

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Spring Creek (Trib. of Cheyenne), Pennington County**  
**02-0061-00**  
**2016**

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

<b>Site Number:</b> 1840	<b>Date Sampled:</b> 06/27/2016	<b>Conductivity (umhos/cm):</b> 220
<b>Site Midpoint (Latitude, Longitude):</b> 43.99009910, -103.40772820	<b>Site Length (m):</b> 100	<b>pH:</b> 7.5
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 6.8	<b>Water Temperature (C):</b> 73.0
<b>Stream Classification:</b> BR3, RB2	<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)
Brown Trout	>=200mm	3	3	3	3	44	7	30	18	5.85	48	235.3	147.7
Brown Trout	All	5	5	7	5	74	11	50	30	9.75	80	156.0	147.7
Creek Chub	All	209	220	230	210	3253	127	2200	1317	113.46	3540	139.5	39.1
Rainbow Trout	>=200mm	2	2	2	2	30	9	20	12	7.96	32	312.5	301.5
Rainbow Trout	All	2	2	2	2	30	9	20	12	7.96	32	312.5	301.5
Rock Bass	All	9	16	50	9	237	12	160	96	10.46	257	90.0	49.5
White Sucker	All	1	1	1	1	15	3	10	6	2.38	16	263.0	180.0

<b>Site Number:</b> 1864	<b>Date Sampled:</b> 06/27/2016	<b>Conductivity (umhos/cm):</b> 207
<b>Site Midpoint (Latitude, Longitude):</b> 43.98424529, -103.42856922	<b>Site Length (m):</b> 100	<b>pH:</b>
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 8.9	<b>Water Temperature (C):</b> 21.1
<b>Stream Classification:</b> BR2	<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)
Brown Trout	>=200mm	9	9	9	9	101	16	90	41	14.12	145	241.6	156.6
Brown Trout	All	9	9	9	9	101	16	90	41	14.12	145	241.6	156.6

Creek Chub	All	150	155	161	150	1740	49	1550	705	43.81	2494	123.2	28.2
Longnose Dace	All	2	2	6	2	22	0	20	9	0.26	32	107.5	13.0

**Site Number:** 1994  
**Site Midpoint (Latitude, Longitude):** 43.94382220, -103.51348180  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BR3

**Date Sampled:** 06/27/2016  
**Site Length (m):** 100  
**Mean Width (m):** 4.7  
**Number of Pass:** 3

**Conductivity (umhos/cm):** 245  
**pH:** 7.4  
**Water Temperature (C):** 24.4  
**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	1	1	2	1	21	3	10	9	3.06	16	241.0	160.0
Brown Trout	All	20	21	25	20	450	72	210	182	64.33	338	77.0	160.0
Longnose Dace	All	16	21	36	16	450	5	210	182	4.82	338	94.2	12.0
Rock Bass	All	3	3	4	3	64	6	30	26	5.78	48	164.0	100.7
White Sucker	All	9	10	15	9	214	83	100	87	74.43	161	312.4	388.8

**Site Number:** 2439  
**Site Midpoint (Latitude, Longitude):** 43.90537261, -103.74603404  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BK2

**Date Sampled:** 06/22/2016  
**Site Length (m):** 100  
**Mean Width (m):** 0.9  
**Number of Pass:** 3

**Conductivity (umhos/cm):** 229  
**pH:** 7.1  
**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	47	47	48	47	5222	144	470	2115	128.52	756	105.6	27.6
Brook Trout	>=200mm	3	3	3	3	333	37	30	135	33.23	48	232.7	111.7
Brook Trout	All	50	50	51	50	5556	227	500	2250	202.59	805	113.2	40.8

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), 2006-2016

**Site 1840**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout >=200mm	Jun 27, 2016	3	3-3	BR3
Creek Chub	Aug 08, 2014	75	75-75	
	May 12, 2015	458	451-465	
	Jun 27, 2016	220	210-230	
Longnose Dace	Aug 08, 2014	1	1-1	
Rainbow Trout >=200mm	May 12, 2015	19	19-20	RB1
	Jun 27, 2016	2	2-2	RB2

Rock Bass	Aug 08, 2014	27	27-27
	May 12, 2015	8	8-9
	Jun 27, 2016	16	9-50
White Sucker	Aug 08, 2014	23	23-23
	May 12, 2015	235	232-239
	Jun 27, 2016	1	1-1

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**Site 1864**

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<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brown Trout <200mm	Aug 15, 2011	5	5-5	
Brown Trout >=200mm	Aug 13, 2009	2	2-2	BR3
	Aug 15, 2011	5	5-5	BR3
	Jun 27, 2016	9	9-9	BR2
Creek Chub	Aug 04, 2014	500	395-605	
	Jun 27, 2016	155	150-161	
Longnose Dace	Jun 27, 2016	2	2-6	
Rainbow Trout <200mm	Aug 15, 2011	4	4-5	

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Rainbow Trout >=200mm	Aug 04, 2014	2	2-2	RB2
Rock Bass	Aug 04, 2014	18	18-20	
White Sucker	Aug 13, 2009	8	8-8	
	Aug 15, 2011	14	14-14	
	Aug 04, 2014	53	51-57	

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**Site 1994**


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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	Oct 14, 2015	1	1-2	BK3
Brown Trout >=200mm	Oct 14, 2015	3	3-4	BR2
	Jun 27, 2016	1	1-2	BR3
Creek Chub	Oct 14, 2015	25	25-26	
Longnose Dace	Jun 27, 2016	21	16-36	
Rainbow Trout >=200mm	Oct 14, 2015	4	4-4	RB1
Rock Bass	Oct 14, 2015	8	8-10	
	Jun 27, 2016	3	3-4	
White Sucker	Jun 27, 2016	10	9-15	

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**Site 2439**

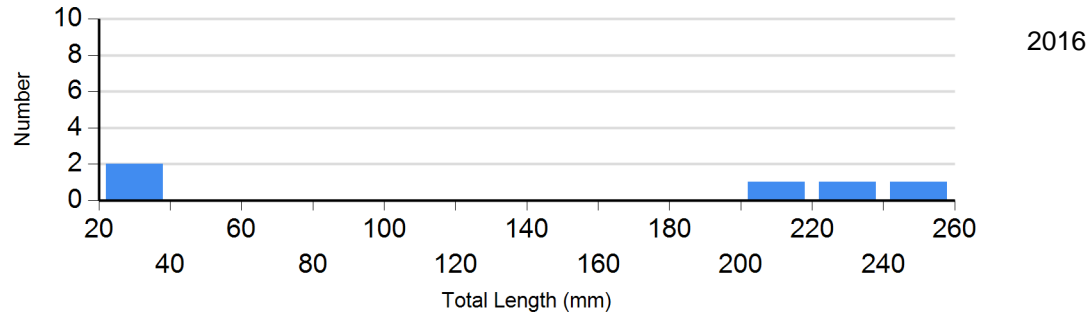
<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brook Trout <200mm	Jul 31, 2006	9	9-9	
	Jul 27, 2009	7	7-7	
	Jun 23, 2014	25	25-25	
	Jun 22, 2016	47	47-48	
Brook Trout >=200mm	Jun 23, 2014	1	1-1	BK2
	Jun 22, 2016	3	3-3	BK2

## Length Frequency Distribution

Length frequency histogram of species sampled by year.

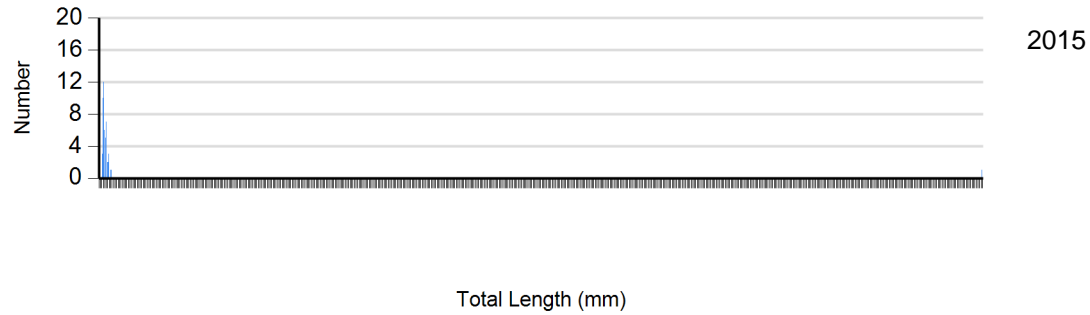
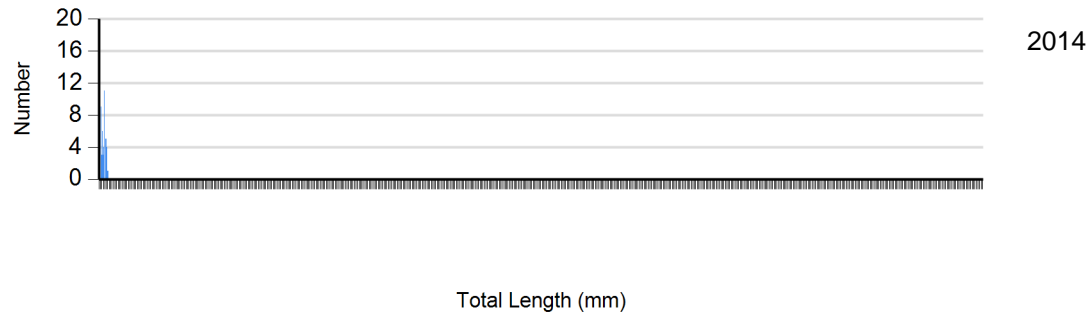
**Site:** 1840

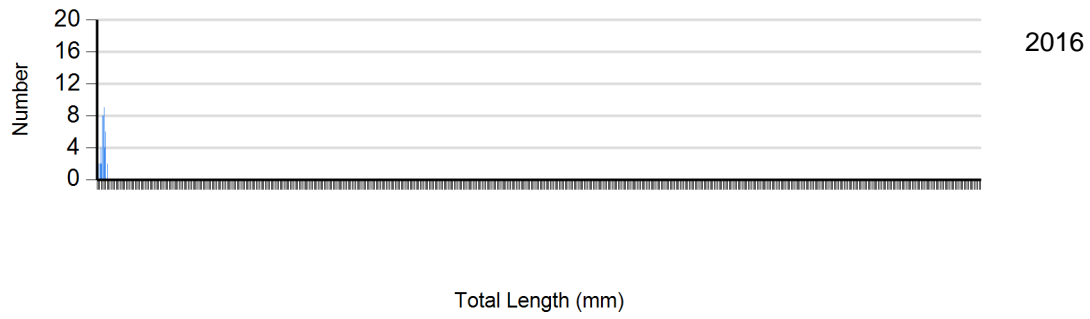
**Species:** Brown Trout



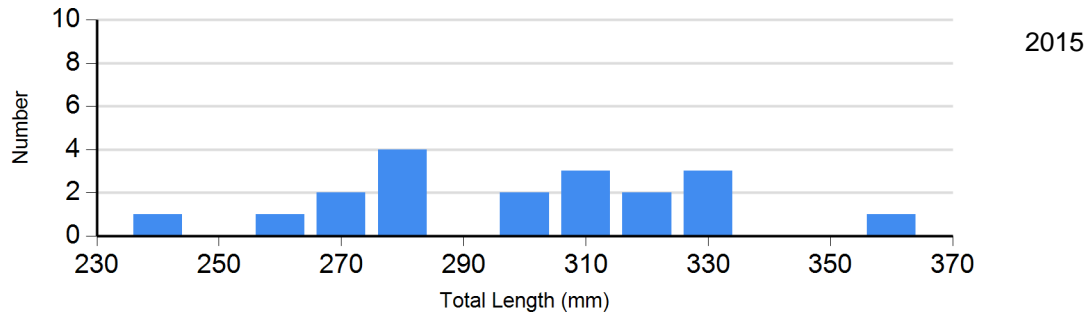
**Site:** 1840

**Species:** Creek Chub

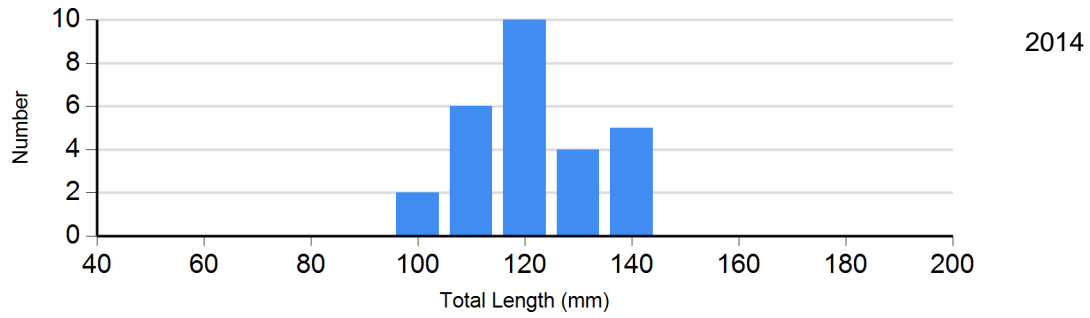




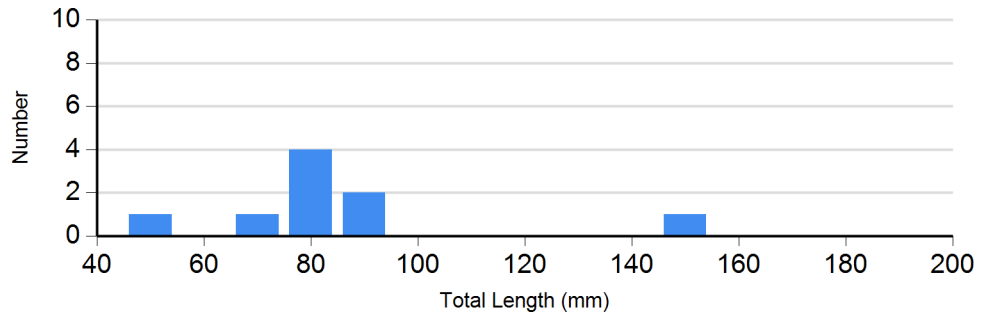
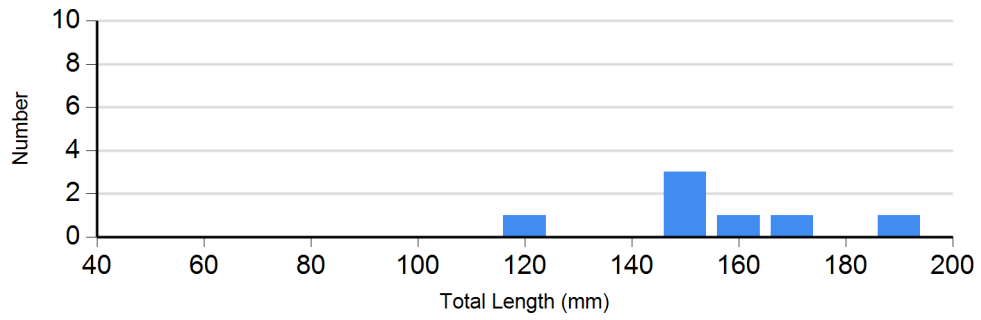
**Site:** 1840  
**Species:** Rainbow Trout



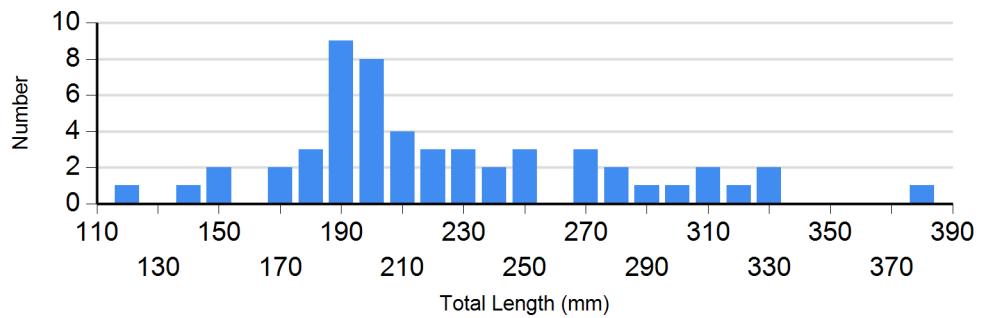
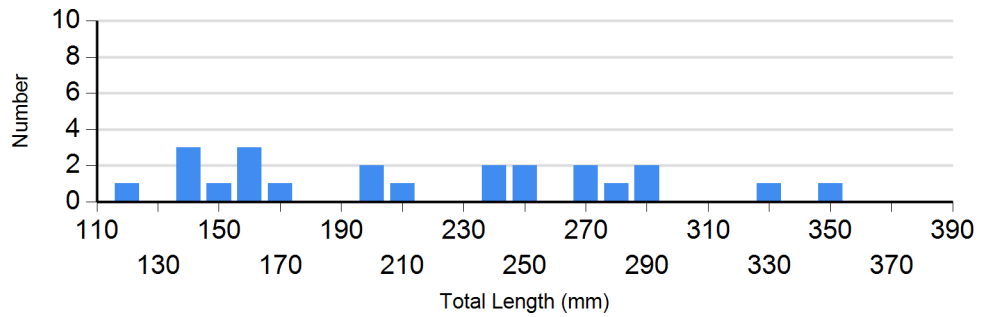
**Site:** 1840  
**Species:** Rock Bass



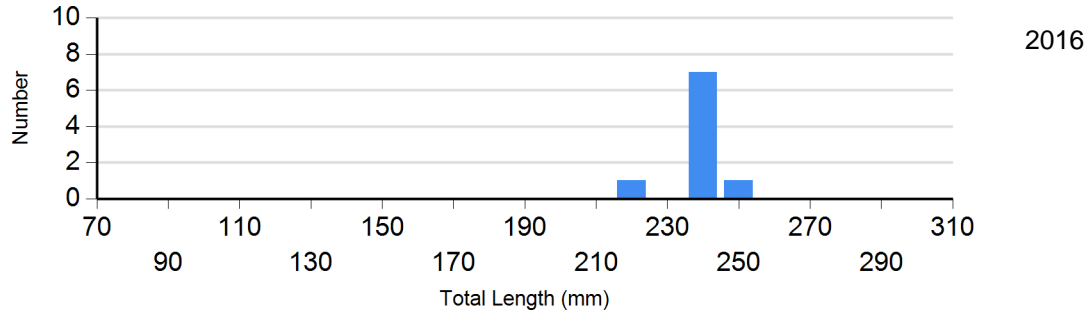
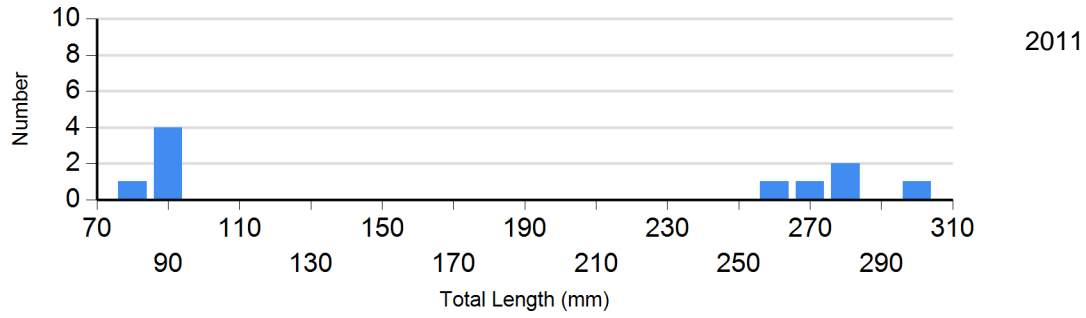




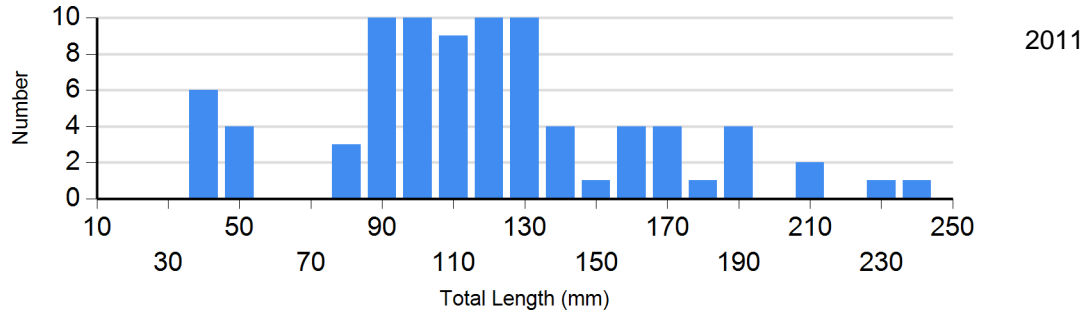
**Site:** 1840  
**Species:** White Sucker

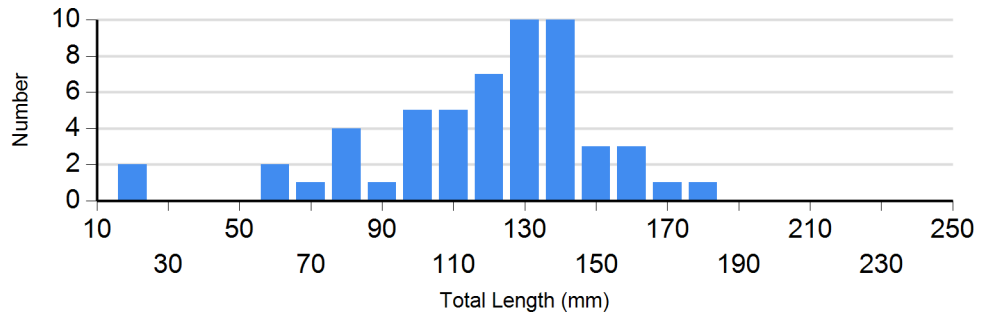
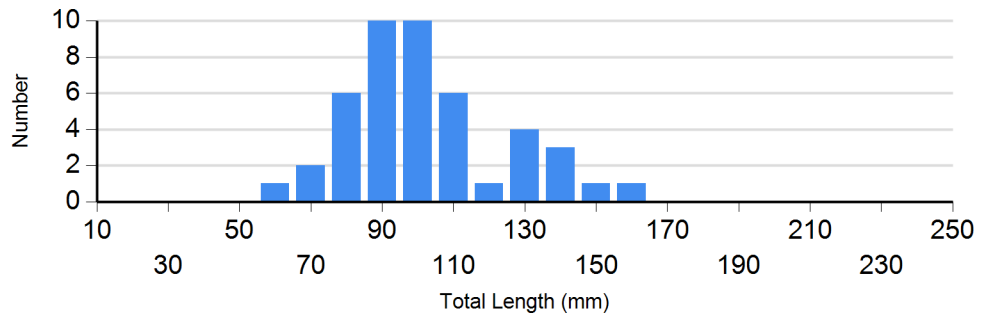


**Site: 1864**  
**Species: Brown Trout**

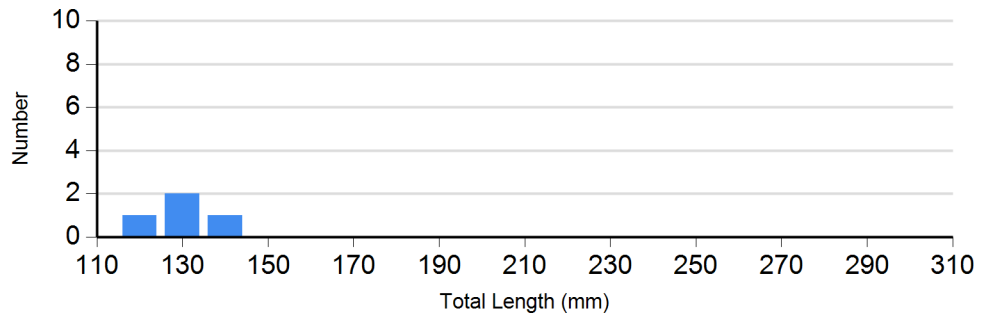


**Site: 1864**  
**Species: Creek Chub**

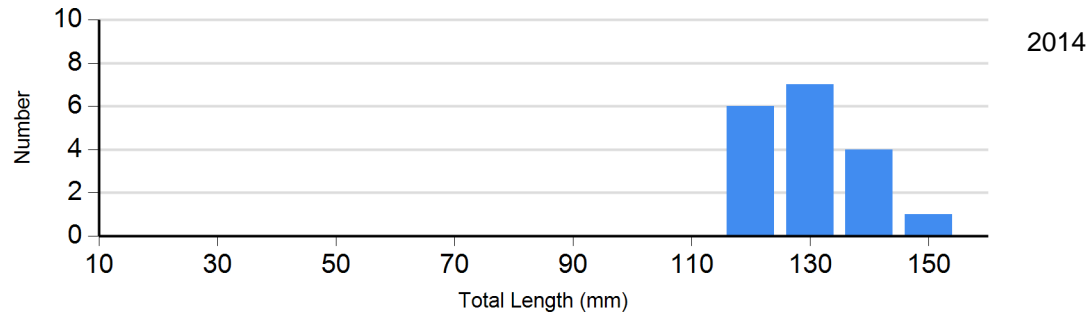
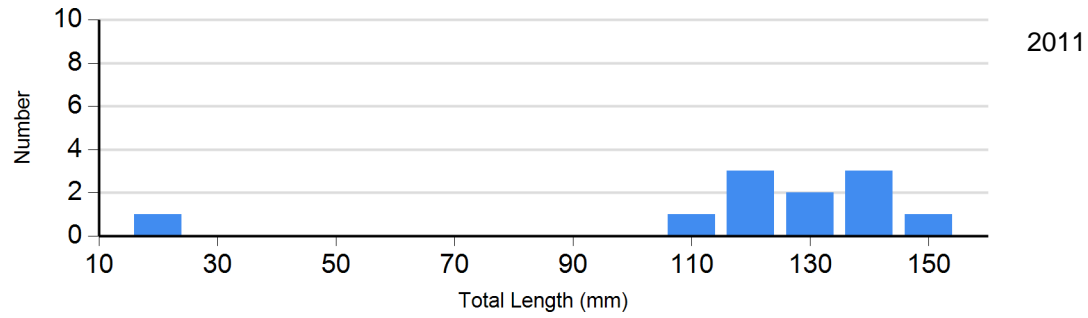




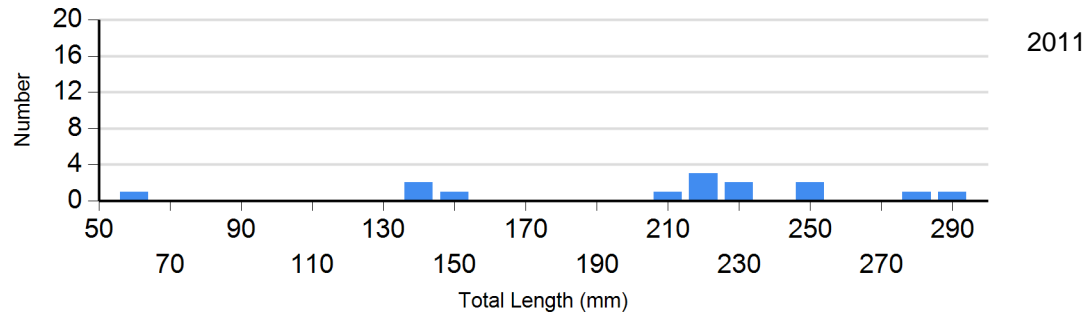
**Site:** 1864  
**Species:** Rainbow Trout

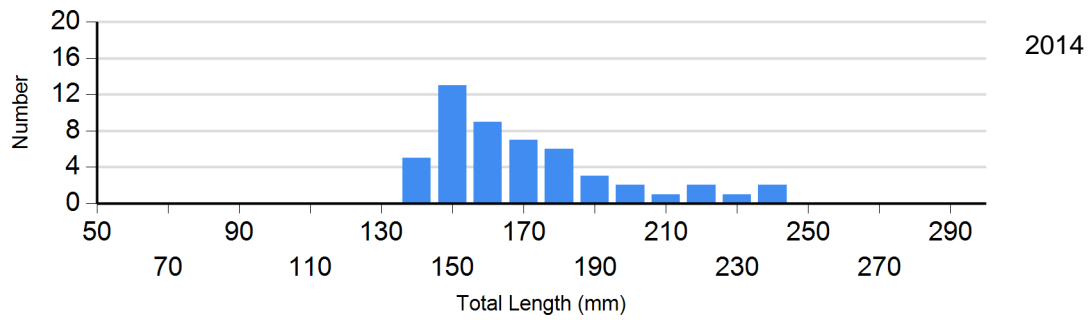


**Site:** 1864  
**Species:** Rock Bass

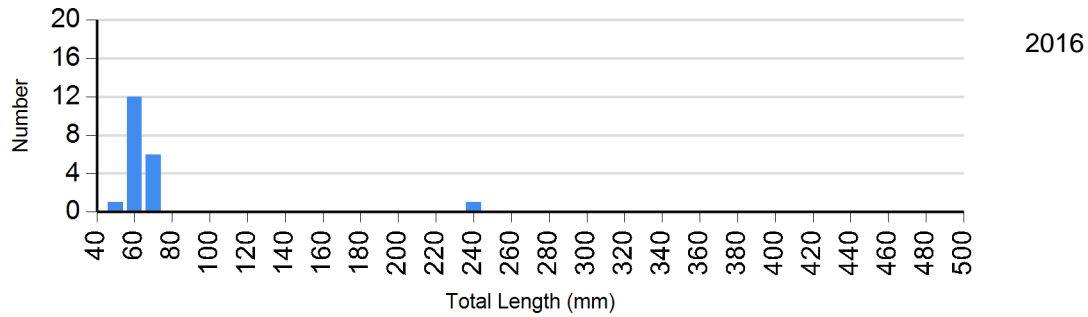


**Site:** 1864  
**Species:** White Sucker

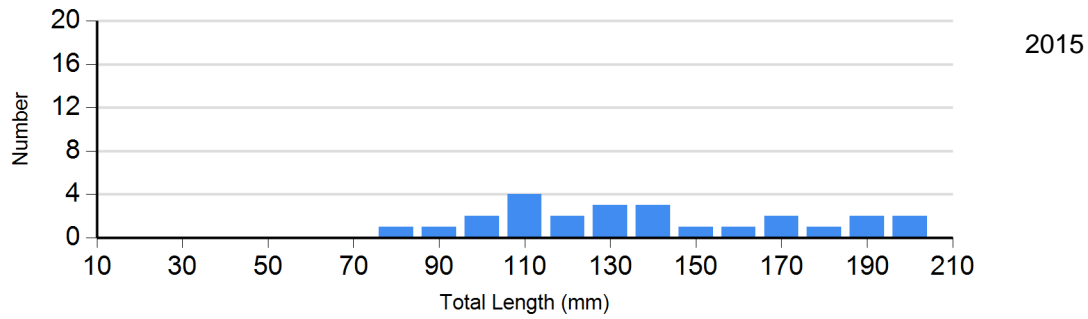


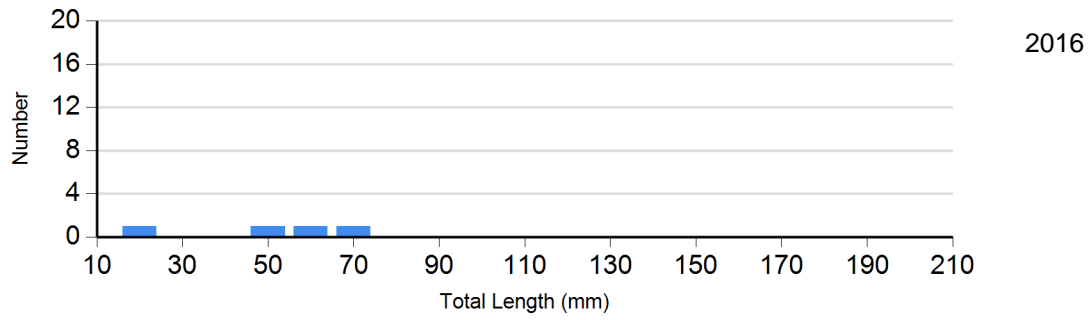


**Site:** 1994  
**Species:** Brown Trout

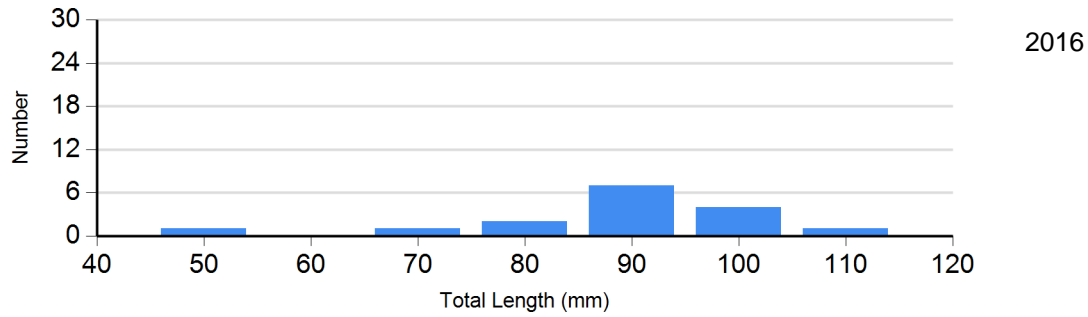


**Site:** 1994  
**Species:** Creek Chub

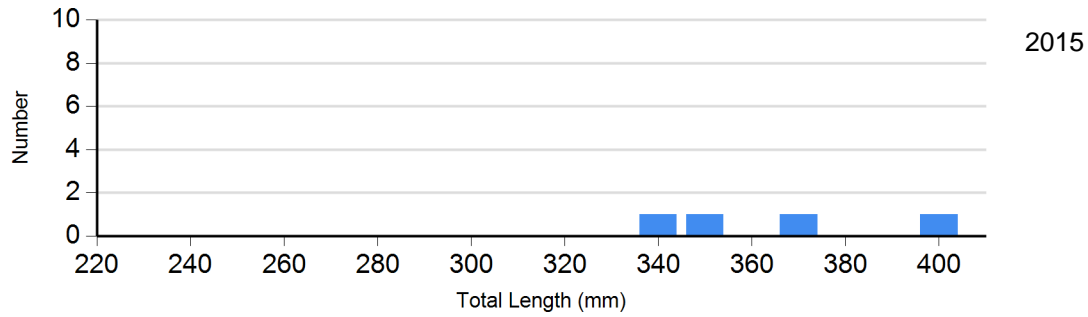




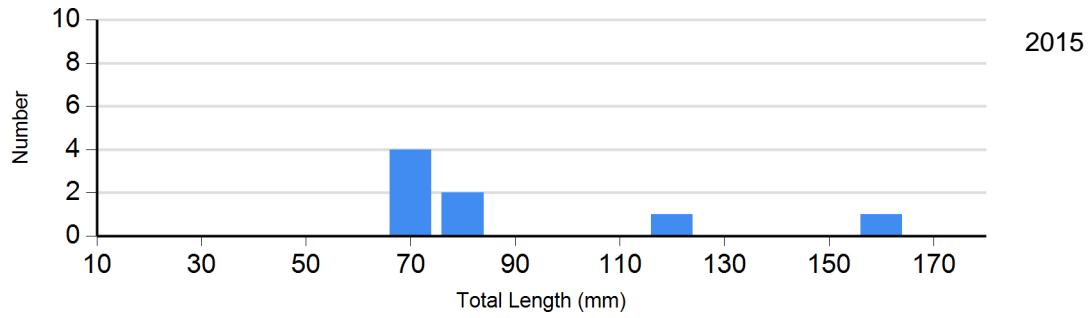
**Site:** 1994  
**Species:** Longnose Dace



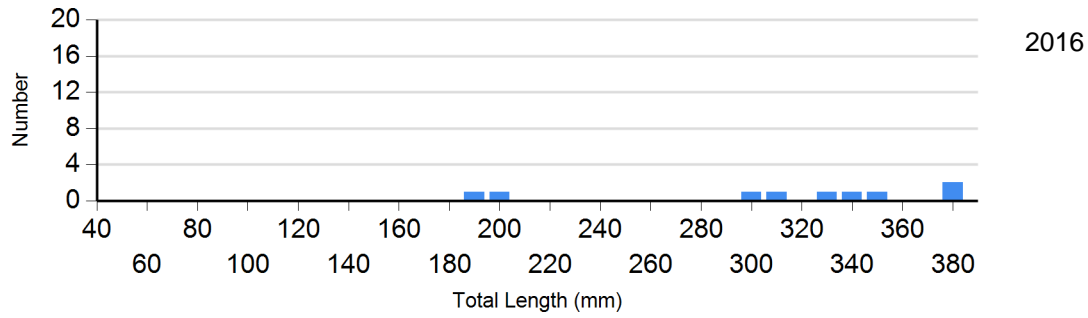
**Site:** 1994  
**Species:** Rainbow Trout



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



**Site:** 1994  
**Species:** White Sucker



**Site:** 2439  
**Species:** Brook Trout

