

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek - South Fork, Pennington County
02-0073-00
1994

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, RB0

Date Sampled: 06/23/1994 **Conductivity (umhos/cm):** 331
Site Length (m): 100
Mean Width (m): 3.5 **pH:** 8.9
Number of Pass: 3 **Water Temperature (C):** 10.0
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	152	163	174	152	4605	77	1630	1865	68.65	2623	116.0	16.7
Brook Trout	>=200mm	2	2	4	2	56	5	20	23	4.09	32	202.0	81.0
Brook Trout	All	154	165	176	154	4661	82	1650	1888	72.96	2655	117.1	17.5
Creek Chub	All	6	6	7	6	169	2	60	69	2.07	97	117.2	13.7
Hatchery Rainbow Trout	>=200mm	3	3	4	3	85	12	30	34	10.72	48	253.7	141.7
Hatchery Rainbow Trout	All	3	3	4	3	85	12	30	34	10.72	48	253.7	141.7
Rainbow Trout	<200mm	6	6	7	6	169	4	60	69	3.81	97	130.5	25.2
Rainbow Trout	All	6	6	7	6	169	4	60	69	3.81	97	130.5	25.2

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: 06/29/1994 **Conductivity (umhos/cm):** 334
Site Length (m): 100
Mean Width (m): 1.3 **pH:** 8.5
Number of Pass: 3 **Water Temperature (C):** 13.0
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	33	33	35	33	2578	48	330	1044	42.76	531	119.0	18.6
Brook Trout	All	33	33	35	33	2578	48	330	1044	42.76	531	119.0	18.6

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, 1984-1994

Site 22

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 23, 1994	163	152-174	
Brook Trout >=200mm	Jun 23, 1994	2	2-4	BK3
Creek Chub	Jun 23, 1994	6	6-7	
Hatchery Rainbow Trout >=200mm	Jun 23, 1994	3	3-4	
Rainbow Trout <200mm	Jun 23, 1994	6	6-7	

Site 73

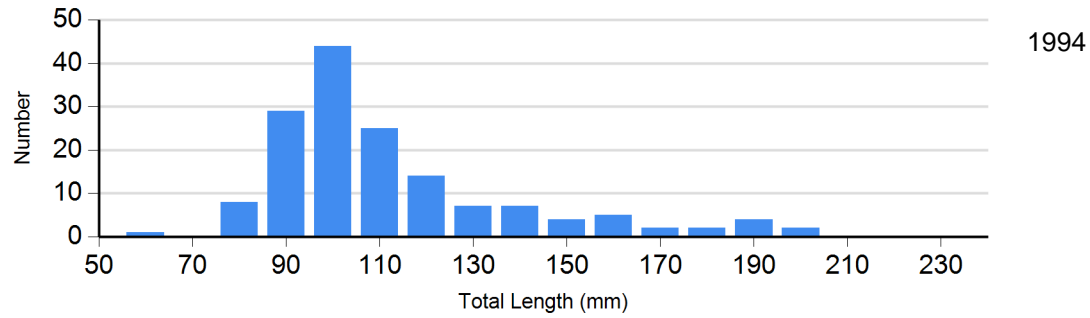
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 29, 1994	33	33-35	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

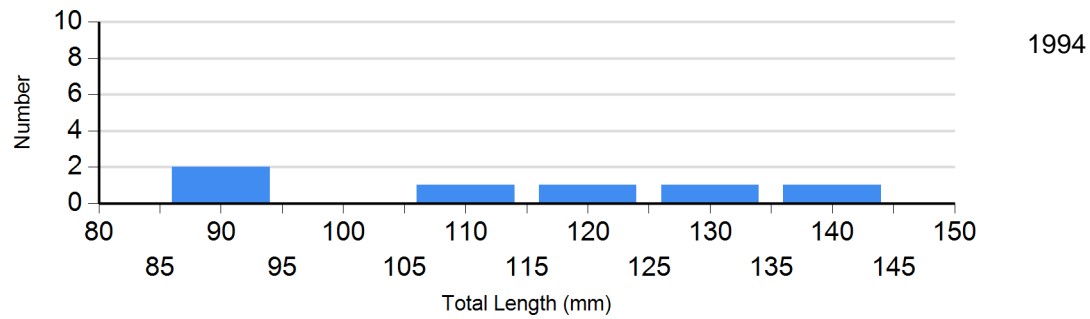
Site: 22

Species: Brook Trout



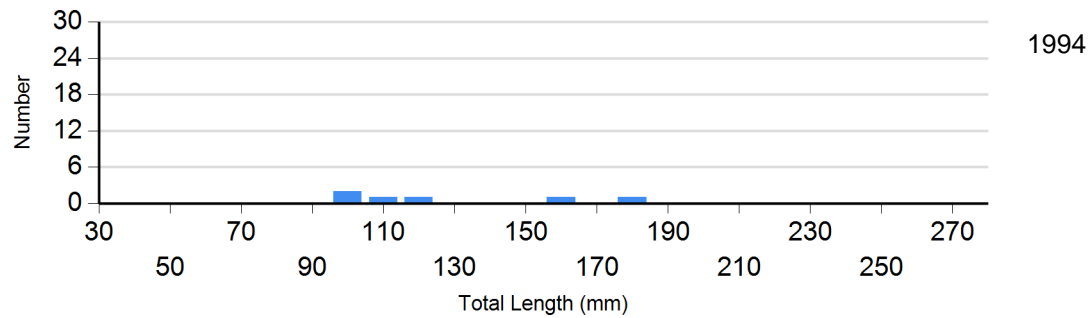
Site: 22

Species: Creek Chub



Site: 22

Species: Rainbow Trout



Site: 73
Species: Brook Trout

