

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
East Spearfish Creek (Hanna), Lawrence County
09-0016-00
2016

Table 1. Population and Biomass Estimates for East Spearfish Creek (Hanna)

Site Number: 37	Date Sampled: 05/10/2016	Conductivity (umhos/cm): 455
Site Midpoint (Latitude, Longitude): 44.27474914, -103.85439849	Site Length (m): 100	pH: 8.5
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.2	Water Temperature (C): 9.9
Stream Classification: BR1	Number of Pass: 3	Voltage: 250

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)
Brown Trout	<200mm	196	227	251	203	5428	210	2270	2198	187.59	3652	129.4	38.7
Brown Trout	>=200mm	50	50	52	50	1196	141	500	484	126.14	805	228.3	118.2
Brown Trout	All	246	271	289	253	6480	383	2710	2625	341.83	4360	149.5	59.1

Site Number: 54	Date Sampled: 05/18/2016	Conductivity (umhos/cm): 473
Site Midpoint (Latitude, Longitude): 44.26528884, -103.84758730	Site Length (m): 100	pH: 7.9
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.5	Water Temperature (C): 8.2
Stream Classification: BK0, BR1	Number of Pass: 3	Voltage: 250

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	2	2	4	2	58	1	20	23	0.82	32	117.0	16.0
Brook Trout	All	2	2	4	2	58	1	20	23	0.82	32	117.0	16.0
Brown Trout	<200mm	44	55	73	44	1588	64	550	643	57.06	885	132.0	40.2
Brown Trout	>=200mm	16	17	21	16	491	59	170	199	52.45	274	233.5	119.7
Brown Trout	All	60	73	91	60	2108	139	730	854	124.55	1175	159.1	66.2

Site Number: 68
Site Midpoint (Latitude, Longitude): 44.25589626, -103.84244891
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK0, BR0

Date Sampled: 05/18/2016 **Conductivity (umhos/cm):** 472
Site Length (m): 85 **pH:** 8.5
Mean Width (m): 2.3 **Water Temperature (C):** 9.5
Number of Pass: 1 **Voltage:** 275

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	31	31	31	31	1348	38	365	546	33.57	587	106.5	27.9
Brook Trout	All	31	31	31	31	1348	38	365	546	33.57	587	106.5	27.9
Brown Trout	<200mm	5	5	5	5	217	6	59	88	5.77	95	118.0	29.8
Brown Trout	All	5	5	5	5	217	6	59	88	5.77	95	118.0	29.8

Site Number: 77
Site Midpoint (Latitude, Longitude): 44.24880580, -103.84493296
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK0, BR0

Date Sampled: 05/18/2016 **Conductivity (umhos/cm):** 488
Site Length (m): 100 **pH:** 8.4
Mean Width (m): 2.0 **Water Temperature (C):** 7.7
Number of Pass: 3 **Voltage:** 250

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	62	65	71	62	3280	68	650	1328	60.63	1046	111.6	20.7
Brook Trout	All	63	67	74	63	3381	70	670	1369	62.49	1078	111.6	20.7
Brown Trout	<200mm	6	6	6	6	303	17	60	123	15.08	97	144.8	55.8
Brown Trout	All	6	6	6	6	303	17	60	123	15.08	97	144.8	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 East Spearfish Creek (Hanna), 2006-2016

Site 37

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 30, 2006	1	1-1	
Brown Trout <200mm	Aug 30, 2006	105	105-105	
	Jul 07, 2008	143	143-143	
	May 10, 2016	227	203-251	
Brown Trout >=200mm	Aug 30, 2006	7	7-7	BR2
	Jul 07, 2008	23	23-23	BR1
	May 10, 2016	50	50-52	BR1

Site 54

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 30, 2006	1	1-1	
	May 18, 2016	2	2-4	
Brown Trout <200mm	Aug 30, 2006	100	100-100	
	Jul 03, 2008	65	65-65	
	May 18, 2016	55	44-73	
Brown Trout >=200mm	Aug 30, 2006	10	10-10	BR2
	Jul 03, 2008	10	10-10	BR2
	May 18, 2016	17	16-21	BR1

Site 68

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 18, 2016	31	31-31	
Brown Trout <200mm	May 18, 2016	5	5-5	

Site 77

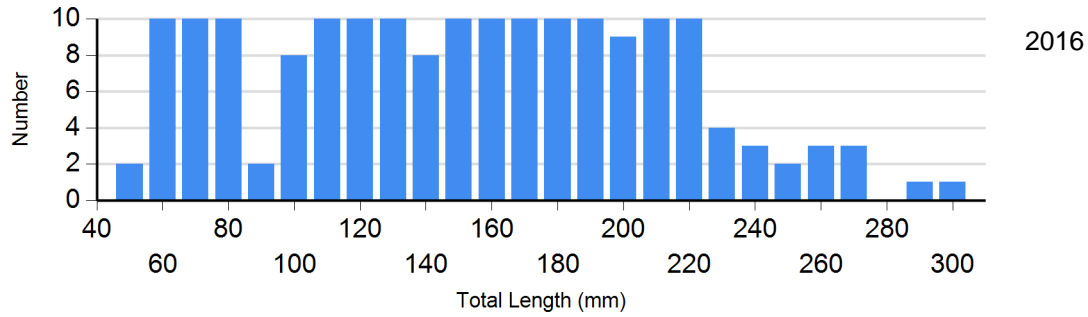
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 03, 2008	80	80-80	
	May 18, 2016	65	62-71	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

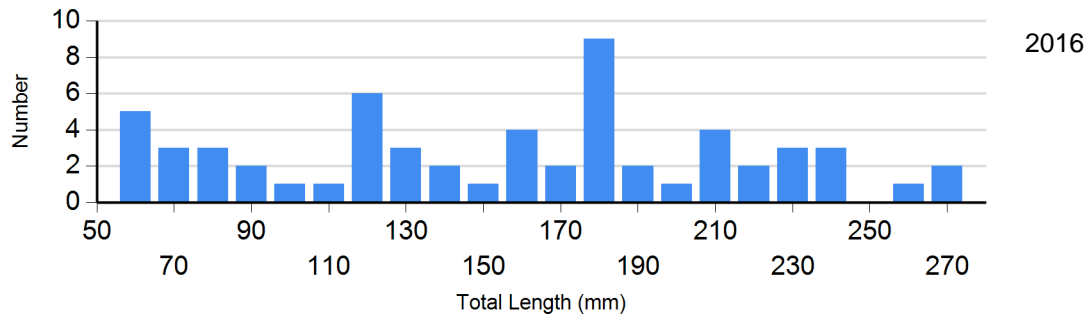
Site: 37

Species: Brown Trout



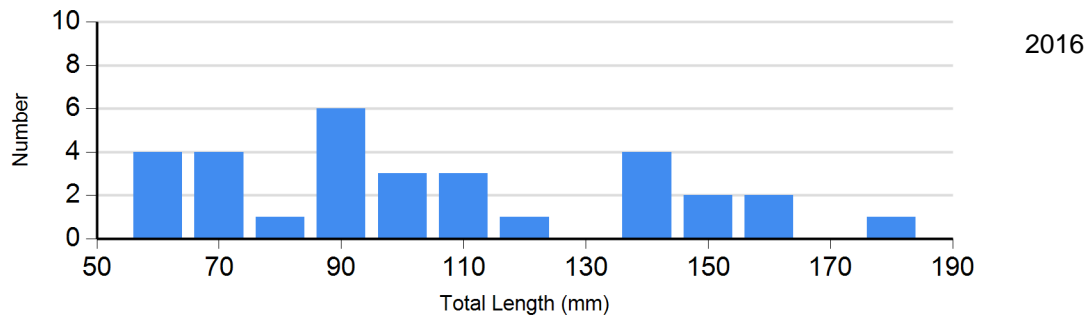
Site: 54

Species: Brown Trout

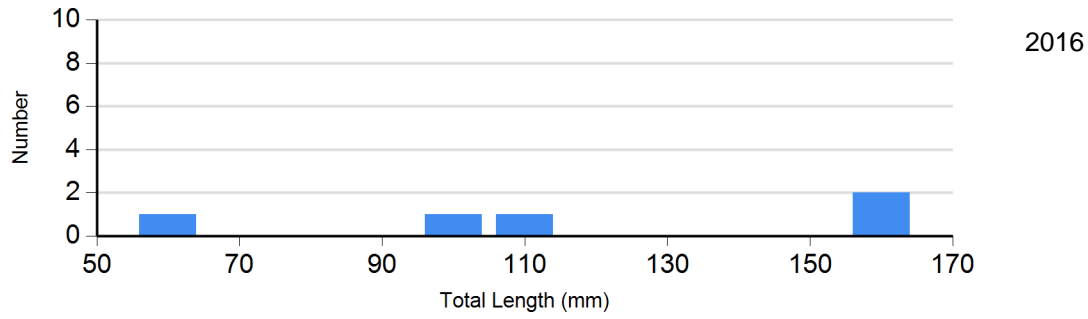


Site: 68

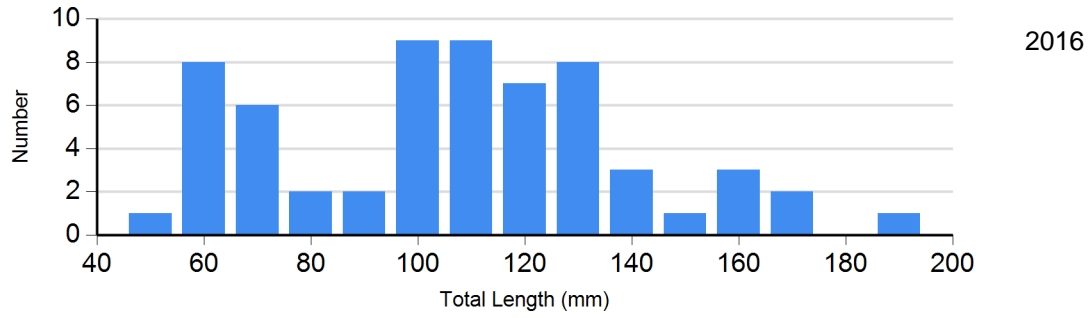
Species: Brook Trout



Site: 68
Species: Brown Trout



Site: 77
Species: Brook Trout



Site: 77
Species: Brown Trout

