

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Castle Creek, Pennington County
02-0071-00
2008

Table 1. Population and Biomass Estimates for Castle Creek

Site Number: 373	Date Sampled: 09/23/2008	Conductivity (umhos/cm): 392
Site Midpoint (Latitude, Longitude): 44.05014956, -103.77144194	Site Length (m): 100	pH: 9.1
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 6.2	Water Temperature (C): 8.3
Stream Classification: BK2, 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	41	41	42	41	660	27	410	267	23.78	660	139.5	40.3
Brook Trout	>=200mm	7	7	8	7	113	12	70	46	10.93	113	207.3	108.6
Brook Trout	All	48	48	49	48	773	39	480	313	34.71	772	149.4	50.3
Brown Trout	<200mm	27	30	37	27	483	12	300	196	10.40	483	113.8	24.1
Brown Trout	>=200mm	13	13	14	13	209	44	130	85	39.26	209	249.5	210.0
Brown Trout	All	40	42	47	40	676	57	420	274	51.05	676	157.9	84.5

Site Number: 379	Date Sampled: 09/23/2008	Conductivity (umhos/cm): 388
Site Midpoint (Latitude, Longitude): 44.04695810, -103.77288355	Site Length (m): 100	pH: 9.3
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 5.0	Water Temperature (C): 9.4
Stream Classification: BK2, BR2	Number of Pass: 3	Voltage: 650

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	5	5	5	5	101	5	50	41	4.50	80	157.8	50.0
Brook Trout	>=200mm	5	5	5	5	101	10	50	41	9.28	80	206.0	103.2
Brook Trout	All	10	10	10	10	201	15	100	82	13.78	161	181.9	76.6

Brown Trout	<200mm	12	12	14	12	242	8	120	98	6.82	193	125.8	31.6
Brown Trout	>=200mm	10	10	10	10	201	25	100	82	22.43	161	218.5	124.7
Brown Trout	All	22	22	24	22	443	33	220	180	29.25	354	168.0	73.9

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, 1998-2008

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	
	Sep 23, 2008	41	41-42	
Brook Trout >=200mm	Sep 23, 2002	3	3-5	BK3
	Sep 24, 2003	4	4-7	BK2

Brook Trout >=200mm	Sep 29, 2004	7	7-7	BK2
	Sep 17, 2007	2	2-3	BK3
	Sep 23, 2008	7	7-8	BK2
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	
	Sep 23, 2008	30	27-37	
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
	Sep 23, 2008	13	13-14	BR2

Site 379

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 18, 2002	102	70-146	

Brook Trout <200mm	Sep 24, 2003	35	34-39	
	Sep 29, 2004	91	89-95	
	Oct 01, 2007	69	69-69	
	Sep 23, 2008	5	5-5	
Brook Trout >=200mm	Sep 18, 2002	5	5-5	BK2
	Sep 24, 2003	2	2-3	BK3
	Sep 29, 2004	2	2-2	BK3
	Oct 01, 2007	1	1-1	BK3
	Sep 23, 2008	5	5-5	BK2
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	
	Sep 23, 2008	12	12-14	
Brown Trout >=200mm	Sep 18, 2002	20	19-24	BR1
	Sep 24, 2003	21	21-23	BR1

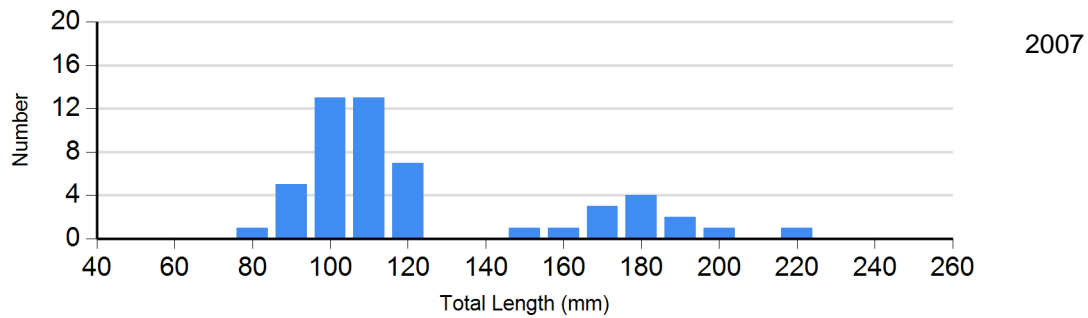
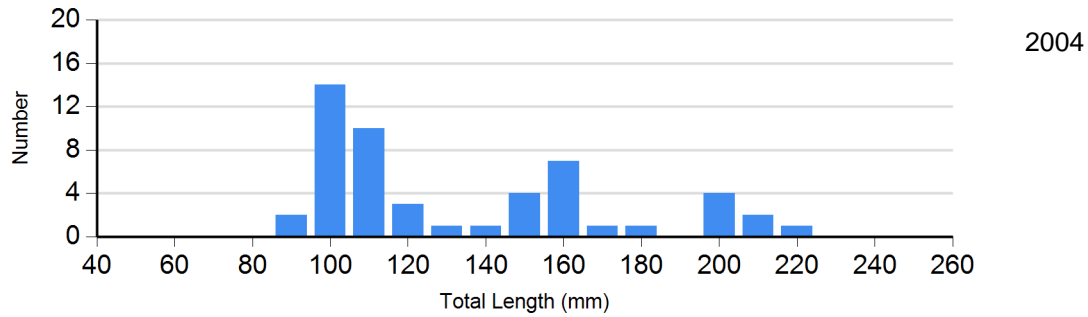
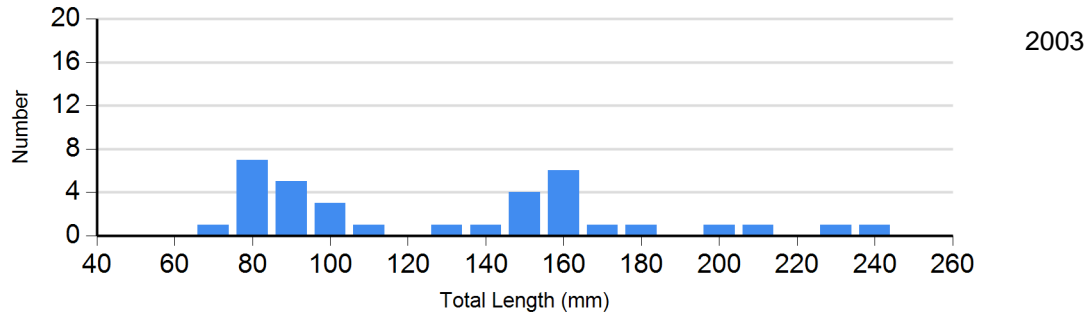
Brown Trout >=200mm	Sep 29, 2004	16	16-16	BR3
	Oct 01, 2007	10	10-10	BR2
	Sep 23, 2008	10	10-10	BR2

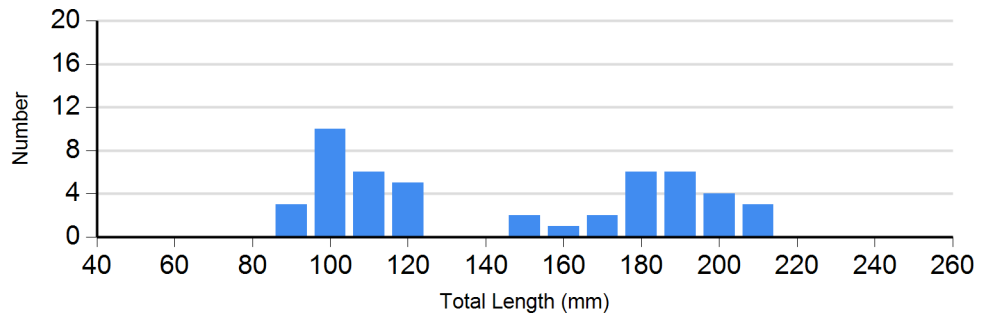
Length Frequency Distribution

Length frequency histogram of species sampled by year.

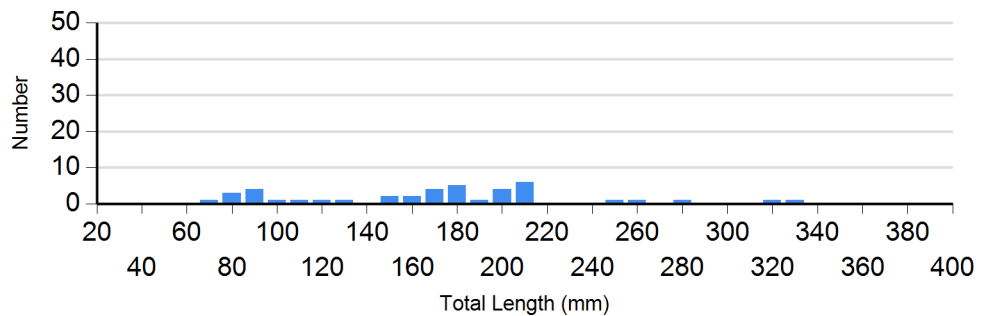
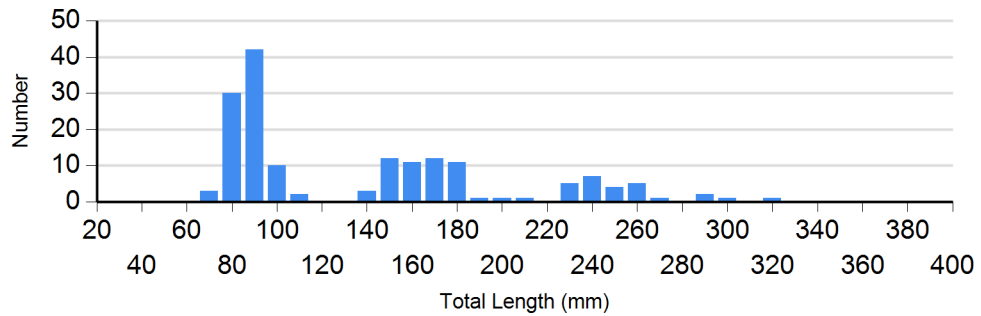
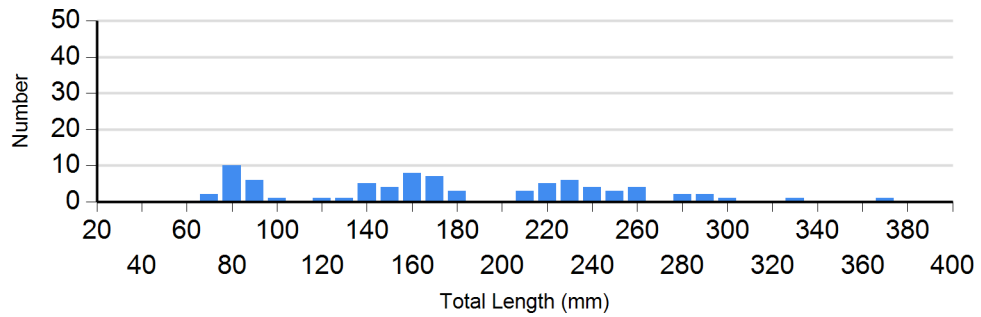
Site: 373

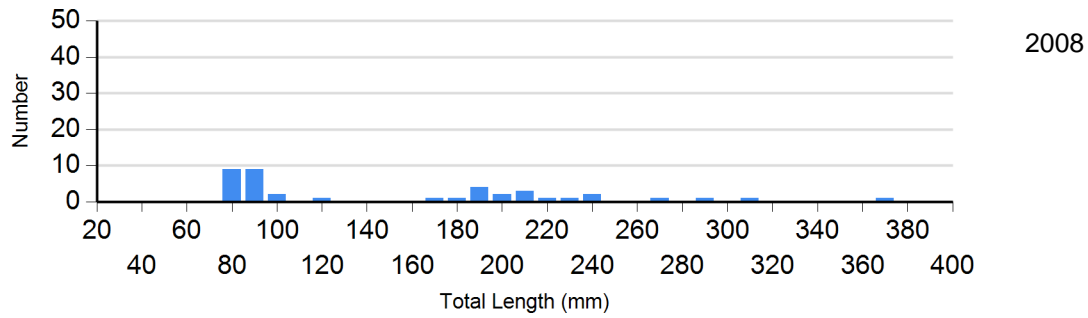
Species: Brook Trout



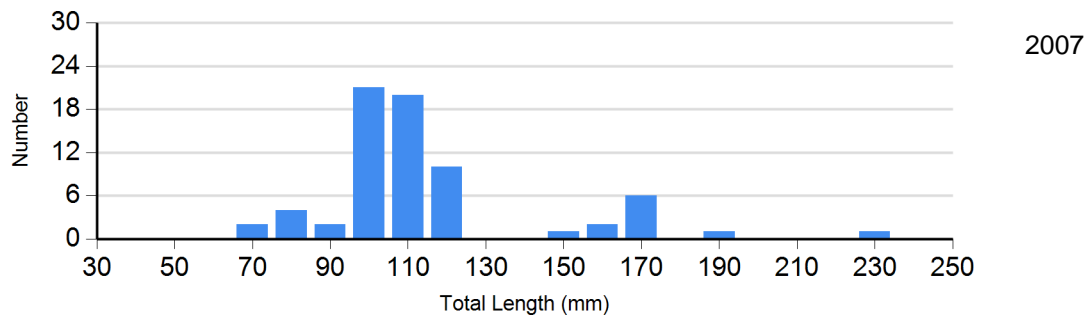
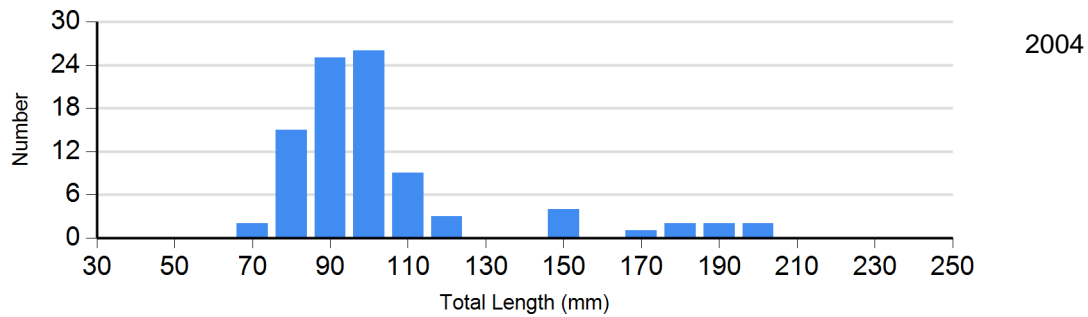
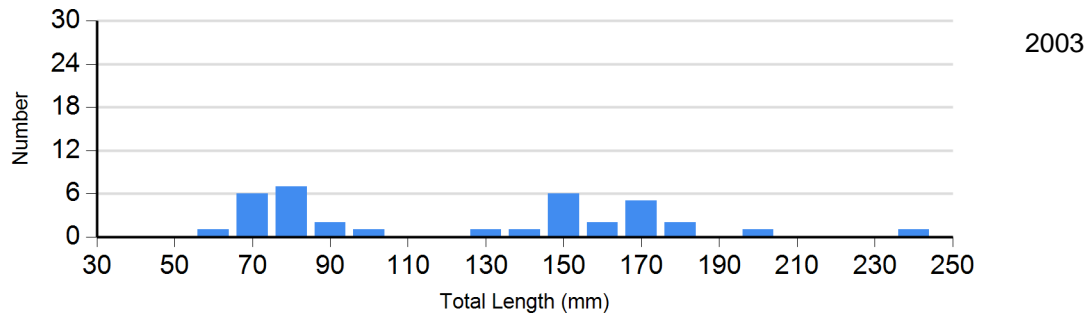


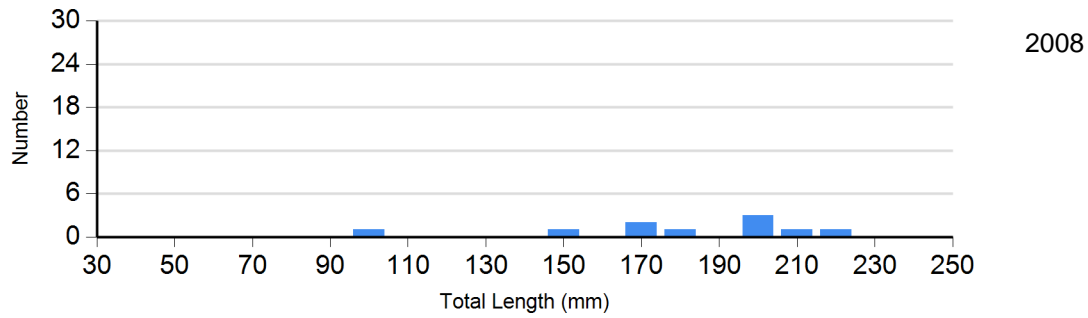
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Site: 379
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