

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Rapid Creek - North Fork, Pennington County
02-0075-00
2018

Table 1. Population and Biomass Estimates for Rapid Creek - North Fork

Site Number: 2	Date Sampled: 06/06/2018	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.13240684, -103.73631714	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.5	Water Temperature (C): 14.0
Stream Classification: BR2	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)
Brown Trout	<200mm	7	7	8	7	201	8	70	81	6.73	113	133.0	37.6
Brown Trout	>=200mm	5	5	7	5	143	18	50	58	15.91	80	233.8	124.4
Brown Trout	All	12	12	14	12	344	28	120	139	24.86	193	175.0	81.0
White Sucker	All	3	3	4	3	86	2	30	35	1.38	48	101.3	18.0

Site Number: 119	Date Sampled: 05/17/2018	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.19752923, -103.76147540	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 2.5	Water Temperature (C): 13.0
Stream Classification: BK2, BR2	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	4	4	4	4	158	8	40	64	6.75	64	167.3	47.8
Brook Trout	>=200mm	2	2	2	2	79	10	20	32	8.55	32	234.5	121.0
Brook Trout	All	6	6	6	6	237	17	60	96	15.30	97	189.7	72.2
Brown Trout	<200mm	41	41	43	41	1622	34	410	657	30.30	660	105.8	20.9
Brown Trout	>=200mm	4	4	4	4	158	21	40	64	18.87	64	230.0	133.5

Brown Trout	All	45	45	47	45	1781	66	450	721	58.82	724	116.9	37.0
Longnose Dace	All	128	185	243	128	7320	92	1850	2965	81.70	2977	69.6	12.5
Mountain Sucker	All	5	5	7	5	198	8	50	80	7.00	80	152.2	39.6

Site Number: 119
Site Midpoint (Latitude, Longitude): 44.19752923, -103.76147540
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK0, BR2

Date Sampled: 06/06/2018
Site Length (m): 100
Mean Width (m): 5.1
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	5	5	5	5	98	7	50	40	6.33	80	189.4	72.2
Brook Trout	All	5	5	5	5	98	7	50	40	6.33	80	189.4	72.2
Brown Trout	<200mm	17	17	19	17	334	10	170	135	8.85	274	124.4	29.7
Brown Trout	>=200mm	4	4	4	4	79	15	40	32	13.57	64	263.0	193.5
Brown Trout	All	21	21	23	21	413	29	210	167	26.01	338	150.8	70.6
Mountain Sucker	All	23	23	23	23	452	15	230	183	13.63	370	134.7	33.8
White Sucker	All	7	7	8	7	138	12	70	56	10.68	113	172.1	87.0

Site Number: 185
Site Midpoint (Latitude, Longitude): 44.22998341, -103.79465365
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK2

Date Sampled: 05/24/2018
Site Length (m): 100
Mean Width (m): 1.4
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C): 15.0
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	13	13	15	13	917	39	130	371	34.75	209	144.8	42.5

Brook Trout	>=200mm	2	2	2	2	141	19	20	57	16.94	32	220.0	134.5
Brook Trout	All	15	15	17	15	1058	58	150	428	51.69	241	154.8	54.7

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 Rapid Creek - North Fork, 2008-2018

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jun 20, 2014	21	21-23	
	May 31, 2017	27	17-58	
	Jun 06, 2018	7	7-8	
Brown Trout >=200mm	Jun 20, 2014	12	12-12	BR2
	May 31, 2017	9	9-9	BR2
	Jun 06, 2018	5	5-7	BR2
Longnose Dace	Jun 20, 2014	39	25-74	

Mountain Sucker	Jun 20, 2014	3	3-3
	May 31, 2017	2	2-3
White Sucker	Jun 20, 2014	12	11-17
	May 31, 2017	13	12-18
	Jun 06, 2018	3	3-4

Site 119

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 18, 2014	6	6-9	
	Sep 08, 2015	20	20-20	
	May 25, 2016	25	25-25	
	May 25, 2016	23	23-25	
	May 31, 2017	12	12-13	
	May 17, 2018	4	4-4	
	Jun 06, 2018	5	5-5	
Brook Trout >=200mm	Jun 18, 2014	5	5-5	BK2
	Sep 08, 2015	4	4-4	BK2

Brook Trout >=200mm	May 25, 2016	3	3-3	BK2
	May 25, 2016	1	1-1	BK3
	May 31, 2017	2	2-3	BK3
	May 17, 2018	2	2-2	BK2
Brown Trout <200mm	Jun 18, 2014	7	7-9	
	Sep 08, 2015	37	37-38	
	May 25, 2016	19	19-21	
	May 25, 2016	18	18-18	
	May 31, 2017	19	19-20	
	May 17, 2018	41	41-43	
	Jun 06, 2018	17	17-19	
Brown Trout >=200mm	Jun 18, 2014	9	9-10	BR2
	Sep 08, 2015	8	8-8	BR2
	May 25, 2016	7	7-7	BR2
	May 25, 2016	11	11-11	BR2
	May 31, 2017	10	10-10	BR2

Brown Trout >=200mm	May 17, 2018	4	4-4	BR2
	Jun 06, 2018	4	4-4	BR2
Longnose Dace	Jun 18, 2014	99	88-112	
	Sep 08, 2015	56	40-85	
	May 25, 2016	70	59-86	
	May 25, 2016	134	59-299	
	May 17, 2018	185	128-243	
Mountain Sucker	Jun 18, 2014	62	44-93	
	Sep 08, 2015	14	11-25	
	May 25, 2016	38	34-46	
	May 25, 2016	11	11-13	
	May 31, 2017	15	14-19	
	May 17, 2018	5	5-7	
	Jun 06, 2018	23	23-23	
White Sucker	Jun 18, 2014	121	115-129	
	Sep 08, 2015	1	1-1	

White Sucker	May 25, 2016	1	1-1
	May 25, 2016	4	4-4
	May 31, 2017	24	24-25
	Jun 06, 2018	7	7-8

Site 185

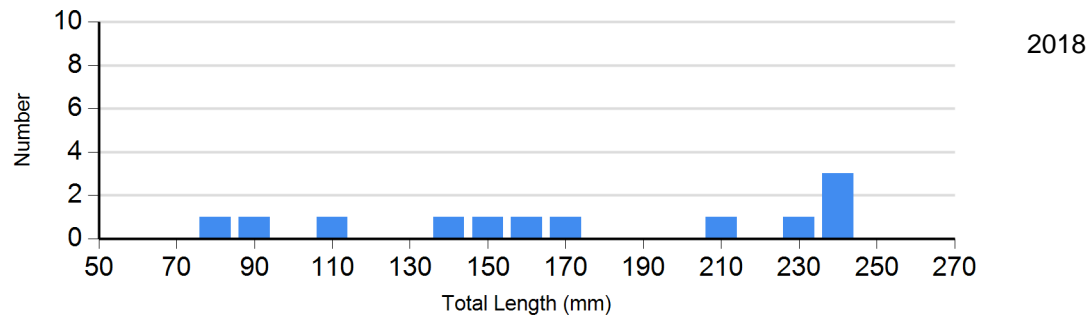
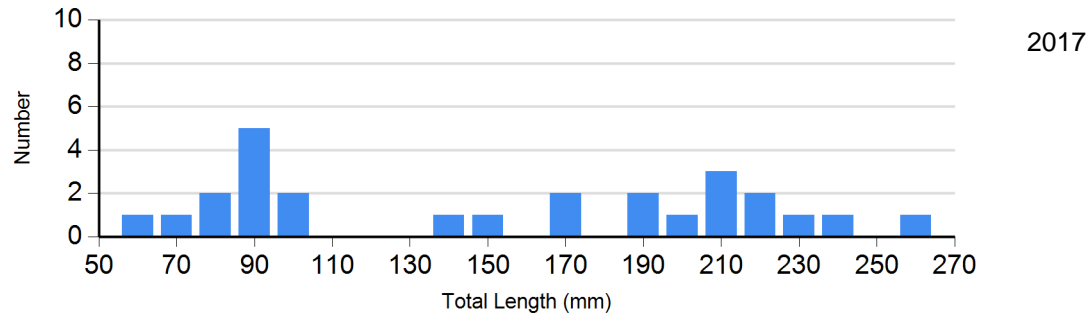
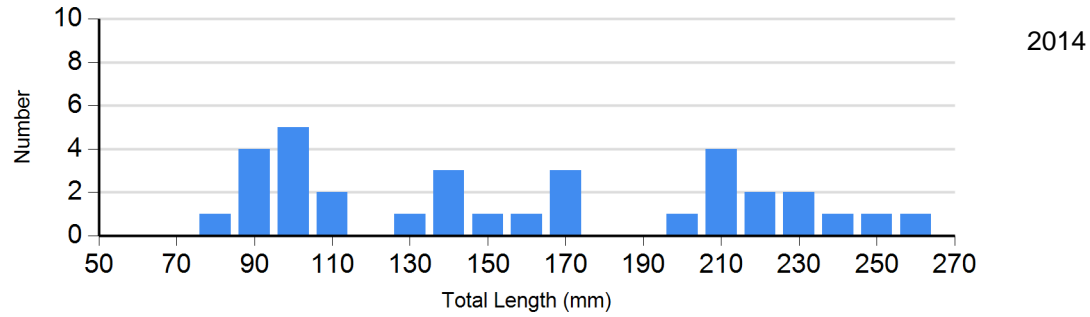
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 23, 2008	15	15-15	
	Jun 18, 2014	18	18-19	
	May 25, 2016	35	35-36	
	May 31, 2017	21	21-21	
	May 24, 2018	13	13-15	
Brook Trout >=200mm	Jun 23, 2008	1	1-1	BK3
	Jun 18, 2014	3	3-4	BK2
	May 25, 2016	2	2-2	BK2
	May 24, 2018	2	2-2	BK2
Longnose Dace	Jun 23, 2008	1	1-1	

Length Frequency Distribution

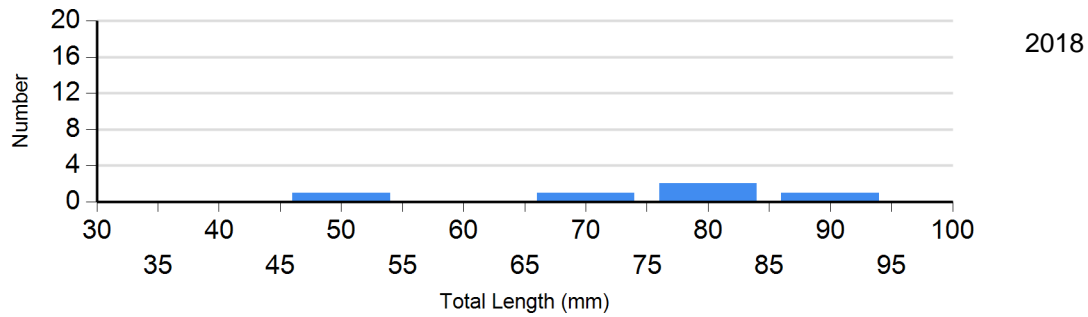
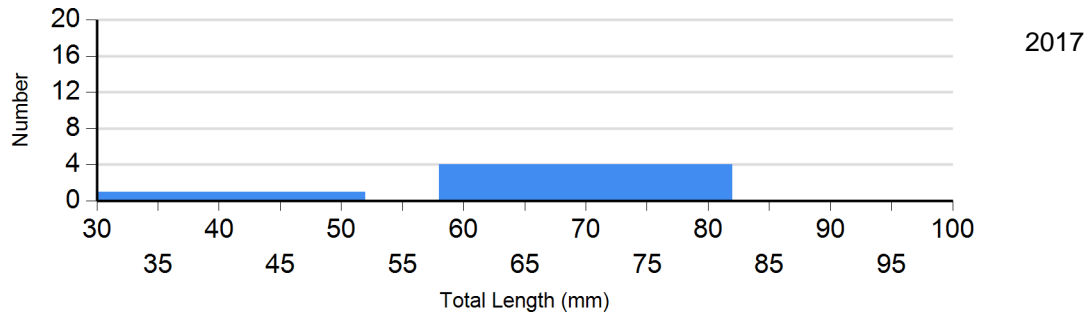
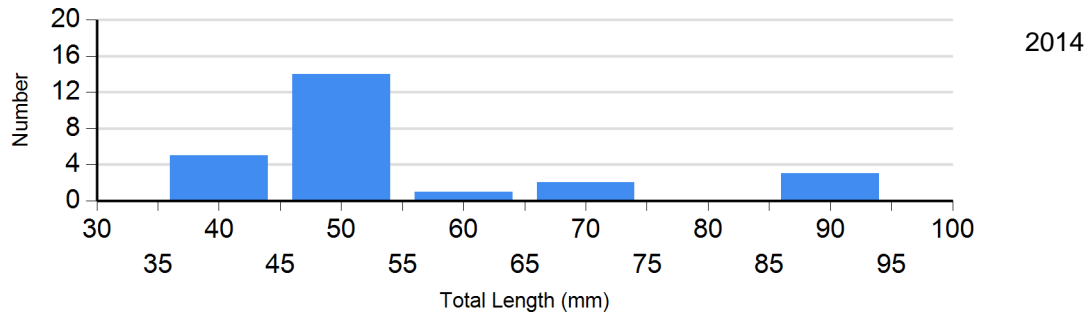
Length frequency histogram of species sampled by year.

Site: 2

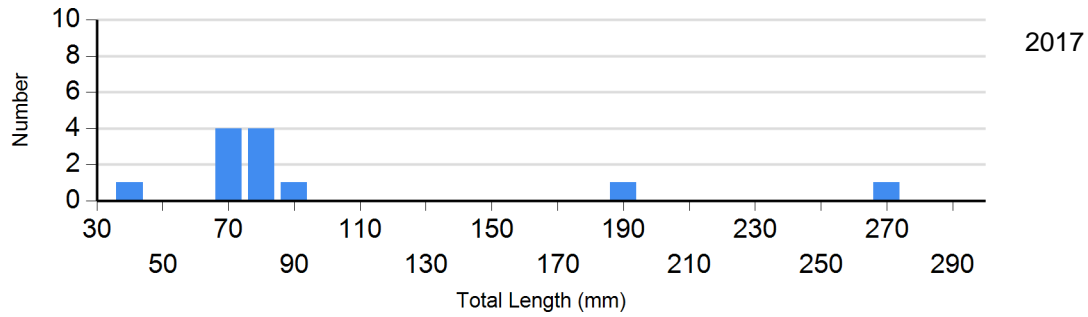
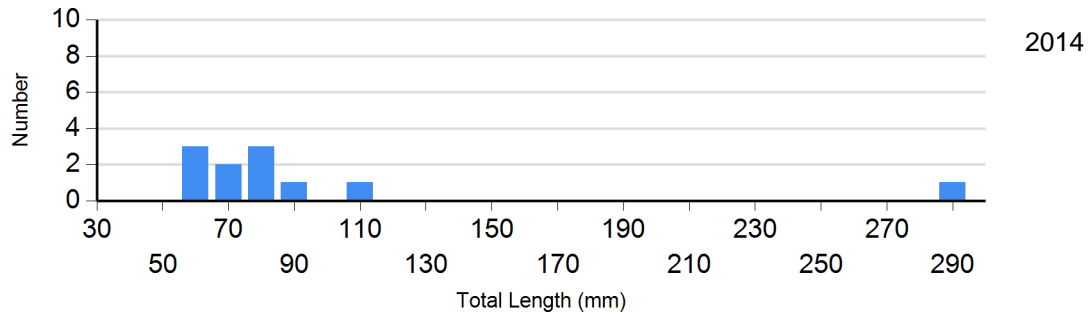
Species: Brown Trout



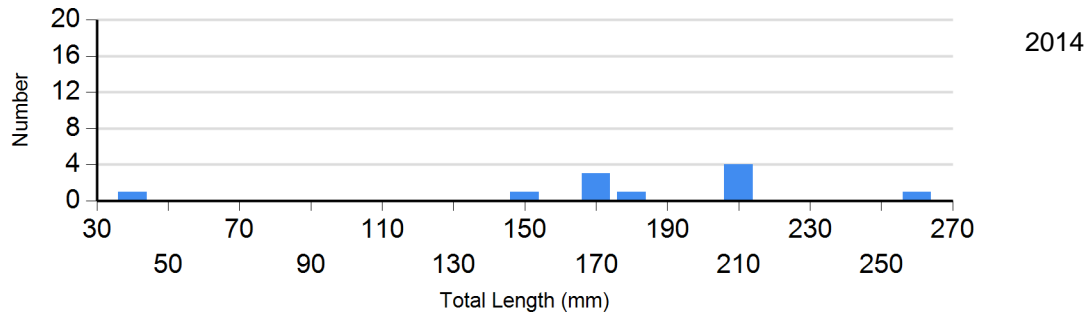
Site: 2
Species: Longnose Dace

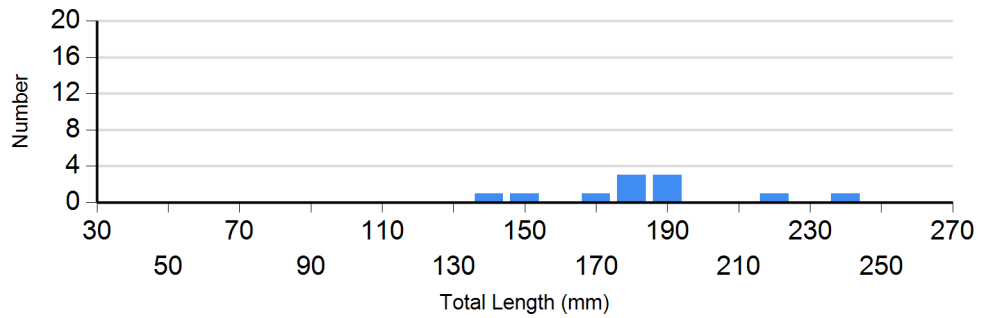
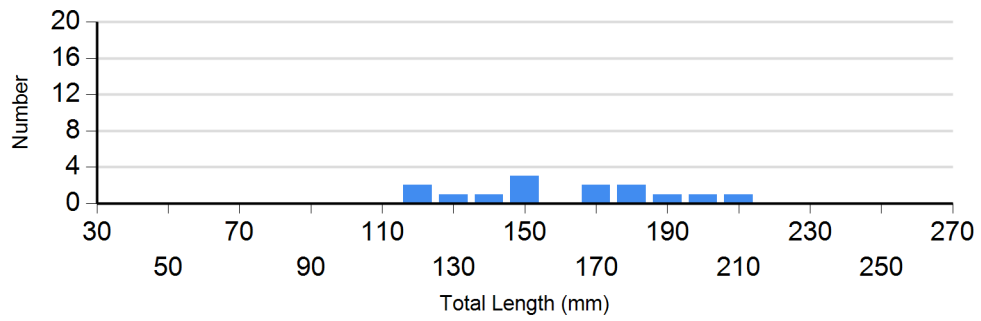
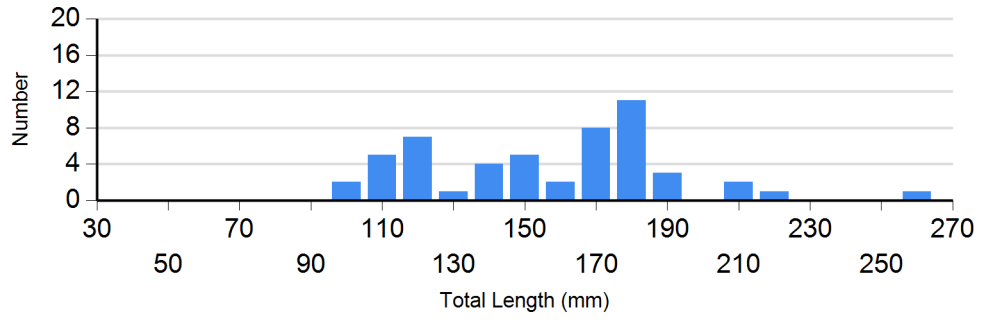
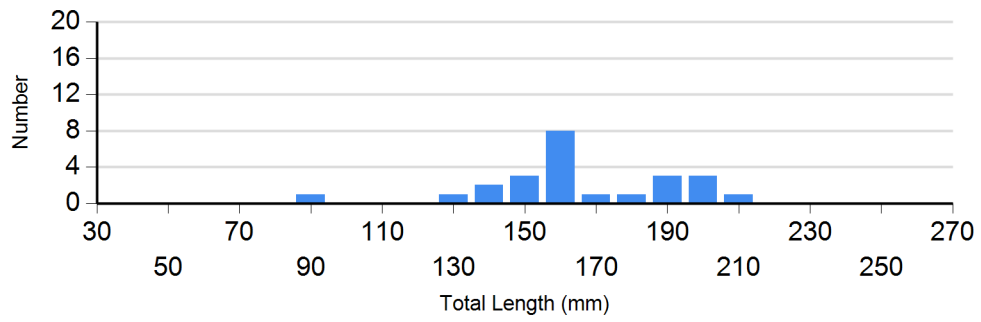


Site: 2
Species: White Sucker

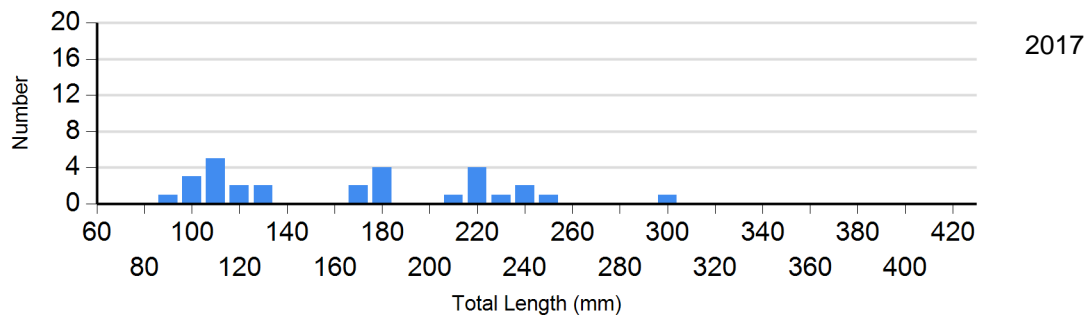
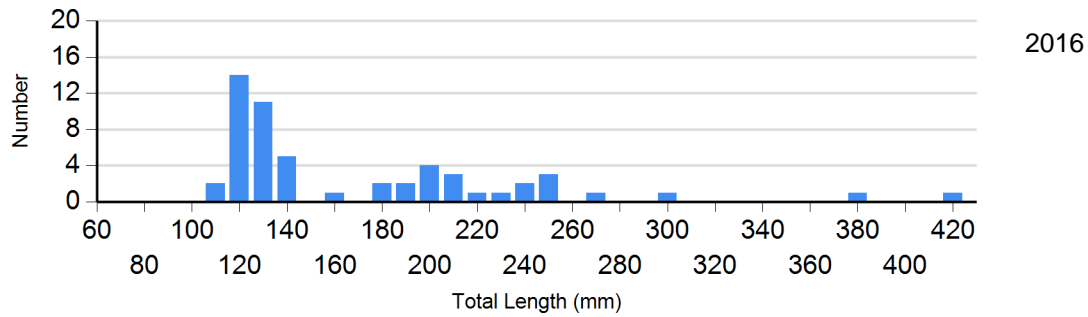
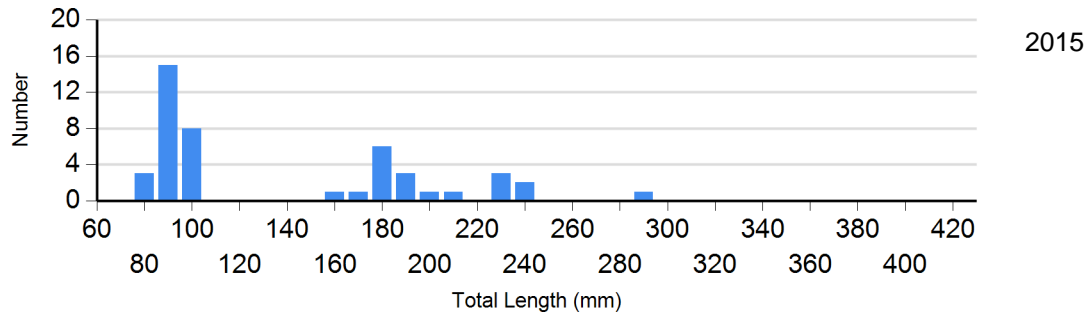
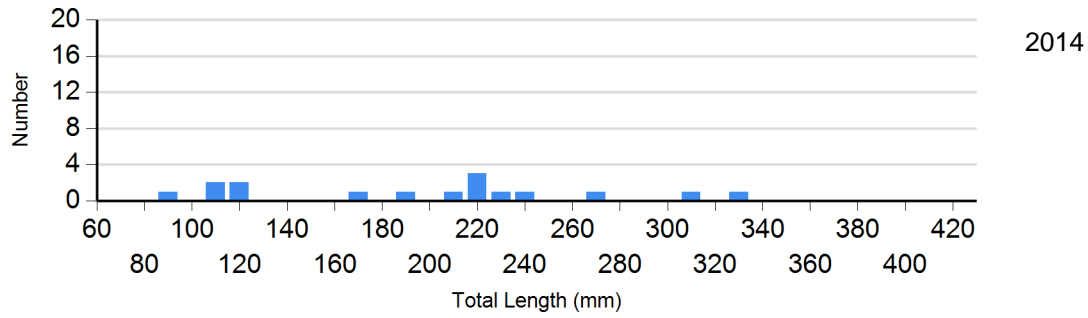


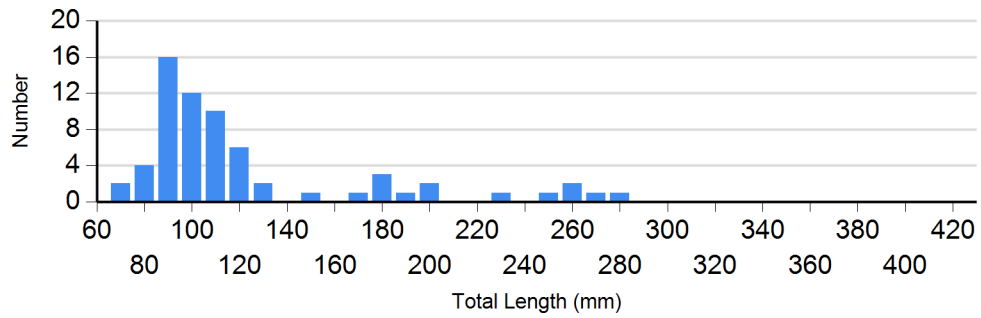
Site: 119
Species: Brook Trout



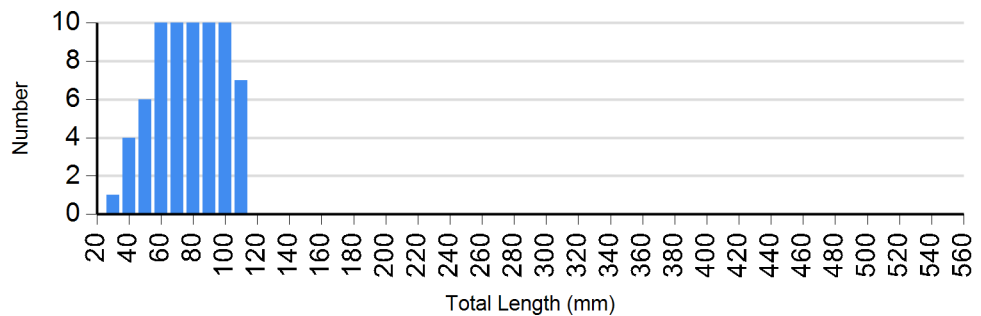
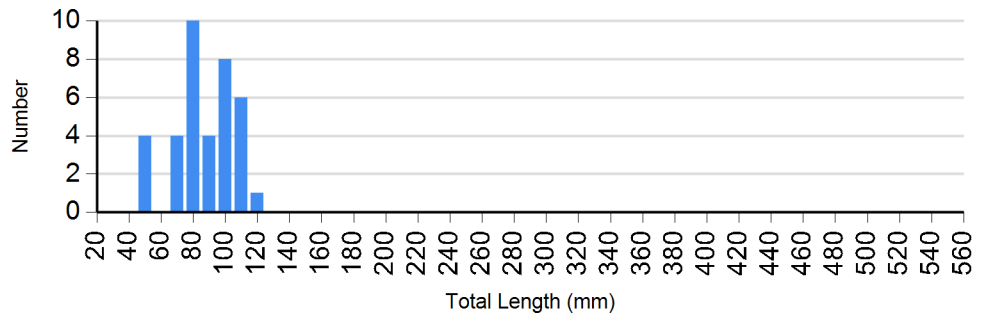
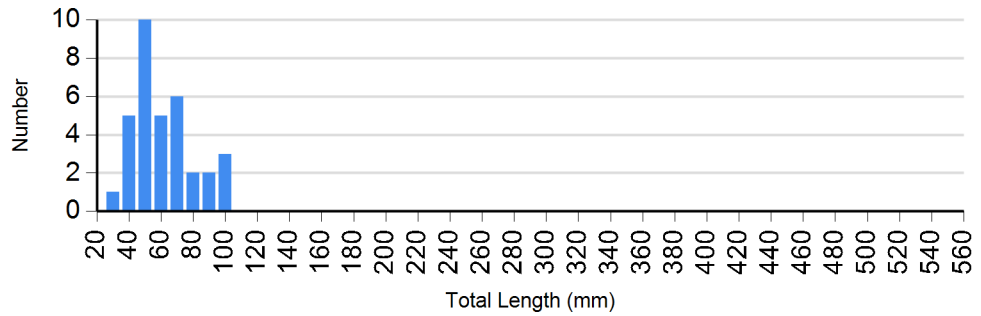


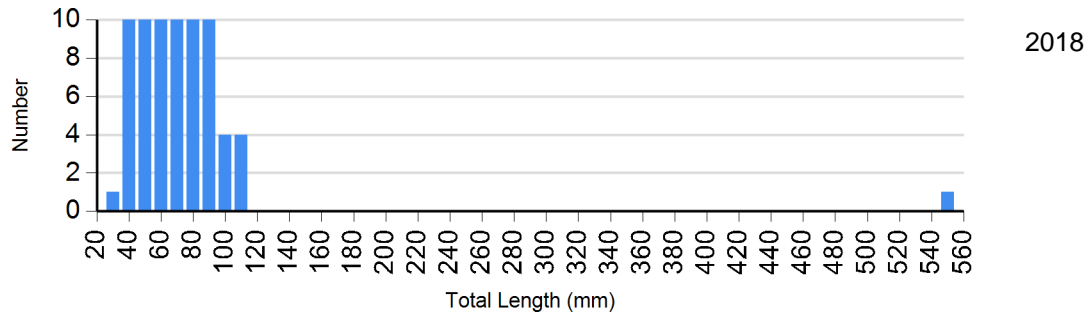
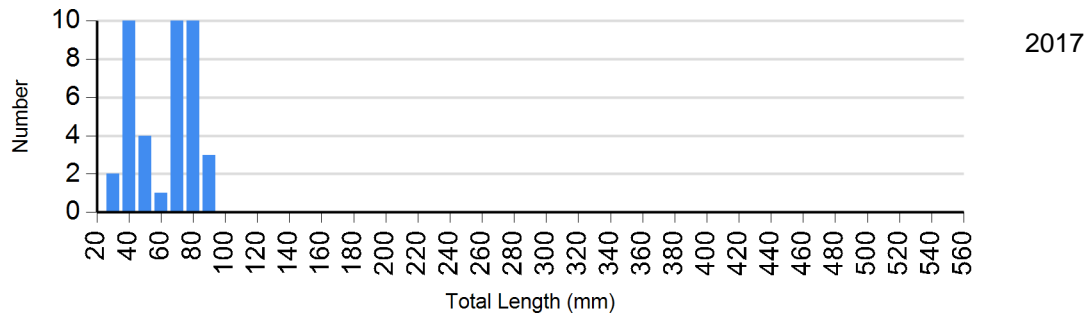
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Species: Brown Trout



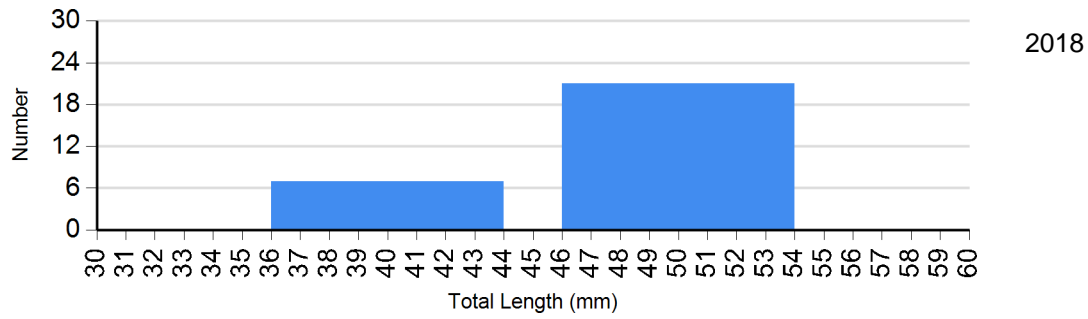


Site: 119
Species: Longnose Dace

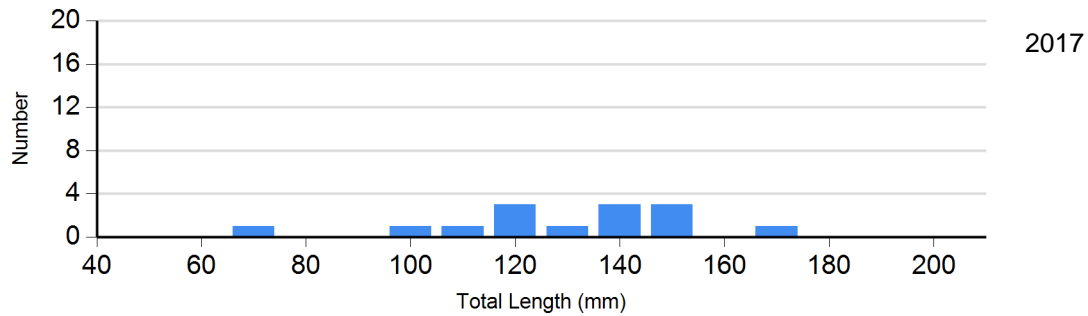
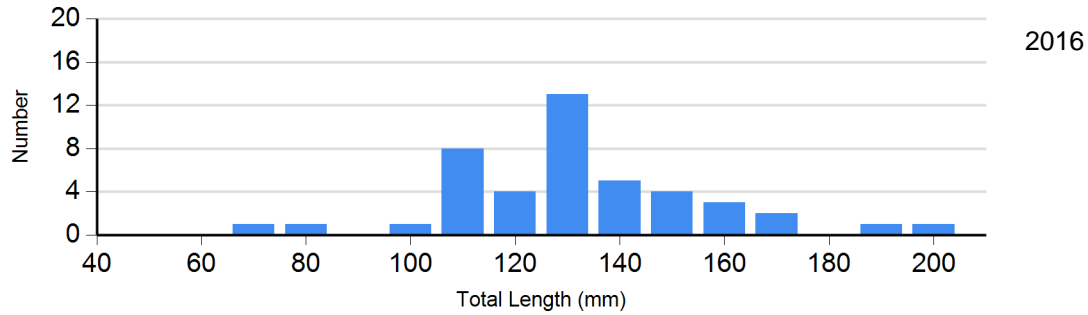
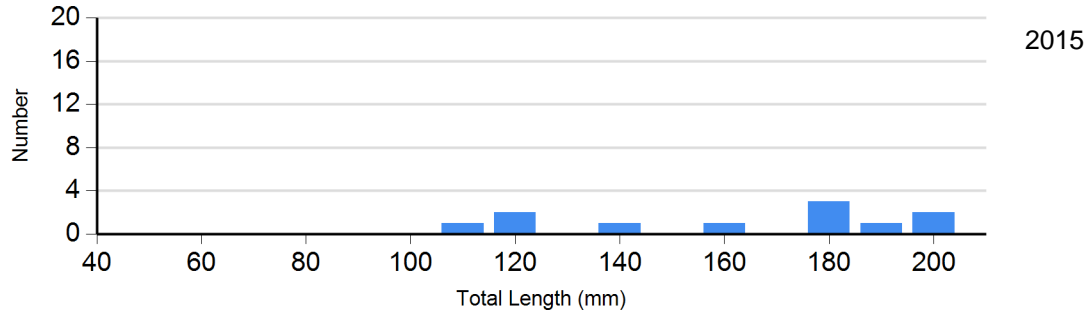
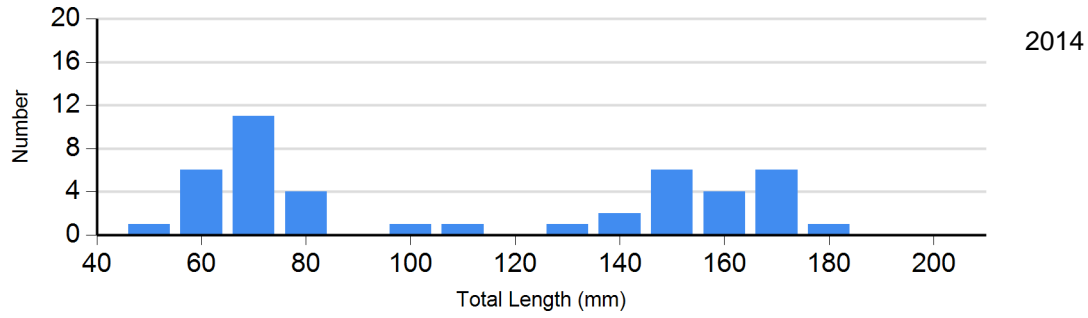


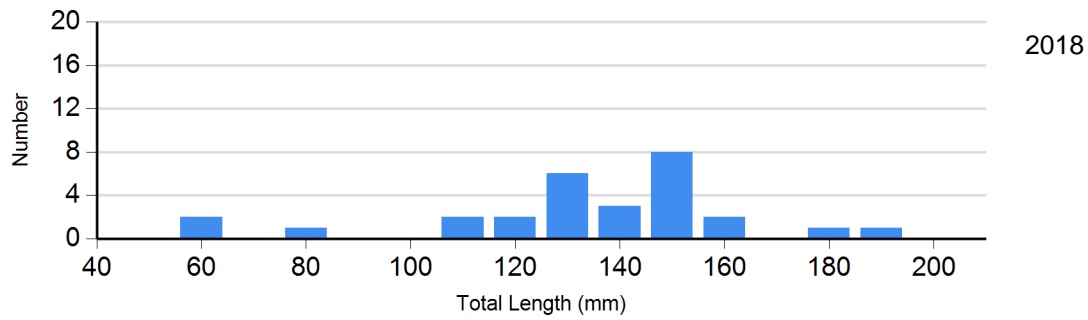


Site: 119
Species: Longnose Sucker

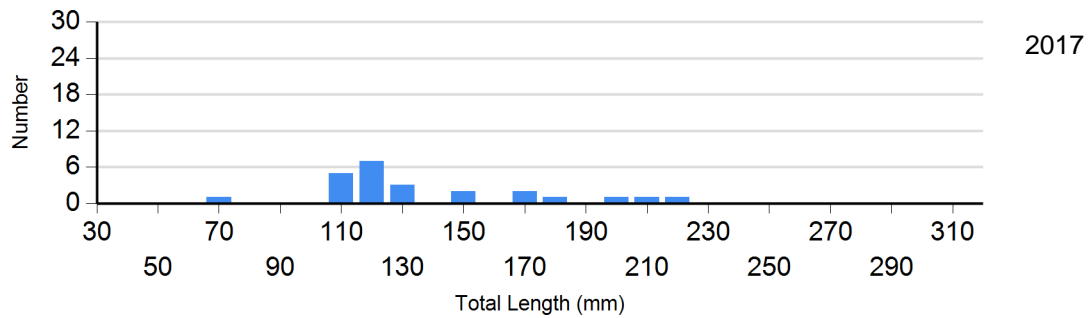
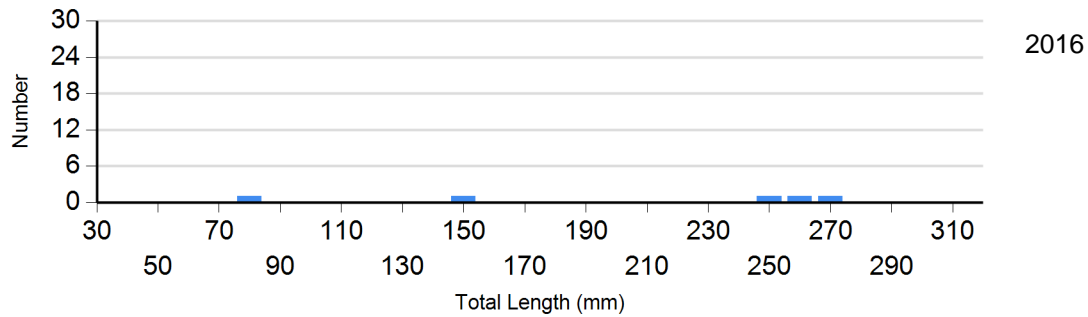
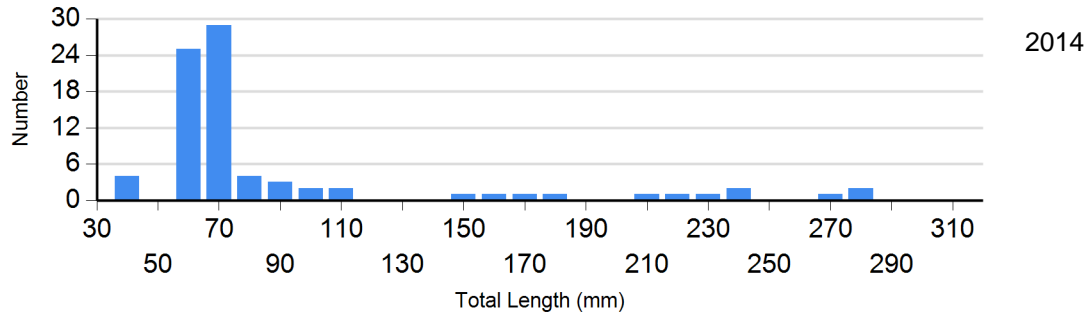


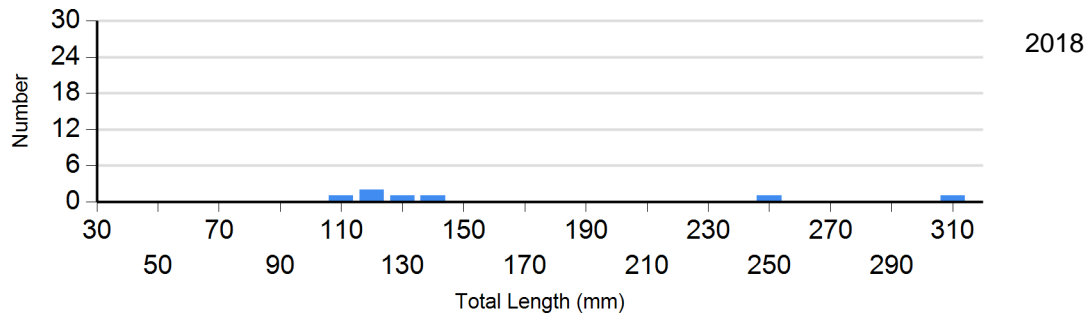
Site: 119
Species: Mountain Sucker





Site: 119
Species: White Sucker





Site: 185
Species: Brook Trout

