

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Bear Butte Creek, Meade County**  
**49-0023-00**  
**1992**

Table 1. Population and Biomass Estimates for Bear Butte Creek

**Site Number:** 951 **Date Sampled:** 09/09/1992 **Conductivity (umhos/cm):** 275  
**Site Midpoint (Latitude, Longitude):** 44.33467177, -103.62481850 **Site Length (m):** 100 **pH:**  
**Survey Completed by:** South Dakota Game, Fish and Parks **Mean Width (m):** 2.8 **Water Temperature (C):** 11.0  
**Stream Classification:** BK0 **Number of Pass:** 3 **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	6	5	181	1	50	73	0.65	80	75.6	4.0
Brook Trout	All	5	5	6	5	181	1	50	73	0.65	80	75.6	4.0
Longnose Dace	All	1	1	1	1	36	0	10	15	0.06	16	66.0	2.0
Mountain Sucker	All	18	19	23	18	688	4	190	279	3.79	306	60.4	6.2

**Site Number:** 955 **Date Sampled:** 09/09/1992 **Conductivity (umhos/cm):** 280  
**Site Midpoint (Latitude, Longitude):** 44.33484568, -103.62910289 **Site Length (m):** 100 **pH:**  
**Survey Completed by:** South Dakota Game, Fish and Parks **Mean Width (m):** 3.5 **Water Temperature (C):** 14.0  
**Stream Classification:** BK3, RB1 **Number of Pass:** 3 **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	35	35	37	35	1006	4	350	407	3.64	563	74.5	4.1
Brook Trout	>=200mm	2	2	2	2	57	8	20	23	6.77	32	232.0	132.0
Brook Trout	All	37	37	39	37	1063	12	370	431	10.42	595	83.0	11.0
Longnose Dace	All	391	521	593	449	14971	37	5210	6063	33.30	8383	59.6	2.5

Mountain Sucker	All	77	82	90	77	2356	49	820	954	43.59	1319	112.0	20.7
Rainbow Trout	>=200mm	5	5	5	5	144	26	50	58	22.78	80	261.6	177.6
Rainbow Trout	All	5	5	5	5	144	26	50	58	22.78	80	261.6	177.6
White Sucker	All	10	10	12	10	287	7	100	116	6.29	161	120.2	24.5

Site Number: 986

Site Midpoint (Latitude, Longitude): 44.32485945, -103.65187821

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0

Date Sampled: 09/10/1992

Site Length (m): 100

Mean Width (m): 2.9

Number of Pass: 3

Conductivity (umhos/cm): 255

pH:

Water Temperature (C): 13.0

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	6	6	6	6	210	1	60	85	0.78	97	75.2	4.2
Brook Trout	All	6	6	6	6	210	1	60	85	0.78	97	75.2	4.2
Longnose Dace	All	253	537	818	256	18776	45	5370	7604	40.24	8640	59.4	2.4
Mountain Sucker	All	19	33	77	19	1154	9	330	467	7.92	531	76.1	7.7
White Sucker	All	1	1	5	1	35	0	10	14	0.09	16	67.0	3.0

Site Number: 988

Site Midpoint (Latitude, Longitude): 44.32359378, -103.65026058

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0, RB0

Date Sampled: 09/10/1992

Site Length (m): 100

Mean Width (m): 3.1

Number of Pass: 3

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	12	14	21	12	449	3	140	182	2.70	225	86.4	6.7
Brook Trout	All	12	14	21	12	449	3	140	182	2.70	225	86.4	6.7

Rainbow Trout	<200mm	2	2	2	2	64	0	20	26	0.29	32	77.5	5.0
Rainbow Trout	All	2	2	2	2	64	0	20	26	0.29	32	77.5	5.0
White Sucker	All	1	1	1	1	32	1	10	13	0.63	16	132.0	22.0

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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 Bear Butte Creek, 1982-1992

**Site 951**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 09, 1992	5	5-6	
Longnose Dace	Sep 09, 1992	1	1-1	
Mountain Sucker	Sep 09, 1992	19	18-23	

**Site 955**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 09, 1992	35	35-37	
Brook Trout >=200mm	Sep 09, 1992	2	2-2	BK3
Longnose Dace	Sep 09, 1992	521	449-593	

Mountain Sucker	Sep 09, 1992	82	77-90	
Rainbow Trout >=200mm	Sep 09, 1992	5	5-5	RB1
White Sucker	Sep 09, 1992	10	10-12	

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**Site 986**

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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 10, 1992	6	6-6	
Longnose Dace	Sep 10, 1992	537	256-818	
Mountain Sucker	Sep 10, 1992	33	19-77	
White Sucker	Sep 10, 1992	1	1-5	

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**Site 988**

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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 10, 1992	14	12-21	
Rainbow Trout <200mm	Sep 10, 1992	2	2-2	
White Sucker	Sep 10, 1992	1	1-1	

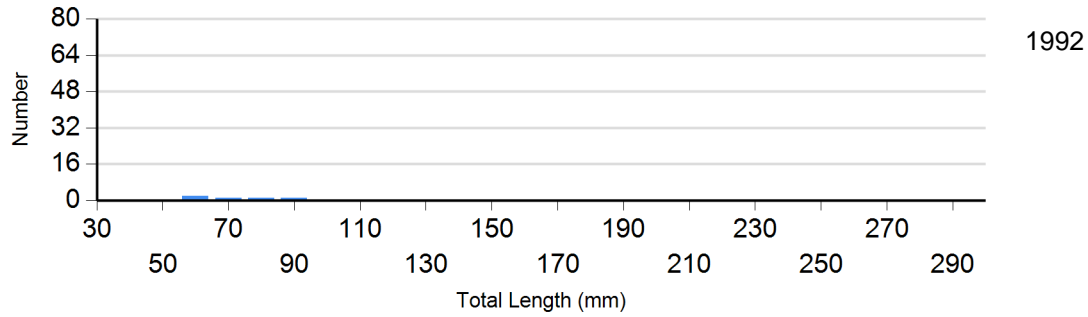
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## Length Frequency Distribution

Length frequency histogram of species sampled by year.

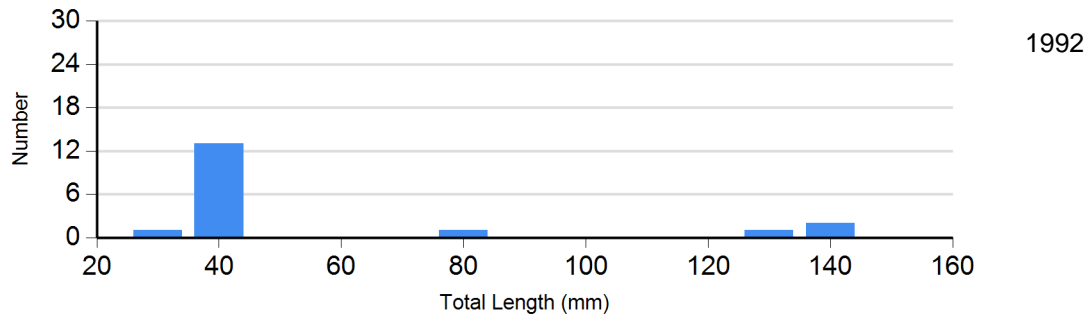
**Site:** 951

**Species:** Brook Trout



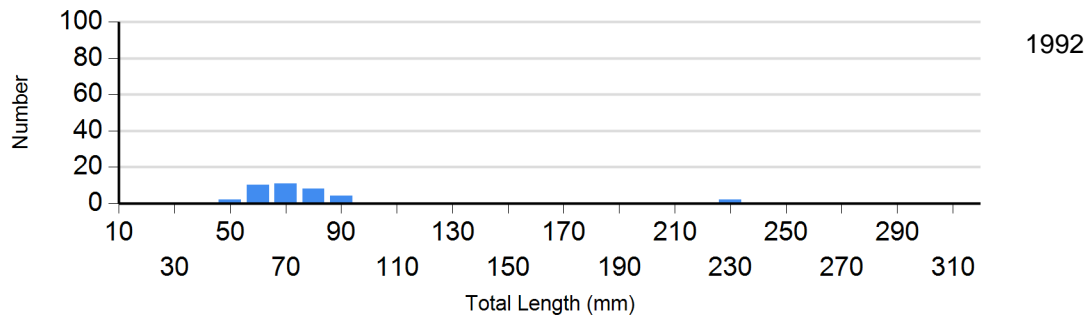
**Site:** 951

**Species:** Mountain Sucker

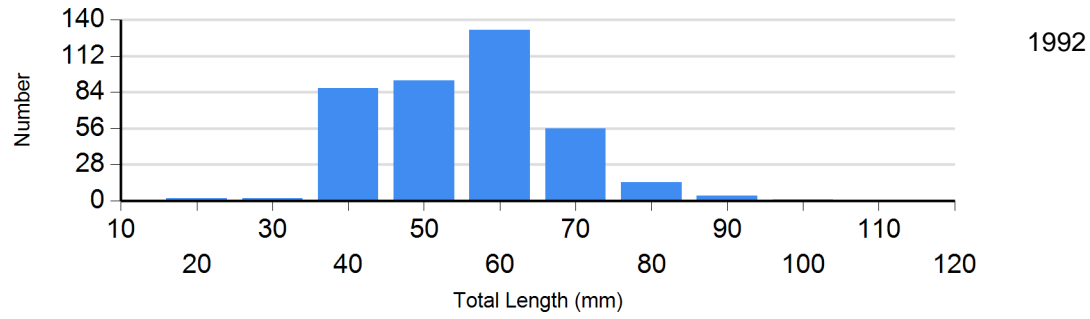


**Site:** 955

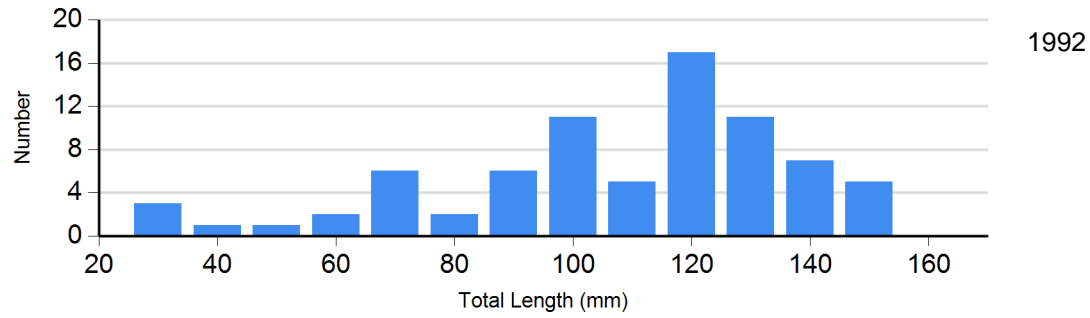
**Species:** Brook Trout



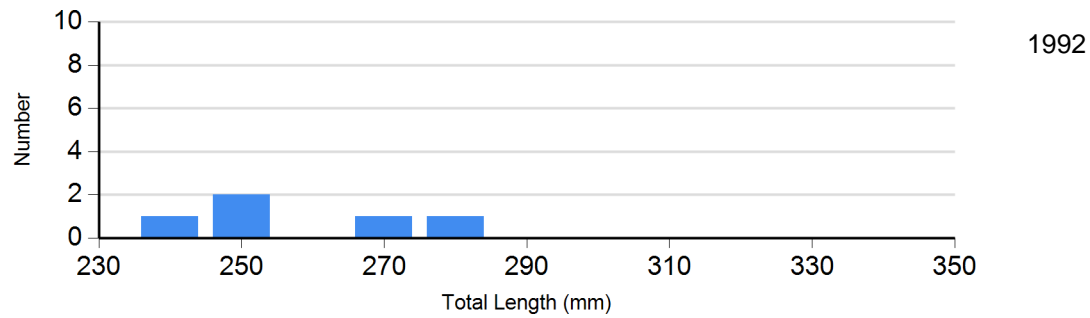
**Site:** 955  
**Species:** Longnose Dace



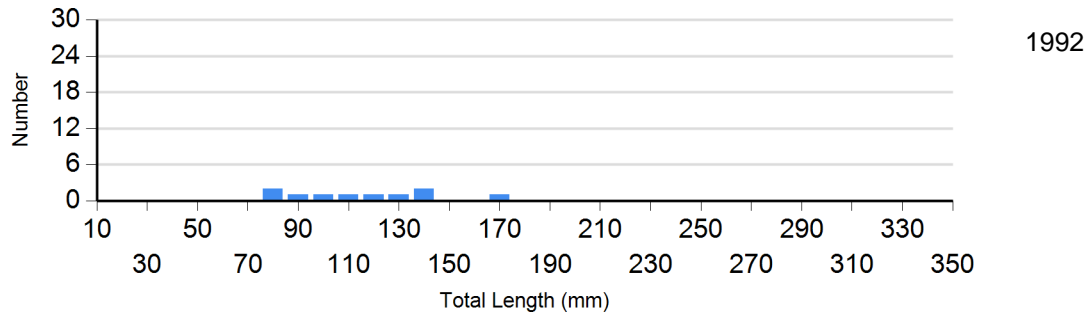
**Site:** 955  
**Species:** Mountain Sucker



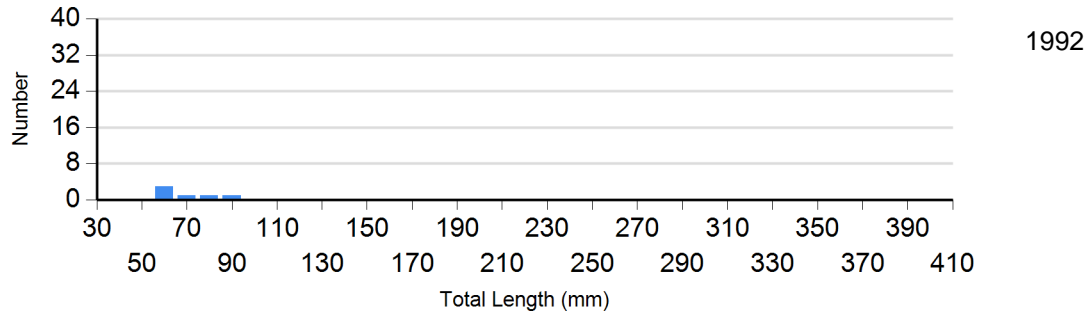
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**Species:** Rainbow Trout



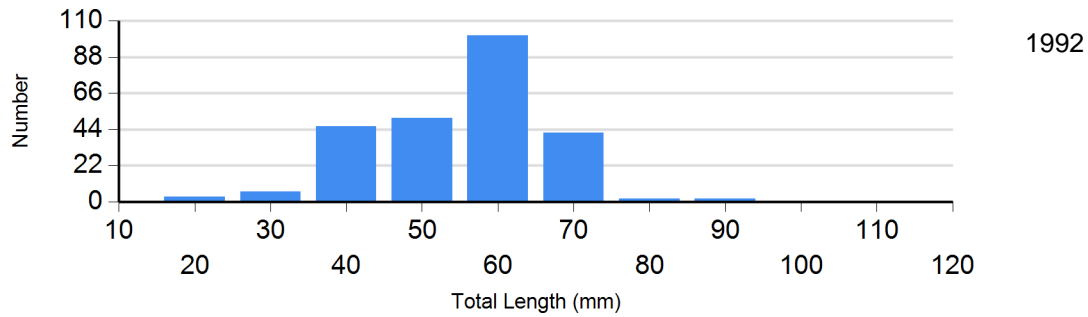
**Site:** 955  
**Species:** White Sucker



**Site:** 986  
**Species:** Brook Trout

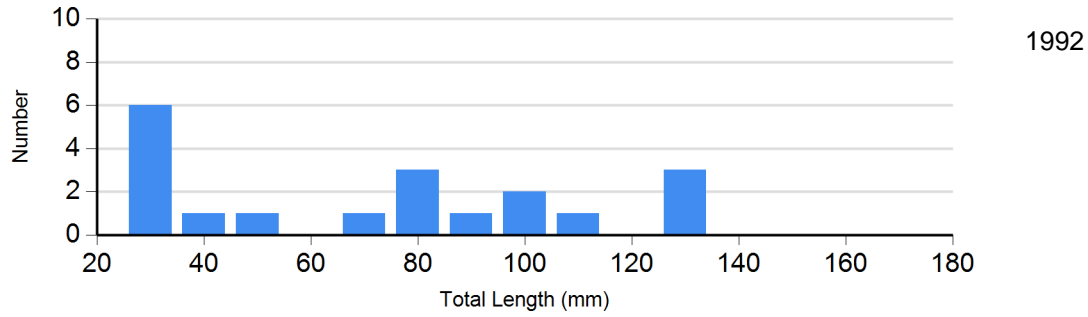


**Site:** 986  
**Species:** Longnose Dace

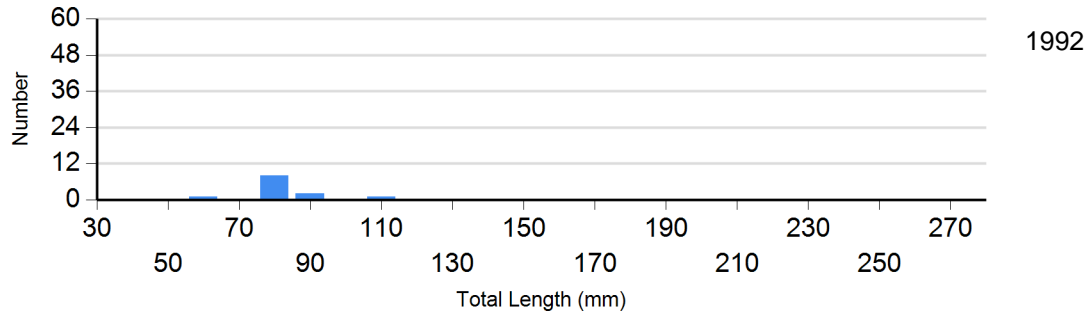




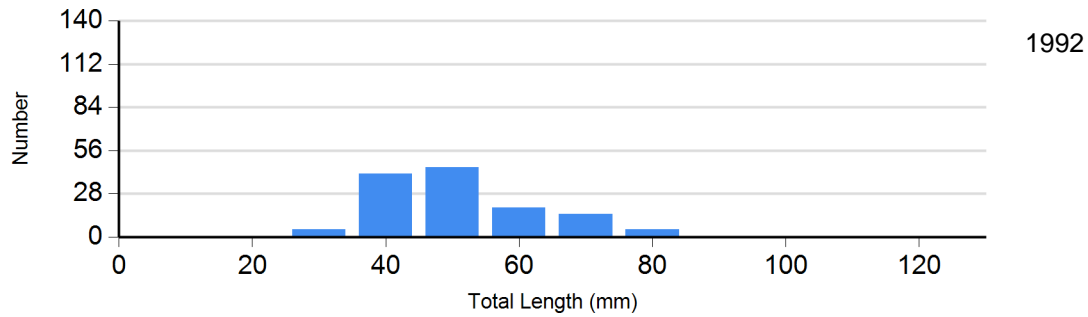
**Site:** 986  
**Species:** Mountain Sucker



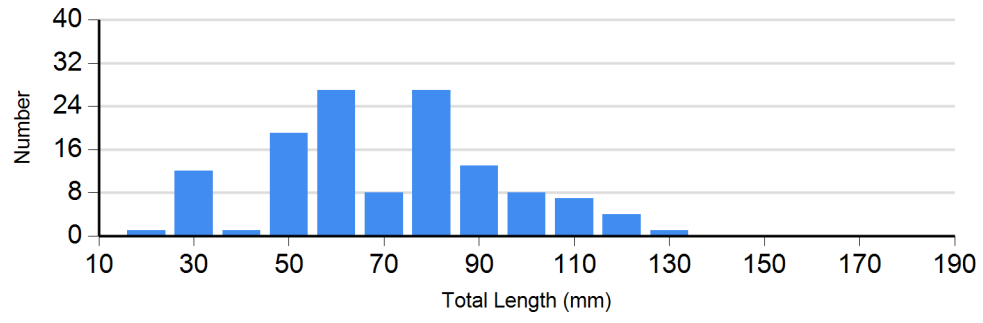
**Site:** 988  
**Species:** Brook Trout



**Site:** 988  
**Species:** Longnose Dace



Site: 988  
Species: Mountain Sucker



1992