

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Bear Butte Creek, Meade County
49-0023-00
2016

Table 1. Population and Biomass Estimates for Bear Butte Creek

Site Number: 988	Date Sampled: 06/07/2016	Conductivity (umhos/cm): 230
Site Midpoint (Latitude, Longitude): 44.32359378, -103.65026058	Site Length (m): 100	pH: 7.3
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.3	Water Temperature (C):
Stream Classification: BK1	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	95	95	96	95	2919	98	950	1182	87.26	1529	143.1	33.5
Brook Trout	>=200mm	15	15	15	15	461	55	150	187	48.78	241	227.3	118.5
Brook Trout	All	110	110	111	110	3380	153	1100	1369	136.36	1770	154.6	45.2
Longnose Dace	All	153	174	193	155	5346	98	1740	2165	87.52	2800	79.5	18.3

Site Number: 1006	Date Sampled: 06/07/2016	Conductivity (umhos/cm): 207
Site Midpoint (Latitude, Longitude): 44.31490370, -103.65143002	Site Length (m): 100	pH: 7.1
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.2	Water Temperature (C):
Stream Classification: BK3	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	37	37	39	37	1170	29	370	474	26.04	595	122.3	24.9
Brook Trout	>=200mm	1	1	1	1	32	4	10	13	3.98	16	225.0	141.0
Brook Trout	All	38	38	40	38	1201	34	380	486	30.63	611	125.0	28.6
Longnose Dace	All	614	676	704	648	21368	207	6760	8654	184.43	10877	68.3	9.7

Mountain Sucker All 1 1 1 1 32 0 10 13 0.40 16 130.0 14.0

Site Number: 1029
Site Midpoint (Latitude, Longitude): 44.30725097, -103.66899350
Survey Completed by:
Stream Classification: BK0

Date Sampled: 06/07/2016
Site Length (m): 100
Mean Width (m): 3.9
Number of Pass: 3
Conductivity (umhos/cm): 192
pH: 7.4
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	19	22	30	19	560	21	220	227	18.82	354	150.6	37.6
Brook Trout	All	19	22	30	19	560	21	220	227	18.82	354	150.6	37.6
Longnose Dace	All	205	246	277	215	6264	72	2460	2537	64.32	3958	82.1	11.5
Mountain Sucker	All	10	10	10	10	255	9	100	103	8.31	161	140.4	36.6
White Sucker	All	3	3	3	3	76	1	30	31	1.32	48	114.7	19.3

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: 06/07/2016
Site Length (m): 100
Mean Width (m): 2.4
Number of Pass: 3
Conductivity (umhos/cm): 162
pH: 7.2
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	21	22	26	21	920	40	220	373	35.72	354	145.7	43.5
Brook Trout	>=200mm	5	5	5	5	209	20	50	85	18.04	80	210.8	96.6
Brook Trout	All	26	27	30	26	1129	62	270	457	54.99	434	158.2	54.5
Longnose Dace	All	106	127	149	106	5312	72	1270	2151	64.50	2043	83.7	13.6
Mountain Sucker	All	9	9	10	9	376	15	90	152	13.71	145	149.4	40.8

Site Number: 1077

Site Midpoint (Latitude, Longitude): 44.28798072, -103.69289253

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK1

Date Sampled: 06/07/2016

Site Length (m): 100

Mean Width (m): 1.3

Number of Pass: 3

Conductivity (umhos/cm): 101

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	67	67	69	67	5014	101	670	2031	90.32	1078	118.6	20.2
Brook Trout	>=200mm	5	5	5	5	374	36	50	152	32.20	80	209.4	96.4
Brook Trout	All	72	72	74	72	5388	139	720	2182	124.43	1158	124.9	25.9
Longnose Dace	All	48	51	57	48	3816	49	510	1546	43.87	821	86.8	12.9

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	
Class BR1	Number of wild Brown Trout exceeds 150 per acre
Class BR2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BR3	Number of wild Brown Trout is less than 25 per acre
Class BK1	Number of wild Brook Trout exceeds 150 per acre
Class BK2	Number of wild Brook Trout ranges from 25 to 150 per acre
Class BK3	Number of wild Brook Trout is less than 25 per acre
Class RB1	Number of wild Rainbow Trout exceeds 25 per acre
Class RB2	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on Bear Butte Creek, 2006-2016

Site 988

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
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	
Brook Trout >=200mm	Sep 12, 2007	2	2-2	BK2
	Jul 12, 2010	4	4-4	BK2
	Jul 21, 2015	14	14-14	BK3

Brook Trout >=200mm	Jun 07, 2016	15	15-15	BK1
Longnose Dace	Jul 21, 2015	145	146-183	
	Jun 07, 2016	174	155-193	
Mountain Sucker	Jul 12, 2010	5	5-5	
White Sucker	Jul 21, 2015	10	10-10	

Site 1006

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 09, 2014	12	10-20	
	Jun 07, 2016	37	37-39	
Brook Trout >=200mm	Jul 09, 2014	2	2-2	BK2
	Jun 07, 2016	1	1-1	BK3
Longnose Dace	Jun 07, 2016	676	648-704	
Mountain Sucker	Jul 09, 2014	9	9-10	
	Jun 07, 2016	1	1-1	

Site 1029

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 13, 2010	8	8-8	

Brook Trout <200mm	Jul 09, 2014	10	10-11	
	Jun 07, 2016	22	19-30	
Brook Trout >=200mm	Jul 13, 2010	2	2-2	BK3
	Jul 09, 2014	3	3-3	BK2
Longnose Dace	Jun 07, 2016	246	215-277	
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	

Site 1048

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 13, 2010	28	28-28	
	Jun 09, 2015	21	20-25	
	Jun 07, 2016	22	21-26	
Brook Trout >=200mm	Jul 13, 2010	2	2-2	BK2

Brook Trout >=200mm	Jun 09, 2015	8	8-10	BK2
	Jun 07, 2016	5	5-5	BK2
Longnose Dace	Jun 09, 2015	52	51-56	
	Jun 07, 2016	127	106-149	
Mountain Sucker	Jul 13, 2010	5	5-5	
	Jun 09, 2015	4	4-5	
	Jun 07, 2016	9	9-10	
White Sucker	Jun 09, 2015	4	4-5	

Site 1077

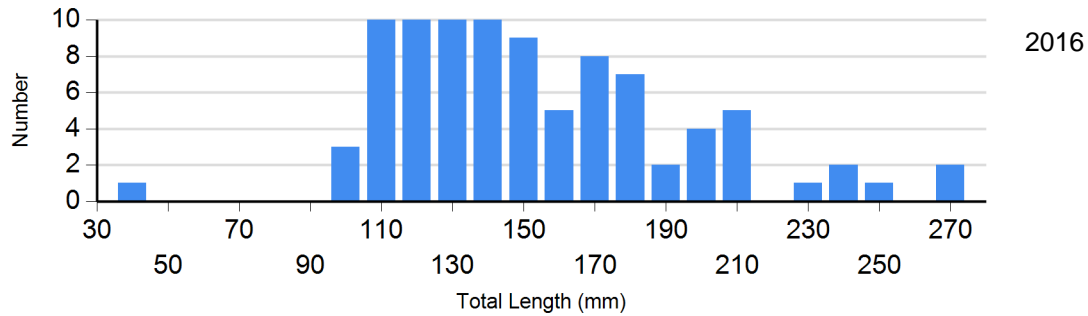
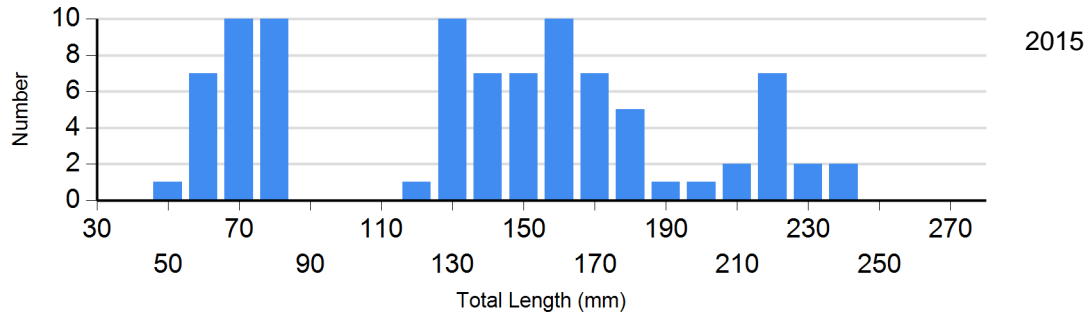
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 06, 2015	32	30-37	
	Jun 07, 2016	67	67-69	
Brook Trout >=200mm	Jun 06, 2015	2	2-3	BK2
	Jun 07, 2016	5	5-5	BK1
Longnose Dace	Jun 06, 2015	27	27-29	
	Jun 07, 2016	51	48-57	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

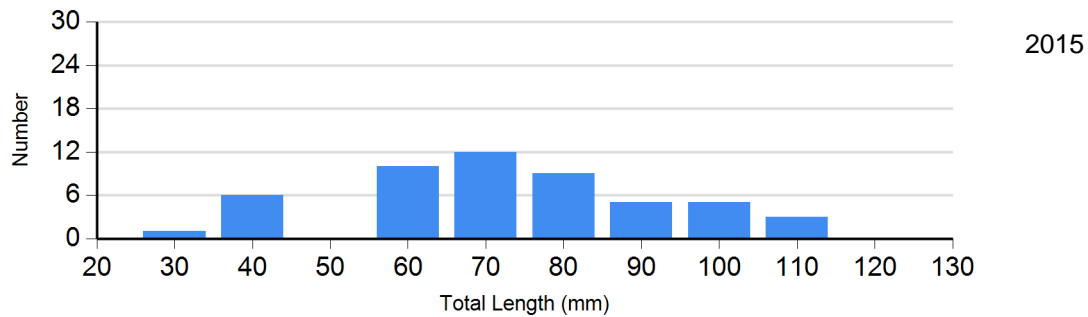
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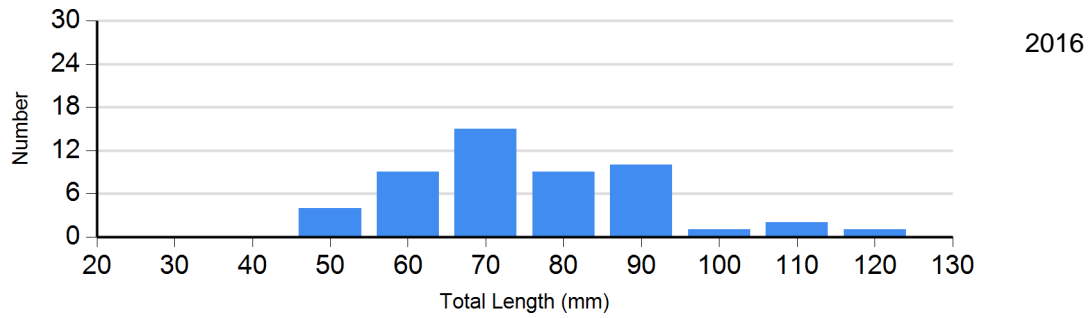
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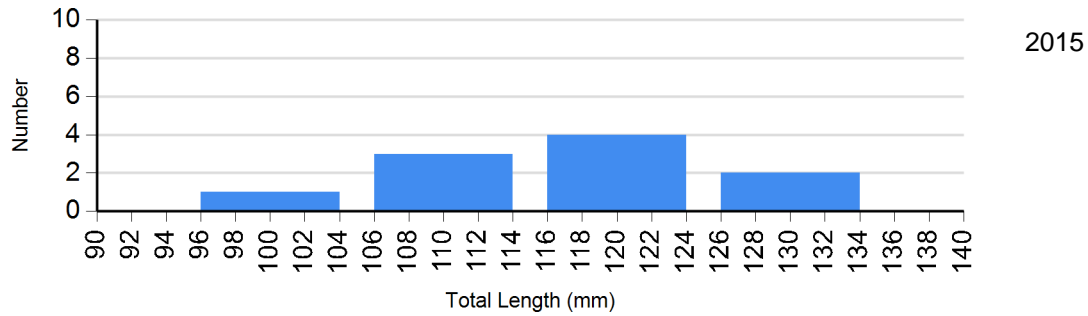
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Species: Longnose Dace

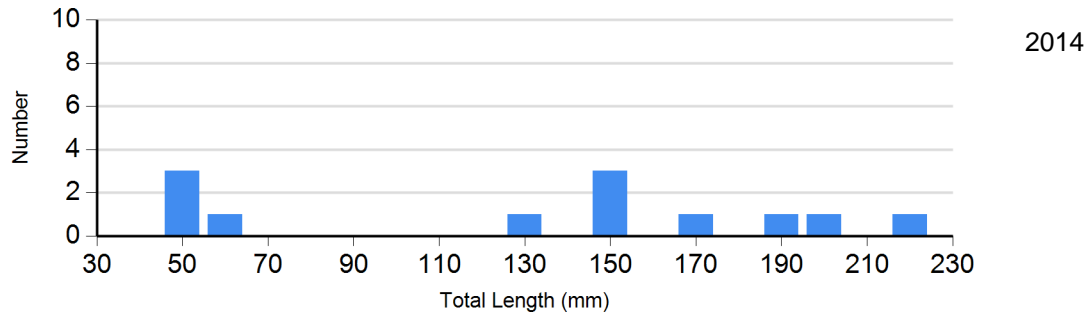


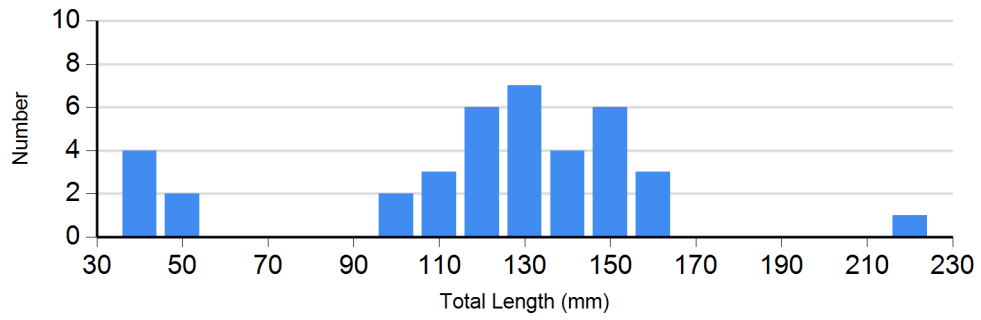


Site: 988
Species: White Sucker

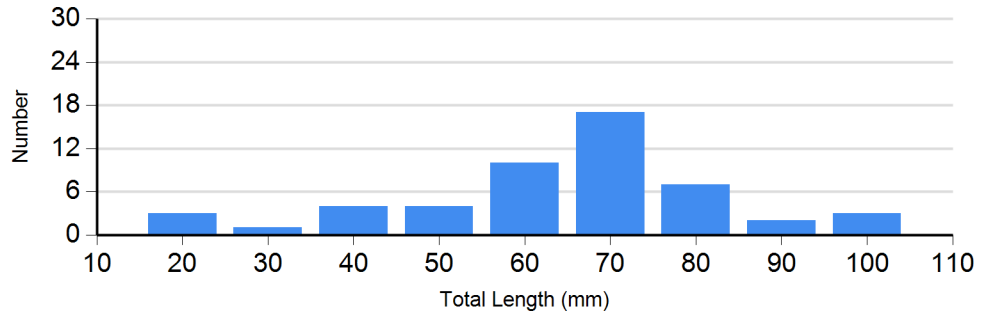
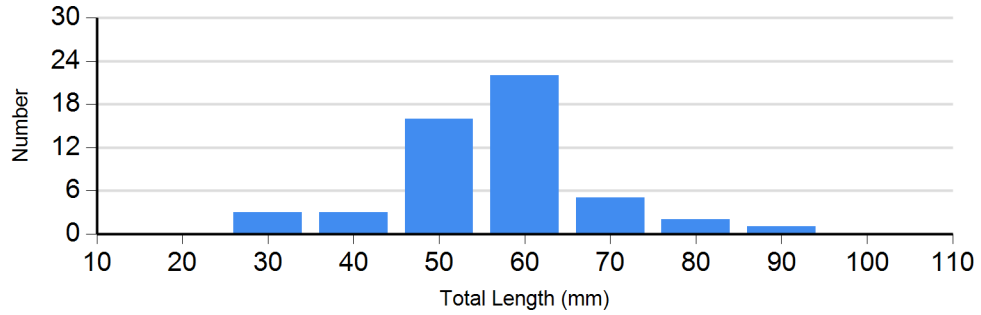


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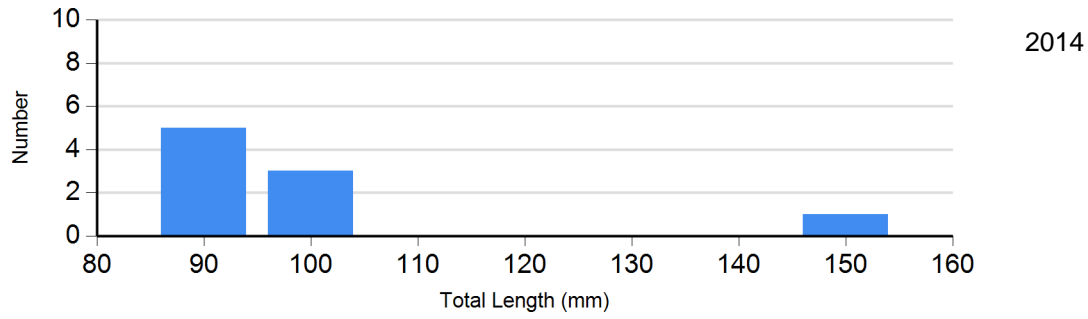




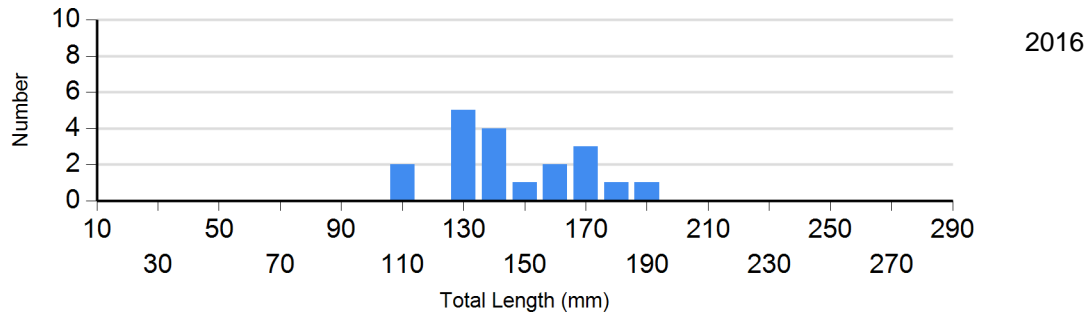
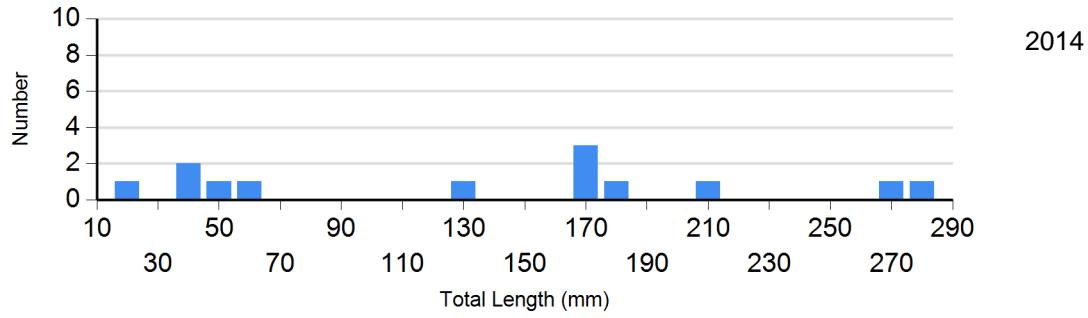
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Species: Longnose Dace



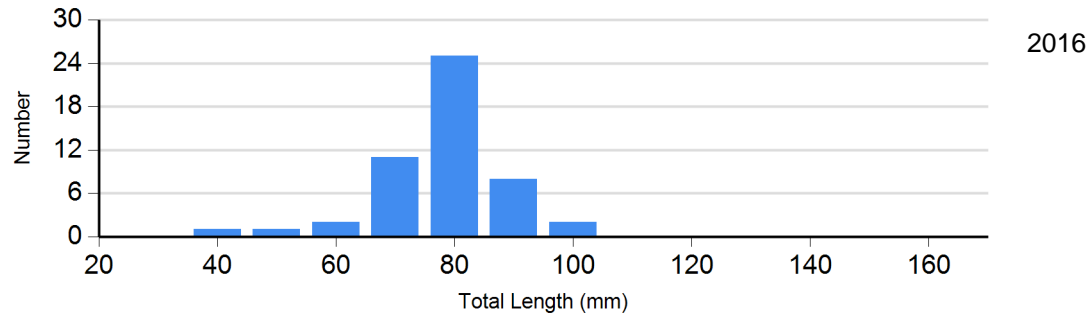
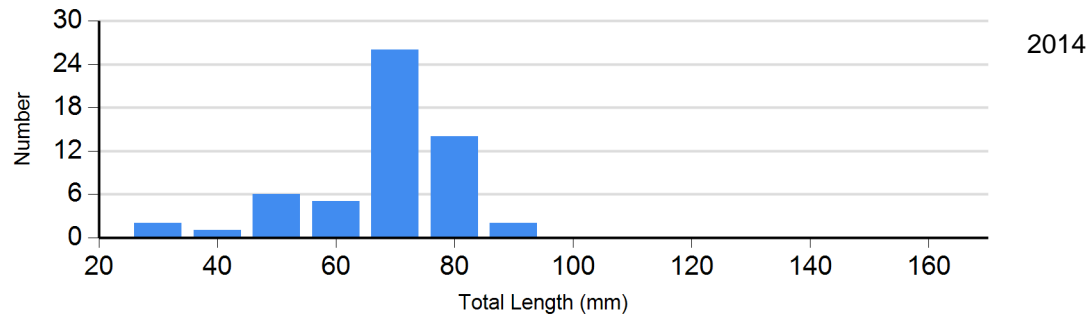
Site: 1006
Species: Mountain Sucker



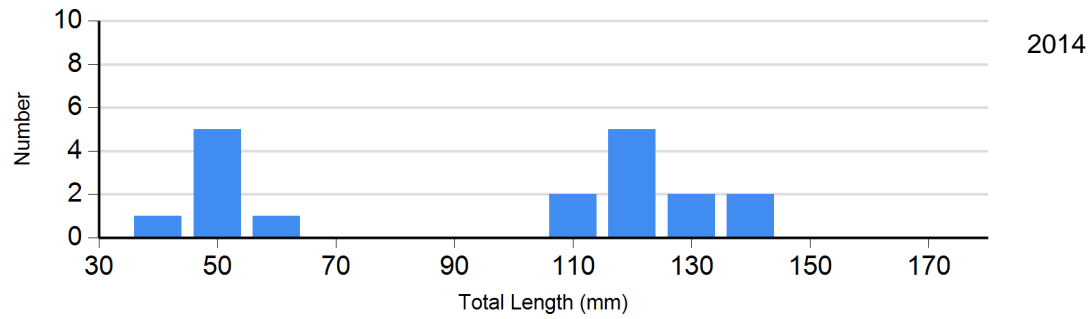
Site: 1029
Species: Brook Trout

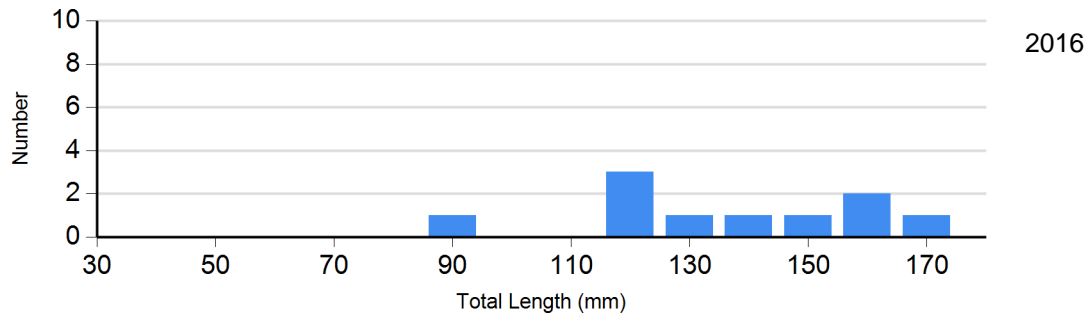


Site: 1029
Species: Longnose Dace

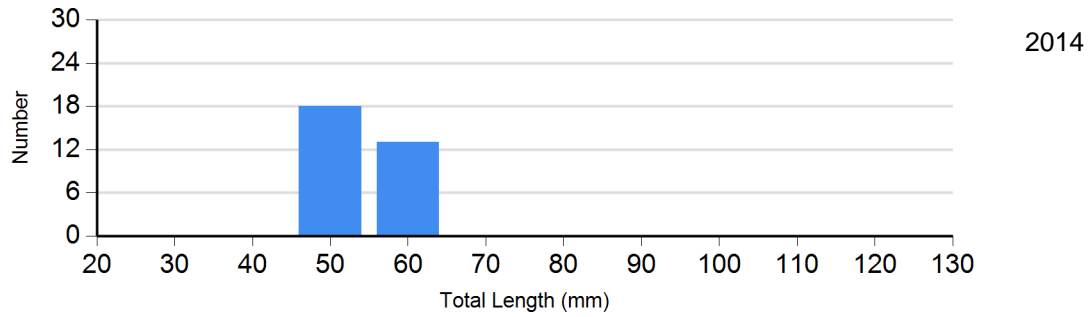


Site: 1029
Species: Mountain Sucker

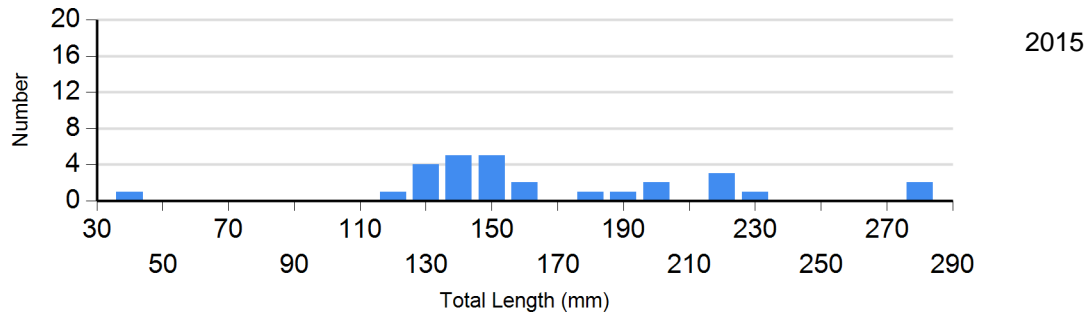


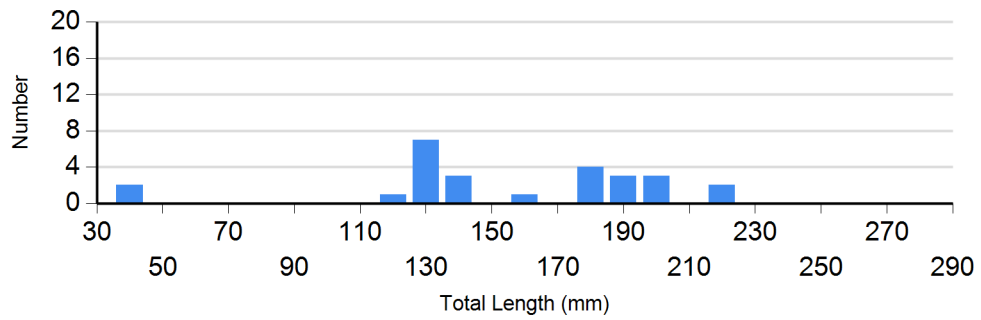


Site: 1029
Species: White Sucker

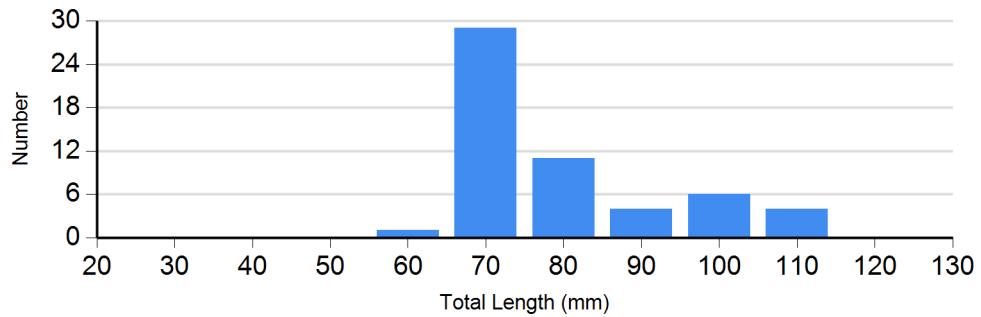
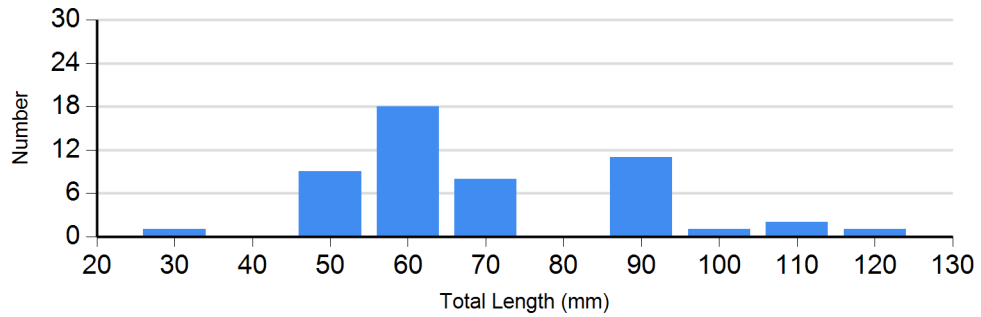


Site: 1048
Species: Brook Trout

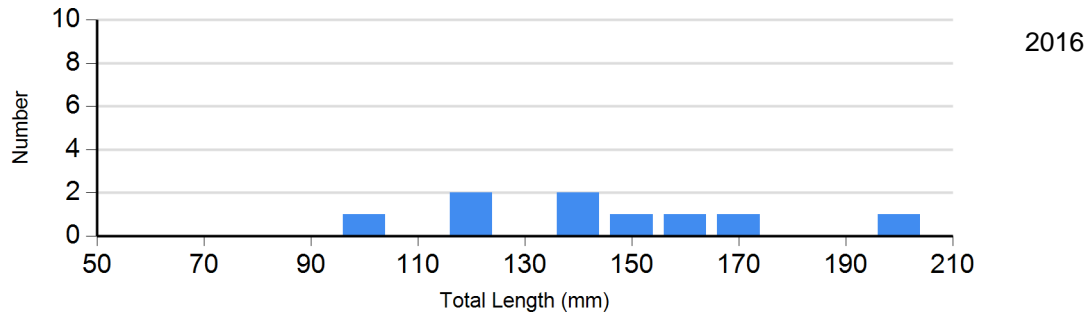
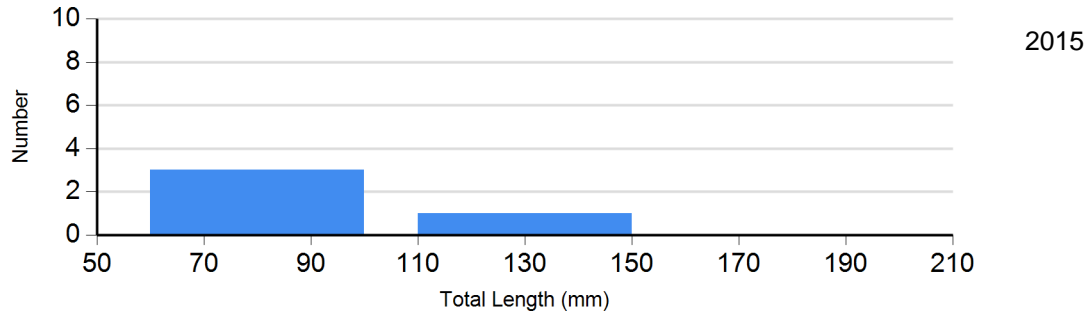




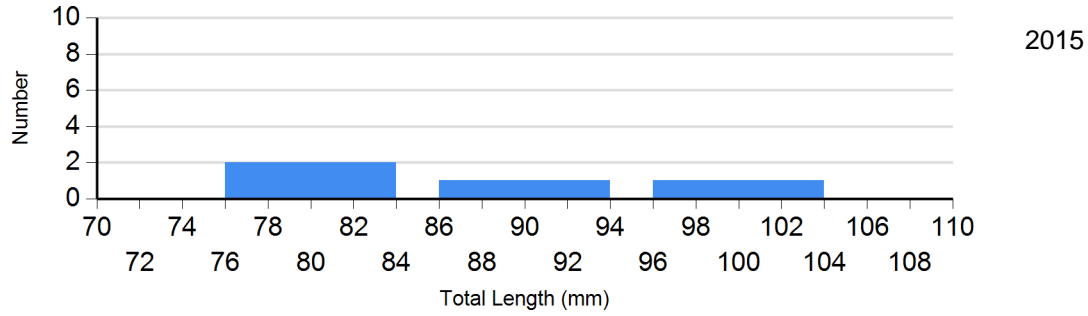
Site: 1048
Species: Longnose Dace



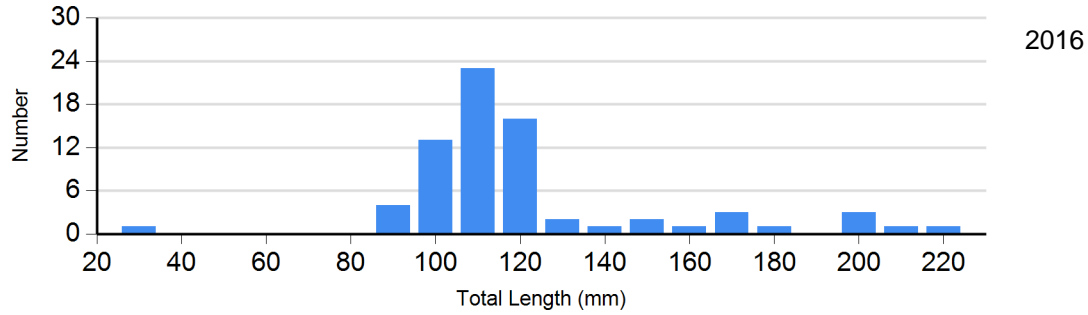
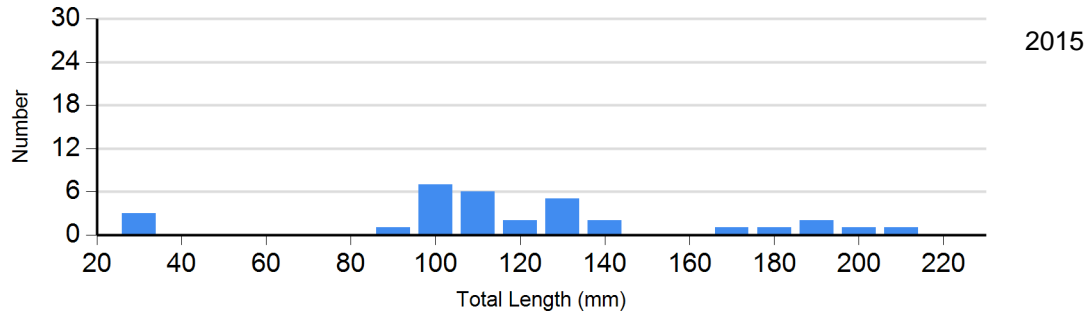
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Species: Mountain Sucker



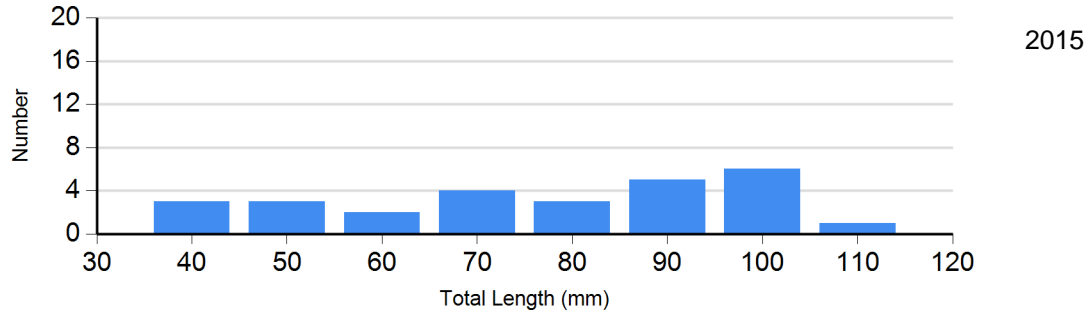
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Species: White Sucker

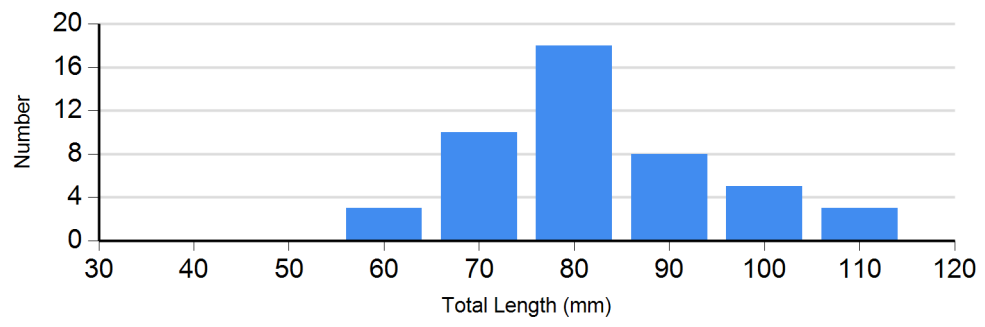


Site: 1077
Species: Brook Trout



Site: 1077
Species: Longnose Dace





2016