

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Bear Butte Creek, Meade County
49-0023-00
2018

Table 1. Population and Biomass Estimates for Bear Butte Creek

Site Number: 664	Date Sampled: 07/26/2018	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.42998180, -103.43069682	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 1.7	Water Temperature (C): 17.0
Stream Classification: BK2	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	89	91	95	89	5324	152	910	2156	136.11	1464	118.1	28.6
Brook Trout	>=200mm	2	2	2	2	117	12	20	47	10.45	32	205.5	100.0
Brook Trout	All	91	93	97	91	5441	167	930	2204	149.46	1496	120.0	30.8
Longnose Dace	All	22	25	33	22	1463	24	250	592	21.55	402	75.8	16.5

Site Number: 951	Date Sampled: 05/21/2018	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.33467177, -103.62481850	Site Length (m): 100	pH:
Survey Completed by:	Mean Width (m): 5.6	Water Temperature (C):
Stream Classification: BK0	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	102	110	120	102	1952	35	1100	790	31.63	1770	93.8	18.2
Brook Trout	All	102	110	120	102	1952	35	1100	790	31.63	1770	93.8	18.2
Longnose Dace	All	16	21	36	16	373	7	210	151	5.82	338	91.9	17.5

Site Number: 988

Site Midpoint (Latitude, Longitude): 44.32359378, -103.65026058

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0

Date Sampled: 05/21/2018

Site Length (m): 100

Mean Width (m): 3.9

Number of Pass: 3

Conductivity (umhos/cm):

pH:

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	27	27	29	27	692	19	270	280	16.88	434	125.7	27.3
Brook Trout	All	27	27	29	27	692	19	270	280	16.88	434	125.7	27.3
Longnose Dace	All	96	112	130	96	2872	42	1120	1163	37.82	1802	65.7	14.8

Site Number: 1029

Site Midpoint (Latitude, Longitude): 44.30725097, -103.66899350

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0

Date Sampled: 05/21/2018

Site Length (m):

Mean Width (m): 4.0

Number of Pass: 3

Conductivity (umhos/cm):

pH:

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	16	16	17	16	0	0	0	0	0.00	0	131.8	26.1
Brook Trout	All	16	16	17	16	0	0	0	0	0.00	0	131.8	26.1
Longnose Dace	All	10	12	20	10	0	0	0	0	0.00	0	89.8	18.0

Site Number: 1048

Site Midpoint (Latitude, Longitude): 44.29859320, -103.67654526

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0

Date Sampled: 07/26/2018

Site Length (m): 100

Mean Width (m): 2.5

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C): 18.0

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	48	48	49	48	1886	83	480	764	73.76	772	113.5	43.8
Brook Trout	All	48	48	49	48	1886	83	480	764	73.76	772	113.5	43.8

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	
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, 2008-2018

Site 664

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 26, 2018	91	89-95	
Brook Trout >=200mm	Jul 26, 2018	2	2-2	BK2
Longnose Dace	Jul 26, 2018	25	22-33	

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	May 21, 2018	110	102-120	
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	
	May 11, 2017	20	14-40	
	May 21, 2018	21	16-36	

Site 988

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 12, 2010	14	14-14	
	Jul 21, 2015	103	97-111	
	Jun 07, 2016	95	95-96	
	May 11, 2017	70	70-72	
	May 21, 2018	27	27-29	
Brook Trout >=200mm	Jul 12, 2010	4	4-4	BK2
	Jul 21, 2015	14	14-14	BK3

Brook Trout >=200mm	Jun 07, 2016	15	15-15	BK1
	May 11, 2017	4	4-4	BK2
Longnose Dace	Jul 21, 2015	145	146-183	
	Jun 07, 2016	174	155-193	
	May 11, 2017	181	163-199	
	May 21, 2018	112	96-130	

Site 1029

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
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	
	May 21, 2018	16	16-17	
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
	May 21, 2018	12	10-20

Site 1048

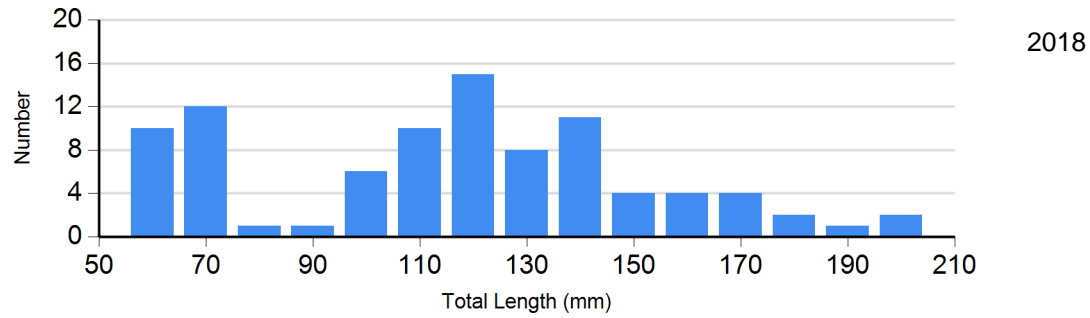
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jul 13, 2010	28	28-28	
	Jun 09, 2015	21	20-25	
	Jun 07, 2016	22	21-26	
	May 11, 2017	16	16-16	
	Jul 26, 2018	48	48-49	
Brook Trout >=200mm	Jul 13, 2010	2	2-2	BK2
	Jun 09, 2015	8	8-10	BK2
	Jun 07, 2016	5	5-5	BK2
	May 11, 2017	2	2-3	BK2
Longnose Dace	Jun 09, 2015	52	51-56	
	Jun 07, 2016	127	106-149	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

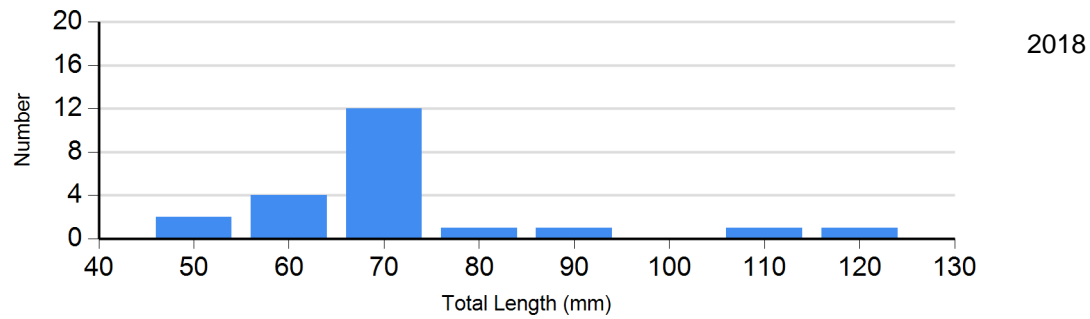
Site: 664

Species: Brook Trout



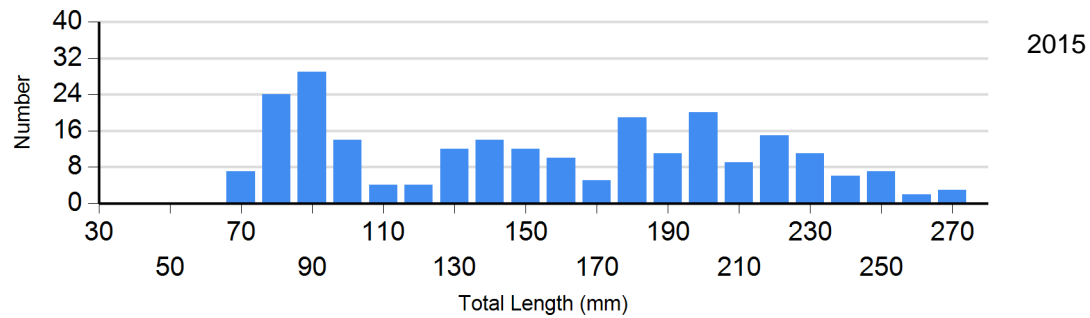
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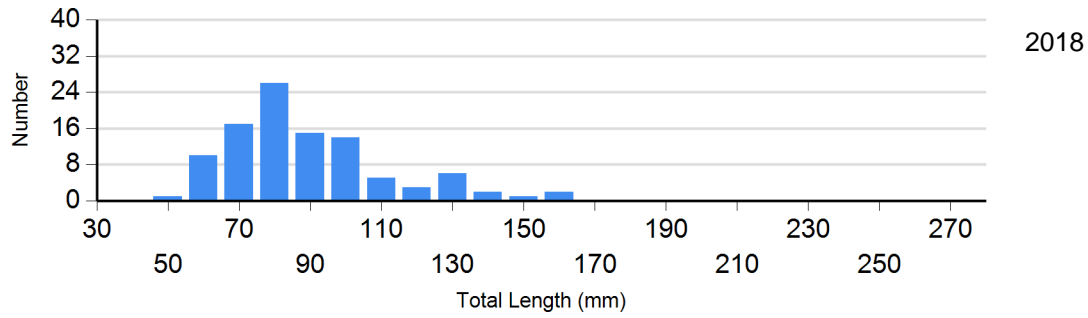
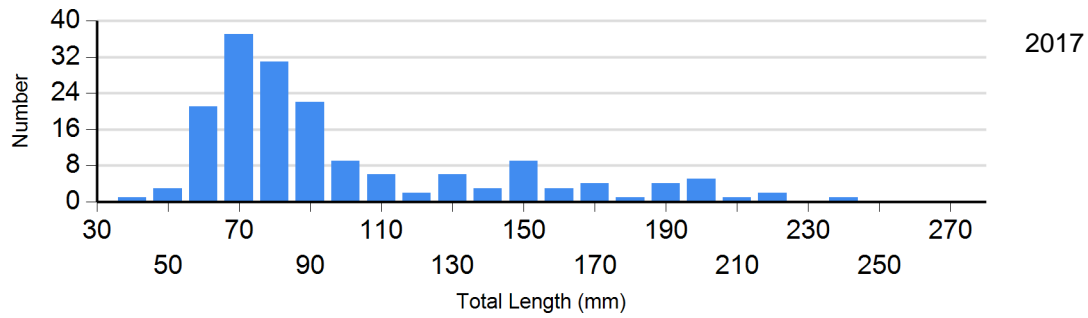
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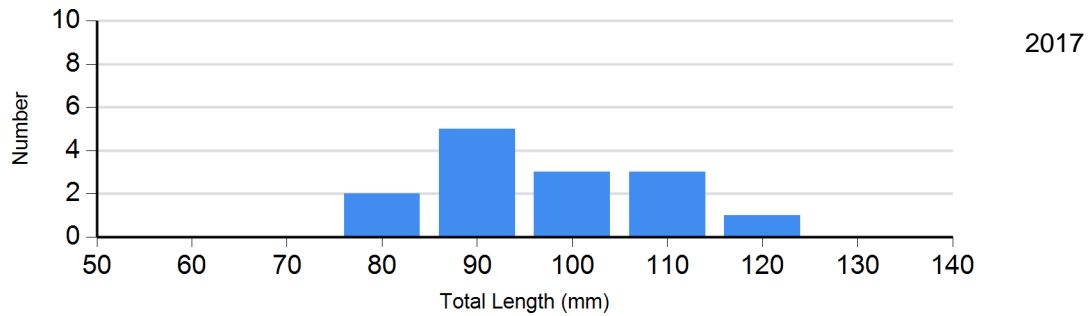
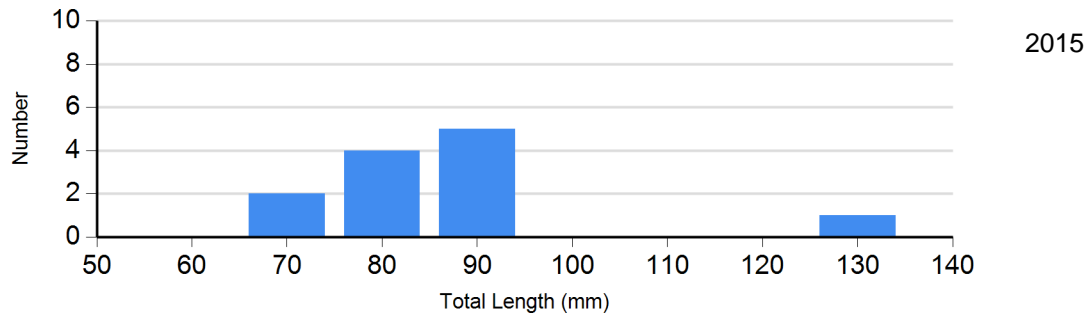
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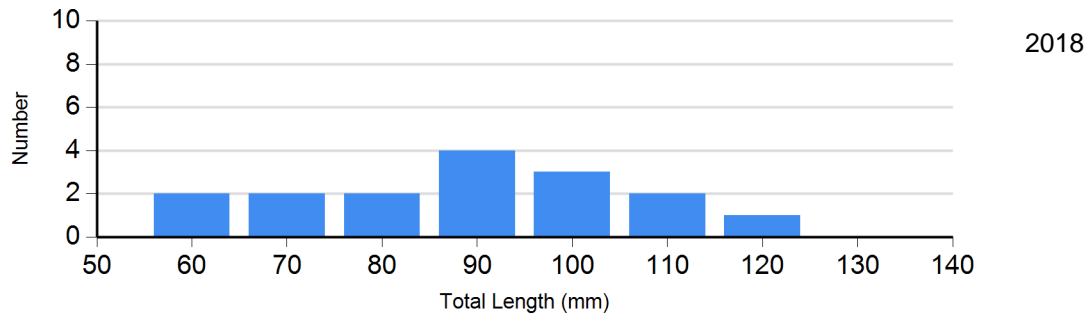
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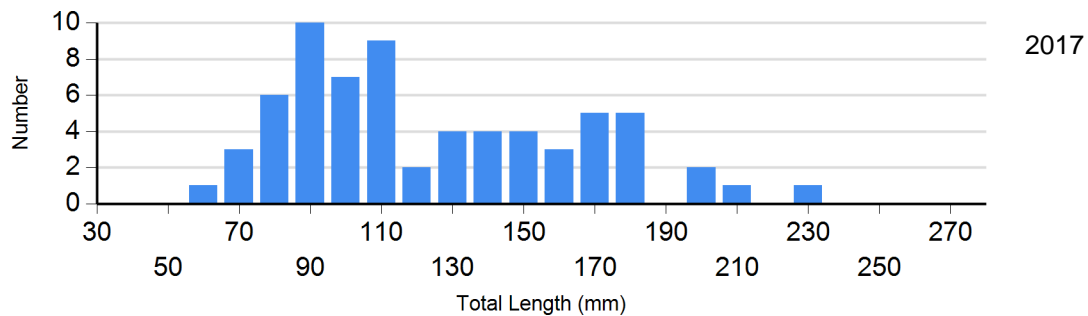
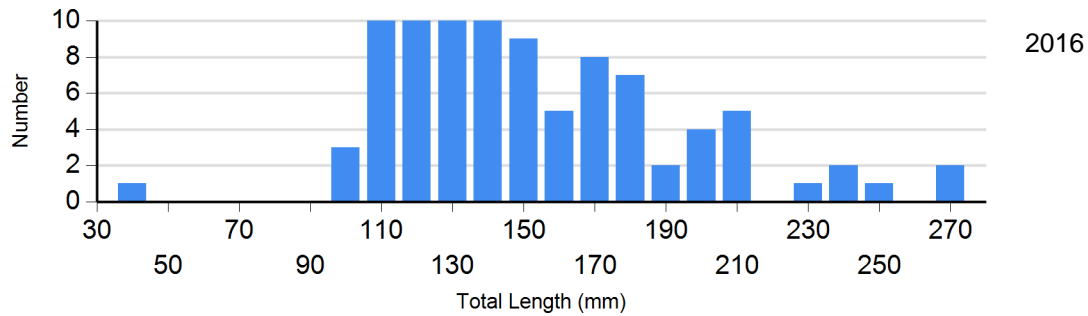
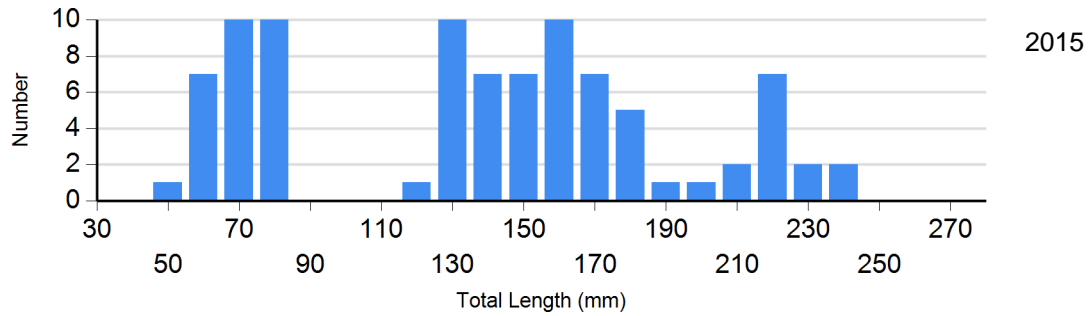


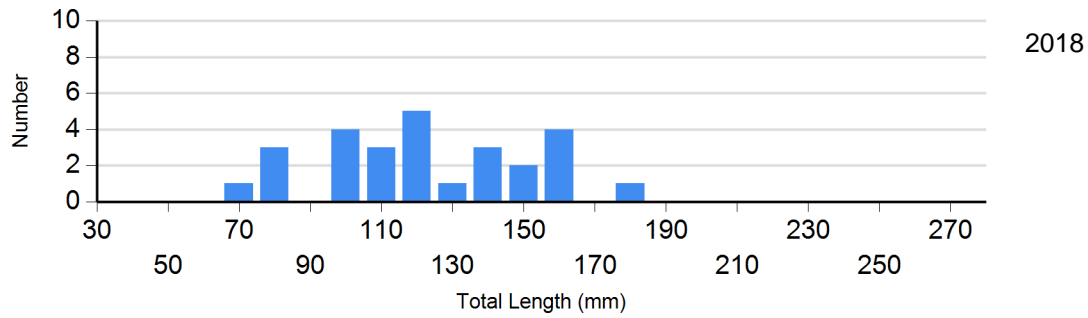
Site: 951
Species: Longnose Dace



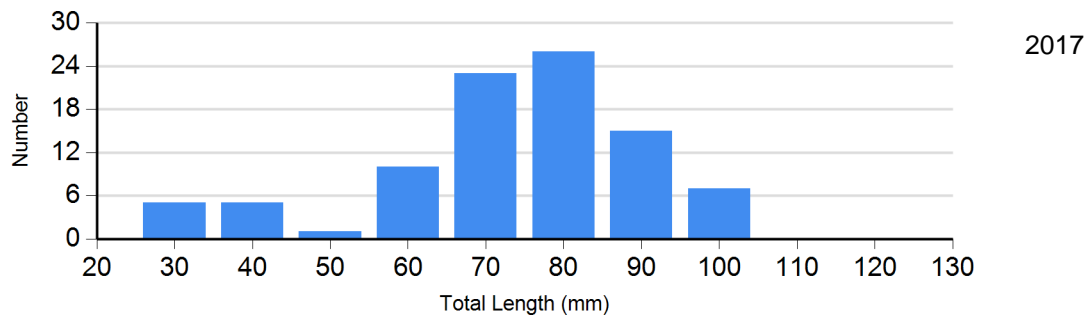
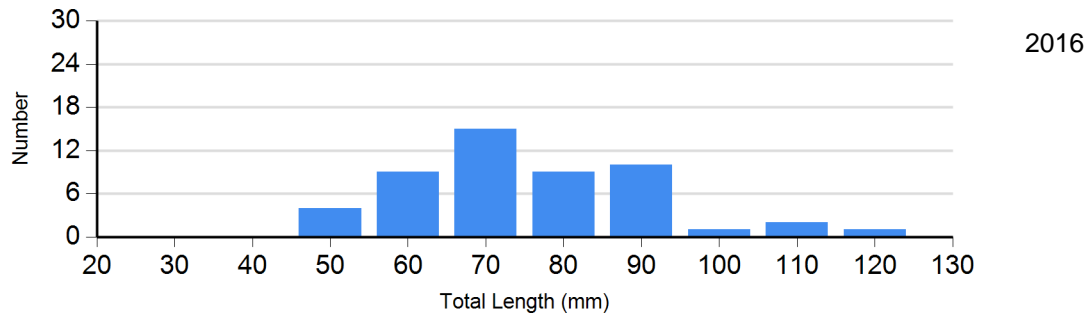
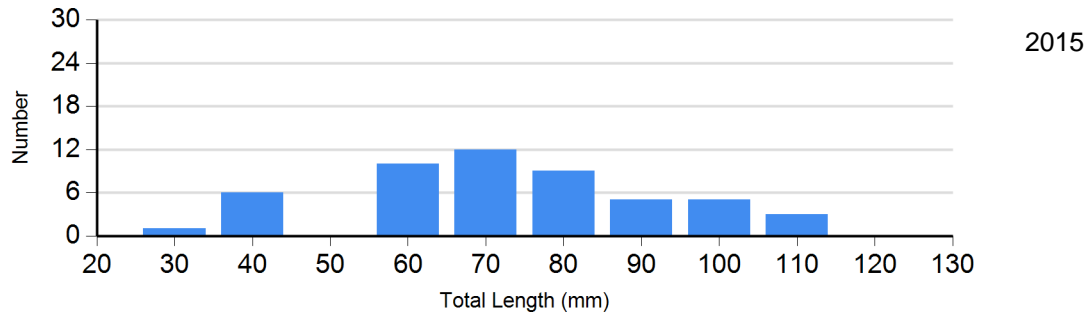


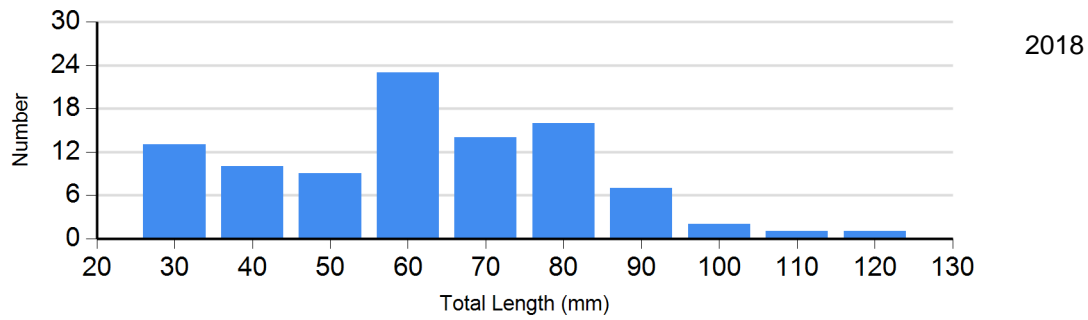
Site: 988
Species: Brook Trout



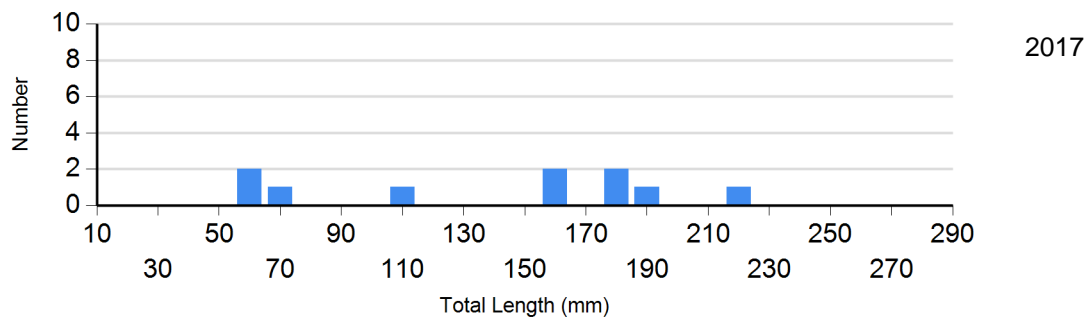
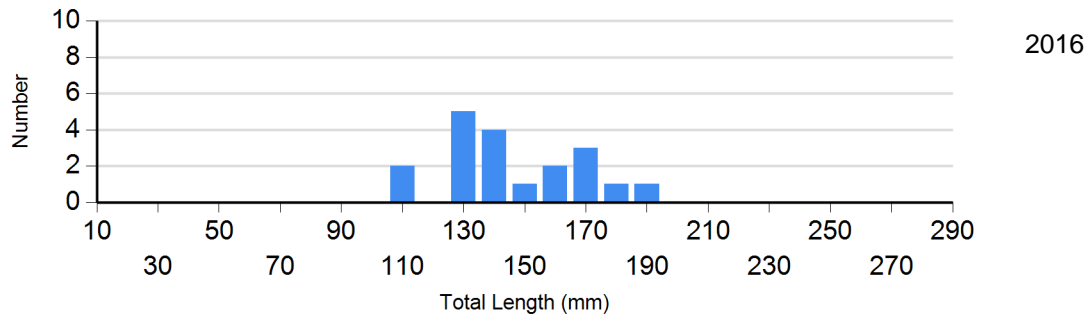
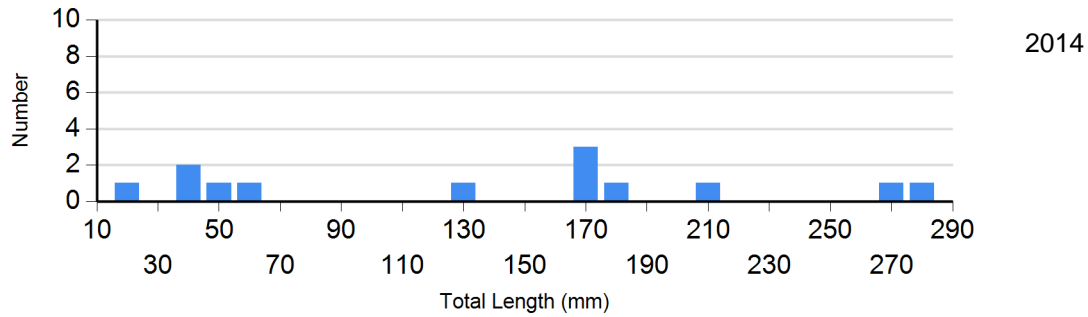


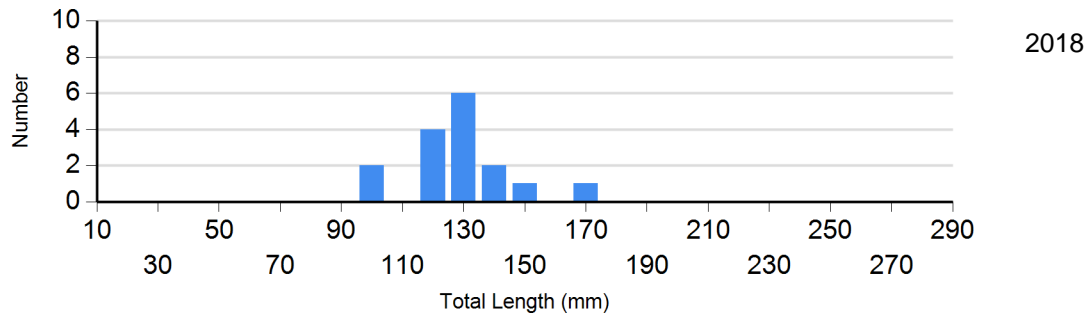
Site: 988
Species: Longnose Dace



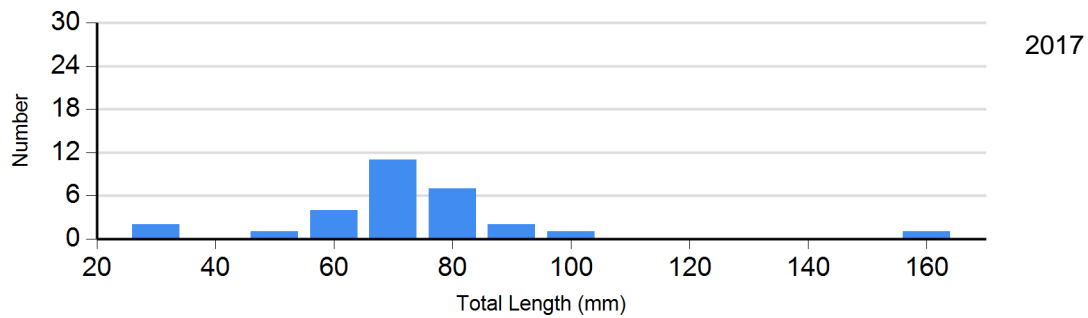
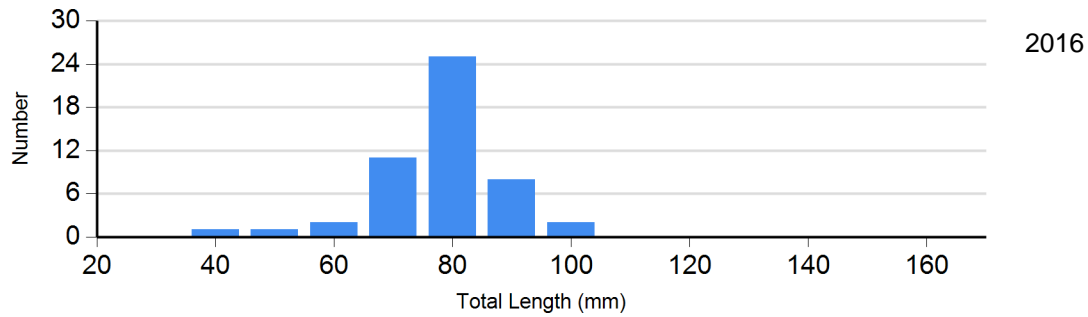
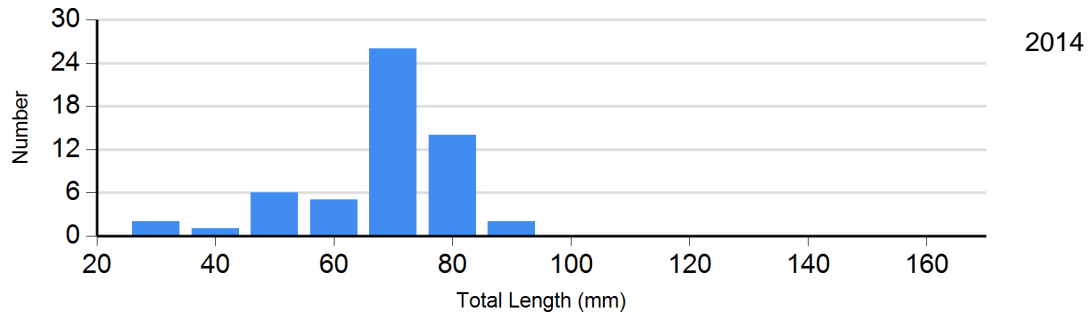


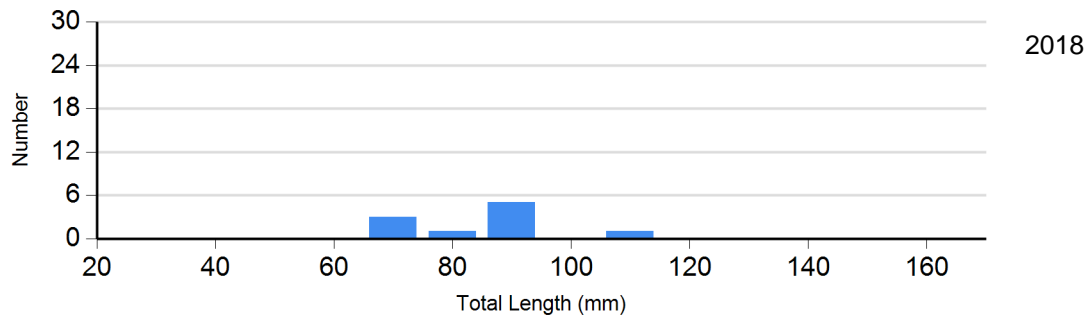
Site: 1029
Species: Brook Trout



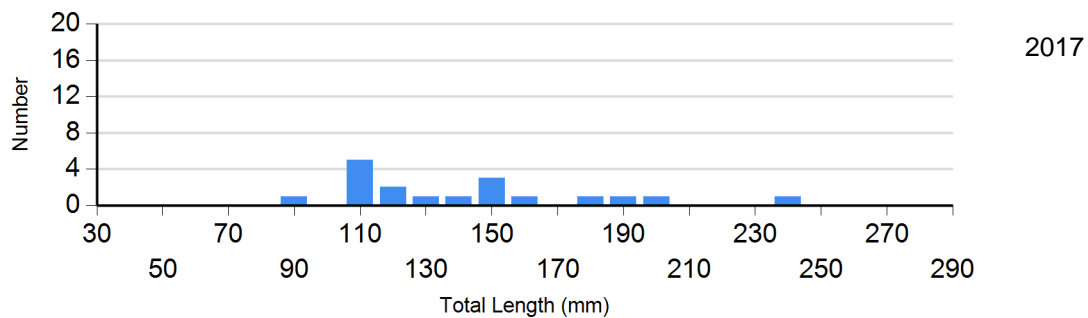
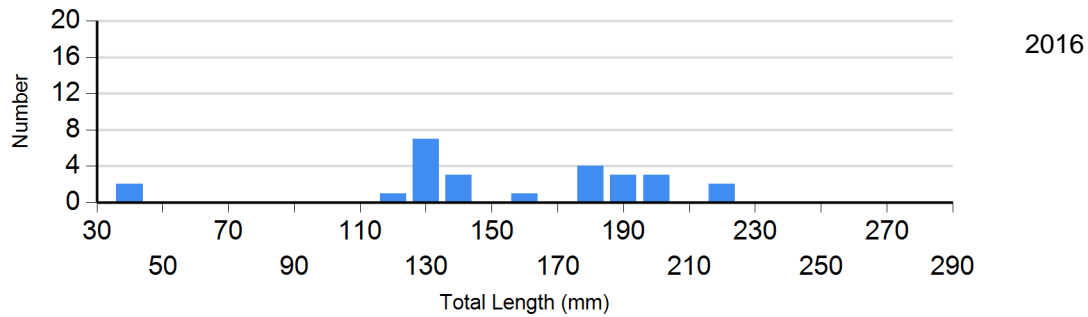
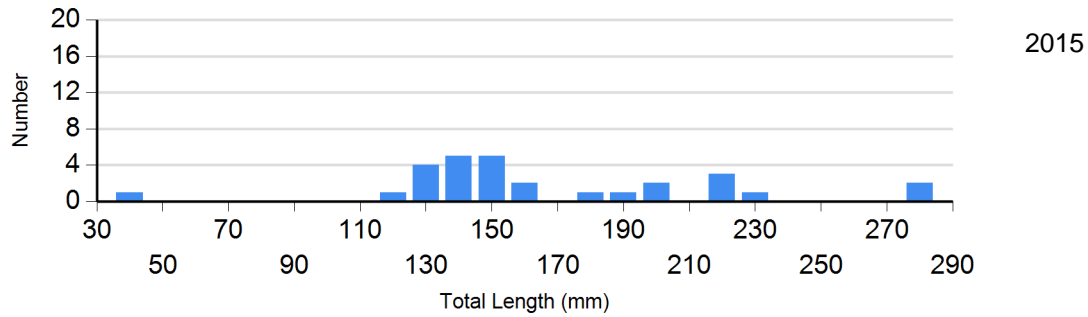


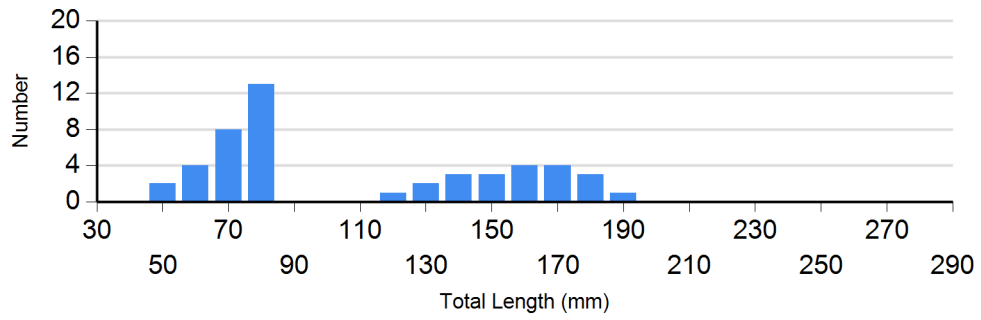
Site: 1029
Species: Longnose Dace



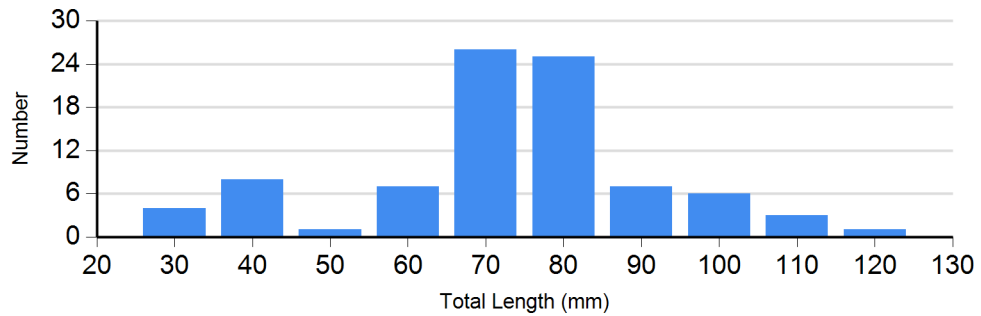
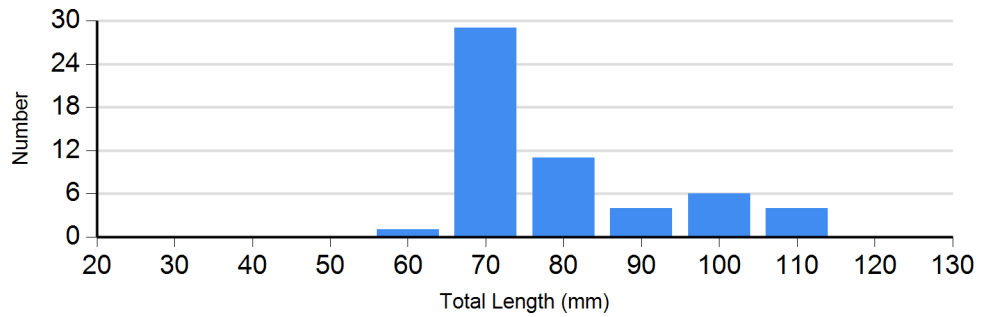
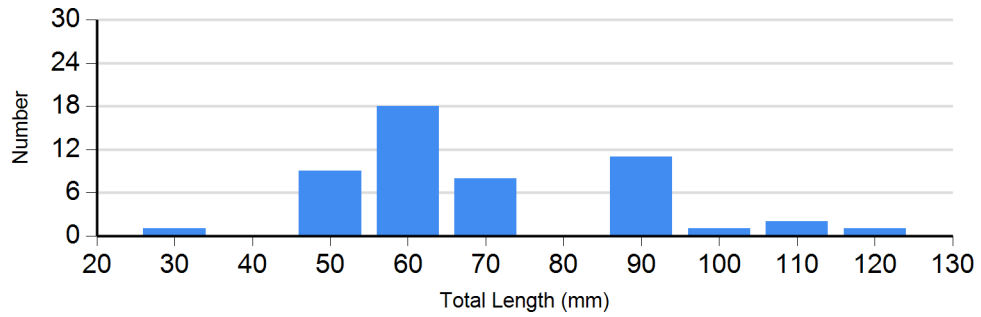


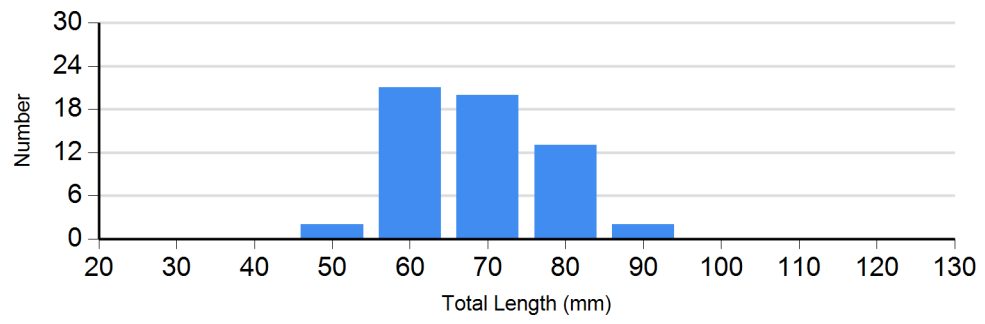
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Species: Brook Trout





Site: 1048
Species: Longnose Dace





2018