

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Annie Creek, Lawrence County
09-0074-00
2010

Table 1. Population and Biomass Estimates for Annie Creek

Site Number: 2 **Date Sampled:** 08/24/2010 **Conductivity (umhos/cm):**
Site Midpoint (Latitude, Longitude): 44.32728433, -103.89361583 **Site Length (m):** 100 **pH:**
Survey Completed by: Unknown Consultant Firm for mining **Mean Width (m):** 1.9 **Water Temperature (C):**
Stream Classification: BK0, BR2 **Number of Pass:** 3 **Voltage:**

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Brook Trout	<200mm	129	130	133	129	6714	99	1300	2719	88.20	2092	97.4	14.7
Brook Trout	All	129	130	133	129	6714	99	1300	2719	88.20	2092	97.4	14.7
Brown Trout	<200mm	6	6	6	6	310	2	60	125	2.07	97	79.5	7.5
Brown Trout	>=200mm	2	2	2	2	103	15	20	42	13.00	32	230.0	141.0
Brown Trout	All	8	8	8	8	413	17	80	167	15.08	129	117.1	40.9

Site Number: 3 **Date Sampled:** 08/24/2010 **Conductivity (umhos/cm):**
Site Midpoint (Latitude, Longitude): 44.32715455, -103.89244540 **Site Length (m):** 100 **pH:**
Survey Completed by: GEI **Mean Width (m):** 1.9 **Water Temperature (C):**
Stream Classification: BK3, BR3 **Number of Pass:** 3 **Voltage:**

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Brook Trout	<200mm	127	130	135	127	6714	92	1300	2719	81.83	2092	97.1	13.7
Brook Trout	>=200mm	1	1	1	1	52	5	10	21	4.70	16	214.0	102.0
Brook Trout	All	128	131	136	128	6765	97	1310	2740	86.63	2108	98.0	14.3
Brown Trout	<200mm	8	8	9	8	413	6	80	167	5.15	129	89.8	14.0

Brown Trout	>=200mm	1	1	1	1	52	9	10	21	8.30	16	246.0	180.0
Brown Trout	All	9	9	10	9	465	15	90	188	13.45	145	107.1	32.4

Site Number: 16

Site Midpoint (Latitude, Longitude): 44.33009788, -103.87749203

Survey Completed by: Unknown Consultant Firm for mining

Stream Classification: None

Date Sampled: 08/24/2010

Site Length (m): 100

Mean Width (m): 1.7

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C):

Voltage: 200

Species	Size Class	Total Number Captured	Est. # in site	Upper 95% CI	Lower 95% CI	# per Hectacre	Kg per Hectacre	# per Km	# per Acre	lb. per Acre	# per Mile	Mean Length (mm)	Mean Weight (grams)
Mountain Sucker	All	1	1	1	1	58	2	10	23	2.17	16	148.0	42.0

Stream sites are classified based on the estimates of adult trout over eight inches that exist within the site. Estimates are derived from 3-pass backpack electrofishing surveys at 100-meter sites within streams. While all fish in the site are collected and measured, only trout species are used for classifications. Sites are numbered in accordance for the distance (m) from the stream confluence of a higher order stream/river.

Based on number of trout in excess of eight inches	
Class BR1	Number of wild Brown Trout exceeds 150 per acre
Class BR2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BR3	Number of wild Brown Trout is less than 25 per acre
Class BK1	Number of wild Brook Trout exceeds 150 per acre
Class BK2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BK3	Number of wild Brook Trout is less than 25 per acre
Class RB1	Number of wild Rainbow Trout exceeds 25 per acre
Class RB2	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on Annie Creek, 2000-2010

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 30, 2001	52	52-54	
	Aug 27, 2002	55	55-57	
	Aug 26, 2003	31	31-31	
	Sep 01, 2004	41	41-42	
	Aug 31, 2006	91	90-94	
	Aug 29, 2007	118	110-128	
	Aug 27, 2008	114	113-117	

Brook Trout <200mm	Aug 26, 2009	125	115-136	
	Aug 24, 2010	130	129-133	
Brook Trout >=200mm	Aug 30, 2001	2	2-2	BK2
	Aug 27, 2002	1	1-1	BK3
	Aug 26, 2003	3	3-3	BK2
	Sep 01, 2004	2	2-2	BK2
	Aug 31, 2006	1	1-1	BK3
	Aug 29, 2007	2	2-2	BK3
	Aug 27, 2008	1	1-1	BK3
	Aug 26, 2009	2	2-2	BK3
Brown Trout <200mm	Aug 30, 2001	94	93-97	
	Aug 27, 2002	33	33-34	
	Aug 26, 2003	13	13-13	
	Sep 01, 2004	8	8-10	
	Aug 31, 2006	5	5-5	
	Aug 29, 2007	17	16-21	

Brown Trout <200mm	Aug 27, 2008	14	15-19	
	Aug 26, 2009	3	3-3	
	Aug 24, 2010	6	6-6	
Brown Trout >=200mm	Aug 30, 2001	1	1-1	BR3
	Aug 27, 2002	4	4-4	BR2
	Aug 26, 2003	8	8-8	BR2
	Sep 01, 2004	2	2-2	BR2
	Aug 31, 2006	1	1-1	BR3
	Aug 29, 2007	3	3-4	BR3
	Aug 27, 2008	1	1-1	BR3
	Aug 26, 2009	3	3-3	BR3
	Aug 24, 2010	2	2-2	BR2

Site 3

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 24, 2010	130	127-135	
Brook Trout >=200mm	Aug 24, 2010	1	1-1	BK3

Brown Trout <200mm	Aug 24, 2010	8	8-9	
Brown Trout >=200mm	Aug 24, 2010	1	1-1	BR3

Site 16

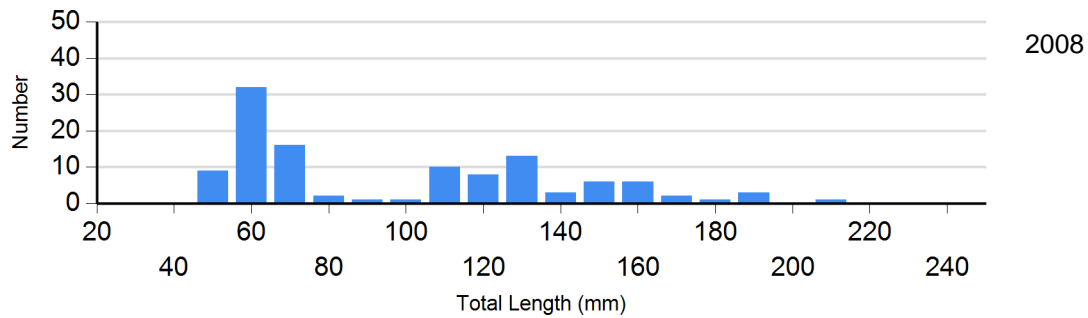
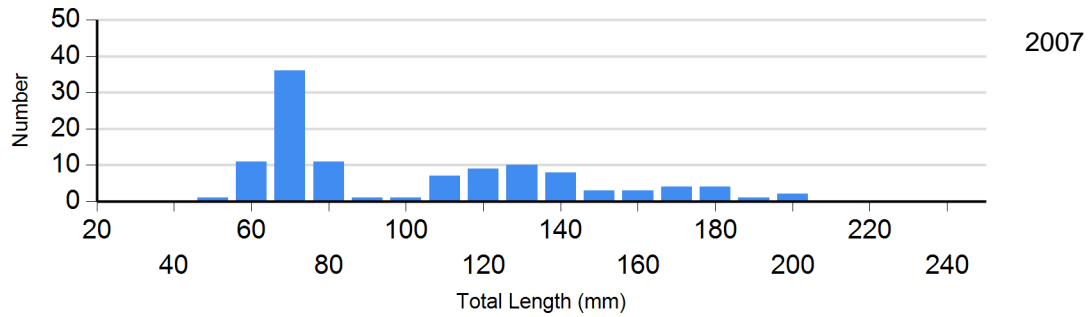
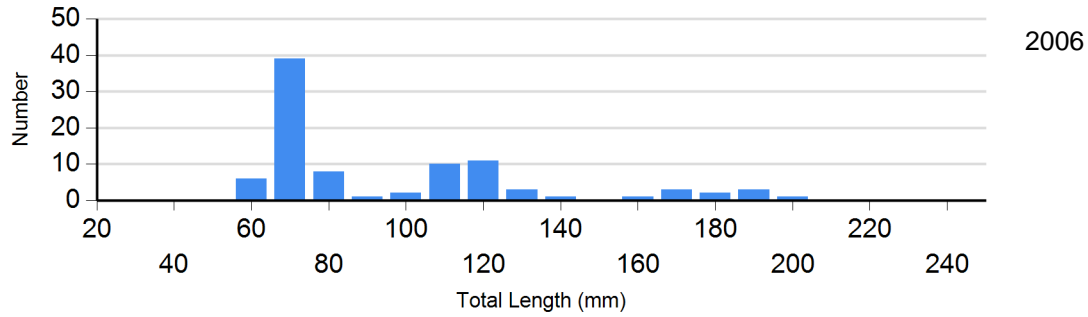
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Mountain Sucker	Aug 27, 2002	19	19-19	
	Aug 26, 2003	10	10-10	
	Sep 01, 2004	9	9-10	
	Aug 30, 2006	8	8-8	
	Aug 24, 2010	1	1-1	

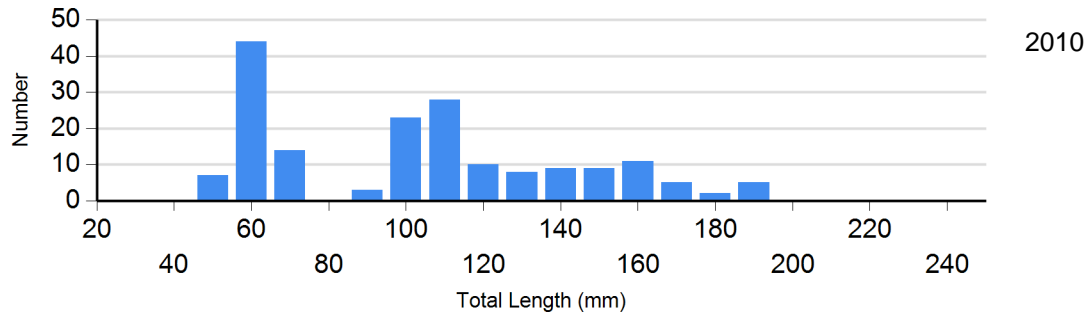
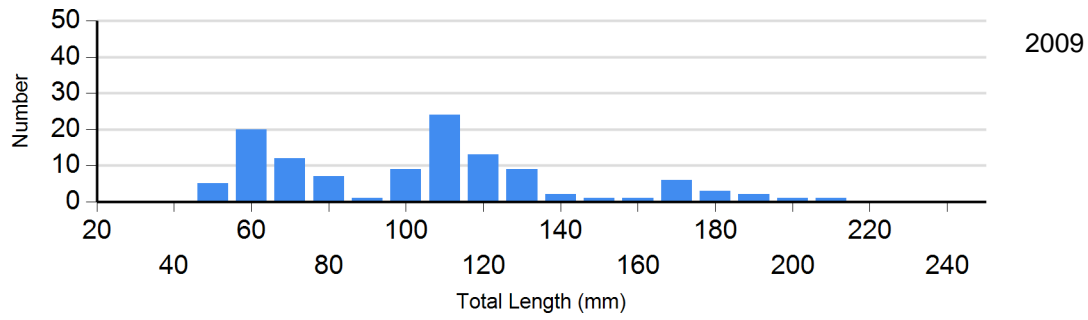
Length Frequency Distribution

Length frequency histogram of species sampled by year.

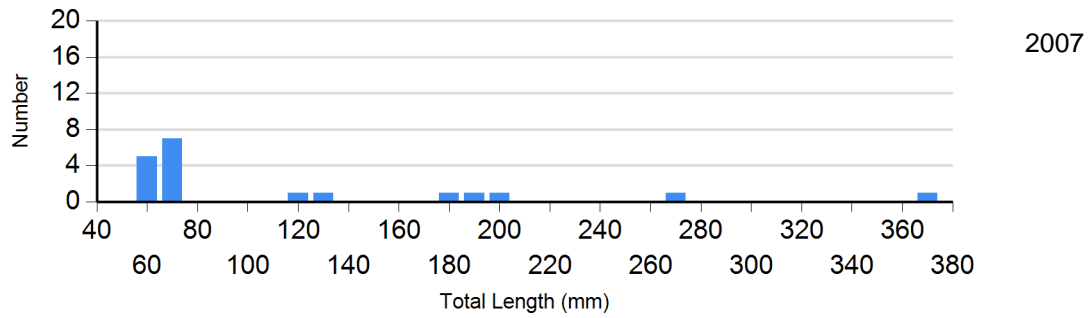
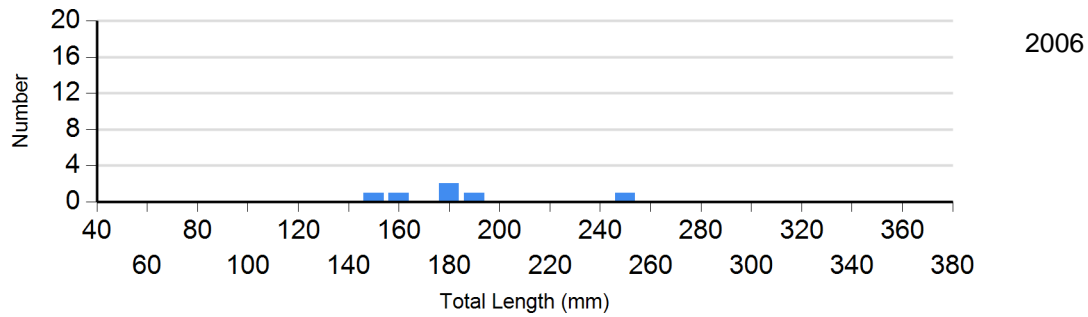
Site: 2

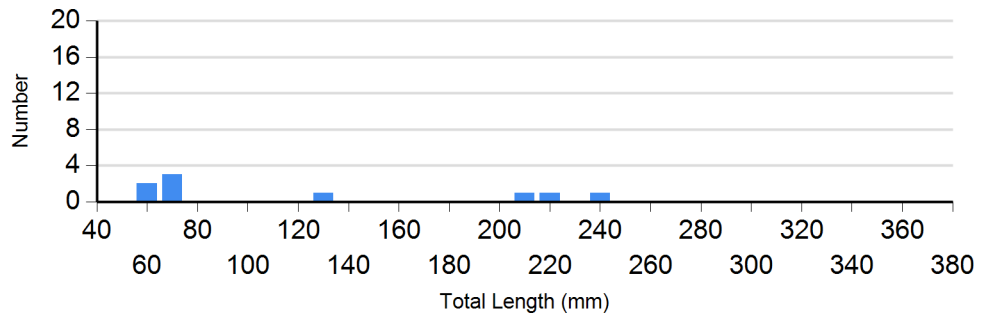
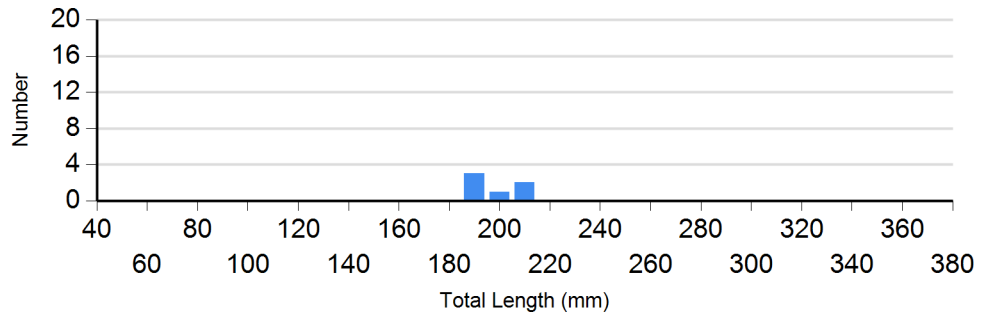
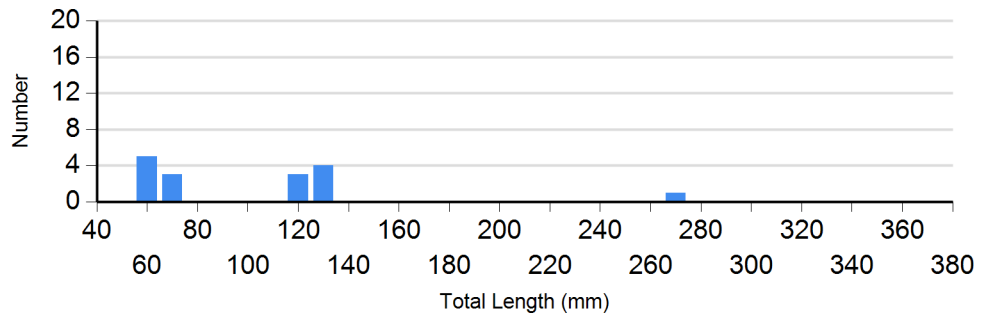
Species: Brook Trout



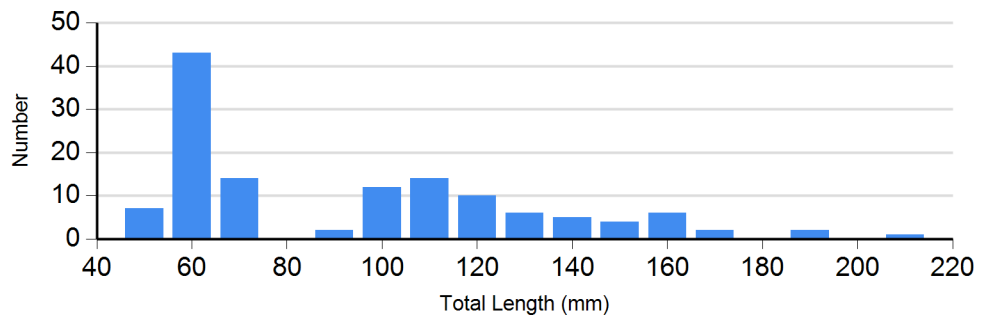


Site: 2
Species: Brown Trout

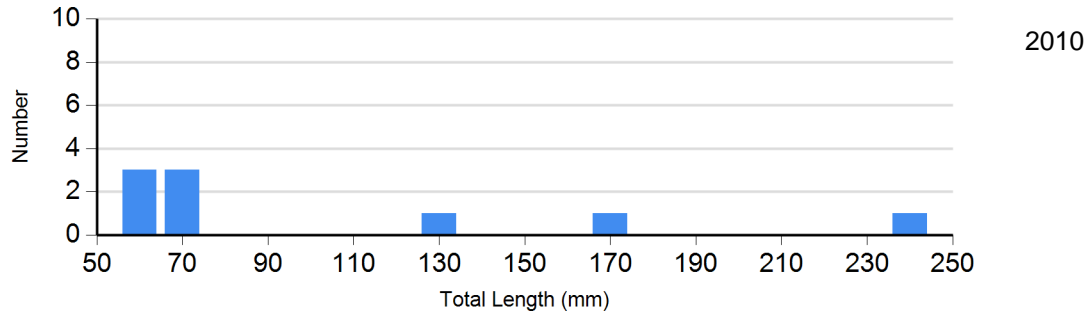




Site: 3
Species: Brook Trout



Site: 3
Species: Brown Trout



Site: 16
Species: Mountain Sucker

