

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Cleopatra Creek, Lawrence County**  
**09-0055-00**  
**2011**

Table 1. Population and Biomass Estimates for Cleopatra Creek

**Site Number:** 4  
**Site Midpoint (Latitude, Longitude):** 44.39921369, -103.89223587  
**Survey Completed by:** Unknown Consultant Firm for mining  
**Stream Classification:** BK3

**Date Sampled:** 08/31/2011  
**Site Length (m):** 100  
**Mean Width (m):** 0.0  
**Number of Pass:** 3

**Conductivity (umhos/cm):**  
**pH:**  
**Water Temperature (C):**  
**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	379	381	385	379	0	0	3810	0	0.00	6130	111.2	20.0
Brook Trout	>=200mm	4	4	6	4	0	0	40	0	0.00	64	212.0	109.8
Brook Trout	All	383	385	389	383	0	0	3850	0	0.00	6195	112.2	21.1

**Site Number:** 45  
**Site Midpoint (Latitude, Longitude):** 44.37686389, -103.86595601  
**Survey Completed by:**  
**Stream Classification:** BK3

**Date Sampled:** 08/31/2011  
**Site Length (m):** 100  
**Mean Width (m):** 0.0  
**Number of Pass:** 3

**Conductivity (umhos/cm):**  
**pH:**  
**Water Temperature (C):**  
**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	305	312	319	305	0	0	3120	0	0.00	5020	110.1	19.6
Brook Trout	>=200mm	6	6	7	6	0	0	60	0	0.00	97	207.0	105.2
Brook Trout	All	311	318	325	311	0	0	3180	0	0.00	5117	112.0	21.3

**Site Number:** 57  
**Site Midpoint (Latitude, Longitude):** 44.37184360, -103.85453374

**Date Sampled:** 09/01/2011  
**Site Length (m):** 100

**Conductivity (umhos/cm):**  
**pH:**

Survey Completed by:

Mean Width (m): 0.0

Water Temperature (C):

Stream Classification: BK0

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	237	238	241	237	0	0	2380	0	0.00	3829	107.6	14.9
Brook Trout	All	237	238	241	237	0	0	2380	0	0.00	3829	107.6	14.9

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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	
<b>Class BR1</b>	Number of wild Brown Trout exceeds 150 per acre
<b>Class BR2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BR3</b>	Number of wild Brown Trout is less than 25 per acre
<b>Class BK1</b>	Number of wild Brook Trout exceeds 150 per acre
<b>Class BK2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BK3</b>	Number of wild Brook Trout is less than 25 per acre
<b>Class RB1</b>	Number of wild Rainbow Trout exceeds 25 per acre
<b>Class RB2</b>	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on Cleopatra Creek, 2001-2011

**Site 4**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 30, 2002	457	439-475	
	Sep 23, 2004	212	204-220	
	Aug 26, 2005	234	230-239	
	Aug 31, 2011	381	379-385	
Brook Trout >=200mm	Aug 26, 2005	1	1-1	BK3
	Aug 31, 2011	4	4-6	BK3

**Site 45**

<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brook Trout <200mm	Oct 02, 2002	230	222-238	
	Sep 24, 2004	248	238-258	
	Aug 27, 2005	242	235-249	
	Sep 01, 2008	231	229-235	
	Aug 31, 2011	312	305-319	
Brook Trout >=200mm	Oct 02, 2002	4	4-4	BK2
	Aug 27, 2005	3	3-4	BK2
	Sep 01, 2008	3	3-4	BK3
	Aug 31, 2011	6	6-7	BK3

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**Site 57**

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<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brook Trout <200mm	Oct 03, 2002	277	266-288	
	Sep 25, 2004	199	188-210	
	Sep 01, 2011	238	237-241	

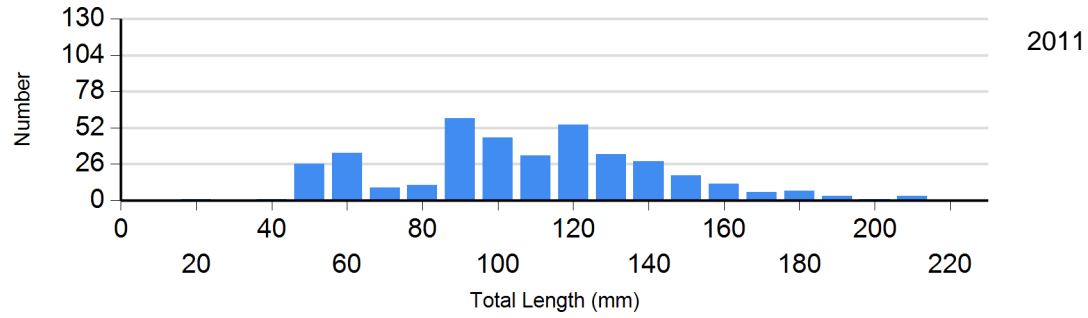
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## Length Frequency Distribution

Length frequency histogram of species sampled by year.

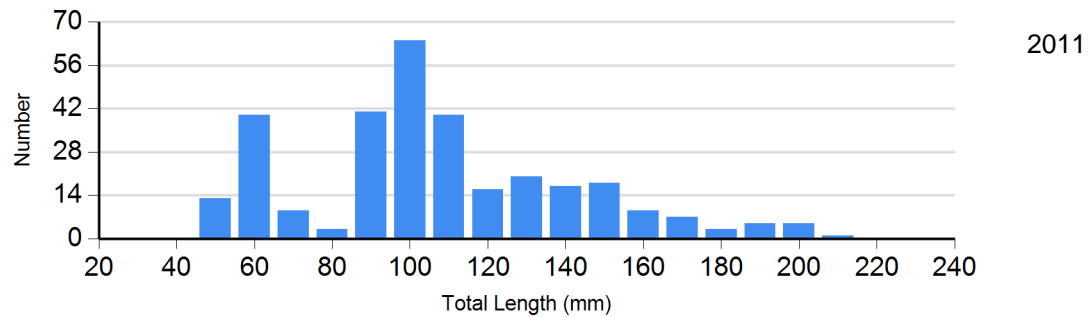
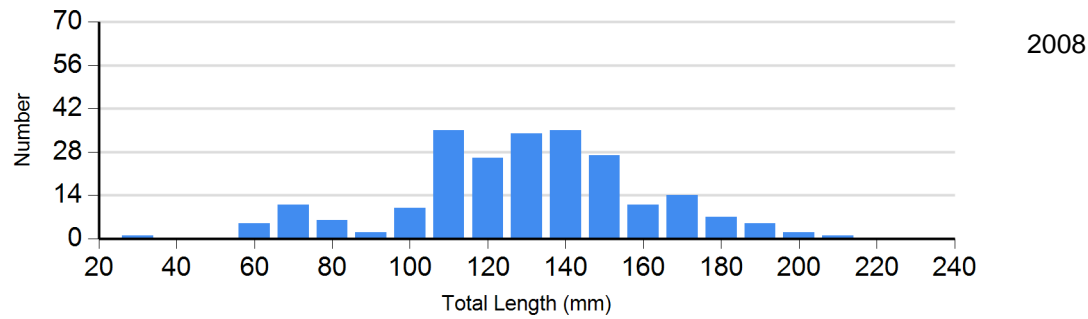
**Site: 4**

**Species: Brook Trout**



**Site: 45**

**Species: Brook Trout**



Site: 57  
Species: Brook Trout

