

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Grace Coolidge Creek, Custer County**  
**21-0012-00**  
**2015**

Table 1. Population and Biomass Estimates for Grace Coolidge Creek

<b>Site Number:</b> 317	<b>Date Sampled:</b> 07/16/2015	<b>Conductivity (umhos/cm):</b> 159
<b>Site Midpoint (Latitude, Longitude):</b> 43.77635824, -103.39855114	<b>Site Length (m):</b> 100	<b>pH:</b> 8.0
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 4.9	<b>Water Temperature (C):</b> 17.5
<b>Stream Classification:</b> BK2, RB1	<b>Number of Pass:</b> 3	<b>Voltage:</b> 325

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	25	25	27	25	507	23	250	205	20.13	402	123.1	44.4
Brook Trout	>=200mm	16	16	18	16	325	40	160	132	35.48	257	224.3	122.4
Brook Trout	All	41	42	45	41	852	73	420	345	65.45	676	162.6	86.0
Creek Chub	All	32	39	53	32	792	18	390	321	16.20	628	116.5	22.9
Longnose Dace	All	185	269	340	198	5459	51	2690	2211	45.50	4328	73.0	9.3
Rainbow Trout	<200mm	1	1	2	1	20	1	10	8	0.71	16	160.0	39.0
Rainbow Trout	>=200mm	6	6	8	6	122	16	60	49	14.44	97	252.7	132.8
Rainbow Trout	All	7	7	9	7	142	17	70	58	15.15	113	239.4	119.4
White Sucker	All	25	25	26	25	507	41	250	205	36.75	402	181.2	81.1

<b>Site Number:</b> 408	<b>Date Sampled:</b> 07/02/2015	<b>Conductivity (umhos/cm):</b> 86
<b>Site Midpoint (Latitude, Longitude):</b> 43.80052356, -103.44637540	<b>Site Length (m):</b> 100	<b>pH:</b> 7.6
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 3.5	<b>Water Temperature (C):</b> 15.0
<b>Stream Classification:</b> BK2, RB0	<b>Number of Pass:</b> 3	<b>Voltage:</b> 400

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	71	78	88	71	2203	46	780	892	41.46	1255	117.4	21.1
Brook Trout	>=200mm	8	8	9	8	226	26	80	92	23.53	129	216.8	116.6
Brook Trout	All	79	86	95	79	2429	76	860	984	67.53	1384	127.4	31.1
Rainbow Trout	<200mm	38	40	45	38	1130	22	400	458	19.77	644	103.1	19.6
Rainbow Trout	All	38	40	45	38	1130	22	400	458	19.77	644	103.1	19.6

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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 Grace Coolidge Creek, 2005-2015

**Site 317**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 19, 2009	11	11-11	
	Jul 16, 2015	25	25-27	
Brook Trout >=200mm	May 19, 2009	5	5-5	BK2
	Jul 16, 2015	16	16-18	BK2
Creek Chub	May 19, 2009	65	65-65	
	Jul 16, 2015	39	32-53	
Longnose Dace	May 19, 2009	93	93-93	

Longnose Dace	Jul 16, 2015	269	198-340	
Rainbow Trout <200mm	Jul 16, 2015	1	1-2	
Rainbow Trout >=200mm	Jul 16, 2015	6	6-8	RB1
White Sucker	May 19, 2009	20	20-20	
	Jul 16, 2015	25	25-26	

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**Site 408**

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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	May 20, 2009	19	19-19	
	Jul 02, 2015	78	71-88	
Brook Trout >=200mm	Jul 02, 2015	8	8-9	BK2
Rainbow Trout <200mm	May 20, 2009	1	1-1	
	Jul 02, 2015	40	38-45	
Rainbow Trout >=200mm	May 20, 2009	4	4-4	RB1

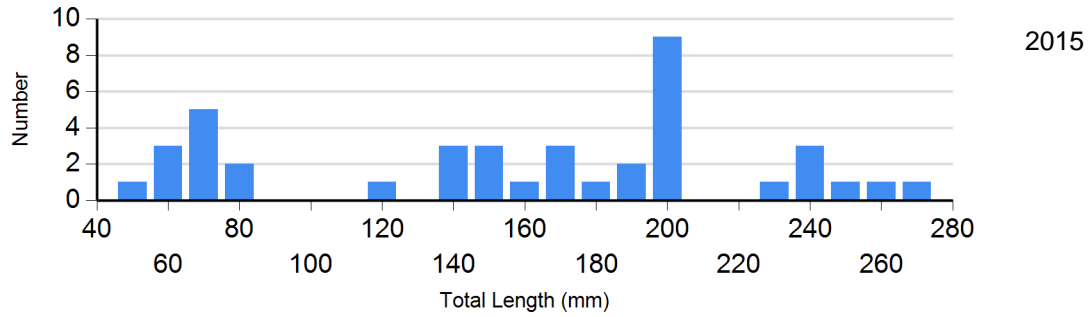
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## Length Frequency Distribution

Length frequency histogram of species sampled by year.

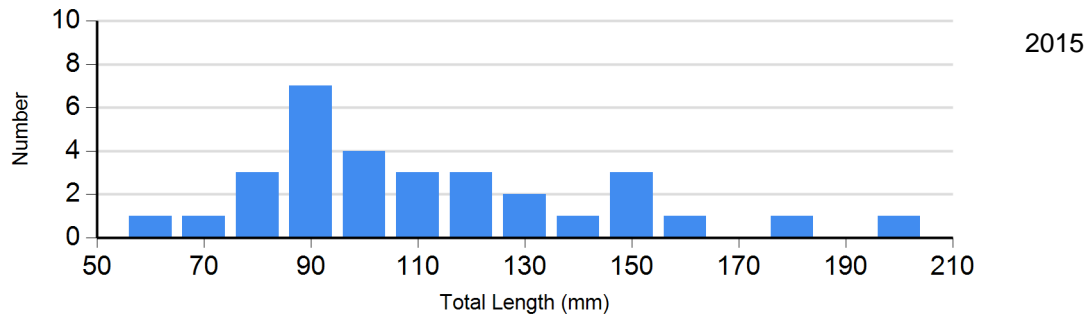
**Site:** 317

**Species:** Brook Trout



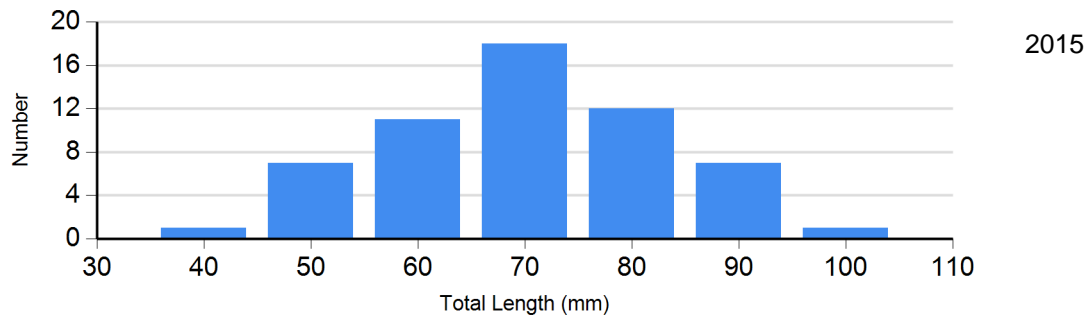
**Site:** 317

**Species:** Creek Chub

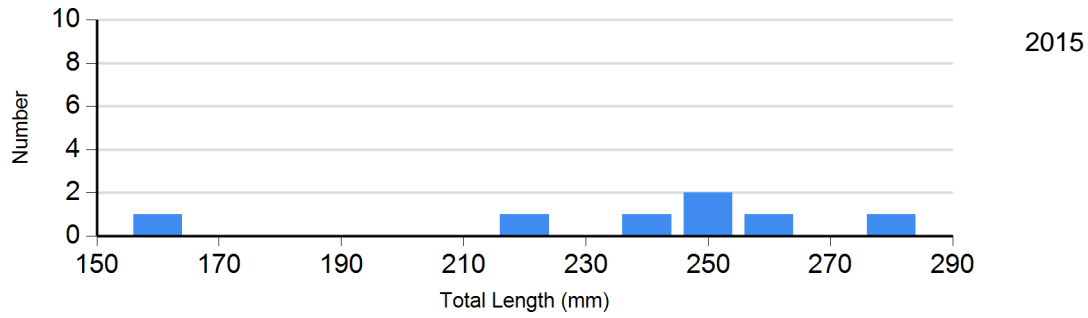


**Site:** 317

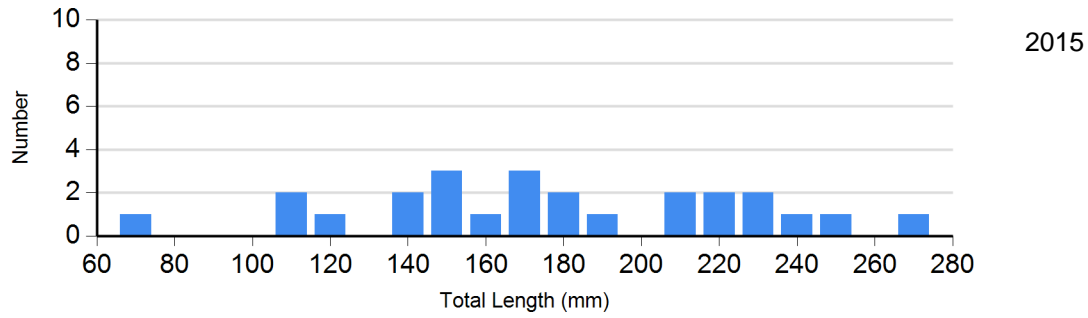
**Species:** Longnose Dace



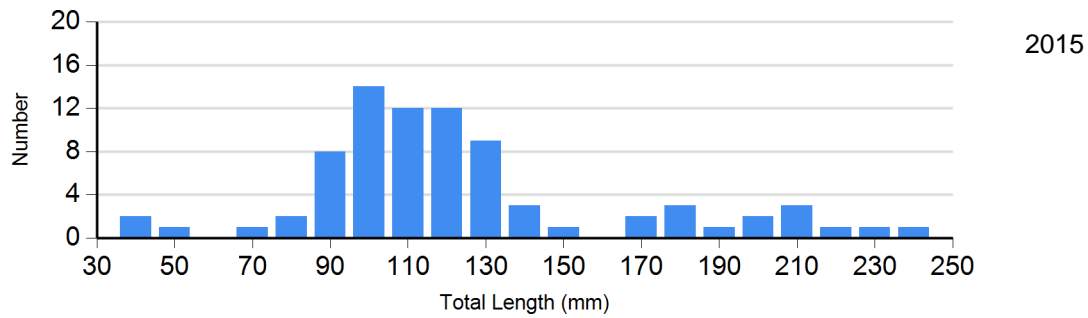
**Site: 317**  
**Species: Rainbow Trout**



**Site: 317**  
**Species: White Sucker**



**Site: 408**  
**Species: Brook Trout**



Site: 408  
Species: Rainbow Trout

