

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Bear Butte Creek, Meade County**  
**49-0023-00**  
**2017**

Table 1. Population and Biomass Estimates for Bear Butte Creek

<b>Site Number:</b> 951	<b>Date Sampled:</b> 05/11/2017	<b>Conductivity (umhos/cm):</b> 340
<b>Site Midpoint (Latitude, Longitude):</b> 44.33467177, -103.62481850	<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> 3.9	<b>Water Temperature (C):</b> 11.2
<b>Stream Classification:</b> BK2	<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	162	168	175	162	4278	131	1680	1733	117.02	2703	95.8	30.6
Brook Trout	>=200mm	9	9	9	9	229	20	90	93	17.78	145	212.1	86.9
Brook Trout	All	171	177	184	171	4507	179	1770	1825	159.67	2848	101.9	39.7
Longnose Dace	All	14	20	40	14	509	10	200	206	8.51	322	102.1	18.7
Mountain Sucker	All	1	1	2	1	25	1	10	10	1.07	16	156.0	47.0

<b>Site Number:</b> 988	<b>Date Sampled:</b> 05/11/2017	<b>Conductivity (umhos/cm):</b> 272
<b>Site Midpoint (Latitude, Longitude):</b> 44.32359378, -103.65026058	<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> 3.3	<b>Water Temperature (C):</b> 14.6
<b>Stream Classification:</b> BK2	<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	70	70	72	70	2127	64	700	861	57.20	1126	120.1	30.1
Brook Trout	>=200mm	4	4	4	4	122	11	40	49	9.71	64	215.8	89.5
Brook Trout	All	74	74	76	74	2249	79	740	911	70.61	1191	125.3	35.2

Longnose Dace      All      160      181      199      163      5500      69      1810      2228      61.74      2912      77.1      12.6

**Site Number:** 1029  
**Site Midpoint (Latitude, Longitude):** 44.30725097, -103.66899350  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BK3

**Date Sampled:** 08/26/2017      **Conductivity (umhos/cm):**  
**Site Length (m):** 100      **pH:**  
**Mean Width (m):** 3.4      **Water Temperature (C):** 16.5  
**Number of Pass:** 3      **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	9	9	11	9	263	15	90	106	13.05	145	134.7	55.7
Brook Trout	>=200mm	1	1	1	1	29	4	10	12	3.13	16	224.0	120.0
Brook Trout	All	10	10	12	10	292	19	100	118	16.90	161	143.6	64.9
Longnose Dace	All	29	30	33	29	875	13	300	355	11.33	483	77.3	14.5

**Site Number:** 1048  
**Site Midpoint (Latitude, Longitude):** 44.29859320, -103.67654526  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BK2

**Date Sampled:** 05/11/2017      **Conductivity (umhos/cm):** 192  
**Site Length (m):** 100      **pH:**  
**Mean Width (m):** 2.8      **Water Temperature (C):** 15.2  
**Number of Pass:** 3      **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	16	16	16	16	566	19	160	229	17.21	257	136.8	34.1
Brook Trout	>=200mm	2	2	3	2	71	8	20	29	6.98	32	223.0	110.5
Brook Trout	All	18	18	18	18	637	27	180	258	24.48	290	146.3	43.1
Longnose Dace	All	88	101	116	88	3572	59	1010	1447	52.63	1625	76.6	16.5
Mountain Sucker	All	12	13	18	12	460	13	130	186	11.64	209	126.9	28.4

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 Bear Butte Creek, 2007-2017

**Site 951**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 12, 2010	98	98-98	
	Oct 07, 2015	169	165-175	
	May 11, 2017	168	162-175	
Brook Trout >=200mm	Jul 12, 2010	12	12-12	BK2
	Oct 07, 2015	73	73-74	BK1
	May 11, 2017	9	9-9	BK2
Longnose Dace	Oct 07, 2015	14	12-21	

Longnose Dace	May 11, 2017	20	14-40
Mountain Sucker	Jul 12, 2010	2	2-2
	Oct 07, 2015	1	1-5
	May 11, 2017	1	1-2

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**Site 988**

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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	Sep 12, 2007	58	57-61	
	Jul 12, 2010	14	14-14	
	Jul 21, 2015	103	97-111	
	Jun 07, 2016	95	95-96	
	May 11, 2017	70	70-72	
Brook Trout >=200mm	Sep 12, 2007	2	2-2	BK2
	Jul 12, 2010	4	4-4	BK2
	Jul 21, 2015	14	14-14	BK3
	Jun 07, 2016	15	15-15	BK1
	May 11, 2017	4	4-4	BK2

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Longnose Dace	Jul 21, 2015	145	146-183
	Jun 07, 2016	174	155-193
	May 11, 2017	181	163-199
Mountain Sucker	Jul 12, 2010	5	5-5
White Sucker	Jul 21, 2015	10	10-10

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**Site 1029**

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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	Jul 13, 2010	8	8-8	
	Jul 09, 2014	10	10-11	
	Jun 07, 2016	22	19-30	
	Aug 26, 2017	9	9-11	
Brook Trout >=200mm	Jul 13, 2010	2	2-2	BK3
	Jul 09, 2014	3	3-3	BK2
	Aug 26, 2017	1	1-1	BK3
Longnose Dace	Jun 07, 2016	246	215-277	
	Aug 26, 2017	30	29-33	

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Mountain Sucker	Jul 13, 2010	1	1-1
	Jul 09, 2014	18	18-19
	Jun 07, 2016	10	10-10
White Sucker	Jul 09, 2014	33	31-38
	Jun 07, 2016	3	3-3

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**Site 1048**

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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	Jul 13, 2010	28	28-28	
	Jun 09, 2015	21	20-25	
	Jun 07, 2016	22	21-26	
	May 11, 2017	16	16-16	
Brook Trout >=200mm	Jul 13, 2010	2	2-2	BK2
	Jun 09, 2015	8	8-10	BK2
	Jun 07, 2016	5	5-5	BK2
	May 11, 2017	2	2-3	BK2
Longnose Dace	Jun 09, 2015	52	51-56	

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Longnose Dace	Jun 07, 2016	127	106-149
	May 11, 2017	101	88-116
Mountain Sucker	Jul 13, 2010	5	5-5
	Jun 09, 2015	4	4-5
	Jun 07, 2016	9	9-10
	May 11, 2017	13	12-18
White Sucker	Jun 09, 2015	4	4-5

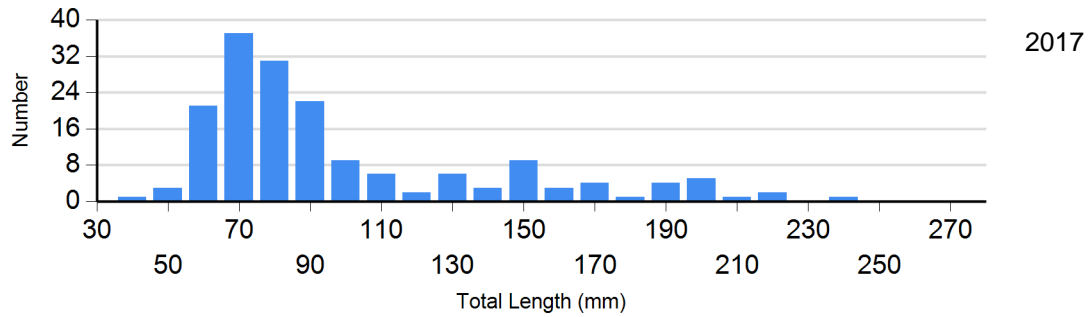
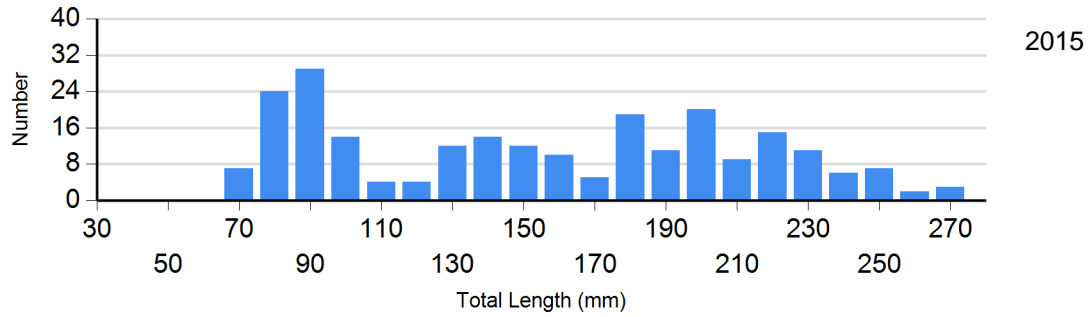
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## Length Frequency Distribution

Length frequency histogram of species sampled by year.

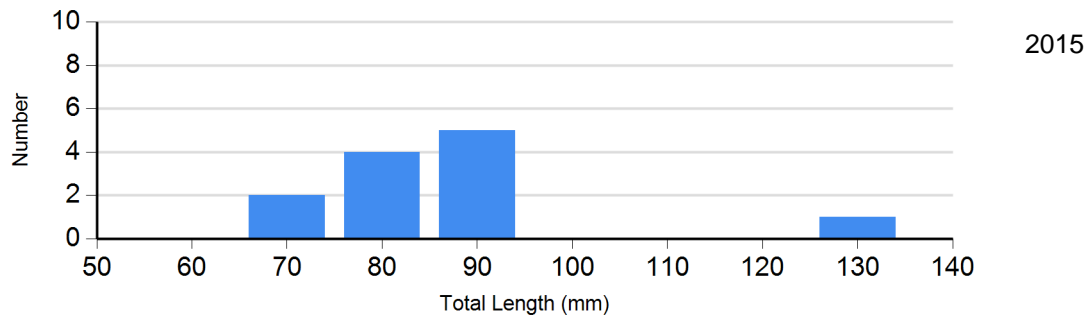
**Site:** 951

**Species:** Brook Trout

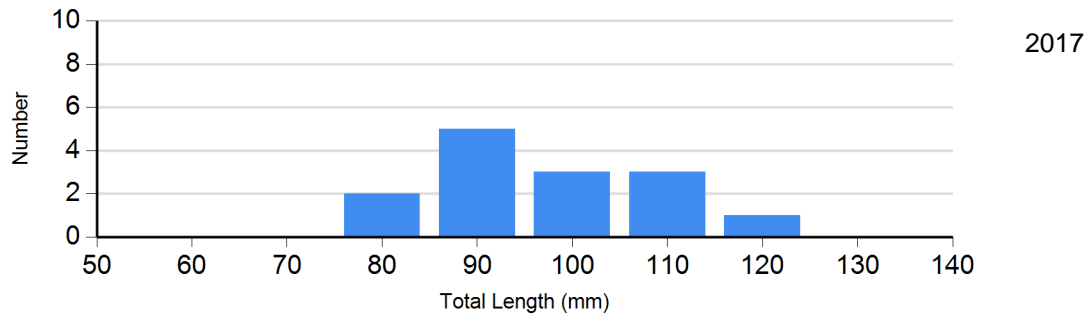


**Site:** 951

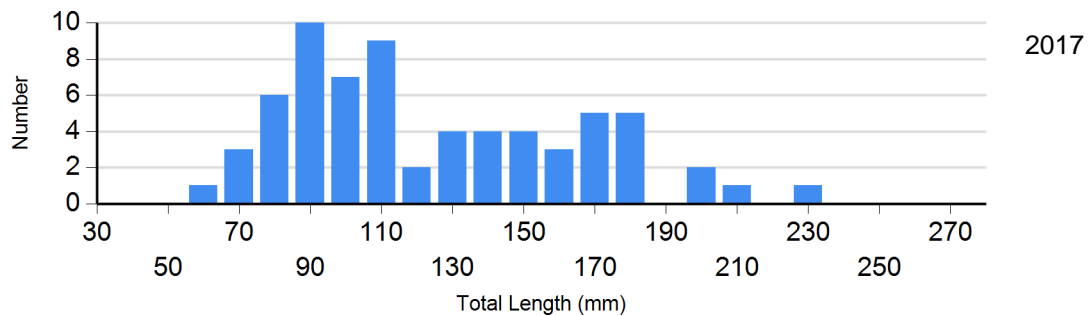
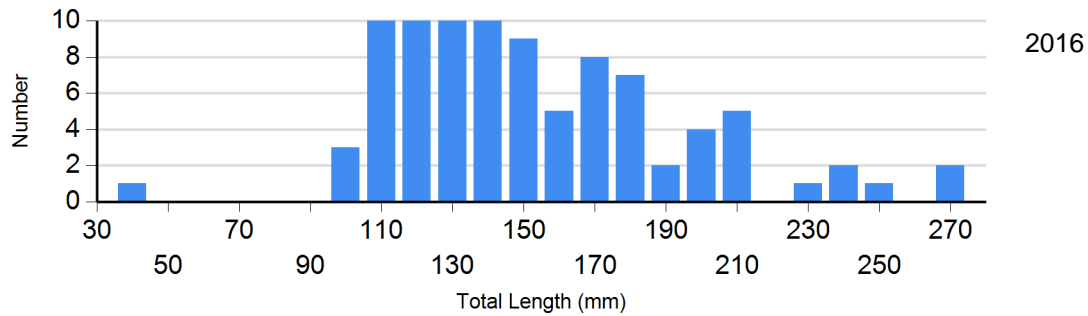
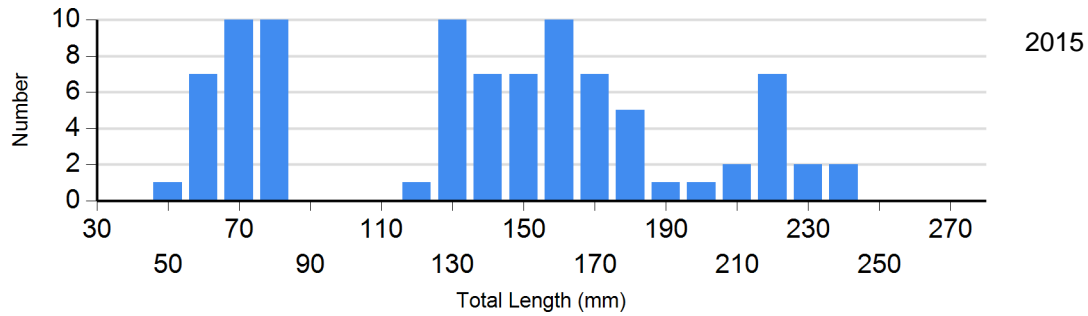
**Species:** Longnose Dace



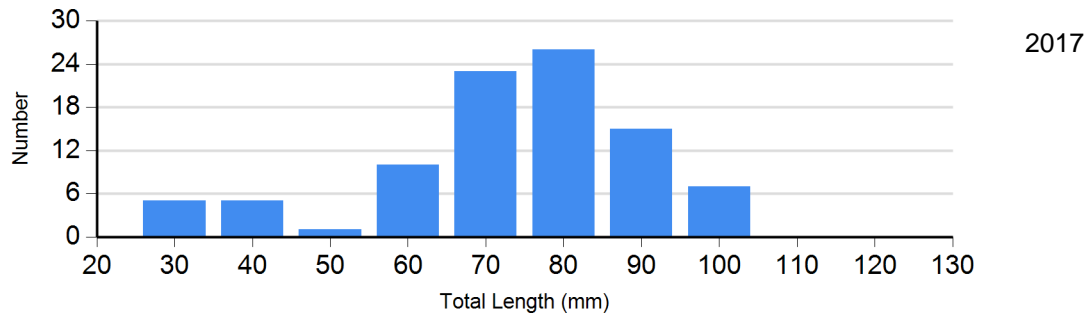
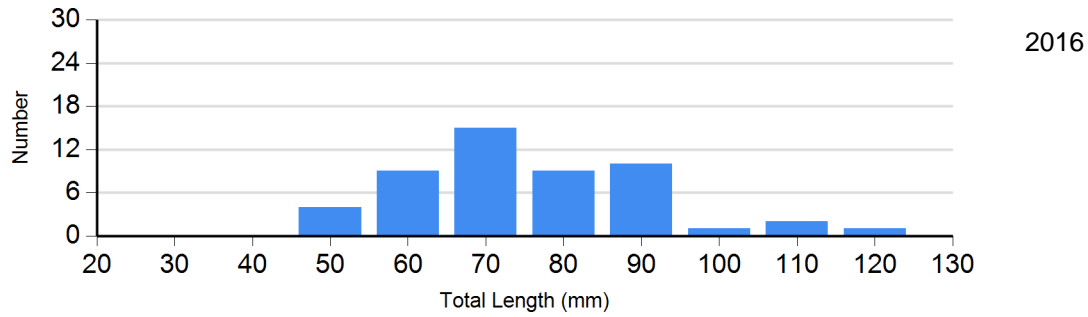
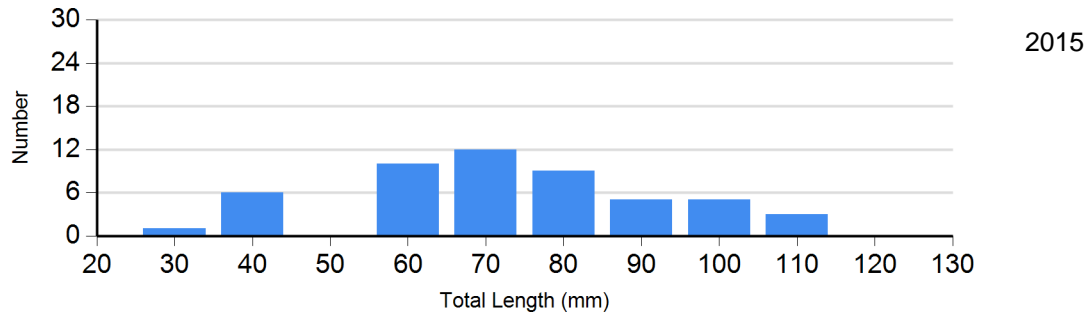




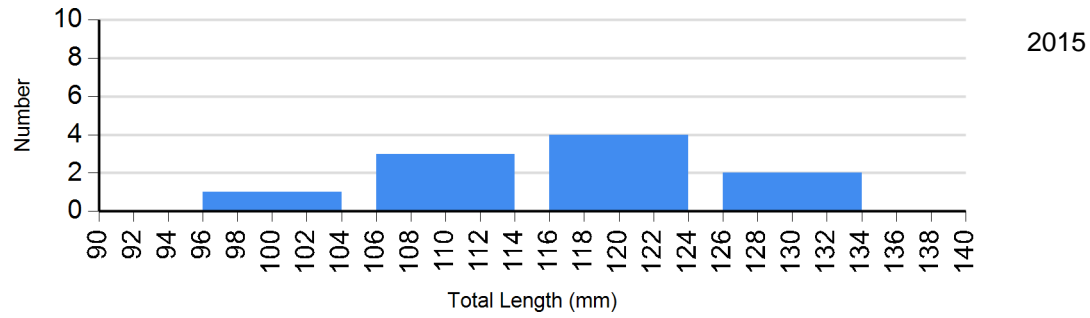
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Species: Brook Trout



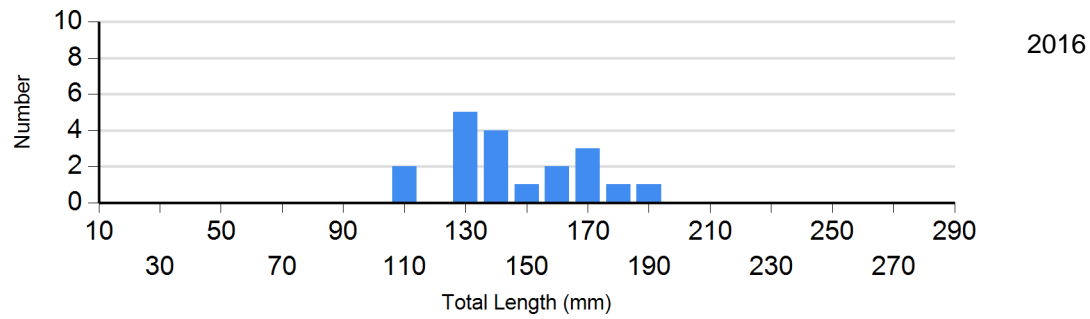
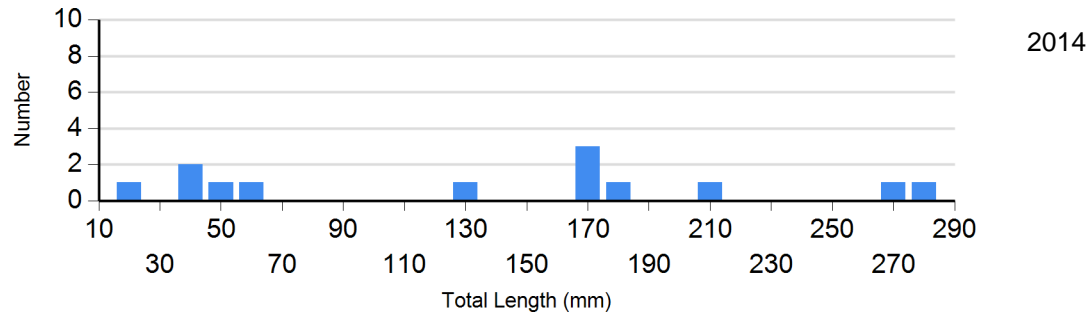
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Species: Longnose Dace

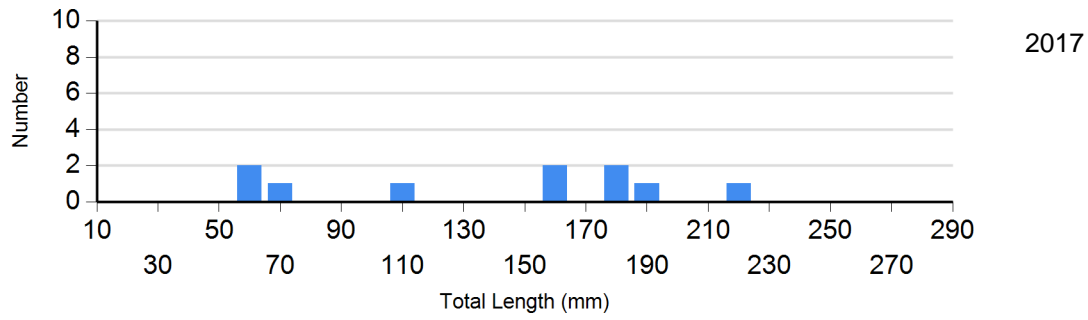


**Site:** 988  
**Species:** White Sucker

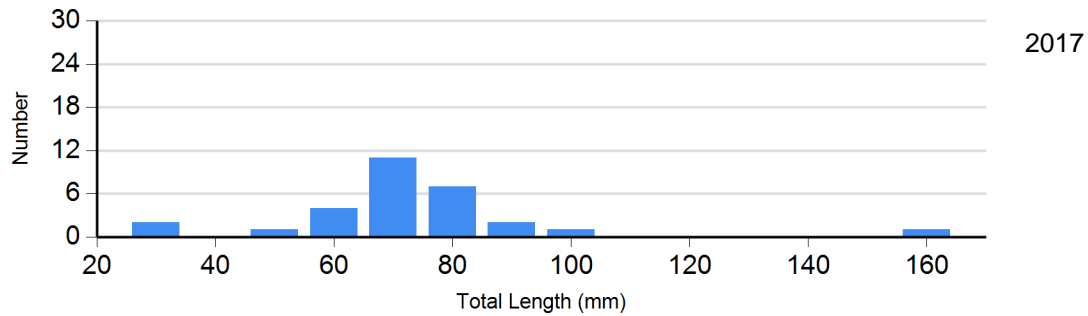
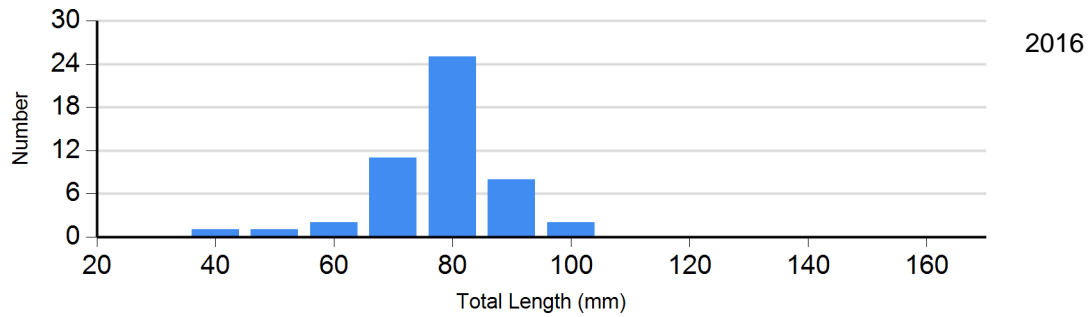
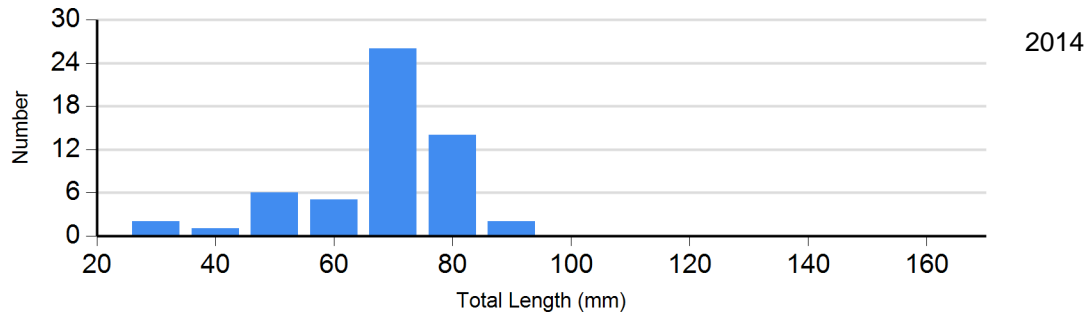


**Site:** 1029  
**Species:** Brook Trout

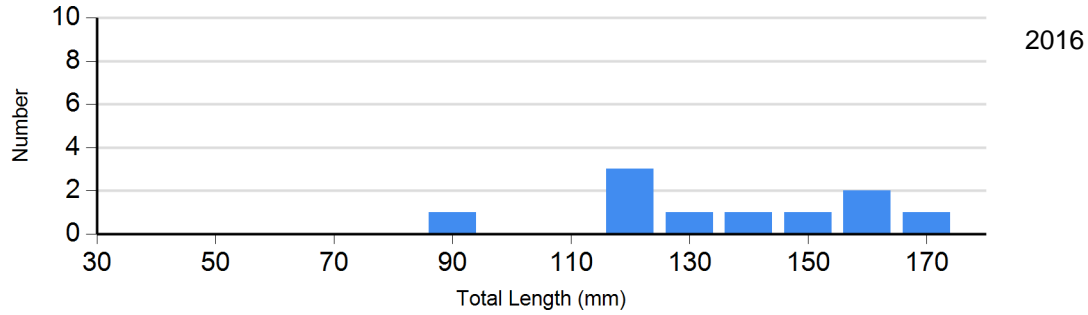
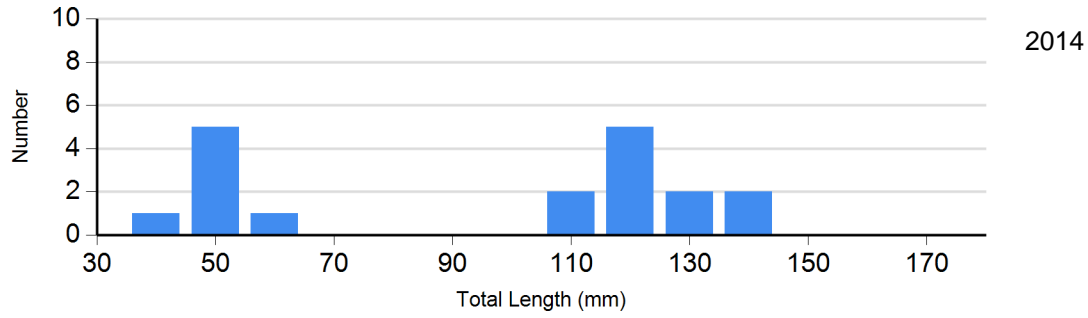




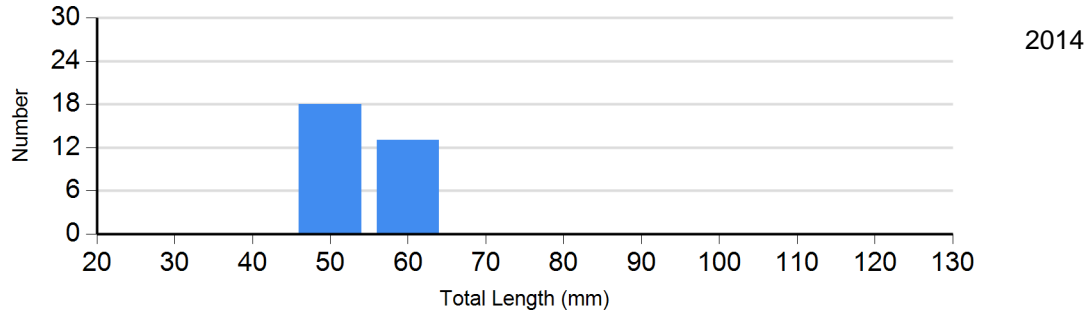
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**Species:** Longnose Dace

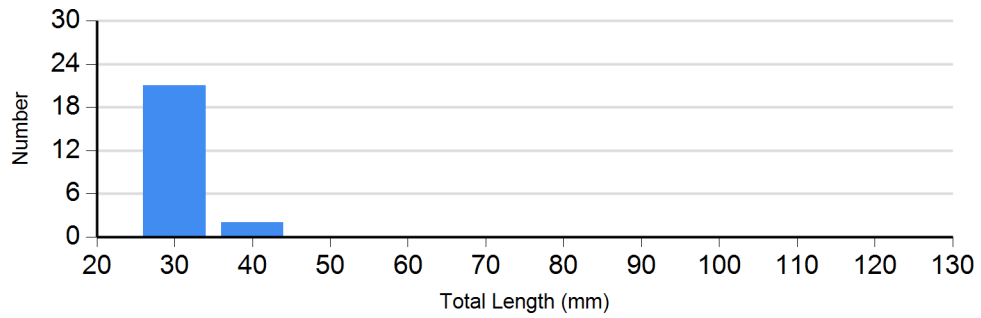


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**Species:** Mountain Sucker

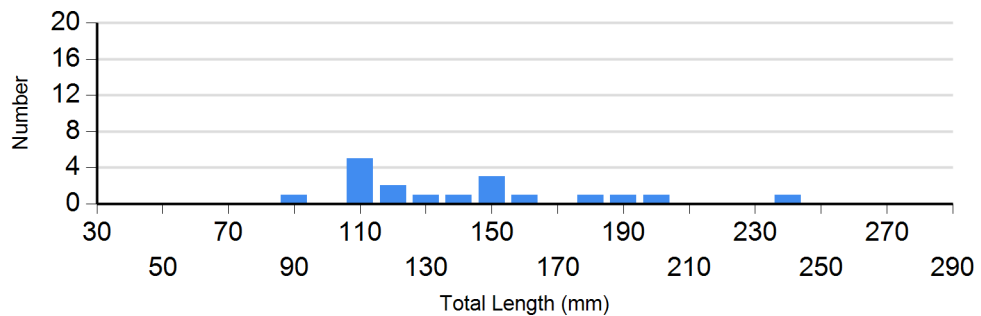
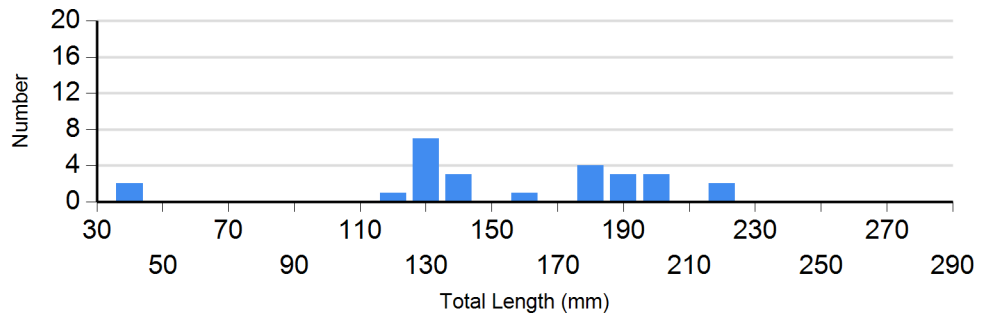
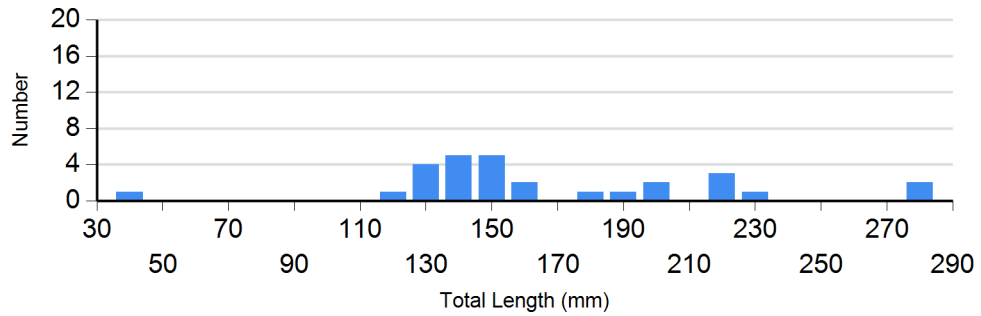


**Site:** 1029  
**Species:** White Sucker

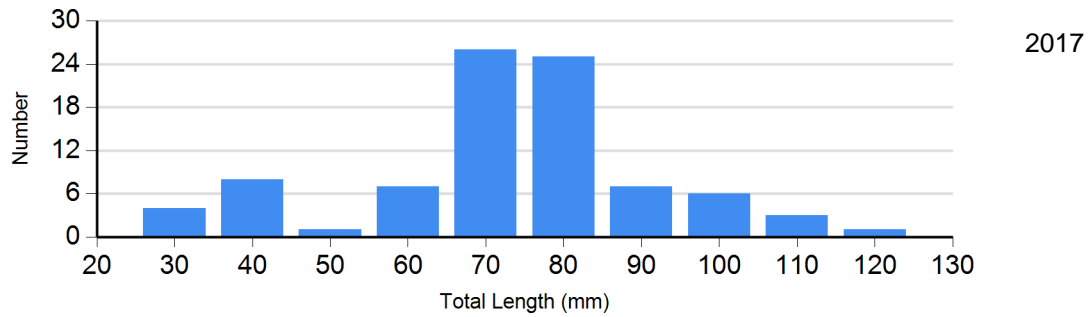
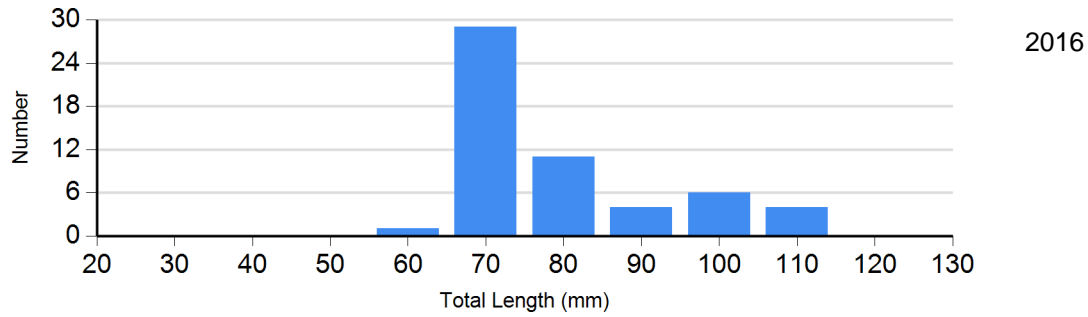
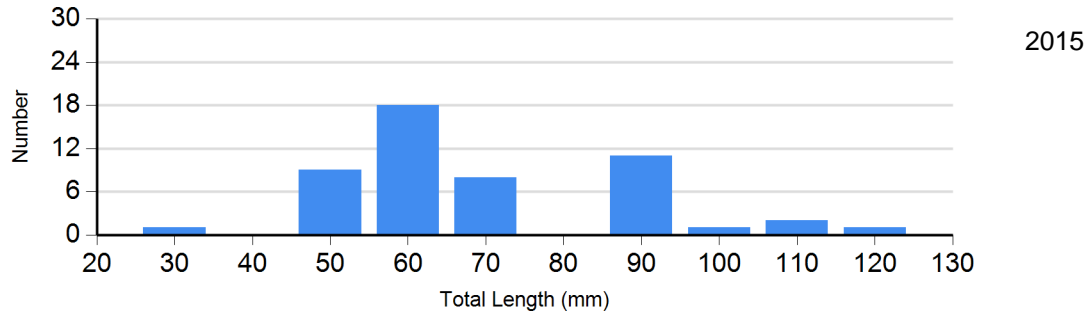




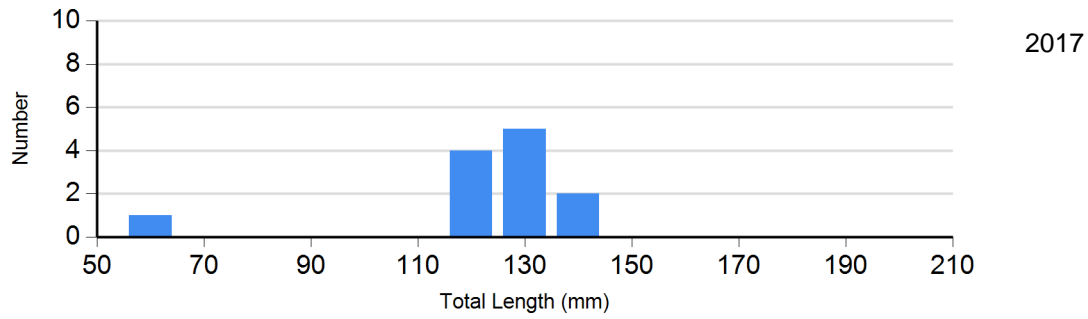
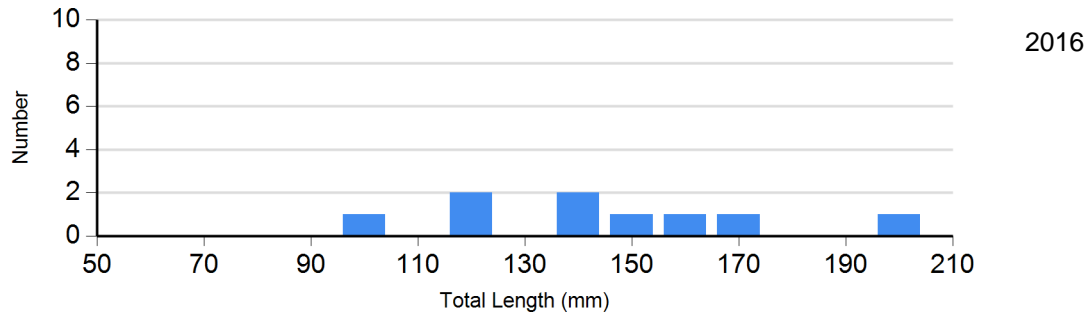
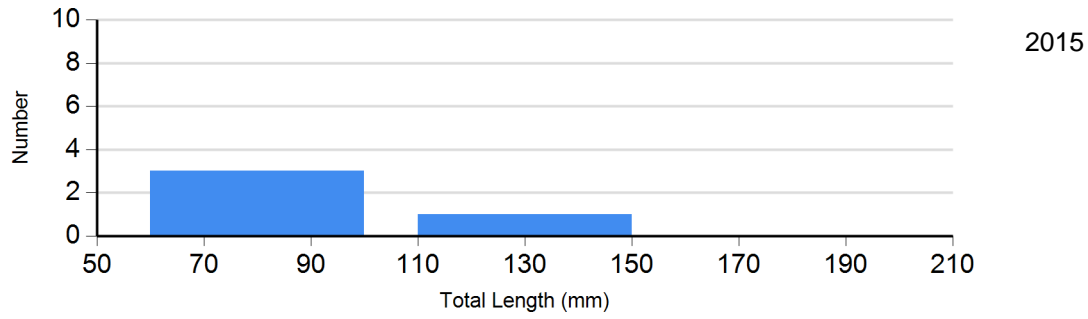
Site: 1048  
Species: Brook Trout



Site: 1048  
Species: Longnose Dace



**Site: 1048**  
**Species: Mountain Sucker**





Site: 1048  
Species: White Sucker

