

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Boxelder Creek, Pennington County**  
**09-0065-00**  
**2010**

Table 1. Population and Biomass Estimates for Boxelder Creek

<b>Site Number:</b> 1983	<b>Date Sampled:</b> 08/25/2010	<b>Conductivity (umhos/cm):</b> 334
<b>Site Midpoint (Latitude, Longitude):</b> 44.15674459, -103.46614706	<b>Site Length (m):</b> 100	<b>pH:</b>
<b>Survey Completed by:</b>	<b>Mean Width (m):</b> 8.6	<b>Water Temperature (C):</b> 16.5
<b>Stream Classification:</b> BK2, BR2	<b>Number of Pass:</b> 1	<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	21	21	21	21	243	15	210	99	13.24	338	125.8	60.9
Brook Trout	>=200mm	7	7	7	7	81	10	70	33	9.12	113	229.3	125.9
Brook Trout	All	28	28	28	28	325	28	280	131	25.40	451	151.7	87.6
Brown Trout	<200mm	18	18	18	18	209	13	180	84	11.67	290	129.1	62.6
Brown Trout	>=200mm	21	21	21	21	243	45	210	99	40.11	338	252.1	184.6
Brown Trout	All	39	39	39	39	452	68	390	183	60.92	628	195.4	150.9
Mountain Sucker	All	20	20	20	20	232	11	200	94	9.94	322	139.5	48.0
Stone Cat	All	6	6	6	6	70	3	60	28	2.70	97	152.5	43.5
White Sucker	All	28	28	28	28	325	19	280	131	17.21	451	152.2	59.4

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<b>Site Number:</b> 2207	<b>Date Sampled:</b> 08/25/2010	<b>Conductivity (umhos/cm):</b> 248
<b>Site Midpoint (Latitude, Longitude):</b> 44.22882427, -103.59960513	<b>Site Length (m):</b> 100	<b>pH:</b>
<b>Survey Completed by:</b>	<b>Mean Width (m):</b> 3.5	<b>Water Temperature (C):</b> 14.8
<b>Stream Classification:</b> BK2	<b>Number of Pass:</b> 1	<b>Voltage:</b> 200

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	29	29	29	29	837	26	290	339	23.10	467	120.4	30.9
Brook Trout	>=200mm	9	9	9	9	260	46	90	105	40.76	145	250.2	175.7
Brook Trout	All	38	38	38	38	1097	82	380	444	72.82	611	151.1	74.3
Mountain Sucker	All	4	4	4	4	115	4	40	47	3.94	64	141.0	38.3
White Sucker	All	1	1	1	1	29	4	10	12	3.63	16	240.0	141.0

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, 2000-2010

**Site 1983**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 25, 2010	21	21-21	
Brook Trout >=200mm	Aug 25, 2010	7	7-7	BK2
Brown Trout <200mm	Aug 25, 2010	18	18-18	
Brown Trout >=200mm	Aug 25, 2010	21	21-21	BR2
Mountain Sucker	Aug 25, 2010	20	20-20	
Stone Cat	Aug 25, 2010	6	6-6	
White Sucker	Aug 25, 2010	28	28-28	

**Site 2207**

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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	Aug 25, 2010	29	29-29	
Brook Trout >=200mm	Aug 25, 2010	9	9-9	BK2
Mountain Sucker	Aug 25, 2010	4	4-4	
White Sucker	Aug 25, 2010	1	1-1	

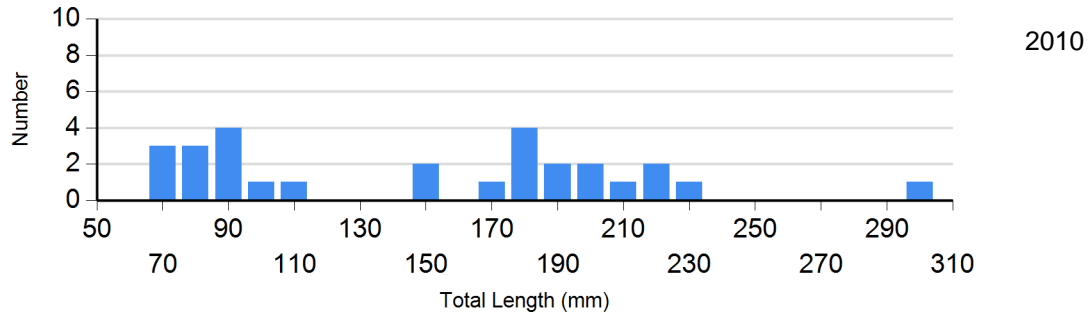
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## Length Frequency Distribution

Length frequency histogram of species sampled by year.

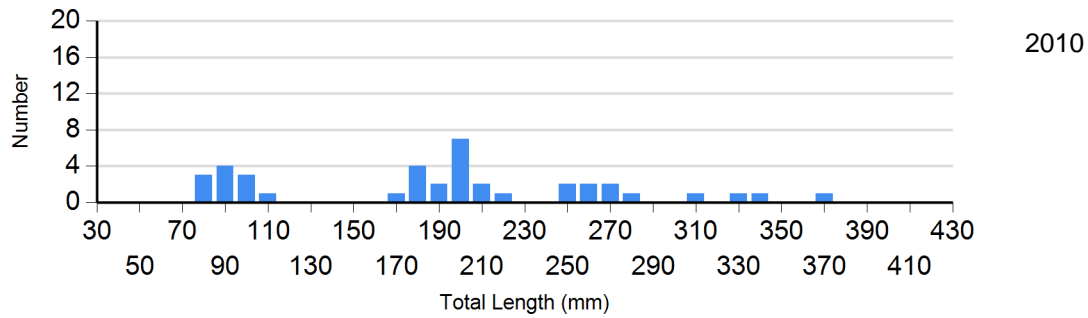
**Site:** 1983

**Species:** Brook Trout



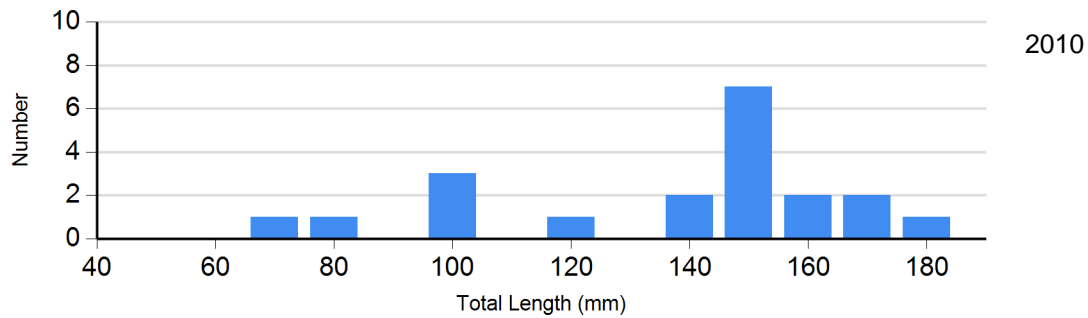
**Site:** 1983

**Species:** Brown Trout

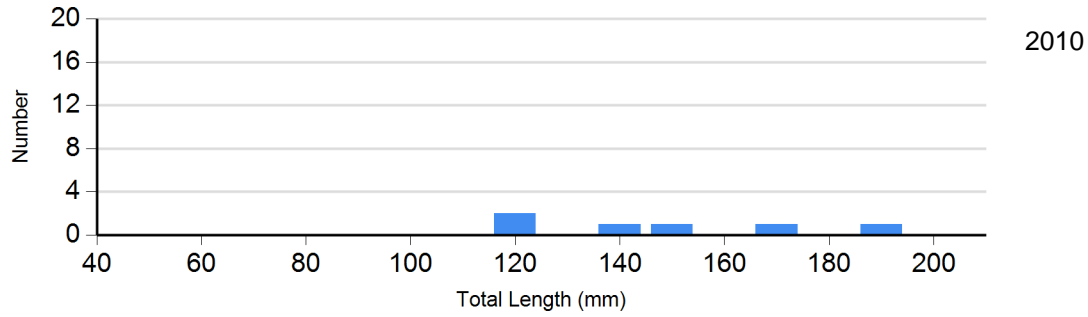


**Site:** 1983

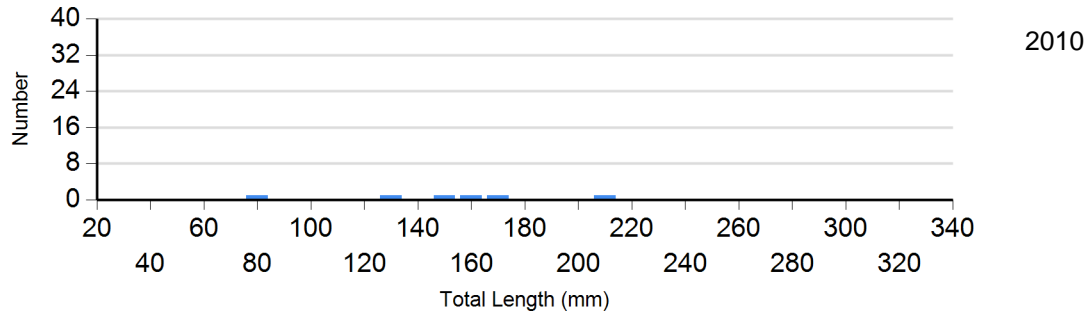
**Species:** Mountain Sucker



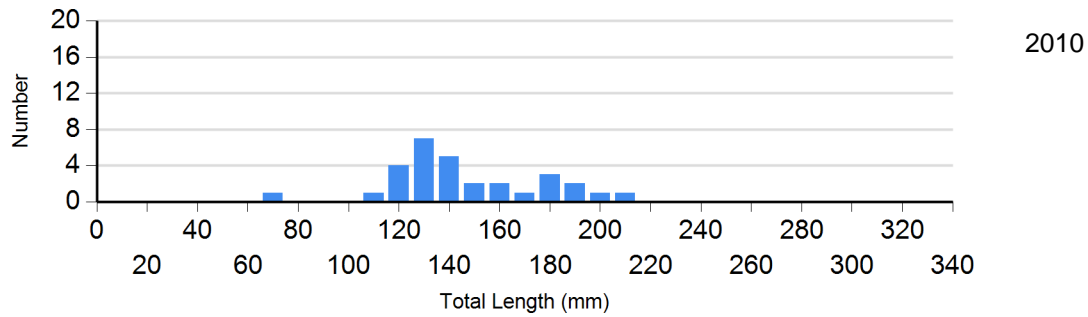
**Site:** 1983  
**Species:** Stone Cat



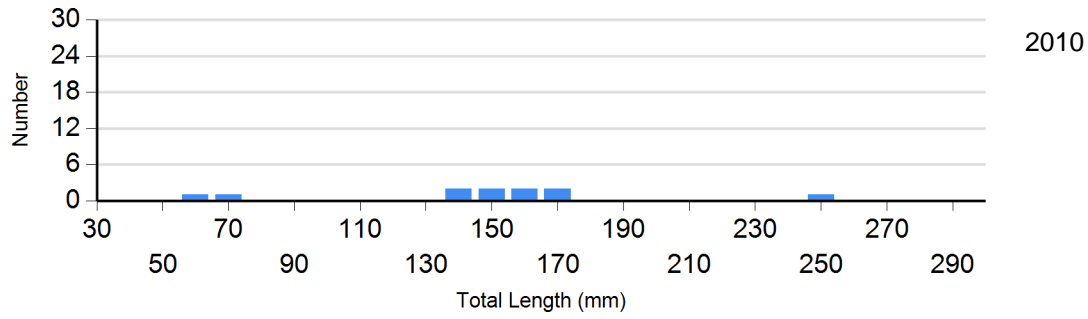
**Site:** 1983  
**Species:** White Sucker



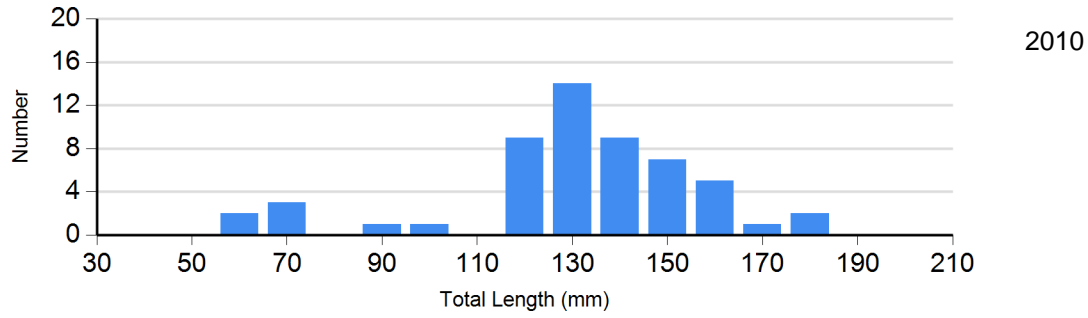
**Site:** 2099  
**Species:** Brook Trout



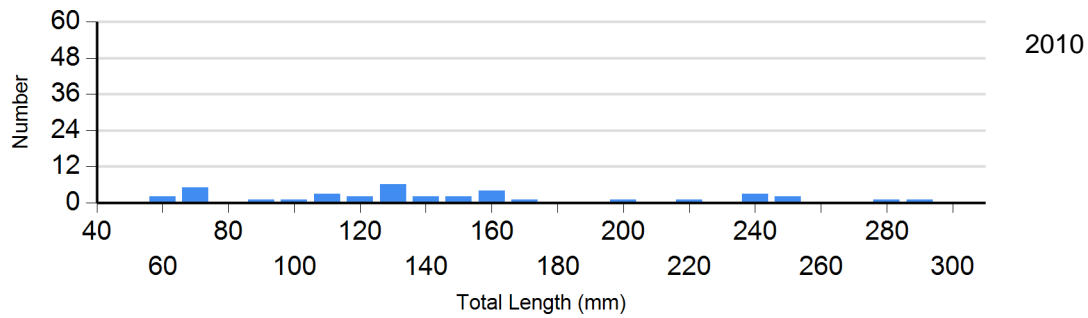
**Site:** 2099  
**Species:** Brown Trout



**Site:** 2099  
**Species:** Mountain Sucker



**Site:** 2207  
**Species:** Brook Trout



Site: 2207  
Species: Mountain Sucker

