

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Spearfish Creek, Lawrence County
09-0021-00
1990

Table 1. Population and Biomass Estimates for Spearfish Creek

Site Number: 174

Site Midpoint (Latitude, Longitude): 44.50196266, -103.86743501

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR3

Date Sampled: 09/13/1990

Site Length (m): 100

Mean Width (m): 0.0

Number of Pass: 2

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)
Brown Trout	<200mm	75	77	81	75	0	0	770	0	0.00	1239	142.5	56.7
Brown Trout	>=200mm	137	141	147	137	0	0	1410	0	0.00	2269	287.6	285.3
Brown Trout	All	212	218	225	212	0	0	2180	0	0.00	3508	236.3	218.0
Hatchery Brown Trout	>=200mm	10	10	10	10	0	0	100	0	0.00	161	269.0	215.8
Hatchery Brown Trout	All	10	10	10	10	0	0	100	0	0.00	161	269.0	215.8

Site Number: 190

Site Midpoint (Latitude, Longitude): 44.48929462, -103.86435821

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR3

Date Sampled: 07/31/1990

Site Length (m): 100

Mean Width (m): 0.0

Number of Pass: 2

Conductivity (umhos/cm):

pH:

Water Temperature (C):

Voltage:

305

14.0

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	149	226	307	149	0	0	2260	0	0.00	3636	151.0	47.6
Brown Trout	>=200mm	186	200	213	187	0	0	2000	0	0.00	3218	241.8	174.7
Brown Trout	All	335	397	436	358	0	0	3970	0	0.00	6388	201.4	139.2

Site Number: 205

Site Midpoint (Latitude, Longitude): 44.47880965, -103.85669154

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR3, RB2

Date Sampled: 07/31/1990

Site Length (m): 100

Mean Width (m): 0.0

Number of Pass: 2

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)
Brown Trout	<200mm	78	103	137	78	0	0	1030	0	0.00	1657	146.0	55.0
Brown Trout	>=200mm	102	108	116	102	0	0	1080	0	0.00	1738	269.7	287.7
Brown Trout	All	184	215	242	188	0	0	2150	0	0.00	3459	216.1	260.8
Rainbow Trout	>=200mm	12	15	27	12	0	0	150	0	0.00	241	304.2	362.2
Rainbow Trout	All	12	15	27	12	0	0	150	0	0.00	241	304.2	362.2

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 Spearfish Creek, 1980-1990

Site 174

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jul 30, 1987	15	15-15	
	Sep 13, 1990	77	75-81	
Brown Trout >=200mm	Jul 30, 1987	54	54-54	BR3
	Sep 13, 1990	141	137-147	BR3
Hatchery Brown Trout >=200mm	Sep 13, 1990	10	10-10	

Site 190

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jul 29, 1987	7	7-7	

Brown Trout <200mm	Nov 02, 1988	175	144-206	
	Jul 31, 1990	226	149-307	
Brown Trout >=200mm	Jul 29, 1987	26	26-26	BR3
	Nov 02, 1988	110	68-179	BR3
	Jul 31, 1990	200	187-213	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	
	Jul 31, 1990	103	78-137	
Brown Trout >=200mm	Jul 30, 1987	3	3-3	BR3
	Nov 02, 1988	56	56-56	BR3
	Jul 31, 1990	108	102-116	BR3
Hatchery Brown Trout >=200mm	Nov 02, 1988	4	4-4	

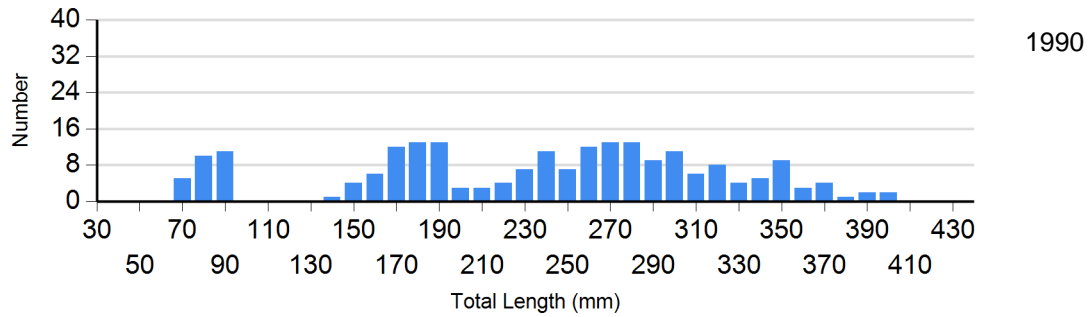
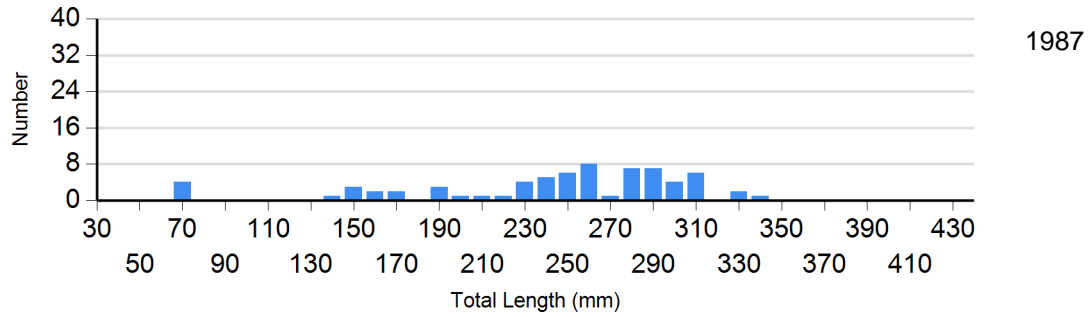
Rainbow Trout <200mm	Nov 02, 1988	4	4-4	
Rainbow Trout >=200mm	Nov 02, 1988	3	3-3	RB2
	Jul 31, 1990	15	12-27	RB2

Length Frequency Distribution

Length frequency histogram of species sampled by year.

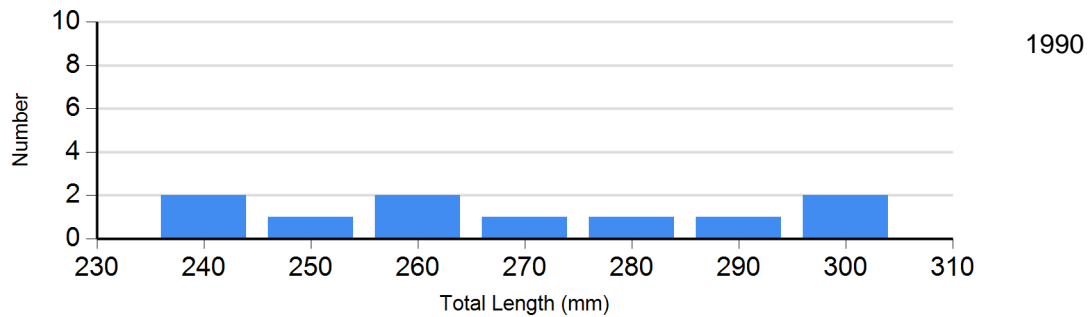
Site: 174

Species: Brown Trout

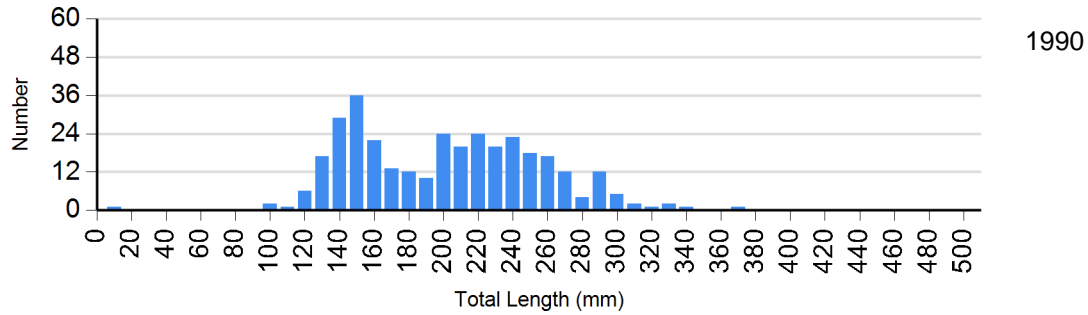
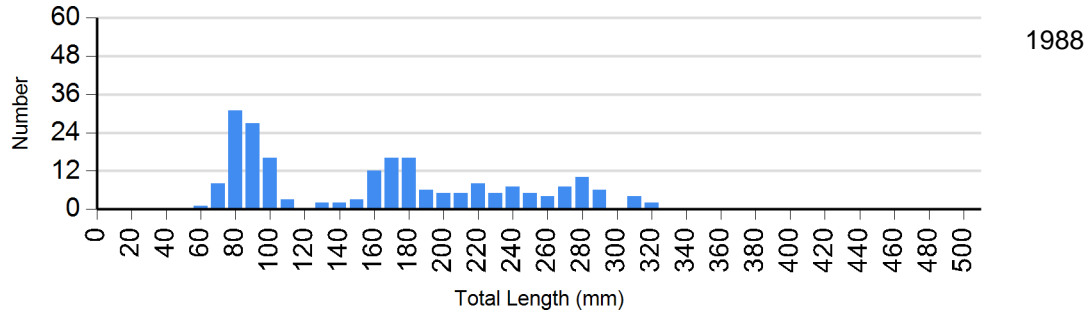
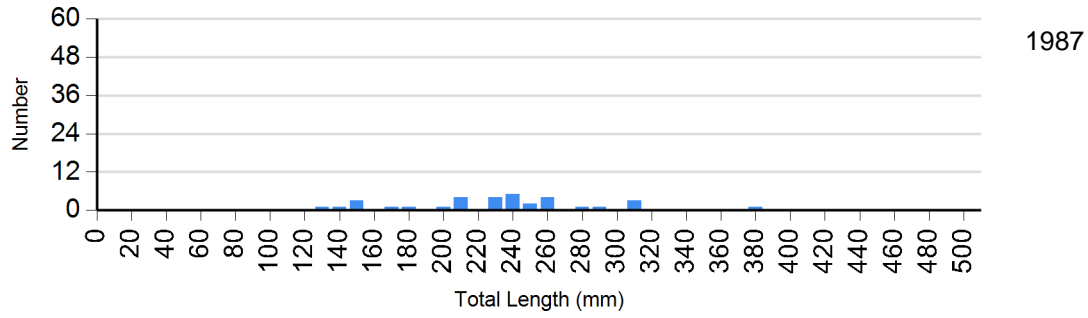


Site: 174

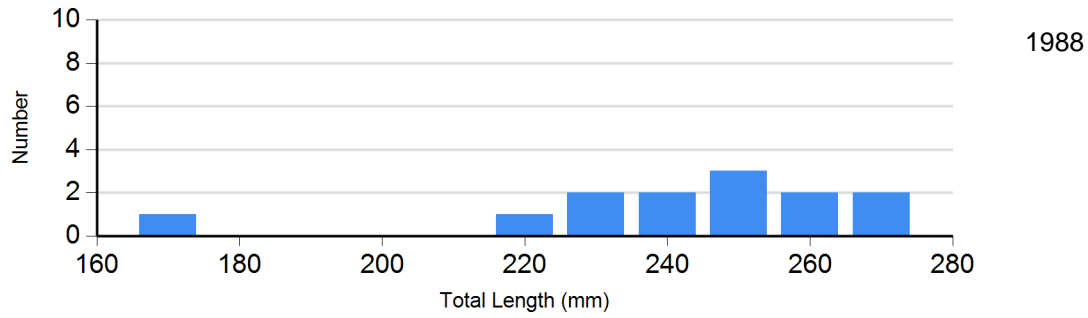
Species: Hatchery Brown Trout



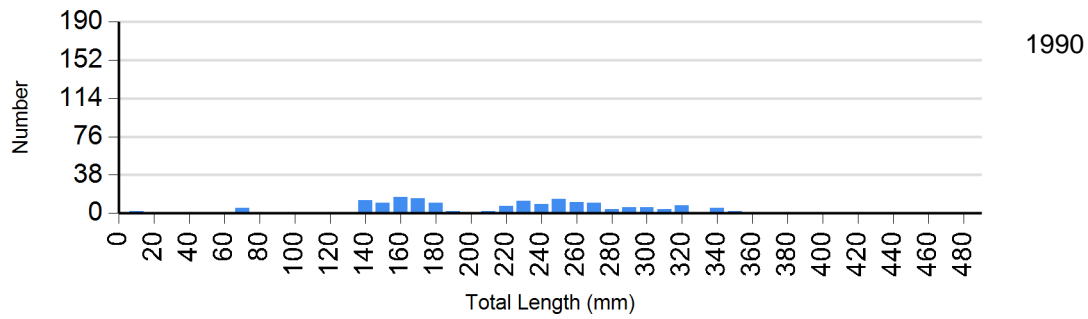
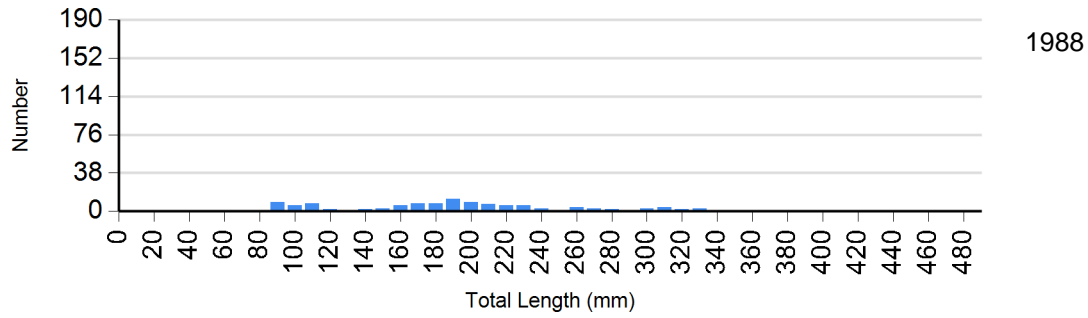
Site: 190
Species: Brown Trout



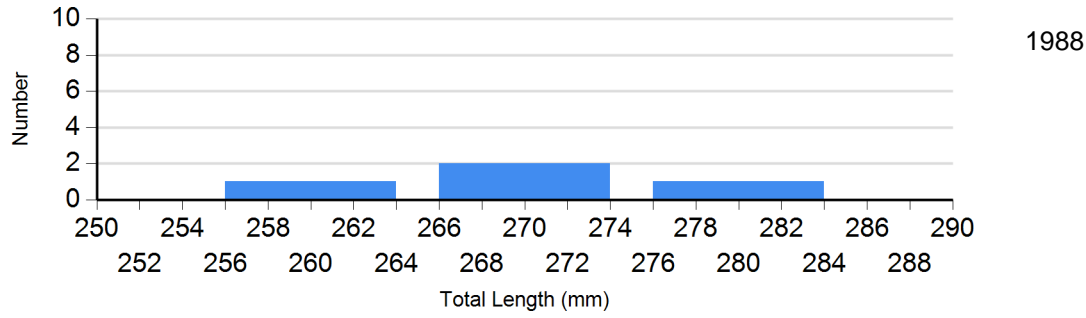
Site: 190
Species: Hatchery Brown Trout



Site: 205
Species: Brown Trout



Site: 205
Species: Hatchery Brown Trout



Site: 205
Species: Rainbow Trout

