

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Cleopatra Creek, Lawrence County
09-0055-00
2008

Table 1. Population and Biomass Estimates for Cleopatra Creek

Site Number: 2	Date Sampled: 07/09/2008	Conductivity (umhos/cm): 279
Site Midpoint (Latitude, Longitude): 44.40059662, -103.89317768	Site Length (m): 100	pH: 8.6
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.6	Water Temperature (C): 16.0
Stream Classification: BK3, BR3, RB2	Number of Pass: 1	Voltage: 325

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	100	100	100	100	2178	65	1000	882	58.46	1609	136.2	30.1
Brook Trout	>=200mm	1	1	1	1	22	2	10	9	1.59	16	201.0	82.0
Brook Trout	All	101	101	101	101	2200	67	1010	891	60.06	1625	136.9	30.6
Brown Trout	<200mm	13	13	13	13	283	5	130	115	4.73	209	115.3	18.7
Brown Trout	>=200mm	1	1	1	1	22	2	10	9	1.71	16	202.0	88.0
Brown Trout	All	14	14	14	14	305	7	140	124	6.44	225	121.5	23.6
Rainbow Trout	<200mm	16	16	16	16	349	9	160	141	8.30	257	124.7	26.7
Rainbow Trout	>=200mm	1	1	1	1	22	2	10	9	2.04	16	216.0	105.0
Rainbow Trout	All	17	17	17	17	370	12	170	150	10.35	274	130.1	31.3

Site Number: 45	Date Sampled: 09/01/2008	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.37686389, -103.86595601	Site Length (m): 100	pH:
Survey Completed by: Unknown Consultant Firm for mining	Mean Width (m): 0.0	Water Temperature (C):
Stream Classification: BK3	Number of Pass: 3	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	229	231	235	229	0	0	2310	0	0.00	3717	132.4	29.0
Brook Trout	>=200mm	3	3	4	3	0	0	30	0	0.00	48	205.0	88.0
Brook Trout	All	232	234	238	232	0	0	2340	0	0.00	3765	133.4	29.8

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 Cleopatra Creek, 1998-2008

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 18, 2007	73	72-76	
	Jul 09, 2008	100	100-100	
Brook Trout >=200mm	Sep 18, 2007	3	3-4	BK2
	Jul 09, 2008	1	1-1	BK3
Brown Trout <200mm	Sep 18, 2007	4	4-4	
	Jul 09, 2008	13	13-13	
Brown Trout >=200mm	Jul 09, 2008	1	1-1	BR3

Rainbow Trout <200mm	Sep 18, 2007	56	56-56	
	Jul 09, 2008	16	16-16	
Rainbow Trout >=200mm	Sep 18, 2007	1	1-2	RB2
	Jul 09, 2008	1	1-1	RB2

Site 45

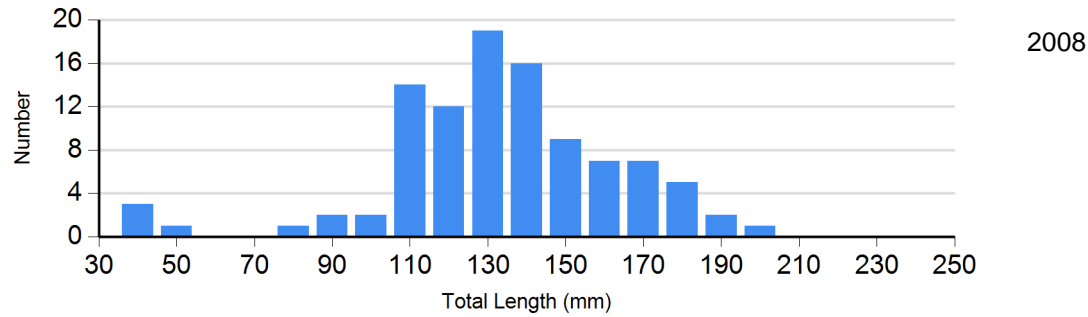
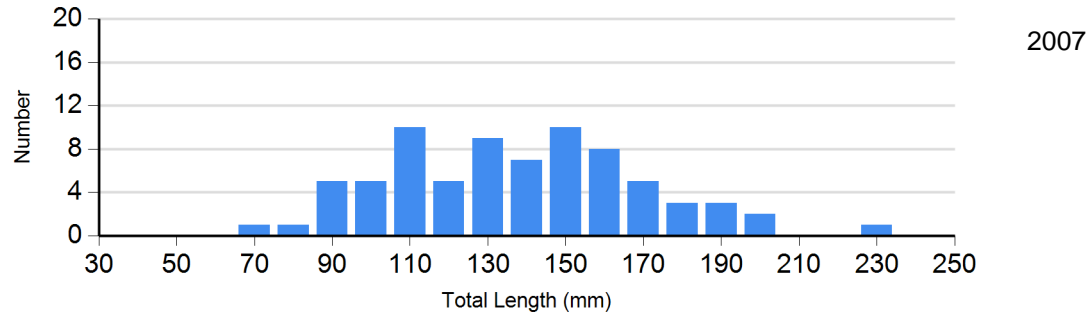
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 15, 1998	314	314-316	
	Sep 15, 2000	441	430-452	
	Oct 02, 2002	230	222-238	
	Sep 24, 2004	248	238-258	
	Aug 27, 2005	242	235-249	
	Sep 01, 2008	231	229-235	
Brook Trout >=200mm	Sep 15, 1998	6	6-6	BK2
	Sep 15, 2000	10	10-11	BK1
	Oct 02, 2002	4	4-4	BK2
	Aug 27, 2005	3	3-4	BK2

Length Frequency Distribution

Length frequency histogram of species sampled by year.

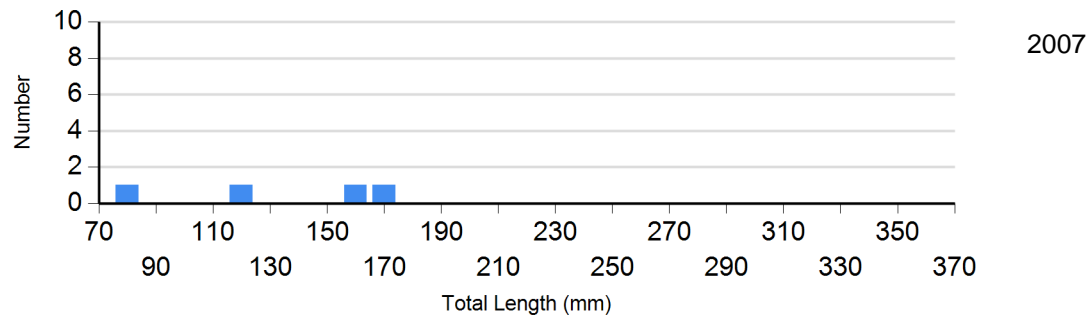
Site: 2

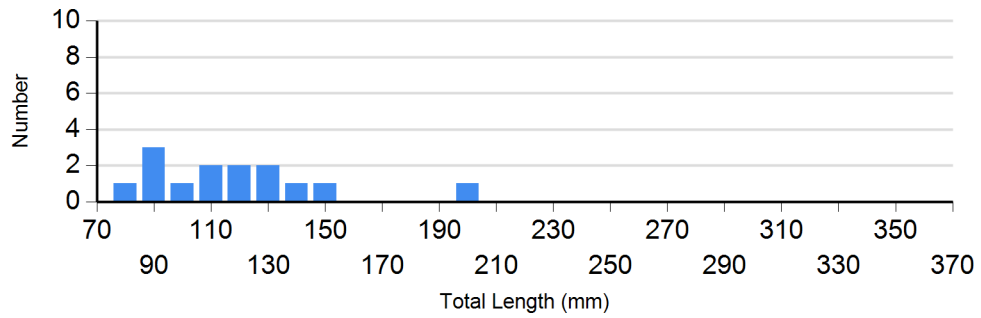
Species: Brook Trout



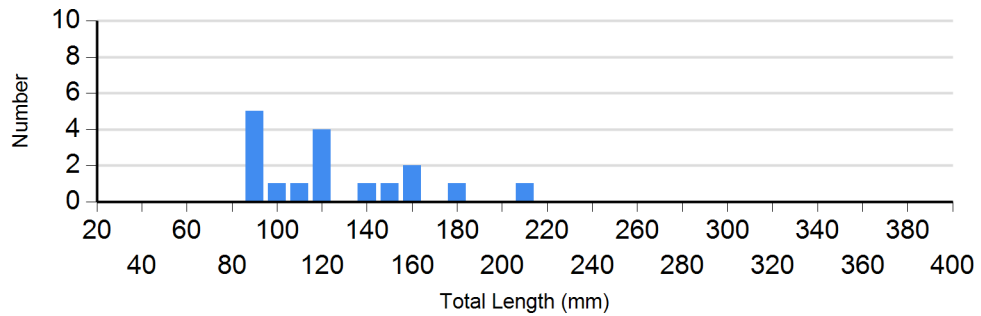
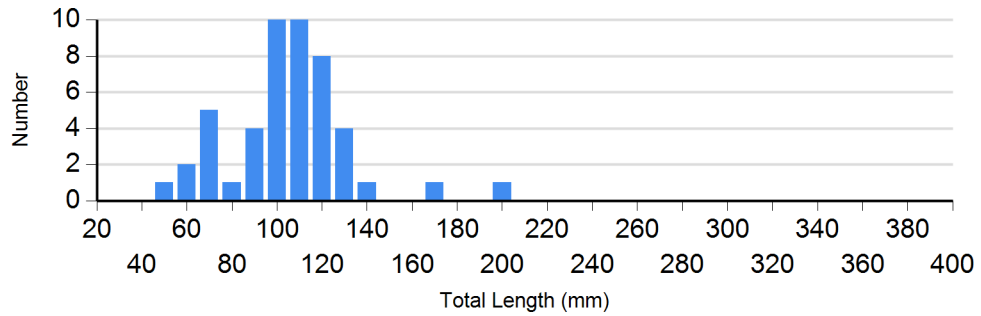
Site: 2

Species: Brown Trout





Site: 2
Species: Rainbow Trout



Site: 45
Species: Brook Trout

