

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Cleopatra Creek, Lawrence County
09-0055-00
2017

Table 1. Population and Biomass Estimates for Cleopatra Creek

Site Number: 4
Site Midpoint (Latitude, Longitude): 44.39921369, -103.89223587
Survey Completed by: GEI
Stream Classification: BK2

Date Sampled: 08/30/2017
Site Length (m): 100
Mean Width (m): 5.1
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	558	570	579	561	11277	142	5700	4567	127.11	9171	99.5	12.6
Brook Trout	>=200mm	4	4	4	4	79	7	40	32	6.36	64	210.3	90.0
Brook Trout	All	562	574	583	565	11356	150	5740	4599	133.58	9236	100.3	13.2

Site Number: 45
Site Midpoint (Latitude, Longitude): 44.37686389, -103.86595601
Survey Completed by: GEI
Stream Classification: BK2

Date Sampled: 08/29/2017
Site Length (m): 100
Mean Width (m): 3.3
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	431	442	451	433	13394	216	4420	5425	192.57	7112	109.9	16.1
Brook Trout	>=200mm	4	4	4	4	121	12	40	49	10.69	64	211.3	98.8
Brook Trout	All	435	446	455	437	13515	228	4460	5474	203.50	7176	110.8	16.9

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

Date Sampled: 08/30/2017
Site Length (m): 100

Conductivity (umhos/cm):
pH:

Survey Completed by: GEI

Stream Classification: BK3

Mean Width (m): 0.0

Number of Pass: 3

Water Temperature (C):

Voltage:

265

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	266	268	272	266	0	0	2680	0	0.00	4312	93.3	9.2
Brook Trout	>=200mm	1	1	1	1	0	0	10	0	0.00	16	203.0	71.0
Brook Trout	All	267	269	273	267	0	0	2690	0	0.00	4328	93.7	9.4

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, 2007-2017

Site 4

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 31, 2011	381	379-385	
	Aug 27, 2014	471	461-481	
	Aug 30, 2017	570	561-579	
Brook Trout >=200mm	Aug 31, 2011	4	4-6	BK3
	Aug 27, 2014	3	3-4	BK2
	Aug 30, 2017	4	4-4	BK2

Site 45

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 01, 2008	231	229-235	
	Aug 31, 2011	312	305-319	
	Aug 28, 2014	282	258-306	
	Aug 29, 2017	442	433-451	
Brook Trout >=200mm	Sep 01, 2008	3	3-4	BK3
	Aug 31, 2011	6	6-7	BK3
	Aug 28, 2014	12	11-17	BK1
	Aug 29, 2017	4	4-4	BK2

Site 57

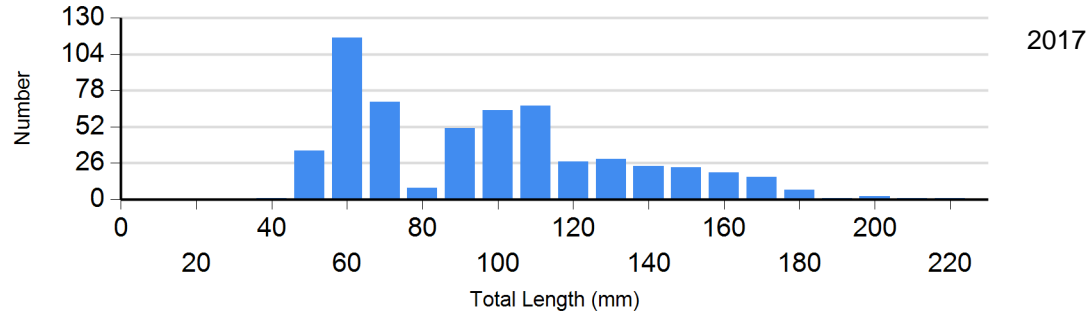
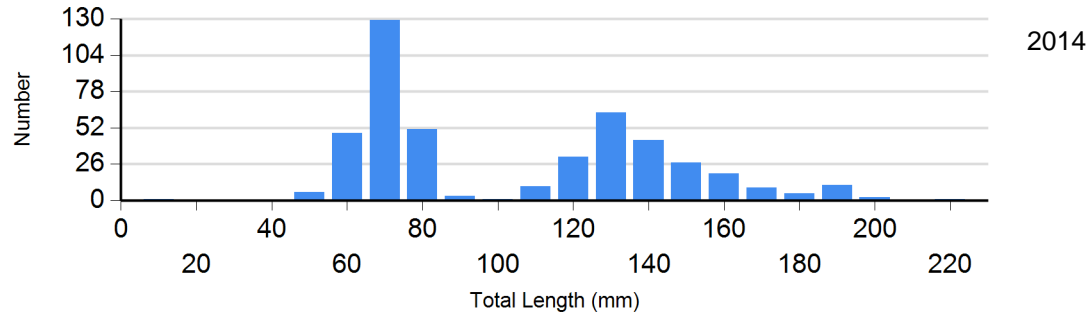
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 01, 2011	238	237-241	
	Aug 29, 2014	167	165-171	
	Aug 30, 2017	268	266-272	
Brook Trout >=200mm	Aug 29, 2014	5	5-6	BK2
	Aug 30, 2017	1	1-1	BK3

Length Frequency Distribution

Length frequency histogram of species sampled by year.

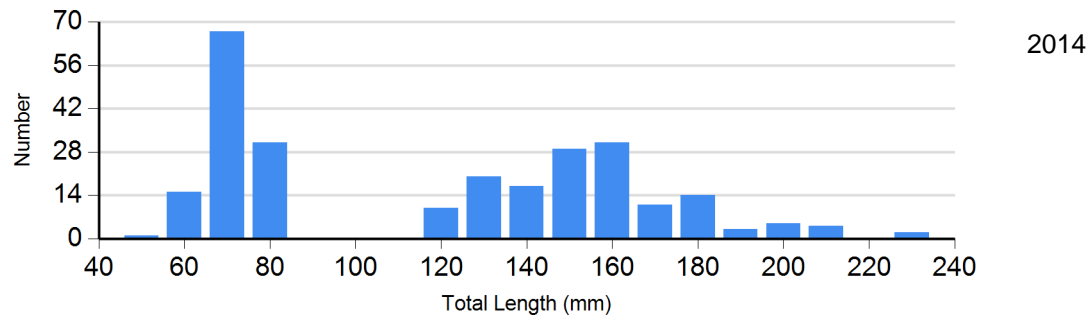
Site: 4

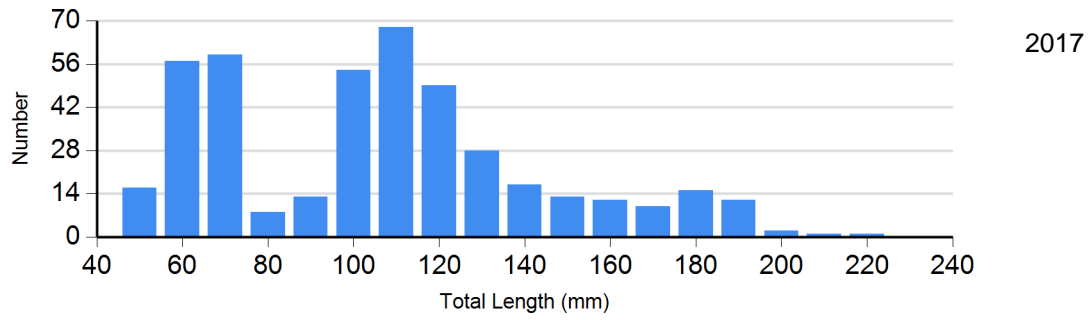
Species: Brook Trout



Site: 45

Species: Brook Trout





Site: 57
Species: Brook Trout

