

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Bear Butte Creek, Meade County
49-0023-00
2001

Table 1. Population and Biomass Estimates for Bear Butte Creek

Site Number: 951	Date Sampled: 10/30/2001	Conductivity (umhos/cm): 2055
Site Midpoint (Latitude, Longitude): 44.33467177, -103.62481850	Site Length (m): 96	pH: 8.8
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.1	Water Temperature (C): 6.4
Stream Classification: BK0	Number of Pass: 3	Voltage: 300

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	78	78	79	78	1919	14	813	777	12.48	1307	91.1	7.3
Brook Trout	All	79	79	80	79	1944	14	823	787	12.66	1324	91.1	7.3
Longnose Dace	All	27	33	46	27	812	1	344	329	1.24	553	46.7	1.7
Mountain Sucker	All	2	2	6	2	49	0	21	20	0.26	34	81.5	6.0
White Sucker	All	8	8	8	8	197	5	83	80	4.26	134	135.0	24.3

Site Number: 955	Date Sampled: 10/30/2001	Conductivity (umhos/cm): 2102
Site Midpoint (Latitude, Longitude): 44.33484568, -103.62910289	Site Length (m): 100	pH: 8.9
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.8	Water Temperature (C): 5.8
Stream Classification: BK2	Number of Pass: 3	Voltage: 300

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	150	150	152	150	3924	48	1500	1589	42.61	2414	101.1	12.2
Brook Trout	>=200mm	6	6	6	6	157	14	60	64	12.33	97	214.7	88.0
Brook Trout	All	156	156	158	156	4081	62	1560	1653	54.94	2510	105.4	15.1

Longnose Dace	All	38	44	55	38	1151	2	440	466	1.95	708	48.7	1.9
Mountain Sucker	All	22	22	24	22	576	6	220	233	5.12	354	90.6	10.0
White Sucker	All	40	41	44	40	1073	23	410	434	20.42	660	125.6	21.3

Site Number: 985
Site Midpoint (Latitude, Longitude): 44.32564488, -103.65235156
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK2, RB2

Date Sampled: 10/23/2001
Site Length (m): 100
Mean Width (m): 3.1
Number of Pass: 5
Conductivity (umhos/cm): 1598
pH: 9.0
Water Temperature (C): 4.9
Voltage: 300

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	155	155	157	155	5059	34	1550	2049	30.14	2494	81.3	6.7
Brook Trout	>=200mm	7	7	7	7	228	24	70	93	21.77	113	234.7	106.7
Brook Trout	All	162	162	164	162	5288	58	1620	2142	51.91	2607	87.9	11.0
Longnose Dace	All	89	239	540	89	7801	35	2390	3159	31.43	3846	75.7	4.5
Mountain Sucker	All	70	78	89	70	2546	24	780	1031	21.30	1255	92.4	9.4
Rainbow Trout	<200mm	7	7	8	7	228	5	70	93	4.58	113	106.7	22.4
Rainbow Trout	>=200mm	1	1	1	1	33	4	10	13	3.26	16	219.0	112.0
Rainbow Trout	All	8	8	9	8	261	9	80	106	7.84	129	120.8	33.6

Site Number: 988
Site Midpoint (Latitude, Longitude): 44.32359378, -103.65026058
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK2

Date Sampled: 10/30/2001
Site Length (m): 100
Mean Width (m): 3.9
Number of Pass: 3
Conductivity (umhos/cm): 291
pH: 9.7
Water Temperature (C): 4.6
Voltage: 300

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	79	80	83	79	2032	25	800	823	22.10	1287	97.0	12.2
Brook Trout	>=200mm	4	4	4	4	102	10	40	41	9.21	64	227.3	101.5
Brook Trout	All	83	84	87	83	2134	35	840	864	31.40	1352	103.3	16.5
Longnose Dace	All	194	193	217	194	4903	8	1930	1986	7.29	3105	47.9	1.7
Mountain Sucker	All	22	27	39	22	686	4	270	278	3.73	434	85.4	6.1
White Sucker	All	10	11	16	10	279	4	110	113	3.52	177	113.1	14.1

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, 1991-2001

Site 951

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 09, 1992	5	5-6	
	Sep 17, 1998	2	2-3	
	Sep 13, 1999	2	2-2	
	Sep 11, 2000	15	15-15	
	Oct 30, 2001	78	78-79	
Brook Trout >=200mm	Sep 17, 1998	1	1-2	BK3
Longnose Dace	Sep 09, 1992	1	1-1	

Longnose Dace	Sep 13, 1999	1	1-1
	Oct 30, 2001	33	27-46
Mountain Sucker	Sep 09, 1992	19	18-23
	Sep 11, 2000	9	9-9
	Oct 30, 2001	2	2-6
White Sucker	Sep 13, 1999	7	7-9
	Sep 11, 2000	79	73-88
	Oct 30, 2001	8	8-8

Site 955

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 09, 1992	35	35-37	
	Sep 19, 1995	2	2-3	
	Sep 23, 1996	9	9-10	
	Sep 10, 1997	6	6-7	
	Sep 16, 1998	4	4-4	
	Sep 15, 1999	5	5-5	

Brook Trout <200mm	Sep 11, 2000	25	25-26	
	Oct 30, 2001	150	150-152	
Brook Trout >=200mm	Sep 09, 1992	2	2-2	BK3
	Sep 10, 1997	14	14-16	BK2
	Sep 16, 1998	2	2-2	BK3
	Sep 11, 2000	5	5-5	BK2
	Oct 30, 2001	6	6-6	BK2
Longnose Dace	Sep 09, 1992	521	449-593	
	Sep 10, 1997	21	21-22	
	Sep 11, 2000	6	6-6	
	Oct 30, 2001	44	38-55	
Mountain Sucker	Sep 09, 1992	82	77-90	
	Sep 10, 1997	8	8-8	
	Sep 16, 1998	5	5-6	
	Sep 15, 1999	3	3-3	
	Sep 11, 2000	18	14-30	

Mountain Sucker	Oct 30, 2001	22	22-24	
Rainbow Trout >=200mm	Sep 09, 1992	5	5-5	RB1
	Sep 10, 1997	1	1-1	RB2
White Sucker	Sep 09, 1992	10	10-12	
	Sep 23, 1996	9	9-10	
	Sep 10, 1997	7	7-7	
	Sep 15, 1999	4	4-4	
	Oct 30, 2001	41	40-44	

Site 985

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Nov 04, 1997	5	5-5	
	Sep 14, 1999	64	64-66	
	Sep 13, 2000	100	100-101	
	Oct 23, 2001	155	155-157	
Brook Trout >=200mm	Sep 08, 1997	1	1-1	BK3
	Nov 04, 1997	2	2-6	BK2

Brook Trout >=200mm	Sep 14, 1999	11	11-11	BK2
	Sep 13, 2000	27	27-27	BK1
	Oct 23, 2001	7	7-7	BK2
Longnose Dace	Sep 08, 1997	33	32-36	
	Nov 04, 1997	10	11-13	
	Sep 14, 1999	32	33-46	
	Sep 13, 2000	334	310-358	
	Oct 23, 2001	239	89-540	
Mountain Sucker	Sep 08, 1997	87	86-90	
	Nov 04, 1997	257	143-386	
	Sep 14, 1999	3	3-3	
	Sep 13, 2000	168	163-174	
	Oct 23, 2001	78	70-89	
Rainbow Trout <200mm	Oct 23, 2001	7	7-8	
Rainbow Trout >=200mm	Oct 23, 2001	1	1-1	RB2
White Sucker	Sep 08, 1997	20	20-21	

White Sucker	Nov 04, 1997	5	3-24
	Sep 16, 1998	2	2-2
	Sep 14, 1999	4	4-7

Site 988

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 10, 1992	14	12-21	
	May 10, 1993	15	15-16	
	Sep 20, 1994	8	8-10	
	Sep 18, 1995	2	2-3	
	Sep 21, 1996	20	20-21	
	Jul 14, 1997	18	18-20	
	Sep 09, 1997	19	19-19	
	Nov 04, 1997	9	9-9	
	Sep 14, 1998	31	24-47	
	Sep 16, 1999	104	100-110	
	Sep 13, 2000	32	32-33	

Brook Trout <200mm	Oct 30, 2001	80	79-83	
Brook Trout >=200mm	May 10, 1993	1	1-4	BK3
	Jun 06, 1995	2	2-3	BK3
	Sep 18, 1995	1	1-5	BK3
	Jul 14, 1997	1	1-1	BK3
	Nov 04, 1997	6	6-6	BK2
	Sep 14, 1998	2	2-4	BK3
	Sep 16, 1999	3	3-3	BK2
	Oct 30, 2001	4	4-4	BK2
Longnose Dace	May 10, 1993	388	389-420	
	Sep 20, 1994	128	127-131	
	Jun 06, 1995	100	101-113	
	Sep 18, 1995	94	94-94	
	Sep 21, 1996	620	551-689	
	Jul 14, 1997	695	603-787	
	Sep 09, 1997	483	435-531	

Longnose Dace	Nov 04, 1997	360	262-458	
	Sep 14, 1998	710	605-815	
	Sep 16, 1999	352	353-377	
	Sep 13, 2000	1289	1273-1305	
	Oct 30, 2001	193	194-217	
Mountain Sucker	Jun 06, 1995	14	6-73	
	Sep 18, 1995	3	3-3	
	Jul 14, 1997	15	16-21	
	Sep 09, 1997	146	125-167	
	Nov 04, 1997	12	12-14	
	Sep 14, 1998	43	39-51	
	Sep 13, 2000	119	115-125	
	Oct 30, 2001	27	22-39	
Rainbow Trout <200mm	Sep 10, 1992	2	2-2	
	May 10, 1993	1	1-1	
Rainbow Trout >=200mm	May 10, 1993	1	1-1	RB2

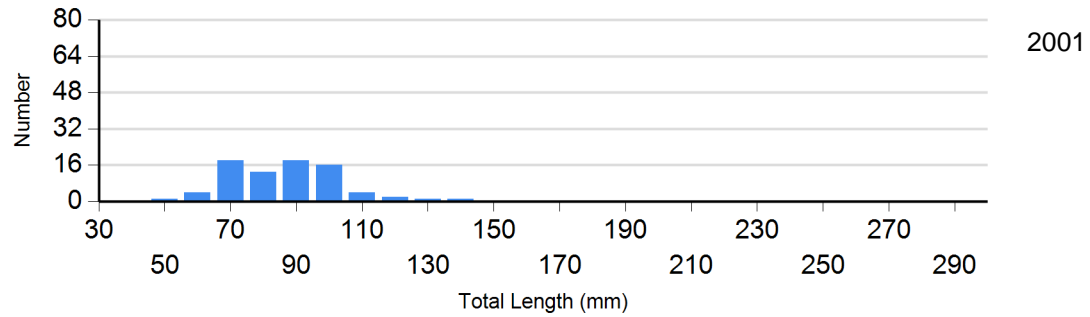
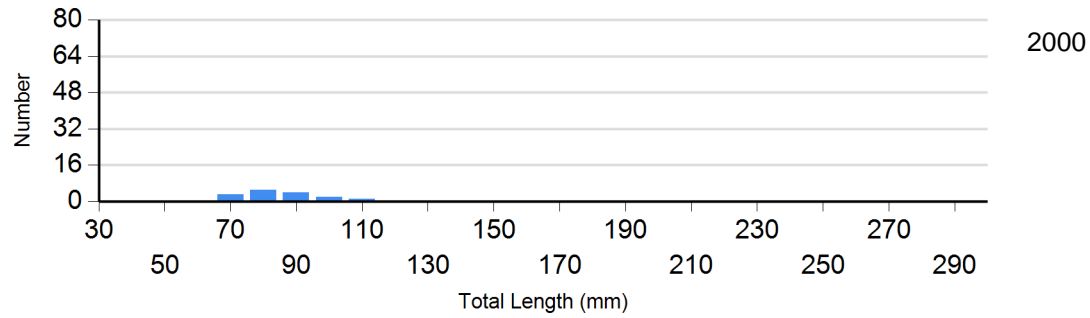
White Sucker	Sep 10, 1992	1	1-1
	May 10, 1993	48	28-97
	Sep 20, 1994	26	26-27
	Jun 06, 1995	28	15-76
	Sep 18, 1995	11	11-13
	Sep 21, 1996	70	66-77
	Jul 14, 1997	13	12-18
	Sep 09, 1997	13	13-13
	Nov 04, 1997	81	72-93
	Sep 14, 1998	31	23-50
	Sep 16, 1999	22	21-26
	Sep 13, 2000	1	1-1
	Oct 30, 2001	11	10-16

Length Frequency Distribution

Length frequency histogram of species sampled by year.

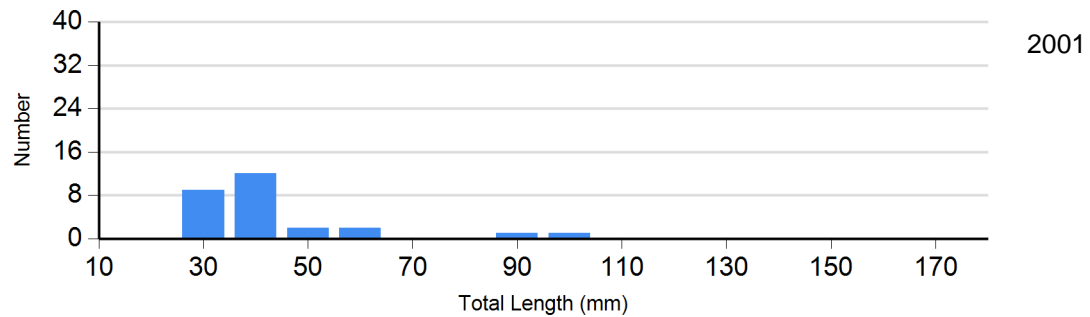
Site: 951

Species: Brook Trout

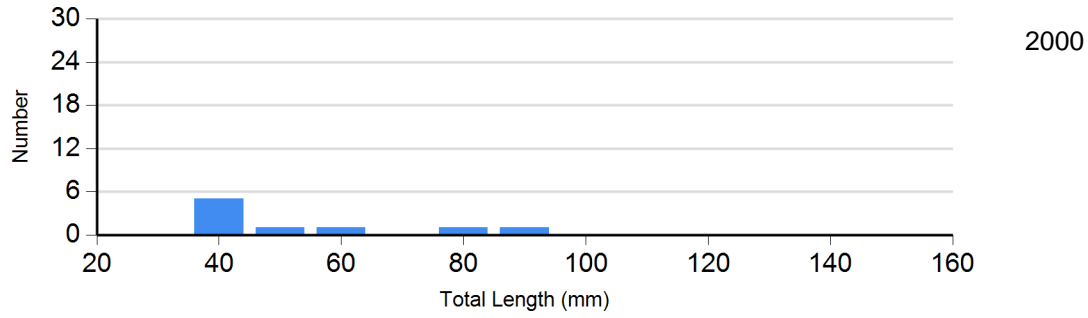


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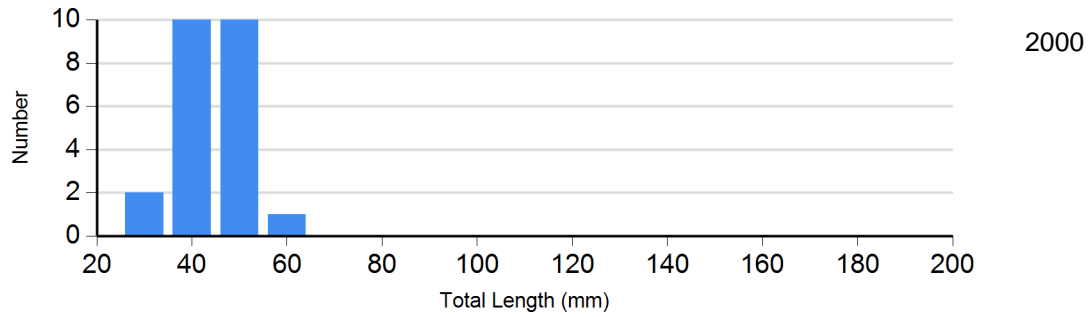
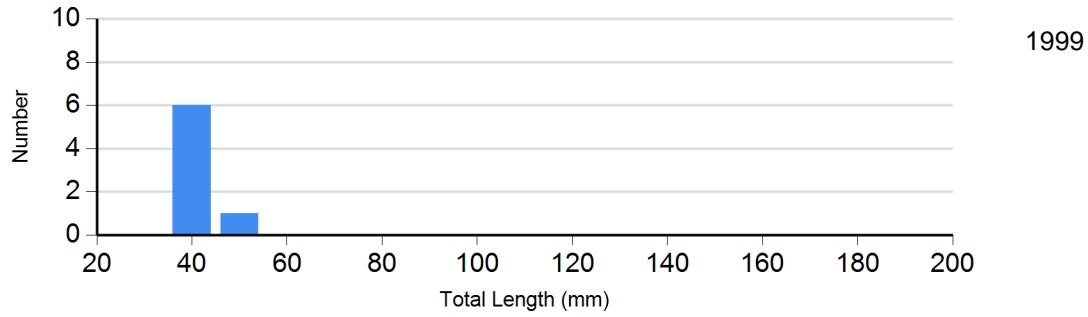
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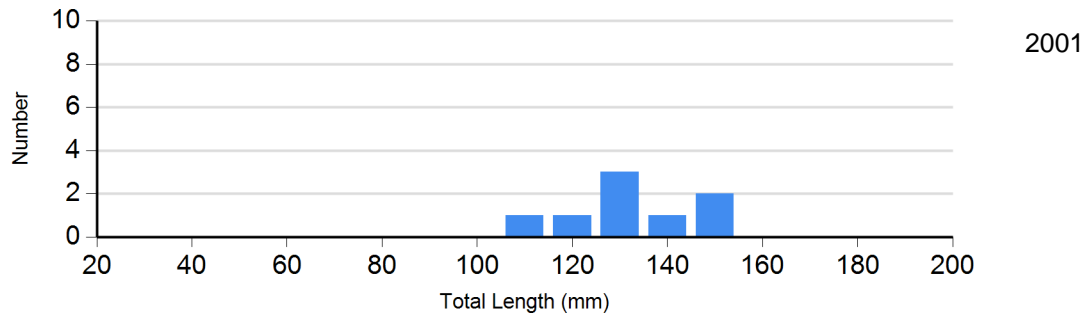


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Species: Mountain Sucker

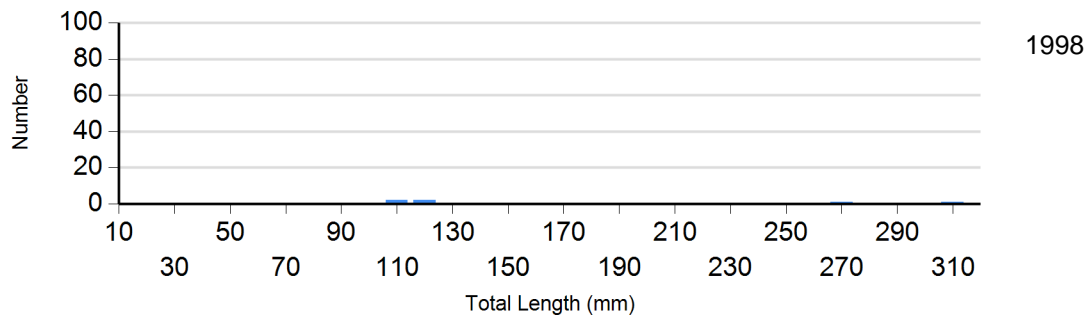
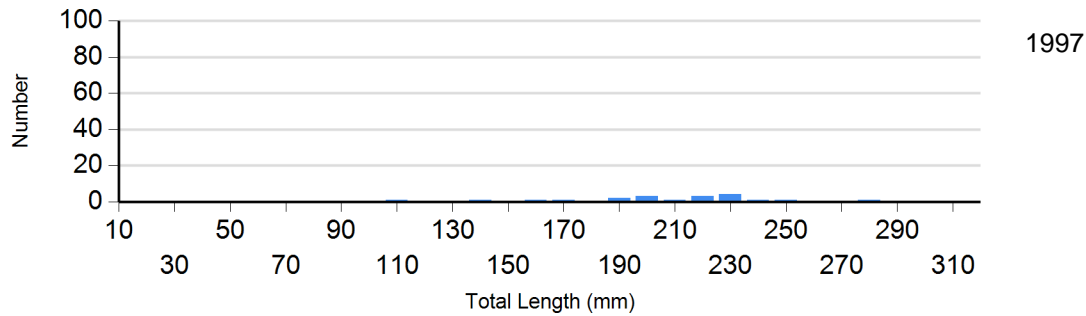
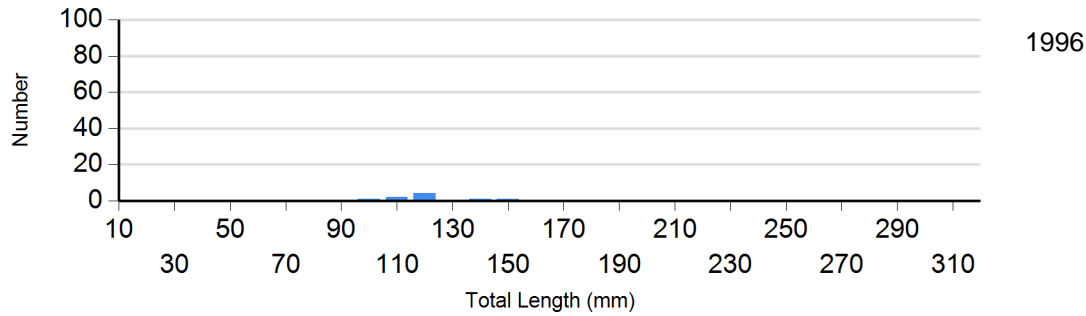


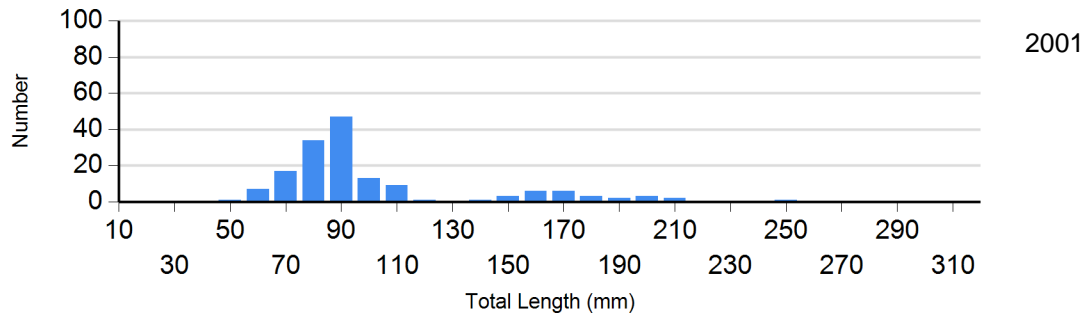
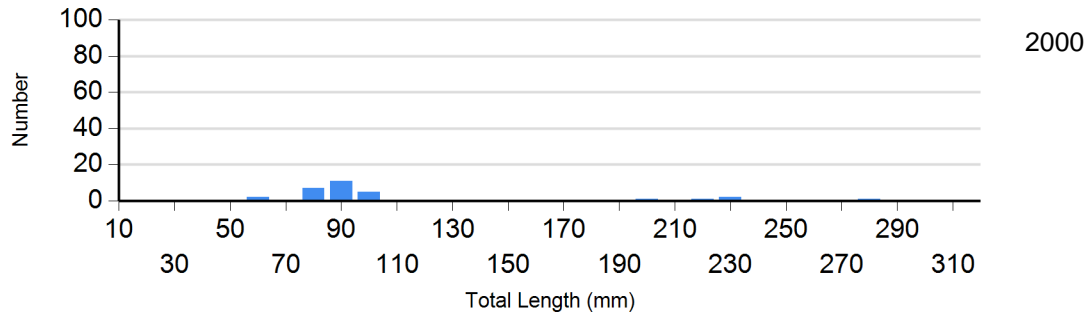
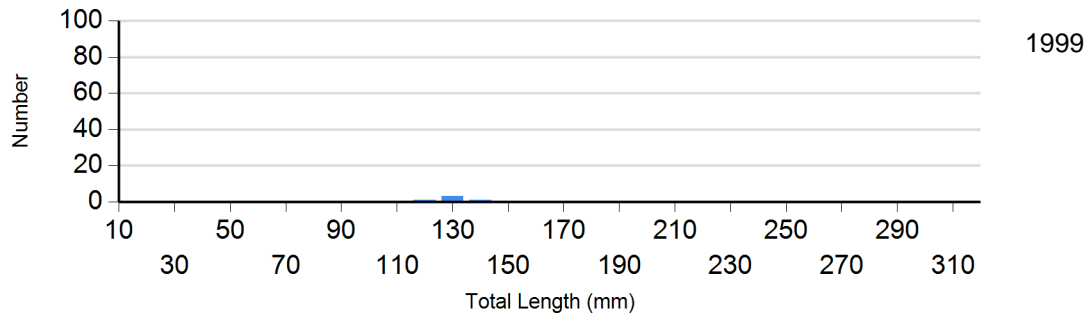
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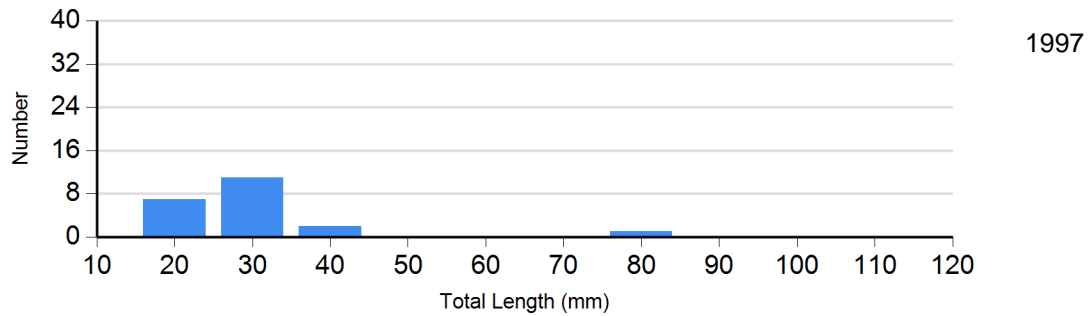


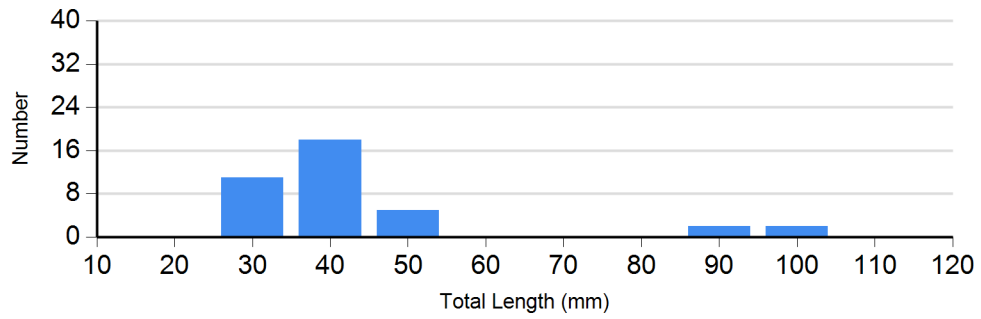
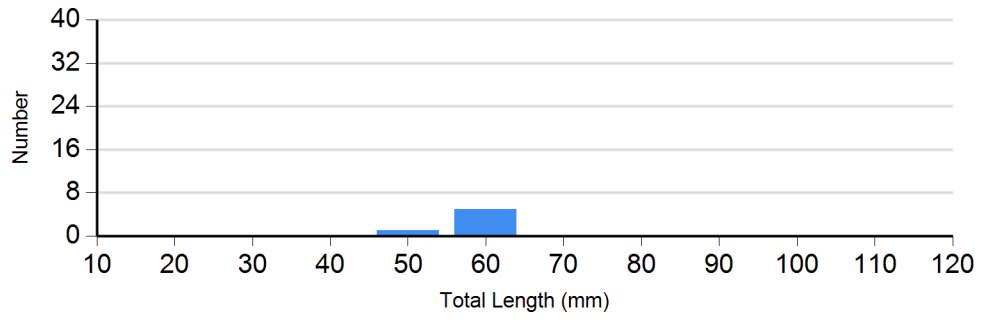
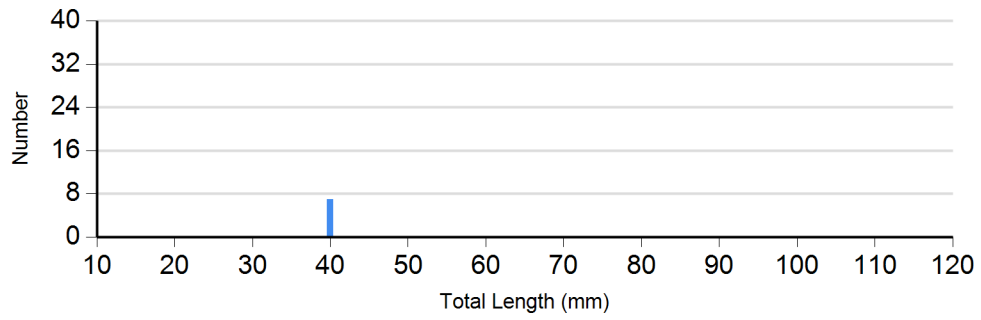
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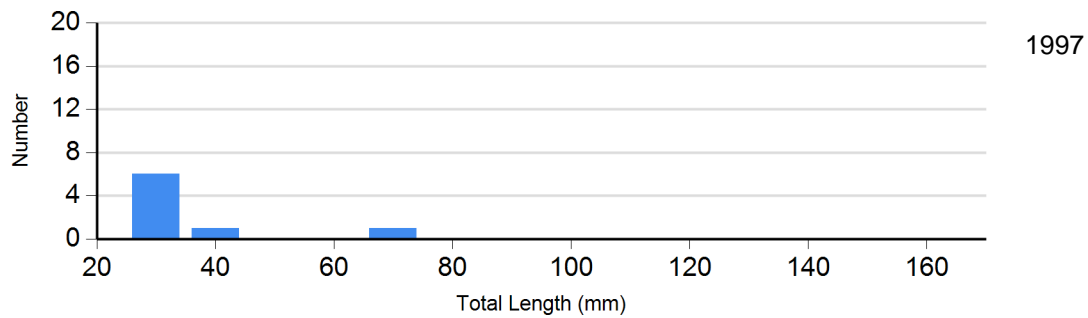


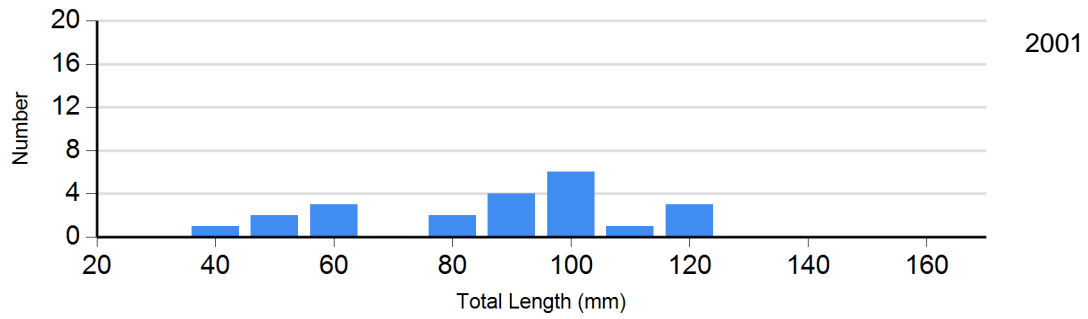
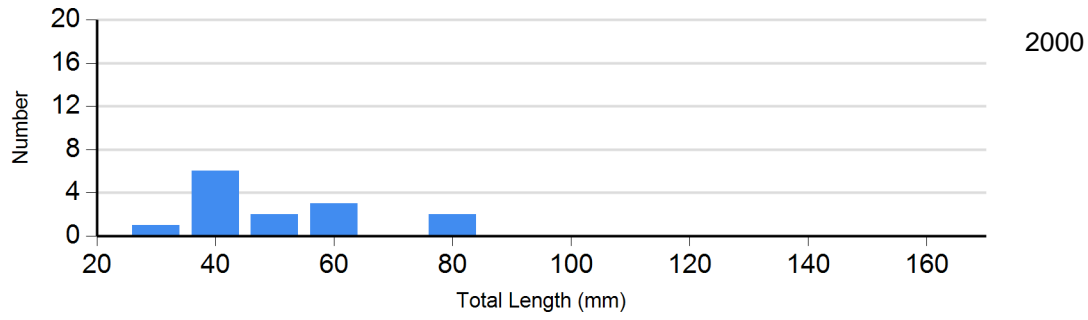
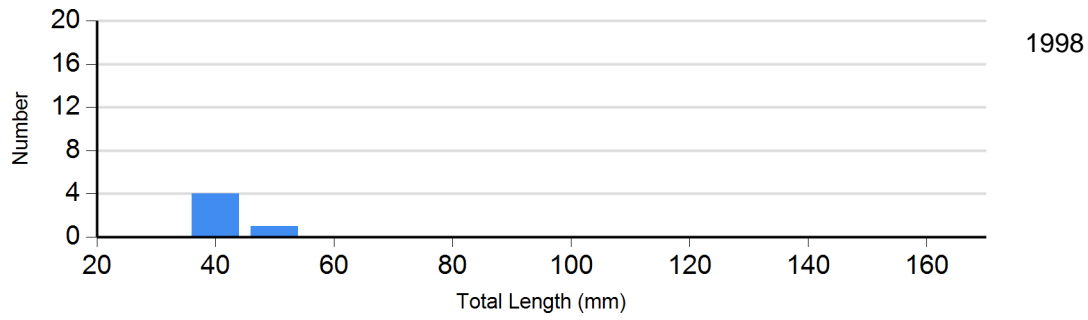
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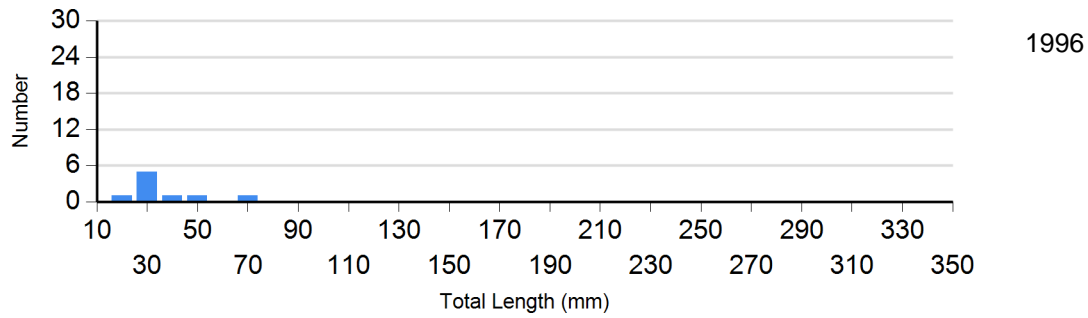


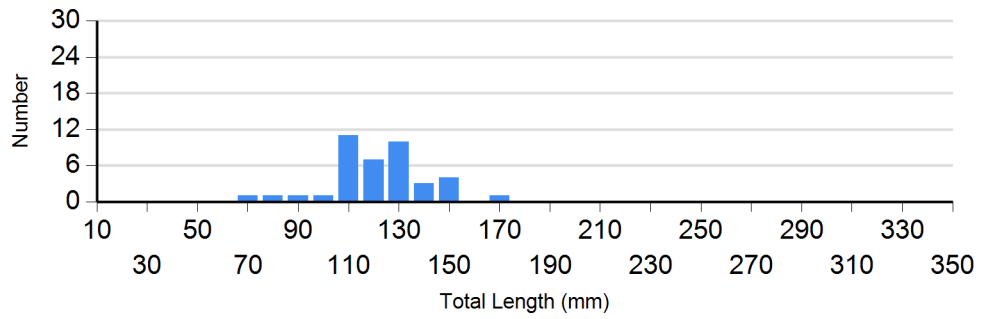
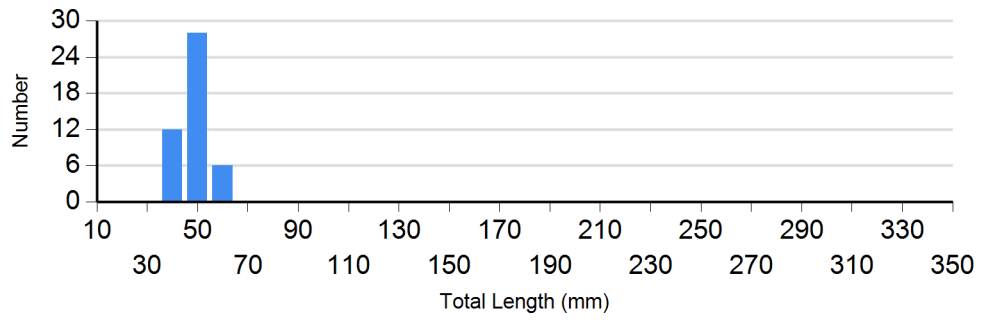
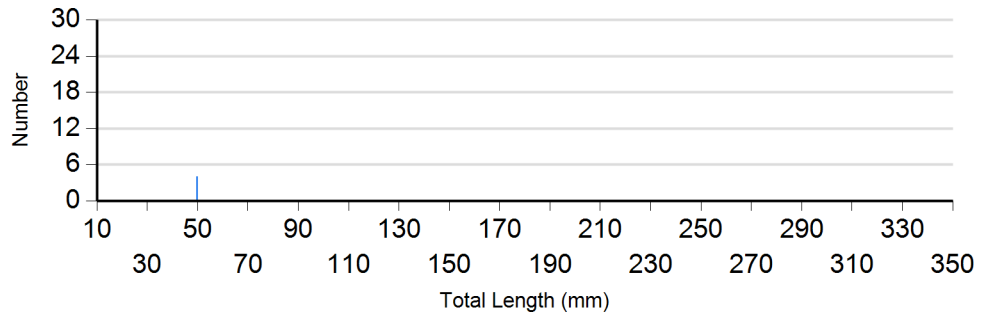
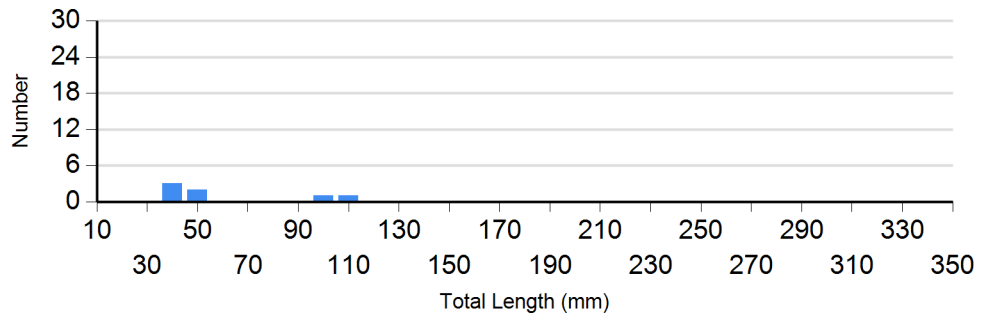
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Species: Mountain Sucker



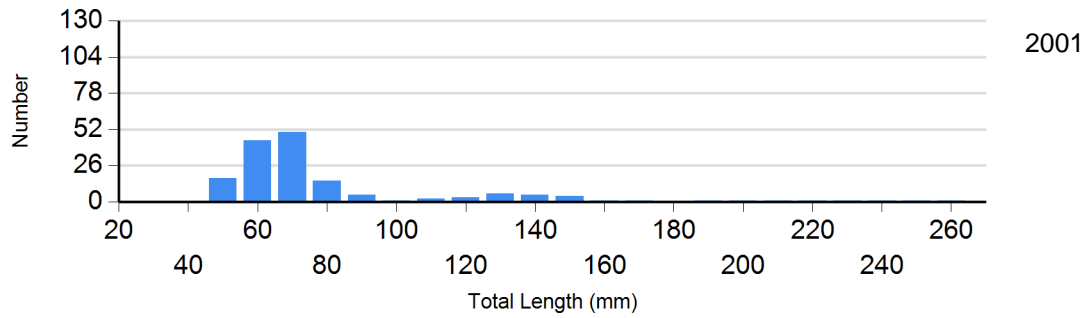
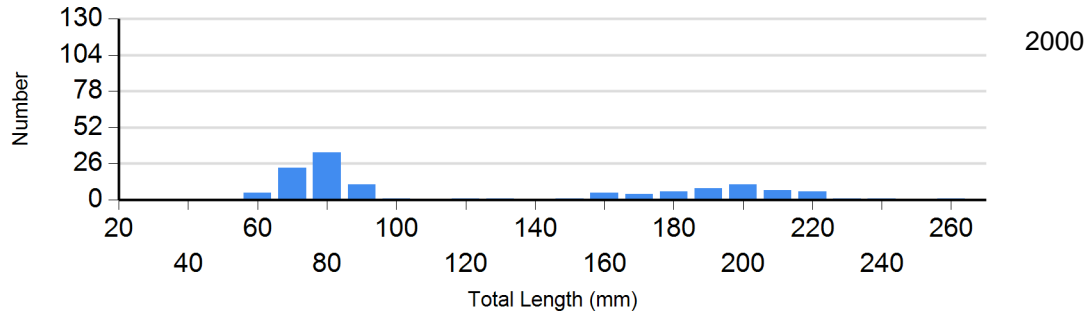
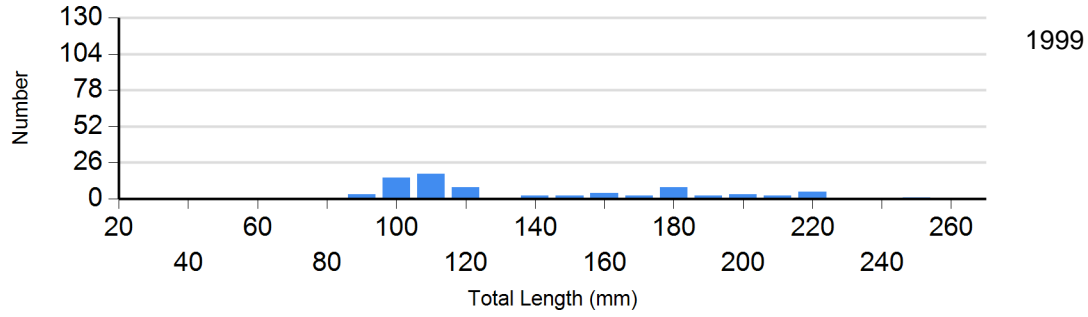
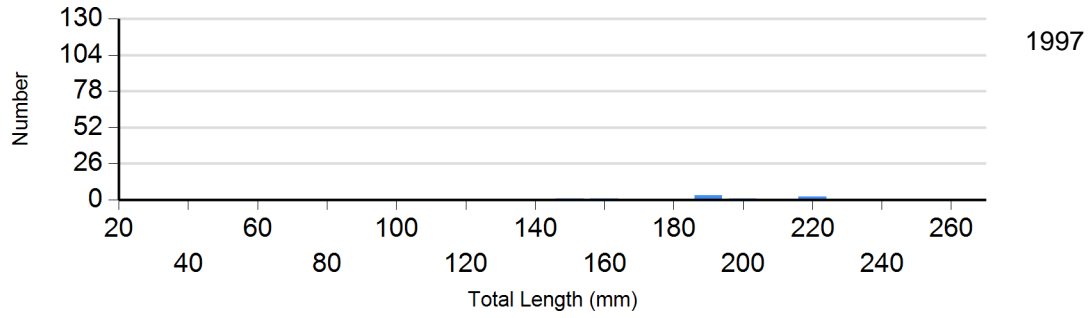


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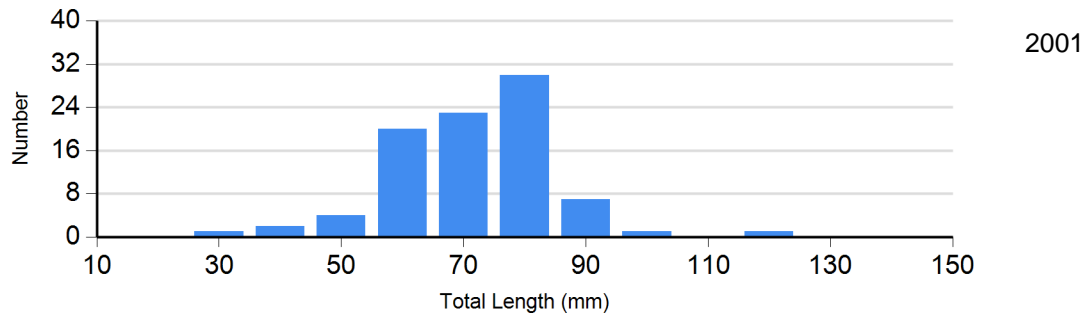
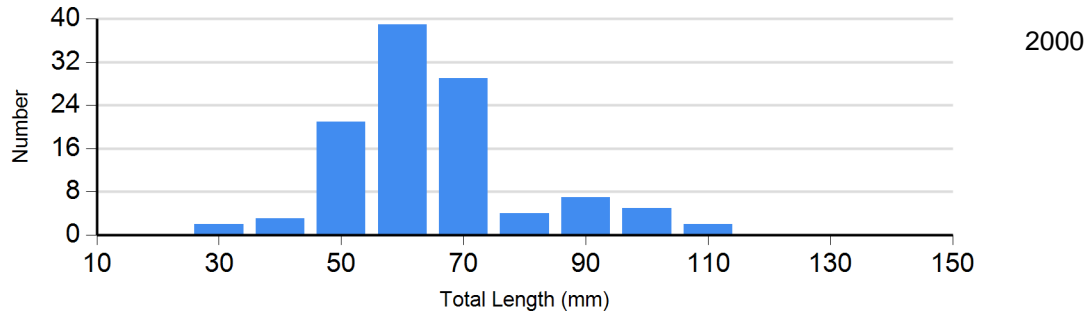
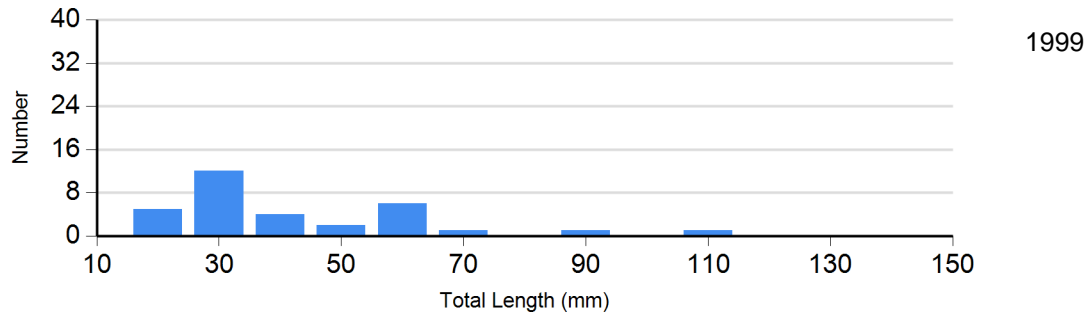
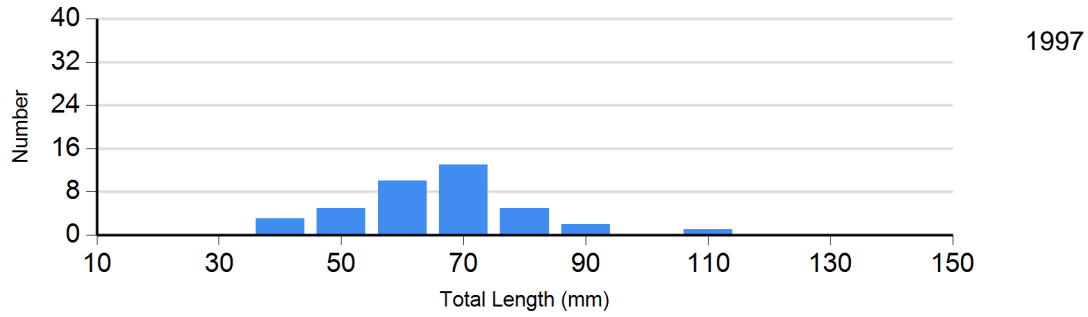




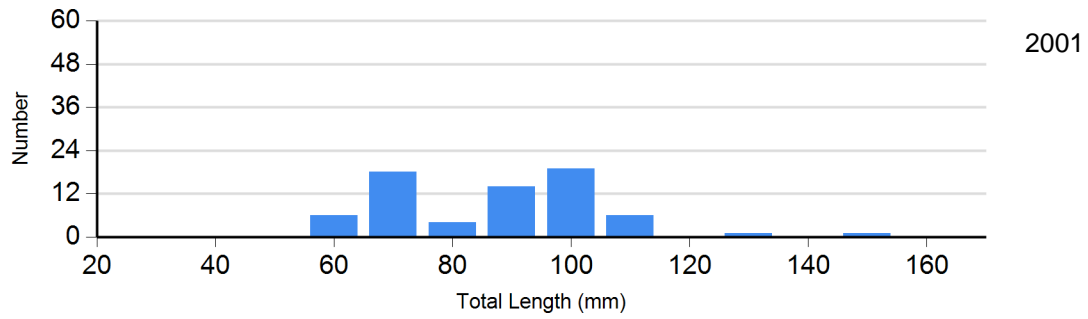
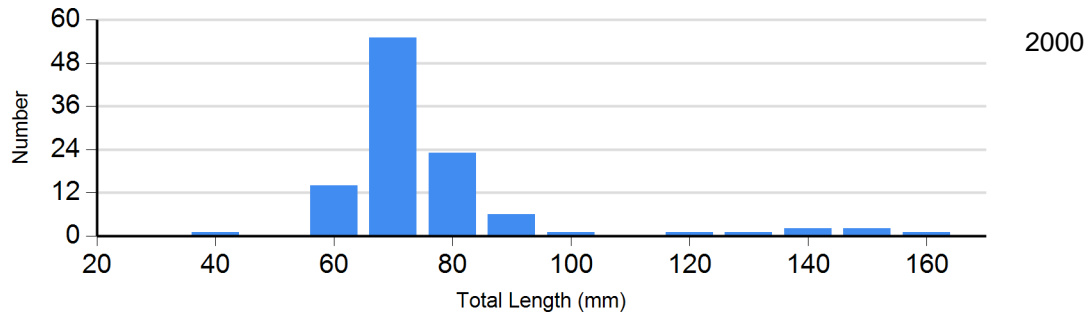
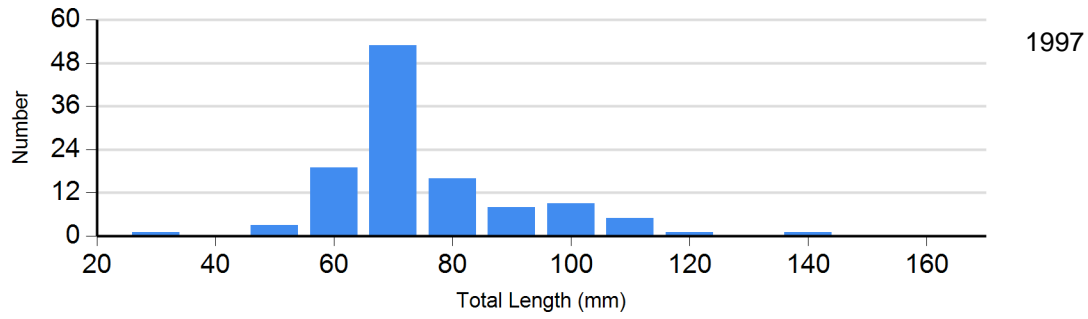
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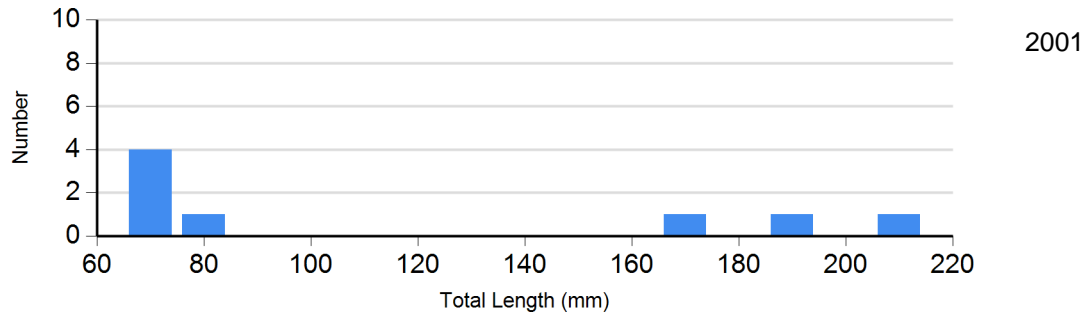
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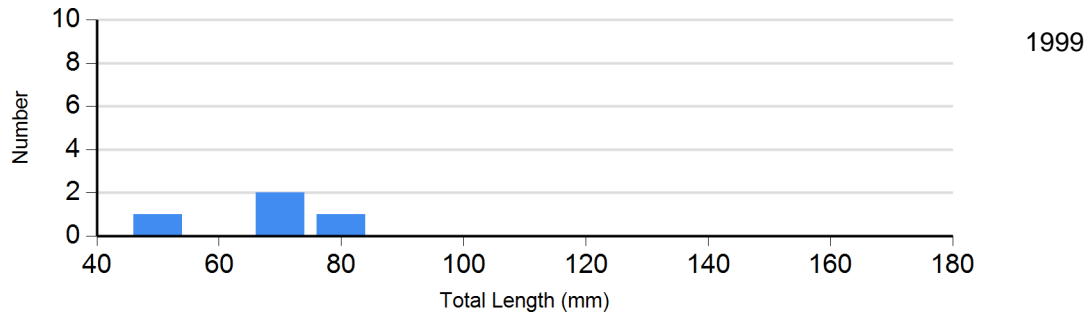
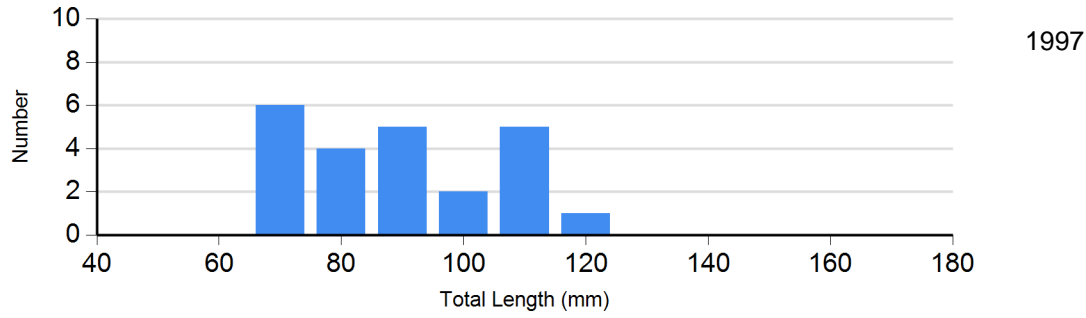
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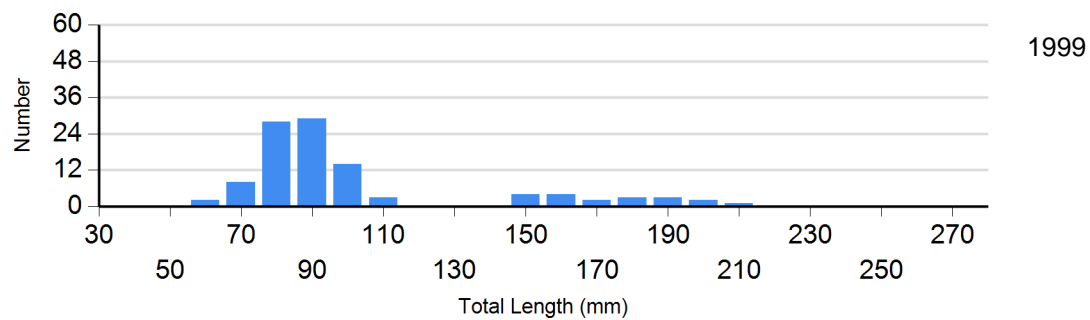
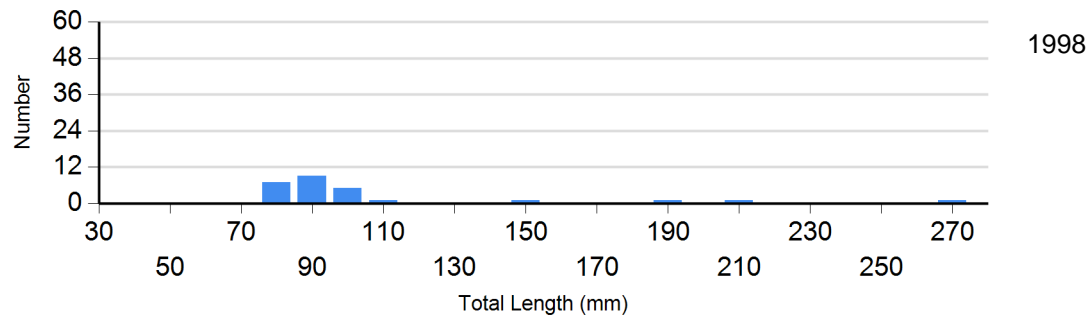
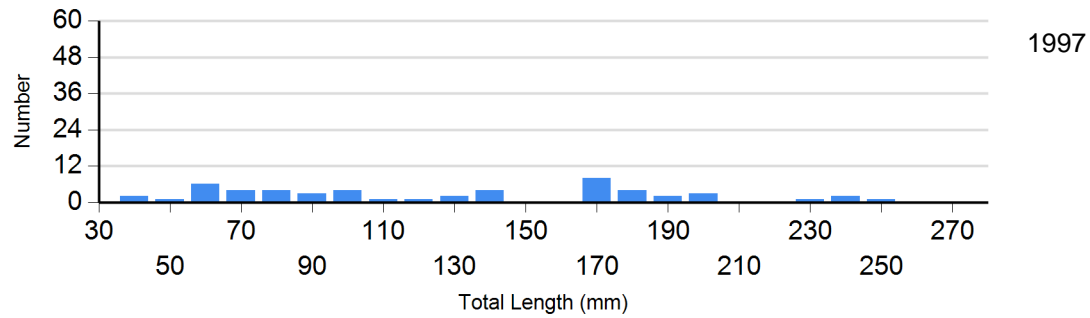
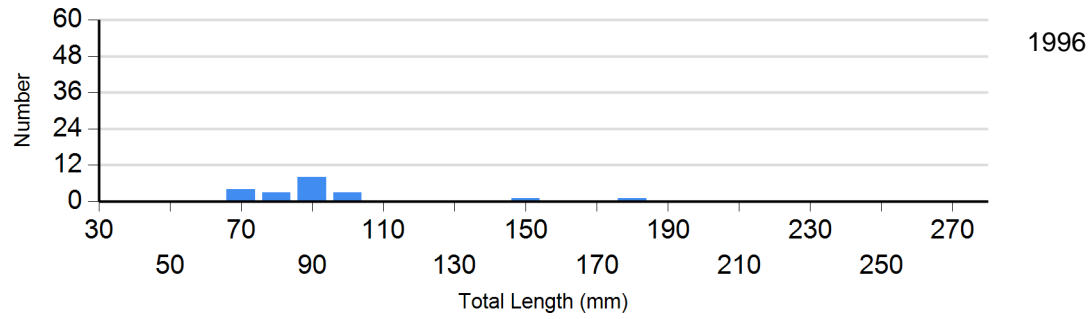
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Species: Rainbow Trout

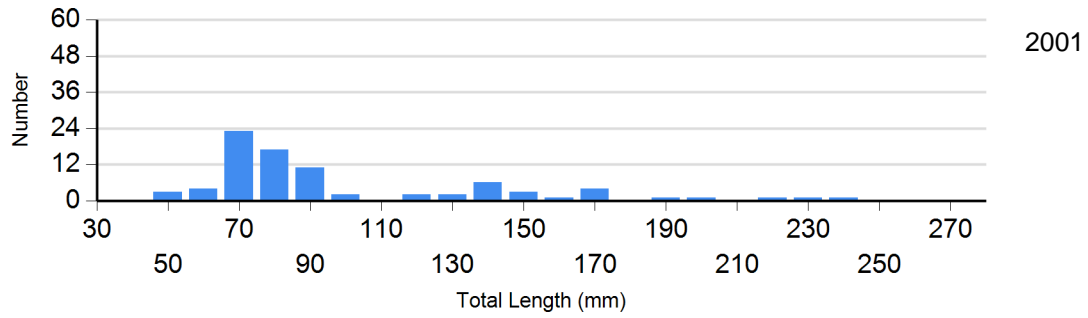
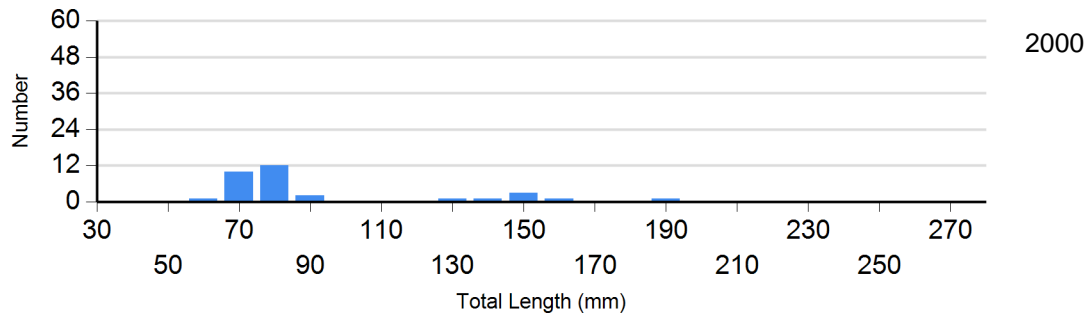


Site: 985
Species: White Sucker

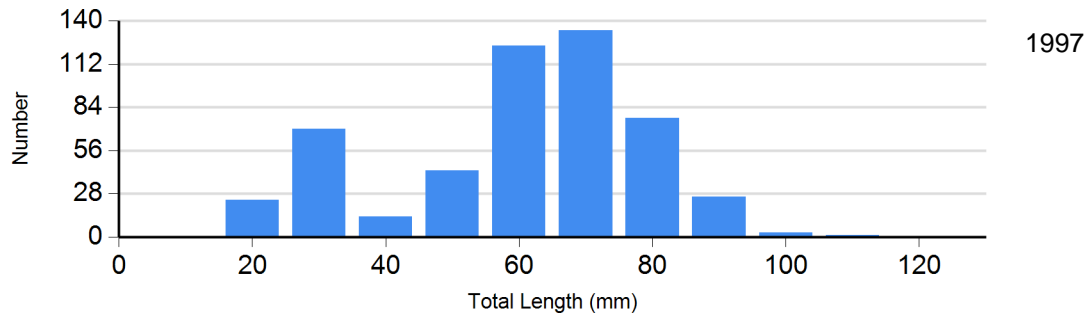
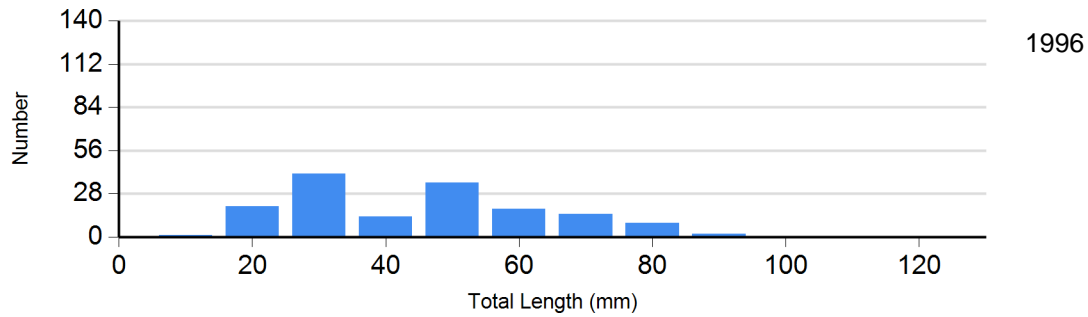


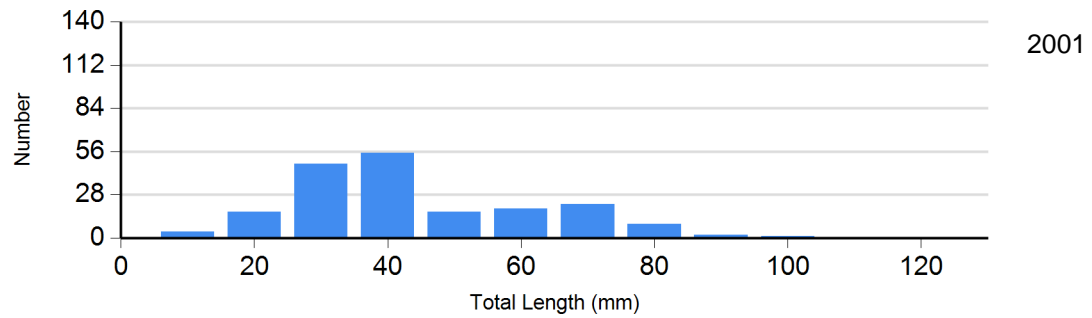
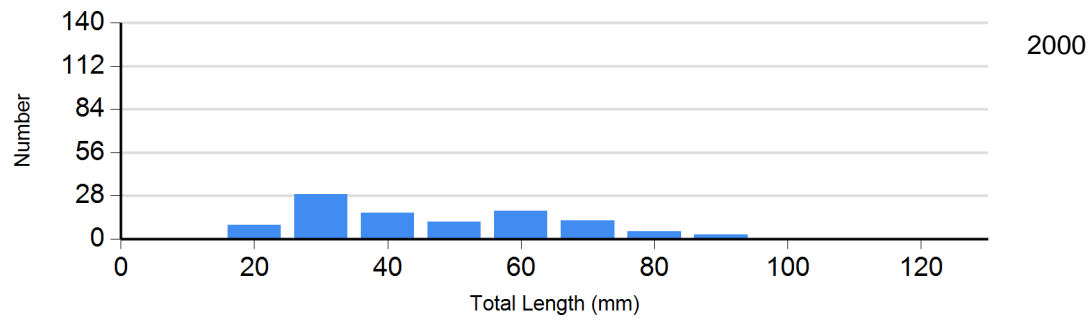
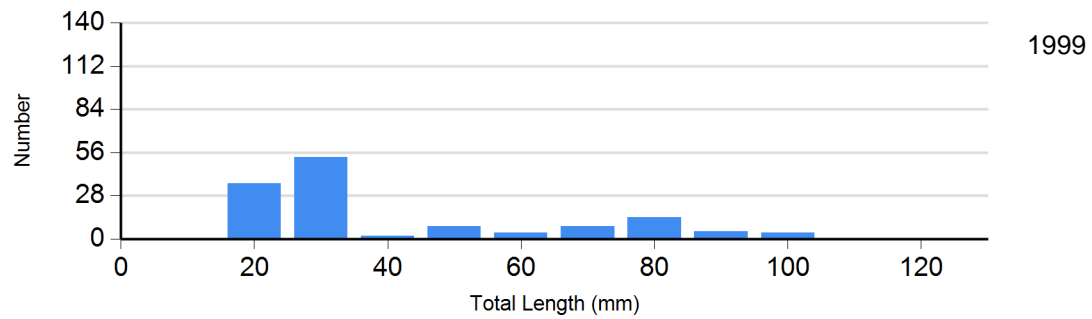
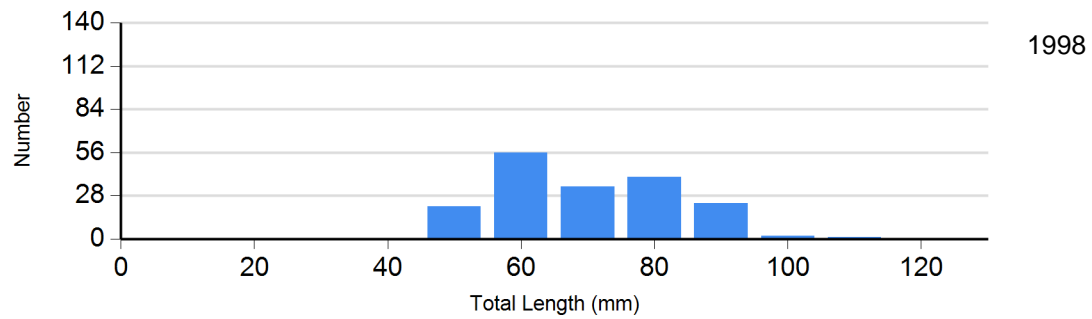
Site: 988
Species: Brook Trout



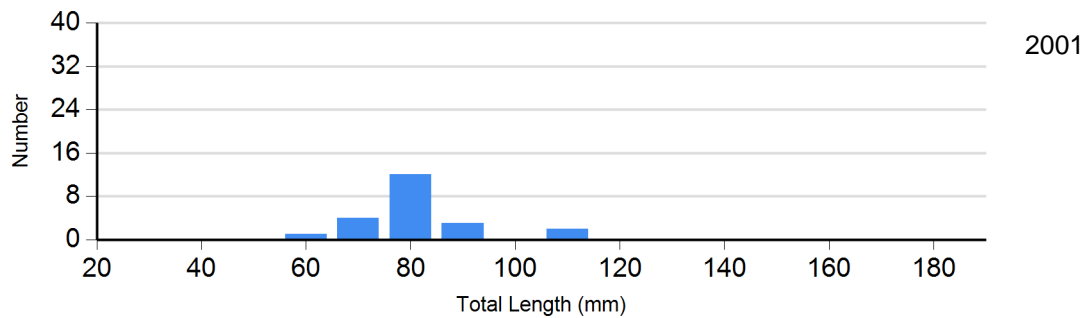
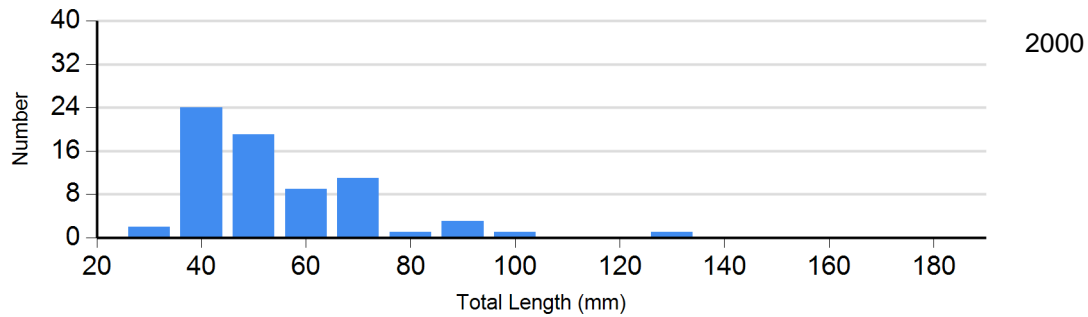
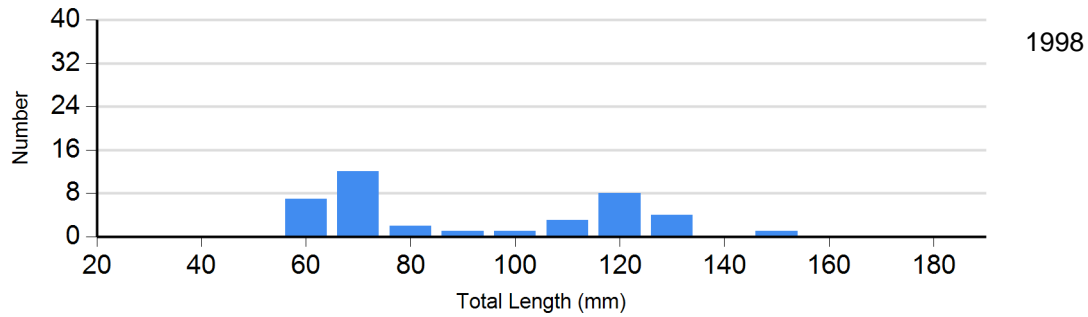
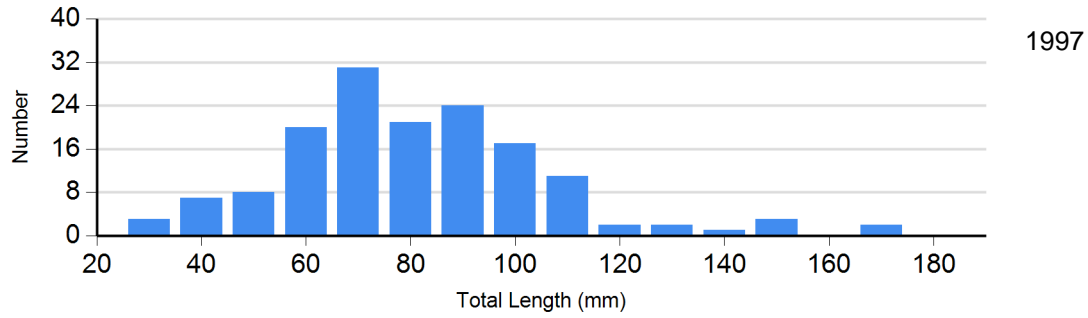


Site: 988
Species: Longnose Dace





Site: 988
Species: Mountain Sucker



Site: 988
Species: White Sucker

