

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**East Spearfish Creek (Hanna), Lawrence County**  
**09-0016-00**  
**1988**

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

**Site Number:** 37  
**Site Midpoint (Latitude, Longitude):** 44.27474914, -103.85439849  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BK0, BR3, RB0

**Date Sampled:** 09/22/1988  
**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)
Brook Trout	<200mm	1	1	1	1	0	0	10	0	0.00	16	150.0	37.0
Brook Trout	All	1	1	1	1	0	0	10	0	0.00	16	150.0	37.0
Brown Trout	<200mm	177	187	198	177	0	0	1870	0	0.00	3009	135.4	37.9
Brown Trout	>=200mm	85	86	89	85	0	0	860	0	0.00	1384	220.5	125.5
Brown Trout	All	262	273	283	263	0	0	2730	0	0.00	4393	163.0	67.7
Hatchery Brown Trout	>=200mm	2	2	2	2	0	0	20	0	0.00	32	220.0	123.0
Hatchery Brown Trout	All	2	2	2	2	0	0	20	0	0.00	32	220.0	123.0
Rainbow Trout	<200mm	1	1	1	1	0	0	10	0	0.00	16	180.0	51.0
Rainbow Trout	All	1	1	1	1	0	0	10	0	0.00	16	180.0	51.0

**Site Number:** 41  
**Site Midpoint (Latitude, Longitude):** 44.27433541, -103.85066615  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BR3

**Date Sampled:** 09/21/1988  
**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	89	99	112	89	0	0	990	0	0.00	1593	108.8	30.0
Brown Trout	>=200mm	78	80	84	78	0	0	800	0	0.00	1287	223.7	126.8
Brown Trout	All	167	178	190	167	0	0	1780	0	0.00	2864	162.5	82.1

Site Number: 54

Site Midpoint (Latitude, Longitude): 44.26528884, -103.84758730

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0, BR3

Date Sampled: 09/21/1988

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)
Brook Trout	<200mm	5	5	5	5	0	0	50	0	0.00	80	142.0	31.4
Brook Trout	All	5	5	5	5	0	0	50	0	0.00	80	142.0	31.4
Brown Trout	<200mm	75	86	101	75	0	0	860	0	0.00	1384	113.6	24.3
Brown Trout	>=200mm	94	95	98	94	0	0	950	0	0.00	1529	222.4	124.9
Brown Trout	All	169	177	186	169	0	0	1770	0	0.00	2848	174.1	80.2

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	
<b>Class BR1</b>	Number of wild Brown Trout exceeds 150 per acre
<b>Class BR2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BR3</b>	Number of wild Brown Trout is less than 25 per acre
<b>Class BK1</b>	Number of wild Brook Trout exceeds 150 per acre
<b>Class BK2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BK3</b>	Number of wild Brook Trout is less than 25 per acre
<b>Class RB1</b>	Number of wild Rainbow Trout exceeds 25 per acre
<b>Class RB2</b>	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on East Spearfish Creek (Hanna), 1978-1988

**Site 37**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 22, 1988	1	1-1	
Brown Trout <200mm	Sep 22, 1988	187	177-198	
Brown Trout >=200mm	Sep 22, 1988	86	85-89	BR3
Hatchery Brown Trout >=200mm	Sep 22, 1988	2	2-2	
Rainbow Trout <200mm	Sep 22, 1988	1	1-1	

**Site 41**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Sep 21, 1988	99	89-112	

Brown Trout >=200mm

Sep 21, 1988

80

78-84

BR3

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**Site 54**

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<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brook Trout <200mm	Sep 21, 1988	5	5-5	
Brown Trout <200mm	Sep 21, 1988	86	75-101	
Brown Trout >=200mm	Sep 21, 1988	95	94-98	BR3

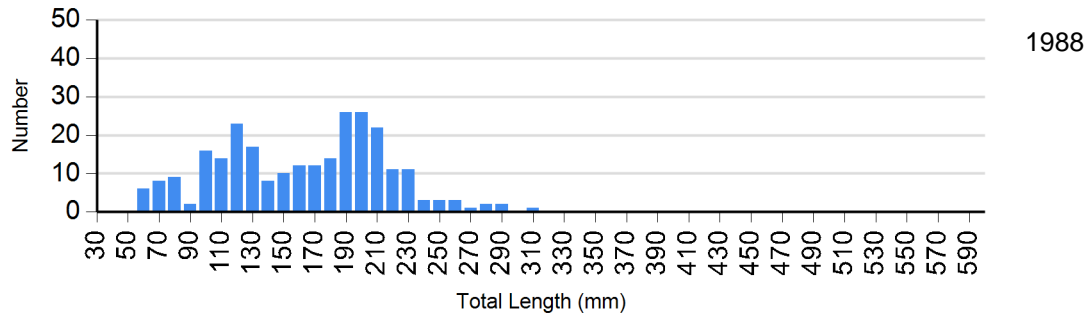
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## Length Frequency Distribution

Length frequency histogram of species sampled by year.

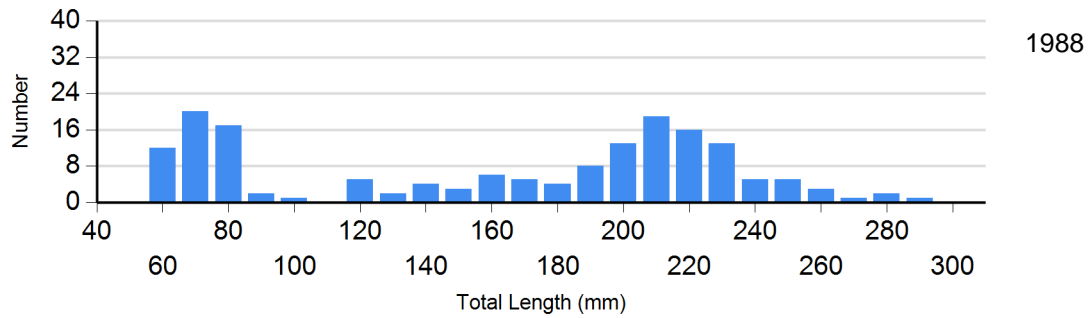
**Site: 37**

**Species: Brown Trout**



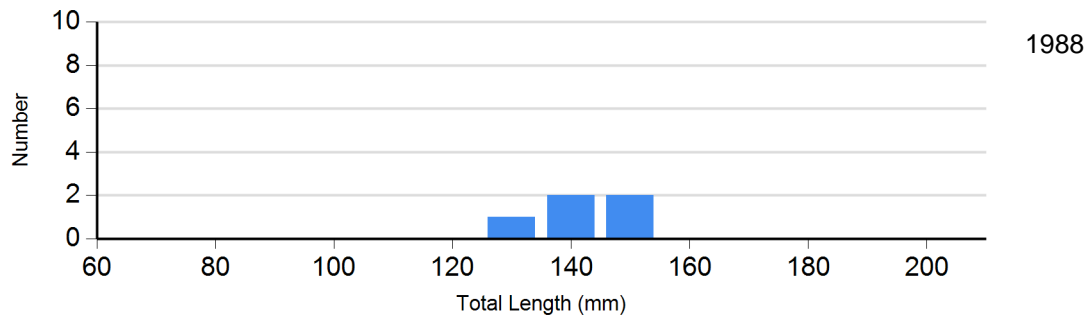
**Site: 41**

**Species: Brown Trout**



**Site: 54**

**Species: Brook Trout**



Site: 54  
Species: Brown Trout

