

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Little Spearfish Creek, Lawrence County
09-0017-00
2019

Table 1. Population and Biomass Estimates for Little Spearfish Creek

Site Number: 3	Date Sampled: 07/09/2019	Conductivity (umhos/cm): 452
Site Midpoint (Latitude, Longitude): 44.35119883, -103.93106834	Site Length (m): 100	pH: 8.8
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.9	Water Temperature (C): 13.6
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	79	86	95	79	1758	60	860	712	53.14	1384	131.9	33.8
Brown Trout	>=200mm	89	91	95	89	1861	282	910	754	251.41	1464	240.5	151.3
Brown Trout	All	168	176	185	168	3599	346	1760	1457	308.74	2832	189.4	96.1

Site Number: 10	Date Sampled: 07/18/2019	Conductivity (umhos/cm): 463
Site Midpoint (Latitude, Longitude): 44.35058284, -103.93798349	Site Length (m): 100	pH: 0.0
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 6.8	Water Temperature (C): 51.8
Stream Classification: BK0, BR1	Number of Pass: 3	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	1	1	5	1	15	0	10	6	0.13	16	101.0	10.0
Brook Trout	All	1	1	5	1	15	0	10	6	0.13	16	101.0	10.0
Brown Trout	<200mm	346	379	399	359	5551	154	3790	2248	137.21	6098	128.9	27.7
Brown Trout	>=200mm	97	100	105	97	1465	188	1000	593	167.87	1609	248.6	128.4
Brown Trout	All	443	477	496	458	6987	347	4770	2830	310.21	7675	155.1	49.7

Site Number: 21
Site Midpoint (Latitude, Longitude): 44.35016619, -103.94511340
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BR1

Date Sampled: 07/18/2019 **Conductivity (umhos/cm):** 443
Site Length (m): 100 **pH:** 0.0
Mean Width (m): 5.0 **Water Temperature (C):** 0.0
Number of Pass: 3 **Voltage:** 260

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	216	226	236	216	4545	167	2260	1841	149.21	3636	138.5	36.8
Brown Trout	>=200mm	131	131	133	131	2634	358	1310	1067	319.57	2108	230.4	135.9
Brown Trout	All	347	356	364	348	7159	531	3560	2899	474.16	5728	173.2	74.2

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 Little Spearfish Creek, 2009-2019

Site 3

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	May 25, 2016	160	119-201	
	Jul 09, 2019	86	79-95	
Brown Trout >=200mm	May 25, 2016	115	109-123	BR1
	Jul 09, 2019	91	89-95	BR1

Site 10

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 18, 2019	1	1-5	
Brown Trout <200mm	Jul 18, 2019	379	359-399	

Brown Trout >=200mm

Jul 18, 2019

100

97-105

BR1

Site 21

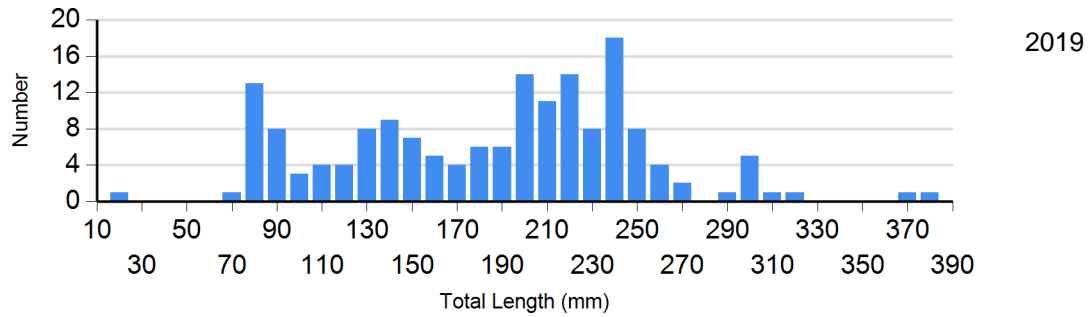
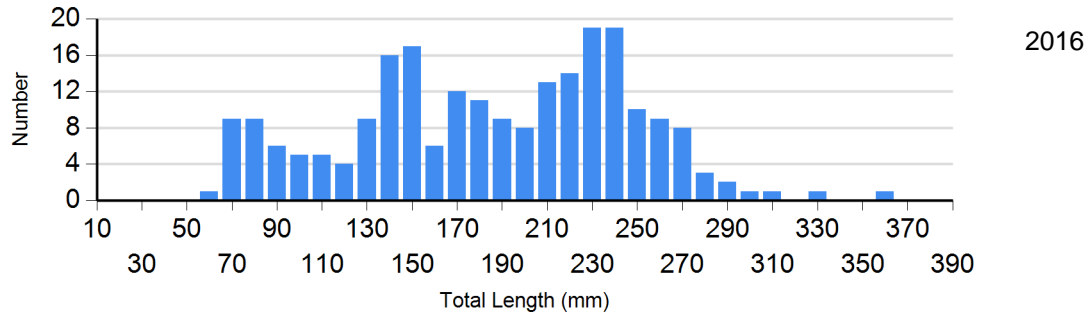
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jul 18, 2019	226	216-236	
Brown Trout >=200mm	Jul 18, 2019	131	131-133	BR1

Length Frequency Distribution

Length frequency histogram of species sampled by year.

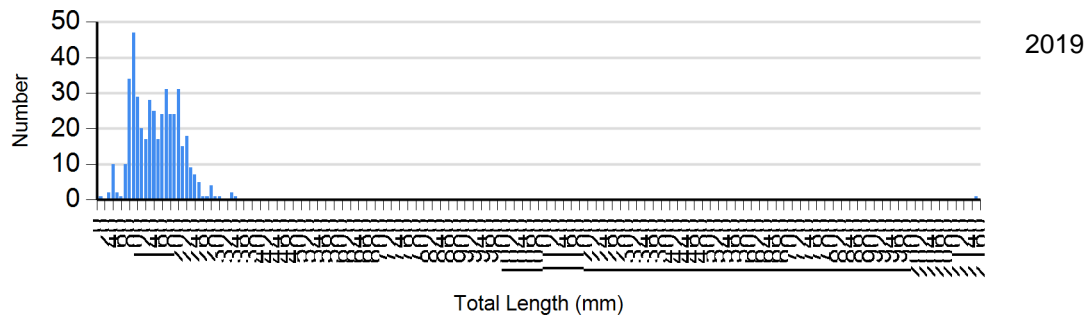
Site: 3

Species: Brown Trout

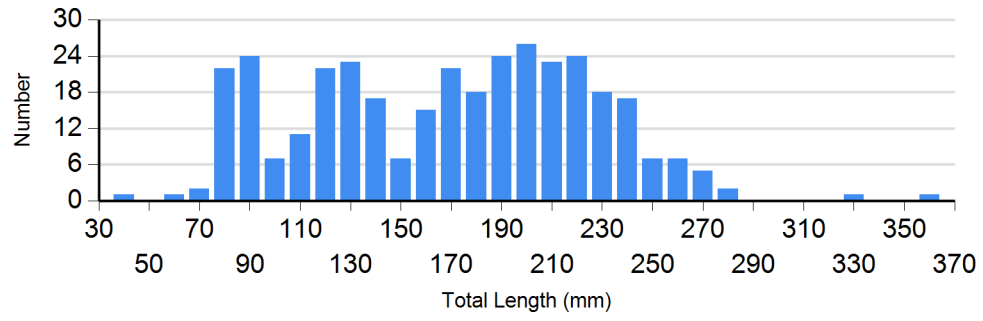


Site: 10

Species: Brown Trout



Site: 21
Species: Brown Trout



2019