

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Boxelder Creek, Pennington County**  
**09-0065-00**  
**1999**

Table 1. Population and Biomass Estimates for Boxelder Creek

<b>Site Number:</b> 1712	<b>Date Sampled:</b> 07/29/1999	<b>Conductivity (umhos/cm):</b> 322
<b>Site Midpoint (Latitude, Longitude):</b> 44.12644507, -103.32802797	<b>Site Length (m):</b> 100	<b>pH:</b> 8.7
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 7.5	<b>Water Temperature (C):</b> 18.3
<b>Stream Classification:</b> BK3, BR0	<b>Number of Pass:</b> 3	<b>Voltage:</b> 350

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	75	231	636	75	3064	35	2310	1241	31.44	3717	108.3	11.5
Brook Trout	>=200mm	1	1	1	1	13	3	10	5	2.53	16	262.0	214.0
Brook Trout	All	77	195	446	77	2586	37	1950	1047	32.69	3138	110.4	14.2
Brown Trout	<200mm	2	2	2	2	27	0	20	11	0.12	32	88.5	5.0
Brown Trout	All	2	2	2	2	27	0	20	11	0.12	32	88.5	5.0
Creek Chub	All	10	10	11	10	133	1	100	54	0.79	161	70.0	6.7
Longnose Dace	All	1552	1551	1603	1552	20570	93	15510	8331	82.65	24956	82.9	4.5
Mountain Sucker	All	1	1	5	1	13	0	10	5	0.12	16	103.0	10.0
White Sucker	All	1	1	1	1	13	0	10	5	0.07	16	91.0	6.0

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<b>Site Number:</b> 1811	<b>Date Sampled:</b> 07/20/1999	<b>Conductivity (umhos/cm):</b>
<b>Site Midpoint (Latitude, Longitude):</b> 44.11603815, -103.38229141	<b>Site Length (m):</b> 114	<b>pH:</b> 8.8
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 7.9	<b>Water Temperature (C):</b> 16.6
<b>Stream Classification:</b> BK3, BR2	<b>Number of Pass:</b> 3	<b>Voltage:</b> 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)
Brook Trout	<200mm	17	20	29	17	254	1	175	103	0.96	282	80.9	4.3
Brook Trout	>=200mm	1	1	2	1	13	5	9	5	4.44	14	294.0	392.0
Brook Trout	All	19	23	34	19	292	8	202	118	7.05	325	92.8	27.1
Brown Trout	<200mm	41	40	49	41	508	3	351	206	2.87	565	75.2	6.3
Brown Trout	>=200mm	25	29	39	25	368	118	254	149	105.78	409	288.8	321.9
Brown Trout	All	74	120	187	74	1523	210	1053	617	187.41	1694	156.1	137.8
Creek Chub	All	1	1	5	1	13	0	9	5	0.02	14	78.0	2.0
Hatchery Brown Trout	>=200mm	1	1	2	1	13	8	9	5	7.23	14	402.0	638.0
Hatchery Brown Trout	All	1	1	2	1	13	8	9	5	7.23	14	402.0	638.0
Longnose Dace	All	64	63	78	64	799	3	553	324	2.73	889	79.8	3.8
Mountain Sucker	All	3	3	4	3	38	1	26	15	0.63	42	127.7	18.7
White Sucker	All	16	15	20	16	190	9	132	77	8.01	212	142.4	47.1

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 Boxelder Creek, 1989-1999

**Site 1712**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 29, 1999	231	75-636	
Brook Trout >=200mm	Jul 29, 1999	1	1-1	BK3
Brown Trout <200mm	Jul 29, 1999	2	2-2	
Creek Chub	Jul 29, 1999	10	10-11	
Longnose Dace	Jul 29, 1999	1551	1552-1603	
Mountain Sucker	Jul 29, 1999	1	1-5	
White Sucker	Jul 29, 1999	1	1-1	

**Site 1811**

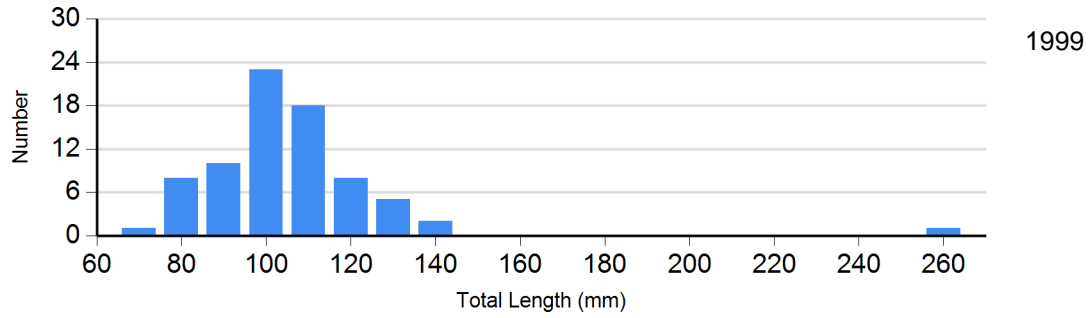
<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brook Trout <200mm	Jul 20, 1999	20	17-29	
Brook Trout >=200mm	Jul 20, 1999	1	1-2	BK3
Brown Trout <200mm	Jul 20, 1999	40	41-49	
Brown Trout >=200mm	Jul 20, 1999	29	25-39	BR2
Creek Chub	Jul 20, 1999	1	1-5	
Hatchery Brown Trout >=200mm	Jul 20, 1999	1	1-2	
Longnose Dace	Jul 20, 1999	63	64-78	
Mountain Sucker	Jul 20, 1999	3	3-4	
White Sucker	Jul 20, 1999	15	16-20	

## Length Frequency Distribution

Length frequency histogram of species sampled by year.

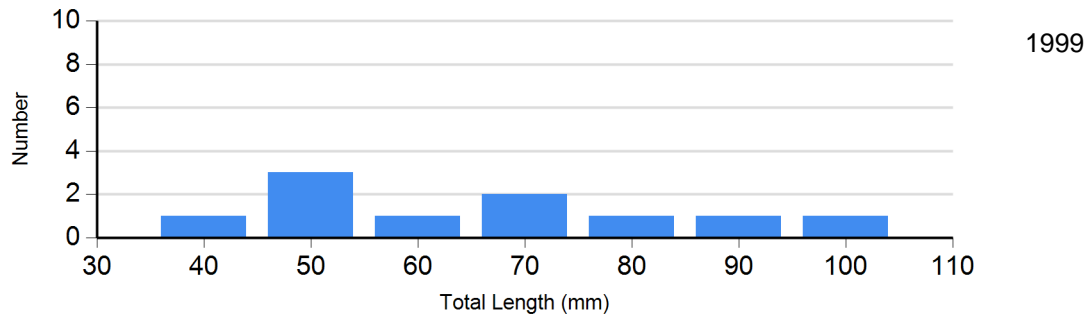
**Site:** 1712

**Species:** Brook Trout



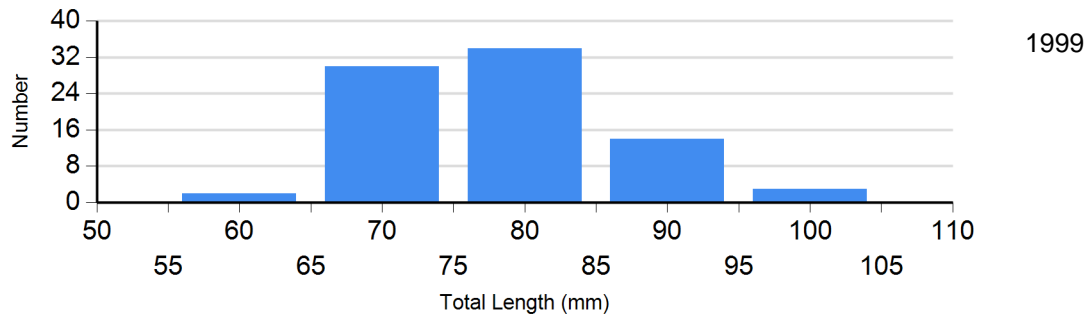
**Site:** 1712

**Species:** Creek Chub

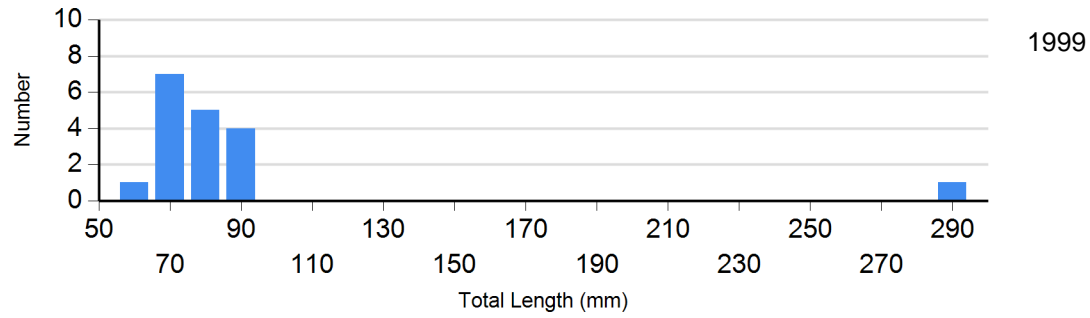


**Site:** 1712

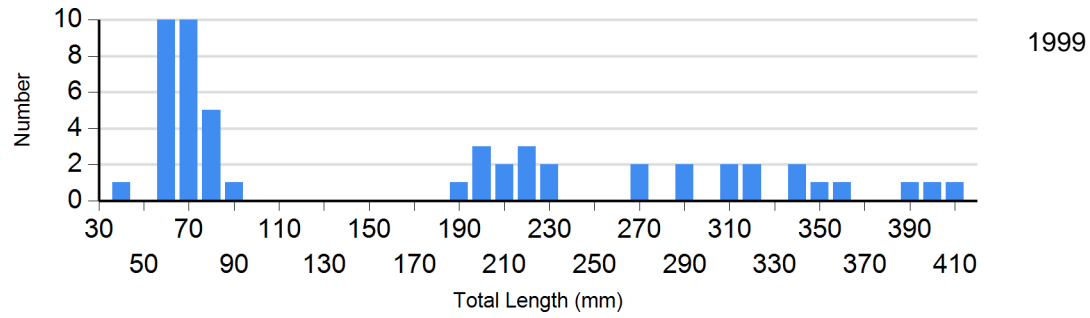
**Species:** Longnose Dace



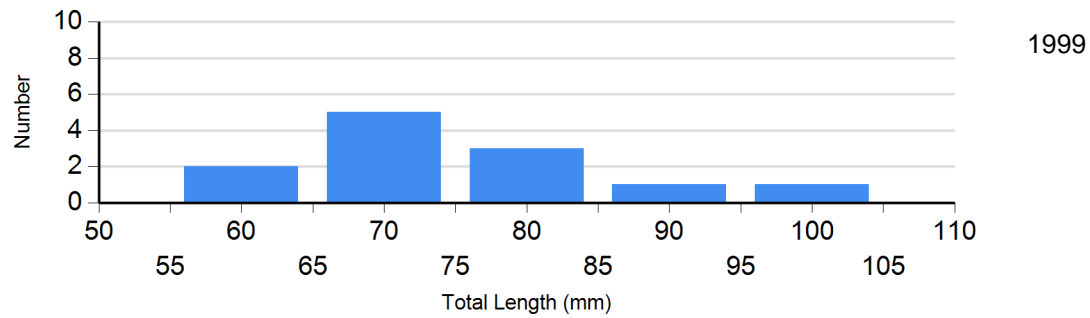
**Site: 1811**  
**Species: Brook Trout**



**Site: 1811**  
**Species: Brown Trout**



**Site: 1811**  
**Species: Longnose Dace**



Site: 1811  
Species: White Sucker

