

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Boxelder Creek, Pennington County
09-0065-00
2017

Table 1. Population and Biomass Estimates for Boxelder Creek

Site Number: 1983	Date Sampled: 05/15/2017	Conductivity (umhos/cm): 264
Site Midpoint (Latitude, Longitude): 44.15674459, -103.46614706	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 9.3	Water Temperature (C): 16.3
Stream Classification: BK3, 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	17	17	18	17	183	8	170	74	7.05	274	148.0	43.2
Brook Trout	>=200mm	3	3	4	3	32	3	30	13	3.05	48	225.7	106.0
Brook Trout	All	20	20	22	20	215	11	200	87	10.20	322	159.7	53.1
Brown Trout	<200mm	14	14	16	14	151	7	140	61	6.09	225	155.1	45.3
Brown Trout	>=200mm	15	15	16	15	161	24	150	65	21.84	241	246.9	151.7
Brown Trout	All	29	29	31	29	312	31	290	126	27.93	467	202.6	100.3
Fathead Minnow	All	1	1	1	1	11	0	10	4	0.13	16	109.0	14.0
Longnose Dace	All	114	122	132	114	1312	14	1220	531	12.88	1963	73.5	11.0
Mountain Sucker	All	7	7	7	7	75	3	70	30	2.72	113	147.4	40.4
Stone Cat	All	41	79	166	41	849	26	790	344	23.64	1271	130.0	31.2
White Sucker	All	23	23	24	23	247	23	230	100	20.86	370	154.3	94.4

Site Number: 2207	Date Sampled: 08/14/2017	Conductivity (umhos/cm):
Site Midpoint (Latitude, Longitude): 44.22882427, -103.59960513	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 2.8	Water Temperature (C): 17.0
Stream Classification: BK2, BR3		

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	15	15	16	15	531	21	150	215	18.47	241	135.4	39.0
Brook Trout	>=200mm	3	3	3	3	106	15	30	43	13.39	48	222.7	141.3
Brook Trout	All	18	18	19	18	637	38	180	258	33.80	290	149.9	59.5
Brown Trout	<200mm	15	15	16	15	531	30	150	215	26.53	241	119.2	56.0
Brown Trout	>=200mm	1	1	1	1	35	6	10	14	5.53	16	260.0	175.0
Brown Trout	All	16	16	17	16	566	41	160	229	36.89	257	128.0	73.0
Longnose Dace	All	99	106	115	99	3749	41	1060	1518	36.82	1706	70.9	11.0
White Sucker	All	1	1	1	1	35	1	10	14	0.79	16	125.0	25.0

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 Boxelder Creek, 2007-2017

Site 1983

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 25, 2010	21	21-21	
	Jun 20, 2012	16	13-26	
	Jun 19, 2013	1	1-5	
	Jun 06, 2016	6	6-6	
	Jul 07, 2016	1	1-1	
	May 15, 2017	17	17-18	
Brook Trout >=200mm	Aug 25, 2010	7	7-7	BK2

Brook Trout >=200mm	Jun 20, 2012	5	5-5	BK3
	Jun 19, 2013	1	1-1	BK3
	Jul 31, 2014	2	2-2	BK3
	Jun 06, 2016	10	10-11	BK2
	May 15, 2017	3	3-4	BK3
Brown Trout <200mm	Aug 25, 2010	18	18-18	
	Jun 20, 2012	31	30-35	
	Jun 19, 2013	4	4-4	
	Jul 31, 2014	9	9-11	
	Jun 06, 2016	25	25-26	
	Jul 07, 2016	47	41-58	
	May 15, 2017	14	14-16	
Brown Trout >=200mm	Aug 25, 2010	21	21-21	BR2
	Jun 20, 2012	16	16-16	BR2
	Jun 19, 2013	13	13-14	BR2
	Jul 31, 2014	5	5-5	BR3

Brown Trout >=200mm	Jun 06, 2016	24	24-24	BR2
	Jul 07, 2016	18	18-18	BR2
	May 15, 2017	15	15-16	BR2
Fathead Minnow	May 15, 2017	1	1-1	
Longnose Dace	Jun 19, 2013	170	89-293	
	Jul 31, 2014	69	47-107	
	Jun 06, 2016	199	169-229	
	Jul 07, 2016	233	206-260	
	May 15, 2017	122	114-132	
Mountain Sucker	Aug 25, 2010	20	20-20	
	Jun 20, 2012	16	16-17	
	Jul 31, 2014	3	3-4	
	Jun 06, 2016	2	2-6	
	Jul 07, 2016	3	3-4	
	May 15, 2017	7	7-7	
Stone Cat	Aug 25, 2010	6	6-6	

Stone Cat	Jun 20, 2012	18	19-25
	Jun 19, 2013	6	5-13
	Jul 31, 2014	11	7-32
	Jun 06, 2016	27	28-36
	Jul 07, 2016	30	31-39
	May 15, 2017	79	41-166
White Sucker	Aug 25, 2010	28	28-28
	Jun 20, 2012	5	5-7
	Jun 19, 2013	102	95-111
	Jul 31, 2014	75	72-81
	Jun 06, 2016	9	9-9
	Jul 07, 2016	26	26-28
	May 15, 2017	23	23-24

Site 2207

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Aug 25, 2010	29	29-29	

Brook Trout <200mm	Jun 15, 2012	244	219-269	
	Jun 20, 2013	60	56-67	
	Jul 07, 2014	41	37-49	
	Jun 06, 2016	129	123-137	
	Aug 14, 2017	15	15-16	
Brook Trout >=200mm	Aug 25, 2010	9	9-9	BK2
	Jun 15, 2012	16	13-26	BK1
	Jun 20, 2013	5	5-6	BK2
	Jul 07, 2014	7	7-9	BK2
	Jun 06, 2016	23	23-24	BK1
	Aug 14, 2017	3	3-3	BK2
Brown Trout <200mm	Jun 20, 2013	3	3-4	
	Jul 07, 2014	1	1-5	
	Jun 06, 2016	5	5-7	
	Aug 14, 2017	15	15-16	
Brown Trout >=200mm	Jun 06, 2016	2	2-3	BR3

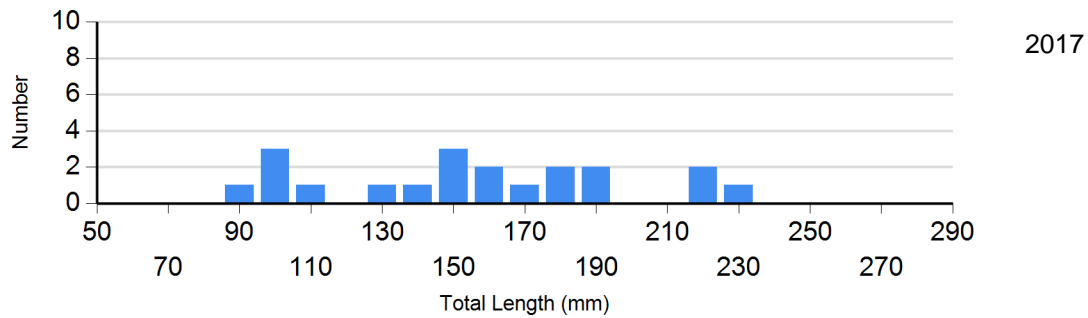
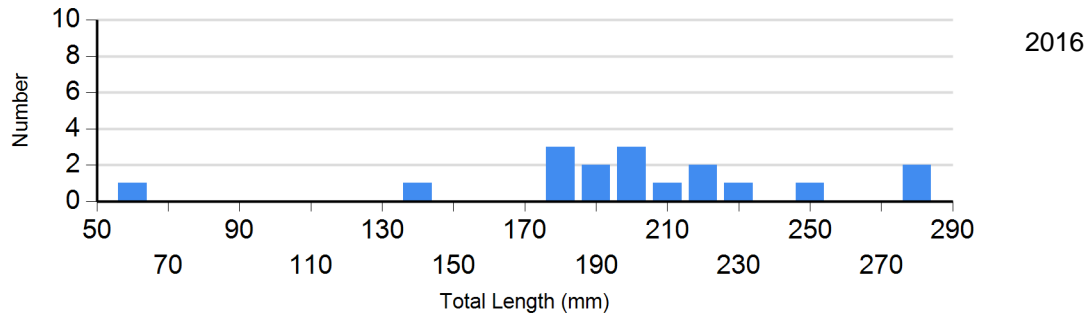
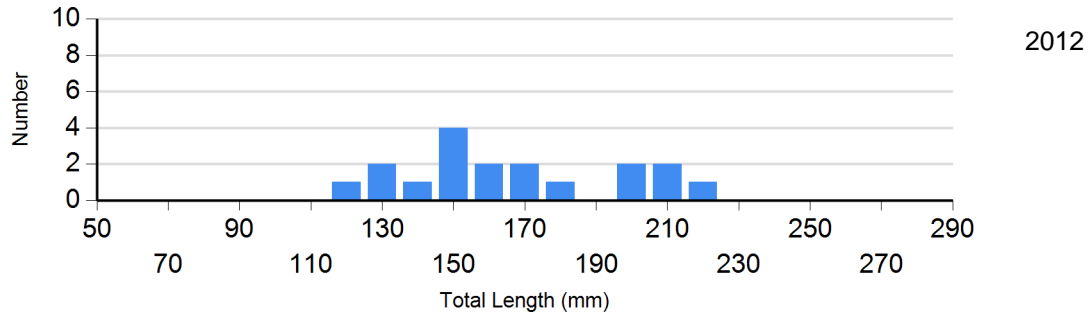
Brown Trout >=200mm	Aug 14, 2017	1	1-1	BR3
Longnose Dace	Jun 20, 2013	149	133-165	
	Jul 07, 2014	266	226-306	
	Jun 06, 2016	156	134-178	
	Aug 14, 2017	106	99-115	
Mountain Sucker	Aug 25, 2010	4	4-4	
	Jun 15, 2012	6	5-13	
	Jul 07, 2014	11	11-12	
	Jun 06, 2016	3	3-3	
White Sucker	Aug 25, 2010	1	1-1	
	Jul 07, 2014	3	3-4	
	Aug 14, 2017	1	1-1	

Length Frequency Distribution

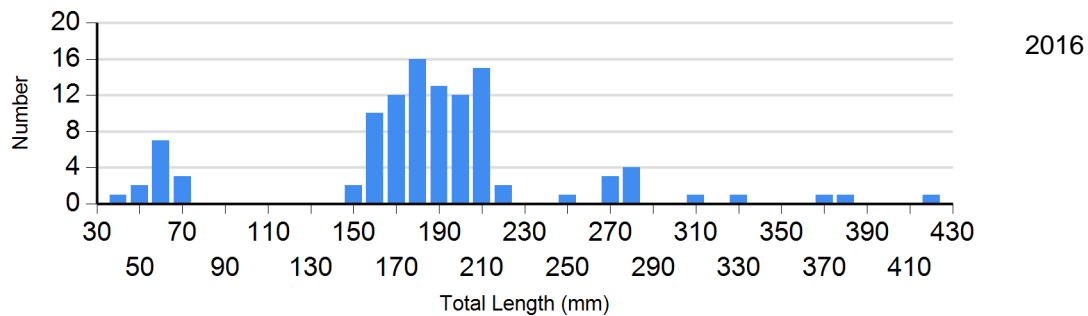
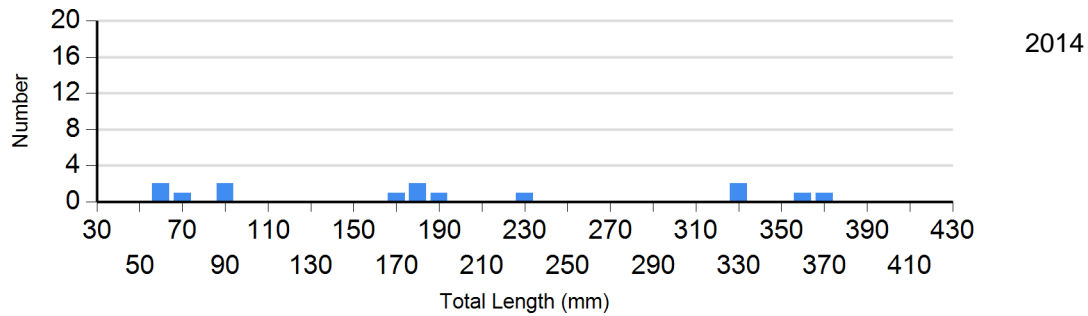
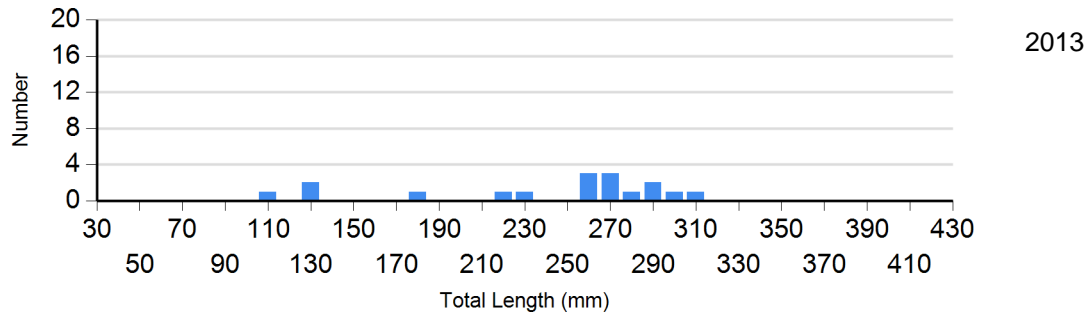
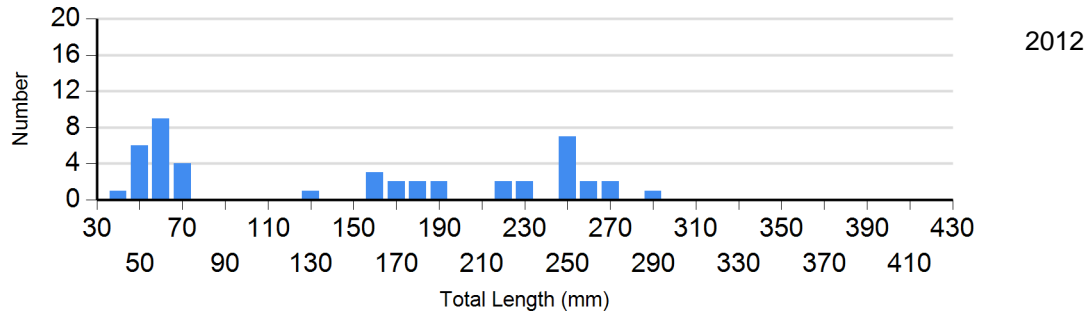
Length frequency histogram of species sampled by year.

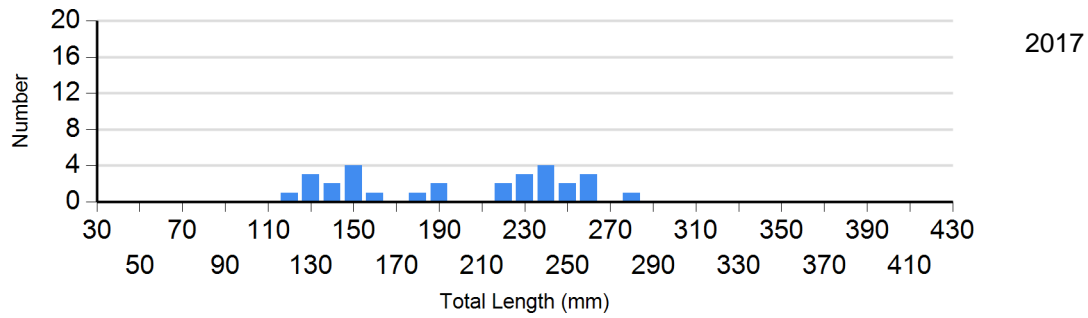
Site: 1983

Species: Brook Trout

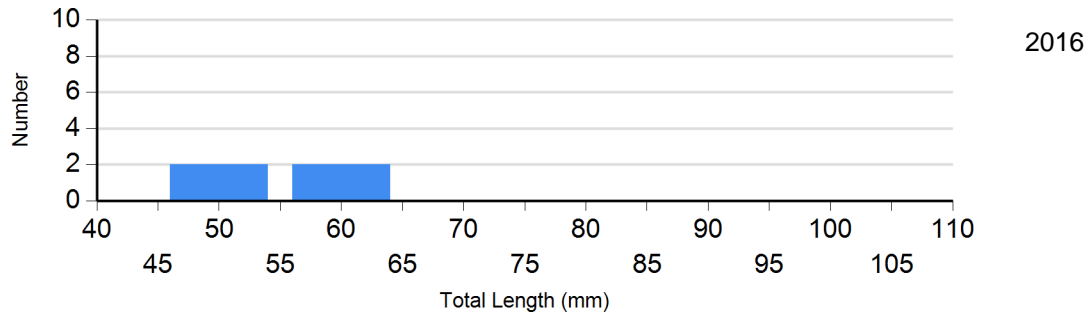


Site: 1983
Species: Brown Trout

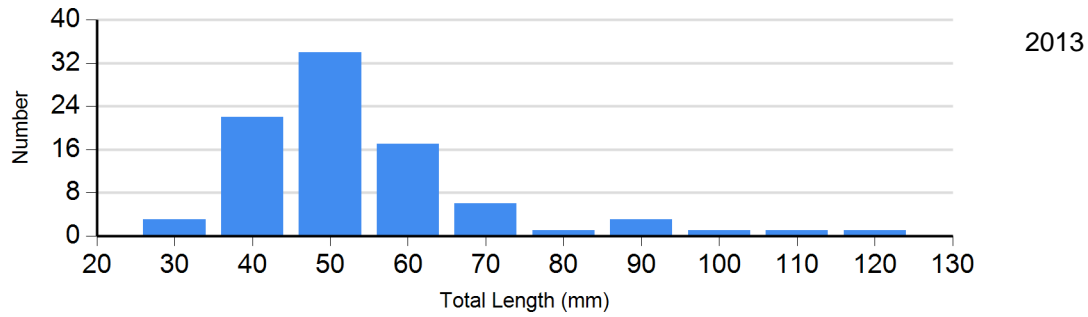


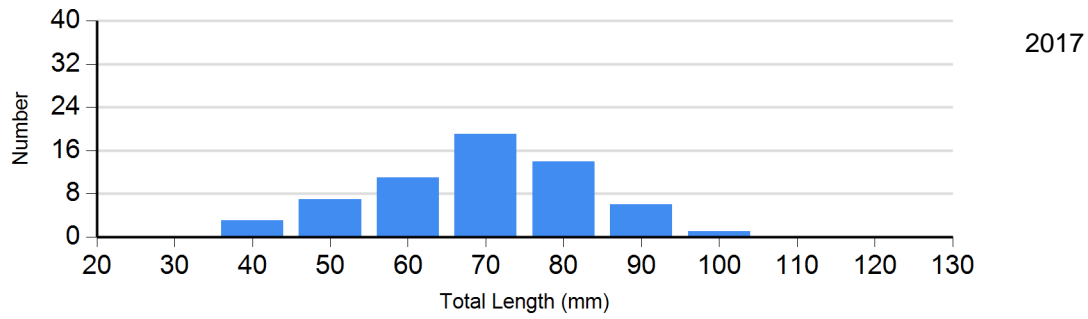
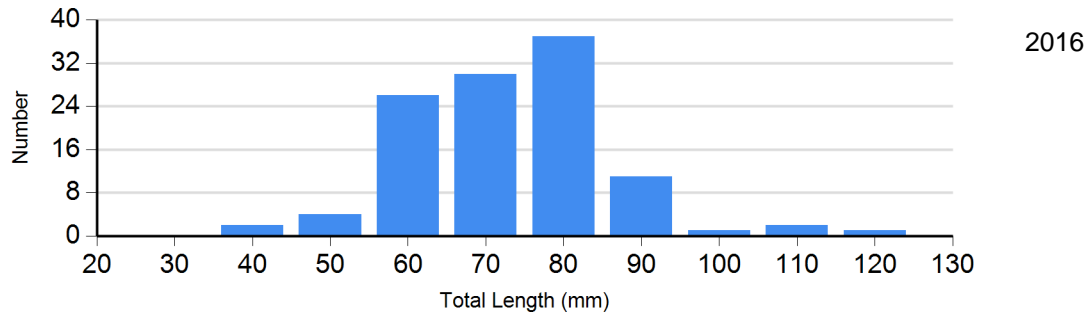
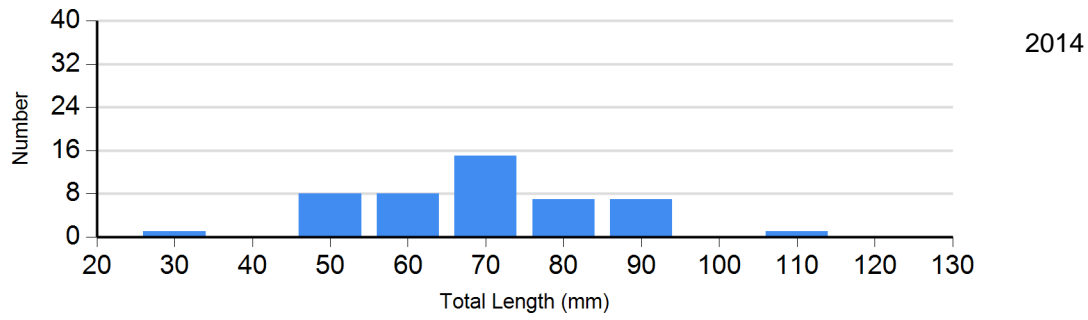


Site: 1983
Species: Fathead Minnow

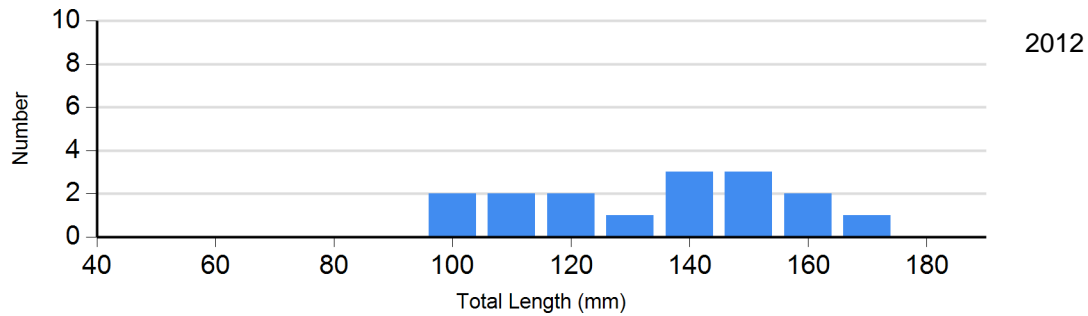


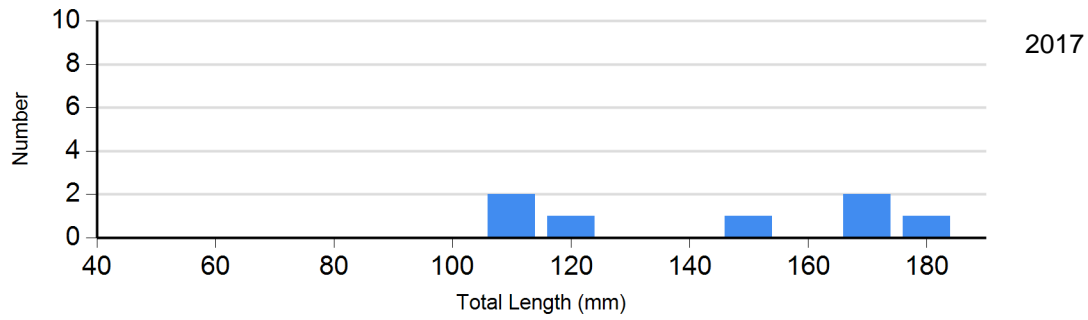
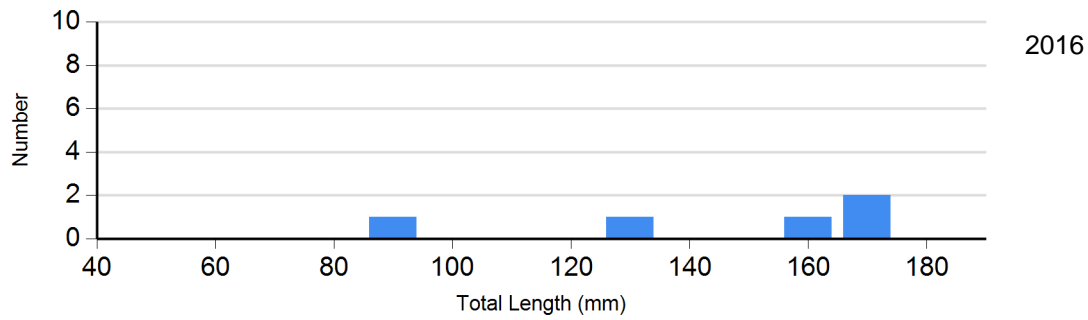
Site: 1983
Species: Longnose Dace



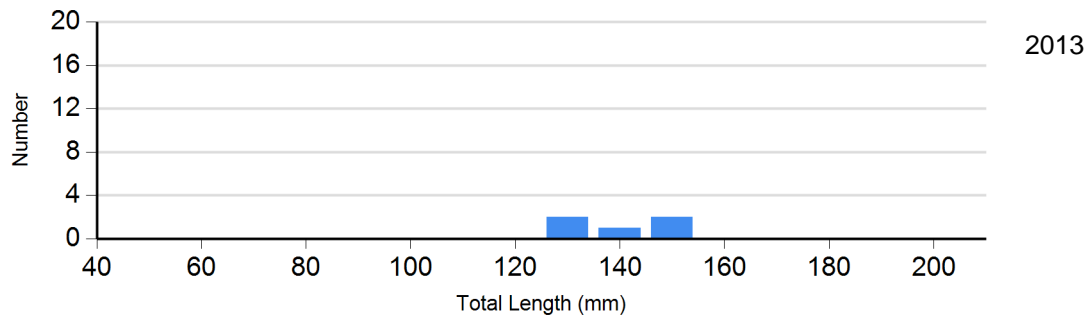
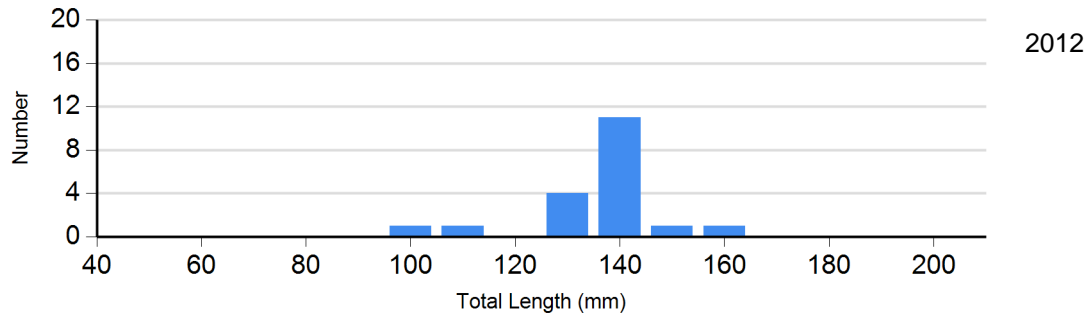


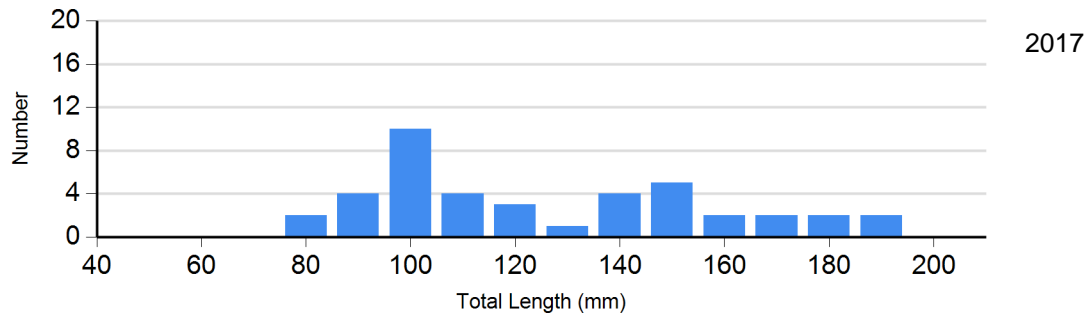
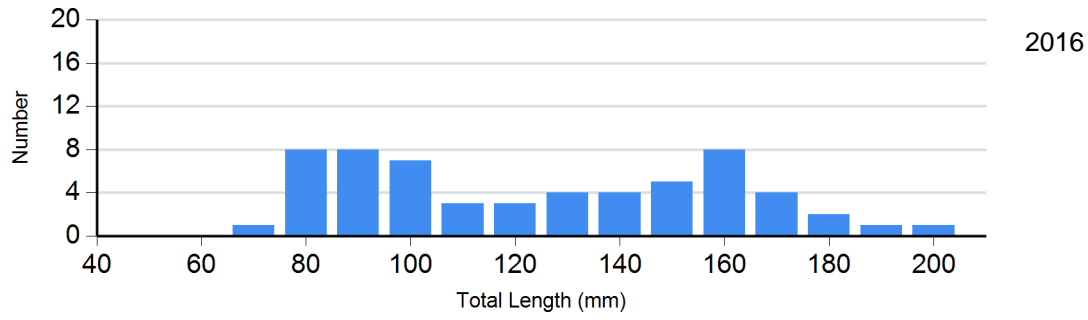
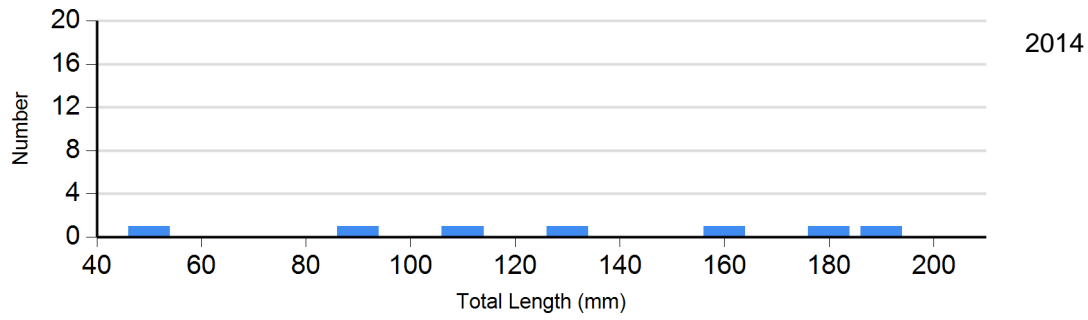
Site: 1983
Species: Mountain Sucker



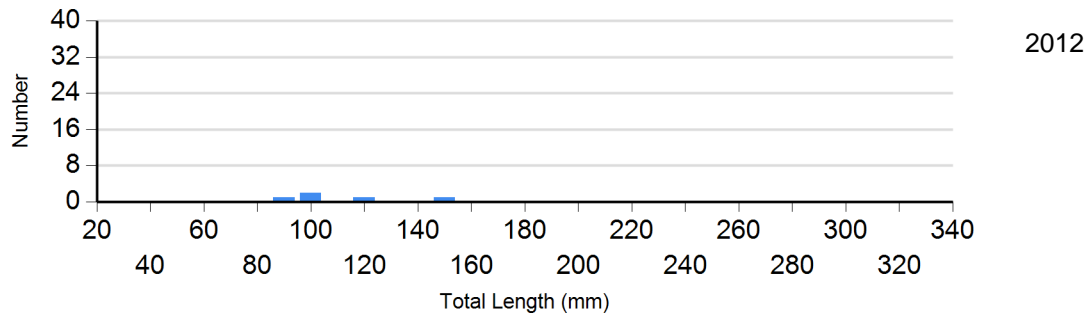


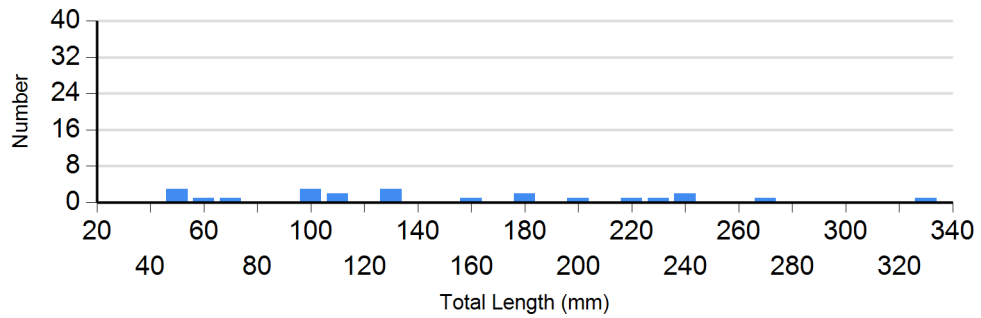
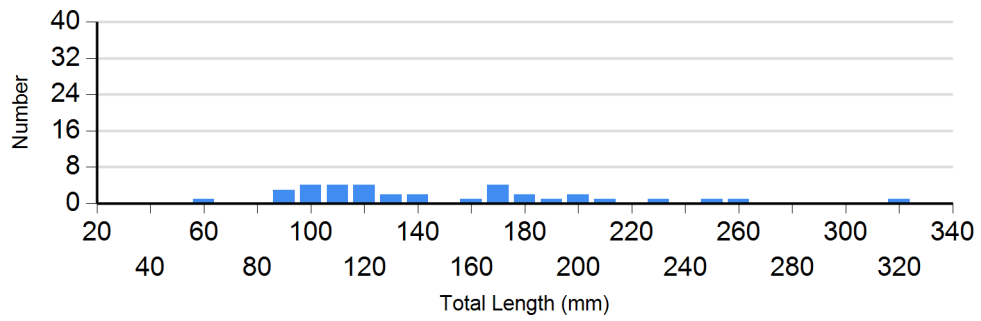
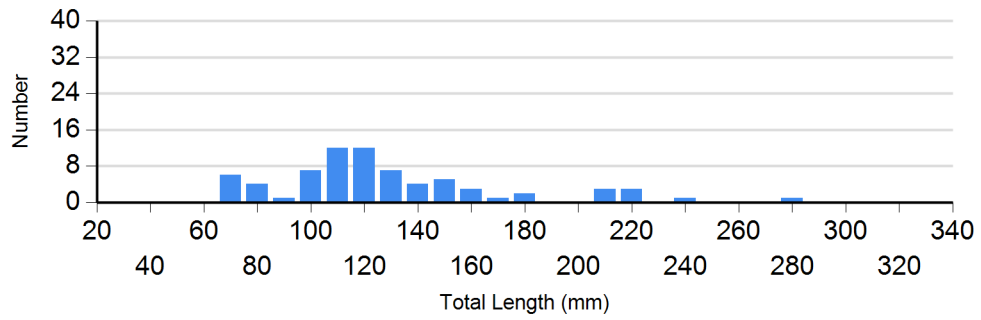
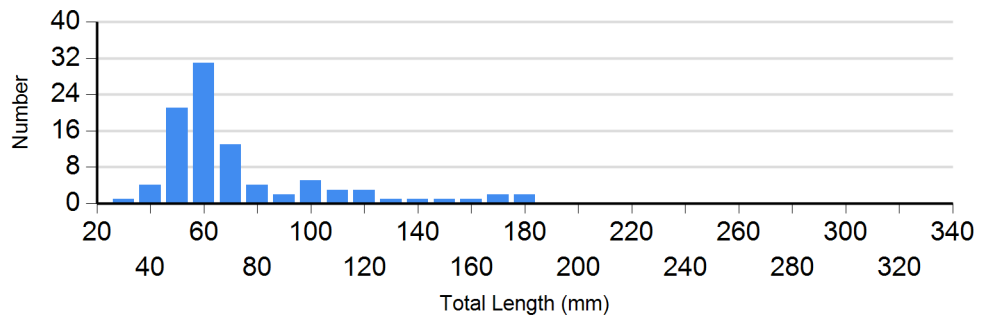
Site: 1983
Species: Stone Cat



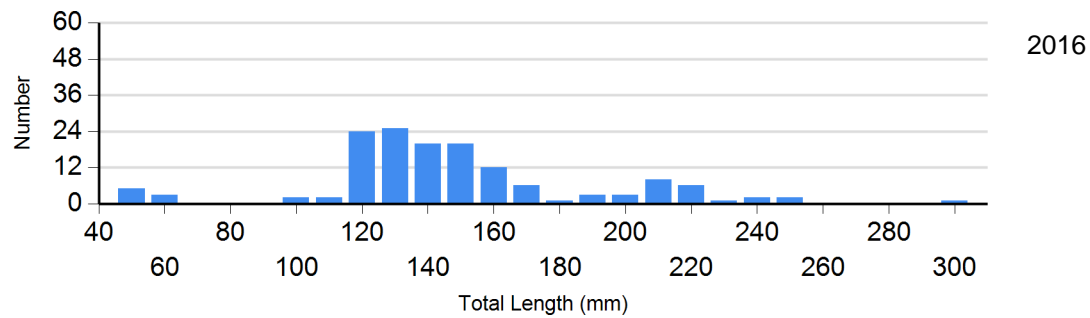
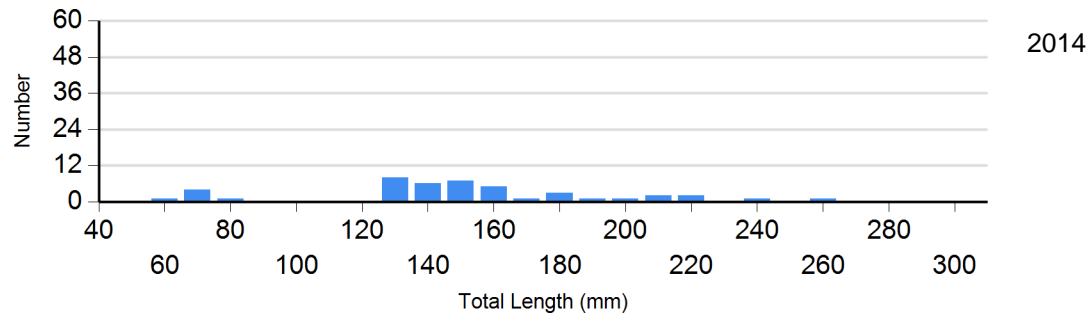
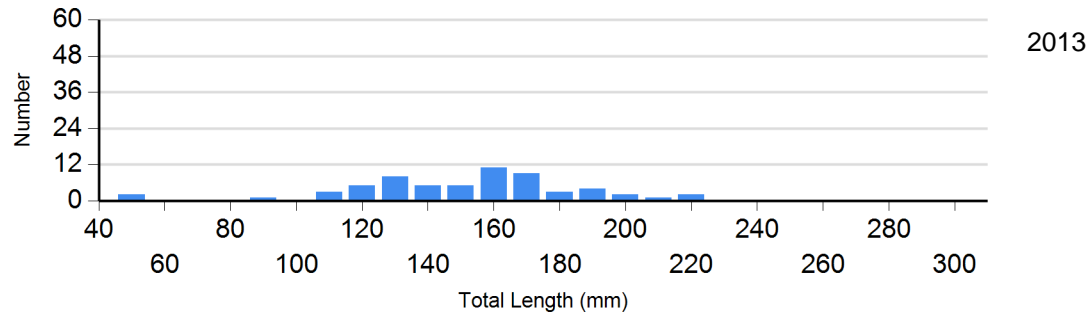
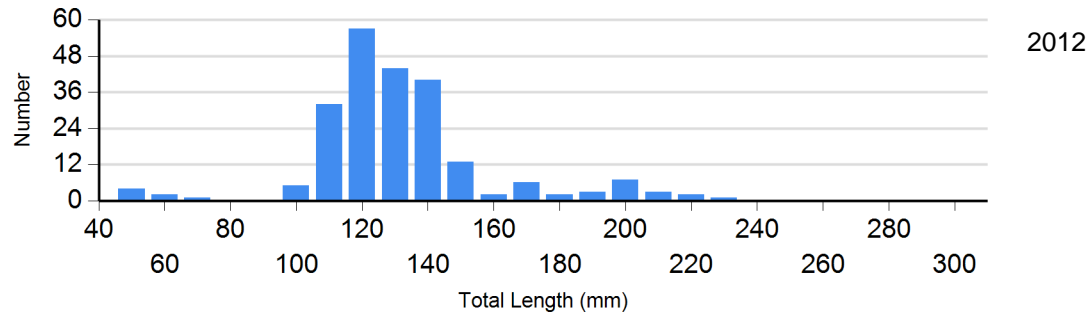


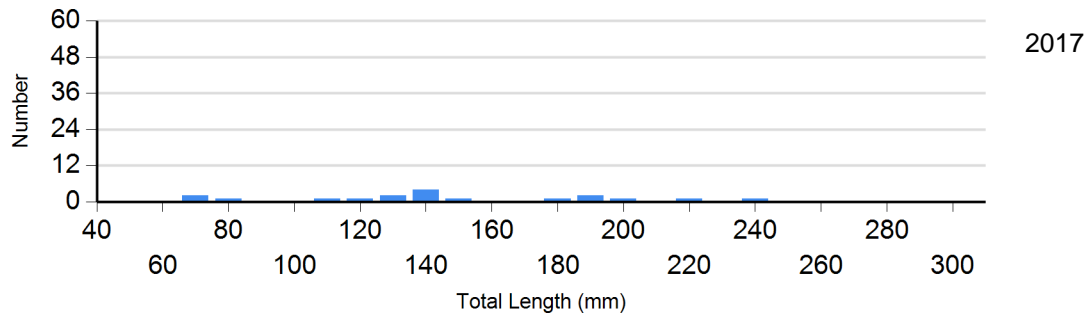
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Species: White Sucker



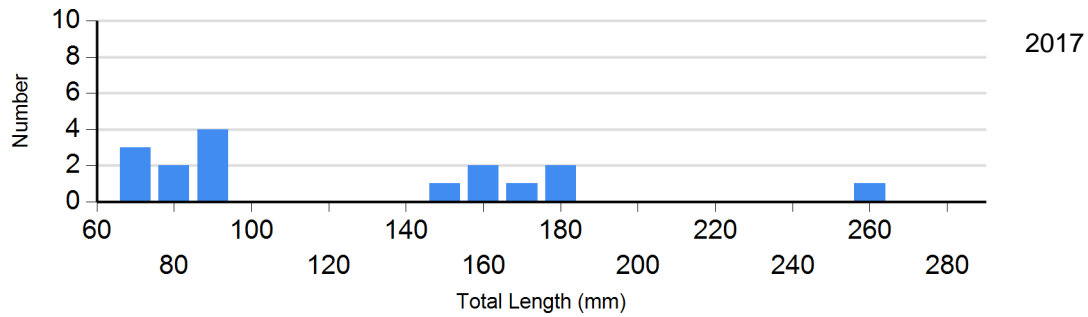
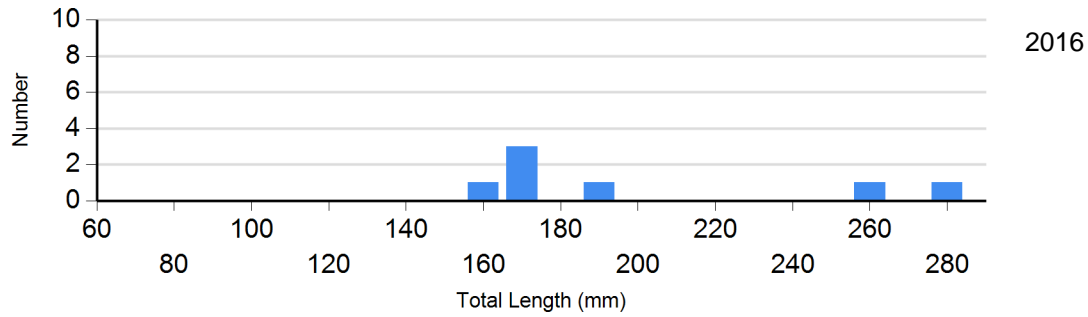


Site: 2207
Species: Brook Trout

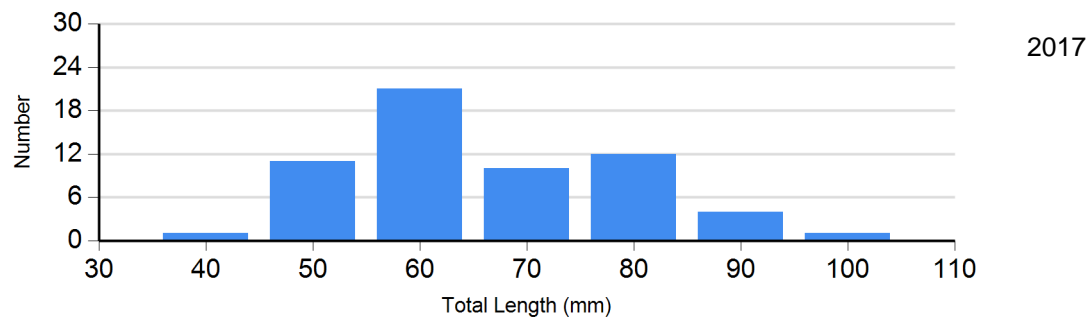
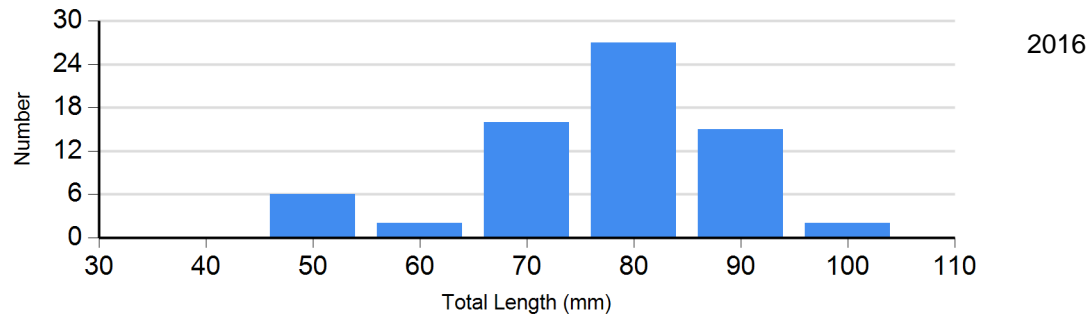
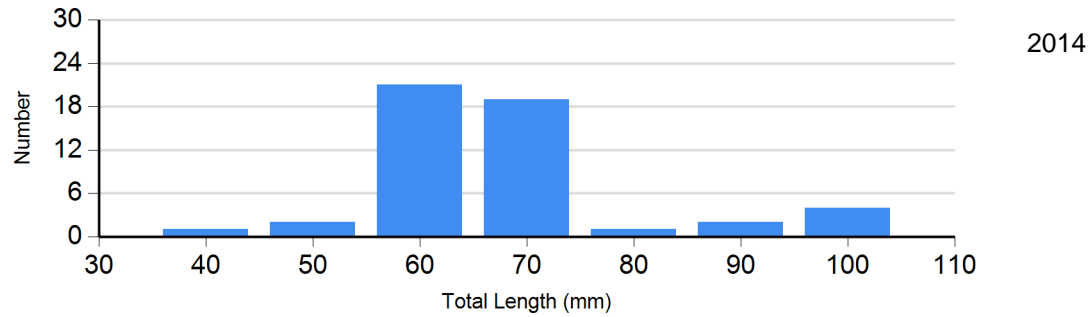
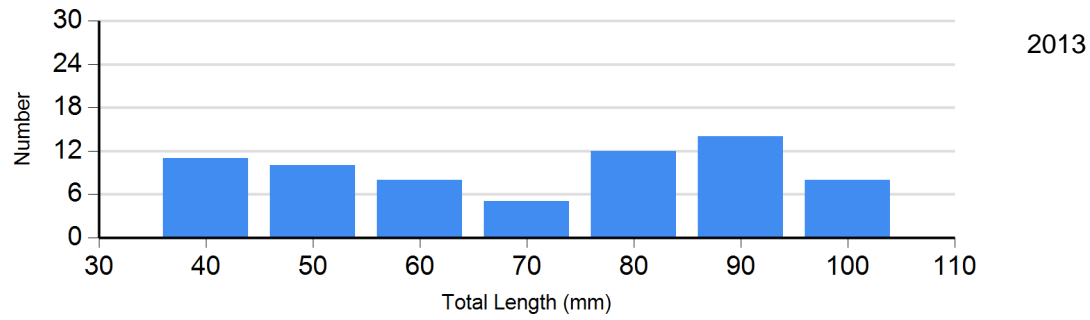




Site: 2207
Species: Brown Trout



Site: 2207
Species: Longnose Dace



Site: 2207
Species: Mountain Sucker

