

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek - South Fork, Pennington County
02-0073-00
2006

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

Site Number: 22
Site Midpoint (Latitude, Longitude): 43.99725948, -103.83348599
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK3, RB1

Date Sampled: 09/19/2006 **Conductivity (umhos/cm):** 475
Site Length (m): 100
Mean Width (m): 3.5 **pH:** 7.2
Number of Pass: 3 **Water Temperature (C):** 4.8
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	96	96	96	96	2757	64	960	1117	56.90	1545	134.4	23.1
Brook Trout	>=200mm	2	2	2	2	57	6	20	23	5.74	32	227.5	112.0
Brook Trout	All	140	143	148	140	4107	102	1430	1663	91.08	2301	136.3	24.8
Hatchery Rainbow Trout	>=200mm	1	1	1	1	29	10	10	12	8.69	16	325.0	339.0
Hatchery Rainbow Trout	All	1	1	1	1	29	10	10	12	8.69	16	325.0	339.0
Rainbow Trout	<200mm	122	122	122	122	3504	52	1220	1419	46.27	1963	101.6	14.8
Rainbow Trout	>=200mm	6	6	6	6	172	22	60	70	19.80	97	242.3	128.7
Rainbow Trout	All	158	159	162	158	4567	93	1590	1849	82.76	2558	108.2	20.3

Site Number: 73
Site Midpoint (Latitude, Longitude): 43.98224960, -103.86466763
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK0

Date Sampled: 09/18/2006 **Conductivity (umhos/cm):** 450
Site Length (m): 100
Mean Width (m): 3.1 **pH:** 7.2
Number of Pass: 3 **Water Temperature (C):** 2.5
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	30	32	38	30	1023	31	320	414	27.65	515	135.9	30.3
Brook Trout	All	30	32	38	30	1023	31	320	414	27.65	515	135.9	30.3

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, 1996-2006

Site 22

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 19, 2006	96	96-96	
Brook Trout >=200mm	Sep 19, 2006	2	2-2	BK3
Hatchery Rainbow Trout >=200mm	Sep 19, 2006	1	1-1	
Rainbow Trout <200mm	Sep 19, 2006	122	122-122	
Rainbow Trout >=200mm	Sep 19, 2006	6	6-6	RB1

Site 73

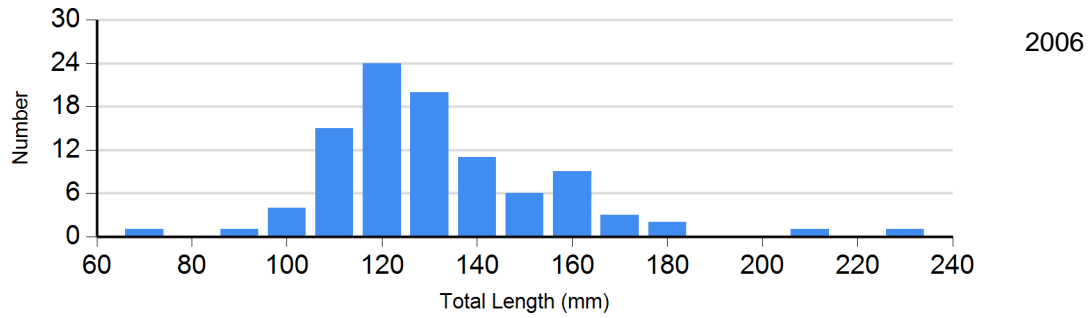
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 18, 2006	32	30-38	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

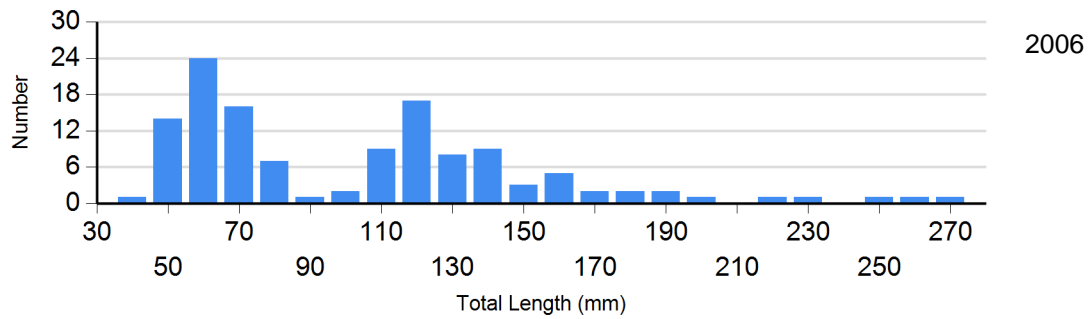
Site: 22

Species: Brook Trout



Site: 22

Species: Rainbow Trout



Site: 73

Species: Brook Trout

