual Observation, Helicopter

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 30 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOH (30)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

FSS1121A060812.jpg
Sockeye salmon spawning.

FSS1121A060813.jpg
Sockeye salmon spawning.

Station Info

Observers: Joe Buckwalter, Heidi Zimmer, Stormy Haught, Raye Ann Neustel **Date/Time:** 08/24/2011 9:35 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.32294	-148.48040		61.32198	-148.47993		61.32294	-148.48040

Elevation NED (m)(ft): 106 348
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-4 **Legal Description (MTRS):** S014N005E12
Waterbody Name: Fourteen Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM131. Habitat transect on Fourteen Creek just downstream of small clear tributary mouth. The reach of Fourteen Creek where the habitat transect was located had a small left-bank side channel.

Visit Comments: Raye Ann and Stormy sampled the turbid Fourteen Creek mainstem. Joe and Heidi sampled a clear tributary (water temp 9.7 C, conductivity 160 us/cm, 8.2 DO mg/L, 72.2 DO%, 6.78 pH, turbidity 7.58 NTU).

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.52 **DO (mg/L):** 12.86 **DO (%):** 96.80 **Conductivity (µS/cm):** 61 **pH:** 7.20
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 85.00 **Thalweg Velocity (m/s)(ft/s):** 0.60 1.97

Stream Channel

Stream Gradient (%): 0 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 12 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	8.3		7.8	**Dominant Substrate:** Silt/Clay
Thalweg Depth	0.90		0.74	**Subdominant Substrate 1:**
				Subdominant Substrate 2:

Rosgen Class: E5 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Fresh Sedge Marsh	0.5	Fresh Sedge Marsh	0.5
5 - 10	Fresh Sedge Marsh	0.5	Fresh Sedge Marsh	0.5
10 - 20	Fresh Sedge Marsh	0.5	Fresh Sedge Marsh	0.5
20 - 30	Fresh Sedge Marsh	0.5	Fresh Sedge Marsh	0.5

Key To Fish Sampling Methods

Estimated reach length (m): 140

(PEF) Backpack Electrofisher (MTR) Minnow Trap
(VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 24 **Fish Measured:** 16 **Fork Lengths (mm)** **Min:** 90 **Max:** 207 **Mean:** 147 **Median:** 148
Sampling Method (No. of fish): MTR (3) PEF (15) VOG (6)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments: In turbid mainstem.

Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

-continued-

FSS1121B010454.jpg

FSS1121B010455.jpg
Looking down Fourteen Creek from habitat transect.

FSS1121B010456.jpg
Right bank.

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FSS1121B010459.jpg

Fourteen Creek with Clear trib entering from right.

Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/24/2011 11:15 AM

	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
		61.46628	-148.65442	/	61.46612	-148.65602

Elevation NED (m)(ft): 45 148
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E24
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Clear, right-bank Knik River tributary. This stream flows along the edge of the Knik River floodplain in an area dominated by mature-stage cottonwood and alder, which was abandoned by the main channel, but may still be flooded annually.

Visit Comments: A major ATV trail parallels and crosses this creek multiple times. Electrofished only--No habitat data collected at this site.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 23 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

Estimated reach length (m): 120

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 31 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 46 **Max:** 46 **Mean:** 46 **Median:** 46
Sampling Method (No. of fish): PEF (1) VOG (30)
Comments:

Species: sculpin-unspecified **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 12 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 143 **Max:** 229 **Mean:** 186 **Median:** 186
Sampling Method (No. of fish): PEF (2) VOG (10)
Comments:

-continued-

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 8 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 57 **Max:** 63 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): PEF (3) VOG (5)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 7 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 49 **Max:** 69 **Mean:** 59 **Median:** 59
Sampling Method (No. of fish): PEF (5) VOG (2)
Comments:

Species: threespine stickleback **Life Stage:** adult **Life History:** Unknown
Total Fish Count: 10 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (10)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 70 **Max:** 70 **Mean:** 70 **Median:** 70
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient:
Channel Depths:
Stream Velocity:
Channel Widths:
Turbidity:
Electrofisher:
Water Quality:
Transparency:

-continued-

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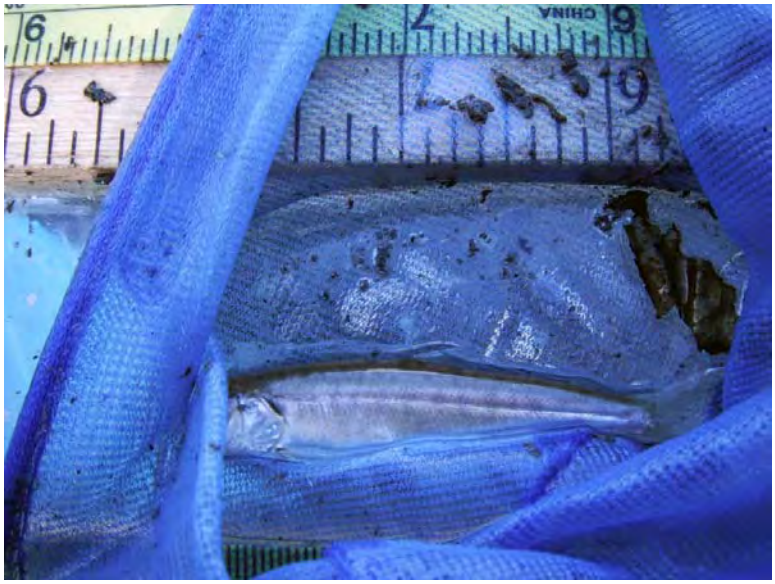

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Juvenile sockeye salmon.

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Station Info

Observers: Raye Ann Neustel, Stormy Haught **Date/Time:** 08/24/2011 2:23 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.85726	-149.46468	**Sample Coordinates**	61.85787	-149.46252	/	61.85726	-149.46468

Elevation NED (m)(ft): 654 2146
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-7 **Legal Description (MTRS):** S020N001W04
Waterbody Name: Peters Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM31

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.26 **DO (mg/L):** 11.13 **DO (%):** 92.30 **Conductivity (µS/cm):** 18 **pH:** 6.93
Water Color: Clear **Turbidity (NTU):** 3.72 **Thalweg Velocity (m/s)(ft/s):** 0.90 2.95

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 52 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width	16.4		16.2
Thalweg Depth	0.70		0.21

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Fireweed	0.3	Closed Tall Alder Shrub	2
5 - 10	Closed Low Alder-Willow Shrub	0.4	Closed Tall Alder Shrub	2
10 - 20	Closed Low Alder-Willow Shrub	0.4	Closed Tall Alder Shrub	2
20 - 30	Midgrass-Herb	0.3	Midgrass-Herb	0.3

Key To Fish Sampling Methods

Estimated reach length (m): 198

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 19 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 60 **Max:** 113 **Mean:** 82 **Median:** 86
Sampling Method (No. of fish): PEF (5) VOG (14)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 21 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 25 **Max:** 90 **Mean:** 57 **Median:** 57
Sampling Method (No. of fish): PEF (4) VOG (17)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: Orange Float **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root GPP 2.5
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/24/2011 9:18 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.96285	-147.99423	**Sample Coordinates**	61.96469	-147.99289	/	61.96267	-147.99547

Elevation NED (m)(ft): 991 3251
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-3 **Legal Description (MTRS):** S022N008E28
Waterbody Name: Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM14

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.78 **DO (mg/L):** 11.90 **DO (%):** 92.80 **Conductivity (µS/cm):** 154 **pH:** 8.14
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 7.97 **Thalweg Velocity (m/s)(ft/s):** 0.96 3.15

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 50 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	8.2		6.1	**Dominant Substrate:** Cobble
Thalweg Depth	0.80		0.30	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	6	Open Low Willow Shrub	0.3
5 - 10	Closed Tall Willow Shrub	6	Open Low Willow Shrub	0.3
10 - 20	Closed Tall Willow Shrub	6	Closed Tall Willow Shrub	5.5
20 - 30	Closed Tall Willow Shrub	3	Closed Low Willow Shrub	0.4

Key To Fish Sampling Methods

Estimated reach length (m): 330

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: rainbow trout **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (3)
Comments:

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 7 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 221 **Max:** 265 **Mean:** 250 **Median:** 243
Sampling Method (No. of fish): PEF (7)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/24/2011 10:39 AM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	61.88341	-148.16349	**Sample Coordinates**	61.88324	-148.16087	/	61.88317	-148.16554

Elevation NED (m)(ft): 813 2667
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage D-4 **Legal Description (MTRS):** S021N007E27
Waterbody Name: East Boulder Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM159

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.21 **DO (mg/L):** 12.01 **DO (%):** 94.50 **Conductivity (µS/cm):** 135 **pH:** 8.05
Water Color: Clear **Turbidity (NTU):** 0.00 **Thalweg Velocity (m/s)(ft/s):** 1.00 3.28

Stream Channel

Stream Gradient (%): 0.75 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 50 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	6.8		5.0	**Dominant Substrate:** Cobble
Thalweg Depth	0.59		0.27	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Boulder

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Unvegetated	
5 - 10	Closed Spruce-Paper Birch Forest	18	Unvegetated	
10 - 20	Closed Spruce-Paper Birch Forest	18	Unvegetated	
20 - 30	Closed Spruce-Paper Birch Forest	18	Closed Spruce-Paper Birch Forest	18

Key To Fish Sampling Methods

Estimated reach length (m): 269

(PEF) Backpack Electrofisher

Fish Observations

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 135 **Max:** 142 **Mean:** 138 **Median:** 138
Sampling Method (No. of fish): PEF (2)
Comments:

Species: rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 245 **Max:** 255 **Mean:** 250 **Median:** 250
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/24/2011 11:40 AM

	Latitude	Longitude
Sample Coordinates	61.71344	-148.80788

Elevation NED (m)(ft): 191 627
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-5 **Legal Description (MTRS):** S019N004E30
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Side stream of the Matanuska River. Sample site 16C04 was at the mouth and coho and Chinook salmon were found so we revisited the site and climbed up the river a little ways to sample upstream of where we sampled before. Spot-shocked this stream.

Visit Comments: No habitat data was collected. Spot shocked looking for fish presence.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 32 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(PEF) Backpack Electrofisher

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 118 **Max:** 130 **Mean:** 122 **Median:** 124
Sampling Method (No. of fish): PEF (3)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:** Smith-Root LR-24
Water Quality: **Transparency:**

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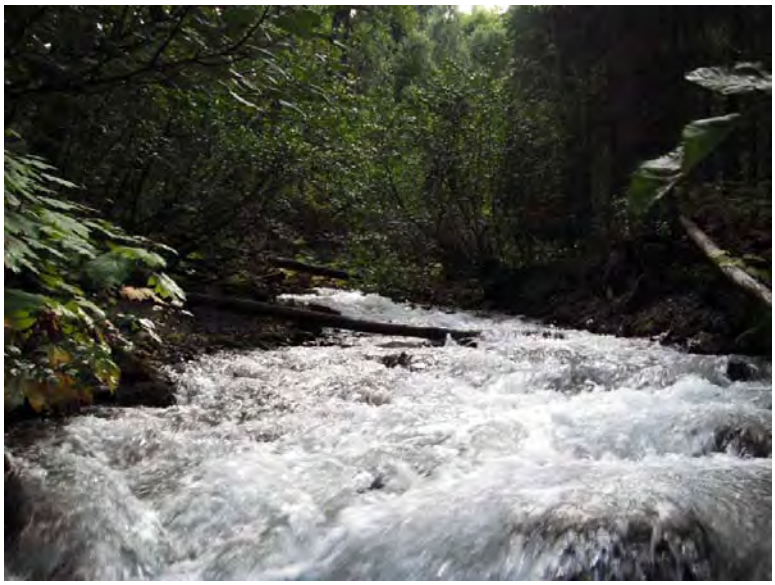

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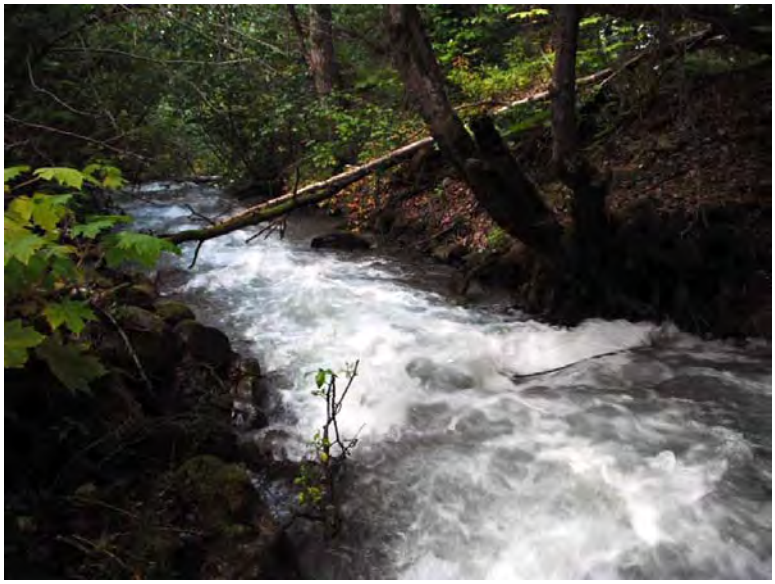

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Station Info

Observers: Jonathan Kirsch, Bob Powers **Date/Time:** 08/24/2011 3:27 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.67777	-149.04030	/	61.67299	-149.03728

Elevation NED (m)(ft): 127 417
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-6 **Legal Description (MTRS):** S018N002E02
Waterbody Name: Moose Creek
Anadromous Waters Catalog Number: 247-50-10220-2085
Geographic Comments: Began spot shocking at mouth and proceeded up stream. No habitat data recorded.

Visit Comments: No habitat data collected. Team C chose to sample here after aerial survey revealed favorable habitat. Spot-shocked to confirm salmon presence.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 136 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 8 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 61 **Max:** 65 **Mean:** 63 **Median:** 63
Sampling Method (No. of fish): PEF (3) VOG (5)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 14 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 56 **Max:** 64 **Mean:** 59 **Median:** 60
Sampling Method (No. of fish): PEF (4) VOG (10)
Comments:

Species: chum salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (6) **Suspected Spawning:** Yes
Comments:

Species: pink salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 5 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (5) **Suspected Spawning:** Yes
Comments:

-continued-

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (2) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient:
Stream Velocity:
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher: Smith-Root LR-24
Transparency:

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/01/2011 8:20 AM

	Latitude	Longitude
Sample Coordinates	62.42975	-151.39777

Elevation NED (m)(ft): 422 1385
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna B-3 **Legal Description (MTRS):** S027N011W18
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments: Sampled at mouth of small tributary flowing into lake from wetlands area.

Visit Comments: No water quality data collected. This sample site is on the south end of Chelatna Lake where float plane traffic lands.Tributary coming from wetlands area has ATV tracks crossing creek. Picture 519 was from a fuel stop at the same site on 08/17/2011. The entirety of this stream was floated by cataraft and sampling was done by angling, minnow trap and visual observation.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 1.10 3.61

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 213 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	10	Open Paper Birch-Balsam Poplar-Spruce Forest	24
5 - 10	Closed Tall Alder-Willow Shrub	10	Open Paper Birch-Balsam Poplar-Spruce Forest	24
10 - 20	Closed Tall Alder-Willow Shrub	10	Open Paper Birch-Balsam Poplar-Spruce Forest	24
20 - 30	Closed Tall Alder-Willow Shrub	10	Open Paper Birch-Balsam Poplar-Spruce Forest	24

Key To Fish Sampling Methods

(ANG) Angling (MTR) Minnow Trap
(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 144 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 476 **Max:** 492 **Mean:** 484 **Median:** 484
Sampling Method (No. of fish): ANG (3) VOG (141)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 35 **Fish Measured:** 12 **Fork Lengths (mm)** **Min:** 40 **Max:** 47 **Mean:** 43 **Median:** 43
Sampling Method (No. of fish): MTR (12) VOG (23)
Comments:

Species: sockeye salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments: photo # 519

-continued-

Instruments

Stream Gradient:

Stream Velocity: GPS Float

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

FSS1122C011476.jpg

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/02/2011 9:11 AM

	Latitude	Longitude
Sample Coordinates	62.36592	-151.29478

Elevation NED (m)(ft): 382 1253
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna B-3 **Legal Description (MTRS):** S026N011W03
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments: Sample site at confluence of Sunflower Creek and Lake Creek. Small unnamed tributary on river left confluencing with Lake Creek approximately 20 m upstream of Sunflower Creek and Lake Creek confluence.

Visit Comments: No water quality data collected. This entire creek was sampled by cataraft using minnow traps, angling and visual observation.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 2.10 6.89

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 435 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	18	Closed Tall Alder-Willow Shrub	22
5 - 10	Closed Tall Alder-Willow Shrub	18	Closed Tall Alder-Willow Shrub	22
10 - 20	Closed Tall Alder-Willow Shrub	18	Closed Tall Alder-Willow Shrub	22
20 - 30	Closed Tall Alder-Willow Shrub	18	Closed Tall Alder-Willow Shrub	22

Key To Fish Sampling Methods

(ANG) Angling (DIP) Dip Net
(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 22 **Fish Measured:** 22 **Fork Lengths (mm)** **Min:** 46 **Max:** 70 **Mean:** 55 **Median:** 58
Sampling Method (No. of fish): MTR (22)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 14 **Fish Measured:** 14 **Fork Lengths (mm)** **Min:** 49 **Max:** 85 **Mean:** 62 **Median:** 67
Sampling Method (No. of fish): MTR (14)
Comments:

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 48 **Max:** 50 **Mean:** 49 **Median:** 49
Sampling Method (No. of fish): DIP (4)
Comments: These sockeye juveniles were observed swimming near minnow trap and were caught by dip net.

-continued-

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 9 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (9)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 609 **Max:** 611 **Mean:** 610 **Median:** 610
Sampling Method (No. of fish): ANG (2)
Comments:

Instruments

Stream Gradient:
Stream Velocity: GPS Float
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher:
Transparency:

FSS1123C011479.jpg

FSS1123C011481.jpg

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/03/2011 11:48 AM

	Latitude	Longitude
Sample Coordinates	62.25186	-151.16078

Elevation NED (m)(ft): 319 1047
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna B-3 **Legal Description (MTRS):** S025N010W17
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments: Sample site at confluence of Lake Creek and Home Creek.

Visit Comments: This site was sampled with minnow traps, angling and visual observation.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 2.50 8.20

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 731 **Embeddedness:** Negligible

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(ANG) Angling (MTR) Minnow Trap
(VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 64 **Max:** 69 **Mean:** 66 **Median:** 66
Sampling Method (No. of fish): MTR (2)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 54 **Max:** 67 **Mean:** 58 **Median:** 60
Sampling Method (No. of fish): MTR (3)
Comments:

Species: rainbow trout **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 94 **Max:** 101 **Mean:** 97 **Median:** 97
Sampling Method (No. of fish): MTR (2)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 491 **Max:** 611 **Mean:** 551 **Median:** 551
Sampling Method (No. of fish): ANG (2) VOG (1)
Comments:

-continued-

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 5 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 476 **Max:** 492 **Mean:** 484 **Median:** 484
Sampling Method (No. of fish): ANG (3) VOG (2)
Comments:

Instruments

Stream Gradient:
Stream Velocity: GPS Float
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher:
Transparency:

-continued-

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FSS1124C011484.jpg

FSS1124C011495.jpg

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/03/2011 1:33 PM

	Latitude	Longitude
Sample Coordinates	62.22231	-151.10507

Elevation NED (m)(ft): 303 994
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-3 **Legal Description (MTRS):** S025N010W27
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments:
Visit Comments: No habitat data collected. The entirety of this stream was floated by cataraft. Beaver complex at this site on river left has created an off channel where adult sockeye salmon were observed holding. Spawning suspected, though substrate was not ideal.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 2.40 7.87

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 805 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 55 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (55) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: GPS Float **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/03/2011 3:55 PM

	Latitude	Longitude
Sample Coordinates	62.16824	-151.05487

Elevation NED (m)(ft): 278 912
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-3 **Legal Description (MTRS):** S024N010W14
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments: No sampling data collected. This entire river was floated via cataraft and this was a fish observation waypoint.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 832 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOB) Visual Observation, Boat

Fish Observations

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (2)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/04/2011 10:34 AM

	Latitude	Longitude
Sample Coordinates	62.13811	-150.99935

Elevation NED (m)(ft): 223 732
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-2 **Legal Description (MTRS):** S024N009W30
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments:
Visit Comments: Minnow traps placed in a side-channel habitat with hyporheic pools also connected to this side-channel. No habitat data collected.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 851 **Embeddedness:** High

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Silt/Clay
Subdominant Substrate 2:
Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 42 **Fish Measured:** 39 **Fork Lengths (mm)** **Min:** 42 **Max:** 65 **Mean:** 51 **Median:** 53
Sampling Method (No. of fish): MTR (39) VOG (3)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 22 **Fish Measured:** 14 **Fork Lengths (mm)** **Min:** 40 **Max:** 82 **Mean:** 52 **Median:** 61
Sampling Method (No. of fish): MTR (14) VOG (8)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/04/2011 11:50 AM

	Latitude	Longitude
Sample Coordinates	61.95709	-150.90675

Elevation NED (m)(ft): 56 184
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-3 **Legal Description (MTRS):** S022N009W34
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments:
Visit Comments: No habitat data collected. Waypoint 24C03 suspected spawning sockeye salmon activity observed also, approximately 1 km downriver. Adults holding in side channel habitat.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 2.50 8.20

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1053 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay
Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOB) Visual Observation, Boat

Fish Observations

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 60 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (60) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: GPS Float **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/04/2011 12:00 PM

	Latitude	Longitude
Sample Coordinates	61.94425	-150.91135

Elevation NED (m)(ft): 45 148
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-3 **Legal Description (MTRS):** S021N009W03
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments: This entire river was floated by cataraft. This was just a fish observation and no water quality data was collected.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1060 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOB) Visual Observation, Boat

Fish Observations

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOB (1) **Suspected Spawning:** Yes
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/04/2011 8:01 AM

	Latitude	Longitude
Sample Coordinates	61.93593	-150.91383

Elevation NED (m)(ft): 38 125
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-3 **Legal Description (MTRS):** S021N009W03
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments: The main channel of Lake Creek that confluences with the Yentna River has changed starting at this site which is approximately 8 km upriver from the mouth and has formed a new channel approximately 4 km north of old main channel.

Visit Comments: No water quality data collected. The new main channel of Lake Creek that confluences with the Yentna River has numerous beaver complexes and backwater rearing habitat.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1062 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Silt/Clay
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Cobble

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 50 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (50)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/12/2011 10:50 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.28225	-152.65063		62.28301	-152.65319		62.28086	-152.64774

Elevation NED (m)(ft): 408 1339
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna B-6 **Legal Description (MTRS):** S025N018W05
Waterbody Name: Kachatna River
Anadromous Waters Catalog Number:
Geographic Comments: HY41

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.16 **DO (mg/L):** 11.40 **DO (%):** 87.50 **Conductivity (µS/cm):** 161 **pH:** 6.84
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 4.78 **Thalweg Velocity (m/s)(ft/s):** 1.43 4.69

Stream Channel

Stream Gradient (%): 1.75 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 148 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	81.0		11.0	**Subdominant Substrate 1:** Gravel
Thalweg Depth	1.44		0.76	**Subdominant Substrate 2:** Silt/Clay

Dominant Substrate: Cobble

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Open Tall Alder-Willow Shrub	16
5 - 10	Unvegetated		Open Tall Alder-Willow Shrub	16
10 - 20	Unvegetated		Open Tall Alder-Willow Shrub	16
20 - 30	Closed Tall Alder-Willow Shrub	18	Closed Tall Alder-Willow Shrub	20

Key To Fish Sampling Methods

Estimated reach length (m): 400

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 29 **Fish Measured:** 13 **Fork Lengths (mm)** **Min:** 37 **Max:** 76 **Mean:** 56 **Median:** 56
Sampling Method (No. of fish): PEF (13) VOG (16)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 85 **Max:** 98 **Mean:** 91 **Median:** 91
Sampling Method (No. of fish): PEF (9)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 77 **Max:** 77 **Mean:** 77 **Median:** 77
Sampling Method (No. of fish): PEF (1)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 61 **Max:** 61 **Mean:** 61 **Median:** 61
Sampling Method (No. of fish): PEF (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

-continued-

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FSS1126C000686.jpg

Station Info

Observers: Raye Ann Neustel **Date/Time:** 09/05/2011 10:50 AM

	Latitude	Longitude
Sample Coordinates	61.90602	-150.91483

Elevation NED (m)(ft): 32 105
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-3 **Legal Description (MTRS):** S021N009W15
Waterbody Name: Lake Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3170
Geographic Comments: This sample site is at the confluence of the Yentna River and Lake Creek.

Visit Comments: No water quality data collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 1.50 4.92

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 1075 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Silt/Clay
Subdominant Substrate 1: Gravel
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Black Cottonwood Forest	29	Closed Tall Alder-Willow Shrub	19
5 - 10	Closed Black Cottonwood Forest	29	Closed Tall Alder-Willow Shrub	19
10 - 20	Closed Black Cottonwood Forest	29	Closed Tall Alder-Willow Shrub	19
20 - 30	Closed Black Cottonwood Forest	29	Closed Tall Alder-Willow Shrub	19

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 75 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (75)
Comments:

Species: chum salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 250 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (250)
Comments:

Species: chum salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (100)
Comments:

Species: pink salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 500 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (500)
Comments:

-continued-

Species: pink salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 100 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (100)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 30 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (30)
Comments:

Instruments

Stream Gradient:
Stream Velocity: GPS Float
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher:
Transparency:

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/12/2011 1:00 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.28330	-152.58183		62.28451	-152.58579		62.28267	-152.58091

Elevation NED (m)(ft): 376 1234
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna B-6 **Legal Description (MTRS):** S025N018W03
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HY76. Sampled downstream of Denali National Park border. Unnamed tributary of Kichatna River flowing out of Denali Park.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.87 **DO (mg/L):** 12.43 **DO (%):** 97.10 **Conductivity (µS/cm):** 120 **pH:** 7.29
Water Color: Glacial, High Turbidit **Turbidity (NTU):** 28.80 **Thalweg Velocity (m/s)(ft/s):** 1.22 4.00

Stream Channel

Stream Gradient (%): 1.25 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 92 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	56.0		13.0	**Dominant Substrate:** Cobble
Thalweg Depth	0.90		0.50	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	16	Unvegetated	
5 - 10	Closed Tall Willow Shrub	16	Unvegetated	
10 - 20	Closed Tall Willow Shrub	16	Unvegetated	
20 - 30	Closed Tall Willow Shrub	16	Unvegetated	

Key To Fish Sampling Methods

Estimated reach length (m): 301

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 69 **Fish Measured:** 14 **Fork Lengths (mm)** **Min:** 98 **Max:** 374 **Mean:** 214 **Median:** 236
Sampling Method (No. of fish): PEF (14) VOG (55)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 8 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 49 **Max:** 57 **Mean:** 53 **Median:** 53
Sampling Method (No. of fish): PEF (4) VOG (4)
Comments:

Species: slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 18 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (18)
Comments:

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 59 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (59)
Comments:

-continued-

Species: coho salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 16 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (16)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 54 **Max:** 75 **Mean:** 62 **Median:** 64
Sampling Method (No. of fish): PEF (6)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 82 **Max:** 91 **Mean:** 87 **Median:** 86
Sampling Method (No. of fish): PEF (3)
Comments:

Instruments

Stream Gradient: handheld abney level
Stream Velocity: transparent velocity head rod
Turbidity: LaMotte 2020e turbidimeter
Water Quality: YSI 556
Channel Depths: graduated wading rod
Channel Widths: measuring tape
Electrofisher: Smith-Root LR-24
Transparency:

-continued-

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FSS1126C020691.jpg

-continued-

FSS1126C020692.jpg

FSS1126C020694.jpg

FSS1126C020695.jpg

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/12/2011 4:15 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	62.23868	-152.41515		62.23833	-152.41885		62.23873	-152.41435

Elevation NED (m)(ft): 291 955
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-5 **Legal Description (MTRS):** S025N017W22
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: HY121. Unnamed tributary of the Kichatna River.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.91 **DO (mg/L):** 12.29 **DO (%):** 98.40 **Conductivity (µS/cm):** 82 **pH:** 7.62
Water Color: Clear **Turbidity (NTU):** 1.20 **Thalweg Velocity (m/s)(ft/s):** 1.05 3.44

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 53 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	28.0		11.0	**Dominant Substrate:** Gravel
Thalweg Depth	0.95		0.55	**Subdominant Substrate 1:** Cobble
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: B4 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	31	Unvegetated	
5 - 10	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	31	Open Tall Willow Shrub	10
10 - 20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	31	Open Tall Willow Shrub	10
20 - 30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	31	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	28

Key To Fish Sampling Methods

Estimated reach length (m): 280

(PEF) Backpack Electrofisher

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 5 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 46 **Max:** 63 **Mean:** 55 **Median:** 54
Sampling Method (No. of fish): PEF (5)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 34 **Max:** 43 **Mean:** 39 **Median:** 38
Sampling Method (No. of fish): PEF (4)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 126 **Max:** 189 **Mean:** 166 **Median:** 157
Sampling Method (No. of fish): PEF (4)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/12/2011 4:51 PM

	Latitude	Longitude		Latitude	Longitude		Latitude	Longitude
Station Coordinates	62.22437	-152.90687	**Sample Coordinates**	62.22703	-152.90688	/	62.22437	-152.90687

Elevation NED (m)(ft): 724 2375
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Talkeetna A-6 **Legal Description (MTRS):** S025N020W25
Waterbody Name: Three Mile Creek
Anadromous Waters Catalog Number:
Geographic Comments: Approximately 5 km upriver of Puntilla Lake. HY143.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 4.17 **DO (mg/L):** 12.24 **DO (%):** 94.00 **Conductivity (µS/cm):** 261 **pH:** 7.15
Water Color: Clear **Turbidity (NTU):** 0.32 **Thalweg Velocity (m/s)(ft/s):** 0.91 2.98

Stream Channel

Stream Gradient (%): 0.5 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 47 **Embeddedness:** Moderate

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	
Width	20.0		9.0	**Dominant Substrate:** Cobble
Thalweg Depth	0.93		0.38	**Subdominant Substrate 1:** Gravel
				Subdominant Substrate 2: Silt/Clay

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Closed Tall Willow Shrub	12
5 - 10	Unvegetated		Closed Tall Willow Shrub	12
10 - 20	Unvegetated		Closed Tall Willow Shrub	12
20 - 30	Unvegetated		Closed Tall Willow Shrub	12

Key To Fish Sampling Methods

Estimated reach length (m): 368

(PEF) Backpack Electrofisher

Fish Observations

No Fish Found

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel, Doug Hill **Date/Time:** 09/13/2011 9:51 AM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.37645	-150.34211		61.37559	-150.34455		61.37645	-150.34211

Elevation NED (m)(ft): 10 33
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek B-1 **Legal Description (MTRS):** S015N006W22
Waterbody Name: Maguire Creek
Anadromous Waters Catalog Number:
Geographic Comments: HM93

Visit Comments: Velocity was nearly zero and much of the stream was stagnant.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 9.71 **DO (mg/L):** 7.70 **DO (%):** 68.50 **Conductivity (µS/cm):** 63 **pH:** 5.83
Water Color: Feric **Turbidity (NTU):** 8.69 **Thalweg Velocity (m/s)(ft/s):** 0.06 0.20

Stream Channel

Stream Gradient (%): 0.1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 23 **Embeddedness:** Very High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width	5.0		4.0	**Subdominant Substrate 1:**
Thalweg Depth	1.25		0.70	**Subdominant Substrate 2:**

Dominant Substrate: Silt/Clay

Rosgen Class: E5 Low gradient, meandering riffle/pool stream with low width/depth ratio and little deposition. Very efficient and stable. High meander width ratio.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Mesic Graminoid Herbaceous	1.5	Mesic Graminoid Herbaceous	1.5
5 - 10	Mesic Graminoid Herbaceous	1.5	Mesic Graminoid Herbaceous	1.5
10 - 20	Mesic Graminoid Herbaceous	1.5	Mesic Graminoid Herbaceous	1.5
20 - 30	Mesic Graminoid Herbaceous	1.5	Mesic Graminoid Herbaceous	1.5

Key To Fish Sampling Methods

Estimated reach length (m): 268

(PEF) Backpack Electrofisher

Fish Observations

Species: ninespine stickleback **Life Stage:** juvenile/adult **Life History:** Resident
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 43 **Max:** 52 **Mean:** 47 **Median:** 47
Sampling Method (No. of fish): PEF (4)
Comments:

Species: ninespine stickleback **Life Stage:** juvenile **Life History:** Resident
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 33 **Max:** 40 **Mean:** 36 **Median:** 36
Sampling Method (No. of fish): PEF (6)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/13/2011 12:49 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.75670	-152.01937		61.75597	-152.02131		61.75670	-152.01937

Elevation NED (m)(ft): 263 863
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-6 **Legal Description (MTRS):** S019N015W08
Waterbody Name: Trimble River
Anadromous Waters Catalog Number:
Geographic Comments: HY100

Visit Comments: Reach was sampled entirely within a trib fed side channel of the trimble River. Rosgan code (C5) reflects only the variables associated with the trib. fed side channel and does not take into account variables associated with the main stem Trimble River flood plain.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 3.72 **DO (mg/L):** 11.80 **DO (%):** 89.40 **Conductivity (µS/cm):** 36 **pH:** 6.39
Water Color: Glacial, Low Turbidit **Turbidity (NTU):** 12.30 **Thalweg Velocity (m/s)(ft/s):** 1.14 3.74

Stream Channel

Stream Gradient (%): 0.3 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 40 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	14.0		5.0
Thalweg Depth	1.10		0.70

Dominant Substrate: Sand
Subdominant Substrate 1: Cobble
Subdominant Substrate 2:

Rosgen Class: C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Closed Tall Alder Shrub	18
5 - 10	Unvegetated		Closed Tall Alder Shrub	18
10 - 20	Unvegetated		Closed Tall Alder Shrub	18
20 - 30	Unvegetated		Closed Tall Alder Shrub	18

Key To Fish Sampling Methods

Estimated reach length (m): 180

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 17 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 102 **Max:** 199 **Mean:** 148 **Median:** 150
Sampling Method (No. of fish): PEF (6) VOG (11)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 9 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 53 **Max:** 68 **Mean:** 60 **Median:** 60
Sampling Method (No. of fish): PEF (9)
Comments:

Instruments

Stream Gradient: handheld abney level **Channel Depths:** graduated wading rod
Stream Velocity: transparent velocity head rod **Channel Widths:** measuring tape
Turbidity: LaMotte 2020e turbidimeter **Electrofisher:** Smith-Root LR-24
Water Quality: YSI 556 **Transparency:**

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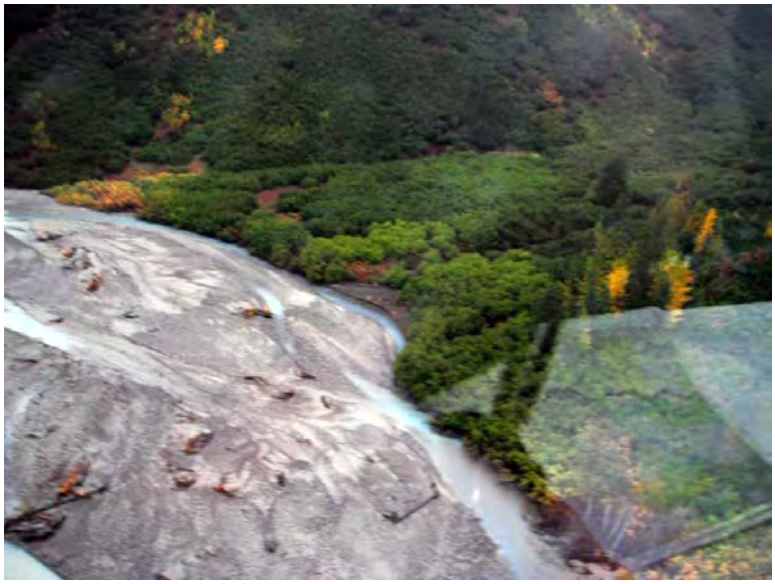

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/13/2011 2:29 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.80046	-151.71907		61.79909	-151.72275		61.80067	-151.71890

Elevation NED (m)(ft): 423 1388
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-5 **Legal Description (MTRS):** S020N014W25
Waterbody Name: Canyon Creek
Anadromous Waters Catalog Number: 247-41-10200-2053-3205-4067
Geographic Comments: HY70

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 5.77 **DO (mg/L):** 11.64 **DO (%):** 92.90 **Conductivity (µS/cm):** 23 **pH:** 6.26
Water Color: Clear **Turbidity (NTU):** 0.86 **Thalweg Velocity (m/s)(ft/s):** 1.53 5.02

Stream Channel

Stream Gradient (%): 1.3 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 63 **Embeddedness:** Moderate

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	22.0		9.0
Thalweg Depth	1.40		0.65

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Closed Tall Willow Shrub	19
5 - 10	Closed Tall Willow Shrub	19	Closed Tall Willow Shrub	19
10 - 20	Closed Tall Willow Shrub	19	Closed Tall Willow Shrub	19
20 - 30	Fireweed	0.4	Closed Tall Willow Shrub	19

Key To Fish Sampling Methods

Estimated reach length (m): 330

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 25 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 53 **Max:** 61 **Mean:** 56 **Median:** 57
Sampling Method (No. of fish): PEF (8) VOG (17)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 22 **Fish Measured:** 11 **Fork Lengths (mm)** **Min:** 42 **Max:** 58 **Mean:** 50 **Median:** 50
Sampling Method (No. of fish): PEF (11) VOG (11)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 25 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 34 **Max:** 45 **Mean:** 39 **Median:** 39
Sampling Method (No. of fish): PEF (7) VOG (18)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/13/2011 5:33 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.78528	-151.78989	/	61.78630	-151.78473

Elevation NED (m)(ft): 509 1670
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek D-5 **Legal Description (MTRS):** S020N014W34
Waterbody Name: Canyon Creek
Anadromous Waters Catalog Number:
Geographic Comments:
Visit Comments: No habitat data collected as this site was electrofished to extend catalogued anadramous fish upriver of actual transect site 27C03.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 21 **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

Estimated reach length (m): 320

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 29 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): PEF (12) VOG (17)
Comments: The Dolly Varden captured at this site were not measured, but rather identifyed and released.

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 70 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): PEF (25) VOG (45)
Comments: The Dolly Varden captured at this site were not measured, but rather identifyed and released.

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/13/2011 3:13 PM

Station Coordinates	Latitude	Longitude	Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.68766	-151.53762		61.68734	-151.53946		61.68774	-151.53726

Elevation NED (m)(ft): 250 820
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek C-5 **Legal Description (MTRS):** S019N013W36
Waterbody Name: Friday Creek
Anadromous Waters Catalog Number:
Geographic Comments: HY104. Waterfall upriver approximately 2 kilometers at waypoint 27C05BAR. Tributary approximately 10 m below transect site on river left at waypoint 27C06.

Visit Comments:
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): 7.60 **DO (mg/L):** 11.85 **DO (%):** 99.10 **Conductivity (µS/cm):** 19 **pH:** 6.46
Water Color: Clear **Turbidity (NTU):** 1.73 **Thalweg Velocity (m/s)(ft/s):** 1.40 4.59

Stream Channel

Stream Gradient (%): 1 **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 62 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width	20.0		11.0
Thalweg Depth	1.20		0.70

Dominant Substrate: Cobble
Subdominant Substrate 1: Boulder
Subdominant Substrate 2: Gravel

Rosgen Class: C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	35	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	38
5 - 10	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	35	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	38
10 - 20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	30
20 - 30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	30

Key To Fish Sampling Methods

Estimated reach length (m): 160

(PEF) Backpack Electrofisher (VOG) Visual Observation, Ground

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 11 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 55 **Max:** 80 **Mean:** 61 **Median:** 67
Sampling Method (No. of fish): PEF (8) VOG (3)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 41 **Max:** 49 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): PEF (2) VOG (1)
Comments:

-continued-

Instruments

Stream Gradient: handheld abney level

Stream Velocity: transparent velocity head rod

Turbidity: LaMotte 2020e turbidimeter

Water Quality: YSI 556

Channel Depths: graduated wading rod

Channel Widths: measuring tape

Electrofisher: Smith-Root LR-24

Transparency:

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/13/2011 2:06 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.68820	-151.53772	/	61.68774	-151.53726

Elevation NED (m)(ft): 254 833
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek C-5 **Legal Description (MTRS):** S019N013W36
Waterbody Name:
Anadromous Waters Catalog Number: 247-41-10200-2053-3205-4053-5046-6020
Geographic Comments: This tributary of Friday Creek was approximately 10 m downstream from 27C05 transect site.

Visit Comments: No habitat data collected at this site. Sample site 27C05 is located about 10 m upstream from the confluence of ths stream. Spot shocked for fish presence only.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 11 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

Estimated reach length (m): 81

(PEF) Backpack Electrofisher

Fish Observations

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 55 **Max:** 80 **Mean:** 63 **Median:** 67
Sampling Method (No. of fish): PEF (4)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 41 **Max:** 49 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:** Smith-Root LR-24
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/13/2011 5:44 PM

	Latitude	Longitude
Sample Coordinates	61.69237	-151.57397

Elevation NED (m)(ft): 312 1024
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Tyonek C-5 **Legal Description (MTRS):** S019N013W35
Waterbody Name: Friday Creek
Anadromous Waters Catalog Number:
Geographic Comments: Waterfalls.

Visit Comments: Fly-by only. This site represents a waterfall fish barrier.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(NON) None

Fish Observations

Species: no collection effort **Life Stage:** not applicable **Life History:** Not Applicable
Total Fish Count: 0 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): NON (0)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 12:01 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.50695	-148.99816	/	61.50861	-148.99543

Elevation NED (m)(ft): 115 377
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-6 **Legal Description (MTRS):** S016N003E06
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed Creek flows through culvert under E. Knik River Road approximately 400 m upstream of confluence with Knik River.

Visit Comments: No habitat data collected. ATV tracks through creek where juvenile coho and sockeye were caught. Culvert approximately 400 m upstream of confluence with Knik River, with perch at upriver end. Barrier to juvenile fish passage.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 10 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

Estimated reach length (m): 298

(PEF) Backpack Electrofisher (MTR) Minnow Trap

Fish Observations

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 19 **Fish Measured:** 10 **Fork Lengths (mm)** **Min:** 32 **Max:** 84 **Mean:** 51 **Median:** 58
Sampling Method (No. of fish): MTR (9) PEF (10)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 13 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 52 **Max:** 100 **Mean:** 81 **Median:** 76
Sampling Method (No. of fish): MTR (8) PEF (5)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:** Smith-Root LR-24
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 12:01 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.50379	-148.96735	/	61.50594	-148.96949

Elevation NED (m)(ft): 42 138
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-6 **Legal Description (MTRS):** S016N003E05
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: This unnamed stream flows into a wetlands area and through a culvert approximately 400 m above confluence with Knik River.

Visit Comments: This site was generated to support AWC data in Knik River drainage. Access was by road and inflatable canoe.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 4 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 18 **Fish Measured:** 18 **Fork Lengths (mm)** **Min:** 60 **Max:** 106 **Mean:** 100 **Median:** 83
Sampling Method (No. of fish): MTR (18)
Comments: All coho salmon caught at this site were second year with the exception of one young of the year. Coho were ca

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (4)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

-continued-

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 12:41 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.49554	-148.92853	/	61.49554	-148.92853

Elevation NED (m)(ft): 54 177
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-6 **Legal Description (MTRS):** S016N003E09
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed lake approximately 200 m from East Knik River Road with a small stream outlet to Knik River.

Visit Comments: No habitat data collected. This site was generated to support AWC data in Knik River drainage, access was by East Knik River Road.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 0.5 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: threespine stickleback **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 51 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): MTR (51)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 1:14 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.48813	-148.90285	/	61.48984	-148.90302

Elevation NED (m)(ft): 55 180
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-6 **Legal Description (MTRS):** S016N003E10
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: This unnamed stream flows through a culvert under East Knik River Road.
Visit Comments: No habitat data collected. This stream was sampled via East Knik River Road, using minnow traps.
Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 0.2 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 38 **Max:** 82 **Mean:** 56 **Median:** 60
Sampling Method (No. of fish): MTR (6)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 7 **Fish Measured:** 7 **Fork Lengths (mm)** **Min:** 83 **Max:** 108 **Mean:** 95 **Median:** 95
Sampling Method (No. of fish): MTR (7)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 1:46 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.46914	-148.86883	/	61.46876	-148.86922

Elevation NED (m)(ft): 47 154
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N003E23
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed tributary to Knik River.

Visit Comments: ATV tracks in river and parallel to river. This site sampled via East Knik River Road using minnow traps.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 1 **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width				Subdominant Substrate 1:
Thalweg Depth				Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap

Fish Observations

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 4 **Fish Measured:** 4 **Fork Lengths (mm)** **Min:** 84 **Max:** 105 **Mean:** 90 **Median:** 94
Sampling Method (No. of fish): MTR (4)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 2:10 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.46192	-148.85933	/	61.46358	-148.86073

Elevation NED (m)(ft): 45 148
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N003E23
Waterbody Name:
Anadromous Waters Catalog Number:
Geographic Comments: Unnamed tributary to Knik River. Gradient above top most man-made barrier to fish passage (waypoint "topbar") 14%; gradient through section with man-made barriers to fish passage (6 in all) is 7%, and below bottom most man-made barrier to fish passage (waypoint "botombar") gradient 7%

Visit Comments: Site accessed by road. This stream flows through a culvert approximately 500 m above confluence with Knik River. There is an active campground on river left near our sampling site with ATV trail running through and down the creek. Starting above culvert approximately 300 m, there is a series of 6 man-made barriers to fish passage--see photos 746-753 and waypoints "topbar" and "botombar".

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 8 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**	**Dominant Substrate:**
Width				**Subdominant Substrate 1:**
Thalweg Depth				**Subdominant Substrate 2:**

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: coho salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 14 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (14) **Suspected Spawning:** Yes
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 13 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 55 **Max:** 59 **Mean:** 57 **Median:** 57
Sampling Method (No. of fish): MTR (6) VOG (7)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 66 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 112 **Max:** 112 **Mean:** 112 **Median:** 112
Sampling Method (No. of fish): MTR (1) VOG (65)
Comments:

-continued-

Instruments

Stream Gradient:

Stream Velocity:

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

-continued-

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 2:28 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.45689	-148.84026	/	61.45661	-148.84134

Elevation NED (m)(ft): 25 82
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N003E24
Waterbody Name:
Anadromous Waters Catalog Number: 247-50-10200-2126
Geographic Comments: Sample site is in wetlands habitat next to culvert running under East Knik River Road.

Visit Comments: Two minnow traps used to sample in wetlands area next to East Knik River Road. One below the road and one above. No water quality data collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Humic **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 5 **Embeddedness:** High

Channel Dimensions (m):	Bankfull	OHW	Wetted	
Width				
Thalweg Depth				

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(MTR) Minnow Trap (VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 41 **Max:** 48 **Mean:** 44 **Median:** 44
Sampling Method (No. of fish): MTR (2)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 68 **Fish Measured:** 18 **Fork Lengths (mm)** **Min:** 41 **Max:** 95 **Mean:** 68 **Median:** 68
Sampling Method (No. of fish): MTR (18) VOG (50)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (6)
Comments:

-continued-

Instruments

Stream Gradient:

Stream Velocity:

Turbidity:

Water Quality:

Channel Depths:

Channel Widths:

Electrofisher:

Transparency:

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 3:45 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.43869	-148.81521	/	61.44125	-148.80115

Elevation NED (m)(ft): 65 213
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E31
Waterbody Name: Hunter Creek
Anadromous Waters Catalog Number: 247-50-10200-2140
Geographic Comments: This glaciated creek flows into a wetlands/backwater complex area before confluence with Knik River.

Visit Comments: This site was generated to support AWC data in Knik River drainage. No habitat data collected.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 180 **Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

Estimated reach length (m): 995

(PEF) Backpack Electrofisher (MTR) Minnow Trap
(VOG) Visual Observation, Ground

Fish Observations

Species: coho salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 4 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): PEF (4)
Comments:

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 57 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 85 **Max:** 119 **Mean:** 100 **Median:** 102
Sampling Method (No. of fish): PEF (8) VOG (49)
Comments:

Species: sculpin-unspecified **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 95 **Max:** 95 **Mean:** 95 **Median:** 95
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 3 **Fish Measured:** 3 **Fork Lengths (mm)** **Min:** 49 **Max:** 67 **Mean:** 60 **Median:** 58
Sampling Method (No. of fish): PEF (3)
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 334 **Max:** 391 **Mean:** 362 **Median:** 362
Sampling Method (No. of fish): PEF (2)
Comments:

Instruments

Stream Gradient:
Stream Velocity:
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher: Smith-Root LR-24
Transparency:

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Station Info

Observers: Jonathan Kirsch, Raye Ann Neustel **Date/Time:** 09/14/2011 4:20 AM

	Latitude	Longitude
Sample Coordinates	61.56450	-149.04299

Elevation NED (m)(ft): 44 144
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage C-6 **Legal Description (MTRS):** S017N002E14
Waterbody Name:
Anadromous Waters Catalog Number: 247-50-10200-2071-3023
Geographic Comments: This is slack water (ditch) beside Old Glenn Highway approximately 5 km south of Palmer.

Visit Comments: No habitat data collected at this site. This site was recorded due to visual observation of adult sockeye spawning from Old Glenn Highway.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:**
Catchment Area(sq. km): 2 **Embeddedness:**

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate:
Subdominant Substrate 1:
Subdominant Substrate 2:

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5				
5 - 10				
10 - 20				
20 - 30				

Key To Fish Sampling Methods

(VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 75 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (75)
Comments:

Instruments

Stream Gradient: **Channel Depths:**
Stream Velocity: **Channel Widths:**
Turbidity: **Electrofisher:**
Water Quality: **Transparency:**

Station Info

Observers: Jonathan Kirsch, Joe Buckwalter, Raye Ann Neustel **Date/Time:** 09/19/2011 4:30 PM

	Latitude	Longitude	/	Latitude	Longitude
Sample Coordinates	61.48642	-149.10618	/	61.48875	-149.09755

Elevation NED (m)(ft): 54 177
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-6 **Legal Description (MTRS):** S016N002E09
Waterbody Name: Goat Creek
Anadromous Waters Catalog Number:
Geographic Comments: This creek flows under a bridge on Old Glenn Highway. Short section of stream beginning approximately 50 m above bridge has been channelized.

Visit Comments: This site was generated to support AWC data in Knik River drainage. Not all habitat data was collected. Electrofishing was not used to consistently sample entire reach length due to presence of adult spawning SCO. Though conductivity was not measured, electrofisher setting indicate it is fairly high. Uppermost salmon caught during electrofishing event documented with waypoint "29C01SAM". "29C01U" is waypoint at uppermost waterfall that is a significant barrier to fish passage at certain flows. "29C01ROAD" is waypoint at East Knik River Road bridge.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): 2 **Entrenchment:** Moderatley Entrenched
Catchment Area(sq. km): 40 **Embeddedness:** Low

Channel Dimensions (m):	**Bankfull**	**OHW**	**Wetted**
Width			
Thalweg Depth			

Dominant Substrate: Cobble
Subdominant Substrate 1: Gravel
Subdominant Substrate 2: Boulder

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Closed Black Cottonwood Forest	35	Closed Black Cottonwood Forest	30
5 - 10	Closed Black Cottonwood Forest	35	Closed Black Cottonwood Forest	30
10 - 20	Closed Black Cottonwood Forest	35	Closed Black Cottonwood Forest	30
20 - 30	Closed Black Cottonwood Forest	35	Closed Black Cottonwood Forest	30

Key To Fish Sampling Methods

Estimated reach length (m): 660

(PEF) Backpack Electrofisher (MTR) Minnow Trap
(VOG) Visual Observation, Ground

Fish Observations

Species: coho salmon **Life Stage:** adult spawning **Life History:** Anadromous
Total Fish Count: 3 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): PEF (3)
Comments:

Species: Chinook salmon **Life Stage:** carcass **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (1)
Comments:

-continued-

Species: Dolly Varden **Life Stage:** juvenile/adult **Life History:** Unknown
Total Fish Count: 26 **Fish Measured:** 8 **Fork Lengths (mm)** **Min:** 120 **Max:** 340 **Mean:** 171 **Median:** 230
Sampling Method (No. of fish): MTR (1) PEF (7) VOG (18)
Comments:

Species: coho salmon **Life Stage:** smolt **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 120 **Max:** 120 **Mean:** 120 **Median:** 120
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 2 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 57 **Max:** 80 **Mean:** 68 **Median:** 68
Sampling Method (No. of fish): MTR (1) PEF (1)
Comments:

Species: coho salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 62 **Max:** 62 **Mean:** 62 **Median:** 62
Sampling Method (No. of fish): PEF (1)
Comments:

Species: Dolly Varden **Life Stage:** juvenile **Life History:** Unknown
Total Fish Count: 6 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 43 **Max:** 77 **Mean:** 53 **Median:** 60
Sampling Method (No. of fish): MTR (3) PEF (3)
Comments:

Species: slimy sculpin **Life Stage:** adult **Life History:** Resident
Total Fish Count: 1 **Fish Measured:** 1 **Fork Lengths (mm)** **Min:** 100 **Max:** 100 **Mean:** 100 **Median:** 100
Sampling Method (No. of fish): PEF (1)
Comments:

Instruments

Stream Gradient:
Stream Velocity:
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher: Smith-Root LR-24
Transparency:

Station Info

Observers: Raye Ann Neustel **Date/Time:** 10/15/2011 2:14 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.44225	-148.77010	/	61.45410	-148.77542

Elevation NED (m)(ft): 30 98
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E29
Waterbody Name: Hunter Creek
Anadromous Waters Catalog Number: 247-50-10200-2140
Geographic Comments: Hunter Creek distributary at interface with Knik River braid plain. Large beaver dam complex.

Visit Comments: No water quality data collected. This sample site was accessed from East Knik River Road, then packrafted (photo 956) to sample site on Hunter Creek delta (955,792). Several diverse habitats sampled within close proximity to this site, including beaver ponds, springbrooks. 61.44345, -148.77139 represents the third pool that is connected to a small river channel with approximately 30 juvenile sockeye salmon caught using a seine net. We observed adult coho (suspected spawning) in a small river channel next to pool containing juvenile sockeye, partial habitat data collected here.

Wildlife Comments:

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Glacial, High Turbidit **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 197 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Closed Tall Alder-Willow Shrub	5	Unvegetated	
20 - 30	Unvegetated		Unvegetated	

Key To Fish Sampling Methods

(SEI) Seine (VOG) Visual Observation, Ground

Fish Observations

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 32 **Fish Measured:** 2 **Fork Lengths (mm)** **Min:** 502 **Max:** 511 **Mean:** 506 **Median:** 506
Sampling Method (No. of fish): SEI (2) VOG (30) **Suspected Spawning:** Yes
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 20 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (20)
Comments:

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 50 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (50) **Suspected Spawning:** Yes
Comments: photo 951 & 952

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Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 16 **Fish Measured:** 9 **Fork Lengths (mm)** **Min:** 42 **Max:** 46 **Mean:** 43 **Median:** 44
Sampling Method (No. of fish): SEI (9) VOG (7)
Comments:

Instruments

Stream Gradient:
Stream Velocity:
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher:
Transparency:

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Station Info

Observers: Raye Ann Neustel **Date/Time:** 10/16/2011 2:35 PM

Sample Coordinates	Latitude	Longitude	/	Latitude	Longitude
	61.45478	-148.70688	/	61.46728	-148.70637

Elevation NED (m)(ft): 33 108
Coordinate Determination Method: Non-Differential GPS Field Measurement **Datum:** WGS84
USGS Quadrangle: Anchorage B-5 **Legal Description (MTRS):** S016N004E27
Waterbody Name: Knik River
Anadromous Waters Catalog Number: 247-50-10200
Geographic Comments: Springbrook in Knik River active braid plain. Likely inundated by mainstem Knik River at high flows.

Visit Comments: Sample site was accessed via East Knik River Road and then packrafted down Hunter Creek. We hiked across Knik River floodplain to hyporheic and side-channel habitats (photos 771-772, 768) Numerous ATV tracks through pools of rearing and adult sockeye salmon.

Wildlife Comments: Large number of birds of prey. Observed 1 coyote. Brown bear tracks surrounding clear water pools containing adult and juvenile salmon.

Water Quality \ Stream Flow

Water Temp (C): **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** **pH:**
Water Color: Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

Stream Channel

Stream Gradient (%): **Entrenchment:** Slightly Entrenched
Catchment Area(sq. km): 0.5 **Embeddedness:** Low

Channel Dimensions (m):	Bankfull	OHW	Wetted
Width			
Thalweg Depth			

Dominant Substrate: Gravel
Subdominant Substrate 1: Cobble
Subdominant Substrate 2: Silt/Clay

Rosgen Class:

Riparian Vegetation Communities (Viereck et al. 1992)

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
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5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Unvegetated	
20 - 30	Unvegetated		Unvegetated	

Key To Fish Sampling Methods

(SEI) Seine (VOG) Visual Observation, Ground

Fish Observations

Species: coho salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 40 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (40) **Suspected Spawning:** Yes
Comments: Seining was attempted to catch coho, pool was too deep and wide, fish swam under net.

Species: sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous
Total Fish Count: 22 **Fish Measured:** 6 **Fork Lengths (mm)** **Min:** 41 **Max:** 49 **Mean:** 45 **Median:** 45
Sampling Method (No. of fish): SEI (6) VOG (16)
Comments:

Species: sockeye salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 205 **Fish Measured:** 5 **Fork Lengths (mm)** **Min:** 482 **Max:** 509 **Mean:** 497 **Median:** 495
Sampling Method (No. of fish): SEI (5) VOG (200) **Suspected Spawning:** Yes
Comments: photos 778-780, 782-784

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Species: chum salmon **Life Stage:** adult **Life History:** Anadromous
Total Fish Count: 30 **Fish Measured:** **Fork Lengths (mm)** **Min:** **Max:** **Mean:** **Median:**
Sampling Method (No. of fish): VOG (30) **Suspected Spawning:** Yes
Comments: Most chum salmon observed were dead and at bottom of clear pools.

Instruments

Stream Gradient:
Stream Velocity:
Turbidity:
Water Quality:
Channel Depths:
Channel Widths:
Electrofisher:
Transparency:

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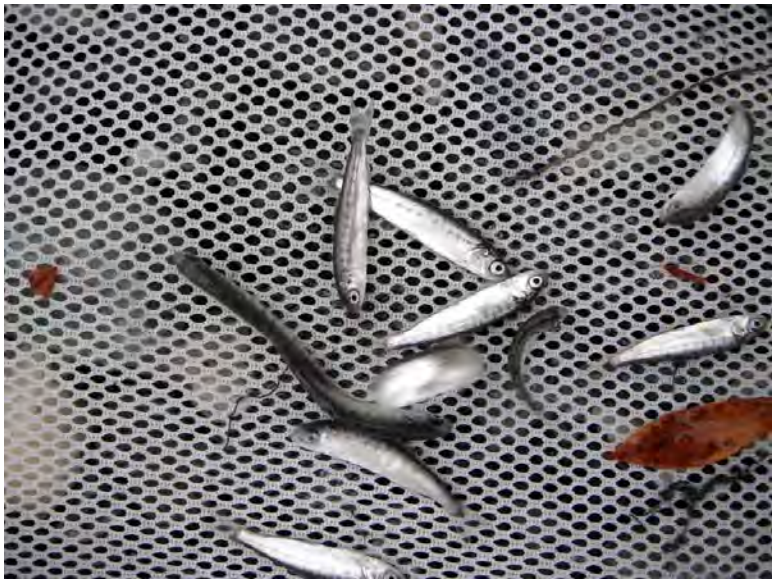

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