

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Annie Creek, Lawrence County
09-0074-00
2014

Table 1. Population and Biomass Estimates for Annie Creek

Site Number: 2	Date Sampled: 05/28/2014	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.32728433, -103.89361583	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.3	Water Temperature (C):
Stream Classification: BK3, BR0	Number of Pass: 3	Voltage: 300

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	25	25	26	25	760	22	250	308	20.08	402	132.8	29.6
Brook Trout	>=200mm	1	1	1	1	30	3	10	12	2.44	16	207.0	90.0
Brook Trout	All	26	26	27	26	790	25	260	320	22.52	418	135.7	31.9
Brown Trout	<200mm	15	15	17	15	456	11	150	185	10.01	241	128.1	24.6
Brown Trout	All	15	15	17	15	456	11	150	185	10.01	241	128.1	24.6

Site Number: 2	Date Sampled: 08/22/2014	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.32728433, -103.89361583	Site Length (m): 106	pH:
Survey Completed by: Unknown Consultant Firm for mining	Mean Width (m): 2.5	Water Temperature (C):
Stream Classification: BK2, 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	129	136	144	129	5520	73	1283	2236	65.30	2064	91.9	13.2
Brook Trout	>=200mm	5	5	5	5	203	22	47	82	19.28	76	213.2	106.4
Brook Trout	All	134	140	147	134	5683	95	1321	2301	84.86	2125	96.4	16.7
Brown Trout	<200mm	35	35	36	35	1421	61	330	575	54.22	531	158.5	42.7

Brown Trout	>=200mm	1	1	1	1	41	3	9	16	3.04	15	201.0	84.0
Brown Trout	All	36	36	37	36	1461	64	340	592	57.26	546	159.7	43.9

Site Number: 3

Site Midpoint (Latitude, Longitude): 44.32715455, -103.89244540

Survey Completed by:

Stream Classification: BK3, BR0

Date Sampled: 06/09/2014

Site Length (m): 100

Mean Width (m): 3.2

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C):

Voltage:

300

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	26	26	28	26	801	35	260	324	31.10	418	149.0	43.5
Brook Trout	>=200mm	1	1	1	1	31	4	10	12	3.19	16	203.0	116.0
Brook Trout	All	27	27	29	27	832	38	270	337	34.37	434	151.0	46.3
Brown Trout	<200mm	17	17	18	17	524	15	170	212	12.96	274	131.3	27.7
Brown Trout	All	17	17	18	17	524	15	170	212	12.96	274	131.3	27.7

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, 2004-2014

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 01, 2004	41	41-42	
	Aug 31, 2006	91	90-94	
	Aug 29, 2007	118	110-128	
	Aug 27, 2008	114	113-117	
	Aug 26, 2009	125	115-136	
	Aug 24, 2010	130	129-133	
	Aug 24, 2011	113	109-119	

Brook Trout <200mm	Aug 24, 2012	162	142-182	
	May 28, 2014	25	25-26	
	Aug 22, 2014	136	129-144	
Brook Trout >=200mm	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
	Aug 24, 2011	3	3-3	BK2
	Aug 24, 2012	3	3-4	BK2
	May 28, 2014	1	1-1	BK3
	Aug 22, 2014	5	5-5	BK2
Brown Trout <200mm	Sep 01, 2004	8	8-10	
	Aug 31, 2006	5	5-5	
	Aug 29, 2007	17	16-21	
	Aug 27, 2008	14	15-19	

Brown Trout <200mm	Aug 26, 2009	3	3-3	
	Aug 24, 2010	6	6-6	
	Aug 24, 2011	7	7-7	
	Aug 24, 2012	29	29-30	
	May 28, 2014	15	15-17	
	Aug 22, 2014	35	35-36	
Brown Trout >=200mm	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
	Aug 24, 2011	4	4-4	BR2
	Aug 24, 2012	2	2-3	BR2
	Aug 22, 2014	1	1-1	BR3

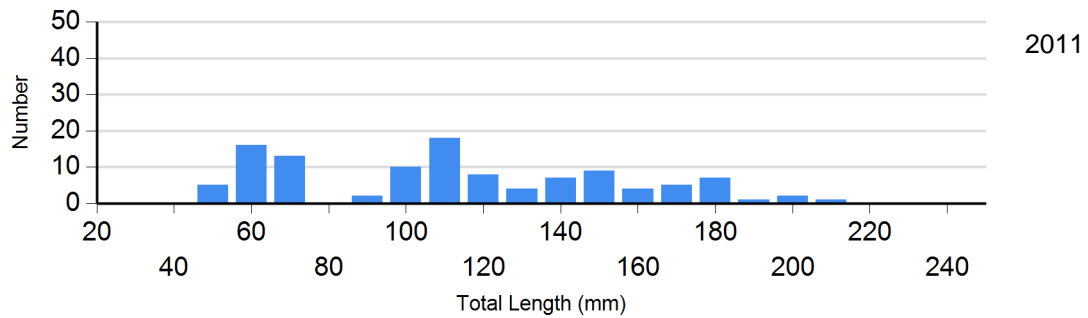
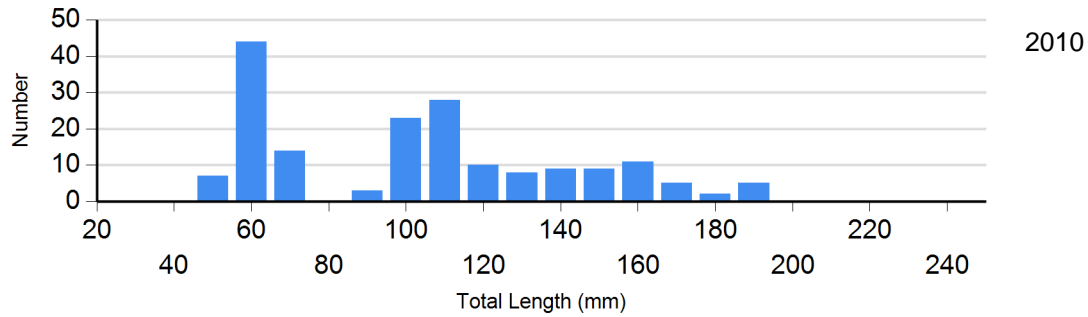
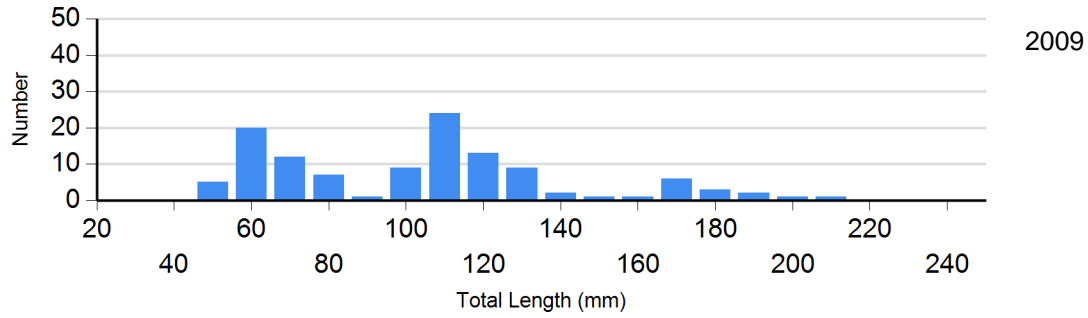
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 24, 2010	130	127-135	
	Jun 09, 2014	26	26-28	
Brook Trout >=200mm	Aug 24, 2010	1	1-1	BK3
	Jun 09, 2014	1	1-1	BK3
Brown Trout <200mm	Aug 24, 2010	8	8-9	
	Jun 09, 2014	17	17-18	
Brown Trout >=200mm	Aug 24, 2010	1	1-1	BR3

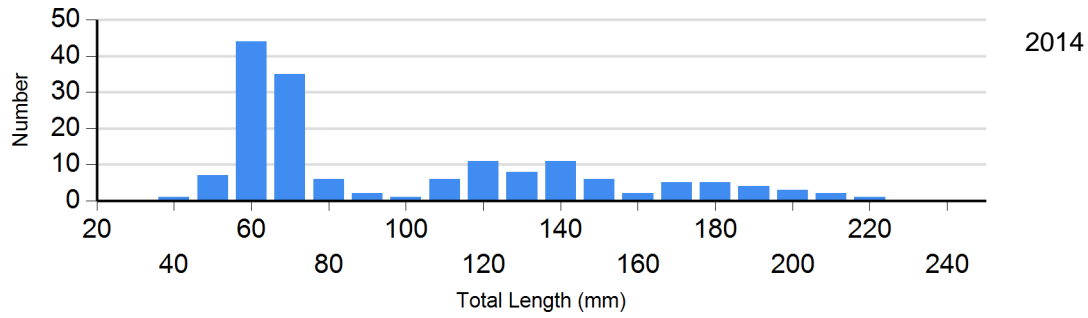
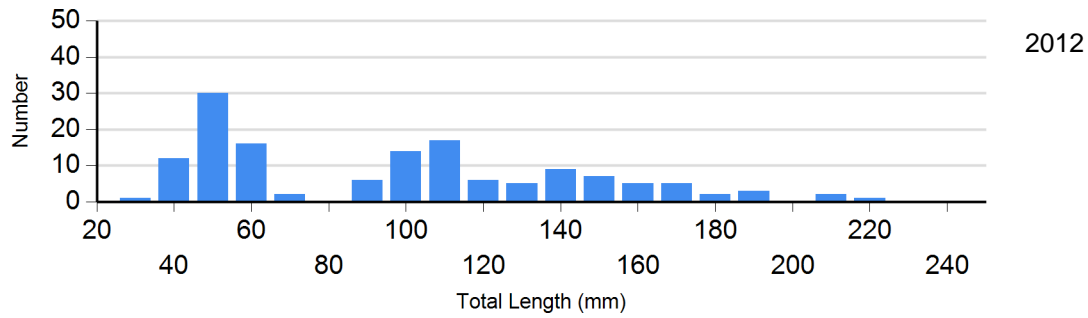
Length Frequency Distribution

Length frequency histogram of species sampled by year.

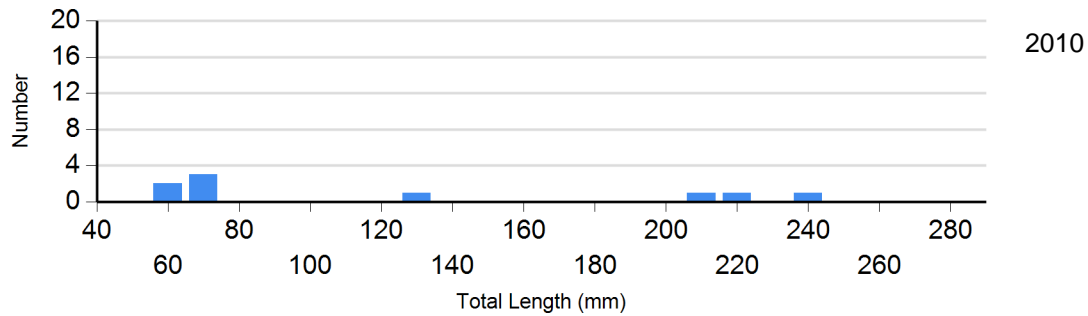
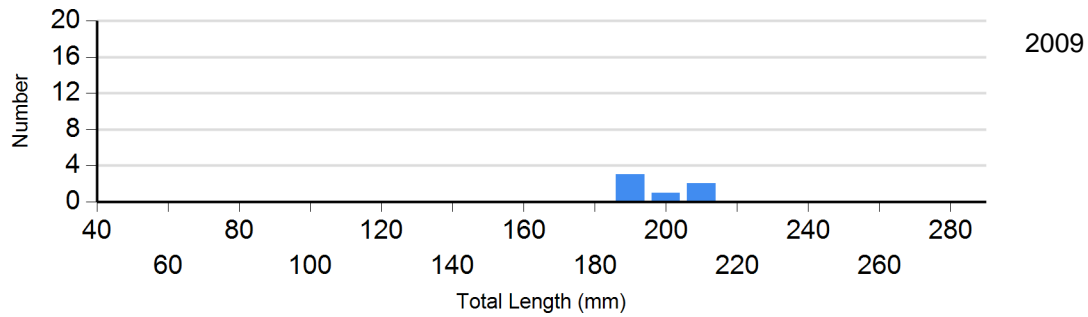
Site: 2

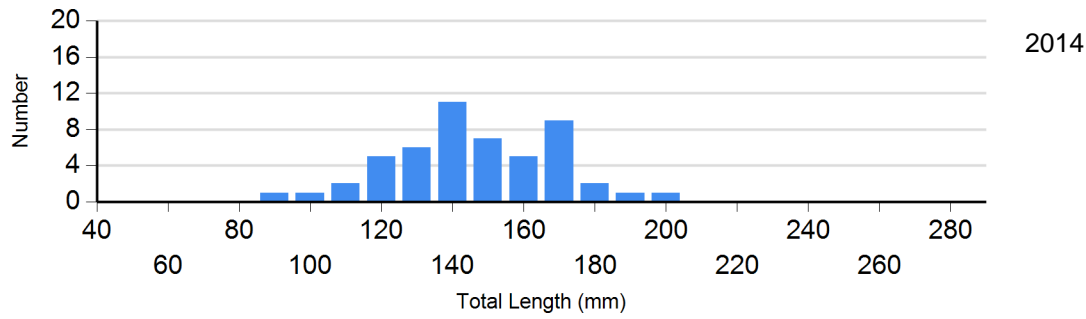
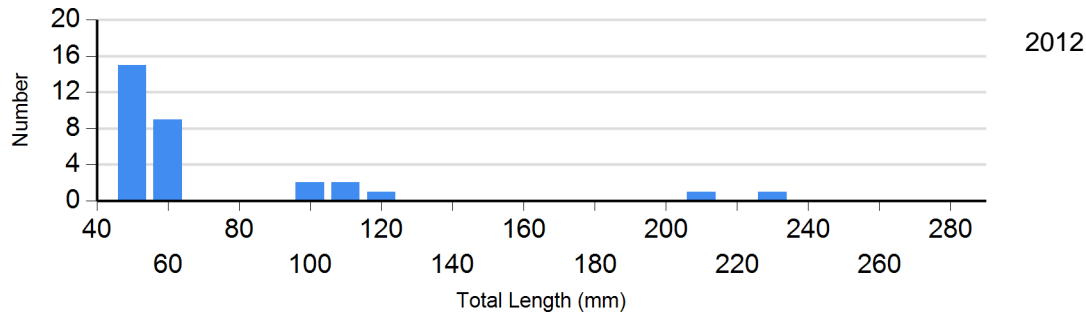
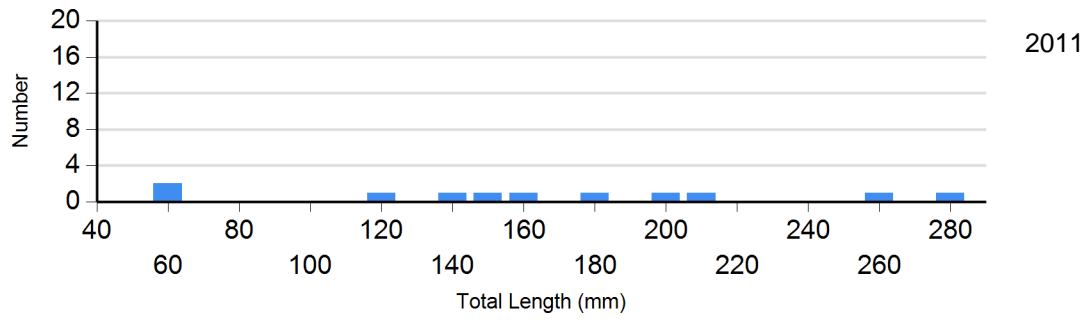
Species: Brook Trout



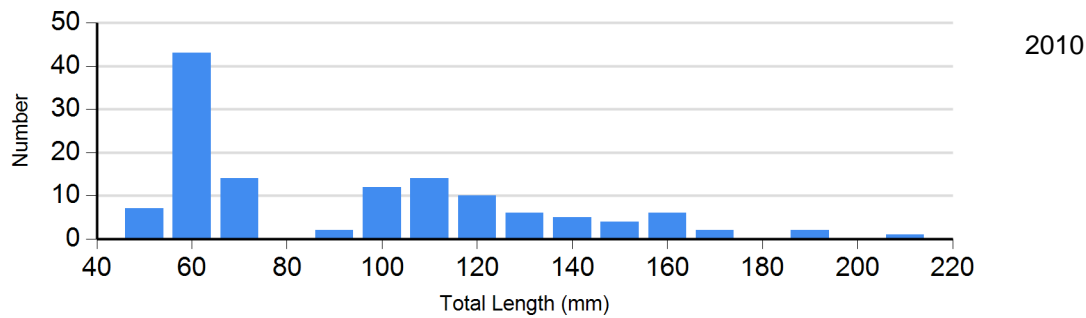


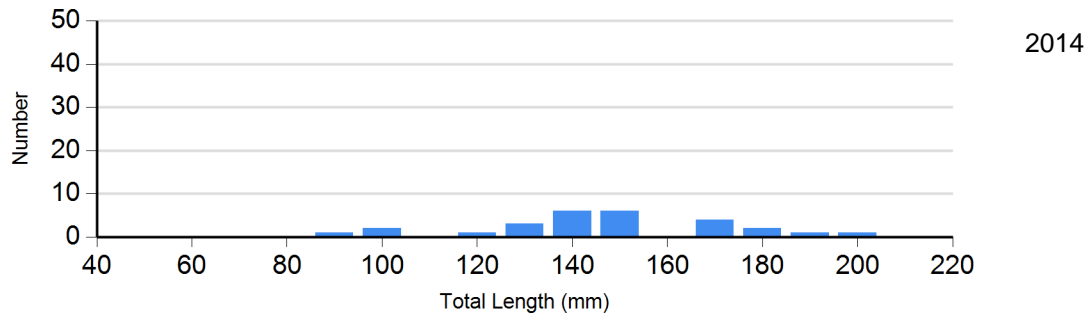
Site: 2
Species: Brown Trout





Site: 3
Species: Brook Trout





Site: 3
Species: Brown Trout

