

## APPENDIX K. 2003 STATION REPORTS AND PHOTOS

**[FDS 14-04 – FULL PDF FILE  
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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 L – 2011 Station Reports and Photos](#)

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/04/2003 12:34 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.12074	-148.85482	<b>Coordinates</b>	62.12074	-148.85482

**Elevation NED (m)(ft):** 678 2224**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts A-4**Legal Description (MTRS):** S024N003E35**Waterbody Name:** Sheep River**Anadromous Waters Catalog Number:****Geographic Comments:** Side channel.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

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

**Stream Channel****Stream Gradient (%):** 3**Entrenchment:****Catchment Area(sq. km):** 1**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>	9.0	7.3		<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.20		<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b><u>Left Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>	<b><u>Right Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>
0 - 5	Open Tall Alder-Willow Shrub		Closed Tall Alder-Willow Shrub	
5 - 10	Open Tall Alder-Willow Shrub		Closed Tall Alder-Willow Shrub	
10 - 20	Open Tall Alder-Willow Shrub		Closed Tall Alder-Willow Shrub	
20 - 30				

**Key To Fish Sampling Methods**

(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:** 1 **Fork Lengths (mm) Min:** 109 **Max:** 109 **Mean:** 109 **Median:** 109**Sampling Method (No. of fish):** PEF (1) VOG (4)**Comments:** Additional fish observed averaged about 100 mm F.L.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:****Transparency:**



FSS0301A003.jpg



FSS0301A004.jpg



FSS0301A005.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson

Date/Time: 08/04/2003 4:14 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.28946	-148.94875	<b>Coordinates</b>	62.28946	-148.94875

Elevation NED (m)(ft): 757 2484

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-4

Legal Description (MTRS): S025N003E05

Waterbody Name: Iron Creek

Anadromous Waters Catalog Number:

Geographic Comments: Sampled clear tributary.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.20	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 68	<b>pH:</b> 6.99
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 1

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>			3.0	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Low Willow Shrub		Closed Tall Willow Shrub	
5 - 10	Closed Low Willow Shrub		Closed Tall Willow Shrub	
10 - 20	Closed Low Willow Shrub		Closed Tall Willow Shrub	
20 - 30				

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**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): PEF (1)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0301A007.jpg



FSS0301A008.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson **Date/Time:** 08/04/2003 11:49 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.16893	-148.96389	<b>Coordinates</b>	62.16893	-148.96389

**Elevation NED (m)(ft):** 472 1549

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts A-4 **Legal Description (MTRS):** S024N003E18

**Waterbody Name:** Sheep River

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 400 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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 **Life History:** Anadromous

**Total Fish Count:** 12 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (12) **Suspected Spawning:** Yes

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson

Date/Time: 08/04/2003 3:26 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.30647	-149.04903	Coordinates	62.30647	-149.04903

Elevation NED (m)(ft): 623 2044

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-5

Legal Description (MTRS): S026N002E35

Waterbody Name: Iron Creek

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

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): 212

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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

Life History: Anadromous

Total Fish Count: 2 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOH (2)

Suspected Spawning: Yes

Comments: About 25 more observed downstream.

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofischer:

Water Quality:

Transparency:

**Station Info**

Observers: Joe Buckwalter, J Johnson

Date/Time: 08/04/2003 3:21 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.35210	-149.19194	Coordinates	62.35210	-149.19194

Elevation NED (m)(ft): 485 1591

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-5

Legal Description (MTRS): S026N001E12

Waterbody Name: Iron Creek

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

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): 493

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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: 4 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOH (4)

Suspected Spawning: Yes

Comments: ~ 20 more observed downstream in groups of 2-6.

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofisher:

Water Quality:

Transparency:

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/05/2003 8:55 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.26436	-148.41267	<b>Coordinates</b>	62.26436	-148.41267

Elevation NED (m)(ft): 988 3241

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-3

Legal Description (MTRS): S025N006E07

Waterbody Name: Clear Creek

Anadromous Waters Catalog Number:

Geographic Comments: Upper Talkeetna River tributary.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 3.70	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 66	<b>pH:</b> 8.08
<b>Water Color:</b> Glacial, Low Turbidit	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2.5

Entrenchment:

Catchment Area(sq. km): 133

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		13.0	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.70	<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
10 - 20	Closed Tall Alder-Willow Shrub	3		
20 - 30	Closed Tall Alder-Willow Shrub	3		

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

Total Fish Count: 3

Fish Measured: 3

Fork Lengths (mm) Min: 150

Max: 205

Mean: 177

Median: 177

Sampling Method (No. of fish): PEF (3)

Comments:

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

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:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: Visual estimate

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0302A001.jpg



FSS0302A002.jpg



FSS0302A003.jpg

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/05/2003 11:17 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.32368	-148.34822	<b>Coordinates</b>	62.32368	-148.34822

**Elevation NED (m)(ft):** 1170 3839**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts B-3**Legal Description (MTRS):** S026N006E21**Waterbody Name:** Aspen Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Headwater tributary of Talkeetna River.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 4.00	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 57	<b>pH:</b> 8.08
<b>Water Color:</b> Glacial, Low Turbidit	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b> 1.52 4.99	

**Stream Channel****Stream Gradient (%):** 3.5**Entrenchment:****Catchment Area(sq. km):** 70**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	9.6	7.6		<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>	0.77	0.37		<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
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**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Dolly Varden**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 2**Fish Measured:****Fork Lengths (mm) Min:****Max:****Mean:****Median:****Sampling Method (No. of fish):** VOG (2)**Suspected Spawning:** Yes**Comments:** Spawning colors. About 200 mm F.L.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price AA meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0302A004.jpg



FSS0302A005.jpg



FSS0302A006.jpg

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/05/2003 12:01 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.30804	-148.58047	<b>Coordinates</b>	62.30804	-148.58047

**Elevation NED (m)(ft):** 1092 3583**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts B-4**Legal Description (MTRS):** S026N005E29**Waterbody Name:** Yellowjacket Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Headwater tributary of Talkeetna River. Coordinates derived from GPS track file.**Visit Comments:** Not wadeable - width estimated.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 6.00 **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** 101 **pH:** 8.39**Water Color:** Glacial, Low Turbidity **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 3.5 **Entrenchment:****Catchment Area(sq. km):** 66 **Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>			10.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>				<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Open Tall Willow Shrub	
20 - 30	Unvegetated		Open Tall Willow Shrub	

**Key To Fish Sampling Methods**

(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:** About 140 mm F.L.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:****Stream Velocity:** Price pygmy meter**Channel Widths:** Visual estimate**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0302A007.jpg



FSS0302A008.jpg



FSS0302A010.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/05/2003 1:05 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.46716	-148.80995	<b>Coordinates</b>	62.46716	-148.80995

Elevation NED (m)(ft): 799 2621

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-4

Legal Description (MTRS): S028N003E36

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Coordinates derived from GPS track file.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.70	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 146	<b>pH:</b> 8.44
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2.5

Entrenchment:

Catchment Area(sq. km): 65

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	9.6	7.7		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.43		<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	3	Closed Tall Willow Shrub	3
5 - 10	Closed Tall Willow Shrub	3	Closed Low Alder-Willow Shrub	1
10 - 20	Closed Tall Willow Shrub	3	Closed Low Alder-Willow Shrub	1
20 - 30	Closed Tall Willow Shrub	3	Closed Low Alder-Willow Shrub	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

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: About 200 mm F.L.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price AA meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0302A011.jpg



FSS0302A012.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/05/2003 3:14 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.43602	-149.84711	<b>Coordinates</b>	62.43602	-149.84711

Elevation NED (m)(ft): 296 971

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-6

Legal Description (MTRS): S027N003W16

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Downstream of Sockeye Lake.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 15.00	DO (mg/L):	DO (%):	Conductivity (µS/cm): 47	pH: 7.55
Water Color: Clear		Turbidity (NTU):	Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>	4.0	3.3		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.75		<b>Subdominant Substrate 2:</b>

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Unvegetated		Unvegetated	
5 - 10	Unvegetated		Unvegetated	
10 - 20	Unvegetated		Subarctic Lowland Sedge Wet Meadow	
20 - 30	Unvegetated		Subarctic Lowland Sedge Wet Meadow	

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Pacific salmon-unspecified Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 40 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:  
 Sampling Method (No. of fish): VOG (40)  
 Comments: Average F.L. was about 45 mm.

Species: coho salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 3 Fish Measured: 3 Fork Lengths (mm) Min: 42 Max: 55 Mean: 48 Median: 48  
 Sampling Method (No. of fish): PEF (3)  
 Comments:

Species: rainbow trout Life Stage: juvenile/adult 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): PEF (1)  
 Comments:

Species: rainbow trout Life Stage: juvenile Life History: Resident  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 85 Max: 89 Mean: 87 Median: 87  
 Sampling Method (No. of fish): PEF (2)  
 Comments:

**Species:** slimy sculpin                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 5      **Fish Measured:** 2      **Fork Lengths (mm) Min:** 20      **Max:** 31      **Mean:** 25      **Median:** 25  
**Sampling Method (No. of fish):** PEF (2) VOG (3)  
**Comments:** Average F.L. was about 40 mm.

---

### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price AA meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



FSS0302A015.jpg



FSS0302A016.jpg



FSS0302A017.jpg

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/05/2003 4:40 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.44634	-149.91679	<b>Coordinates</b>	62.44634	-149.91679

**Elevation NED (m)(ft):** 327 1073**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts B-6**Legal Description (MTRS):** S027N004W12**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Left bank tributary to Clear Creek.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.30	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 15	<b>pH:</b> 7.33
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 17**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	7.1	7.2		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.40		<b>Subdominant Substrate 2:</b>

**Rosgen Class:** F4 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Bluejoint-Herb	1	Bluejoint-Herb	
5 - 10	Bluejoint-Herb	1	Bluejoint-Herb	
10 - 20	Bluejoint-Herb	1	Bluejoint-Herb	
20 - 30	Open White Spruce Forest	20	Bluejoint-Herb	

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

**Species:** Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous  
**Total Fish Count:** 14 **Fish Measured:** 11 **Fork Lengths (mm) Min:** 36 **Max:** 45 **Mean:** 39 **Median:** 40  
**Sampling Method (No. of fish):** PEF (14) **Suspected Spawning:** Yes  
**Comments:** Average F.L. of additional fish was about 35 mm.

**Species:** rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident  
**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 113 **Max:** 113 **Mean:** 113 **Median:** 113  
**Sampling Method (No. of fish):** PEF (1)  
**Comments:**

**Species:** slimy sculpin **Life Stage:** juvenile/adult **Life History:** Resident  
**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 53 **Max:** 66 **Mean:** 60 **Median:** 59  
**Sampling Method (No. of fish):** PEF (3)  
**Comments:**

**Species:** slimy sculpin **Life Stage:** juvenile **Life History:** Resident  
**Total Fish Count:** 6 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 33 **Max:** 36 **Mean:** 34 **Median:** 34  
**Sampling Method (No. of fish):** PEF (6)  
**Comments:** Average F.L. of additional fish was about 33 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price AA meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0302A019.jpg



FSS0302A020.jpg



FSS0302A021.jpg

**Station Info**

**Observers:** Joe Buckwalter, Jeff Davis, J Johnson

**Date/Time:** 08/05/2003 2:33 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.39595	-149.69581	<b>Coordinates</b>	62.39595	-149.69581

**Elevation NED (m)(ft):** 228 748

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts B-6

**Legal Description (MTRS):** S027N002W29

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(NON) None

**Fish Observations**

No Fish Found

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



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**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/06/2003 9:20 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.70746	-148.73398	<b>Coordinates</b>	62.70746	-148.73398

Elevation NED (m)(ft): 764 2507

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-4

Legal Description (MTRS): S030N004E09

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Gradient estimated - vegetation too dense to measure.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.70	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 105	<b>pH:</b> 7.79
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 7

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>	0.9	1.1		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>	0.55	0.55		<b>Subdominant Substrate 2:</b>

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)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
10 - 20	Open White Spruce Forest	15	Closed Tall Willow Shrub	2
20 - 30	Open White Spruce Forest	15	Open White Spruce Forest	15

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 2

Fish Measured: 2

Fork Lengths (mm) Min: 109

Max: 137

Mean: 123

Median: 123

Sampling Method (No. of fish): PEF (2)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0303A002.jpg



FSS0303A003.jpg



FSS0303A004.jpg

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/06/2003 10:36 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.71027	-148.76184	<b>Coordinates</b>	62.71027	-148.76184

**Elevation NED (m)(ft):** 703 2306**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-4**Legal Description (MTRS):** S030N004E08**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.80	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 99	<b>pH:</b> 7.75
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 2.5**Entrenchment:****Catchment Area(sq. km):** 11.2**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		2.2	2.4	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.34	<b>Subdominant Substrate 2:</b>

**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)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Open White Spruce Forest		Open White Spruce Forest	
5 - 10	Open White Spruce Forest		Open White Spruce Forest	
10 - 20	Open White Spruce Forest		Open White Spruce Forest	
20 - 30	Open White Spruce Forest		Open White Spruce Forest	

**Key To Fish Sampling Methods**

(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:** 43 **Max:** 47 **Mean:** 45 **Median:** 45**Sampling Method (No. of fish):** PEF (2)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0303A006.jpg



FSS0303A008.jpg



FSS0303A009.jpg



FSS0303A010.jpg

**Station Info**

**Observers:** Joe Buckwalter, Jeff Davis, J Johnson **Date/Time:** 08/06/2003 8:49 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.72200	-148.83977	<b>Coordinates</b>	62.72200	-148.83977

**Elevation NED (m)(ft):** 569 1867

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts C-4 **Legal Description (MTRS):** S030N003E02

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 34 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b><u>Left Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>	<b><u>Right Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>
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 **Life History:** Anadromous

**Total Fish Count:** 2 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (2) **Suspected Spawning:** Yes

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/06/2003 1:07 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.60857	-148.94177	Coordinates	62.60857	-148.94177

Elevation NED (m)(ft): 757 2484

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-4

Legal Description (MTRS): S029N003E17

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 9.50	DO (mg/L):	DO (%):	Conductivity (µS/cm): 191	pH: 8.45
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 4

Entrenchment:

Catchment Area(sq. km): 19

Embeddedness:

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width		3.8	3.7	Boulder
Thalweg Depth			0.24	Subdominant Substrate 1: Cobble
				Subdominant Substrate 2: Gravel

Rosgen Class: A2 Steep, entrenched, cascading, step/pool streams. Very stable.

**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 Tall Alder-Willow Shrub	3
5 - 10	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
10 - 20	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
20 - 30	Open White Spruce Forest	20	Open White Spruce Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 124 Max: 127 Mean: 125 Median: 125

Sampling Method (No. of fish): PEF (2)

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:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 26 Fish Measured: 10 Fork Lengths (mm) Min: 36 Max: 46 Mean: 41 Median: 41

Sampling Method (No. of fish): PEF (26)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 47 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



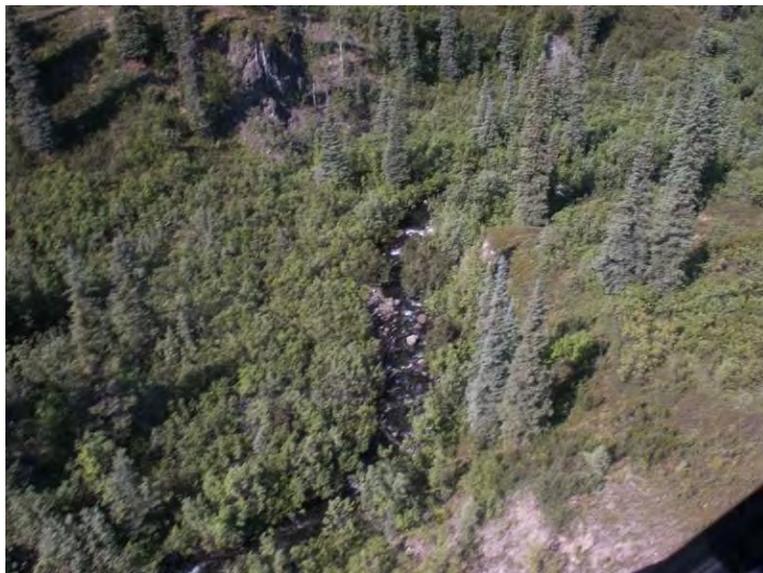
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FSS0303A012.jpg



FSS0303A013.jpg



FSS0303A014.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/06/2003 2:18 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.66884	-149.05033	<b>Coordinates</b>	62.66884	-149.05033

Elevation NED (m)(ft): 682 2238

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-5

Legal Description (MTRS): S030N002E22

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 9.50	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 191	<b>pH:</b> 8.45
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 3

Entrenchment:

Catchment Area(sq. km): 23

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		3.8	3.7	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>			0.24	<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b>Left Bank Vegetation Type</b>	<b>Right Bank Vegetation Type</b>	
<b>0 - 5</b> Closed Tall Willow Shrub	3	Open Spruce-Balsam Poplar
<b>5 - 10</b> Closed Balsam Poplar-White Spruce Forest	20	Open Spruce-Balsam Poplar
<b>10 - 20</b> Closed Balsam Poplar-White Spruce Forest	20	Open Spruce-Balsam Poplar
<b>20 - 30</b> Closed Balsam Poplar-White Spruce Forest	20	Open Spruce-Balsam Poplar

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden Life Stage: adult Life History: Resident  
 Total Fish Count: 8 Fish Measured: 8 Fork Lengths (mm) Min: 148 Max: 240 Mean: 170 Median: 194  
 Suspected Spawning: Yes  
 Sampling Method (No. of fish): PEF (8)  
 Comments:

Species: Dolly Varden Life Stage: juvenile/adult Life History: Unknown  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 138 Max: 138 Mean: 138 Median: 138  
 Suspected Spawning: Yes  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

Species: Chinook salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 16 Fish Measured: 10 Fork Lengths (mm) Min: 42 Max: 51 Mean: 45 Median: 46  
 Suspected Spawning: Yes  
 Sampling Method (No. of fish): PEF (16)  
 Comments: Average F.L. of additional fish was about 50 mm.

Species: coho salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 23 Fish Measured: 12 Fork Lengths (mm) Min: 34 Max: 58 Mean: 47 Median: 46  
 Suspected Spawning: Yes  
 Sampling Method (No. of fish): PEF (23)  
 Comments: Average F.L. of additional fish was about 50 mm.

**Species:** slimy sculpin                      **Life Stage:** adult                      **Life History:** Resident  
**Total Fish Count:** 1      **Fish Measured:** 1      **Fork Lengths (mm) Min:** 110      **Max:** 110      **Mean:** 110      **Median:** 110  
**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:** 62      **Max:** 62      **Mean:** 62      **Median:** 62  
**Sampling Method (No. of fish):** PEF (1)  
**Comments:**

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### Instruments

**Stream Gradient:** handheld optical clinometer                      **Channel Depths:** graduated wading rod  
**Stream Velocity:** Price pygmy meter                      **Channel Widths:** measuring tape  
**Turbidity:**                      **Electrofisher:** Smith-Root LR-24  
**Water Quality:** Horiba U-10                      **Transparency:**



FSS0303A015.jpg



FSS0303A016.jpg



FSS0303A017.jpg



FSS0303A018.jpg



FSS0303A019.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/06/2003 3:51 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.60604	-149.17093	<b>Coordinates</b>	62.60604	-149.17093

Elevation NED (m)(ft): 604 1982

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-5

Legal Description (MTRS): S029N002E18

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying. Waterfalls upstream at station 03A07 is a barrier to all fish species and life stages.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>	
<b>Catchment Area(sq. km):</b> 42	<b>Embeddedness:</b>	
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>	<b>Dominant Substrate:</b>
<b>Width</b>		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		<b>Subdominant Substrate 2:</b>

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOH) Visual Observation, Helicopter

**Fish Observations**

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 2	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (2)		
<b>Comments:</b> About 10 more observed downstream.		

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

**Observers:** Joe Buckwalter, Jeff Davis, J Johnson **Date/Time:** 08/06/2003 3:49 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.60695	-149.18317	<b>Coordinates</b>	62.60695	-149.18317

**Elevation NED (m)(ft):** 666 2185

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts C-5 **Legal Description (MTRS):** S029N001E13

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 34 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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

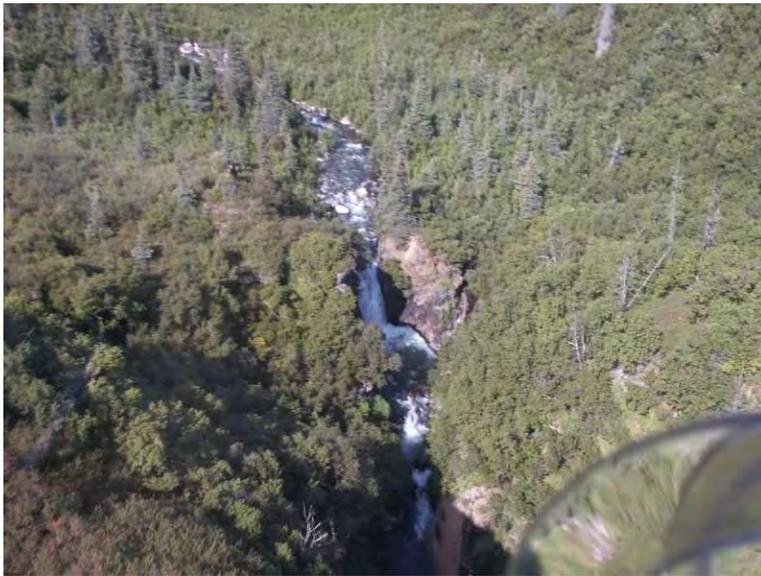
**Total Fish Count:** 2 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (2)

**Comments:** Chinook observed in falls plunge pool.

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0303A020.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/06/2003 8:41 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.65413	-148.87344	<b>Coordinates</b>	62.65413	-148.87344

Elevation NED (m)(ft): 707 2320

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-4

Legal Description (MTRS): S030N003E27

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km):

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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:

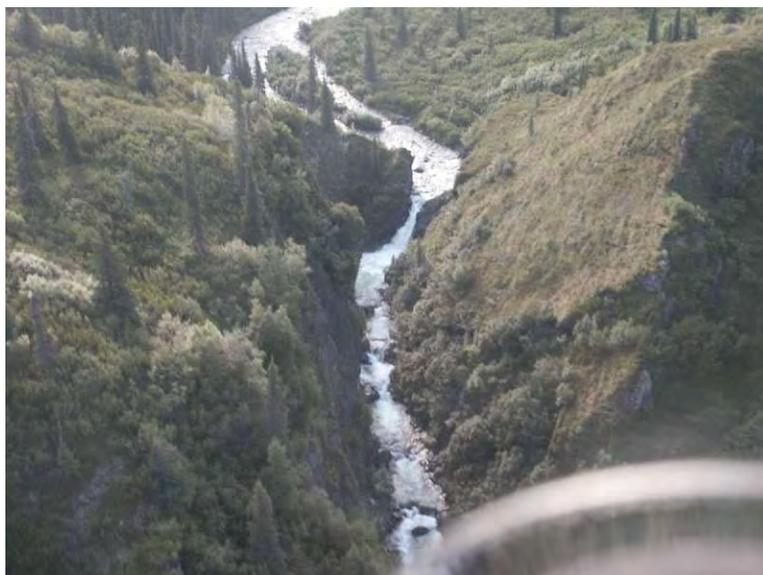
Channel Widths:

Turbidity:

Electrofischer:

Water Quality:

Transparency:



FSS0303A001.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/06/2003 4:07 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.47181	-149.61885	<b>Coordinates</b>	62.47181	-149.61885

Elevation NED (m)(ft): 373 1224

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-6

Legal Description (MTRS): S028N002W34

Waterbody Name: Disappointment Creek

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km):

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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:

Electrofischer:

Water Quality:

Transparency:



FSS0303A021.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/07/2003 9:08 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.66673	-149.21414	<b>Coordinates</b>	62.66673	-149.21414

Elevation NED (m)(ft): 896 2940

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-5

Legal Description (MTRS): S030N001E26

Waterbody Name: Chunilna Creek

Anadromous Waters Catalog Number:

Geographic Comments: Local name: Clear Creek.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 10.30	DO (mg/L):	DO (%):	Conductivity (µS/cm): 20	pH: 7.60
Water Color: Clear		Turbidity (NTU):	Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 20

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	6.5	5.1		<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.34		<b>Subdominant Substrate 2:</b> Boulder

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	3	Open Tall Willow Shrub	3
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**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: slimy sculpin Life Stage: adult Life History: Resident  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 72 Max: 79 Mean: 75 Median: 75  
 Sampling Method (No. of fish): PEF (2)  
 Comments:

Species: slimy sculpin Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 5 Fish Measured: 5 Fork Lengths (mm) Min: 50 Max: 61 Mean: 54 Median: 55  
 Sampling Method (No. of fish): PEF (5)  
 Comments:

Species: slimy sculpin Life Stage: juvenile Life History: Resident  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 24 Max: 46 Mean: 35 Median: 35  
 Sampling Method (No. of fish): PEF (2)  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0304A001.jpg



FSS0304A002.jpg



FSS0304A003.jpg

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/07/2003 10:34 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.64464	-149.47969	<b>Coordinates</b>	62.64464	-149.47969

**Elevation NED (m)(ft):** 599 1965**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-5**Legal Description (MTRS):** S030N001W33**Waterbody Name:** Chunilna Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Local name: Clear Creek.**Visit Comments:** Stream not wadeable - width, depth estimated.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 9.80 **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** 35 **pH:** 7.67**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 3**Entrenchment:****Catchment Area(sq. km):** 100 **Embeddedness:****Channel Dimensions (m):** **Bankfull** **OHW** **Wetted** **Dominant Substrate:** Boulder**Width** 10.0 **Subdominant Substrate 1:** Cobble**Thalweg Depth** 0.70 **Subdominant Substrate 2:****Rosgen Class:** B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>		<b>Canopy</b>		<b>Canopy</b>
<b>Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Height(m)</b>
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Black Cottonwood Forest	20		
10 - 20	Closed Black Cottonwood Forest	20		
20 - 30	Closed Black Cottonwood Forest	20		

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** Dolly Varden**Life Stage:** juvenile**Life History:** Unknown**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:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 11 **Fish Measured:** 11 **Fork Lengths (mm) Min:** 49 **Max:** 63 **Mean:** 55 **Median:** 56**Sampling Method (No. of fish):** PEF (11)**Suspected Spawning:** Yes**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** Visual estimate**Stream Velocity:** Price pygmy meter**Channel Widths:** Visual estimate**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0304A004.jpg



FSS0304A005.jpg



FSS0304A006.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/07/2003 12:59 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.50982	-149.75799	<b>Coordinates</b>	62.50982	-149.75799

Elevation NED (m)(ft): 486 1594

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-6

Legal Description (MTRS): S028N003W13

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 10.00	DO (mg/L):	DO (%):	Conductivity (µS/cm): 41	pH: 7.63
Water Color: Clear	Turbidity (NTU):	Thalweg Velocity (m/s)(ft/s):		

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 14

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	6.9	6.0		<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.21		<b>Subdominant Substrate 2:</b> Boulder

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Open White Spruce Forest	15	Open White Spruce Forest	15
5 - 10	Open White Spruce Forest	15	Open White Spruce Forest	15
10 - 20	Open White Spruce Forest	15	Open White Spruce Forest	15
20 - 30	Open White Spruce Forest	15	Open White Spruce Forest	15

**Key To Fish Sampling Methods**

(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: 92 Max: 92 Mean: 92 Median: 92

Sampling Method (No. of fish): PEF (1)

Comments:

Species: coho 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): VOG (3)

Comments: Photos 16,17.

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 35 Fish Measured: 11 Fork Lengths (mm) Min: 35 Max: 48 Mean: 40 Median: 41

Sampling Method (No. of fish): PEF (35)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 40 mm.

Species: rainbow trout

Life Stage: juvenile/adult

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 110 Max: 110 Mean: 110 Median: 110

Sampling Method (No. of fish): PEF (1)

Comments:

---

**Species:** rainbow trout                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 6      **Fish Measured:** 6      **Fork Lengths (mm) Min:** 61      **Max:** 89      **Mean:** 71      **Median:** 75  
**Sampling Method (No. of fish):** PEF (6)

**Comments:**

**Species:** slimy sculpin                      **Life Stage:** juvenile/adult                      **Life History:** Resident  
**Total Fish Count:** 11      **Fish Measured:** 1      **Fork Lengths (mm) Min:** 62      **Max:** 62      **Mean:** 62      **Median:** 62  
**Sampling Method (No. of fish):** PEF (1) VOG (10)

**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 optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price pygmy meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



FSS0304A017.jpg



FSS0304A018.jpg



FSS0304A019.jpg



FSS0304A020.jpg



FSS0304A021.jpg



FSS0304A022.jpg

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/07/2003 2:51 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.53476	-149.93348	Coordinates	62.53476	-149.93348

Elevation NED (m)(ft): 516 1693

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-6

Legal Description (MTRS): S028N004W12

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 9.00	DO (mg/L):	DO (%):	Conductivity (µS/cm): 39	pH: 7.65
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 14

Embeddedness:

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width	8.8	5.5		Gravel
Thalweg Depth		0.24		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 (Vioreck 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	5	Closed Tall Alder Shrub	5
5 - 10	Closed Tall Alder Shrub	5	Closed Tall Alder Shrub	5
10 - 20	Closed Tall Alder Shrub	5	Closed Tall Alder Shrub	5
20 - 30	Closed Tall Alder Shrub	5	Closed Tall Alder Shrub	5

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 109 Max: 109 Mean: 109 Median: 109

Sampling Method (No. of fish): PEF (1)

Comments:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 43 Max: 46 Mean: 44 Median: 44

Sampling Method (No. of fish): PEF (4)

Comments:

Species: rainbow trout

Life Stage: juvenile

Life History: Resident

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 32 Max: 67 Mean: 47 Median: 49

Sampling Method (No. of fish): PEF (4)

Suspected Spawning: Yes

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0304A024.jpg



FSS0304A025.jpg



FSS0304A027.jpg

**Station Info****Observers:** Joe Buckwalter, Jeff Davis, J Johnson**Date/Time:** 08/07/2003 3:50 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.47401	-149.98050	<b>Coordinates</b>	62.47401	-149.98050

**Elevation NED (m)(ft):** 286 938**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts B-6**Legal Description (MTRS):** S028N004W34**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Upper end of reach passes through a drained beaver pond. Gradient in this portion is 1% and vegetation is herbacious, graminoid meadow.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 12.30 **DO (mg/L):** **DO (%):** **Conductivity (µS/cm):** 34 **pH:** 7.46**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 1.5**Entrenchment:****Catchment Area(sq. km):** 15**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		7.1	4.6	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.24	<b>Subdominant Substrate 2:</b>

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Viereck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

(VOH) Visual Observation, Helicopter

**Fish Observations****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):** VOG (3)**Comments:****Species:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 45 **Max:** 58 **Mean:** 49 **Median:** 51**Sampling Method (No. of fish):** PEF (4)**Comments:****Species:** coho 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):** VOH (6)**Comments:**

**Species:** coho salmon                      **Life Stage:** juvenile                      **Life History:** Anadromous  
**Total Fish Count:** 34    **Fish Measured:** 9    **Fork Lengths (mm) Min:** 34    **Max:** 58    **Mean:** 42    **Median:** 46  
**Sampling Method (No. of fish):** PEF (9) VOG (25)                      **Suspected Spawning:** Yes  
**Comments:** Observed in pool along right bank. Average F.L. of additional fish was about 50 mm.

**Species:** rainbow trout                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 1    **Fish Measured:** 1    **Fork Lengths (mm) Min:** 60    **Max:** 60    **Mean:** 60    **Median:** 60  
**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:** 33    **Max:** 34    **Mean:** 33    **Median:** 33  
**Sampling Method (No. of fish):** PEF (2)  
**Comments:**

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### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price pygmy meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofischer:** Smith-Root LR-24

**Water Quality:** Horiba U-10

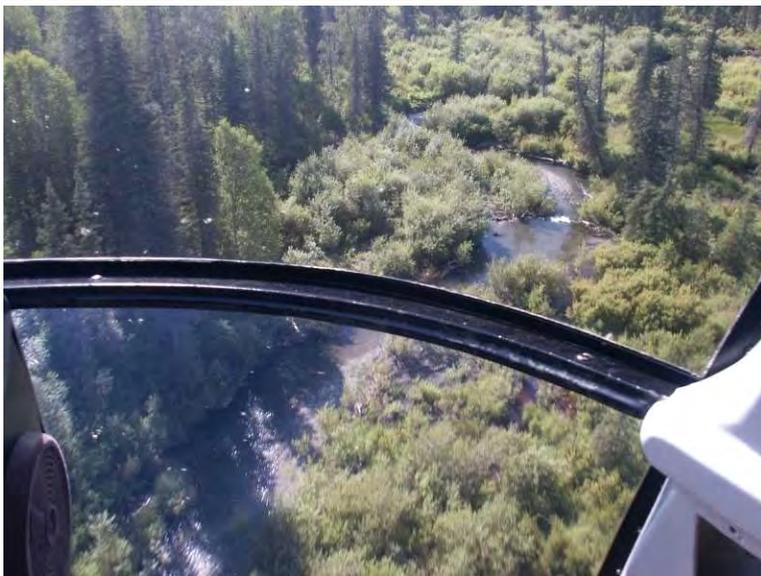
**Transparency:**



FSS0304A028.jpg



FSS0304A029.jpg



FSS0304A030.jpg

**Station Info**

**Observers:** Joe Buckwalter, Jeff Davis, J Johnson **Date/Time:** 08/07/2003 2:00 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.53673	-149.93179	<b>Coordinates</b>	62.53673	-149.93179

**Elevation NED (m)(ft):** 516 1693

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts C-6 **Legal Description (MTRS):** S028N004W12

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 14 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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) **Suspected Spawning:** Yes

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

**Observers:** Joe Buckwalter, Jeff Davis, J Johnson

**Date/Time:** 08/07/2003 3:22 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.47054	-149.98946	<b>Coordinates</b>	62.47054	-149.98946	/	62.47108 -149.98689

**Elevation NED (m)(ft):** 283 928

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts B-6

**Legal Description (MTRS):** S028N004W34

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 15	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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:** 10 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (10)

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, Jeff Davis, J Johnson

Date/Time: 08/07/2003 4:35 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
Coordinates	62.38940	-150.05579	Coordinates	62.38940	-150.05579

Elevation NED (m)(ft): 147 482

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S027N004W32

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 4

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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

Life History: Anadromous

Total Fish Count: 1 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOH (1)

Comments: Observed by J. Johnson.

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofisher:

Water Quality:

Transparency:

**Station Info**

**Observers:** Joe Buckwalter, Jeff Davis, J Johnson

**Date/Time:** 08/07/2003 11:21 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.54936	-149.83186	<b>Coordinates</b>	62.54936	-149.83186

**Elevation NED (m)(ft):** 443 1453

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts C-6 **Legal Description (MTRS):** S028N003W04

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0304A007.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/13/2003 1:06 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.77432	-148.70844	<b>Coordinates</b>	62.77432	-148.70844

**Elevation NED (m)(ft):** 426 1398**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts D-4**Legal Description (MTRS):** S031N004E16**Waterbody Name:** Fog Creek**Anadromous Waters Catalog Number:** 247-41-10200-2696**Geographic Comments:****Visit Comments:** Width estimated. Velocity measured in thalweg (depth 2.0 ft) at 60% of depth with AA meter. 71 revolutions in 40.1 seconds.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 9.40 **DO (mg/L):** 12.03 **DO (%):** **Conductivity (µS/cm):** 81 **pH:** 7.12**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):** 1.20 3.94**Stream Channel****Stream Gradient (%):** 2**Entrenchment:****Catchment Area(sq. km):** 390**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>			18.0	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>				<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	4
5 - 10	Closed Tall Alder-Willow Shrub	3	Closed White Spruce Forest	25
10 - 20	Closed Balsam Poplar-White Spruce Forest	20	Closed White Spruce Forest	25
20 - 30	Closed Balsam Poplar-White Spruce Forest	20	Closed White Spruce Forest	25

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 5 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 56 **Max:** 91 **Mean:** 71 **Median:** 73**Sampling Method (No. of fish):** PEF (4) VOG (1)**Comments:** Fork length of additional fish was about 60 mm.**Species:** slimy sculpin**Life Stage:** adult**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):** PEF (1)**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:**

**Species:** whitefish-unspecified      **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:** Did not capture; may have been a sucker. F.L. was about 300 mm.

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### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:**

**Stream Velocity:** Price pygmy meter

**Channel Widths:** Visual estimate

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



FSS0305A002.jpg



FSS0305A003.jpg



FSS0305A004.jpg



FSS0305A009.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/13/2003 3:21 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.84005	-148.57626	<b>Coordinates</b>	62.84005	-148.57626

**Elevation NED (m)(ft):** 496 1627**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts D-4**Legal Description (MTRS):** S032N005E29**Waterbody Name:** Tsusena Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Waterfall about 2 km upstream at station 05A05 is a barrier to upstream migration of all species and life stages.**Visit Comments:** Stream not wadeable. Width, depth estimated.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 8.20	<b>DO (mg/L):</b> 12.31	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 42	<b>pH:</b> 7.16
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 2**Entrenchment:****Catchment Area(sq. km):** 369**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>			43.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			1.50	<b>Subdominant Substrate 2:</b> 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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	4	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Balsam Poplar-White Spruce Forest	24	Closed Spruce-Paper Birch Forest	20
10 - 20	Closed Balsam Poplar-White Spruce Forest	24	Closed Spruce-Paper Birch Forest	20
20 - 30	Closed Balsam Poplar-White Spruce Forest	24	Closed Spruce-Paper Birch Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

**Species:** slimy sculpin **Life Stage:** adult **Life History:** Resident  
**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 84 **Max:** 84 **Mean:** 84 **Median:** 84  
**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:** 52 **Max:** 52 **Mean:** 52 **Median:** 52  
**Sampling Method (No. of fish):** PEF (1)  
**Comments:**

**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** Visual estimate**Stream Velocity:** Price pygmy meter**Channel Widths:** Visual estimate**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0305A011.jpg



FSS0305A012.jpg



FSS0305A013.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/13/2003 4:21 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.89774	-148.12112	<b>Coordinates</b>	62.89774	-148.12112

**Elevation NED (m)(ft):** 640 2100**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts D-3**Legal Description (MTRS):** S032N007E03**Waterbody Name:** Watana Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Main channel not wadeable. Depth, width estimated. Landslides about 5 km downstream depositing sediment into channel. Water clear above, but highly turbid below landslides. Landslides appear to be recent, probably triggered by earthquake in 2003.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 10.20	<b>DO (mg/L):</b> 11.38	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 131	<b>pH:</b> 7.49
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b> 1.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 323**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>			19.5	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.70	<b>Subdominant Substrate 2:</b> Boulder

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Tall Willow Shrub	2	Closed White Spruce Forest	25
10 - 20	Closed Tall Willow Shrub	2	Closed White Spruce Forest	25
20 - 30	Closed White Spruce Forest	15	Closed White Spruce Forest	25

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** slimy sculpin**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 44 **Max:** 45 **Mean:** 44 **Median:** 44**Sampling Method (No. of fish):** PEF (2)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** Visual estimate**Stream Velocity:** Price pygmy meter**Channel Widths:** Visual estimate**Turbidity:** Horiba U-10**Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0305A015.jpg



FSS0305A016.jpg



FSS0305A017.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/13/2003 5:38 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.84628	-148.23525	<b>Coordinates</b>	62.84628	-148.23525

Elevation NED (m)(ft): 508 1667

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-3

Legal Description (MTRS): S032N006E24

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Left-bank tributary to Watana Creek

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 9.50	<b>DO (mg/L):</b> 11.54	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 255	<b>pH:</b> 7.64
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b> 1.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 23

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>		3.0	3.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	3	Closed Tall Willow Shrub	3
5 - 10	Closed White Spruce Forest	4	Closed White Spruce Forest	20
10 - 20	Closed White Spruce Forest	4	Closed White Spruce Forest	20
20 - 30	Closed White Spruce Forest	20	Closed White Spruce Forest	20

**Key To Fish Sampling Methods**

(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: 126

Max: 145

Mean: 135

Median: 135

Sampling Method (No. of fish): PEF (2)

Comments:

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): PEF (1)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity: Horiba U-10

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



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FSS0305A020.jpg



FSS0305A021.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/13/2003 2:52 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.85316	-148.55460	Coordinates	62.85316	-148.55460

Elevation NED (m)(ft): 636 2087

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-4

Legal Description (MTRS): S032N005E20

Waterbody Name: Tsusena Creek

Anadromous Waters Catalog Number:

Geographic Comments: Waterfalls. Station waypoint marked while flying.

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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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:

Electrofischer:

Water Quality:

Transparency:



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**Station Info**

**Observers:** Joe Buckwalter, John Wells, Jim Lazar

**Date/Time:** 08/13/2003 3:45 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.83625	-148.47088	<b>Coordinates</b>	62.83625	-148.47088

**Elevation NED (m)(ft):** 594 1949

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts D-3

**Legal Description (MTRS):** S032N005E26

**Waterbody Name:** Deadman Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Impassable waterfalls. Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):**

**Entrenchment:**

**Catchment Area(sq. km):**

**Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(NON) None

**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, John Wells, Jim Lazar

Date/Time: 08/14/2003 10:00 AM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.76548	-147.94932	Coordinates	62.76548	-147.94932

Elevation NED (m)(ft): 577 1893

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-2

Legal Description (MTRS): S031N008E22

Waterbody Name: Kosina Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Stream not wadeable. Width, depth estimated.

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 10.40	DO (mg/L): 10.85	DO (%):	Conductivity (µS/cm): 73	pH: 7.38
Water Color: Clear	Turbidity (NTU): 0.00	Thalweg Velocity (m/s)(ft/s):		

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 1042

Embeddedness:

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate: Boulder
Width			20.0	Subdominant Substrate 1: Cobble
Thalweg Depth			0.70	Subdominant Substrate 2: Sand/Silt/Clay (legacy)

Rosgen Class: B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Alder Shrub	3	Closed Tall Alder Shrub	3
10 - 20	Open Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	10
20 - 30	Open Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	10

**Key To Fish Sampling Methods**

(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: 61 Max: 84 Mean: 72 Median: 72  
 Sampling Method (No. of fish): PEF (2)  
 Comments:

Species: Chinook salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 73 Max: 73 Mean: 73 Median: 73  
 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: 71 Max: 71 Mean: 71 Median: 71  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

Species: slimy sculpin Life Stage: juvenile Life History: Resident  
 Total Fish Count: 3 Fish Measured: 3 Fork Lengths (mm) Min: 20 Max: 27 Mean: 22 Median: 23  
 Sampling Method (No. of fish): PEF (3)  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:** Horiba U-10

**Water Quality:** Horiba U-10

**Channel Depths:** Visual estimate

**Channel Widths:** Visual estimate

**Electrofisher:** Smith-Root LR-24

**Transparency:**



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FSS0306A002.jpg



FSS0306A004.jpg

FSS0306A005.jpg



**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/14/2003 11:30 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.78032	-147.87877	<b>Coordinates</b>	62.78032	-147.87877

Elevation NED (m)(ft): 548 1798

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-2

Legal Description (MTRS): S031N008E13

Waterbody Name: Jay Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 7.40 DO (mg/L): 12.10 DO (%): Conductivity (µS/cm): 133 pH: 7.59

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s): 0.91 2.98

**Stream Channel**

Stream Gradient (%): 2.5

Entrenchment:

Catchment Area(sq. km): 169

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		10.3	9.6	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b> 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 (Vioreck 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 Tall Willow Shrub	3
5 - 10	Closed Balsam Poplar-White Spruce Forest	25	Closed Tall Willow Shrub	3
10 - 20	Closed Balsam Poplar-White Spruce Forest	25	Open White Spruce Forest	4
20 - 30	Closed Balsam Poplar-White Spruce Forest	25	Open White Spruce Forest	4

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Arctic grayling

Life Stage: juvenile

Life History: Resident

Total Fish Count: 3 Fish Measured: 1 Fork Lengths (mm) Min: 83 Max: 83 Mean: 83 Median: 83

Sampling Method (No. of fish): PEF (1) VOG (2)

Comments: Average F.L. of additional fish was about 70 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



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FSS0306A007.jpg



FSS0306A008.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/14/2003 2:12 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.75510	-147.72154	<b>Coordinates</b>	62.75510	-147.72154

**Elevation NED (m)(ft):** 539 1768**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts D-2**Legal Description (MTRS):** S031N009E23**Waterbody Name:** Susitna River**Anadromous Waters Catalog Number:****Geographic Comments:** Susitna River and right bank side channel.

**Visit Comments:** River not wadeable. Width estimated - main channel only. Water quality parameters entered above were measured in side channel. Main channel: temperature (C) 8.5, pH 7.66, conductivity 155, turbidity 999 (exceeds maximum value), D.O. 11.69, color - high glacial turbidity. Stage - medium. Substrate: cobble, silt, boulder

**Wildlife Comments:** Major caribou migration trails.**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.70	<b>DO (mg/L):</b> 11.10	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 220	<b>pH:</b> 7.56
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 10768**Embeddedness:****Channel Dimensions (m):** **Bankfull** **OHW** **Wetted** **Dominant Substrate:** Sand/Silt/Clay (legacy)**Width**

100.0

**Subdominant Substrate 1:** Cobble**Thalweg Depth****Subdominant Substrate 2:** Gravel**Rosgen Class:** C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Low Willow Shrub	2	Closed Low Willow Shrub	2
5 - 10	Closed Low Willow Shrub	2	Closed Low Willow Shrub	2
10 - 20	Closed Tall Alder Shrub	4	Closed Tall Alder Shrub	3
20 - 30	Closed Spruce-Paper Birch Forest	15	Closed Spruce-Paper Birch Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Arctic grayling**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 20 **Fish Measured:** 10 **Fork Lengths (mm) Min:** 62 **Max:** 133 **Mean:** 74 **Median:** 97**Sampling Method (No. of fish):** PEF (10) VOG (10)**Comments:** Average F.L. of additional fish was about 70 mm.**Species:** longnose sucker**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 23 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 32 **Max:** 115 **Mean:** 64 **Median:** 73**Sampling Method (No. of fish):** PEF (3) VOG (20)**Comments:** F.L. of additional fish ranged from about 50 to 120 mm.**Species:** slimy sculpin**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 71 **Max:** 101 **Mean:** 86 **Median:** 86**Sampling Method (No. of fish):** PEF (2)**Comments:**

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<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 3	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min:</b>	<b>Max:</b>	<b>Mean:</b>	<b>Median:</b>	
<b>Sampling Method (No. of fish):</b> VOG (3)						
<b>Comments:</b> Average F.L. was about 50 mm.						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 35	<b>Max:</b> 35	<b>Mean:</b> 35	<b>Median:</b> 35	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						
<b>Species:</b> whitefish-unspecified	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 4	<b>Fish Measured:</b> 4	<b>Fork Lengths (mm) Min:</b> 51	<b>Max:</b> 54	<b>Mean:</b> 52	<b>Median:</b> 52	
<b>Sampling Method (No. of fish):</b> PEF (4)						
<b>Comments:</b>						

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**Instruments**

<b>Stream Gradient:</b> handheld optical clinometer	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b> Visual estimate
<b>Turbidity:</b>	<b>Electrofisher:</b> Smith-Root LR-24
<b>Water Quality:</b> Horiba U-10	<b>Transparency:</b>



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FSS0306A011.jpg



FSS0306A012.jpg



FSS0306A014.jpg



FSS0306A015.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/14/2003 3:30 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.62784	-147.45495	<b>Coordinates</b>	62.62784	-147.45495

Elevation NED (m)(ft): 690 2264

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-1

Legal Description (MTRS): S029N011E06

Waterbody Name: Goose Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Algae covers substrate.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.10	<b>DO (mg/L):</b> 10.99	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 75	<b>pH:</b> 7.55
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b> 0.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 262

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>		15.0	14.7	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.60	<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Closed White Spruce Forest	20
10 - 20	Closed Tall Willow Shrub	2	Closed White Spruce Forest	20
20 - 30	Open White Spruce Forest	15	Closed White Spruce Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Arctic grayling

Life Stage: juvenile

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 72 Max: 72 Mean: 72 Median: 72

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: 74 Max: 74 Mean: 74 Median: 74

Sampling Method (No. of fish): PEF (1)

Comments:

Species: slimy sculpin

Life Stage: juvenile/adult

Life History: Resident

Total Fish Count: 15 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOG (15)

Comments: Average F.L. was about 50 mm.

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 21 Max: 33 Mean: 24 Median: 27

Sampling Method (No. of fish): PEF (4)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer  
**Stream Velocity:** Price pygmy meter  
**Turbidity:** Horiba U-10  
**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod  
**Channel Widths:** measuring tape  
**Electrofisher:** Smith-Root LR-24  
**Transparency:**



FSS0306A016.jpg



FSS0306A017.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/14/2003 4:54 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.61765	-147.38179	<b>Coordinates</b>	62.61765	-147.38179

**Elevation NED (m)(ft):** 681 2234**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-1**Legal Description (MTRS):** S029N011E10**Waterbody Name:** Oshetna River**Anadromous Waters Catalog Number:****Geographic Comments:** Station located at left bank side channel of Oshetna River.

**Visit Comments:** All fish (except 1 grayling) collected from clear side channel. Habitat data entered pertains to side channel. Main channel: Conductivity 146; turbidity 35; D.O. 10.97; temperature © 10.4; pH 7.57; substrate boulder, gravel, cobble; Rosgen type C2. Stream stage high; Water color - high glacial turbidity; velocity - fast.

**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 6.80 **DO (mg/L):** 11.28 **DO (%):** **Conductivity (µS/cm):** 744 **pH:** 6.97**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 1440**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>			3.5	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.10	<b>Subdominant Substrate 2:</b> 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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Open Tall Alder-Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed White Spruce Forest	20	Closed White Spruce Forest	10
10 - 20	Closed White Spruce Forest	20	Closed White Spruce Forest	10
20 - 30	Closed White Spruce Forest	20	Closed White Spruce Forest	10

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Arctic grayling**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 7 **Fish Measured:** 7 **Fork Lengths (mm) Min:** 48 **Max:** 72 **Mean:** 59 **Median:** 60**Sampling Method (No. of fish):** PEF (7)**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):** VOG (2)**Comments:** Average F.L. was about 70 mm.**Species:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 52 **Max:** 67 **Mean:** 61 **Median:** 59**Sampling Method (No. of fish):** PEF (3)**Comments:**

**Species:** slimy sculpin                      **Life Stage:** juvenile/adult                      **Life History:** Resident  
**Total Fish Count:** 1      **Fish Measured:** 1      **Fork Lengths (mm) Min:** 52      **Max:** 52      **Mean:** 52      **Median:** 52  
**Sampling Method (No. of fish):** PEF (1)  
**Comments:**  
**Species:** slimy sculpin                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 16      **Fish Measured:** 4      **Fork Lengths (mm) Min:** 21      **Max:** 25      **Mean:** 23      **Median:** 23  
**Sampling Method (No. of fish):** PEF (4) VOG (12)  
**Comments:** Average F.L. of additional fish was about 40 mm.

---

### Instruments

**Stream Gradient:** handheld optical clinometer                      **Channel Depths:** graduated wading rod  
**Stream Velocity:** Price pygmy meter                      **Channel Widths:** measuring tape  
**Turbidity:**                      **Electrofisher:** Smith-Root LR-24  
**Water Quality:** Horiba U-10                      **Transparency:**



FSS0306A019.jpg



FSS0306A020.jpg



FSS0306A021.jpg



FSS0306A022.jpg



FSS0306A023.jpg



FSS0306A024.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/15/2003 10:39 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.54810	-147.13653	<b>Coordinates</b>	62.54810	-147.13653

Elevation NED (m)(ft): 767 2516

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-1

Legal Description (MTRS): S028N012E01

Waterbody Name: Sanona Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 9.50	<b>DO (mg/L):</b> 10.62	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 253	<b>pH:</b> 7.16
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b> 1.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 417

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		14.6	10.4	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.50	<b>Subdominant Substrate 2:</b>

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Arctic grayling

Life Stage: juvenile

Life History: Resident

Total Fish Count: 20 Fish Measured: 1 Fork Lengths (mm) Min: 62 Max: 62 Mean: 62 Median: 62

Sampling Method (No. of fish): PEF (1) VOG (19)

Comments: F.L. of additional fish ranged from about 75 to 140 mm.

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: Average F.L. was about 50 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity: Horiba U-10

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0307A001.jpg



FSS0307A002.jpg



FSS0307A003.jpg



FSS0307A004.jpg

**Station Info**

**Observers:** Joe Buckwalter, John Wells, Jim Lazar

**Date/Time:** 08/15/2003 12:20 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.67477	-147.05419	<b>Coordinates</b>	62.67477	-147.05419

**Elevation NED (m)(ft):** 716 2349

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts C-1 **Legal Description (MTRS):** C010N010W02

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:**

**Visit Comments:**

**Wildlife Comments:** 1 curious caribou. Kingfisher, bald eagle.

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 12.60	<b>DO (mg/L):</b> 10.40	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 80	<b>pH:</b> 7.27
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

<b>Stream Gradient (%):</b> 2	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 137	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Dominant Substrate:</b> Gravel
<b>Bankfull</b>	<b>Subdominant Substrate 1:</b> Cobble
<b>Width</b>	6.0
<b>Thalweg Depth</b>	5.3
	0.30
	<b>Subdominant Substrate 2:</b>

**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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2
5 - 10	Open White Spruce Forest	15	Open White Spruce Forest	20
10 - 20	Open White Spruce Forest	15	Open White Spruce Forest	20
20 - 30	Open White Spruce Forest	15	Open White Spruce Forest	20

**Key To Fish Sampling Methods**

(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:** F.L. was about 250 mm.

**Species:** Arctic grayling **Life Stage:** juvenile **Life History:** Resident  
**Total Fish Count:** 5 **Fish Measured:** **Fork Lengths (mm) Min: Max: Mean: Median:**  
**Sampling Method (No. of fish):** VOG (5)  
**Comments:** Average F.L. was about 45 mm.

**Species:** slimy sculpin **Life Stage:** juvenile **Life History:** Resident  
**Total Fish Count:** 2 **Fish Measured:** **Fork Lengths (mm) Min: Max: Mean: Median:**  
**Sampling Method (No. of fish):** VOG (2)  
**Comments:** Average F.L. was about 30 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0307A007.jpg



FSS0307A008.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/15/2003 1:02 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.67445	-147.05508	<b>Coordinates</b>	62.67445	-147.05508

**Elevation NED (m)(ft):** 716 2349**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-1**Legal Description (MTRS):** C010N010W02**Waterbody Name:** Tyone River**Anadromous Waters Catalog Number:****Geographic Comments:** At confluence with 07A02 stream.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 13.00	<b>DO (mg/L):</b> 10.70	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 206	<b>pH:</b> 7.43
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 2348**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>			26.5	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.31	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Open White Spruce Forest	20	Open White Spruce Forest	20
10 - 20	Open White Spruce Forest	20	Open White Spruce Forest	20
20 - 30	Open White Spruce Forest	20	Open White Spruce Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** burbot**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 73 **Max:** 73 **Mean:** 73 **Median:** 73**Sampling Method (No. of fish):** PEF (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:** F.L. was about 90 mm.**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:** F.L. was about 70 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0307A009.jpg



FSS0307A010.jpg



FSS0307A011.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/15/2003 2:30 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.50392	-147.47704	<b>Coordinates</b>	62.50392	-147.47704

**Elevation NED (m)(ft):** 823 2700**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-1**Legal Description (MTRS):** S028N011E19**Waterbody Name:** Oshetna River**Anadromous Waters Catalog Number:****Geographic Comments:** Reach located immediately upstream of confluence with Black River (glacial origin).**Visit Comments:** Unwadeable - width, depth estimated.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 9.80 **DO (mg/L):** 11.31 **DO (%):** **Conductivity (µS/cm):** 152 **pH:** 7.42**Water Color:** Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 894**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>			20.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.70	<b>Subdominant Substrate 2:</b>

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
10 - 20	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
20 - 30	Open White Spruce Forest	15	Closed Tall Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Arctic grayling**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 11 **Fish Measured:** 6 **Fork Lengths (mm) Min:** 54 **Max:** 72 **Mean:** 59 **Median:** 63**Sampling Method (No. of fish):** PEF (6) VOG (5)**Comments:** Average F.L. of additional fish was about 80 mm.**Species:** slimy sculpin**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 72 **Max:** 72 **Mean:** 72 **Median:** 72**Sampling Method (No. of fish):** PEF (1)**Comments:****Species:** slimy sculpin**Life Stage:** juvenile/adult**Life History:** Resident**Total Fish Count:** 17 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 53 **Max:** 65 **Mean:** 59 **Median:** 59**Sampling Method (No. of fish):** PEF (2) VOG (15)**Comments:** Average F.L. of additional fish was about 50 mm.**Species:** slimy sculpin**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 34 **Max:** 43 **Mean:** 38 **Median:** 38**Sampling Method (No. of fish):** PEF (4)**Comments:**

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:** Horiba U-10

**Water Quality:** Horiba U-10

**Channel Depths:** Visual estimate

**Channel Widths:** Visual estimate

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0307A012.jpg



FSS0307A013.jpg



FSS0307A014.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/15/2003 4:30 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.69465	-147.99674	<b>Coordinates</b>	62.69465	-147.99674

**Elevation NED (m)(ft):** 778 2552**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-2**Legal Description (MTRS):** S030N008E17**Waterbody Name:** Tsisi Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Left bank tributary of Kosina Creek. Station located at downstream end of reach.**Visit Comments:** Not wadeable - width, depth estimated.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 12.10 **DO (mg/L):** 10.72 **DO (%):** **Conductivity (µS/cm):** 93 **pH:** 7.44**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 4 **Entrenchment:****Catchment Area(sq. km):** 224 **Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>			8.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.50	<b>Subdominant Substrate 2:</b> Gravel

**Rosgen Class:** A2 Steep, entrenched, cascading, step/pool streams. Very stable.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>		<b>Canopy</b>		<b>Canopy</b>
<b>Bank (m)</b>	<b><u>Left Bank Vegetation Type</u></b>	<b>Height(m)</b>	<b><u>Right Bank Vegetation Type</u></b>	<b>Height(m)</b>
0 - 5	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
5 - 10	Closed Low Shrub Birch	1	Closed Low Shrub Birch	1
10 - 20	Closed Low Shrub Birch	1	Closed Low Shrub Birch	1
20 - 30	Closed Low Shrub Birch	1	Closed Low Shrub Birch	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

No Fish Found

**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** Visual estimate**Stream Velocity:** Price pygmy meter**Channel Widths:** Visual estimate**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0307A018.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/15/2003 5:01 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.69379	-147.99668	<b>Coordinates</b>	62.69379	-147.99668

**Elevation NED (m)(ft):** 781 2562**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts C-2**Legal Description (MTRS):** S030N008E17**Waterbody Name:** Kosina Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Mainstem reach immediately upstream of 07A05.**Visit Comments:** Unwadeable - width, depth estimated**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 12.70 **DO (mg/L):** 9.89 **DO (%):** **Conductivity (µS/cm):** 55 **pH:** 7.30**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 2**Entrenchment:****Catchment Area(sq. km):** 752**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>			30.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.50	<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Low Willow Shrub	1	Closed Low Willow Shrub	1
5 - 10	Closed Low Shrub Birch	1	Closed Low Shrub Birch	1
10 - 20	Closed Low Shrub Birch	1	Closed Low Shrub Birch	1
20 - 30	Closed Low Shrub Birch	1	Closed Low Shrub Birch	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Arctic grayling**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 56 **Max:** 56 **Mean:** 56 **Median:** 56**Sampling Method (No. of fish):** PEF (1)**Comments:****Species:** salmonid-unspecified**Life Stage:** juvenile**Life History:** Unknown**Total Fish Count:** 3 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:****Sampling Method (No. of fish):** VOG (3)**Comments:** Average F.L. was about 70 mm.**Species:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 70 **Max:** 75 **Mean:** 72 **Median:** 72**Sampling Method (No. of fish):** PEF (2)**Comments:****Species:** slimy sculpin**Life Stage:** juvenile/adult**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 55 **Max:** 55 **Mean:** 55 **Median:** 55**Sampling Method (No. of fish):** PEF (1)**Comments:**

-continued-

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** Visual estimate

**Channel Widths:** Visual estimate

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0307A015.jpg



FSS0307A016.jpg



FSS0307A017.jpg



FSS0307A018.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/16/2003 10:01 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.76313	-148.51478	<b>Coordinates</b>	62.76313	-148.51478

**Elevation NED (m)(ft):** 636 2087**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts D-4**Legal Description (MTRS):** S031N005E22**Waterbody Name:** Fog Creek**Anadromous Waters Catalog Number:** 247-41-10200-2696**Geographic Comments:****Visit Comments:** Thalweg velocity measured at 60% of depth with Pygmy meter; 136 revolutions in 40.0 seconds.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.20	<b>DO (mg/L):</b> 12.30	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 92	<b>pH:</b> 7.30
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b> 1.00 3.28	

**Stream Channel****Stream Gradient (%):** 1.5**Entrenchment:****Catchment Area(sq. km):** 161**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		8.9	7.6	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b>

**Rosgen Class:** C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed White Spruce Forest	20	Closed Tall Willow Shrub	2
10 - 20	Closed White Spruce Forest	20	Closed Tall Willow Shrub	2
20 - 30	Closed White Spruce Forest	20	Closed White Spruce Forest	8

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Dolly Varden**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 2**Fish Measured:****Fork Lengths (mm) Min:****Max:****Mean:****Median:****Sampling Method (No. of fish):** VOG (2)**Suspected Spawning:** Yes**Comments:** 1 was in spawning colors. Average F.L. was about 300 mm.**Species:** Dolly Varden**Life Stage:** juvenile**Life History:** Unknown**Total Fish Count:** 15**Fish Measured:** 10**Fork Lengths (mm) Min:** 41**Max:** 57**Mean:** 48**Median:** 49**Sampling Method (No. of fish):** PEF (10) VOG (5)**Suspected Spawning:** Yes**Comments:** Average F.L. of additional fish was about 50 mm.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0308A001.jpg



FSS0308A002.jpg



FSS0308A003.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/16/2003 12:10 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	63.06009	-147.71604	<b>Coordinates</b>	63.06009	-147.71604

Elevation NED (m)(ft): 829 2720

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Healy A-2

Legal Description (MTRS): F021S001W27

Waterbody Name: Butte Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Stream unwadeable - width, depth estimated.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 9.20	<b>DO (mg/L):</b> 12.34	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 137	<b>pH:</b> 7.50
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 352

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>			40.0	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.60	<b>Subdominant Substrate 2:</b> 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	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Open Low Shrub Birch-Ericaceous Shrub Bog	0	Closed Tall Willow Shrub	2
10 - 20	Open Low Shrub Birch-Ericaceous Shrub Bog	0	Closed Tall Willow Shrub	2
20 - 30	Open Low Shrub Birch-Ericaceous Shrub Bog	0	Open Low Shrub Birch-Ericaceous Shrub Bog	0

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

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: 4 Fish Measured: 2 Fork Lengths (mm) Min: 63 Max: 67 Mean: 65 Median: 65

Sampling Method (No. of fish): PEF (2) VOG (2)

Comments: Average F.L. of additional fish was about 60 mm.

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 13 Max: 37 Mean: 25 Median: 25

Sampling Method (No. of fish): PEF (2)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** Visual estimate

**Channel Widths:** Visual estimate

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0308A008.jpg



FSS0308A009.jpg



FSS0308A010.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/16/2003 1:54 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.58810	-148.04649	<b>Coordinates</b>	62.58810	-148.04649

Elevation NED (m)(ft): 874 2867

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts C-3

Legal Description (MTRS): S029N007E24

Waterbody Name: Kosina Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 11.40	DO (mg/L): 10.82	DO (%):	Conductivity (µS/cm): 47	pH: 7.32
Water Color: Clear	Turbidity (NTU): 0.00		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 430

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>	160.0	160.0		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.70		<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

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

**Riparian Vegetation Communities (Vioreck 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	1	Open Low Mixed Shrub-Sedge Tussock Tundra	1
5 - 10	Open Low Mixed Shrub-Sedge Tussock Tundra	1	Open Low Mixed Shrub-Sedge Tussock Tundra	1
10 - 20	Open Low Mixed Shrub-Sedge Tussock Tundra	1	Open Low Mixed Shrub-Sedge Tussock Tundra	1
20 - 30	Open Low Mixed Shrub-Sedge Tussock Tundra	1	Open Low Mixed Shrub-Sedge Tussock Tundra	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

<b>Species:</b> Arctic grayling	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (1)		
<b>Comments:</b> F.L. was about 200 mm.		
<b>Species:</b> Arctic grayling	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident
<b>Total Fish Count:</b> 18	<b>Fish Measured:</b> 6	<b>Fork Lengths (mm) Min: 51 Max: 57 Mean: 53 Median: 54</b>
<b>Sampling Method (No. of fish):</b> PEF (6) VOG (12)		
<b>Comments:</b> Average F.L. of additional fish was about 55 mm.		
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident
<b>Total Fish Count:</b> 10	<b>Fish Measured:</b> 4	<b>Fork Lengths (mm) Min: 53 Max: 62 Mean: 58 Median: 57</b>
<b>Sampling Method (No. of fish):</b> PEF (4) VOG (6)		
<b>Comments:</b> Average F.L. of additional fish was about 50 mm.		

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:** Horiba U-10

**Water Quality:** Horiba U-10

**Channel Depths:** Visual estimate

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0308A011.jpg



FSS0308A012.jpg



FSS0308A013.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/16/2003 3:35 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.90009	-148.23165	<b>Coordinates</b>	62.90009	-148.23165

**Elevation NED (m)(ft):** 730 2395**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts D-3**Legal Description (MTRS):** S033N006E36**Waterbody Name:** Delusion Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Sample reach located upstream of a beaver pond.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.30	<b>DO (mg/L):</b> 10.68	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 147	<b>pH:</b> 7.30
<b>Water Color:</b> Muddy	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 30**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	4.8	5.2		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>	0.40	0.40		<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**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 (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
<b>0 - 5</b> Bluejoint-Herb	1	1
<b>5 - 10</b> Bluejoint-Herb	1	1
<b>10 - 20</b> Bluejoint-Herb	1	1
<b>20 - 30</b> Closed Tall Willow Shrub	2	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** slimy sculpin**Life Stage:** juvenile/adult**Life History:** Resident**Total Fish Count:** 7 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 51 **Max:** 59 **Mean:** 55 **Median:** 55**Sampling Method (No. of fish):** PEF (4) VOG (3)**Comments:** Average F.L. of additional fish was about 55 mm.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



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FSS0308A015.jpg



FSS0308A016.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/18/2003 11:12 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.94236	-149.06318	<b>Coordinates</b>	61.94236	-149.06318

**Elevation NED (m)(ft):** 495 1624**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Anchorage D-6**Legal Description (MTRS):** S021N002E03**Waterbody Name:** Kashwitna River**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Stream not wadeable - width, depth estimated. Velocity measured in mainstem riffle adjacent to thalweg.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 4.70 **DO (mg/L):** 12.77 **DO (%):** **Conductivity (µS/cm):** 44 **pH:** 7.30**Water Color:** Glacial, High Turbidit **Turbidity (NTU):** 130.00 **Thalweg Velocity (m/s)(ft/s):** 1.61 5.28**Stream Channel****Stream Gradient (%):** 3**Entrenchment:****Catchment Area(sq. km):** 121**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>			20.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.70	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
<b>0 - 5</b> Closed Tall Alder Shrub	3	3
<b>5 - 10</b> Closed Tall Alder Shrub	3	3
<b>10 - 20</b> Closed Tall Alder Shrub	3	3
<b>20 - 30</b> Closed Tall Alder Shrub	3	20
		Poplar (Black Cottonwood Forest)

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Dolly Varden**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 11 **Fish Measured:** 6 **Fork Lengths (mm) Min:** 155 **Max:** 250 **Mean:** 185 **Median:** 202**Sampling Method (No. of fish):** PEF (6) VOG (5)**Suspected Spawning:** Yes**Comments:** Average F.L. of additional fish was about 200 mm.**Species:** Dolly Varden**Life Stage:** juvenile/adult**Life History:** Unknown**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 95 **Max:** 106 **Mean:** 100 **Median:** 100**Sampling Method (No. of fish):** PEF (2)**Comments:****Species:** Dolly Varden**Life Stage:** juvenile**Life History:** Unknown**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 44 **Max:** 51 **Mean:** 46 **Median:** 47**Sampling Method (No. of fish):** PEF (3)**Suspected Spawning:** Yes**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:** F.L. was about 50 mm.

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### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** Visual estimate

**Stream Velocity:** Price pygmy meter

**Channel Widths:** Visual estimate

**Turbidity:** Horiba U-10

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



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FSS0309A002.jpg



FSS0309A003.jpg



FSS0309A005.jpg



FSS0309A006.jpg



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**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/18/2003 1:51 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.10400	-149.33403	<b>Coordinates</b>	62.10400	-149.33403

Elevation NED (m)(ft): 774 2539

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts A-5

Legal Description (MTRS): S023N001E07

Waterbody Name: Sheep Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 5.80 DO (mg/L): 11.65 DO (%): Conductivity (µS/cm): 15 pH: 6.80

Water Color: Glacial, Low Turbidit Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 51

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		13.8	13.8	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.80	0.70	<b>Subdominant Substrate 2:</b> Cobble

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 188 Max: 188 Mean: 188 Median: 188

Sampling Method (No. of fish): PEF (1)

Comments:

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 92 Max: 92 Mean: 92 Median: 92

Sampling Method (No. of fish): PEF (1)

Comments:

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): VOG (3)

Comments: Average F.L. was about 75 mm.

Species: Chinook salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 5 Fish Measured: 4 Fork Lengths (mm) Min: 47 Max: 57 Mean: 50 Median: 52

Sampling Method (No. of fish): PEF (4) VOG (1)

Comments: F.L. was about 50 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



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FSS0309A013.jpg



FSS0309A014.jpg



FSS0309A015.jpg



FSS0309A016.jpg



FSS0309A017.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/18/2003 3:00 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.13516	-149.66550	<b>Coordinates</b>	62.13516	-149.66550

Elevation NED (m)(ft): 454 1490

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts A-6

Legal Description (MTRS): S024N002W28

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 8.90 DO (mg/L): 10.73 DO (%): Conductivity (µS/cm): 26 pH: 6.35

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s): 0.93 3.05

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 13

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		3.5	3.5	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b>

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
10 - 20	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
20 - 30	Open White Spruce Forest	15	Closed Tall Willow Shrub	2

**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: 72 Fish Measured: 22 Fork Lengths (mm) Min: 34 Max: 52 Mean: 43 Median: 43

Sampling Method (No. of fish): PEF (22) VOG (50)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 42 mm.

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 3 Fish Measured: 3 Fork Lengths (mm) Min: 20 Max: 49 Mean: 38 Median: 34

Sampling Method (No. of fish): PEF (3)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

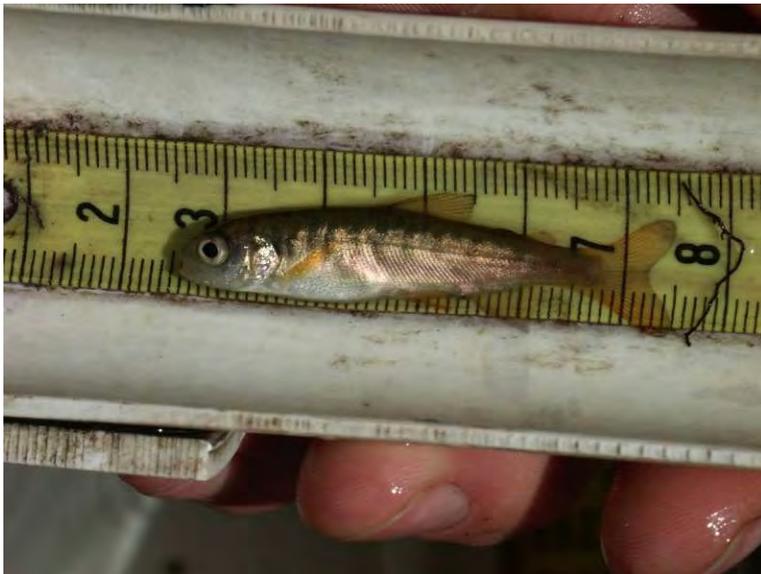
Transparency:



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FSS0309A020.jpg



FSS0309A021.jpg



FSS0309A022.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/18/2003 4:16 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.14903	-149.79241	<b>Coordinates</b>	62.14903	-149.79241

Elevation NED (m)(ft): 411 1348

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts A-6

Legal Description (MTRS): S024N003W22

Waterbody Name: Goose Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 10.10 DO (mg/L): 10.68 DO (%): Conductivity (µS/cm): 12 pH: 6.40

Water Color: Humic Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Sand/Silt/Clay (legacy)

Width 3.3 3.3 Subdominant Substrate 1: Gravel

Thalweg Depth 0.10 Subdominant Substrate 2:

Rosgen Class: F5 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.

**Riparian Vegetation Communities (Vioreck 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 Tall Alder Shrub	4	Open Black Spruce Forest	10
10 - 20	Closed Tall Alder Shrub	4	Open Black Spruce Forest	10
20 - 30	Open Black Spruce Forest	10	Open Black Spruce Forest	10

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 45 Max: 46 Mean: 45 Median: 45

Sampling Method (No. of fish): PEF (2)

Comments:

Species: rainbow trout

Life Stage: juvenile

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 33 Max: 33 Mean: 33 Median: 33

Sampling Method (No. of fish): PEF (1)

Suspected Spawning: Yes

Comments:

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:

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 3 Fish Measured: 3 Fork Lengths (mm) Min: 24 Max: 41 Mean: 33 Median: 32

Sampling Method (No. of fish): PEF (3)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



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FSS0309A026.jpg



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FSS0309A029.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/18/2003 5:17 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.24980	-149.91327	<b>Coordinates</b>	62.24980	-149.91327

Elevation NED (m)(ft): 241 791

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-6

Legal Description (MTRS): S025N003W18

Waterbody Name: Answer Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.10	<b>DO (mg/L):</b> 10.00	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 9	<b>pH:</b> 5.90
<b>Water Color:</b> Humic	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 17

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>		2.2	2.5	<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		0.80	0.70	<b>Subdominant Substrate 2:</b>

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 (Vioreck et al. 1992)**

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Open Low Sweetgale-Graminoid Bog	0	Bluejoint-Shrub	1
10 - 20	Open Low Sweetgale-Graminoid Bog	0	Bluejoint-Shrub	1
20 - 30	Open Low Sweetgale-Graminoid Bog	0	Bluejoint-Shrub	1

**Key To Fish Sampling Methods**

(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: 95 Max: 95 Mean: 95 Median: 95

Sampling Method (No. of fish): PEF (1)

Comments:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 16 Fish Measured: 6 Fork Lengths (mm) Min: 41 Max: 59 Mean: 48 Median: 50

Sampling Method (No. of fish): PEF (6) VOG (10)

Comments: Average F.L. of additional fish was about 50 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0309A032.jpg



FSS0309A033.jpg



FSS0309A034.jpg



FSS0309A035.jpg



FSS0309A036.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/19/2003 9:56 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.94816	-149.60428	<b>Coordinates</b>	62.94816	-149.60428

Elevation NED (m)(ft): 508 1667

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-6

Legal Description (MTRS): S033N002W14

Waterbody Name: Pass Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 6.30 DO (mg/L): 12.32 DO (%): Conductivity (µS/cm): 13 pH: 6.23

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 7

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		4.7	3.9	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b> Cobble

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

**Riparian Vegetation Communities (Vioreck 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	Bluejoint-Herb	0
5 - 10	Closed Tall Willow Shrub	2	Bluejoint-Herb	0
10 - 20	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
20 - 30	Closed White Spruce Forest	20	Closed White Spruce Forest	20

**Key To Fish Sampling Methods**

(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: 2 Fork Lengths (mm) Min: 109 Max: 124 Mean: 116 Median: 116

Sampling Method (No. of fish): PEF (2) VOG (2)

Comments: Average F.L. of additional fish was about 100 mm.

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 46 Max: 77 Mean: 61 Median: 61

Sampling Method (No. of fish): PEF (2)

Suspected Spawning: Yes

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): PEF (1)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0310A001.jpg



FSS0310A002.jpg



FSS0310A003.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/19/2003 10:43 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.91352	-149.61217	<b>Coordinates</b>	62.91352	-149.61217

Elevation NED (m)(ft): 424 1391

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-6

Legal Description (MTRS): S033N002W35

Waterbody Name: Pass Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 6.60 DO (mg/L): 12.23 DO (%): Conductivity (µS/cm): 18 pH: 6.40

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 1.5

Entrenchment:

Catchment Area(sq. km): 32

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	6.9	6.3		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.50		<b>Subdominant Substrate 2:</b> Cobble

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Open White Spruce Forest	20
10 - 20	Closed Tall Willow Shrub	2	Open White Spruce Forest	20
20 - 30	Closed Tall Willow Shrub	2	Open White Spruce Forest	20

**Key To Fish Sampling Methods**

(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: 121 Max: 121 Mean: 121 Median: 121  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

Species: Dolly Varden Life Stage: juvenile Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 1 Fork Lengths (mm) Min: 41 Max: 41 Mean: 41 Median: 41  
 Sampling Method (No. of fish): PEF (1) VOG (1) Suspected Spawning: Yes  
 Comments: F.L. of additional fish was about 80 mm.

Species: slimy sculpin Life Stage: juvenile/adult Life History: Resident  
 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: 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): PEF (1)  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0310A004.jpg



FSS0310A005.jpg



FSS0310A006.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/19/2003 12:39 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.46866	-149.77762	<b>Coordinates</b>	62.46866	-149.77762

Elevation NED (m)(ft): 448 1470

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts B-6

Legal Description (MTRS): S028N003W35

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 9.00	<b>DO (mg/L):</b> 11.82	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 20	<b>pH:</b> 6.60
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>	7.8	5.9		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.30		<b>Subdominant Substrate 2:</b> Cobble

Rosgen Class: F5 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.

**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b>Left Bank Vegetation Type</b>	<b>Right Bank Vegetation Type</b>	
<b>0 - 5</b> Subarctic Lowland Sedge-Bog Meadow	0	Subarctic Lowland Sedge-Shrub Wet Meadow 0
<b>5 - 10</b> Closed Tall Willow Shrub	2	Subarctic Lowland Sedge-Shrub Wet Meadow 0
<b>10 - 20</b> Closed Tall Willow Shrub	2	Subarctic Lowland Sedge-Shrub Wet Meadow 0
<b>20 - 30</b> Open White Spruce Forest	15	Subarctic Lowland Sedge-Shrub Wet Meadow 0

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

<b>Total Fish Count:</b> 1	<b>Fish Measured:</b>	<b>Fork Lengths (mm)</b>	<b>Min:</b>	<b>Max:</b>	<b>Mean:</b>	<b>Median:</b>
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Sampling Method (No. of fish): VOG (1)

Comments: F.L. was about 180 mm.

Species: slimy sculpin

Life Stage: juvenile/adult

Life History: Resident

<b>Total Fish Count:</b> 6	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm)</b>	<b>Min:</b> 70	<b>Max:</b> 70	<b>Mean:</b> 70	<b>Median:</b> 70
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Sampling Method (No. of fish): PEF (1) VOG (5)

Comments: Average F.L. of additional fish was about 60 mm.

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

<b>Total Fish Count:</b> 4	<b>Fish Measured:</b> 4	<b>Fork Lengths (mm)</b>	<b>Min:</b> 33	<b>Max:</b> 49	<b>Mean:</b> 40	<b>Median:</b> 41
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Sampling Method (No. of fish): PEF (4)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0310A017.jpg



FSS0310A018.jpg



FSS0310A019.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/19/2003 1:46 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.43716	-150.04579	<b>Coordinates</b>	62.43716	-150.04579

Elevation NED (m)(ft): 207 679

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S027N004W08

Waterbody Name: Wiggle Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 10.70 DO (mg/L): 11.55 DO (%): Conductivity (µS/cm): 26 pH: 6.70

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		3.9	3.9	<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b>

Rosgen Class: F3 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.

**Riparian Vegetation Communities (Vioreck 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 Sweetgale-Graminoid Bog	1	Subarctic Lowland Sedge-Shrub Wet Meadow	1
5 - 10	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
10 - 20	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
20 - 30	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: salmonid-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): VOG (1)  
 Comments: F.L. was about 150 mm.

Species: threespine stickleback Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 52 Max: 52 Mean: 52 Median: 52  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

Species: rainbow trout Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 172 Max: 172 Mean: 172 Median: 172  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

Species: slimy sculpin Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 34 Fish Measured: 14 Fork Lengths (mm) Min: 52 Max: 69 Mean: 57 Median: 60  
 Sampling Method (No. of fish): PEF (14) VOG (20)  
 Comments: Average F.L. of additional fish was about 50 mm.

**Species:** slimy sculpin                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 13    **Fish Measured:** 13    **Fork Lengths (mm) Min:** 36    **Max:** 49    **Mean:** 41    **Median:** 42  
**Sampling Method (No. of fish):** PEF (13)  
**Comments:**

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### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price pygmy meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



FSS0310A020.jpg



FSS0310A021.jpg



FSS0310A023.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/19/2003 11:41 AM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.90517	-149.73691	Coordinates	62.90517	-149.73691

Elevation NED (m)(ft): 362 1188

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-6

Legal Description (MTRS): S033N002W31

Waterbody Name: Pass Creek

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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:



FSS0310A010.jpg

**Station Info**

**Observers:** Joe Buckwalter, John Wells, Jim Lazar

**Date/Time:** 08/19/2003 11:48 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.81198	-149.66928	<b>Coordinates</b>	62.81198	-149.66928

**Elevation NED (m)(ft):** 367 1204

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts D-6 **Legal Description (MTRS):** S031N002W04

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Waterfalls on right-bank Indian River tributary. Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0310A011.jpg

**Station Info**

**Observers:** Joe Buckwalter, John Wells, Jim Lazar **Date/Time:** 08/19/2003 3:01 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.22645	-149.87572	<b>Coordinates</b>	62.22645	-149.87572

**Elevation NED (m)(ft):** 306 1004

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts A-6 **Legal Description (MTRS):** S025N003W29

**Waterbody Name:** North Fork Montana Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0310A024.jpg

**Station Info**

**Observers:** Joe Buckwalter, John Wells, Jim Lazar

**Date/Time:** 08/19/2003 3:05 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.19963	-149.86628	<b>Coordinates</b>	62.19963	-149.86628

**Elevation NED (m)(ft):** 319 1047

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts A-6 **Legal Description (MTRS):** S024N003W05

**Waterbody Name:** Middle Fork Montana Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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

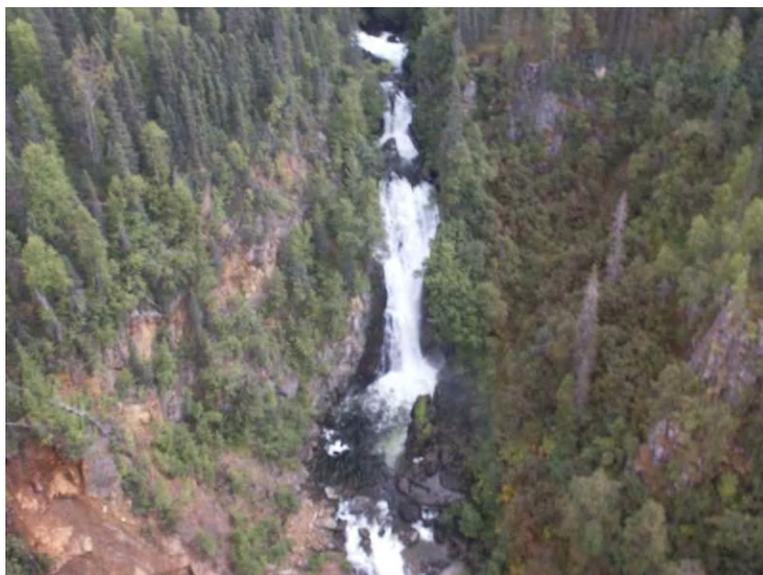
**Total Fish Count:** 0 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** NON (0)

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0310A025.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/19/2003 3:32 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.18009	-149.85644	<b>Coordinates</b>	62.18009	-149.85644

**Elevation NED (m)(ft):** 325 1066**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna Mts A-6**Legal Description (MTRS):** S024N003W08**Waterbody Name:** South Fork Montana Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Station waypoint marked on ground at 2.4-meter high falls.**Visit Comments:** Wetted width is ~ 7 meters. Status of falls as a barrier to migrating adult salmon was not assessed.**Wildlife Comments:****Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 96	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:****Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOG) Visual Observation, Ground

**Fish Observations**

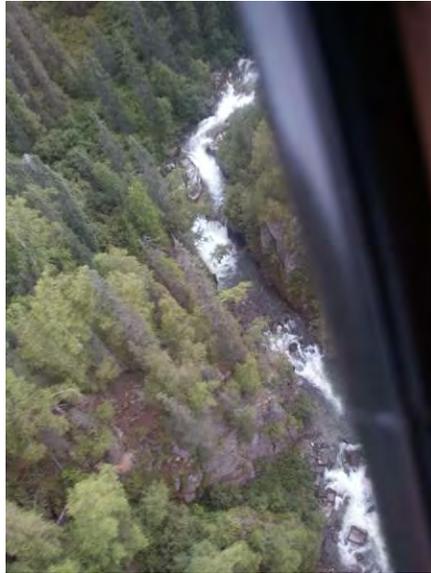
<b>Species:</b> salmonid-unspecified	<b>Life Stage:</b> adult	<b>Life History:</b> Unknown
<b>Total Fish Count:</b> 2	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (2)		
<b>Comments:</b> Falls 2.4 meters high - may not be a barrier.		

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0310A026.jpg



FSS0310A027.jpg



FSS0310A028.jpg

**Station Info****Observers:** Joe Buckwalter, John Wells, Jim Lazar**Date/Time:** 08/20/2003 11:03 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.41061	-150.31003	<b>Coordinates</b>	62.41061	-150.31003

**Elevation NED (m)(ft):** 183 600**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna B-1**Legal Description (MTRS):** S027N006W24**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 13.30 **DO (mg/L):** 8.40 **DO (%):** **Conductivity (µS/cm):** 10 **pH:** 5.90**Water Color:** Humic **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 0**Entrenchment:****Catchment Area(sq. km):** 3**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Organic
<b>Width</b>		2.5	2.5	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		1.40	1.40	<b>Subdominant Substrate 2:</b>

**Rosgen Class:** E6 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 (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Open Black Spruce Forest	7	Open Low Sweetgale-Graminoid Bog	0
5 - 10	Open Black Spruce Forest	7	Open Low Sweetgale-Graminoid Bog	0
10 - 20	Open Low Sweetgale-Graminoid Bog	0	Open Low Sweetgale-Graminoid Bog	0
20 - 30	Open Low Sweetgale-Graminoid Bog	0	Open Low Mixed Shrub-Sedge Tussock Bog	1

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations****Species:** threespine stickleback**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 68 **Max:** 68 **Mean:** 68 **Median:** 68**Sampling Method (No. of fish):** MTQ (1)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:****Water Quality:** Horiba U-10**Transparency:**



FSS0311A005.jpg



FSS0311A006.jpg



FSS0311A007.jpg



FSS0311A008.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/20/2003 10:04 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.40872	-150.19981	<b>Coordinates</b>	62.40872	-150.19981

Elevation NED (m)(ft): 152 499

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S027N005W21

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 12.10 DO (mg/L): 9.61 DO (%): Conductivity (µS/cm): 7 pH: 4.98

Water Color: Humic

Turbidity (NTU):

Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 4

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Organic
<b>Width</b>		1.6	1.6	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.98	<b>Subdominant Substrate 2:</b>

Rosgen Class: E6 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Open Tall Alder Shrub	3	Open Tall Alder Shrub	3
10 - 20	Open Tall Alder Shrub	3	Open Tall Alder Shrub	3
20 - 30	Open Tall Alder Shrub	3	Open Tall Alder Shrub	3

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

No Fish Found

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher:

Water Quality: Horiba U-10

Transparency:



FSS0311A009.jpg



FSS0311A010.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/20/2003 12:13 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.43356	-150.09041	<b>Coordinates</b>	62.43356	-150.09041

Elevation NED (m)(ft): 182 597

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S027N004W18

Waterbody Name: Wiggle Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 16.10 DO (mg/L): 7.92 DO (%): Conductivity (µS/cm): 20 pH: 6.66

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 1

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Organic

Width 0.6 0.6 Subdominant Substrate 1:

Thalweg Depth 0.30 0.30 Subdominant Substrate 2:

Rosgen Class: E6 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Bluejoint Meadow	1	Bluejoint Meadow	1
5 - 10	Bluejoint Meadow	1	Bluejoint Meadow	1
10 - 20	Closed Paper Birch Forest	20	Bluejoint Meadow	1
20 - 30	Closed Paper Birch Forest	20	Bluejoint Meadow	1

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

No Fish Found

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher:

Water Quality: Horiba U-10

Transparency:



FSS0311A011.jpg



FSS0311A012.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/20/2003 2:58 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.37108	-150.28362	<b>Coordinates</b>	62.37108	-150.28362

Elevation NED (m)(ft): 155 509

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S026N005W06

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 15.10 DO (mg/L): 7.15 DO (%): Conductivity (µS/cm): 14 pH: 6.36

Water Color: Humic Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 10

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Organic

Width 4.5 4.5 Subdominant Substrate 1:

Thalweg Depth 1.35 1.35 Subdominant Substrate 2:

Rosgen Class: E6 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 (Vioreck 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 Sweetgale-Graminoid Bog	2	Open Low Sweetgale-Graminoid Bog	2
5 - 10	Subarctic Lowland Sedge-Bog Meadow	0	Subarctic Lowland Sedge-Bog Meadow	0
10 - 20	Subarctic Lowland Sedge-Bog Meadow	0	Subarctic Lowland Sedge-Bog Meadow	0
20 - 30	Subarctic Lowland Sedge-Bog Meadow	0	Subarctic Lowland Sedge-Bog Meadow	0

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 124 Max: 124 Mean: 124 Median: 124

Sampling Method (No. of fish): MTQ (1)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher:

Water Quality: Horiba U-10

Transparency:



FSS0311A015.jpg



FSS0311A016.jpg



FSS0311A017.jpg



FSS0311A018.jpg



FSS0311A019.jpg



FSS0311A020.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/20/2003 1:31 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.36800	-150.11881	<b>Coordinates</b>	62.36800	-150.11881

Elevation NED (m)(ft): 114 374

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S026N005W01

Waterbody Name: Wiggle Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 13.80 DO (mg/L): 7.28 DO (%): Conductivity (µS/cm): 37 pH: 6.67

Water Color: Humic

Turbidity (NTU):

Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 32

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Organic

Width

4.8

4.8

Subdominant Substrate 1:

Thalweg Depth

1.40

1.40

Subdominant Substrate 2:

Rosgen Class: E6 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 (Vioreck 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 Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
5 - 10	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
10 - 20	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
20 - 30	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

Species: threespine stickleback

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 6

Fish Measured: 6

Fork Lengths (mm) Min: 39

Max: 60

Mean: 50

Median: 49

Sampling Method (No. of fish): MTQ (6)

Comments:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 23

Fish Measured: 23

Fork Lengths (mm) Min: 71

Max: 126

Mean: 100

Median: 98

Sampling Method (No. of fish): MTQ (23)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher:

Water Quality: Horiba U-10

Transparency:



FSS0311A021.jpg



FSS0311A022.jpg



FSS0311A023.jpg



FSS0311A024.jpg



FSS0311A025.jpg

**Station Info**

Observers: Joe Buckwalter, John Wells, Jim Lazar

Date/Time: 08/20/2003 1:41 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.37583	-150.18445	<b>Coordinates</b>	62.37583	-150.18445

Elevation NED (m)(ft): 121 397

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-1

Legal Description (MTRS): S026N005W03

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 11.80 DO (mg/L): 8.16 DO (%): Conductivity (µS/cm): 15 pH: 6.61

Water Color: Humic

Turbidity (NTU):

Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 9

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Organic
<b>Width</b>		2.3	2.3	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.70	0.70	<b>Subdominant Substrate 2:</b>

Rosgen Class: E6 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 (Vioreck 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 Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
5 - 10	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
10 - 20	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
20 - 30	Open Low Sweetgale-Graminoid Bog	1	Closed Black Spruce Forest	7

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 53 Fish Measured: 53 Fork Lengths (mm) Min: 53 Max: 107 Mean: 73 Median: 80

Sampling Method (No. of fish): MTQ (53)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher:

Water Quality: Horiba U-10

Transparency:



FSS0311A026.jpg



FSS0311A027.jpg



FSS0311A028.jpg

**Station Info**

**Observers:** Joe Buckwalter, John Wells, Jim Lazar

**Date/Time:** 08/20/2003 10:45 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.52034	-149.97524	<b>Coordinates</b>	62.52034	-149.97524

**Elevation NED (m)(ft):** 514 1686

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts C-6 **Legal Description (MTRS):** S028N004W14

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0311A003.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/21/2003 11:23 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.47916	-151.60611	<b>Coordinates</b>	62.47916	-151.60611	/ 62.47973	-151.60350

**Elevation NED (m)(ft):** 536 1759

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna B-4

**Legal Description (MTRS):** S028N013W36

**Waterbody Name:** Sunflower Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** GPS coordinates for downstream terminus of reach aquired while on the ground. Coordinates for upstream terminus acquired while flying. Elevation measured at downstream terminus of reach.

**Visit Comments:** Adult sockeye were initially observed by helicopter throughout the reach. Then ground observations were made at the downstream end of the reach, where two chum salmon were observed (in addition to many sockeye).

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>		
<b>Catchment Area(sq. km):</b> 108	<b>Embeddedness:</b>		
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b>
<b>Width</b>			<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>			<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOG) Visual Observation, Ground

**Fish Observations**

**Species:** chum 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 11.

**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:** Photos 1, 2, 8, 9.

**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 10.

**Instruments**

**Stream Gradient:**

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:**

**Channel Depths:**

**Channel Widths:**

**Electrofisher:**

**Transparency:**



FSS0312A001.jpg



FSS0312A002.jpg



FSS0312A008.jpg



FSS0312A009.jpg



FSS0312A010.jpg



FSS0312A011.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/21/2003 10:14 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.54314	-151.66127	<b>Coordinates</b>	62.54314	-151.66127

**Elevation NED (m)(ft):** 686 2251**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna C-4**Legal Description (MTRS):** S028N013W03**Waterbody Name:** Sunflower Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:****Wildlife Comments:** 1 female moose on hillside above station; 1 kingfisher. 1 male moose observed ~ 3 miles downstream of station.**Water Quality \ Stream Flow****Water Temp (C):** 6.10 **DO (mg/L):** 11.70 **DO (%):** **Conductivity (µS/cm):** 33 **pH:** 6.53**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 2**Entrenchment:****Catchment Area(sq. km):** 25**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		11.2	10.6	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.50	<b>Subdominant Substrate 2:</b>

**Rosgen Class:** B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**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:** 91 **Max:** 111 **Mean:** 104 **Median:** 101  
**Sampling Method (No. of fish):** PEF (3)

**Comments:**

**Species:** Dolly Varden **Life Stage:** juvenile **Life History:** Unknown  
**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 32 **Max:** 56 **Mean:** 47 **Median:** 44  
**Sampling Method (No. of fish):** PEF (4) **Suspected Spawning:** Yes

**Comments:**

**Species:** Chinook salmon **Life Stage:** juvenile **Life History:** Anadromous  
**Total Fish Count:** 7 **Fish Measured:** 7 **Fork Lengths (mm) Min:** 47 **Max:** 56 **Mean:** 50 **Median:** 51  
**Sampling Method (No. of fish):** PEF (7)

**Comments:**

---

<b>Species:</b> coho salmon	<b>Life Stage:</b> juvenile	<b>Life History:</b> Anadromous				
<b>Total Fish Count:</b> 3	<b>Fish Measured:</b> 3	<b>Fork Lengths (mm) Min:</b> 41	<b>Max:</b> 48	<b>Mean:</b> 44	<b>Median:</b> 44	
<b>Sampling Method (No. of fish):</b> PEF (3)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 91	<b>Max:</b> 91	<b>Mean:</b> 91	<b>Median:</b> 91	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 52	<b>Max:</b> 52	<b>Mean:</b> 52	<b>Median:</b> 52	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						

---

**Instruments**

<b>Stream Gradient:</b> handheld optical clinometer	<b>Channel Depths:</b> graduated wading rod
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b> measuring tape
<b>Turbidity:</b>	<b>Electrofisher:</b> Smith-Root LR-24
<b>Water Quality:</b> Horiba U-10	<b>Transparency:</b>



FSS0312A003.jpg



FSS0312A004.jpg



FSS0312A005.jpg



FSS0312A006.jpg



FSS0312A007.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/21/2003 11:47 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.54052	-151.59685	<b>Coordinates</b>	62.54052	-151.59685

Elevation NED (m)(ft): 868 2848

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna C-4

Legal Description (MTRS): S028N013W01

Waterbody Name: Colorado Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 6.00	DO (mg/L): 12.11	DO (%):	Conductivity (µS/cm): 18	pH: 6.25
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		3.8	3.8	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>		0.40	0.40	<b>Subdominant Substrate 2:</b> Gravel

Rosgen Class: A3 Steep, entrenched, cascading, step/pool streams. High energy/debris transport associated with depositional soils.

**Riparian Vegetation Communities (Vioreck 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	Open Tall Willow Shrub	2
5 - 10	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2
10 - 20	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2
20 - 30	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

No Fish Found

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0312A012.jpg



FSS0312A013.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/21/2003 1:06 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.47868	-151.70244	<b>Coordinates</b>	62.47868	-151.70244

Elevation NED (m)(ft): 703 2306

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-4

Legal Description (MTRS): S028N013W33

Waterbody Name: California Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 5.90	<b>DO (mg/L):</b> 12.40	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 31	<b>pH:</b> 6.94
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2.5

Entrenchment:

Catchment Area(sq. km): 10

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		5.5	5.2	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> 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 (Vioreck 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 Tall Willow Shrub	3
5 - 10	Mixed Herbs	1	Open Low Scrub	0
10 - 20	Mixed Herbs	1	Open Low Scrub	0
20 - 30	Mixed Herbs	1	Open Low Scrub	0

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden 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: F.L. was about 150 mm.

Species: Dolly Varden Life Stage: juvenile/adult Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 98 Max: 116 Mean: 107 Median: 107  
 Sampling Method (No. of fish): PEF (2)  
 Comments:

Species: Dolly Varden Life Stage: juvenile Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 53 Max: 62 Mean: 57 Median: 57  
 Sampling Method (No. of fish): PEF (2) Suspected Spawning: Yes  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0312A014.jpg



FSS0312A015.jpg



FSS0312A016.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/21/2003 2:51 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.47775	-151.53167	<b>Coordinates</b>	62.47775	-151.53167

Elevation NED (m)(ft): 758 2487

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-4

Legal Description (MTRS): S028N012W32

Waterbody Name: Bonanza Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 7.30	DO (mg/L): 11.75	DO (%):	Conductivity (µS/cm): 32	pH: 6.63
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 1.5

Entrenchment:

Catchment Area(sq. km): 8

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	5.6	5.6		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.40		<b>Subdominant Substrate 2:</b> Boulder

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Mixed Herbs	0	Closed Tall Willow Shrub	2
10 - 20	Mixed Herbs	0	Closed Tall Willow Shrub	2
20 - 30	Mixed Herbs	0	Closed Tall Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 3 Fish Measured: 2 Fork Lengths (mm) Min: 45 Max: 70 Mean: 57 Median: 57

Sampling Method (No. of fish): PEF (2) VOG (1)

Suspected Spawning: Yes

Comments: F.L. of additional fish was about 60 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



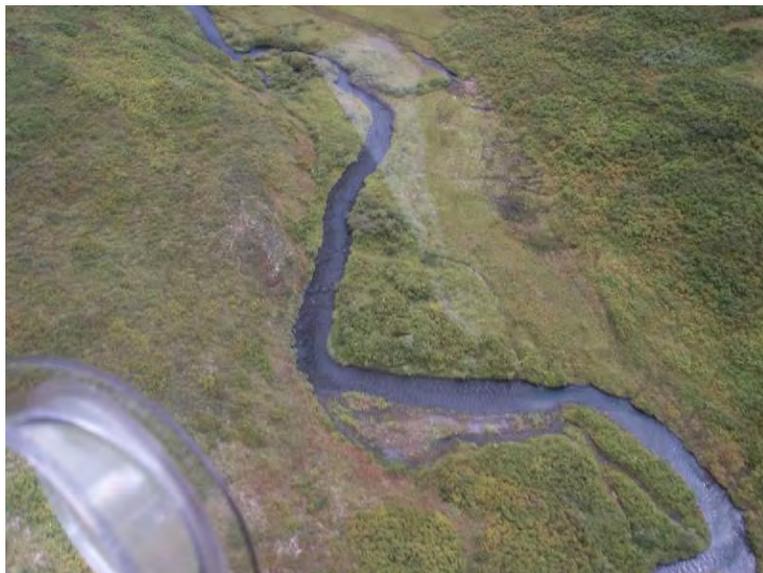
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FSS0312A018.jpg



FSS0312A019.jpg



FSS0312A020.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/21/2003 3:50 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.30271	-151.27770	<b>Coordinates</b>	62.30271	-151.27770

Elevation NED (m)(ft): 366 1201

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-3

Legal Description (MTRS): S026N011W34

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 12.50 DO (mg/L): 10.50 DO (%): Conductivity (µS/cm): 8 pH: 6.00

Water Color: Humic Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 4

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		2.7	2.8	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>			0.20	<b>Subdominant Substrate 2:</b> Gravel

Rosgen Class: F3 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.

**Riparian Vegetation Communities (Vioreck 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	Open Tall Willow Shrub	2
5 - 10	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2
10 - 20	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2
20 - 30	Open Tall Willow Shrub	2	Open Tall Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 53 Max: 57 Mean: 54 Median: 55

Sampling Method (No. of fish): PEF (4)

Comments:

Species: slimy sculpin

Life Stage: juvenile/adult

Life History: Resident

Total Fish Count: 7 Fish Measured: 7 Fork Lengths (mm) Min: 54 Max: 67 Mean: 59 Median: 60

Sampling Method (No. of fish): PEF (7)

Comments:

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 19 Max: 49 Mean: 33 Median: 34

Sampling Method (No. of fish): PEF (4)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0312A021.jpg



FSS0312A022.jpg



FSS0312A023.jpg



FSS0312A024.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/21/2003 4:51 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.29713	-151.29747	<b>Coordinates</b>	62.29713	-151.29747

Elevation NED (m)(ft): 379 1243

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-3

Legal Description (MTRS): S026N011W34

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 12.90	DO (mg/L): 10.02	DO (%):	Conductivity (µS/cm): 8	pH: 5.90
Water Color: Humic	Turbidity (NTU):	Thalweg Velocity (m/s)(ft/s):		

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 3

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		3.5	3.5	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> Boulder

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 (Vioreck et al. 1992)**

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Bluejoint-Shrub	1	Bluejoint-Shrub	1
10 - 20	Bluejoint-Shrub	1	Closed Tall Willow Shrub	2
20 - 30	Bluejoint-Shrub	1	Closed White Spruce Forest	10

**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: 20 Fish Measured: 18 Fork Lengths (mm) Min: 42 Max: 89 Mean: 63 Median: 65  
 Sampling Method (No. of fish): PEF (18) VOG (2)  
 Comments: Average F.L. of additional fish was about 70 mm.

Species: slimy sculpin Life Stage: adult Life History: Resident  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 92 Max: 92 Mean: 92 Median: 92  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

Species: slimy sculpin Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 7 Fish Measured: 2 Fork Lengths (mm) Min: 50 Max: 58 Mean: 54 Median: 54  
 Sampling Method (No. of fish): PEF (2) VOG (5)  
 Comments: Average F.L. of additional fish was about 60 mm.

Species: slimy sculpin Life Stage: juvenile Life History: Resident  
 Total Fish Count: 8 Fish Measured: 8 Fork Lengths (mm) Min: 29 Max: 47 Mean: 38 Median: 38  
 Sampling Method (No. of fish): PEF (8)  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0312A025.jpg



FSS0312A026.jpg



FSS0312A027.jpg



FSS0312A028.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/22/2003 9:27 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.30917	-151.47532	<b>Coordinates</b>	62.30917	-151.47532

**Elevation NED (m)(ft):** 486 1594**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna B-3**Legal Description (MTRS):** S026N012W27**Waterbody Name:** Home Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:****Wildlife Comments:** Several big active beaver dams/ponds downstream of station.**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 6.50	<b>DO (mg/L):</b> 11.70	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 5	<b>pH:</b> 5.91
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 3**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	3.2	2.2		<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.25		<b>Subdominant Substrate 2:</b>

**Rosgen Class:** F4 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Dolly Varden**Life Stage:** 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:** Average F.L. was about 150 mm.**Species:** Dolly Varden**Life Stage:** juvenile**Life History:** Unknown**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 73 **Max:** 80 **Mean:** 76 **Median:** 76**Sampling Method (No. of fish):** PEF (2)**Comments:****Species:** coho salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 32 **Fish Measured:** 26 **Fork Lengths (mm) Min:** 42 **Max:** 63 **Mean:** 49 **Median:** 52**Sampling Method (No. of fish):** PEF (26) VOG (6)**Suspected Spawning:** Yes**Comments:** Average F.L. of additional fish was about 50 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0313A002.jpg



FSS0313A003.jpg



FSS0313A004.jpg



FSS0313A005.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/22/2003 10:03 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.26141	-151.35533	<b>Coordinates</b>	62.26141	-151.35533

Elevation NED (m)(ft): 420 1378

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-3

Legal Description (MTRS): S025N011W17

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Reach located immediately upstream of abandoned, blown-out beaver dam.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.90	<b>DO (mg/L):</b> 11.03	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 9	<b>pH:</b> 5.75
<b>Water Color:</b> Humic	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 2

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>	2.1	2.2		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>	0.40	0.30		<b>Subdominant Substrate 2:</b>

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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Subarctic Lowland Sedge-Moss Bog Meadow	0	Subarctic Lowland Sedge-Moss Bog Meadow	0
5 - 10	Subarctic Lowland Sedge-Moss Bog Meadow	0	Subarctic Lowland Sedge-Moss Bog Meadow	0
10 - 20	Subarctic Lowland Sedge-Moss Bog Meadow	0	Open White Spruce Forest	6
20 - 30	Subarctic Lowland Sedge-Moss Bog Meadow	0	Closed White Spruce Forest	18

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

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): VOG (4)  
 Comments: Probably Dolly Varden. Average F.L. was about 70 mm.

Species: Chinook salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 3 Fish Measured: 3 Fork Lengths (mm) Min: 60 Max: 67 Mean: 64 Median: 63  
 Sampling Method (No. of fish): PEF (3)  
 Comments:

Species: coho salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 6 Fish Measured: 6 Fork Lengths (mm) Min: 43 Max: 59 Mean: 47 Median: 51  
 Sampling Method (No. of fish): PEF (6)  
 Comments:

Species: slimy sculpin Life Stage: adult Life History: Resident  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 80 Max: 80 Mean: 80 Median: 80  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

**Species:** slimy sculpin                      **Life Stage:** juvenile/adult                      **Life History:** Resident  
**Total Fish Count:** 6      **Fish Measured:** 3      **Fork Lengths (mm) Min:** 52      **Max:** 68      **Mean:** 62      **Median:** 60  
**Sampling Method (No. of fish):** PEF (3) VOG (3)  
**Comments:** Average F.L. of additional fish was about 50 mm.

**Species:** slimy sculpin                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 6      **Fish Measured:** 6      **Fork Lengths (mm) Min:** 27      **Max:** 42      **Mean:** 33      **Median:** 34  
**Sampling Method (No. of fish):** PEF (6)  
**Comments:**

---

### Instruments

**Stream Gradient:** handheld optical clinometer                      **Channel Depths:** graduated wading rod  
**Stream Velocity:** Price pygmy meter                      **Channel Widths:** measuring tape  
**Turbidity:**                      **Electrofisher:** Smith-Root LR-24  
**Water Quality:** Horiba U-10                      **Transparency:**



FSS0313A006.jpg



FSS0313A007.jpg



FSS0313A008.jpg



FSS0313A009.jpg



FSS0313A010.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/22/2003 11:28 AM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.19889	-151.36230	Coordinates	62.19889	-151.36230

**Elevation NED (m)(ft):** 416 1365**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-3**Legal Description (MTRS):** S024N011W06**Waterbody Name:** Mill Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.10	<b>DO (mg/L):</b> 9.81	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 17	<b>pH:</b> 6.02
<b>Water Color:</b> Humic	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1.5**Entrenchment:****Catchment Area(sq. km):** 4**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>		2.0	2.2	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.20	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** E2 XXX**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Subarctic Lowland Sedge Wet Meadow	0	Closed Tall Alder Shrub	3
5 - 10	Open Low Sweetgale-Graminoid Bog	0	Closed Tall Alder Shrub	3
10 - 20	Open Low Sweetgale-Graminoid Bog	0	Closed Tall Alder Shrub	3
20 - 30	Open Low Sweetgale-Graminoid Bog	0	Closed White Spruce Forest	15

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

No Fish Found

**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0313A011.jpg



FSS0313A012.jpg



FSS0313A013.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/22/2003 1:30 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.22814	-151.40929	<b>Coordinates</b>	62.22814	-151.40929

**Elevation NED (m)(ft):** 368 1207**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-3**Legal Description (MTRS):** S025N012W25**Waterbody Name:** Mill Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Suspect lower forested reach of stream is important for coho and/or chinook salmon, but no landing zones available downstream of this station.**Visit Comments:** Reach located immediately downstream of an abandoned, blown-out beaver dam.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 12.20	<b>DO (mg/L):</b> 10.21	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 12	<b>pH:</b> 6.09
<b>Water Color:</b> Humic	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 18**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Boulder
<b>Width</b>		4.0	4.0	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** B2 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Alder Shrub	3	Closed Tall Alder Shrub	3
5 - 10	Open White Spruce Forest	12	Open White Spruce Forest	12
10 - 20	Open White Spruce Forest	12	Open White Spruce Forest	12
20 - 30	Open White Spruce Forest	12	Open White Spruce Forest	12

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

**Species:** rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident  
**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 112 **Max:** 116 **Mean:** 114 **Median:** 114  
**Sampling Method (No. of fish):** PEF (2)  
**Comments:** No fish captured upstream at 13A03.

**Species:** rainbow trout **Life Stage:** juvenile **Life History:** Resident  
**Total Fish Count:** 6 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 86 **Max:** 92 **Mean:** 88 **Median:** 89  
**Sampling Method (No. of fish):** PEF (3) VOG (3)  
**Comments:** Average F.L. of additional fish was about 80 mm. No fish captured upstream at 13A03.

**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0313A014.jpg



FSS0313A015.jpg



FSS0313A016.jpg



FSS0313A017.jpg



FSS0313A018.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/22/2003 2:17 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.22828	-151.51992	<b>Coordinates</b>	62.22828	-151.51992

**Elevation NED (m)(ft):** 146 479**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-4**Legal Description (MTRS):** S025N012W28**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Suspect forested reach upstream is important for coho and/or chinook salmon, but no landing zones available upstream of this station.**Visit Comments:** Upper end of reach is low gradient (~0.5%) glide. Lower end of reach is riffle/pool with gradient = 1.5%.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 9.30	<b>DO (mg/L):</b> 11.29	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 24	<b>pH:</b> 6.24
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 26**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		4.2	4.3	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b> Gravel

**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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint Meadow	1	Bluejoint Meadow	1
5 - 10	Open Black Spruce-White Spruce Forest	10	Open Black Spruce-White Spruce Forest	10
10 - 20	Open Black Spruce-White Spruce Forest	10	Open Black Spruce-White Spruce Forest	10
20 - 30	Open Black Spruce-White Spruce Forest	10	Open Black Spruce-White Spruce Forest	10

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

<b>Species:</b> salmonid-unspecified	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Unknown
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (1)		
<b>Comments:</b> F.L. was about 150 mm.		
<b>Species:</b> coho salmon	<b>Life Stage:</b> juvenile	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 10	<b>Fish Measured:</b> 10	<b>Fork Lengths (mm) Min: 37 Max: 67 Mean: 45 Median: 52</b>
<b>Sampling Method (No. of fish):</b> PEF (10)		<b>Suspected Spawning:</b> Yes
<b>Comments:</b>		
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min: 36 Max: 36 Mean: 36 Median: 36</b>
<b>Sampling Method (No. of fish):</b> PEF (1)		
<b>Comments:</b>		

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

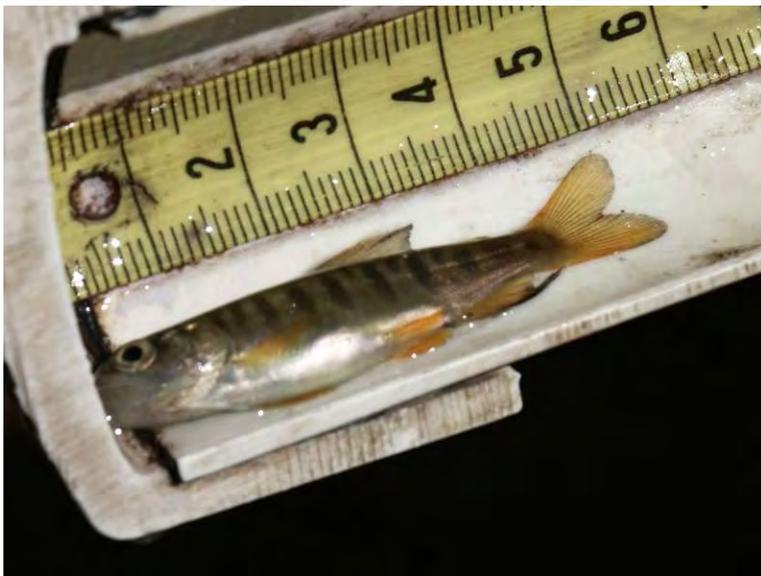
**Transparency:**



FSS0313A019.jpg



FSS0313A020.jpg



FSS0313A021.jpg



FSS0313A022.jpg



FSS0313A023.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/22/2003 5:06 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.27542	-151.92910	<b>Coordinates</b>	62.27542	-151.92910

Elevation NED (m)(ft): 240 787

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-4

Legal Description (MTRS): S025N014W07

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Old beaver dam at downstream end of reach. Reach located in old pond.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 12.60	<b>DO (mg/L):</b> 10.31	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 8	<b>pH:</b> 5.80
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 7

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>		2.2	2.0	<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>			0.20	<b>Subdominant Substrate 2:</b>

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	Subarctic Lowland Sedge Wet Meadow	0	Subarctic Lowland Sedge Wet Meadow	0
5 - 10	Subarctic Lowland Sedge Wet Meadow	0	Subarctic Lowland Sedge Wet Meadow	0
10 - 20	Subarctic Lowland Sedge Wet Meadow	0	Subarctic Lowland Sedge Wet Meadow	0
20 - 30	Subarctic Lowland Sedge Wet Meadow	0	Subarctic Lowland Sedge Wet Meadow	0

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

<b>Total Fish Count:</b> 1	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min:</b>	<b>Max:</b>	<b>Mean:</b>	<b>Median:</b>
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Sampling Method (No. of fish): VOG (1)

Comments: F.L.was about 150 mm.

Species: slimy sculpin

Life Stage: adult

Life History: Resident

<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 94	<b>Max:</b> 94	<b>Mean:</b> 94	<b>Median:</b> 94
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Sampling Method (No. of fish): PEF (1)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0313A026.jpg



FSS0313A027.jpg



FSS0313A028.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/23/2003 9:30 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.36120	-151.64638	<b>Coordinates</b>	62.36120	-151.64638

Elevation NED (m)(ft): 574 1883

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-4

Legal Description (MTRS): S026N013W11

Waterbody Name: Clearwater Creek

Anadromous Waters Catalog Number:

Geographic Comments: Stream descends steep hillside downstream of station.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 6.10	<b>DO (mg/L):</b> 11.01	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 12	<b>pH:</b> 6.14
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 20

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	4.8	4.7		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		0.30		<b>Subdominant Substrate 2:</b>

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Scrub	2	Closed Tall Scrub	2
5 - 10	Closed Tall Scrub	2	Closed Tall Scrub	2
10 - 20	Closed Tall Scrub	2	Closed Tall Scrub	2
20 - 30	Closed Tall Scrub	2	Closed Tall Scrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: slimy sculpin

Life Stage: juvenile/adult

Life History: Resident

Total Fish Count: 5 Fish Measured: 5 Fork Lengths (mm) Min: 53 Max: 67 Mean: 58 Median: 60

Sampling Method (No. of fish): PEF (5)

Comments:

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 9 Fish Measured: 9 Fork Lengths (mm) Min: 32 Max: 49 Mean: 39 Median: 40

Sampling Method (No. of fish): PEF (9)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0314A001.jpg



FSS0314A002.jpg



FSS0314A003.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/23/2003 10:23 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.27112	-151.86451	<b>Coordinates</b>	62.27112	-151.86451

Elevation NED (m)(ft): 101 331

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-4

Legal Description (MTRS): S025N014W09

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: At least 6 active beaver ponds in lower reach of stream.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.50	<b>DO (mg/L):</b> 11.89	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 25	<b>pH:</b> 6.44
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 25

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	10.5	8.6		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.30		<b>Subdominant Substrate 2:</b>

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	20
10 - 20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	20
20 - 30	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	20	Closed White Spruce-Paper Birch-Balsam Poplar (Black Cottonwood Forest)	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 55 Max: 55 Mean: 55 Median: 55

Sampling Method (No. of fish): PEF (1)

Comments:

Species: Chinook salmon

Life Stage: juvenile

Life History: Anadromous

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:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 15 Fish Measured: 15 Fork Lengths (mm) Min: 38 Max: 58 Mean: 47 Median: 48

Sampling Method (No. of fish): PEF (15)

Suspected Spawning: Yes

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):** VOG (1)  
**Comments:** Male.

---

### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price pygmy meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



FSS0314A004.jpg



FSS0314A005.jpg



FSS0314A006.jpg



FSS0314A007.jpg



FSS0314A008.jpg



FSS0314A009.jpg



FSS0314A010.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/23/2003 11:42 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.24254	-151.85152	<b>Coordinates</b>	62.24254	-151.85152

Elevation NED (m)(ft): 183 600

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-4

Legal Description (MTRS): S025N014W22

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 8.00	<b>DO (mg/L):</b> 11.00	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 34	<b>pH:</b> 6.67
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 12

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		7.3	6.0	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b>

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

**Riparian Vegetation Communities (Vioreck 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	3
5 - 10	Closed Tall Alder-Willow Shrub	4	Closed Paper Birch Forest	15
10 - 20	Open Balsam Poplar (Black Cottonwood) Forest	25	Closed Paper Birch Forest	15
20 - 30	Open Balsam Poplar (Black Cottonwood) Forest	25	Closed Paper Birch Forest	15

**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: 5 Fish Measured: 1 Fork Lengths (mm) Min: 47 Max: 47 Mean: 47 Median: 47

Sampling Method (No. of fish): PEF (1) VOG (4)

Comments: Average F.L. of additional fish was about 50 mm.

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 38 Max: 38 Mean: 38 Median: 38

Sampling Method (No. of fish): PEF (1)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:

-continued-



FSS0314A011.jpg



FSS0314A012.jpg



FSS0314A013.jpg



FSS0314A014.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/23/2003 1:29 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.20736	-151.83164	<b>Coordinates</b>	62.20736	-151.83164

**Elevation NED (m)(ft):** 213 699**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-4**Legal Description (MTRS):** S025N014W35**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Station located at blown-out beaver dam. Sampled reach downstream of dam. OHW mark could not be determined due to recent blow-out of beaver dam.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 8.10 **DO (mg/L):** 11.14 **DO (%):** **Conductivity (µS/cm):** 11 **pH:** 6.22**Water Color:** Clear **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 1.5**Entrenchment:****Catchment Area(sq. km):** 4**Embeddedness:****Channel Dimensions (m):** **Bankfull** **OHW** **Wetted** **Dominant Substrate:** Sand/Silt/Clay (legacy)**Width** 2.4 **Subdominant Substrate 1:** Gravel**Thalweg Depth** 0.20 **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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
10 - 20	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
20 - 30	Closed White Spruce Forest	25	Closed White Spruce Forest	25

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Dolly Varden**Life Stage:** 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:** Average F.L. was about 150 mm.**Species:** Dolly Varden**Life Stage:** juvenile/adult**Life History:** Unknown**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:****Species:** coho salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 29 **Fish Measured:** 23 **Fork Lengths (mm) Min:** 38 **Max:** 79 **Mean:** 49 **Median:** 58**Sampling Method (No. of fish):** PEF (23) VOG (6)**Suspected Spawning:** Yes**Comments:** Average F.L. of additional fish was about 45 mm.

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<b>Species:</b> rainbow trout	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 79	<b>Max:</b> 79	<b>Mean:</b> 79	<b>Median:</b> 79	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 3	<b>Fish Measured:</b> 3	<b>Fork Lengths (mm) Min:</b> 58	<b>Max:</b> 61	<b>Mean:</b> 59	<b>Median:</b> 59	
<b>Sampling Method (No. of fish):</b> PEF (3)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 3	<b>Fish Measured:</b> 3	<b>Fork Lengths (mm) Min:</b> 41	<b>Max:</b> 44	<b>Mean:</b> 42	<b>Median:</b> 42	
<b>Sampling Method (No. of fish):</b> PEF (3)						
<b>Comments:</b>						

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**Instruments**

<b>Stream Gradient:</b> handheld optical clinometer	<b>Channel Depths:</b> graduated wading rod
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b> measuring tape
<b>Turbidity:</b>	<b>Electrofisher:</b> Smith-Root LR-24
<b>Water Quality:</b> Horiba U-10	<b>Transparency:</b>



FSS0314A015.jpg



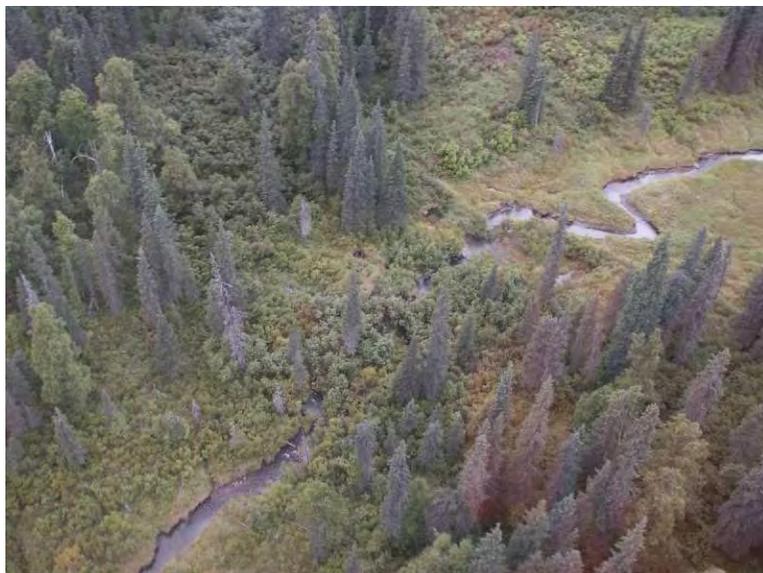
FSS0314A016.jpg



FSS0314A017.jpg



FSS0314A018.jpg



FSS0314A019.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/23/2003 2:56 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.17686	-151.84080	<b>Coordinates</b>	62.17686	-151.84080

**Elevation NED (m)(ft):** 250 820**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-4**Legal Description (MTRS):** S024N014W16**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Large beaver dam downstream of sample reach. Could not access stream below beaver dam - vegetation (alders/willow) too dense.**Wildlife Comments:** Bear, moose tracks.**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 8.90	<b>DO (mg/L):</b> 10.89	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 18	<b>pH:</b> 6.37
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 6**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>				<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>				<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
10 - 20	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
20 - 30	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****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):** VOG (2)**Comments:** Probably Dolly Varden. Average F.L. was about 100 mm.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:****Stream Velocity:** Price pygmy meter**Channel Widths:****Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0314A020.jpg



FSS0314A021.jpg



FSS0314A022.jpg



FSS0314A023.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/23/2003 3:31 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.20879	-152.02458	<b>Coordinates</b>	62.20879	-152.02458	/ 62.20938	-152.02198

**Elevation NED (m)(ft):** 414 1358

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna A-5

**Legal Description (MTRS):** S025N015W34

**Waterbody Name:** Nakochna River

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 66 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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 **Life History:** Anadromous

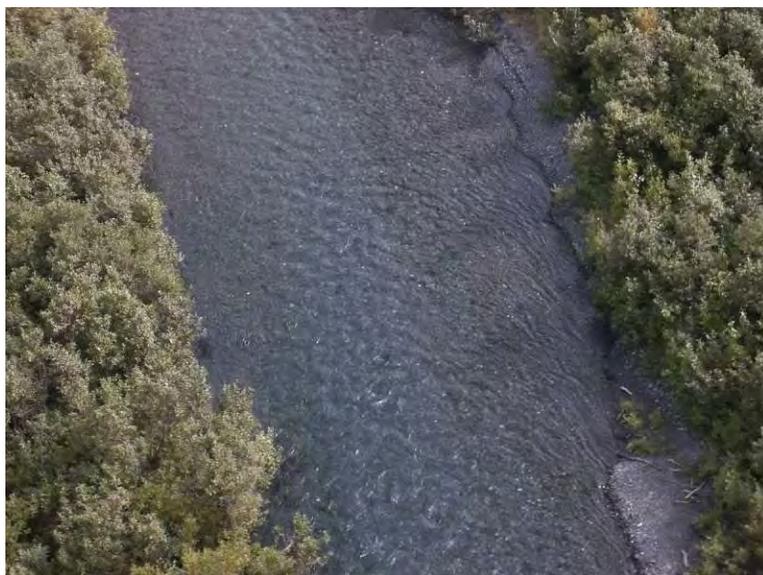
**Total Fish Count:** 300 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (300) **Suspected Spawning:** Yes

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0314A027.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/23/2003 4:04 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	62.26222	-152.19804	Coordinates	62.26222	-152.19804

Elevation NED (m)(ft): 767 2516

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-5

Legal Description (MTRS): S025N016W14

Waterbody Name: Nakochna River

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 6.80 DO (mg/L): 10.99 DO (%): Conductivity (µS/cm): 46 pH: 6.88

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 5

Entrenchment:

Catchment Area(sq. km): 11

Embeddedness:

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate: Cobble
Width		8.7	7.3	Subdominant Substrate 1: Boulder
Thalweg Depth			0.35	Subdominant Substrate 2: Gravel

Rosgen Class: A3 Steep, entrenched, cascading, step/pool streams. High energy/debris transport associated with depositional soils.

**Riparian Vegetation Communities (Vioreck 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	Mixed Herbs	0
5 - 10	Fireweed	0	Mixed Herbs	0
10 - 20	Fireweed	0	Mixed Herbs	0
20 - 30	Open Tall Alder-Willow Shrub	2	Mixed Herbs	0

**Key To Fish Sampling Methods**

(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: 2 Fork Lengths (mm) Min: 120 Max: 122 Mean: 121 Median: 121

Sampling Method (No. of fish): PEF (2) VOG (4)

Comments: Average F.L. of additional fish was about 120 mm.

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 35 Max: 66 Mean: 54 Median: 50

Sampling Method (No. of fish): PEF (4)

Suspected Spawning: Yes

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0314A024.jpg



FSS0314A025.jpg



FSS0314A026.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/24/2003 11:45 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
Coordinates	62.08165	-151.99744	Coordinates	62.08165	-151.99744

Elevation NED (m)(ft): 371 1217

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-4

Legal Description (MTRS): S023N015W15

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 8.00	DO (mg/L): 11.11	DO (%):	Conductivity (µS/cm): 88	pH: 7.26
Water Color: Clear	Turbidity (NTU): 1.00		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	3.8	3.1		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.20		<b>Subdominant Substrate 2:</b>

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 Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Balsam Poplar-White Spruce Forest	25	Closed Balsam Poplar-White Spruce Forest	25
10 - 20	Closed Balsam Poplar-White Spruce Forest	25	Closed Balsam Poplar-White Spruce Forest	25
20 - 30	Closed Balsam Poplar-White Spruce Forest	25	Closed Balsam Poplar-White Spruce Forest	25

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

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:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 17 Fish Measured: 12 Fork Lengths (mm) Min: 40 Max: 97 Mean: 53 Median: 68

Sampling Method (No. of fish): PEF (12) VOG (5)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 50 mm.

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:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:** Horiba U-10

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0315A028.jpg



FSS0315A029.jpg



FSS0315A030.jpg



FSS0315A031.jpg



FSS0315A032.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/24/2003 1:25 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.11538	-151.84991	<b>Coordinates</b>	62.11538	-151.84991

**Elevation NED (m)(ft):** 213 699**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-4**Legal Description (MTRS):** S023N014W04**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Reach located downstream of old blown-out beaver dam.**Visit Comments:** Reach entrenched in wider channel formed by former beaver dam downstream.**Wildlife Comments:** Tracks: brown bear & cub, moose, otter?**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 10.20	<b>DO (mg/L):</b> 10.63	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 11	<b>pH:</b> 6.18
<b>Water Color:</b> Clear		<b>Turbidity (NTU):</b> 1.00	<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1.5**Entrenchment:****Catchment Area(sq. km):** 12**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	3.6	2.4		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.15		<b>Subdominant Substrate 2:</b> Cobble

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
10 - 20	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
20 - 30	Closed Tall Alder-Willow Shrub	2	Open Black Spruce Forest	8

**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:** 29 **Fish Measured:** 23 **Fork Lengths (mm) Min:** 35 **Max:** 60 **Mean:** 41 **Median:** 47**Sampling Method (No. of fish):** PEF (23) VOG (6)**Suspected Spawning:** Yes**Comments:** Average F.L. of additional fish was about 40 mm.**Species:** slimy sculpin**Life Stage:** juvenile/adult**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):** PEF (1)**Comments:****Species:** slimy sculpin**Life Stage:** juvenile**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 48 **Max:** 48 **Mean:** 48 **Median:** 48**Sampling Method (No. of fish):** PEF (1)**Comments:**

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:** Horiba U-10

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0315A033.jpg



FSS0315A034.jpg



FSS0315A035.jpg



FSS0315A036.jpg



FSS0315A037.jpg



FSS0315A038.jpg



FSS0315A039.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/24/2003 2:35 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.10551	-151.87487	<b>Coordinates</b>	62.10551	-151.87487

**Elevation NED (m)(ft):** 265 869**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-4**Legal Description (MTRS):** S023N014W05**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Old blown-out beaver dam at upstream end of reach.**Visit Comments:****Wildlife Comments:** Old beaver ponds, tadpole.**Water Quality \ Stream Flow****Water Temp (C):** 10.20 **DO (mg/L):** 10.63 **DO (%):** **Conductivity (µS/cm):** 11 **pH:** 6.18**Water Color:** Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 2**Embeddedness:****Channel Dimensions (m):** **Bankfull** **OHW** **Wetted** **Dominant Substrate:** Sand/Silt/Clay (legacy)**Width** 2.9 2.6 **Subdominant Substrate 1:** Gravel**Thalweg Depth** 0.10 **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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder Shrub	2	Closed Tall Alder Shrub	2
5 - 10	Open White Spruce Forest	12	Open White Spruce Forest	12
10 - 20	Open White Spruce Forest	12	Open White Spruce Forest	12
20 - 30	Open White Spruce Forest	12	Open White Spruce Forest	12

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** slimy sculpin**Life Stage:** juvenile/adult**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 52 **Max:** 52 **Mean:** 52 **Median:** 52**Sampling Method (No. of fish):** PEF (1)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:** Horiba U-10**Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0315A040.jpg



FSS0315A041.jpg



FSS0315A042.jpg



FSS0315A043.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/24/2003 3:28 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.01563	-151.62251	<b>Coordinates</b>	62.01563	-151.62251

Elevation NED (m)(ft): 183 600

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-4

Legal Description (MTRS): S022N013W10

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 13.70 DO (mg/L): 9.02 DO (%): Conductivity (µS/cm): 15 pH: 6.03

Water Color: Humic Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 18

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		4.9	4.9	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.15	<b>Subdominant Substrate 2:</b> Cobble

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
10 - 20	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
20 - 30	Closed Black Spruce Forest	6	Closed Black Spruce Forest	6

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: ninespine stickleback

Life Stage: 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): PEF (1)

Comments:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 26 Fish Measured: 20 Fork Lengths (mm) Min: 38 Max: 53 Mean: 43 Median: 45

Sampling Method (No. of fish): PEF (20) VOG (6)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 45 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0315A044.jpg



FSS0315A045.jpg



FSS0315A046.jpg



FSS0315A047.jpg



FSS0315A048.jpg



FSS0315A049.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/24/2003 4:24 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.08863	-152.27210	<b>Coordinates</b>	62.08863	-152.27210	/	62.08923 -152.26951

**Elevation NED (m)(ft):** 424 1391

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna A-5

**Legal Description (MTRS):** S023N016W18

**Waterbody Name:** Johnson Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 103	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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:** 100 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (100)

**Comments:** No sockeye observed upstream at 15A06.

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0315A056.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/24/2003 5:04 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.08686	-152.39984	<b>Coordinates</b>	62.08686	-152.39984

**Elevation NED (m)(ft):** 530 1739**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-5**Legal Description (MTRS):** S023N017W16**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Johnson Creek tributary.**Visit Comments:****Wildlife Comments:** Bear droppings. Saw 2 grizzlies upstream (observed from helicopter).**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 4.40	<b>DO (mg/L):</b> 11.77	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 28	<b>pH:</b> 6.68
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b> 0.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 2**Entrenchment:****Catchment Area(sq. km):** 4**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	8.1	7.7		<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.30		<b>Subdominant Substrate 2:</b>

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

No Fish Found

**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:** Horiba U-10**Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0315A051.jpg



FSS0315A052.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/24/2003 5:43 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.09367	-152.37300	<b>Coordinates</b>	62.09367	-152.37300

**Elevation NED (m)(ft):** 446 1463**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-5**Legal Description (MTRS):** S023N017W10**Waterbody Name:** Johnson Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Mainstem braid and slough.**Visit Comments:** Width measured across 1 braid only. Entire braided stream channel approximately 300 meters across.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 6.70 **DO (mg/L):** 10.74 **DO (%):** **Conductivity (µS/cm):** 37 **pH:** 6.56**Water Color:** Glacial, Low Turbidit **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 78**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		13.4	13.1	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.70	0.50	<b>Subdominant Substrate 2:</b>

**Rosgen Class:** D3 Braided channel with longitudinal and transverse bars. Very wide channel with eroding banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
10 - 20	Closed Tall Alder-Willow Shrub	2	Open Balsam Poplar (Black Cottonwood) Forest	20
20 - 30	Closed Tall Alder-Willow Shrub	2	Open Balsam Poplar (Black Cottonwood) Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** Dolly Varden**Life Stage:** juvenile/adult**Life History:** Unknown**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 95 **Max:** 110 **Mean:** 102 **Median:** 102**Sampling Method (No. of fish):** PEF (2)**Comments:****Species:** Dolly Varden**Life Stage:** juvenile**Life History:** Unknown**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 32 **Max:** 38 **Mean:** 34 **Median:** 35**Sampling Method (No. of fish):** PEF (3)**Suspected Spawning:** Yes**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0315A053.jpg



FSS0315A054.jpg



FSS0315A055.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/25/2003 9:18 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.86857	-151.16537	<b>Coordinates</b>	61.86857	-151.16537	61.86915	-151.16282

**Elevation NED (m)(ft):** 51 167

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Tyonek D-4

**Legal Description (MTRS):** S021N010W31

**Waterbody Name:** Eightmile Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 122	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

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

**Key To Fish Sampling Methods**

(VOH) Visual Observation, Helicopter

**Fish Observations**

**Species:** Chinook salmon **Life Stage:** carcass **Life History:** Anadromous  
**Total Fish Count:** 6 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**  
**Sampling Method (No. of fish):** VOH (6) **Suspected Spawning:** Yes  
**Comments:** No adult chinook observed upstream at 16A02.

**Species:** sockeye salmon **Life Stage:** adult spawning **Life History:** Anadromous  
**Total Fish Count:** 20 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**  
**Sampling Method (No. of fish):** VOH (20)  
**Comments:** No adult sockeye observed upstream at 16A02.

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/25/2003 9:53 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.81345	-151.24661	<b>Coordinates</b>	61.81345	-151.24661

Elevation NED (m)(ft): 103 338

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-4

Legal Description (MTRS): S020N011W22

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Headwater stream of Eightmile Creek. Stream flows west to east.

Visit Comments: Several active beaver dams downstream of station.

Wildlife Comments: Frog. Otter tracks.

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 10.60	<b>DO (mg/L):</b> 8.59	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 68	<b>pH:</b> 6.50
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 18

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	4.4	4.6		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.40		<b>Subdominant Substrate 2:</b> Cobble

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	Bluejoint Meadow	1	Bluejoint Meadow	1
5 - 10	Bluejoint Meadow	1	Bluejoint Meadow	1
10 - 20	Bluejoint Meadow	1	Bluejoint Meadow	1
20 - 30	Bluejoint Meadow	1	Bluejoint Meadow	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: threespine stickleback Life Stage: juvenile/adult Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 49 Max: 53 Mean: 51 Median: 51  
 Sampling Method (No. of fish): PEF (2)  
 Comments:

Species: threespine stickleback Life Stage: juvenile Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 20 Max: 29 Mean: 24 Median: 24  
 Sampling Method (No. of fish): PEF (2) Suspected Spawning: Yes  
 Comments:

Species: lamprey-unspecified Life Stage: juvenile Life History: Unknown  
 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:** coho salmon                      **Life Stage:** juvenile                      **Life History:** Anadromous  
**Total Fish Count:** 82    **Fish Measured:** 32    **Fork Lengths (mm) Min:** 39    **Max:** 75    **Mean:** 54    **Median:** 57  
**Sampling Method (No. of fish):** PEF (32) VOG (50)                      **Suspected Spawning:** Yes  
**Comments:** Average F.L. of additional fish was about 50 mm.

**Species:** slimy sculpin                      **Life Stage:** juvenile/adult                      **Life History:** Resident  
**Total Fish Count:** 3    **Fish Measured:** 3    **Fork Lengths (mm) Min:** 60    **Max:** 62    **Mean:** 61    **Median:** 61  
**Sampling Method (No. of fish):** PEF (3)  
**Comments:**

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### Instruments

**Stream Gradient:** handheld optical clinometer                      **Channel Depths:** graduated wading rod  
**Stream Velocity:** Price pygmy meter                      **Channel Widths:** measuring tape  
**Turbidity:**                      **Electrofisher:** Smith-Root LR-24  
**Water Quality:** Horiba U-10                      **Transparency:**



FSS0316A001.jpg



FSS0316A002.jpg



FSS0316A003.jpg



FSS0316A004.jpg



FSS0316A005.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/25/2003 3:27 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	61.89160	-151.63676	Coordinates	61.89160	-151.63676

**Elevation NED (m)(ft):** 205 673**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-5**Legal Description (MTRS):** S021N013W22**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Used backup electrofisher (Smith-Root model LR-24, yellow) for first time at this station. Noticed that this electrofisher put out more power (179 W, set on 500 V) than green electrofisher used to this point (~100 W max, even when set on 990 Volts).**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.10	<b>DO (mg/L):</b> 9.96	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 30	<b>pH:</b> 6.46
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b> 0.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 4**Embeddedness:**

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate:
Width		3.0	3.4	Gravel
Thalweg Depth		0.40	0.30	Subdominant Substrate 1: Sand/Silt/Clay (legacy)
				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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Open Tall Alder-Willow Shrub	3	Open Tall Alder-Willow Shrub	3
10 - 20	Open Tall Alder-Willow Shrub	3	Closed Spruce-Paper Birch Forest	15
20 - 30	Open White Spruce Forest	20	Closed Spruce-Paper Birch Forest	15

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

**Species:** rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident  
**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 104 **Max:** 115 **Mean:** 109 **Median:** 109  
**Sampling Method (No. of fish):** PEF (2) **Suspected Spawning:** Yes  
**Comments:**

**Species:** rainbow trout **Life Stage:** juvenile **Life History:** Resident  
**Total Fish Count:** 14 **Fish Measured:** 14 **Fork Lengths (mm) Min:** 35 **Max:** 57 **Mean:** 44 **Median:** 46  
**Sampling Method (No. of fish):** PEF (14)  
**Comments:**

**Species:** slimy sculpin **Life Stage:** adult **Life History:** Resident  
**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 72 **Max:** 84 **Mean:** 78 **Median:** 78  
**Sampling Method (No. of fish):** PEF (2)  
**Comments:**

**Species:** slimy sculpin                      **Life Stage:** juvenile/adult                      **Life History:** Resident  
**Total Fish Count:** 8      **Fish Measured:** 8      **Fork Lengths (mm) Min:** 50      **Max:** 68      **Mean:** 56      **Median:** 59  
**Sampling Method (No. of fish):** PEF (8)  
**Comments:**

**Species:** slimy sculpin                      **Life Stage:** juvenile                      **Life History:** Resident  
**Total Fish Count:** 5      **Fish Measured:** 5      **Fork Lengths (mm) Min:** 34      **Max:** 42      **Mean:** 38      **Median:** 38  
**Sampling Method (No. of fish):** PEF (5)  
**Comments:**

---

### Instruments

**Stream Gradient:** handheld optical clinometer                      **Channel Depths:** graduated wading rod  
**Stream Velocity:** Price pygmy meter                      **Channel Widths:** measuring tape  
**Turbidity:** Horiba U-10                      **Electrofisher:** Smith-Root LR-24  
**Water Quality:** Horiba U-10                      **Transparency:**



FSS0316A008.jpg



FSS0316A009.jpg



FSS0316A010.jpg



FSS0316A011.jpg



FSS0316A012.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/25/2003 4:27 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.92660	-151.59683	<b>Coordinates</b>	61.92660	-151.59683	/	61.92719 -151.59427

Elevation NED (m)(ft): 105 344

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-5

Legal Description (MTRS): S021N013W11

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 34

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

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

**Key To Fish Sampling Methods**

(VOH) Visual Observation, Helicopter

**Fish Observations**

<b>Species:</b> chum salmon	<b>Life Stage:</b> adult	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 2	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (2)		<b>Suspected Spawning:</b> Yes
<b>Comments:</b>		

<b>Species:</b> chum salmon	<b>Life Stage:</b> carcass	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 50	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (50)		<b>Suspected Spawning:</b> Yes
<b>Comments:</b> Photos 13, 14.		

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofisher:

Water Quality:

Transparency:



FSS0316A013.jpg



FSS0316A014.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/25/2003 4:34 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.92920	-151.74618	<b>Coordinates</b>	61.92920	-151.74618

Elevation NED (m)(ft): 120 394

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-5

Legal Description (MTRS): S021N014W12

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Fish observations made on the ground. Station waypoint marked while flying.

Visit Comments:

Wildlife Comments: Bear droppings, tracks, trail

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 50

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(VOG) Visual Observation, Ground

**Fish Observations**

Species: chum 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)

Suspected Spawning: Yes

Comments: Photo 16. No salmon observed upstream at 16A06

Species: pink salmon

Life Stage: adult spawning

Life History: Anadromous

Total Fish Count: 25 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOG (25)

Comments: Photo 17 (redd). No salmon observed upstream at 16A06

Species: sockeye salmon

Life Stage: adult

Life History: Anadromous

Total Fish Count: 200 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOG (200)

Comments: Photos 15,16. No salmon observed upstream at 16A06

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofischer:

**Water Quality:**

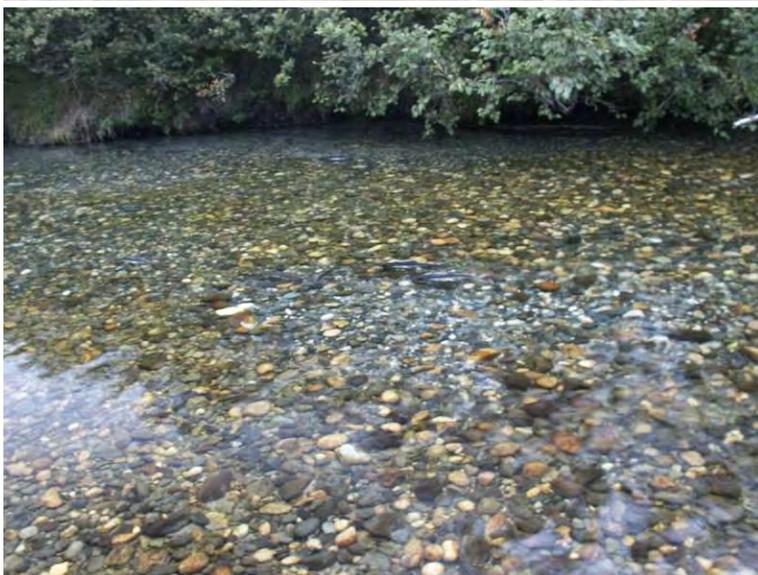
**Transparency:**



FSS0316A015.jpg



FSS0316A016.jpg



FSS0316A017.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/25/2003 5:30 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.88455	-151.73551	<b>Coordinates</b>	61.88455	-151.73551

Elevation NED (m)(ft): 400 1312

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-5

Legal Description (MTRS): S021N013W30

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Reach located immediately upstream of blown-out beaver dam (see photo 19).

Wildlife Comments: moose, bear tracks.

**Water Quality \ Stream Flow**

Water Temp (C): 8.30 DO (mg/L): 11.07 DO (%): Conductivity (µS/cm): 11 pH: 6.49

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 1 Entrenchment:

Catchment Area(sq. km): 1 Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		2.4	2.1	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.05	<b>Subdominant Substrate 2:</b>

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Mixed Herbs	0	Closed Tall Alder Shrub	3
5 - 10	Open Paper Birch Forest	10	Closed Tall Alder Shrub	3
10 - 20	Open Paper Birch Forest	10	Closed Tall Alder Shrub	3
20 - 30	Open Paper Birch Forest	10	Closed Tall Alder Shrub	3

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 4 Fish Measured: 2 Fork Lengths (mm) Min: 40 Max: 42 Mean: 41 Median: 41

Sampling Method (No. of fish): PEF (2) VOG (2)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 80 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0316A018.jpg



FSS0316A019.jpg



FSS0316A020.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/25/2003 1:43 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.84398	-151.51984	<b>Coordinates</b>	61.84398	-151.51984

**Elevation NED (m)(ft):** 155 509

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Tyonek D-5

**Legal Description (MTRS):** S020N012W07

**Waterbody Name:** Quartz Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0316A007.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/26/2003 11:12 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.07565	-151.16923	<b>Coordinates</b>	62.07565	-151.16923

Elevation NED (m)(ft): 367 1204

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-3

Legal Description (MTRS): S023N010W19

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Reach located in beaver meadow (old pond).

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 7.70	<b>DO (mg/L):</b> 10.86	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 34	<b>pH:</b> 6.46
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1.5

Entrenchment:

Catchment Area(sq. km): 12

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		5.6	5.5	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b>

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	Bluejoint Meadow	1	Bluejoint-Shrub	1
5 - 10	Bluejoint Meadow	1	Bluejoint-Shrub	1
10 - 20	Bluejoint Meadow	1	Bluejoint-Shrub	1
20 - 30	Open White Spruce Forest	15	Bluejoint-Shrub	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(MTQ) Minnow Trap, 1/4 in. Mesh

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

<b>Total Fish Count:</b> 1	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min:</b>	<b>Max:</b>	<b>Mean:</b>	<b>Median:</b>
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Sampling Method (No. of fish): VOG (1)

Comments: F.L. was about 150 mm.

Species: slimy sculpin

Life Stage: juvenile

Life History: Resident

<b>Total Fish Count:</b> 2	<b>Fish Measured:</b> 2	<b>Fork Lengths (mm) Min:</b> 35	<b>Max:</b> 45	<b>Mean:</b> 40	<b>Median:</b> 40
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Sampling Method (No. of fish): PEF (2)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0317A001.jpg



FSS0317A002.jpg



FSS0317A003.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/26/2003 12:59 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.05353	-151.07159	<b>Coordinates</b>	62.05353	-151.07159

Elevation NED (m)(ft): 251 823

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-3

Legal Description (MTRS): S023N010W26

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Water high - poor electrofishing conditions.

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 10.20	<b>DO (mg/L):</b> 9.76	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 6	<b>pH:</b> 4.98
<b>Water Color:</b> Humic	<b>Turbidity (NTU):</b> 1.00		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1.5

Entrenchment:

Catchment Area(sq. km): 9

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		3.6	3.6	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>			0.80	<b>Subdominant Substrate 2:</b>

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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Open Tall Alder Shrub	4
5 - 10	Bluejoint-Shrub	1	Open Tall Alder Shrub	4
10 - 20	Bluejoint-Shrub	1	Open Tall Alder Shrub	4
20 - 30	Bluejoint-Shrub	1	Closed Spruce-Paper Birch Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

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: F.L. was about 150 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity: Horiba U-10

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0317A004.jpg



FSS0317A005.jpg



FSS0317A006.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/26/2003 1:37 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
Coordinates	61.99763	-151.03109	Coordinates	61.99763	-151.03109

Elevation NED (m)(ft): 46 151

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-3

Legal Description (MTRS): S022N010W13

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Bog.

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 12.00	DO (mg/L): 4.56	DO (%):	Conductivity (µS/cm): 94	pH: 6.33
Water Color: Humic	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 9

Embeddedness:

Channel Dimensions (m):	Bankfull	OHW	Wetted	Dominant Substrate: Organic
Width	2.5	2.5		Subdominant Substrate 1:
Thalweg Depth		0.45		Subdominant Substrate 2:

Rosgen Class: WET Wetland

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
5 - 10	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
10 - 20	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
20 - 30	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

No Fish Found

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofischer:

Water Quality: Horiba U-10

Transparency:



FSS0317A007.jpg



FSS0317A008.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/26/2003 1:57 PM

Station	Latitude	Longitude	Sample	Latitude	Longitude
Coordinates	61.90519	-151.01931	Coordinates	61.90519	-151.01931

Elevation NED (m)(ft): 71 233

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-3

Legal Description (MTRS): S021N010W13

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: Width, depth estimated - not wadeable.

Wildlife Comments: Northern harrier hawk

**Water Quality \ Stream Flow**

Water Temp (C): 12.40 DO (mg/L): 4.80 DO (%): Conductivity (µS/cm): 44 pH: 5.97

Water Color: Humic Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Organic

Width 3.5 3.5 Subdominant Substrate 1:

Thalweg Depth 2.00 Subdominant Substrate 2:

Rosgen Class: WET Wetland

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Fresh Grass Marsh	2	Fresh Grass Marsh	2
5 - 10	Fresh Grass Marsh	2	Fresh Grass Marsh	2
10 - 20	Fresh Grass Marsh	2	Fresh Grass Marsh	2
20 - 30	Closed Spruce-Paper Birch Forest	20	Closed Spruce-Paper Birch Forest	20

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

No Fish Found

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: Visual estimate

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofischer:

Water Quality: Horiba U-10

Transparency:



FSS0317A009.jpg



FSS0317A010.jpg



FSS0317A011.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/26/2003 2:06 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.92352	-151.24876	<b>Coordinates</b>	61.92352	-151.24876

**Elevation NED (m)(ft):** 50 164**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-4**Legal Description (MTRS):** S021N011W11**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Not wadeable - width, depth estimated. Skwentna River at high stage - Glacially turbid mainstem water backing up into stream channel at this station.**Wildlife Comments:****Water Quality \ Stream Flow****Water Temp (C):** 11.50 **DO (mg/L):** 7.06 **DO (%):** **Conductivity (µS/cm):** 89 **pH:** 6.30**Water Color:** Glacial, Low Turbidit **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 0**Entrenchment:****Catchment Area(sq. km):** 8**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Organic
<b>Width</b>	4.5	4.5		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>	2.00	2.00		<b>Subdominant Substrate 2:</b>

**Rosgen Class:** WET Wetland**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Fresh Sedge Marsh	0	Fresh Sedge Marsh	0
5 - 10	Fresh Sedge Marsh	0	Fresh Sedge Marsh	0
10 - 20	Fresh Sedge Marsh	0	Fresh Sedge Marsh	0
20 - 30	Fresh Sedge Marsh	0	Fresh Sedge Marsh	0

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations****Species:** coho salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 14 **Fish Measured:** 14 **Fork Lengths (mm) Min:** 68 **Max:** 114 **Mean:** 99 **Median:** 91**Sampling Method (No. of fish):** MTQ (14)**Comments:** These fish were originally ID'd as Chinook; however, they are now thought to be coho presmolts which are begi**Species:** sockeye salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 58 **Max:** 58 **Mean:** 58 **Median:** 58**Sampling Method (No. of fish):** MTQ (1)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** Visual estimate**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:****Water Quality:** Horiba U-10**Transparency:**



FSS0317A012.jpg



FSS0317A013.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/27/2003 11:10 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.42794	-152.77187	<b>Coordinates</b>	61.42794	-152.77187

Elevation NED (m)(ft): 886 2907

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek B-8

Legal Description (MTRS): S016N020W36

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 6.20	<b>DO (mg/L):</b> 11.25	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 33	<b>pH:</b> 7.37
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 44

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		14.3	13.2	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> 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 (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b>Left Bank Vegetation Type</b>	<b>Right Bank Vegetation Type</b>	
<b>0 - 5</b> Open Tall Willow Shrub	2	Closed Tall Willow Shrub 3
<b>5 - 10</b> Open Tall Willow Shrub	2	Closed Tall Willow Shrub 3
<b>10 - 20</b> Open Tall Willow Shrub	2	Closed Tall Willow Shrub 3
<b>20 - 30</b> Open Tall Willow Shrub	2	Closed Tall Willow Shrub 3

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden 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) Suspected Spawning: Yes  
 Comments: Spawning colors. F.L. was about 160 mm.

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): PEF (1)  
 Comments:

Species: Dolly Varden Life Stage: juvenile Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 44 Max: 66 Mean: 55 Median: 55  
 Sampling Method (No. of fish): PEF (2) Suspected Spawning: Yes  
 Comments:

Species: slimy sculpin Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 54 Max: 54 Mean: 54 Median: 54  
 Sampling Method (No. of fish): PEF (1)  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0318A003.jpg



FSS0318A004.jpg



FSS0318A005.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/27/2003 12:07 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.56628	-152.89488	<b>Coordinates</b>	61.56628	-152.89488

**Elevation NED (m)(ft):** 704 2310**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek C-8**Legal Description (MTRS):** S017N020W15**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Left bank tributary of Skwentna River.**Visit Comments:****Wildlife Comments:** Black bear with 2 cubs watching, eating berries on hillside.**Water Quality \ Stream Flow****Water Temp (C):** 7.90 **DO (mg/L):** 10.17 **DO (%):** **Conductivity (µS/cm):** 99 **pH:** 7.36**Water Color:** Clear **Turbidity (NTU):** 1.00 **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 0.5**Entrenchment:****Catchment Area(sq. km):** 6**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		6.1	4.0	<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>			0.05	<b>Subdominant Substrate 2:</b> Cobble

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Open Low Willow Shrub	1	Closed Tall Willow Shrub	2
5 - 10	Open Low Willow Shrub	1	Closed Tall Willow Shrub	2
10 - 20	Open Low Willow Shrub	1	Closed Tall Willow Shrub	2
20 - 30	Open Low Willow Shrub	1	Closed Tall Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Dolly Varden**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 206 **Fish Measured:** 6 **Fork Lengths (mm) Min:** 156 **Max:** 186 **Mean:** 170 **Median:** 171**Sampling Method (No. of fish):** PEF (6) VOG (200)**Comments:** Schooling at sockeye redds. Average F.L. of additional fish was about 150 mm.**Species:** Dolly Varden**Life Stage:** juvenile/adult**Life History:** Unknown**Total Fish Count:** 14 **Fish Measured:** 14 **Fork Lengths (mm) Min:** 94 **Max:** 143 **Mean:** 127 **Median:** 118**Sampling Method (No. of fish):** PEF (14)**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:****Species:** sockeye salmon**Life Stage:** adult spawning**Life History:** Anadromous**Total Fish Count:** 60 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:****Sampling Method (No. of fish):** VOG (60)**Comments:** Photos 6, 7, 12. Redds present.

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<b>Species:</b> slimy sculpin	<b>Life Stage:</b> adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 80	<b>Max:</b> 80	<b>Mean:</b> 80	<b>Median:</b> 80	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 65	<b>Max:</b> 65	<b>Mean:</b> 65	<b>Median:</b> 65	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 33	<b>Max:</b> 33	<b>Mean:</b> 33	<b>Median:</b> 33	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						

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**Instruments**

<b>Stream Gradient:</b> handheld optical clinometer	<b>Channel Depths:</b> graduated wading rod
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b> measuring tape
<b>Turbidity:</b> Horiba U-10	<b>Electrofisher:</b> Smith-Root LR-24
<b>Water Quality:</b> Horiba U-10	<b>Transparency:</b>



FSS0318A006.jpg



FSS0318A007.jpg



FSS0318A008.jpg



FSS0318A012.jpg



FSS0318A013.jpg



FSS0318A016.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/27/2003 2:05 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.58861	-152.97709	<b>Coordinates</b>	61.58861	-152.97709

Elevation NED (m)(ft): 892 2927

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek C-8

Legal Description (MTRS): S017N020W06

Waterbody Name: Crystal Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 7.90	DO (mg/L): 10.17	DO (%):	Conductivity (µS/cm): 99	pH: 7.36
Water Color: Clear	Turbidity (NTU): 1.00		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 3

Entrenchment:

Catchment Area(sq. km): 48

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		14.3	11.0	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b> 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 (Vioreck 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	Open Tall Willow Shrub	2
5 - 10	Vaccinium Dwarf Shrub Tundra	0	Vaccinium Dwarf Shrub Tundra	0
10 - 20	Open Low Shrub Birch-Willow Shrub	0	Open Low Shrub Birch-Willow Shrub	0
20 - 30	Open Low Shrub Birch-Willow Shrub	0	Open Low Shrub Birch-Willow Shrub	0

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 148 Max: 148 Mean: 148 Median: 148

Sampling Method (No. of fish): PEF (1)

Comments:

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 30 Fish Measured: 15 Fork Lengths (mm) Min: 90 Max: 137 Mean: 113 Median: 113

Sampling Method (No. of fish): PEF (15) VOG (15)

Comments: Average F.L. of additional fish was about 120 mm.

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 6 Fish Measured: 6 Fork Lengths (mm) Min: 73 Max: 83 Mean: 76 Median: 78

Sampling Method (No. of fish): PEF (6)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:** Horiba U-10

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0318A017.jpg



FSS0318A018.jpg



FSS0318A020.jpg



FSS0318A021.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/27/2003 3:04 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.79414	-152.84927	<b>Coordinates</b>	61.79414	-152.84927

Elevation NED (m)(ft): 767 2516

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-8

Legal Description (MTRS): S020N020W26

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 5.10 DO (mg/L): 11.86 DO (%): Conductivity (µS/cm): 143 pH: 7.63

Water Color: Glacial, Low Turbidit Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 3

Entrenchment:

Catchment Area(sq. km): 61

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Cobble

Width 8.7 7.2 Subdominant Substrate 1: Gravel

Thalweg Depth 0.60 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 (Vioreck 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 Alder-Willow Shrub	3
5 - 10	Closed Tall Willow Shrub	4	Closed Tall Alder-Willow Shrub	3
10 - 20	Closed Tall Willow Shrub	4	Closed Tall Alder-Willow Shrub	3
20 - 30	Closed Tall Alder Shrub	3	Closed Tall Alder-Willow Shrub	3

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 92 Max: 92 Mean: 92 Median: 92

Sampling Method (No. of fish): PEF (1)

Comments:

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 34 Max: 68 Mean: 51 Median: 51

Sampling Method (No. of fish): PEF (2)

Suspected Spawning: Yes

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0318A022.jpg



FSS0318A023.jpg



FSS0318A024.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/27/2003 4:35 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.97649	-152.82902	<b>Coordinates</b>	61.97649	-152.82902

**Elevation NED (m)(ft):** 611 2005**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-8**Legal Description (MTRS):** S022N019W19**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Left bank tributary of Portage Creek.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 5.80	<b>DO (mg/L):</b> 11.74	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 23	<b>pH:</b> 7.15
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 2**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	4.1	3.7		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.30		<b>Subdominant Substrate 2:</b> 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)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** Dolly Varden**Life Stage:** juvenile/adult**Life History:** Unknown**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 121 **Max:** 121 **Mean:** 121 **Median:** 121**Sampling Method (No. of fish):** PEF (1)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0318A030.jpg



FSS0318A031.jpg



FSS0318A032.jpg



FSS0318A033.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/27/2003 4:18 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.95786	-152.85282	<b>Coordinates</b>	61.95786	-152.85282

**Elevation NED (m)(ft):** 673 2208

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Tyonek D-8

**Legal Description (MTRS):** S022N020W36

**Waterbody Name:** Portage Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Waterfall. Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/28/2003 9:23 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.16694	-152.93635	<b>Coordinates</b>	62.16694	-152.93635

Elevation NED (m)(ft): 724 2375

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-6

Legal Description (MTRS): S024N020W15

Waterbody Name: Happy River

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments: Tracks: wolf, bear.

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>	
<b>Catchment Area(sq. km):</b> 232	<b>Embeddedness:</b>	
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>	<b>Dominant Substrate:</b>
<b>Width</b>		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		<b>Subdominant Substrate 2:</b>

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

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

**Key To Fish Sampling Methods**

(VOG) Visual Observation, Ground

**Fish Observations**

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult spawning	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 5	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (5)		
<b>Comments:</b>		

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> carcass	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 2	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (2)		
<b>Comments:</b>		

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofischer:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0319A002.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/28/2003 9:42 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.11588	-153.07000	<b>Coordinates</b>	62.11588	-153.07000	/	62.11649 -153.06739

Elevation NED (m)(ft): 802 2631

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Mc Grath A-1

Legal Description (MTRS): S023N021W02

Waterbody Name: Happy River

Anadromous Waters Catalog Number:

Geographic Comments: Elevation measured at downstream terminus of reach.

Visit Comments: Photos taken at downstream end of reach.

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>	
<b>Catchment Area(sq. km):</b> 86	<b>Embeddedness:</b>	
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>	<b>Dominant Substrate:</b>
<b>Width</b>		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		<b>Subdominant Substrate 2:</b>

Rosgen Class:

**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOG) Visual Observation, Ground

**Fish Observations**

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult spawning	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 19	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (19)		
<b>Comments:</b>		
<b>Species:</b> sockeye salmon	<b>Life Stage:</b> carcass	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 13	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (13)		
<b>Comments:</b>		

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofischer:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0319A003.jpg



FSS0319A004.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/28/2003 10:22 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.05693	-153.09985	<b>Coordinates</b>	62.05693	-153.09985

Elevation NED (m)(ft): 832 2730

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Mc Grath A-1

Legal Description (MTRS): S023N021W27

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments: Bear tracks, trails.

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 4.00	<b>DO (mg/L):</b> 11.43	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 100	<b>pH:</b> 7.45
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 18

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	5.1	5.1		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.60		<b>Subdominant Substrate 2:</b> 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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	1	Closed Tall Willow Shrub	1
5 - 10	Closed Tall Willow Shrub	1	Closed Tall Willow Shrub	1
10 - 20	Closed Tall Willow Shrub	1	Closed Tall Willow Shrub	1
20 - 30	Closed Tall Willow Shrub	1	Closed Tall Willow Shrub	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 27 Max: 35 Mean: 31 Median: 31

Sampling Method (No. of fish): PEF (2)

Suspected Spawning: Yes

Comments:

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)

Comments:

Species: sockeye 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): VOG (3)

Comments:

Species: sockeye salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 30 Max: 44 Mean: 36 Median: 37

Sampling Method (No. of fish): PEF (4)

Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0319A005.jpg



FSS0319A006.jpg



FSS0319A007.jpg



FSS0319A008.jpg



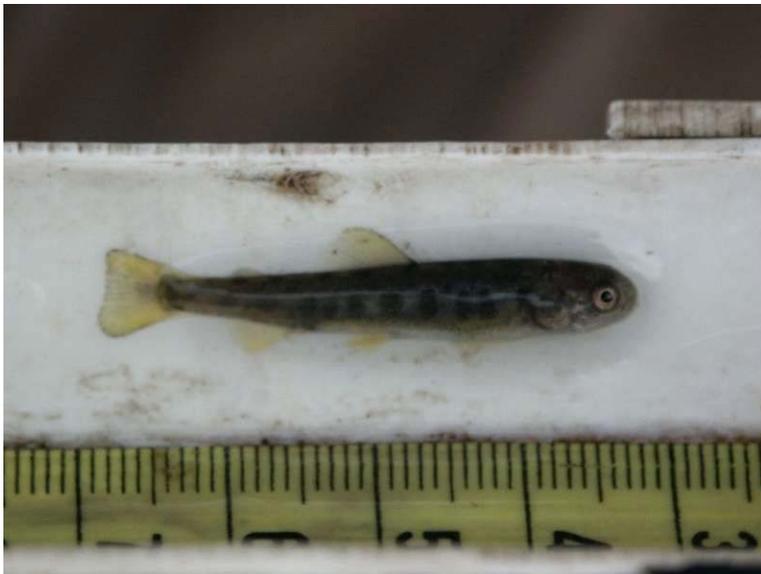
FSS0319A009.jpg



FSS0319A010.jpg



FSS0319A011.jpg



FSS0319A012.jpg



FSS0319A013.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/28/2003 11:28 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.11602	-153.02408	<b>Coordinates</b>	62.11602	-153.02408

**Elevation NED (m)(ft):** 822 2697**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Mc Grath A-1**Legal Description (MTRS):** S023N020W06**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Left-bank Puntilla Creek tributary.**Visit Comments:** Main channel barely wadeable, but difficult to electrofish (deep, fast). All electrofishing occurred in side channel and off channel habitat.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 4.80	<b>DO (mg/L):</b> 11.66	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 88	<b>pH:</b> 7.33
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 39**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		6.5	6.5	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.60	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 41 **Max:** 50 **Mean:** 46 **Median:** 45**Sampling Method (No. of fish):** PEF (3)**Comments:****Species:** sockeye salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 47 **Max:** 47 **Mean:** 47 **Median:** 47**Sampling Method (No. of fish):** PEF (1)**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0319A014.jpg



FSS0319A015.jpg



FSS0319A016.jpg



FSS0319A017.jpg



FSS0319A018.jpg



FSS0319A019.jpg



FSS0319A020.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/28/2003 1:09 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.17361	-152.81188	<b>Coordinates</b>	62.17361	-152.81188

**Elevation NED (m)(ft):** 674 2211**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-6**Legal Description (MTRS):** S024N019W17**Waterbody Name:** Threemile Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:** Sampled right bank side channel. Mainstem not wadeable (~15 meters wide)**Wildlife Comments:** bear tracks**Water Quality \ Stream Flow****Water Temp (C):** 5.00 **DO (mg/L):** 11.93 **DO (%):** **Conductivity (µS/cm):** 171 **pH:** 7.85**Water Color:** Glacial, Low Turbidit **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):****Stream Channel****Stream Gradient (%):** 2**Entrenchment:****Catchment Area(sq. km):** 122**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		4.2	3.6	<b>Subdominant Substrate 1:</b> Boulder
<b>Thalweg Depth</b>			0.15	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** B3 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** Dolly Varden**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 1 **Fish Measured:** 1 **Fork Lengths (mm) Min:** 164 **Max:** 164 **Mean:** 164 **Median:** 164**Sampling Method (No. of fish):** PEF (1)**Comments:** No fish captured or observed upstream at station 19A08.**Species:** sockeye salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 9 **Fish Measured:** 9 **Fork Lengths (mm) Min:** 35 **Max:** 64 **Mean:** 51 **Median:** 49**Sampling Method (No. of fish):** PEF (9)**Suspected Spawning:** Yes**Comments:****Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0319A021.jpg



FSS0319A022.jpg



FSS0319A023.jpg



FSS0319A024.jpg



FSS0319A025.jpg



FSS0319A026.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/28/2003 2:09 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.16708	-153.05657	<b>Coordinates</b>	62.16708	-153.05657

Elevation NED (m)(ft): 855 2805

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Mc Grath A-1

Legal Description (MTRS): S024N021W13

Waterbody Name: Pass Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 3.60 DO (mg/L): 12.13 DO (%): Conductivity (µS/cm): 127 pH: 7.61

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 26

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Gravel

Width 6.9 5.4 Subdominant Substrate 1: Cobble

Thalweg Depth 0.50 Subdominant Substrate 2: Sand/Silt/Clay (legacy)

Rosgen Class: B4 Moderately entrenched, moderate gradient, riffle dominated channel, with infrequently spaced pools. Very stable plan and profile. Stable banks.

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	Left Bank Vegetation Type	Canopy Height(m)	Right Bank Vegetation Type	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
10 - 20	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
20 - 30	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 152 Max: 152 Mean: 152 Median: 152

Sampling Method (No. of fish): PEF (1)

Comments:

Species: Dolly Varden

Life Stage: juvenile/adult

Life History: Unknown

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 133 Max: 133 Mean: 133 Median: 133

Sampling Method (No. of fish): PEF (1)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0319A027.jpg



FSS0319A028.jpg



FSS0319A029.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar **Date/Time:** 08/28/2003 3:23 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.21646	-152.69509	<b>Coordinates</b>	62.21646	-152.69509

**Elevation NED (m)(ft):** 666 2185

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna A-6 **Legal Description (MTRS):** S025N018W31

**Waterbody Name:** Moose Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:**

**Visit Comments:**

**Wildlife Comments:** Bear tracks, droppings, remnants of salmon carcasses.

**Water Quality \ Stream Flow**

**Water Temp (C):** 6.30 **DO (mg/L):** 10.79 **DO (%):** **Conductivity (µS/cm):** 71 **pH:** 7.52

**Water Color:** Glacial, Low Turbidity **Turbidity (NTU):** **Thalweg Velocity (m/s)(ft/s):**

**Stream Channel**

**Stream Gradient (%):** 1 **Entrenchment:**

**Catchment Area(sq. km):** 7 **Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	9.0	8.3		<b>Subdominant Substrate 1:</b> Sand/Silt/Clay (legacy)
<b>Thalweg Depth</b>		0.50		<b>Subdominant Substrate 2:</b>

**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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
10 - 20	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
20 - 30	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2

**Key To Fish Sampling Methods**

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

**Fish Observations**

**Species:** Dolly Varden **Life Stage:** juvenile **Life History:** Unknown

**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 32 **Max:** 71 **Mean:** 46 **Median:** 51

**Sampling Method (No. of fish):** PEF (4) **Suspected Spawning:** Yes

**Comments:**

**Species:** sockeye 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 31. Sockeye observed up to Moose Creek Lk.

**Species:** sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous

**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 36 **Max:** 44 **Mean:** 39 **Median:** 40

**Sampling Method (No. of fish):** PEF (4) **Suspected Spawning:** Yes

**Comments:**

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0319A030.jpg



FSS0319A031.jpg



FSS0319A033.jpg



FSS0319A034.jpg



FSS0319A035.jpg



FSS0319A036.jpg



FSS0319A037.jpg



FSS0319A038.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/28/2003 5:03 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.22500	-152.90769	<b>Coordinates</b>	62.22500	-152.90769

**Elevation NED (m)(ft):** 739 2425**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-6**Legal Description (MTRS):** S025N020W25**Waterbody Name:** Threemile Creek**Anadromous Waters Catalog Number:****Geographic Comments:****Visit Comments:****Wildlife Comments:** Bear tracks, scat.**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 4.50	<b>DO (mg/L):</b> 10.95	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 193	<b>pH:</b> 7.20
<b>Water Color:</b> Glacial, Low Turbidit	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0**Entrenchment:****Catchment Area(sq. km):** 65**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>	5.4	5.4		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.50		<b>Subdominant Substrate 2:</b>

**Rosgen Class:** F5 Entrenched meandering riffle/pool channel on low gradients with high width/depth ratio.**Riparian Vegetation Communities (Vioreck et al. 1992)**

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

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

No Fish Found

**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0319A039.jpg



FSS0319A040.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/28/2003 3:06 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.16064	-152.73400	<b>Coordinates</b>	62.16064	-152.73400	/ 62.16124	-152.73139

**Elevation NED (m)(ft):** 627 2057**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-6**Legal Description (MTRS):** S024N019W22**Waterbody Name:** Moose Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Overlaps station 19A07. Station waypoint marked while flying.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>	
<b>Catchment Area(sq. km):</b> 86	<b>Embeddedness:</b>	
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>	<b>Dominant Substrate:</b>
<b>Width</b>		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		<b>Subdominant Substrate 2:</b>

**Rosgen Class:****Riparian Vegetation Communities (Viereck et al. 1992)**

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

**Key To Fish Sampling Methods**

(VOH) Visual Observation, Helicopter

**Fish Observations**

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult spawning	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 150	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (150)		
<b>Comments:</b>		

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> carcass	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 30	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (30)		
<b>Comments:</b>		

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/28/2003 4:30 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.18225	-152.87793	<b>Coordinates</b>	62.18225	-152.87793	62.18286	-152.87532

**Elevation NED (m)(ft):** 703 2306

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna A-6

**Legal Description (MTRS):** S024N020W11

**Waterbody Name:** Threemile Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 93	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b><u>Left Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>	<b><u>Right Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>
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:** 15 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**  
**Sampling Method (No. of fish):** VOH (15)  
**Comments:** No fish observed upstream at 19A08.

**Species:** sockeye salmon **Life Stage:** carcass **Life History:** Anadromous  
**Total Fish Count:** 8 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**  
**Sampling Method (No. of fish):** VOH (8)  
**Comments:** No fish observed upstream at 19A08.

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 9:12 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.92063	-151.89391	<b>Coordinates</b>	61.92063	-151.89391

Elevation NED (m)(ft): 153 502

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N014W08

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Right bank tributary to Hayes River. Barrier falls upstream at station 20A13. Station waypoint marked while flying.

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): 91

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)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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: 6 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOH (6)

Comments: No sockeye observed upstream at 20A02.

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofischer:

Water Quality:

Transparency:

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 9:48 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.89920	-151.92488	<b>Coordinates</b>	61.89920	-151.92488

Elevation NED (m)(ft): 209 686

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N014W19

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Right bank tributary to Hayes River. Barrier falls about 2.5 miles upstream at station 20A13.

Visit Comments:

Wildlife Comments: bear tracks

**Water Quality \ Stream Flow**

Water Temp (C): 6.10 DO (mg/L): 12.02 DO (%): Conductivity (µS/cm): 30 pH: 7.36

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 86

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		7.1	4.2	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.20	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	4	Open Balsam Poplar (Black Cottonwood) Forest	15
5 - 10	Closed Balsam Poplar Forest	25	Open Balsam Poplar (Black Cottonwood) Forest	15
10 - 20	Closed Balsam Poplar Forest	25	Open Balsam Poplar (Black Cottonwood) Forest	15
20 - 30	Closed Balsam Poplar Forest	25	Open Balsam Poplar (Black Cottonwood) Forest	15

**Key To Fish Sampling Methods**

(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: F.L. was about 100 mm.

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 5 Fish Measured: 5 Fork Lengths (mm) Min: 44 Max: 57 Mean: 51 Median: 50

Sampling Method (No. of fish): PEF (5)

Suspected Spawning: Yes

Comments:

Species: Chinook salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 4 Fish Measured: 4 Fork Lengths (mm) Min: 57 Max: 67 Mean: 61 Median: 62

Sampling Method (No. of fish): PEF (4)

Comments:

**Species:** slimy sculpin

**Life Stage:** adult

**Life History:** Resident

**Total Fish Count:** 1    **Fish Measured:** 1    **Fork Lengths (mm) Min:** 119    **Max:** 119    **Mean:** 119    **Median:** 119

**Sampling Method (No. of fish):** PEF (1)

**Comments:**

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### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price pygmy meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



FSS0320A001.jpg



FSS0320A002.jpg



FSS0320A003.jpg



FSS0320A004.jpg



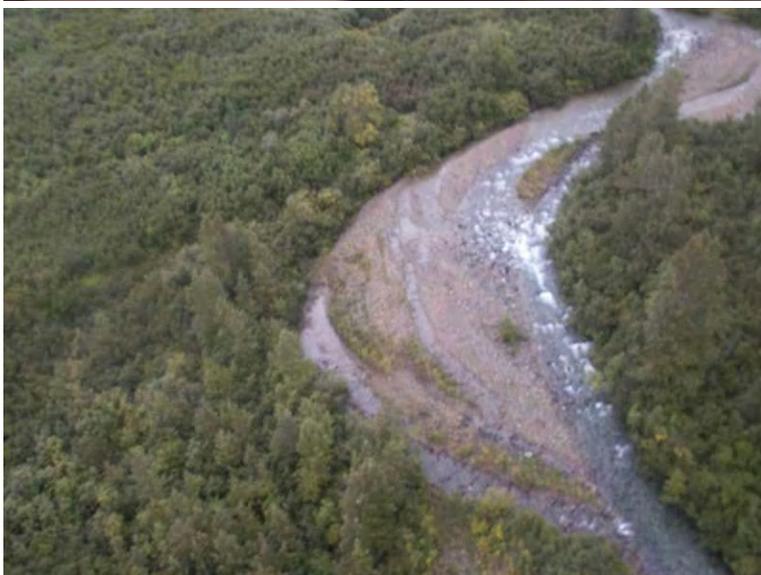
FSS0320A005.jpg



FSS0320A006.jpg



FSS0320A007.jpg



FSS0320A008.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 10:30 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.91086	-151.99293	<b>Coordinates</b>	61.91086	-151.99293

Elevation NED (m)(ft): 184 604

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N015W15

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Clear right bank tributary to Hayes River.

Visit Comments:

Wildlife Comments: Bear sign: tracks, droppings, salmon carcass remnants.

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 2 Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOG) Visual Observation, Ground

**Fish Observations**

<b>Species:</b> Pacific salmon- <u>unspecified</u>	<b>Life Stage:</b> juvenile	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 6	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (6)		

Comments:

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 50	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (50)		<b>Suspected Spawning: Yes</b>

Comments:

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> carcass	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 2	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOG (2)		

Comments: Photo 9.

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofischer:

**Water Quality:**

**Transparency:**



FSS0320A009.jpg



FSS0320A010.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 10:48 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.82424	-152.08335	<b>Coordinates</b>	61.82424	-152.08335	/	61.82484 -152.08078

Elevation NED (m)(ft): 197 646

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S020N016W13

Waterbody Name: Trimble River

Anadromous Waters Catalog Number:

Geographic Comments: Fish observed in clear side channels, tributary mouths throughout reach. Barrier falls about 2.5 miles upstream at station 20A14. Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 528

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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: 230 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:

Sampling Method (No. of fish): VOH (230)

Comments:

Species: sockeye 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): VOH (2)

Comments:

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofisher:

Water Quality:

Transparency:

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 11:23 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.89166	-152.07682	<b>Coordinates</b>	61.89166	-152.07682	61.89226	-152.07425

Elevation NED (m)(ft): 200 656

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N015W20

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Unnamed clear left bank tributary to Spring Creek. Barrier falls about 7 miles upstream at station 20A15. Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 140

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOH) Visual Observation, Helicopter

**Fish Observations**

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult spawning	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 8	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (8)		
<b>Comments:</b>		
<b>Species:</b> sockeye salmon	<b>Life Stage:</b> carcass	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (1)		
<b>Comments:</b>		

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofischer:

Water Quality:

Transparency:

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/29/2003 12:56 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.99325	-152.64512	<b>Coordinates</b>	61.99325	-152.64512

**Elevation NED (m)(ft):** 527 1729**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-8**Legal Description (MTRS):** S022N018W18**Waterbody Name:** Portage Creek**Anadromous Waters Catalog Number:****Geographic Comments:** Canyon begins immediately downstream of station. Barrier falls about 8.5 miles upstream at station 18A06 on mainstem Portage Creek.**Visit Comments:** Sampled predominantly in left bank side channel: velocity slow, width ~3 meters, substrate gravel, cobble with silt layer.**Wildlife Comments:** Fresh beaver chew. Flock of mergansers upstream.**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 5.90	<b>DO (mg/L):</b> 12.00	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 48	<b>pH:</b> 7.46
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 161**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>		25.0	20.3	<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>			0.40	<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

**Rosgen Class:** C4 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Willow Shrub	2	Closed Tall Willow Shrub	2
5 - 10	Open White Spruce Forest	20	Open White Spruce Forest	20
10 - 20	Open White Spruce Forest	20	Open White Spruce Forest	20
20 - 30	Open White Spruce Forest	20	Open White Spruce Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations****Species:** Chinook salmon**Life Stage:** juvenile**Life History:** Anadromous**Total Fish Count:** 61 **Fish Measured:** 31 **Fork Lengths (mm) Min:** 42 **Max:** 60 **Mean:** 48 **Median:** 51**Sampling Method (No. of fish):** PEF (31) VOG (30)**Suspected Spawning:** Yes**Comments:** Average F.L. of additional fish was about 50 mm. No chinook observed upstream at 18A05.**Instruments****Stream Gradient:** handheld optical clinometer**Channel Depths:** graduated wading rod**Stream Velocity:** Price pygmy meter**Channel Widths:** measuring tape**Turbidity:****Electrofisher:** Smith-Root LR-24**Water Quality:** Horiba U-10**Transparency:**



FSS0320A014.jpg



FSS0320A015.jpg



FSS0320A016.jpg



FSS0320A017.jpg



FSS0320A018.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/29/2003 2:17 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.96390	-152.42719	<b>Coordinates</b>	61.96390	-152.42719

**Elevation NED (m)(ft):** 325 1066**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-7**Legal Description (MTRS):** S022N017W29**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Clear, right-bank Chickak River tributary.**Visit Comments:** Reach sampled was in clear right bank tributary. Main channel: conductivity 286, turbidity 210, D.O. 12.6, temperature 6.2, pH 8.08.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 5.20	<b>DO (mg/L):</b> 12.56	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 167	<b>pH:</b> 8.16
<b>Water Color:</b> Clear	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 1**Entrenchment:****Catchment Area(sq. km):** 5**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		7.3	6.1	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.05	<b>Subdominant Substrate 2:</b> Boulder

**Rosgen Class:** C3 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
0 - 5	Closed Tall Willow Shrub	3	Closed Tall Alder Shrub	4
5 - 10	Unvegetated		Closed Tall Alder Shrub	4
10 - 20	Unvegetated		Closed Tall Alder Shrub	4
20 - 30	Unvegetated		Closed Tall Alder Shrub	4

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations****Species:** Dolly Varden**Life Stage:** adult**Life History:** Resident**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 150 **Max:** 202 **Mean:** 167 **Median:** 176**Sampling Method (No. of fish):** PEF (4)**Comments:** No adult Dolly Varden observed upstream at 20A02.**Species:** Dolly Varden**Life Stage:** juvenile/adult**Life History:** Unknown**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 95 **Max:** 138 **Mean:** 118 **Median:** 116**Sampling Method (No. of fish):** PEF (4)**Comments:****Species:** Dolly Varden**Life Stage:** juvenile**Life History:** Unknown**Total Fish Count:** 4 **Fish Measured:** 4 **Fork Lengths (mm) Min:** 72 **Max:** 88 **Mean:** 79 **Median:** 80**Sampling Method (No. of fish):** PEF (4)**Comments:**

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0320A019.jpg



FSS0320A020.jpg



FSS0320A021.jpg



FSS0320A022.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 3:42 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.92897	-152.13780	<b>Coordinates</b>	61.92897	-152.13780

Elevation NED (m)(ft): 306 1004

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N016W12

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Tributary stream to Red Salmon Lake.

Visit Comments:

Wildlife Comments: Moose, bear droppings.

**Water Quality \ Stream Flow**

Water Temp (C): 7.80 DO (mg/L): 12.06 DO (%): Conductivity (µS/cm): 94 pH: 8.04

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 37

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>		12.0	6.0	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b>

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Balsam Poplar Forest	24	Unvegetated	
5 - 10	Closed Balsam Poplar Forest	24	Unvegetated	
10 - 20	Closed Balsam Poplar Forest	24	Unvegetated	
20 - 30	Closed Balsam Poplar Forest	24	Unvegetated	

**Key To Fish Sampling Methods**

(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: 1 Fork Lengths (mm) Min: 106 Max: 106 Mean: 106 Median: 106

Sampling Method (No. of fish): PEF (1) VOG (10)

Comments: Average F.L. of additional fish was about 90 mm.

Species: Dolly Varden

Life Stage: juvenile

Life History: Unknown

Total Fish Count: 20 Fish Measured: 20 Fork Lengths (mm) Min: 36 Max: 85 Mean: 62 Median: 60

Sampling Method (No. of fish): PEF (20)

Suspected Spawning: Yes

Comments:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 13 Fish Measured: 8 Fork Lengths (mm) Min: 42 Max: 47 Mean: 44 Median: 44

Sampling Method (No. of fish): PEF (8) VOG (5)

Comments: Average F.L. of additional fish was about 45 mm.

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

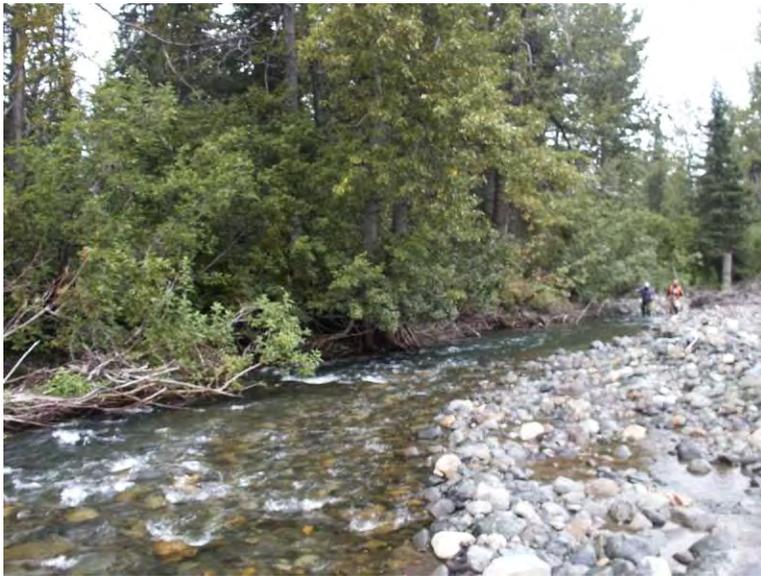
**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



FSS0320A025.jpg



FSS0320A026.jpg



FSS0320A027.jpg



FSS0320A028.jpg



FSS0320A029.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/29/2003 4:46 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.19517	-152.28158	<b>Coordinates</b>	62.19517	-152.28158	/ 62.19576	-152.27898

**Elevation NED (m)(ft):** 250 820**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Talkeetna A-5**Legal Description (MTRS):** S024N016W06**Waterbody Name:** Kichatna River**Anadromous Waters Catalog Number:****Geographic Comments:** Station waypoint marked while flying.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

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

**Stream Channel****Stream Gradient (%):****Entrenchment:****Catchment Area(sq. km):** 479**Embeddedness:**

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

**Rosgen Class:****Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy</b>
<b>Bank (m)</b>		<b>Height(m)</b>		<b>Height(m)</b>
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:** 100 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**  
**Sampling Method (No. of fish):** VOH (100)  
**Comments:** Adult sockeye observed upstream at 20A10.

**Species:** sockeye 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):** VOH (3)  
**Comments:** Adult sockeye observed upstream at 20A10.

**Instruments****Stream Gradient:****Channel Depths:****Stream Velocity:** Price pygmy meter**Channel Widths:****Turbidity:****Electrofisher:****Water Quality:****Transparency:**

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 5:04 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.27030	-152.56767	<b>Coordinates</b>	62.27030	-152.56767

Elevation NED (m)(ft): 367 1204

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-6

Legal Description (MTRS): S025N018W11

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Clear left bank tributary (spring flow in abandoned channel) of Kichatna River.

Visit Comments:

Wildlife Comments: tracks: moose, wolf, bear.

**Water Quality \ Stream Flow**

Water Temp (C): 9.10 DO (mg/L): 8.33 DO (%): Conductivity (µS/cm): 104 pH: 7.35

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 1

Entrenchment:

Catchment Area(sq. km): 96

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	4.6	2.2		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.05		<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
10 - 20	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
20 - 30	Closed Balsam Poplar-White Spruce Forest	25	Closed Tall Alder-Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Dolly Varden

Life Stage: adult

Life History: Resident

Total Fish Count: 1 Fish Measured: 1 Fork Lengths (mm) Min: 161 Max: 161 Mean: 161 Median: 161

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: 41 Max: 55 Mean: 48 Median: 48

Sampling Method (No. of fish): PEF (3)

Suspected Spawning: Yes

Comments:

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 79 Fish Measured: 29 Fork Lengths (mm) Min: 37 Max: 77 Mean: 52 Median: 57

Sampling Method (No. of fish): PEF (29) VOG (50)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 50 mm.

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:

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<b>Species:</b> sockeye salmon	<b>Life Stage:</b> juvenile	<b>Life History:</b> Anadromous				
<b>Total Fish Count:</b> 2	<b>Fish Measured:</b> 2	<b>Fork Lengths (mm) Min:</b> 46	<b>Max:</b> 47	<b>Mean:</b> 46	<b>Median:</b> 46	
<b>Sampling Method (No. of fish):</b> PEF (2)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile/adult	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 1	<b>Fish Measured:</b> 1	<b>Fork Lengths (mm) Min:</b> 52	<b>Max:</b> 52	<b>Mean:</b> 52	<b>Median:</b> 52	
<b>Sampling Method (No. of fish):</b> PEF (1)						
<b>Comments:</b>						
<b>Species:</b> slimy sculpin	<b>Life Stage:</b> juvenile	<b>Life History:</b> Resident				
<b>Total Fish Count:</b> 3	<b>Fish Measured:</b> 3	<b>Fork Lengths (mm) Min:</b> 36	<b>Max:</b> 49	<b>Mean:</b> 41	<b>Median:</b> 42	
<b>Sampling Method (No. of fish):</b> PEF (3)						
<b>Comments:</b>						

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**Instruments**

<b>Stream Gradient:</b> handheld optical clinometer	<b>Channel Depths:</b> graduated wading rod
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b> measuring tape
<b>Turbidity:</b>	<b>Electrofisher:</b> Smith-Root LR-24
<b>Water Quality:</b> Horiba U-10	<b>Transparency:</b>



FSS0320A036.jpg



FSS0320A037.jpg



FSS0320A038.jpg



FSS0320A039.jpg



FSS0320A040.jpg



FSS0320A042.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/29/2003 11:09 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.80257	-152.09309	<b>Coordinates</b>	61.80257	-152.09309	61.80317	-152.09053

**Elevation NED (m)(ft):** 229 751**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-6**Legal Description (MTRS):** S020N016W24**Waterbody Name:****Anadromous Waters Catalog Number:****Geographic Comments:** Clear left bank tributary to Trimble River. Station waypoint marked while flying.**Visit Comments:****Wildlife Comments:****Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b> 15	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:****Riparian Vegetation Communities (Vioreck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
0 - 5		
5 - 10		
10 - 20		
20 - 30		

**Key To Fish Sampling Methods**

(VOH) Visual Observation, Helicopter

**Fish Observations**

<b>Species:</b> sockeye salmon	<b>Life Stage:</b> adult spawning	<b>Life History:</b> Anadromous
<b>Total Fish Count:</b> 1000	<b>Fish Measured:</b>	<b>Fork Lengths (mm) Min: Max: Mean: Median:</b>
<b>Sampling Method (No. of fish):</b> VOH (1000)		
<b>Comments:</b>		

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofischer:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 3:15 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.93991	-152.01482	<b>Coordinates</b>	61.93991	-152.01482	/	61.94051 -152.01225

Elevation NED (m)(ft): 171 561

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N015W03

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Unnamed tributary to Red Salmon Lake. Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>	
<b>Catchment Area(sq. km):</b> 62	<b>Embeddedness:</b>	
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>	<b>Dominant Substrate:</b>
<b>Width</b>		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		<b>Subdominant Substrate 2:</b>

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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 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: No sockeye observed upstream at 20A08.

Species: sockeye salmon Life Stage: carcass Life History: Anadromous  
 Total Fish Count: 5 Fish Measured: Fork Lengths (mm) Min: Max: Mean: Median:  
 Sampling Method (No. of fish): VOH (5)  
 Comments: No sockeye observed upstream at 20A08.

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofischer:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/29/2003 9:17 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.87296	-151.95736	<b>Coordinates</b>	61.87296	-151.95736

Elevation NED (m)(ft): 426 1398

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Tyonek D-6

Legal Description (MTRS): S021N015W36

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Waterfall. Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km):

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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:

Electrofischer:

Water Quality:

Transparency:

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/29/2003 10:58 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.74568	-152.00078	<b>Coordinates</b>	61.74568	-152.00078

**Elevation NED (m)(ft):** 512 1680

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Tyonek C-6

**Legal Description (MTRS):** S019N015W09

**Waterbody Name:**

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

<b>Stream Gradient (%):</b>	<b>Entrenchment:</b>
<b>Catchment Area(sq. km):</b>	<b>Embeddedness:</b>
<b>Channel Dimensions (m):</b>	<b>Bankfull OHW Wetted</b>
<b>Width</b>	<b>Dominant Substrate:</b>
<b>Thalweg Depth</b>	<b>Subdominant Substrate 1:</b>
	<b>Subdominant Substrate 2:</b>

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b>Left Bank Vegetation Type</b>	<b>Canopy Height(m)</b>	<b>Right Bank Vegetation Type</b>	<b>Canopy Height(m)</b>
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

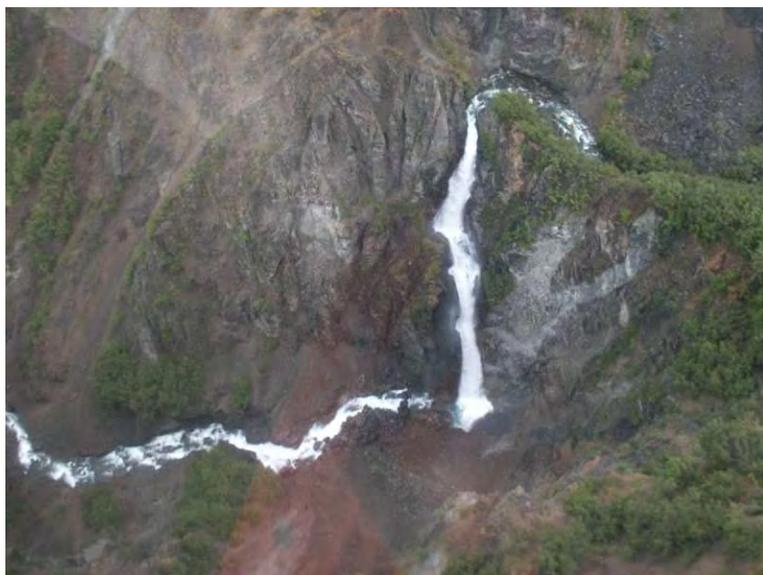
**Total Fish Count:** 0 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** NON (0)

**Comments:**

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0320A011.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson, Jim Lazar

**Date/Time:** 08/29/2003 11:28 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.85448	-152.27150	<b>Coordinates</b>	61.85448	-152.27150

**Elevation NED (m)(ft):** 464 1522

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Tyonek D-7

**Legal Description (MTRS):** S020N017W01

**Waterbody Name:** Spring Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):**

**Entrenchment:**

**Catchment Area(sq. km):**

**Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<b><u>Left Bank Vegetation Type</u></b>	<b><u>Right Bank Vegetation Type</u></b>	
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**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b>	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>



FSS0320A013.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/30/2003 9:28 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.11145	-150.99389	<b>Coordinates</b>	62.11145	-150.99389

Elevation NED (m)(ft): 282 925

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-2

Legal Description (MTRS): S023N009W06

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments: JBU fell in - wet Horiba not working.

Wildlife Comments: Reach located in beaver meadow.

**Water Quality \ Stream Flow**

Water Temp (C): 10.10	DO (mg/L):	DO (%):	Conductivity (µS/cm): 28	pH: 6.18
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 0.5

Entrenchment:

Catchment Area(sq. km): 4

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>	2.5	2.9		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.50		<b>Subdominant Substrate 2:</b> Cobble

Rosen 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 (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint Meadow	1	Bluejoint Meadow	1
5 - 10	Bluejoint Meadow	1	Bluejoint Meadow	1
10 - 20	Bluejoint Meadow	1	Bluejoint Meadow	1
20 - 30	Bluejoint Meadow	1	Open White Spruce Forest	20

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: rainbow trout

Life Stage: juvenile

Life History: Resident

Total Fish Count: 23 Fish Measured: 18 Fork Lengths (mm) Min: 35 Max: 98 Mean: 52 Median: 66

Sampling Method (No. of fish): PEF (18) VOG (5)

Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 50 mm.

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



FSS0321A001.jpg



FSS0321A002.jpg



FSS0321A003.jpg



FSS0321A004.jpg



FSS0321A005.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/30/2003 10:34 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.09154	-151.12529	<b>Coordinates</b>	62.09154	-151.12529

Elevation NED (m)(ft): 365 1198

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-3

Legal Description (MTRS): S023N010W09

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Right-bank Yenlo Creek tributary.

Visit Comments:

Wildlife Comments: Bear tracks.

**Water Quality \ Stream Flow**

Water Temp (C): 8.40	DO (mg/L):	DO (%):	Conductivity (µS/cm): 39	pH: 6.58
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 1.5

Entrenchment:

Catchment Area(sq. km): 17

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Gravel
<b>Width</b>	5.4	4.7		<b>Subdominant Substrate 1:</b> Cobble
<b>Thalweg Depth</b>		0.50		<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
5 - 10	Closed Tall Alder-Willow Shrub	3	Closed Tall Alder-Willow Shrub	3
10 - 20	Open White Spruce Forest	20	Closed Tall Alder-Willow Shrub	3
20 - 30	Open White Spruce Forest	20	Closed Tall Alder-Willow Shrub	3

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

(VOG) Visual Observation, Ground

**Fish Observations**

Species: Chinook salmon Life Stage: juvenile Life History: Anadromous  
 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: coho salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 23 Fish Measured: 18 Fork Lengths (mm) Min: 37 Max: 52 Mean: 44 Median: 44  
 Sampling Method (No. of fish): PEF (18) VOG (5) Suspected Spawning: Yes

Comments: Average F.L. of additional fish was about 50 mm.

Species: rainbow trout Life Stage: juvenile Life History: Resident  
 Total Fish Count: 6 Fish Measured: 6 Fork Lengths (mm) Min: 32 Max: 68 Mean: 41 Median: 50  
 Sampling Method (No. of fish): PEF (6) Suspected Spawning: Yes

Comments:

Species: slimy sculpin Life Stage: juvenile/adult Life History: Resident  
 Total Fish Count: 3 Fish Measured: 3 Fork Lengths (mm) Min: 60 Max: 70 Mean: 64 Median: 65  
 Sampling Method (No. of fish): PEF (3)

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:**

---

### Instruments

**Stream Gradient:** handheld optical clinometer

**Channel Depths:** graduated wading rod

**Stream Velocity:** Price pygmy meter

**Channel Widths:** measuring tape

**Turbidity:**

**Electrofisher:** Smith-Root LR-24

**Water Quality:** Horiba U-10

**Transparency:**



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FSS0321A007.jpg



FSS0321A009.jpg



FSS0321A010.jpg



FSS0321A011.jpg



FSS0321A012.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/30/2003 11:42 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.13623	-151.17196	<b>Coordinates</b>	62.13623	-151.17196

Elevation NED (m)(ft): 458 1503

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-3

Legal Description (MTRS): S024N010W30

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments: Right-bank Yenlo Creek tributary.

Visit Comments:

Wildlife Comments: Bull and cow moose.

**Water Quality \ Stream Flow**

Water Temp (C): 7.80	DO (mg/L):	DO (%):	Conductivity (µS/cm): 39	pH: 6.63
Water Color: Clear	Turbidity (NTU):		Thalweg Velocity (m/s)(ft/s):	

**Stream Channel**

Stream Gradient (%): 1.5

Entrenchment:

Catchment Area(sq. km): 8

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Cobble
<b>Width</b>	7.0	5.6		<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>		0.25		<b>Subdominant Substrate 2:</b> Sand/Silt/Clay (legacy)

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

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Bluejoint-Shrub	1	Bluejoint-Shrub	1
10 - 20	Bluejoint-Shrub	1	Bluejoint-Shrub	1
20 - 30	Closed Tall Alder Shrub	3	Bluejoint-Shrub	1

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**Fish Observations**

Species: Dolly Varden Life Stage: juvenile Life History: Unknown  
 Total Fish Count: 2 Fish Measured: 2 Fork Lengths (mm) Min: 37 Max: 66 Mean: 51 Median: 51  
 Sampling Method (No. of fish): PEF (2) Suspected Spawning: Yes  
 Comments:

Species: coho salmon Life Stage: juvenile Life History: Anadromous  
 Total Fish Count: 18 Fish Measured: 18 Fork Lengths (mm) Min: 36 Max: 50 Mean: 41 Median: 43  
 Sampling Method (No. of fish): PEF (18) Suspected Spawning: Yes  
 Comments:

Species: rainbow trout Life Stage: juvenile Life History: Resident  
 Total Fish Count: 5 Fish Measured: 5 Fork Lengths (mm) Min: 29 Max: 57 Mean: 35 Median: 43  
 Sampling Method (No. of fish): PEF (5) Suspected Spawning: Yes  
 Comments:

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:** Smith-Root LR-24

**Transparency:**



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FSS0321A014.jpg



FSS0321A016.jpg



FSS0321A017.jpg



FSS0321A018.jpg



FSS0321A019.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/30/2003 12:34 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.16114	-151.21356	<b>Coordinates</b>	62.16114	-151.21356

Elevation NED (m)(ft): 574 1883

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-3

Legal Description (MTRS): S024N011W24

Waterbody Name: Yenlo Creek

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 6.10 DO (mg/L): DO (%): Conductivity (µS/cm): 53 pH: 6.83

Water Color: Clear Turbidity (NTU): Thalweg Velocity (m/s)(ft/s):

**Stream Channel**

Stream Gradient (%): 2

Entrenchment:

Catchment Area(sq. km): 3

Embeddedness:

Channel Dimensions (m): Bankfull OHW Wetted Dominant Substrate: Cobble

Width 4.3 2.7 Subdominant Substrate 1: Gravel

Thalweg Depth 0.15 Subdominant Substrate 2: Sand/Silt/Clay (legacy)

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

**Riparian Vegetation Communities (Vioreck 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	Closed Tall Alder-Willow Shrub	2
5 - 10	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
10 - 20	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2
20 - 30	Closed Tall Alder-Willow Shrub	2	Closed Tall Alder-Willow Shrub	2

**Key To Fish Sampling Methods**

(PEF) Backpack Electrofisher

**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: 11 Fish Measured: 11 Fork Lengths (mm) Min: 30 Max: 87 Mean: 47 Median: 58

Sampling Method (No. of fish): PEF (11)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher: Smith-Root LR-24

Water Quality: Horiba U-10

Transparency:



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FSS0321A022.jpg



FSS0321A023.jpg



FSS0321A024.jpg

**Station Info****Observers:** Joe Buckwalter, J Johnson, Jim Lazar**Date/Time:** 08/30/2003 4:26 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	61.90297	-151.36027	<b>Coordinates</b>	61.90297	-151.36027

**Elevation NED (m)(ft):** 64 210**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83**USGS Quadrangle:** Tyonek D-4**Legal Description (MTRS):** S021N011W18**Waterbody Name:** Skwentna River**Anadromous Waters Catalog Number:****Geographic Comments:** Side channel of Skwentna River (at high stage) - likely a tributary (not side channel) when Skwentna River is lower. .**Visit Comments:** Skwentna River at high stage - channel inundated with glacially turbid water from the Skwentna River.**Wildlife Comments:****Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 11.90	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 98	<b>pH:</b> 6.69
<b>Water Color:</b> Glacial, Low Turbidit	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel****Stream Gradient (%):** 0**Entrenchment:****Catchment Area(sq. km):** 5838**Embeddedness:**

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Sand/Silt/Clay (legacy)
<b>Width</b>		15.8	7.1	<b>Subdominant Substrate 1:</b> Gravel
<b>Thalweg Depth</b>			0.30	<b>Subdominant Substrate 2:</b> Cobble

**Rosgen Class:** C5 Low gradient, meandering, point-bar, riffle/pool, alluvial channels with broad, well-defined floodplains.**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Closed Spruce-Paper Birch Forest	4	Closed Tall Alder Shrub	4
5 - 10	Closed Spruce-Paper Birch Forest	4	Closed Tall Alder Shrub	4
10 - 20	Closed Spruce-Paper Birch Forest	4	Closed Tall Alder Shrub	4
20 - 30	Closed Spruce-Paper Birch Forest	25	Closed Tall Alder Shrub	4

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

**Species:** ninespine stickleback **Life Stage:** juvenile/adult **Life History:** Resident  
**Total Fish Count:** 5 **Fish Measured:** 5 **Fork Lengths (mm) Min:** 43 **Max:** 57 **Mean:** 51 **Median:** 50  
**Sampling Method (No. of fish):** MTQ (5)  
**Comments:**

**Species:** coho salmon **Life Stage:** juvenile **Life History:** Anadromous  
**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 99 **Max:** 110 **Mean:** 106 **Median:** 104  
**Sampling Method (No. of fish):** MTQ (3)  
**Comments:**

**Species:** sockeye salmon **Life Stage:** juvenile **Life History:** Anadromous  
**Total Fish Count:** 2 **Fish Measured:** 2 **Fork Lengths (mm) Min:** 55 **Max:** 59 **Mean:** 57 **Median:** 57  
**Sampling Method (No. of fish):** MTQ (2)  
**Comments:**

**Species:** rainbow trout **Life Stage:** juvenile/adult **Life History:** Resident  
**Total Fish Count:** 3 **Fish Measured:** 3 **Fork Lengths (mm) Min:** 122 **Max:** 138 **Mean:** 131 **Median:** 130  
**Sampling Method (No. of fish):** MTQ (3)  
**Comments:**

-continued-

**Instruments**

**Stream Gradient:** handheld optical clinometer

**Stream Velocity:** Price pygmy meter

**Turbidity:**

**Water Quality:** Horiba U-10

**Channel Depths:** graduated wading rod

**Channel Widths:** measuring tape

**Electrofisher:**

**Transparency:**



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FSS0321A026.jpg



FSS0321A027.jpg



FSS0321A028.jpg



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**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/30/2003 5:10 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.14821	-151.89305	<b>Coordinates</b>	62.14821	-151.89305

Elevation NED (m)(ft): 215 705

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna A-4

Legal Description (MTRS): S024N014W29

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

Water Temp (C): 14.00	DO (mg/L):	DO (%):	Conductivity (µS/cm): 12	pH: 6.05
Water Color: Humic	Turbidity (NTU):	Thalweg Velocity (m/s)(ft/s):		

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 1

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Organic
<b>Width</b>	2.8	2.8		<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		1.70		<b>Subdominant Substrate 2:</b>

Rosgen Class: WET Wetland

**Riparian Vegetation Communities (Vioreck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
5 - 10	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
10 - 20	Open Low Sweetgale-Graminoid Bog	1	Open Low Sweetgale-Graminoid Bog	1
20 - 30	Open Black Spruce-White Spruce Forest	10	Open Black Spruce-White Spruce Forest	15

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

No Fish Found

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofischer:

Water Quality: Horiba U-10

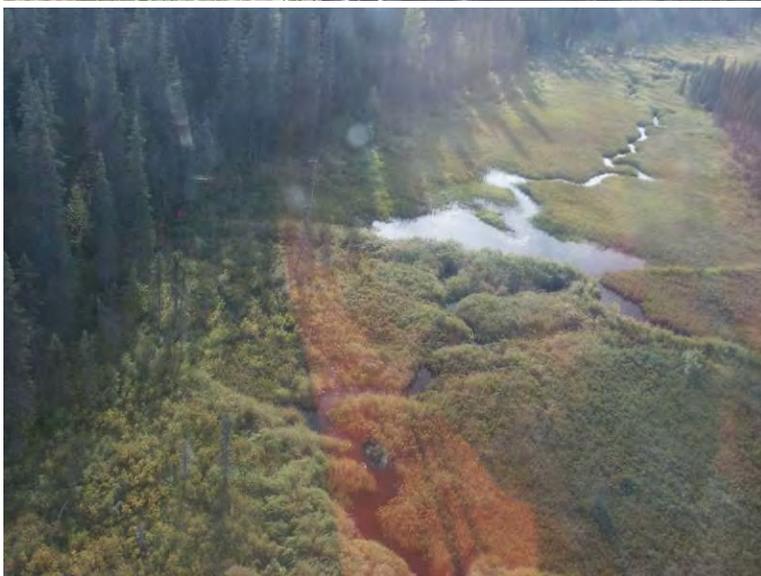
Transparency:



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FSS0321A031.jpg



FSS0321A032.jpg

**Station Info**

Observers: Joe Buckwalter, J Johnson, Jim Lazar

Date/Time: 08/30/2003 5:59 PM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.33511	-151.24535	<b>Coordinates</b>	62.33511	-151.24535

Elevation NED (m)(ft): 359 1178

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna B-3

Legal Description (MTRS): S026N011W24

Waterbody Name:

Anadromous Waters Catalog Number:

Geographic Comments:

Visit Comments:

Wildlife Comments: Bear trail

**Water Quality \ Stream Flow**

<b>Water Temp (C):</b> 12.70	<b>DO (mg/L):</b>	<b>DO (%):</b>	<b>Conductivity (µS/cm):</b> 5	<b>pH:</b> 5.27
<b>Water Color:</b> Humic	<b>Turbidity (NTU):</b>		<b>Thalweg Velocity (m/s)(ft/s):</b>	

**Stream Channel**

Stream Gradient (%): 0

Entrenchment:

Catchment Area(sq. km): 6

Embeddedness:

<b>Channel Dimensions (m):</b>	<b>Bankfull</b>	<b>OHW</b>	<b>Wetted</b>	<b>Dominant Substrate:</b> Organic
<b>Width</b>		3.4	3.4	<b>Subdominant Substrate 1:</b>
<b>Thalweg Depth</b>		0.90	0.90	<b>Subdominant Substrate 2:</b>

Rosgen Class: WET Wetland

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	Canopy Height(m)
0 - 5	Bluejoint-Shrub	1	Bluejoint-Shrub	1
5 - 10	Open Low Sweetgale-Graminoid Bog	0	Open Low Sweetgale-Graminoid Bog	0
10 - 20	Subarctic Lowland Sedge-Bog Meadow	0	Open Low Sweetgale-Graminoid Bog	0
20 - 30	Subarctic Lowland Sedge-Bog Meadow	0	Open Low Sweetgale-Graminoid Bog	0

**Key To Fish Sampling Methods**

(MTQ) Minnow Trap, 1/4 in. Mesh

**Fish Observations**

Species: coho salmon

Life Stage: juvenile

Life History: Anadromous

Total Fish Count: 30 Fish Measured: 30 Fork Lengths (mm) Min: 55 Max: 112 Mean: 81 Median: 83

Sampling Method (No. of fish): MTQ (30)

Comments:

**Instruments**

Stream Gradient: handheld optical clinometer

Channel Depths: graduated wading rod

Stream Velocity: Price pygmy meter

Channel Widths: measuring tape

Turbidity:

Electrofisher:

Water Quality: Horiba U-10

Transparency:



FSS0321A033.jpg



FSS0321A034.jpg



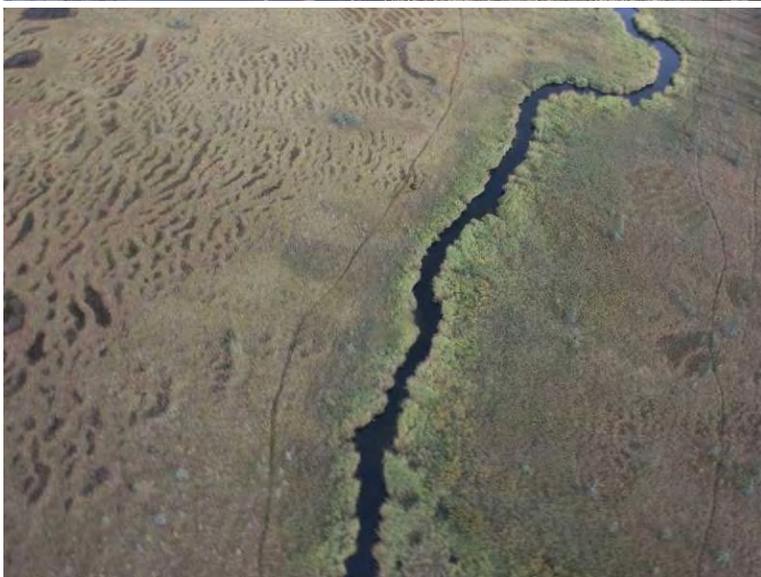
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FSS0321A036.jpg



FSS0321A037.jpg



FSS0321A038.jpg

**Station Info**

**Observers:** Joe Buckwalter, J Johnson **Date/Time:** 08/01/2003 11:54 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.26748	-149.25465	<b>Coordinates</b>	62.26748	-149.25465	/ 62.26802	-149.25212

**Elevation NED (m)(ft):** 280 919

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts B-5 **Legal Description (MTRS):** S025N001E10

**Waterbody Name:** Sheep River

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 750 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from</b>	<b>Canopy</b>	<b>Canopy</b>
<b>Bank (m)</b>	<b>Height(m)</b>	<b>Height(m)</b>
<u><b>Left Bank Vegetation Type</b></u>	<u><b>Right Bank Vegetation Type</b></u>	
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:** 29 **Fish Measured:** **Fork Lengths (mm) Min:** **Max:** **Mean:** **Median:**

**Sampling Method (No. of fish):** VOH (29) **Suspected Spawning:** Yes

**Comments:** No chinook observed upstream at 01A01, 01A03.

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>

**Station Info**

Observers: Joe Buckwalter, J Johnson

Date/Time: 08/01/2003 9:11 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.77405	-148.70653	<b>Coordinates</b>	62.77405	-148.70653

Elevation NED (m)(ft): 426 1398

Coordinate Determination Method: Non-Differential GPS Field Measurement Datum: NAD83

USGS Quadrangle: Talkeetna Mts D-4

Legal Description (MTRS): S031N004E16

Waterbody Name: Fog Creek

Anadromous Waters Catalog Number: 247-41-10200-2696

Geographic Comments: Station waypoint marked while flying.

Visit Comments:

Wildlife Comments:

**Water Quality \ Stream Flow**

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

**Stream Channel**

Stream Gradient (%):

Entrenchment:

Catchment Area(sq. km): 390

Embeddedness:

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

Rosgen Class:

**Riparian Vegetation Communities (Viereck et al. 1992)**

Dist. from Bank (m)	<u>Left Bank Vegetation Type</u>	Canopy Height(m)	<u>Right Bank Vegetation Type</u>	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: 2

Fish Measured:

Fork Lengths (mm) Min:

Max:

Mean:

Median:

Sampling Method (No. of fish): VOH (2)

Suspected Spawning: Yes

Comments: No chinook observed upstream at 08A01.

**Instruments**

Stream Gradient:

Channel Depths:

Stream Velocity: Price pygmy meter

Channel Widths:

Turbidity:

Electrofisher:

Water Quality:

Transparency:

**Station Info**

**Observers:** Joe Buckwalter, J Johnson

**Date/Time:** 08/01/2003 9:31 AM

<b>Station</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Sample</b>	<b>Latitude</b>	<b>Longitude</b>
<b>Coordinates</b>	62.83455	-148.59018	<b>Coordinates</b>	62.83455	-148.59018

**Elevation NED (m)(ft):** 472 1549

**Coordinate Determination Method:** Non-Differential GPS Field Measurement **Datum:** NAD83

**USGS Quadrangle:** Talkeetna Mts D-4

**Legal Description (MTRS):** S032N005E30

**Waterbody Name:** Tsusena Creek

**Anadromous Waters Catalog Number:**

**Geographic Comments:** Impassable falls upstream at station 05A05. Station waypoint marked while flying.

**Visit Comments:**

**Wildlife Comments:**

**Water Quality \ Stream Flow**

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

**Stream Channel**

**Stream Gradient (%):** **Entrenchment:**

**Catchment Area(sq. km):** 371 **Embeddedness:**

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

**Rosgen Class:**

**Riparian Vegetation Communities (Viereck et al. 1992)**

<b>Dist. from Bank (m)</b>	<b><u>Left Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>	<b><u>Right Bank Vegetation Type</u></b>	<b>Canopy Height(m)</b>
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)

**Comments:** No chinook observed upstream at 05A02. Waterfall about 2.5 miles upstream at 05A05 is a population barrier t

**Instruments**

<b>Stream Gradient:</b>	<b>Channel Depths:</b>
<b>Stream Velocity:</b> Price pygmy meter	<b>Channel Widths:</b>
<b>Turbidity:</b>	<b>Electrofisher:</b>
<b>Water Quality:</b>	<b>Transparency:</b>