

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek, Pennington County
02-0071-00
2003

Table 1. Population and Biomass Estimates for Castle Creek

Site Number: 373	Date Sampled: 09/24/2003	Conductivity (umhos/cm): 260
Site Midpoint (Latitude, Longitude): 44.05014956, -103.77144194	Site Length (m): 100	pH: 9.2
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 5.1	Water Temperature (C): 12.0
Stream Classification: BK2, BR1	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	31	32	35	31	626	14	320	254	12.86	515	121.4	23.0
Brook Trout	>=200mm	4	4	7	4	78	9	40	32	8.16	64	221.0	116.8
Brook Trout	All	35	37	42	35	724	24	370	293	21.80	595	132.7	33.7
Brown Trout	<200mm	48	54	64	48	1057	31	540	428	28.04	869	130.9	29.7
Brown Trout	>=200mm	32	32	32	32	626	124	320	254	110.94	515	253.2	198.4
Brown Trout	All	80	82	86	80	1605	156	820	650	139.26	1319	179.8	97.2

Site Number: 379	Date Sampled: 09/24/2003	Conductivity (umhos/cm): 250
Site Midpoint (Latitude, Longitude): 44.04695810, -103.77288355	Site Length (m): 100	pH: 8.9
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.7	Water Temperature (C): 9.0
Stream Classification: BK3, BR1	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	34	35	39	34	740	20	350	300	17.46	563	122.7	26.4
Brook Trout	>=200mm	2	2	3	2	42	5	20	17	4.78	32	222.5	126.5
Brook Trout	All	36	37	41	36	783	25	370	317	22.34	595	128.3	32.0

Brown Trout	<200mm	60	62	66	60	1312	26	620	531	23.58	998	106.7	20.1
Brown Trout	>=200mm	21	21	23	21	444	92	210	180	81.92	338	257.3	206.5
Brown Trout	All	81	83	87	81	1756	120	830	711	107.32	1335	145.8	68.5

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, 1993-2003

Site 373

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 23, 2002	93	91-97	
	Sep 24, 2003	32	31-35	
Brook Trout >=200mm	Sep 23, 2002	3	3-5	BK3
	Sep 24, 2003	4	4-7	BK2
Brown Trout <200mm	Sep 23, 2002	69	66-74	
	Sep 24, 2003	54	48-64	
Brown Trout >=200mm	Sep 23, 2002	29	29-31	BR1

Brown Trout >=200mm

Sep 24, 2003

32

32-32

BR1

Site 379

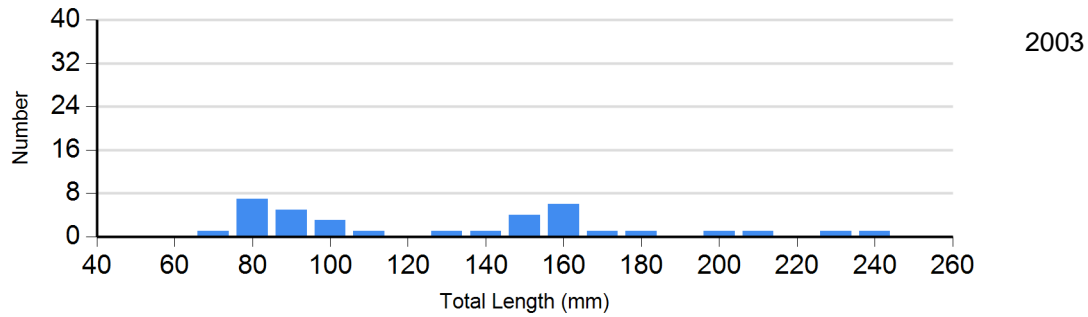
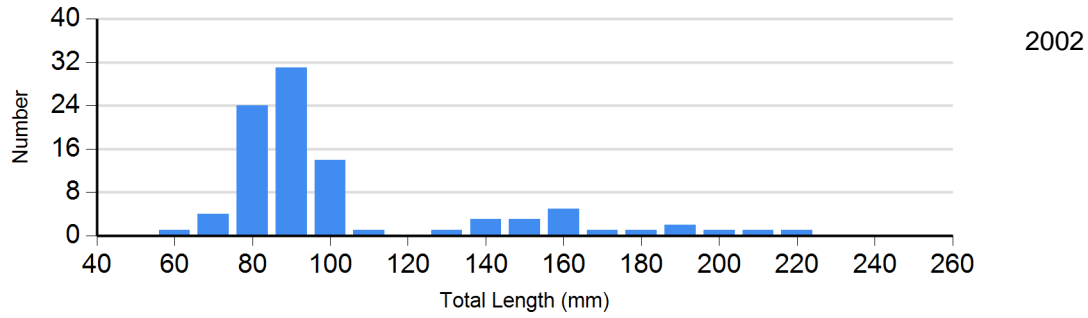
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 18, 2002	102	70-146	
	Sep 24, 2003	35	34-39	
Brook Trout >=200mm	Sep 18, 2002	5	5-5	BK2
	Sep 24, 2003	2	2-3	BK3
Brown Trout <200mm	Sep 18, 2002	93	84-105	
	Sep 24, 2003	62	60-66	
Brown Trout >=200mm	Sep 18, 2002	20	19-24	BR1
	Sep 24, 2003	21	21-23	BR1

Length Frequency Distribution

Length frequency histogram of species sampled by year.

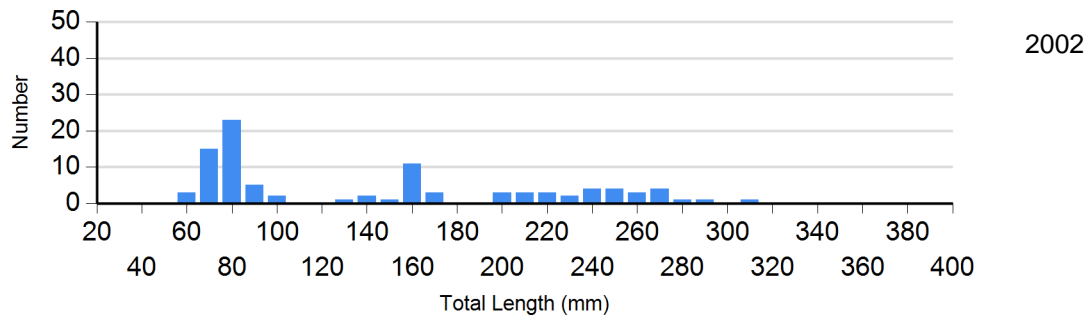
Site: 373

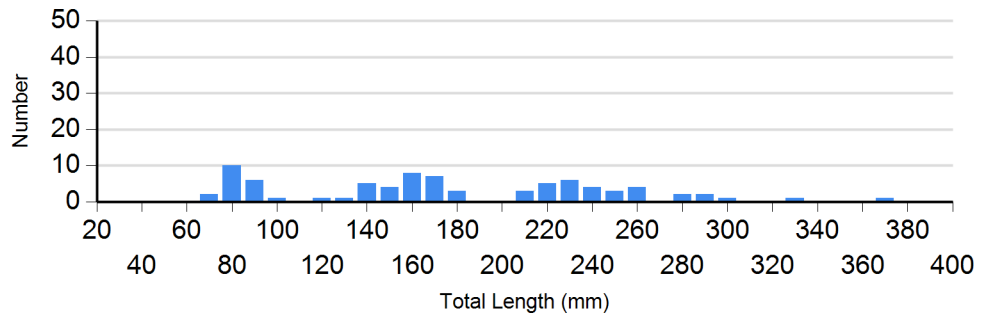
Species: Brook Trout



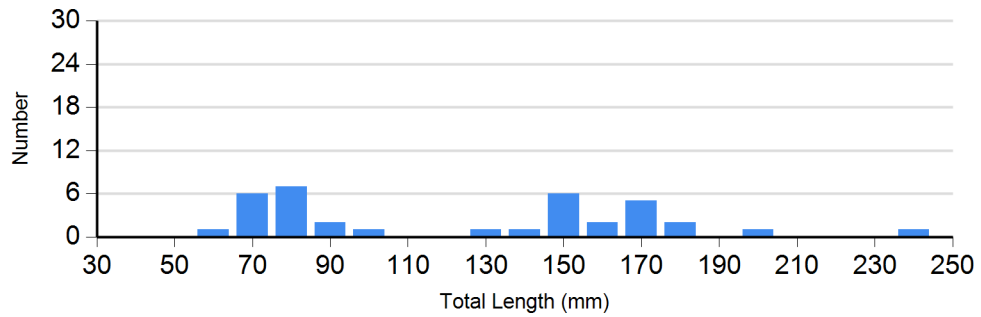
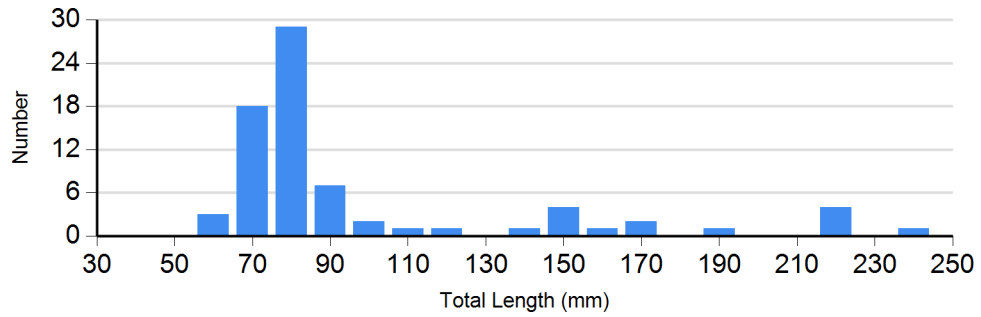
Site: 373

Species: Brown Trout





Site: 379
Species: Brook Trout



Site: 379
Species: Brown Trout

