

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Spearfish Creek, Lawrence County
09-0021-00
1988

Table 1. Population and Biomass Estimates for Spearfish Creek

Site Number: 190	Date Sampled: 11/02/1988	Conductivity (umhos/cm): 220
Site Midpoint (Latitude, Longitude): 44.48929462, -103.86435821	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 0.0	Water Temperature (C): 8.0
Stream Classification: BR3	Number of Pass: 2	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)
Brown Trout	<200mm	143	175	206	144	0	0	1750	0	0.00	2816	119.7	55.1
Brown Trout	>=200mm	68	110	179	68	0	0	1100	0	0.00	1770	253.5	179.1
Brown Trout	All	211	280	336	224	0	0	2800	0	0.00	4505	162.8	118.9
Hatchery Brown Trout	<200mm	1	1	1	1	0	0	10	0	0.00	16	170.0	65.0
Hatchery Brown Trout	>=200mm	12	13	18	12	0	0	130	0	0.00	209	247.5	199.8
Hatchery Brown Trout	All	13	14	19	13	0	0	140	0	0.00	225	241.5	189.4

Site Number: 205	Date Sampled: 11/02/1988	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.47880965, -103.85669154	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 0.0	Water Temperature (C):
Stream Classification: BR3, RB2	Number of Pass: 1	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)
Brown Trout	<200mm	66	66	66	66	0	0	660	0	0.00	1062	144.1	70.3
Brown Trout	>=200mm	56	56	56	56	0	0	560	0	0.00	901	254.1	191.0

Brown Trout	All	122	122	122	122	0	0	1220	0	0.00	1963	194.6	139.9
Hatchery Brown Trout	>=200mm	4	4	4	4	0	0	40	0	0.00	64	270.0	226.8
Hatchery Brown Trout	All	4	4	4	4	0	0	40	0	0.00	64	270.0	226.8
Rainbow Trout	<200mm	4	4	4	4	0	0	40	0	0.00	64	145.0	38.8
Rainbow Trout	>=200mm	3	3	3	3	0	0	30	0	0.00	48	246.7	180.3
Rainbow Trout	All	7	7	7	7	0	0	70	0	0.00	113	188.6	99.4

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 Spearfish Creek, 1978-1988

Site 190

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jul 29, 1987	7	7-7	
	Nov 02, 1988	175	144-206	
Brown Trout >=200mm	Jul 29, 1987	26	26-26	BR3
	Nov 02, 1988	110	68-179	BR3
Hatchery Brown Trout <200mm	Nov 02, 1988	1	1-1	
Hatchery Brown Trout >=200mm	Nov 02, 1988	13	12-18	
Rainbow Trout <200mm	Jul 29, 1987	1	1-1	

Site 205

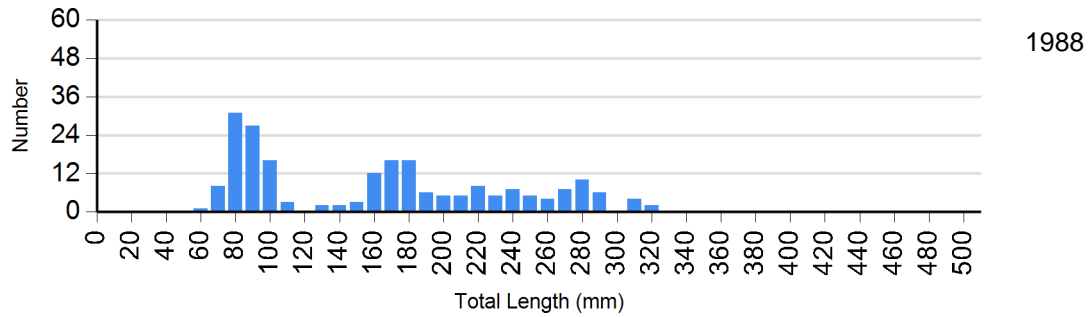
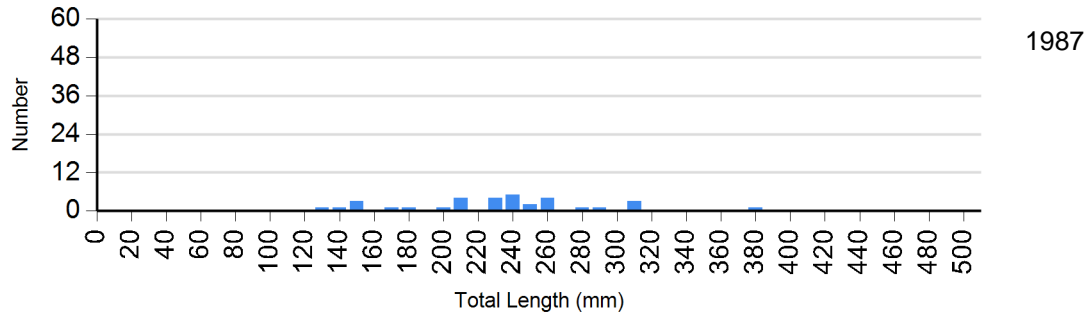
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Nov 02, 1988	66	66-66	
Brown Trout >=200mm	Jul 30, 1987	3	3-3	BR3
	Nov 02, 1988	56	56-56	BR3
Hatchery Brown Trout >=200mm	Nov 02, 1988	4	4-4	
Rainbow Trout <200mm	Nov 02, 1988	4	4-4	
Rainbow Trout >=200mm	Nov 02, 1988	3	3-3	RB2

Length Frequency Distribution

Length frequency histogram of species sampled by year.

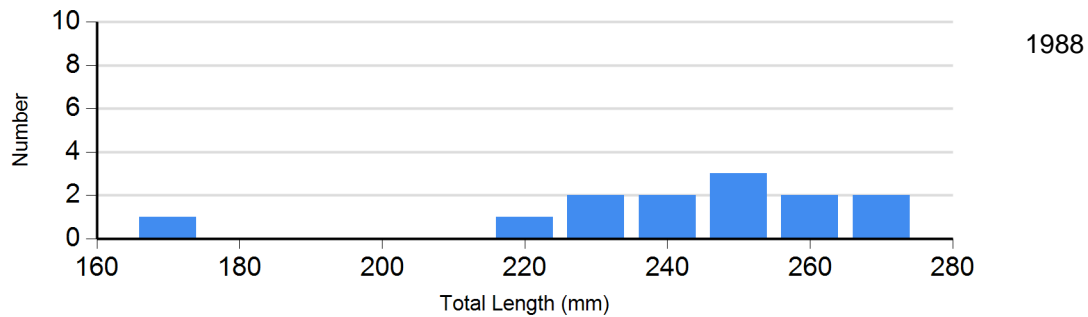
Site: 190

Species: Brown Trout

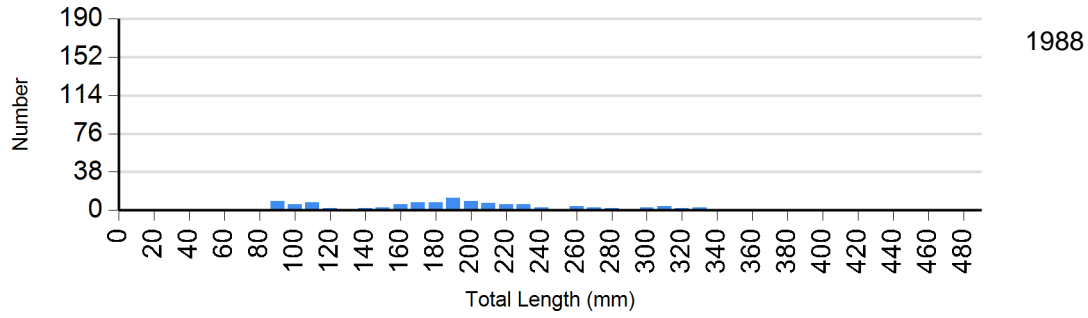


Site: 190

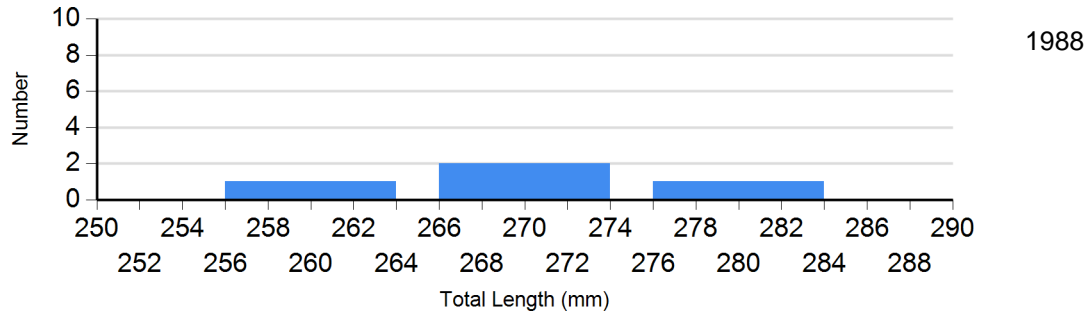
Species: Hatchery Brown Trout



Site: 205
Species: Brown Trout



Site: 205
Species: Hatchery Brown Trout



Site: 205
Species: Rainbow Trout

