

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Spring Creek (Trib. of Cheyenne), Pennington County**  
**02-0061-00**  
**2015**

Table 1. Population and Biomass Estimates for Spring Creek (Trib. of Cheyenne)

<b>Site Number:</b> 1840	<b>Date Sampled:</b> 05/12/2015	<b>Conductivity (umhos/cm):</b>	339
<b>Site Midpoint (Latitude, Longitude):</b> 43.99009910, -103.40772820	<b>Site Length (m):</b> 100	<b>pH:</b>	9.3
<b>Survey Completed by:</b>	<b>Mean Width (m):</b> 13.3	<b>Water Temperature (C):</b>	9.3
<b>Stream Classification:</b> RB1	<b>Number of Pass:</b> 4	<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)
Creek Chub	All	450	458	465	451	3441	110	4580	1394	97.79	7369	355.6	31.8
Golden Shiner	All	1	1	1	1	8	1	10	3	0.45	16	175.0	67.0
Rainbow Trout	>=200mm	19	19	20	19	143	40	190	58	35.99	306	300.5	282.3
Rainbow Trout	All	19	19	20	19	143	40	190	58	35.99	306	300.5	282.3
Rock Bass	All	8	8	9	8	60	5	80	24	4.62	129	158.3	86.0
White Sucker	All	232	235	239	232	1766	278	2350	715	248.04	3781	225.9	157.3

<b>Site Number:</b> 1994	<b>Date Sampled:</b> 10/14/2015	<b>Conductivity (umhos/cm):</b>	360
<b>Site Midpoint (Latitude, Longitude):</b> 43.94382220, -103.51348180	<b>Site Length (m):</b> 100	<b>pH:</b>	7.0
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 4.4	<b>Water Temperature (C):</b>	12.3
<b>Stream Classification:</b> BK3, BR2, RB1	<b>Number of Pass:</b> 3	<b>Voltage:</b>	

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	2	1	23	4	10	9	3.41	16	275.0	169.0
Brook Trout	All	1	1	2	1	23	4	10	9	3.41	16	275.0	169.0
Brown Trout	>=200mm	3	3	4	3	68	43	30	27	38.04	48	357.0	628.7

Brown Trout	All	3	3	4	3	68	43	30	27	38.04	48	357.0	628.7
Creek Chub	All	25	25	26	25	565	23	250	229	20.56	402	141.9	40.8
Rainbow Trout	>=200mm	4	4	4	4	90	46	40	37	41.02	64	367.0	508.5
Rainbow Trout	All	4	4	4	4	90	46	40	37	41.02	64	367.0	508.5
Rock Bass	All	8	8	10	8	181	12	80	73	10.57	129	93.8	65.5

**Site Number:** 2259  
**Site Midpoint (Latitude, Longitude):** 43.86330374, -103.62719243  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BK1

**Date Sampled:** 09/29/2015  
**Site Length (m):** 100  
**Mean Width (m):** 2.8  
**Number of Pass:** 3  
**Conductivity (umhos/cm):** 36  
**pH:** 8.6  
**Water Temperature (C):** 10.5  
**Voltage:** 375

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	111	114	119	111	4045	111	1140	1638	99.15	1834	125.5	27.5
Brook Trout	>=200mm	13	13	13	13	461	58	130	187	51.77	209	228.6	125.7
Brook Trout	All	124	127	132	124	4506	173	1270	1825	154.38	2043	136.3	38.4
Longnose Dace	All	3	5	24	3	177	1	50	72	1.16	80	93.3	7.3

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 Spring Creek (Trib. of Cheyenne), 2005-2015

**Site 1840**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	Aug 08, 2014	75	75-75	
	May 12, 2015	458	451-465	
Golden Shiner	May 12, 2015	1	1-1	
Longnose Dace	Aug 08, 2014	1	1-1	
Rainbow Trout >=200mm	May 12, 2015	19	19-20	RB1
Rock Bass	Aug 08, 2014	27	27-27	
	May 12, 2015	8	8-9	

White Sucker	Aug 08, 2014	23	23-23
	May 12, 2015	235	232-239

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**Site 1994**


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Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout >=200mm	Oct 14, 2015	1	1-2	BK3
Brown Trout >=200mm	Oct 14, 2015	3	3-4	BR2
Creek Chub	Oct 14, 2015	25	25-26	
Rainbow Trout >=200mm	Oct 14, 2015	4	4-4	RB1
Rock Bass	Oct 14, 2015	8	8-10	

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**Site 2259**


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Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 23, 2009	31	31-31	
	Sep 29, 2015	114	111-119	
Brook Trout >=200mm	Jul 23, 2009	1	1-1	BK3
	Sep 29, 2015	13	13-13	BK1
Brown Trout >=200mm	Jul 23, 2009	3	3-3	BR2
Longnose Dace	Sep 29, 2015	5	3-24	

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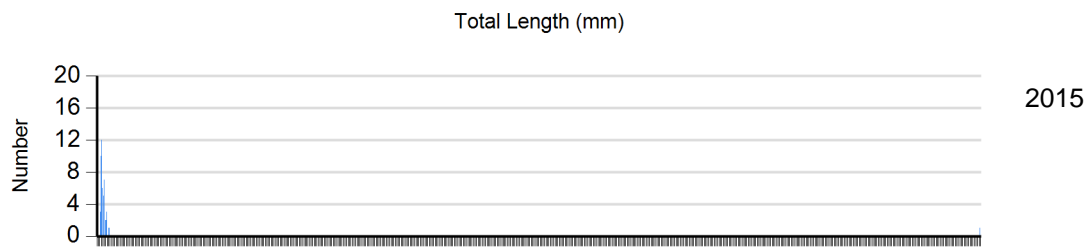
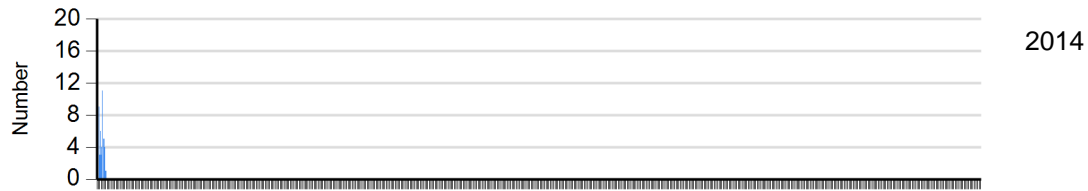


## Length Frequency Distribution

Length frequency histogram of species sampled by year.

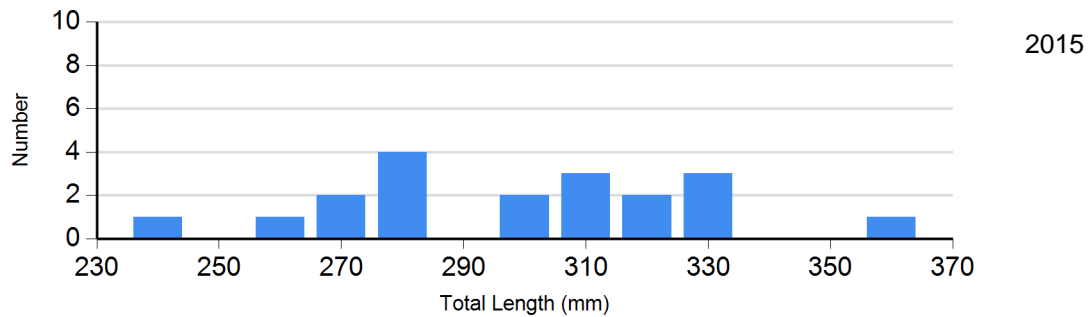
**Site:** 1840

**Species:** Creek Chub

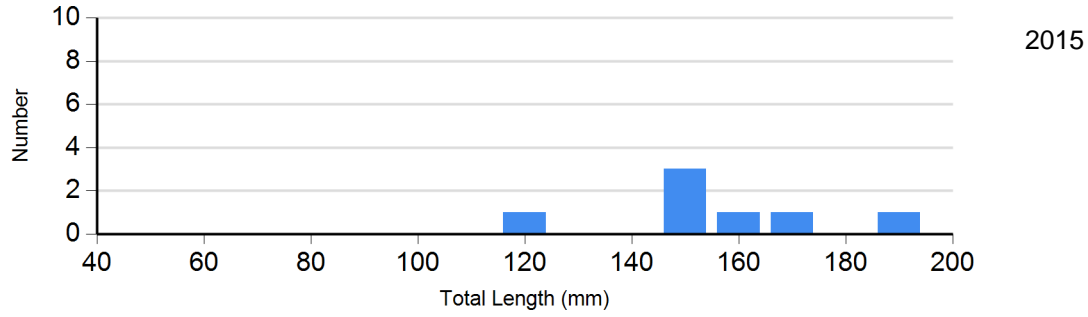
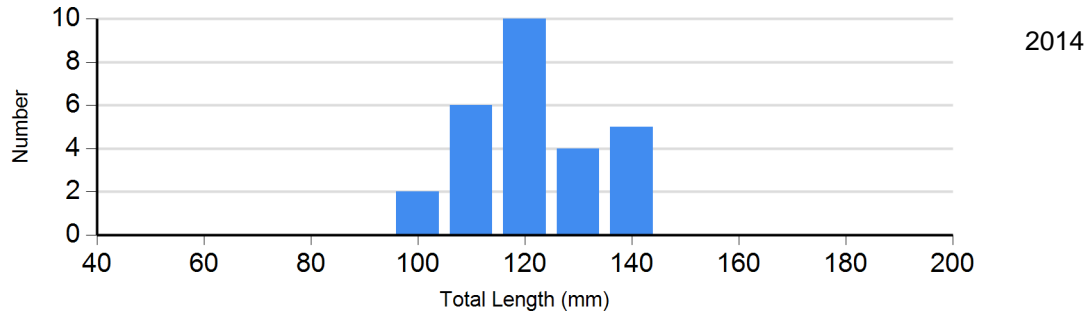


**Site:** 1840

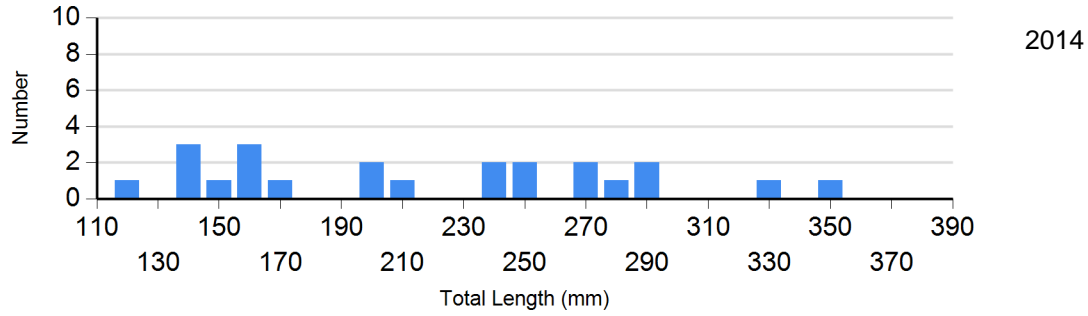
**Species:** Rainbow Trout

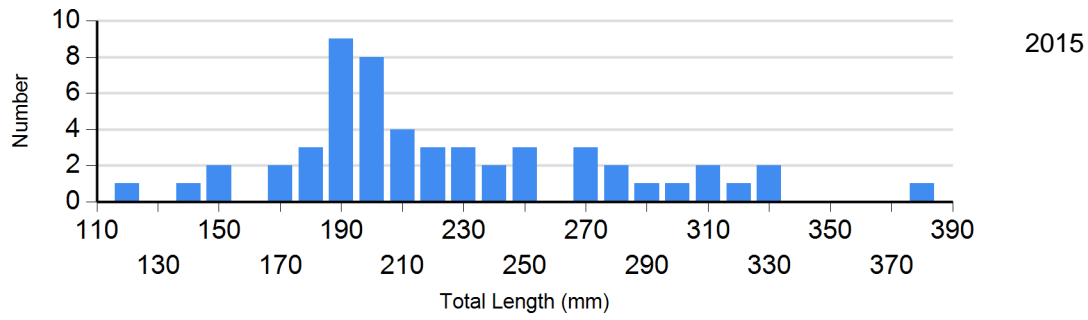


**Site:** 1840  
**Species:** Rock Bass

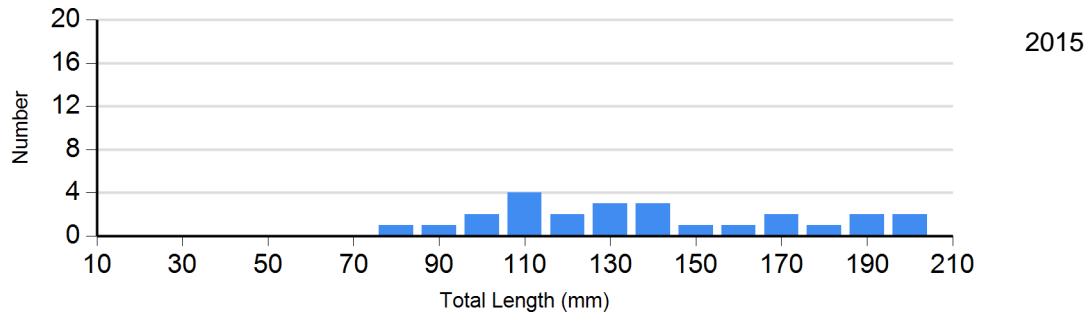


**Site:** 1840  
**Species:** White Sucker

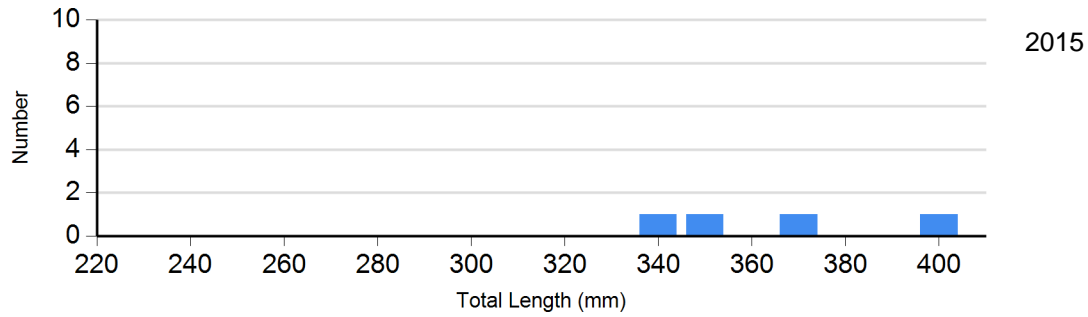




**Site:** 1994  
**Species:** Creek Chub

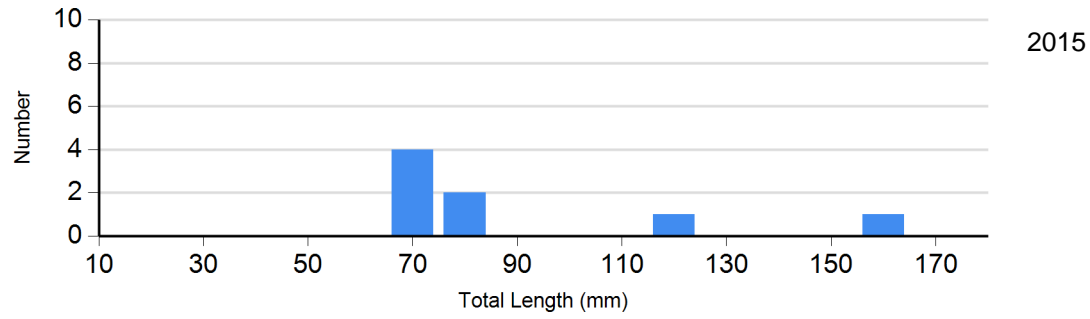


**Site:** 1994  
**Species:** Rainbow Trout





**Site:** 1994  
**Species:** Rock Bass



**Site:** 2259  
**Species:** Brook Trout

