

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek - South Fork, Pennington County
02-0073-00
2014

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

Site Number: 2

Site Midpoint (Latitude, Longitude): 44.01176175, -103.83136031

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK2, RB1

Date Sampled: 06/19/2014

Site Length (m): 100

Mean Width (m): 3.9

Number of Pass: 3

Conductivity (umhos/cm): 414

pH: 8.5

Water Temperature (C): 9.0

Voltage: 250

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	64	71	81	64	1821	61	710	737	54.47	1142	139.1	33.5
Brook Trout	>=200mm	10	10	11	10	256	29	100	104	25.69	161	225.8	112.2
Brook Trout	All	74	80	89	74	2051	91	800	831	81.67	1287	150.8	44.6
Rainbow Trout	<200mm	30	31	34	30	795	21	310	322	19.10	499	115.9	26.9
Rainbow Trout	>=200mm	8	8	8	8	205	30	80	83	26.69	129	251.9	145.8
Rainbow Trout	All	38	38	40	38	974	56	380	395	50.09	611	144.5	57.6

Site Number: 73

Site Midpoint (Latitude, Longitude): 43.98224960, -103.86466763

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0, RB0

Date Sampled: 06/26/2014

Site Length (m): 100

Mean Width (m): 1.7

Number of Pass: 3

Conductivity (umhos/cm): 411

pH: 8.4

Water Temperature (C): 8.0

Voltage: 250

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	74	75	78	74	4508	148	750	1826	132.18	1207	137.6	32.8
Brook Trout	All	74	75	78	74	4508	148	750	1826	132.18	1207	137.6	32.8
Rainbow Trout	<200mm	3	3	4	3	180	4	30	73	3.33	48	108.3	20.7
Rainbow Trout	All	3	3	4	3	180	4	30	73	3.33	48	108.3	20.7

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 Castle Creek - South Fork, 2004-2014

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 29, 2008	76	76-76	
	Jul 24, 2012	176	168-184	
	Jun 19, 2014	71	64-81	
Brook Trout >=200mm	May 29, 2008	11	11-11	BK2
	Jul 24, 2012	14	14-15	BK2
	Jun 19, 2014	10	10-11	BK2
Rainbow Trout <200mm	May 29, 2008	39	39-39	

Rainbow Trout <200mm	Jul 24, 2012	80	74-89	
	Jun 19, 2014	31	30-34	
Rainbow Trout >=200mm	May 29, 2008	22	22-22	RB1
	Jul 24, 2012	6	6-7	RB1
	Jun 19, 2014	8	8-8	RB1

Site 73

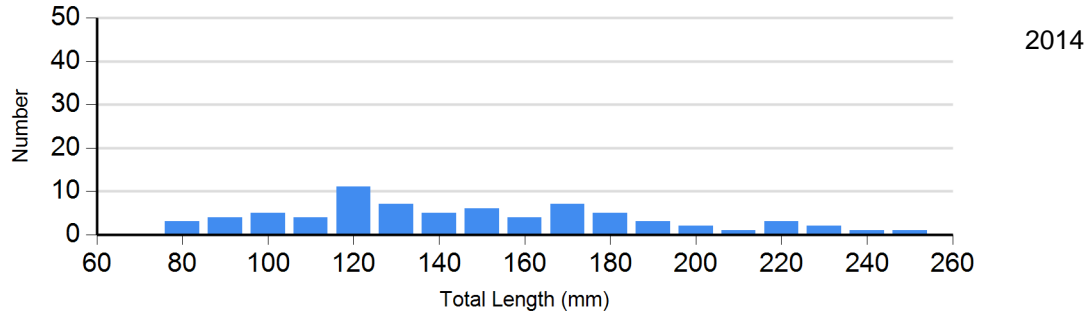
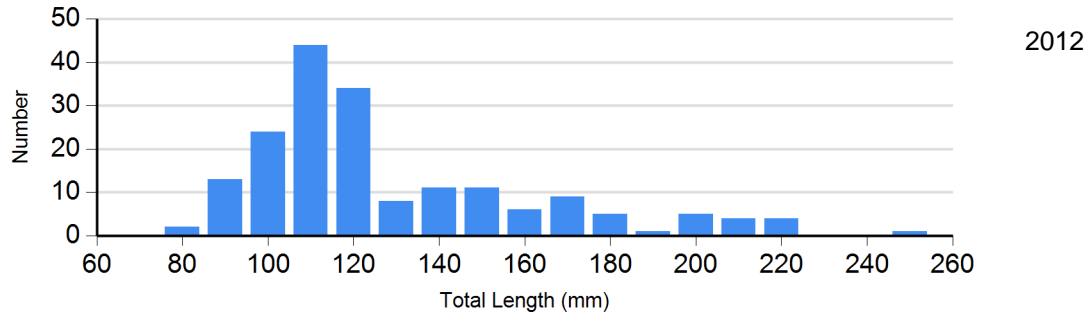
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 18, 2006	32	30-38	
	Jul 21, 2008	12	12-12	
	Jun 26, 2014	75	74-78	
Rainbow Trout <200mm	Jun 26, 2014	3	3-4	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

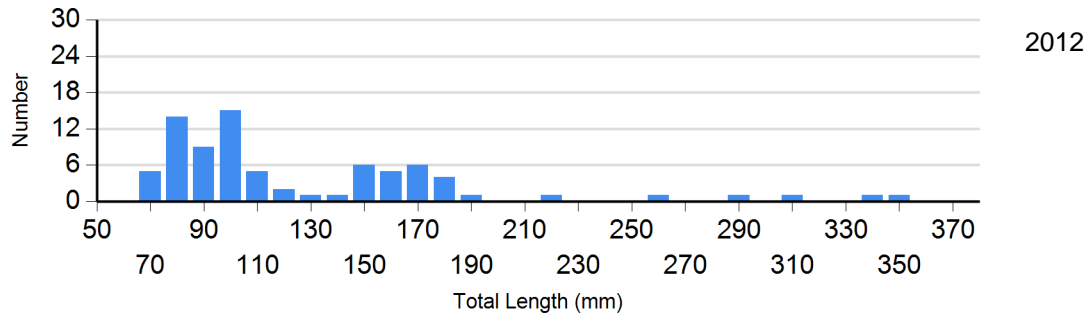
Site: 2

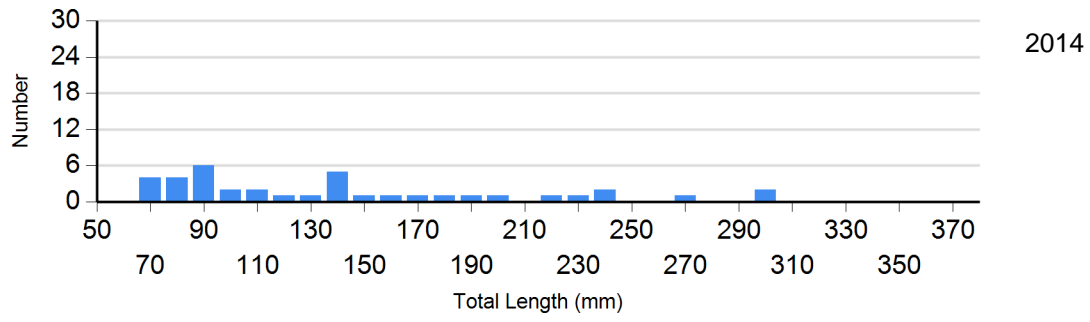
Species: Brook Trout



Site: 2

Species: Rainbow Trout





Site: 73
Species: Brook Trout

