

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek, Pennington County
02-0071-00
2007

Table 1. Population and Biomass Estimates for Castle Creek

Site Number: 373	Date Sampled: 09/17/2007	Conductivity (umhos/cm): 392
Site Midpoint (Latitude, Longitude): 44.05014956, -103.77144194	Site Length (m): 100	pH: 8.6
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 5.8	Water Temperature (C): 9.6
Stream Classification: BK3, BR2	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	50	57	68	50	986	27	570	399	23.77	917	124.5	27.0
Brook Trout	>=200mm	2	2	3	2	35	4	20	14	3.69	32	215.5	119.5
Brook Trout	All	52	59	70	52	1020	31	590	413	27.84	949	128.0	30.6
Brown Trout	<200mm	26	31	42	26	536	23	310	217	20.38	499	139.8	42.6
Brown Trout	>=200mm	15	15	16	15	259	42	150	105	37.51	241	238.4	161.9
Brown Trout	All	41	45	53	41	778	67	450	315	59.93	724	175.9	86.2

Site Number: 379	Date Sampled: 10/01/2007	Conductivity (umhos/cm): 339
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): 4.5	Water Temperature (C): 12.1
Stream Classification: BK3, BR2	Number of Pass: 4	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	69	69	69	69	1521	30	690	616	27.12	1110	116.9	20.0
Brook Trout	>=200mm	1	1	1	1	22	3	10	9	2.52	16	236.0	128.0
Brook Trout	All	94	97	102	94	2138	46	970	866	41.08	1561	118.6	21.5

Brown Trout	<200mm	34	34	34	34	749	20	340	304	17.95	547	121.6	26.8
Brown Trout	>=200mm	10	10	10	10	220	34	100	89	30.35	161	234.7	154.2
Brown Trout	All	54	55	58	54	1212	68	550	491	60.38	885	147.3	55.8

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, 1997-2007

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	
	Sep 29, 2004	44	44-44	
	Sep 17, 2007	57	50-68	
Brook Trout >=200mm	Sep 23, 2002	3	3-5	BK3
	Sep 24, 2003	4	4-7	BK2
	Sep 29, 2004	7	7-7	BK2

Brook Trout >=200mm	Sep 17, 2007	2	2-3	BK3
Brown Trout <200mm	Sep 23, 2002	69	66-74	
	Sep 24, 2003	54	48-64	
	Sep 29, 2004	138	137-141	
	Sep 17, 2007	31	26-42	
Brown Trout >=200mm	Sep 23, 2002	29	29-31	BR1
	Sep 24, 2003	32	32-32	BR1
	Sep 29, 2004	28	28-28	BR1
	Sep 17, 2007	15	15-16	BR2

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	
	Sep 29, 2004	91	89-95	
	Oct 01, 2007	69	69-69	
Brook Trout >=200mm	Sep 18, 2002	5	5-5	BK2

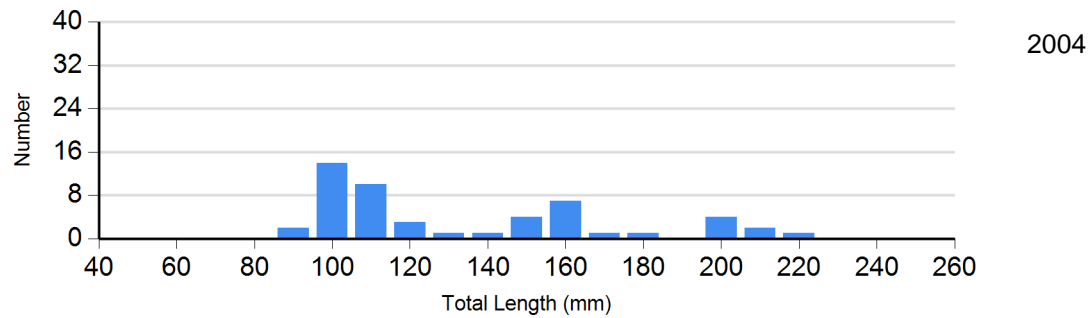
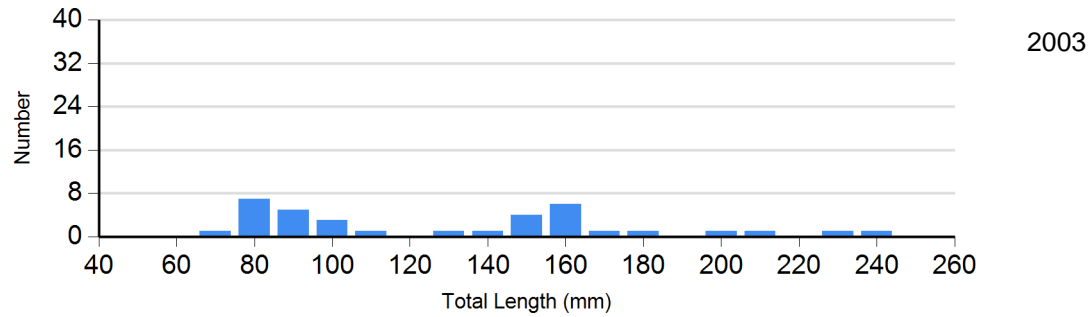
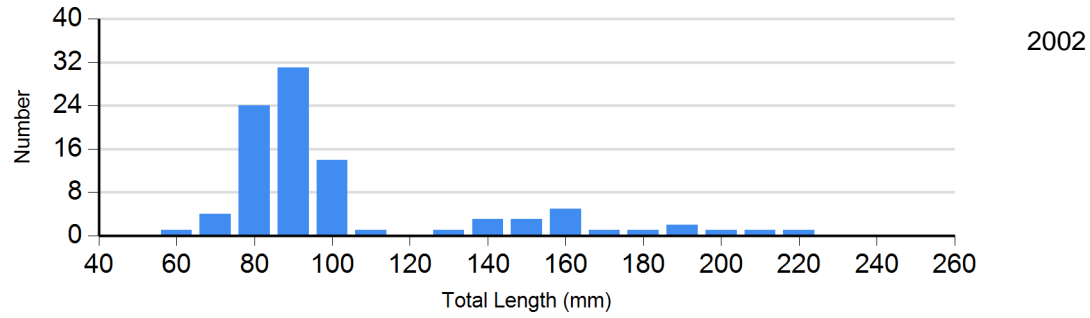
Brook Trout >=200mm	Sep 24, 2003	2	2-3	BK3
	Sep 29, 2004	2	2-2	BK3
	Oct 01, 2007	1	1-1	BK3
Brown Trout <200mm	Sep 18, 2002	93	84-105	
	Sep 24, 2003	62	60-66	
	Sep 29, 2004	143	139-149	
	Oct 01, 2007	34	34-34	
Brown Trout >=200mm	Sep 18, 2002	20	19-24	BR1
	Sep 24, 2003	21	21-23	BR1
	Sep 29, 2004	16	16-16	BR3
	Oct 01, 2007	10	10-10	BR2

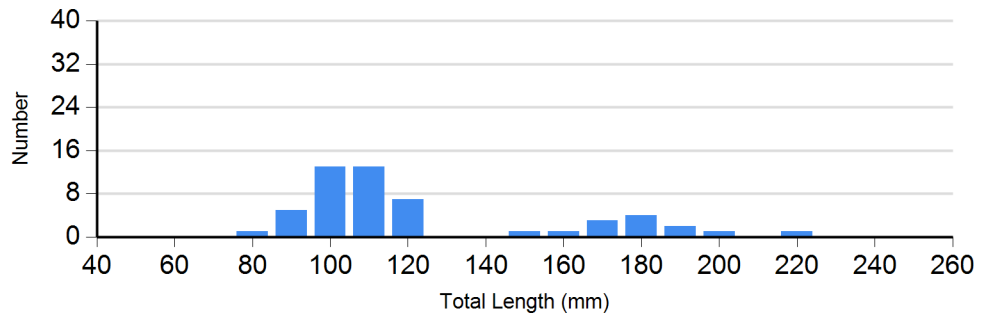
Length Frequency Distribution

Length frequency histogram of species sampled by year.

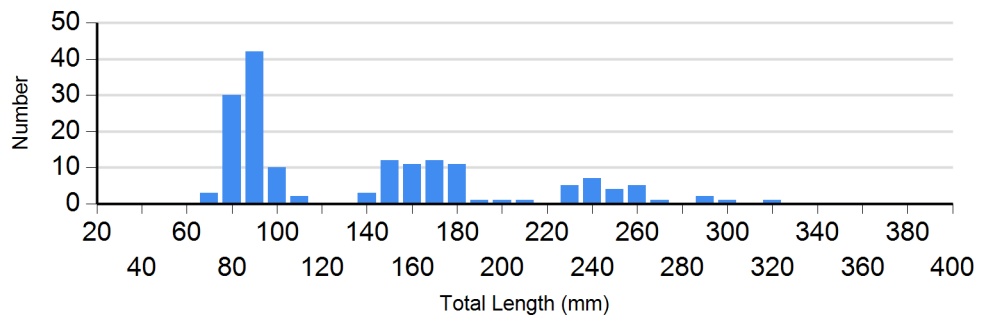
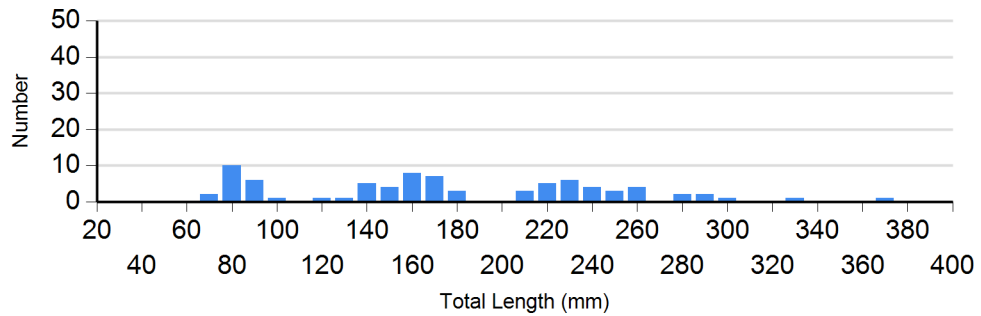
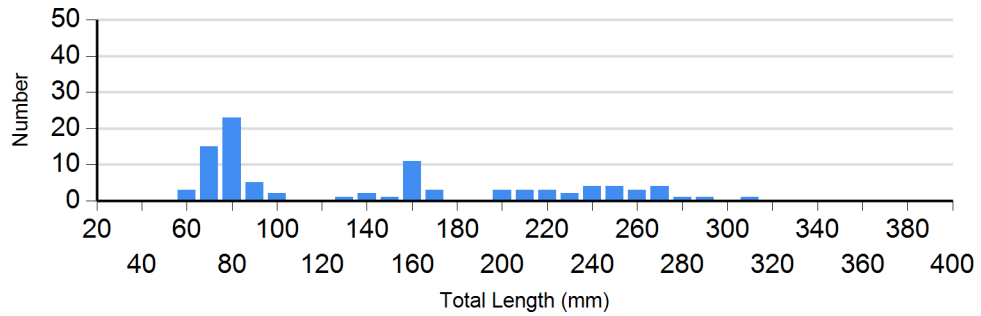
Site: 373

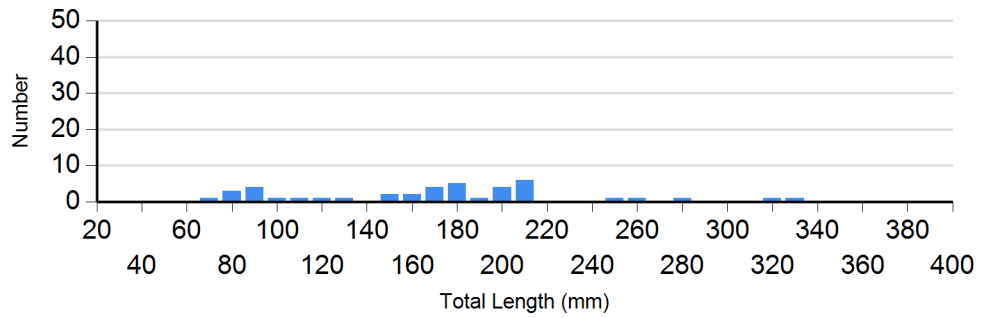
Species: Brook Trout



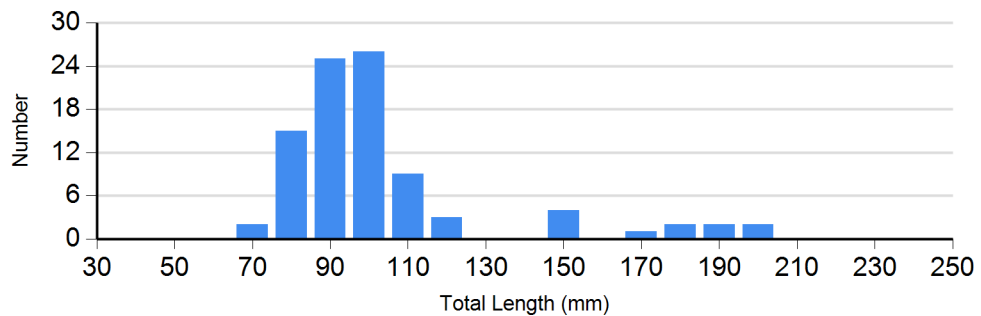
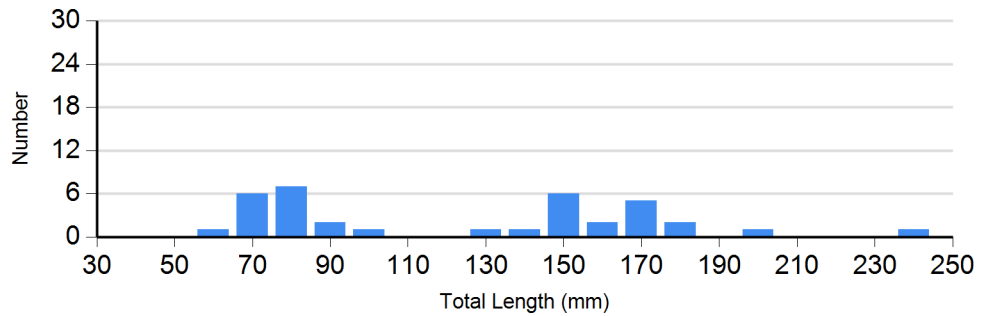
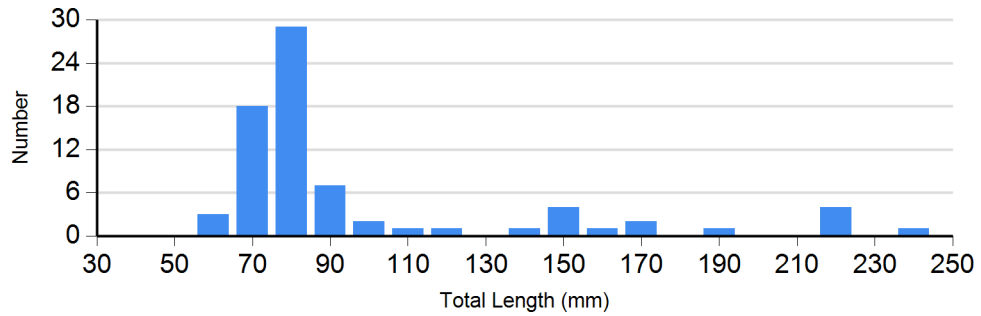


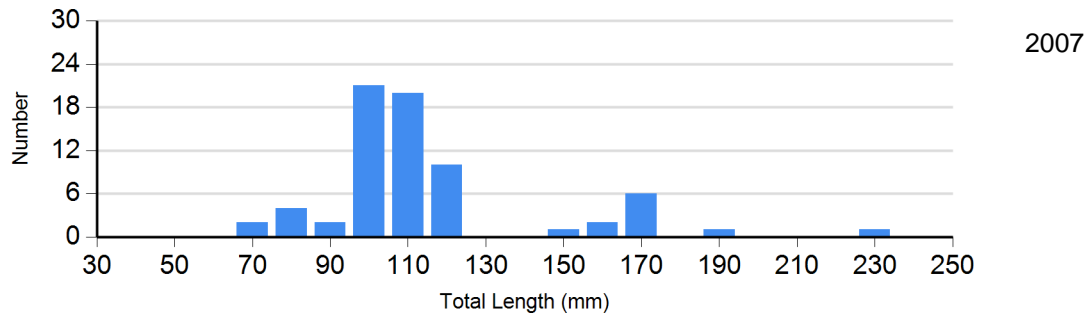
Site: 373
Species: Brown Trout





Site: 379
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Site: 379
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