

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek - South Fork, Pennington County
02-0073-00
2012

Table 1. Population and Biomass Estimates for Castle Creek - South Fork

Site Number: 2	Date Sampled: 07/24/2012	Conductivity (umhos/cm): 434
Site Midpoint (Latitude, Longitude): 44.01176175, -103.83136031	Site Length (m): 100	pH:
Survey Completed by:	Mean Width (m): 3.9	Water Temperature (C): 19.5
Stream Classification: BK2, RB1	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)
Bluegill X Green Sunfish	All	1	1	2	1	26	1	10	10	1.12	16	163.0	49.0
Brook Trout	<200mm	168	176	184	168	4502	101	1760	1823	90.02	2832	125.8	22.4
Brook Trout	>=200mm	14	14	15	14	358	37	140	145	32.85	225	214.9	102.7
Brook Trout	All	182	190	198	182	4860	139	1900	1968	123.99	3057	132.7	28.6
Rainbow Trout	<200mm	74	80	89	74	2047	56	800	829	49.75	1287	118.6	27.2
Rainbow Trout	>=200mm	6	6	7	6	153	37	60	62	33.28	97	299.3	242.8
Rainbow Trout	All	80	86	94	80	2200	99	860	891	88.78	1384	132.2	45.2
Rock Bass	All	28	30	36	28	767	24	300	311	21.04	483	119.9	30.7

Site Number: 50	Date Sampled: 07/09/2012	Conductivity (umhos/cm): 464
Site Midpoint (Latitude, Longitude): 43.98174758, -103.84203569	Site Length (m): 90	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 2.3	Water Temperature (C): 14.7
Stream Classification: BK2, RB2	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	75	78	83	75	3446	73	867	1396	64.90	1394	110.3	21.1
Brook Trout	>=200mm	7	7	7	7	309	33	78	125	29.78	125	220.4	107.9
Brook Trout	All	82	85	90	82	3755	111	944	1521	99.40	1520	119.7	29.6
Rainbow Trout	<200mm	16	17	21	16	751	12	189	304	10.95	304	102.4	16.3
Rainbow Trout	>=200mm	1	1	1	1	44	6	11	18	4.93	18	250.0	125.0
Rainbow Trout	All	17	17	19	17	751	17	189	304	15.51	304	111.1	23.1

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 Castle Creek - South Fork, 2002-2012

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Bluegill X Green Sunfish	Jul 24, 2012	1	1-2	
Brook Trout <200mm	May 29, 2008	76	76-76	
	Jul 24, 2012	176	168-184	
Brook Trout >=200mm	May 29, 2008	11	11-11	BK2
	Jul 24, 2012	14	14-15	BK2
Rainbow Trout <200mm	May 29, 2008	39	39-39	
	Jul 24, 2012	80	74-89	

Rainbow Trout >=200mm	May 29, 2008	22	22-22	RB1
	Jul 24, 2012	6	6-7	RB1
Rock Bass	Jul 24, 2012	30	28-36	

Site 50

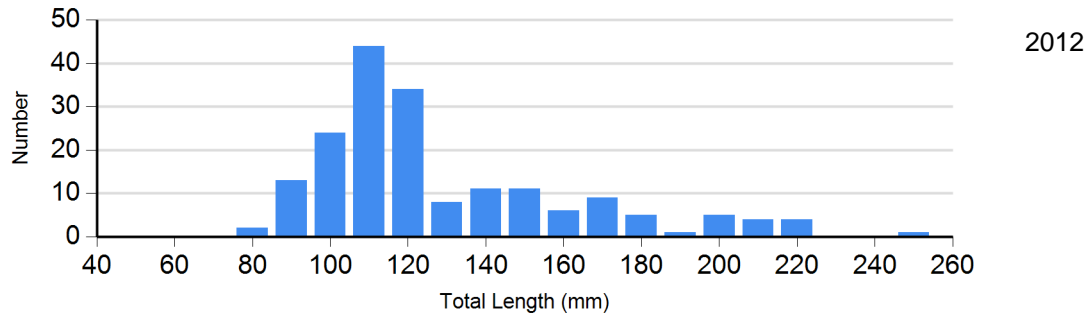
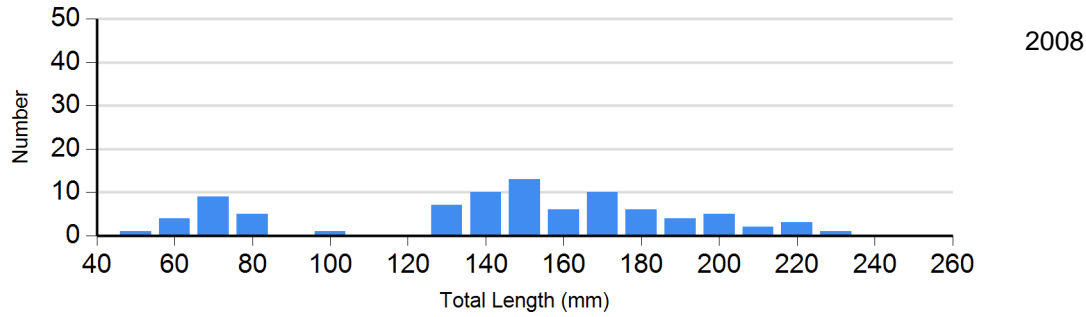
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 03, 2009	328	151-560	
	Jul 09, 2012	78	75-83	
Brook Trout >=200mm	Sep 03, 2009	17	14-27	BK1
	Jul 09, 2012	7	7-7	BK2
Rainbow Trout <200mm	Sep 03, 2009	7	7-8	
	Jul 09, 2012	17	16-21	
Rainbow Trout >=200mm	Jul 09, 2012	1	1-1	RB2

Length Frequency Distribution

Length frequency histogram of species sampled by year.

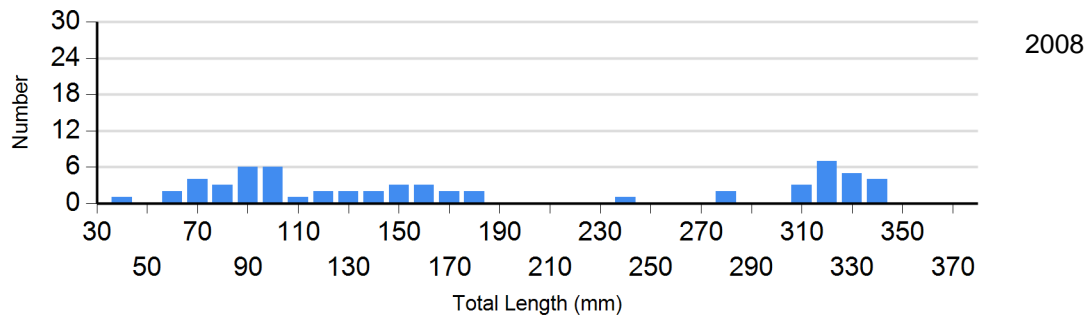
Site: 2

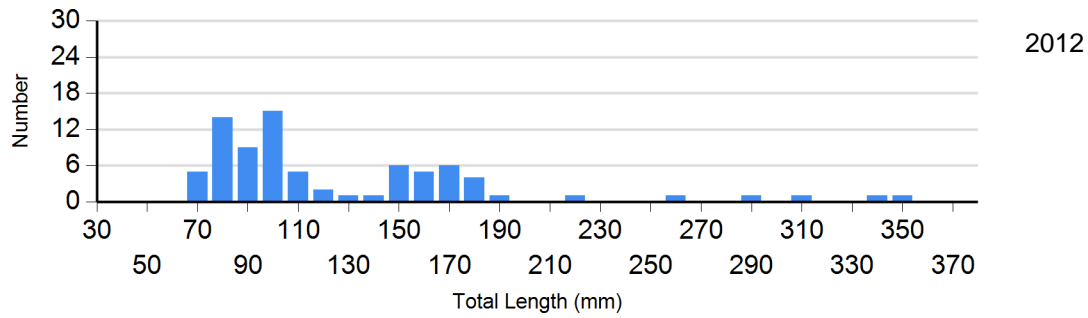
Species: Brook Trout



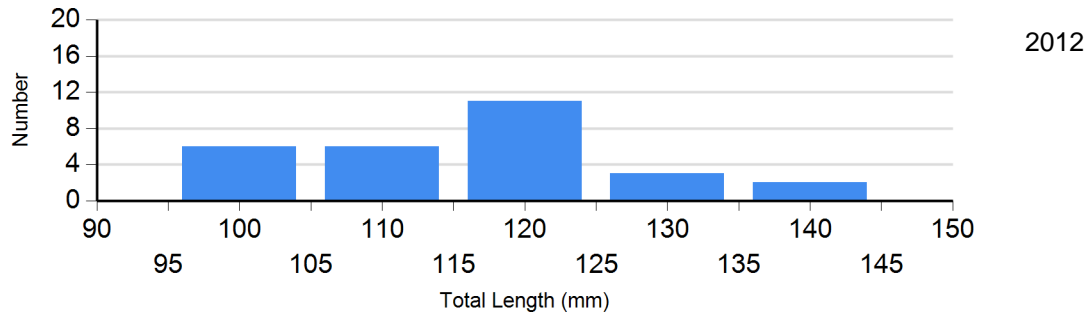
Site: 2

Species: Rainbow Trout

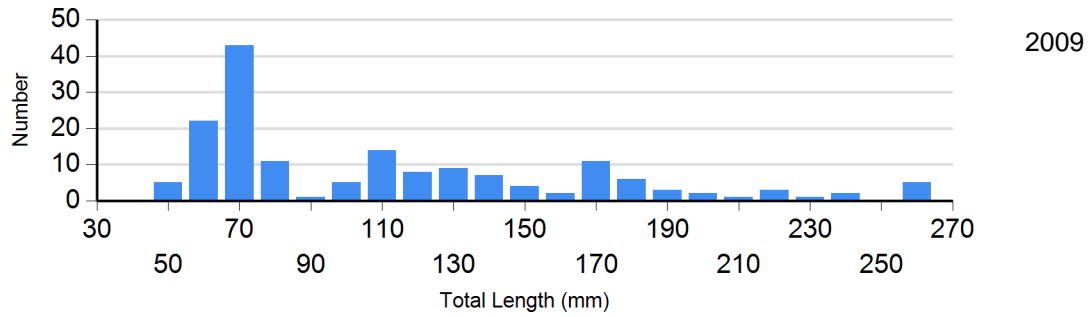


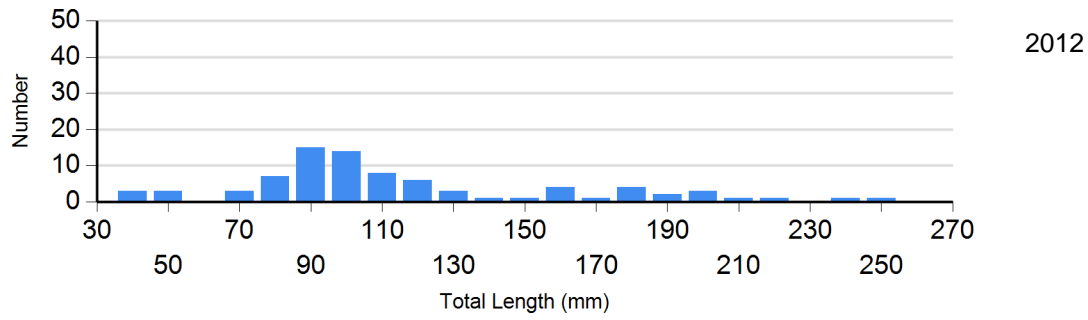


Site: 2
Species: Rock Bass



Site: 50
Species: Brook Trout





Site: 50
Species: Rainbow Trout

