

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Bear Butte Creek, Meade County
49-0023-00
1998

Table 1. Population and Biomass Estimates for Bear Butte Creek

Site Number: 951	Date Sampled: 09/17/1998	Conductivity (umhos/cm): 760
Site Midpoint (Latitude, Longitude): 44.33467177, -103.62481850	Site Length (m): 100	pH: 8.0
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.7	Water Temperature (C): 16.7
Stream Classification: BK3	Number of Pass: 5	Voltage: 250

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	2	2	3	2	43	1	20	17	0.46	32	111.0	12.0
Brook Trout	>=200mm	1	1	2	1	21	6	10	9	4.98	16	291.0	260.0
Brook Trout	All	3	3	5	3	64	6	30	26	5.44	48	171.0	94.7

Site Number: 955	Date Sampled: 09/16/1998	Conductivity (umhos/cm): 808
Site Midpoint (Latitude, Longitude): 44.33484568, -103.62910289	Site Length (m): 100	pH: 7.4
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.4	Water Temperature (C): 11.0
Stream Classification: BK3	Number of Pass: 4	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	4	4	4	4	90	1	40	37	1.19	64	118.0	14.8
Brook Trout	>=200mm	2	2	2	2	45	14	20	18	12.77	32	296.0	316.0
Brook Trout	All	6	6	6	6	136	16	60	55	13.96	97	177.3	115.2
Mountain Sucker	All	5	5	6	5	113	0	50	46	0.15	80	46.2	1.5

Site Number: 976

Site Midpoint (Latitude, Longitude): 44.32812906, -103.64456485

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: None

Date Sampled: 09/14/1998

Site Length (m): 100

Mean Width (m): 4.6

Number of Pass: 4

Conductivity (umhos/cm): 283

pH: 7.9

Water Temperature (C): 13.2

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)
Mountain Sucker	All	1	1	3	1	22	0	10	9	0.13	16	87.0	7.0
White Sucker	All	1	1	3	1	22	3	10	9	2.33	16	217.0	121.0

Site Number: 985

Site Midpoint (Latitude, Longitude): 44.32564488, -103.65235156

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: None

Date Sampled: 09/16/1998

Site Length (m): 100

Mean Width (m): 3.8

Number of Pass: 3

Conductivity (umhos/cm): 784

pH: 7.2

Water Temperature (C): 15.2

Voltage: 250

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)
White Sucker	All	2	2	2	2	53	2	20	21	2.04	32	158.0	43.5

Site Number: 988

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

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK3

Date Sampled: 09/14/1998

Site Length (m): 100

Mean Width (m): 4.6

Number of Pass: 3

Conductivity (umhos/cm): 232

pH: 8.5

Water Temperature (C): 18.2

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	24	31	47	24	677	8	310	274	7.45	499	102.4	12.3
Brook Trout	>=200mm	2	2	4	2	44	7	20	18	6.22	32	246.0	159.5
Brook Trout	All	26	35	55	26	764	18	350	309	16.14	563	113.4	23.7

Longnose Dace	All	501	710	815	605	15502	58	7100	6278	51.53	11424	74.2	3.7
Mountain Sucker	All	39	43	51	39	939	11	430	380	9.89	692	96.6	11.8
White Sucker	All	23	31	50	23	677	16	310	274	13.90	499	132.2	23.0

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 Bear Butte Creek, 1988-1998

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	
Brook Trout >=200mm	Sep 17, 1998	1	1-2	BK3
Longnose Dace	Sep 09, 1992	1	1-1	
Mountain Sucker	Sep 09, 1992	19	18-23	

Site 955

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 09, 1992	35	35-37	

Brook Trout <200mm	Sep 19, 1995	2	2-3	
	Sep 23, 1996	9	9-10	
	Sep 10, 1997	6	6-7	
	Sep 16, 1998	4	4-4	
Brook Trout >=200mm	Sep 09, 1992	2	2-2	BK3
	Sep 10, 1997	14	14-16	BK2
	Sep 16, 1998	2	2-2	BK3
Longnose Dace	Sep 09, 1992	521	449-593	
	Sep 10, 1997	21	21-22	
Mountain Sucker	Sep 09, 1992	82	77-90	
	Sep 10, 1997	8	8-8	
	Sep 16, 1998	5	5-6	
White Sucker	Sep 09, 1992	10	10-12	
	Sep 23, 1996	9	9-10	
	Sep 10, 1997	7	7-7	

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Apr 16, 1993	2	2-2	
	Jun 10, 1993	6	6-7	
	Sep 23, 1996	30	30-31	
	Sep 09, 1997	1	1-1	
Brook Trout >=200mm	Sep 20, 1994	1	1-1	BK3
	Sep 09, 1997	2	2-3	BK3
Longnose Dace	Apr 16, 1993	323	71-1282	
	Jun 10, 1993	79	59-107	
	Sep 18, 1995	74	68-83	
	Sep 09, 1997	106	106-107	
Mountain Sucker	Apr 16, 1993	2	2-4	
	Sep 09, 1997	71	67-78	
	Sep 14, 1998	1	1-3	
White Sucker	Apr 16, 1993	2	2-5	
	Sep 23, 1996	47	44-53	

White Sucker	Sep 09, 1997	11	11-13
	Sep 14, 1998	1	1-3

Site 985

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Nov 04, 1997	5	5-5	
Brook Trout >=200mm	Sep 08, 1997	1	1-1	BK3
	Nov 04, 1997	2	2-6	BK2
Longnose Dace	Sep 08, 1997	33	32-36	
	Nov 04, 1997	10	11-13	
Mountain Sucker	Sep 08, 1997	87	86-90	
	Nov 04, 1997	257	143-386	
White Sucker	Sep 08, 1997	20	20-21	
	Nov 04, 1997	5	3-24	
	Sep 16, 1998	2	2-2	

Site 988

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 10, 1992	14	12-21	

Brook Trout <200mm	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	
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
Longnose Dace	May 10, 1993	388	389-420	
	Sep 20, 1994	128	127-131	

Longnose Dace	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
	Nov 04, 1997	360	262-458
	Sep 14, 1998	710	605-815
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
White Sucker	Sep 10, 1992	1	1-1
	May 10, 1993	48	28-97
	Sep 20, 1994	26	26-27

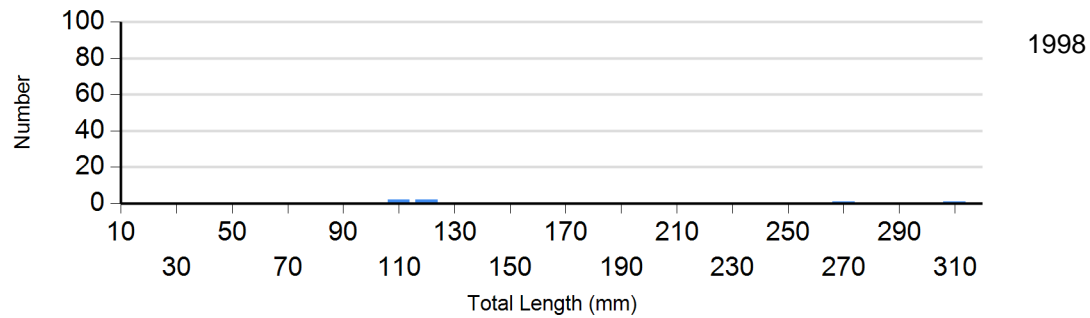
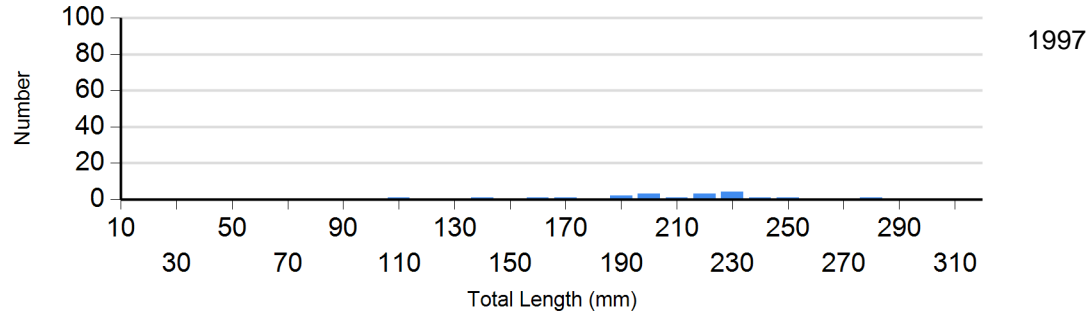
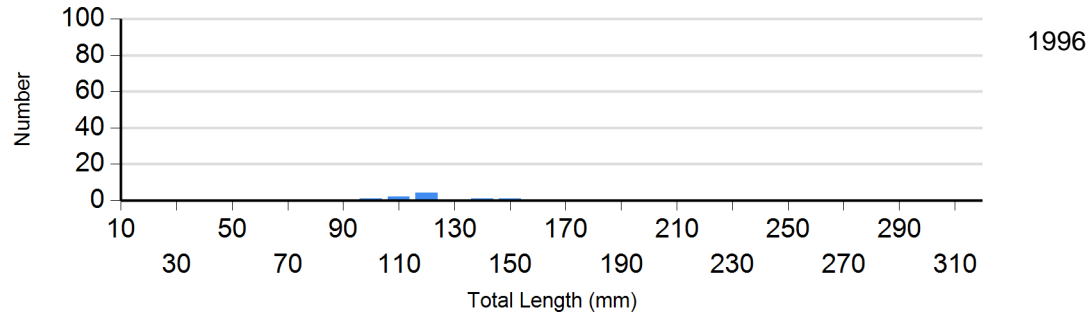
White Sucker	Jun 06, 1995	28	15-76
	Sep 18, 1995	11	11-13
	Sep 21, 1996	70	66-77
	Jul 14, 1997	13	12-18
	Sep 09, 1997	13	13-13
	Nov 04, 1997	81	72-93
	Sep 14, 1998	31	23-50

Length Frequency Distribution

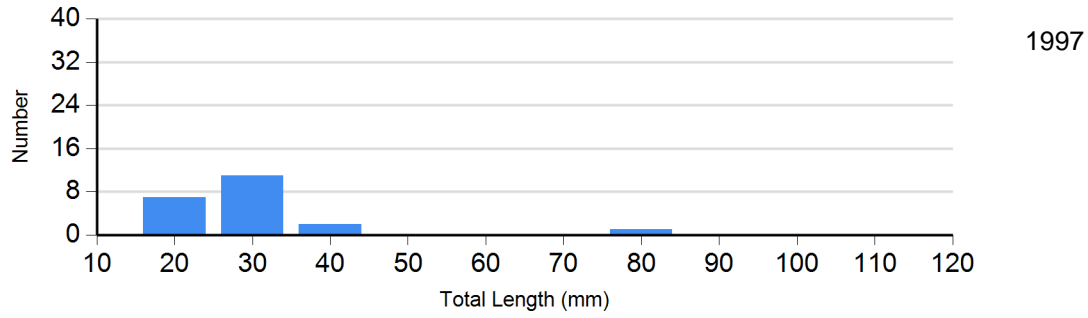
Length frequency histogram of species sampled by year.

Site: 955

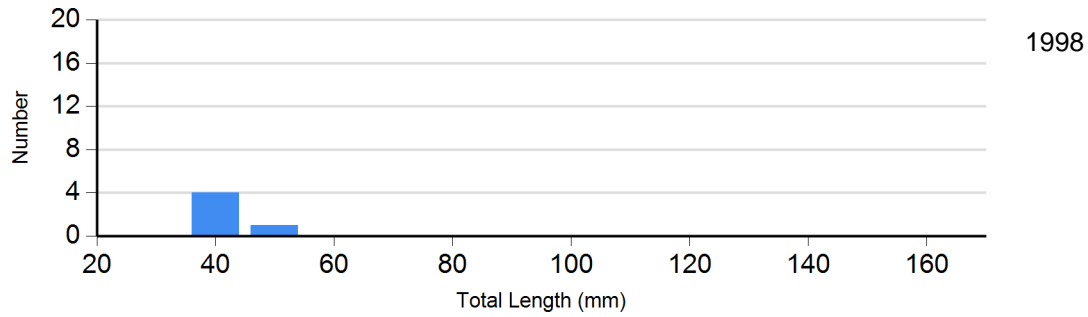
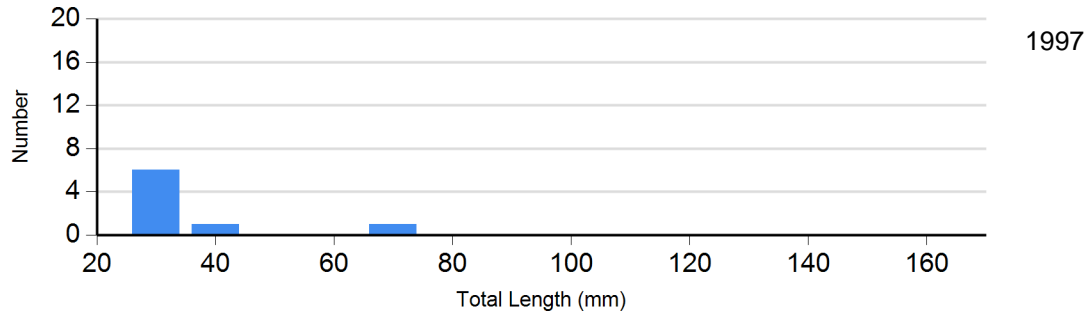
Species: Brook Trout



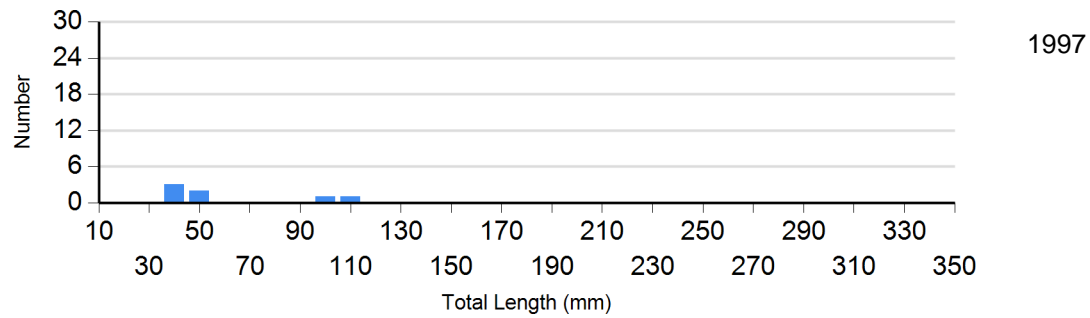
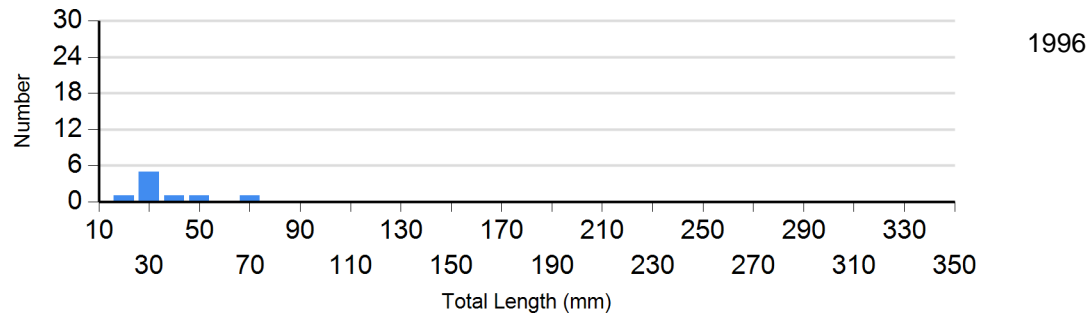
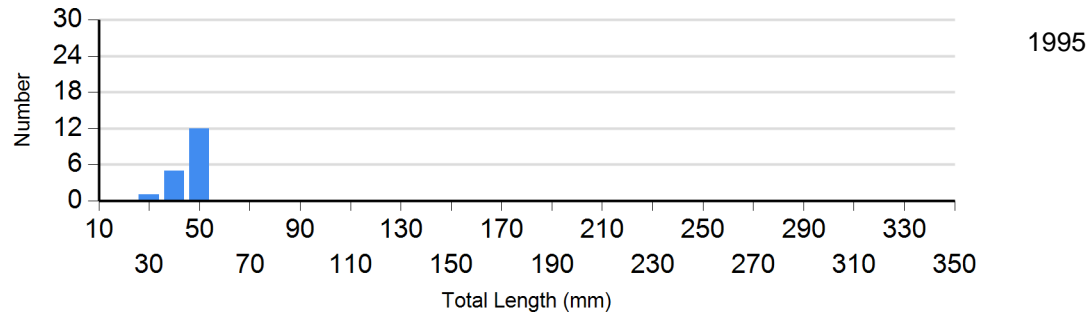
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Species: Longnose Dace



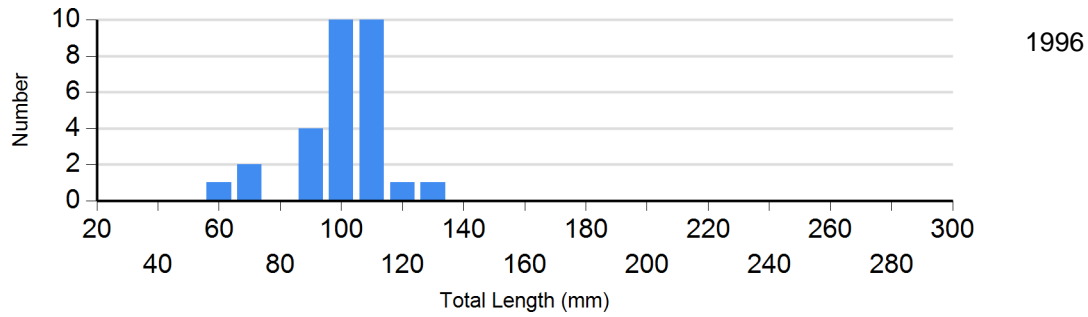
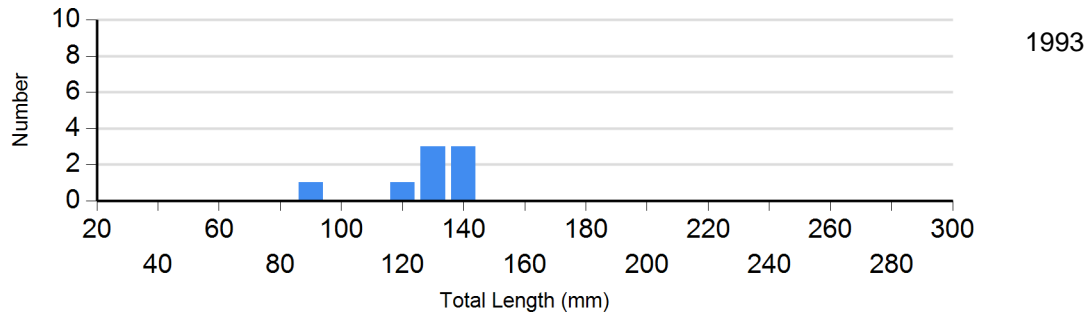
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Species: Mountain Sucker



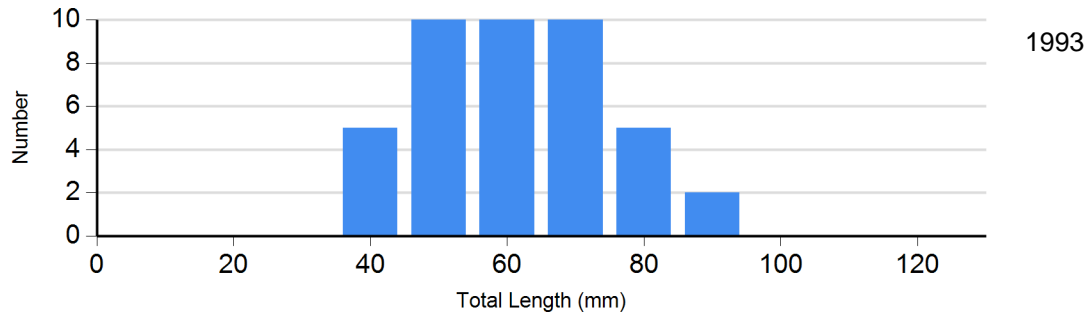
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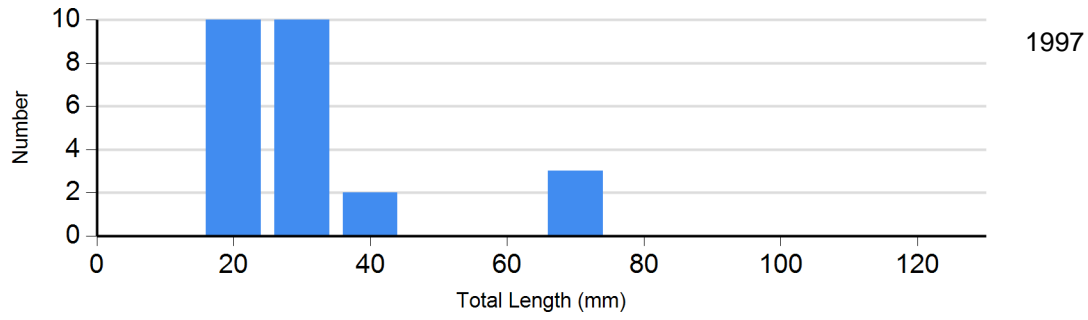
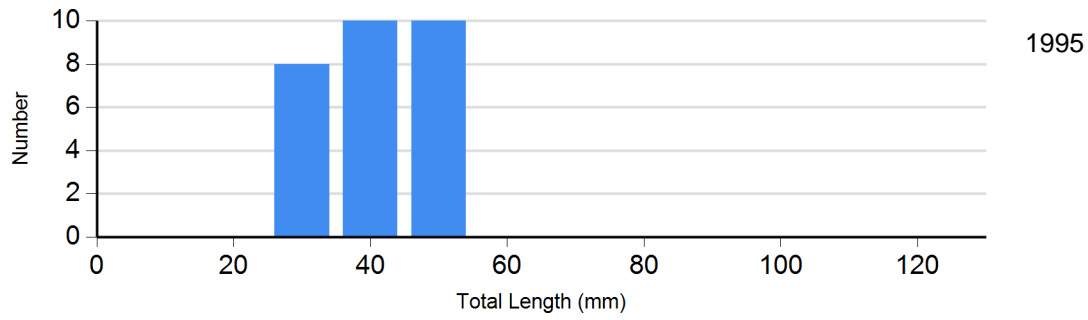


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Species: Brook Trout

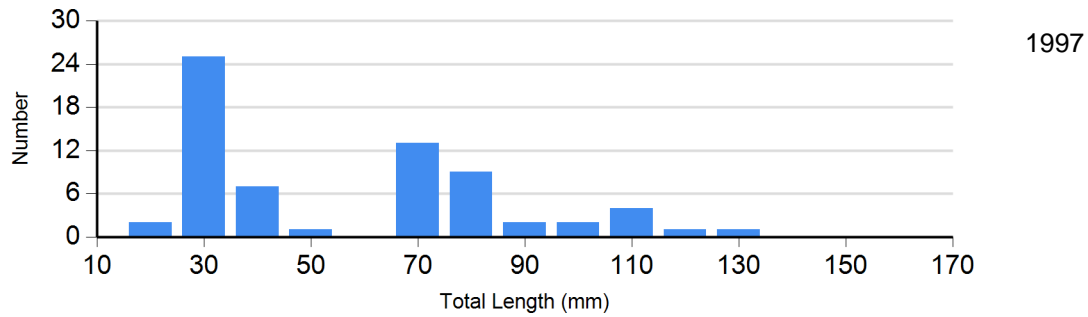


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Species: Longnose Dace

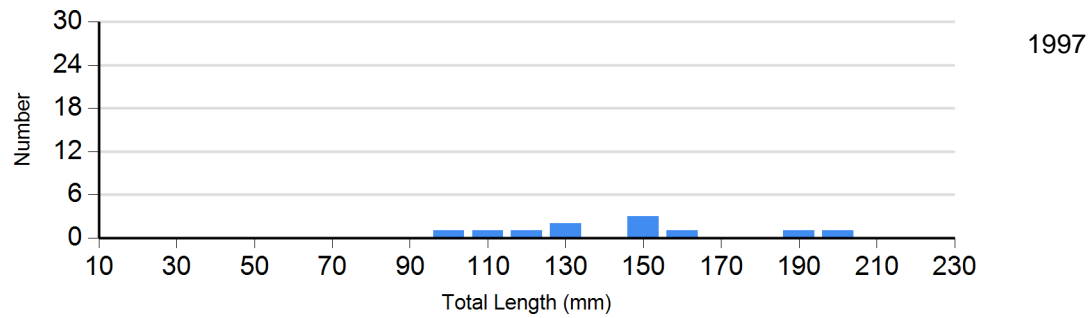
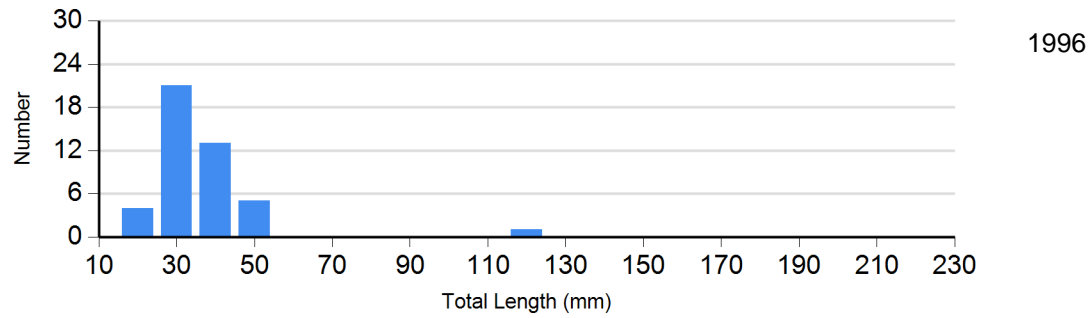
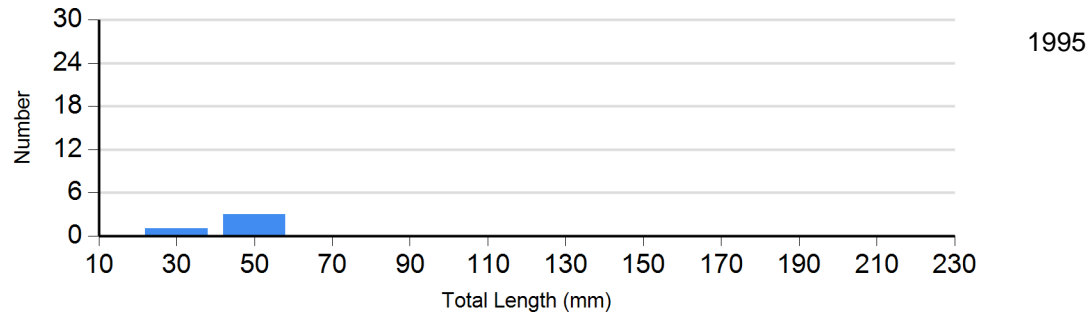




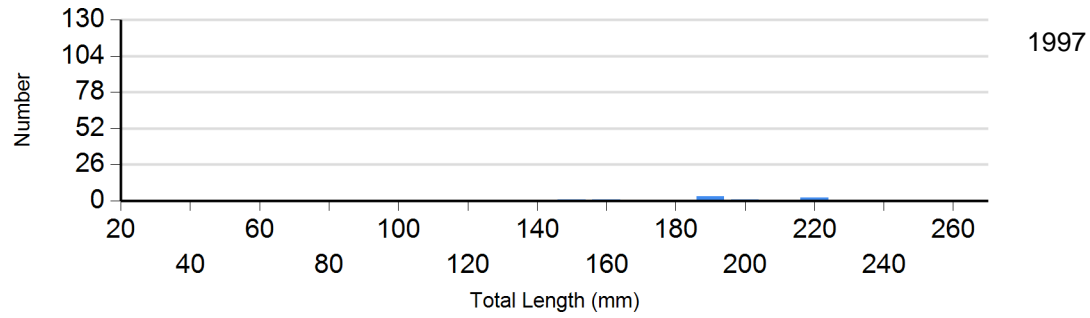
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Species: Mountain Sucker



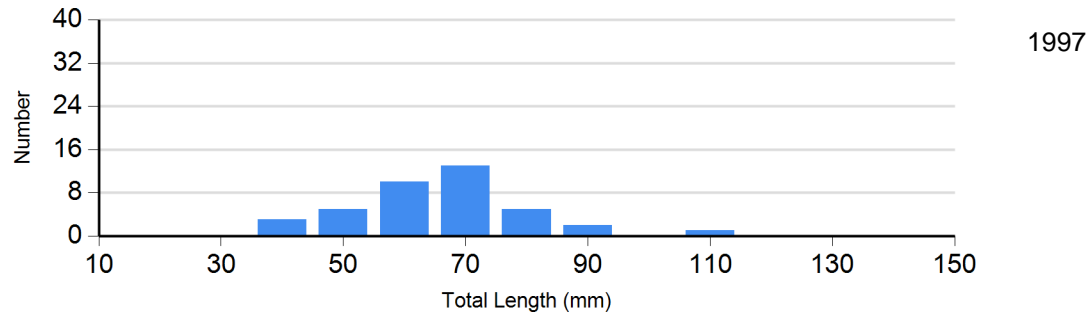
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Species: White Sucker



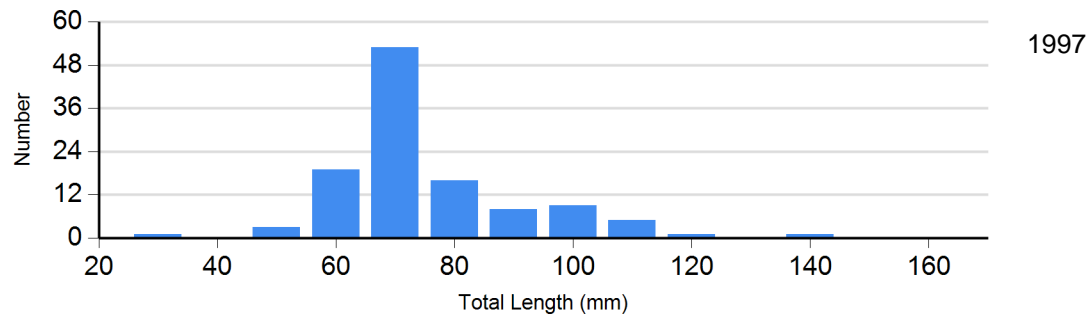
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Species: Brook Trout



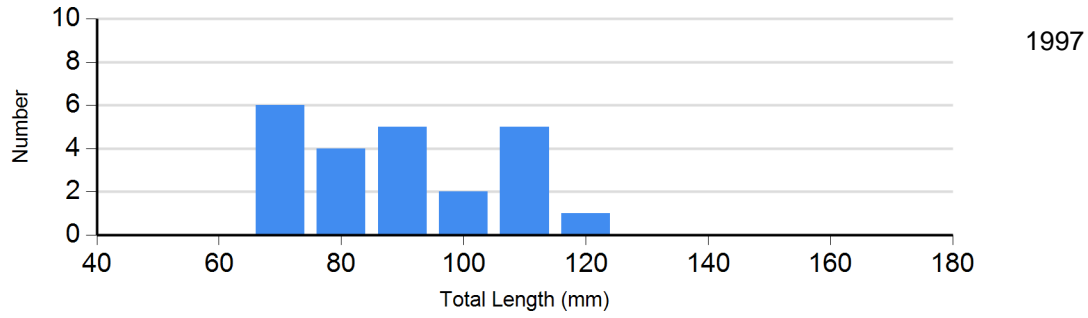
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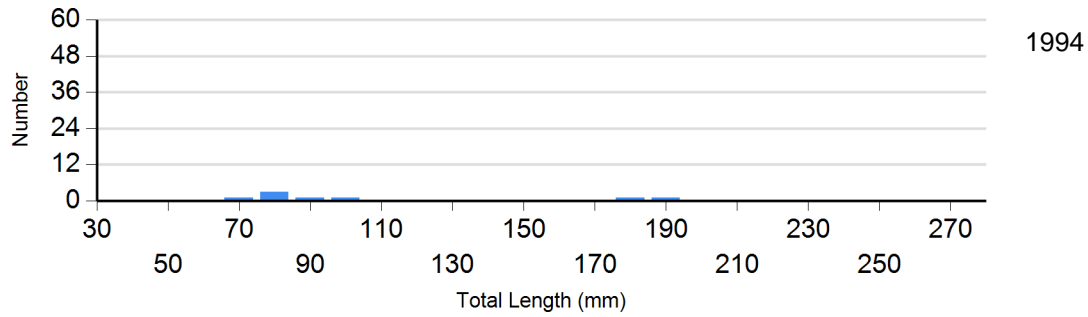
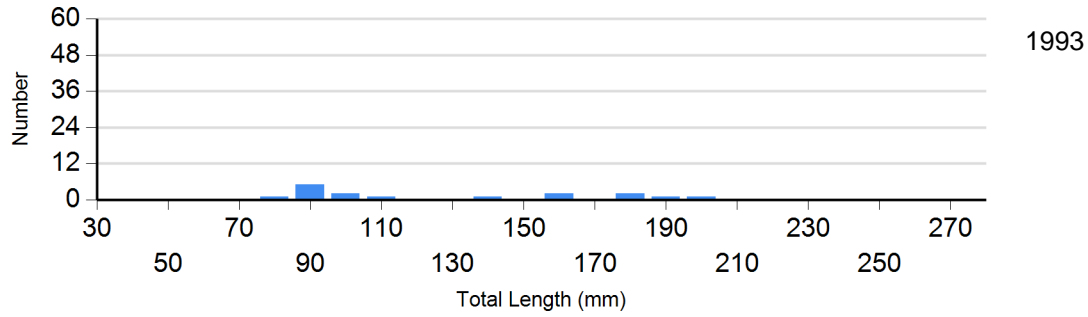
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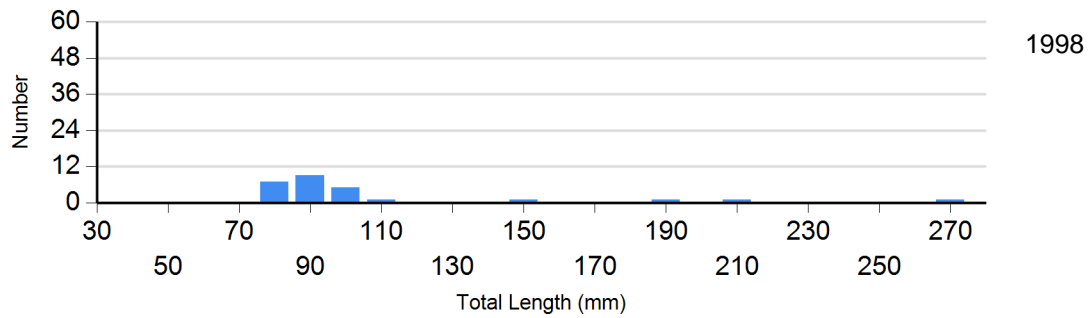
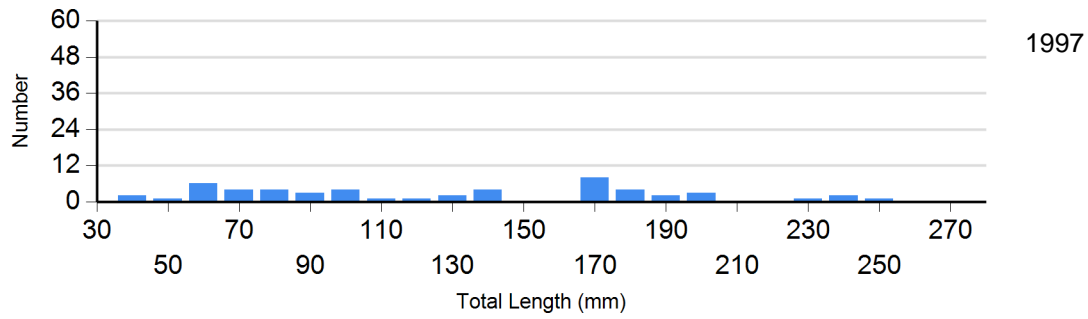
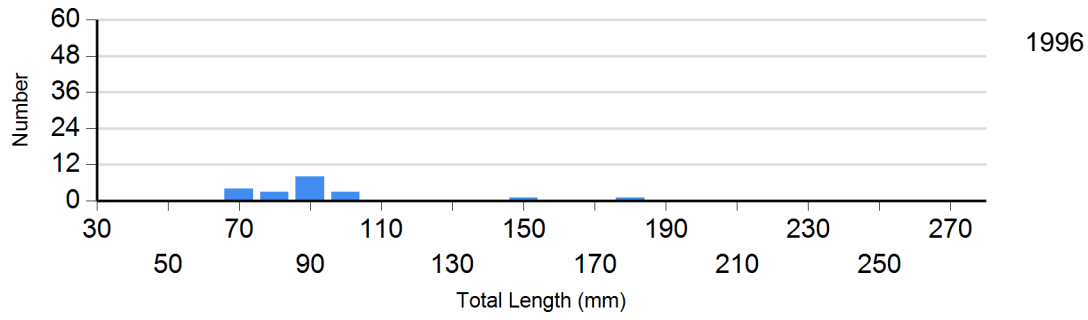
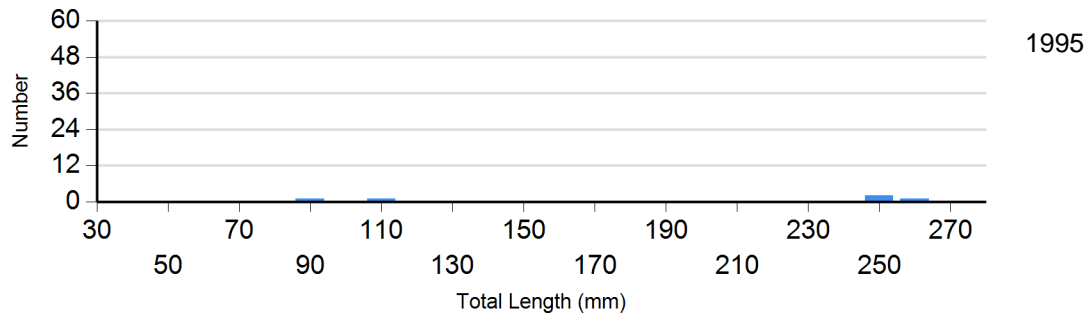


Site: 985
Species: White Sucker

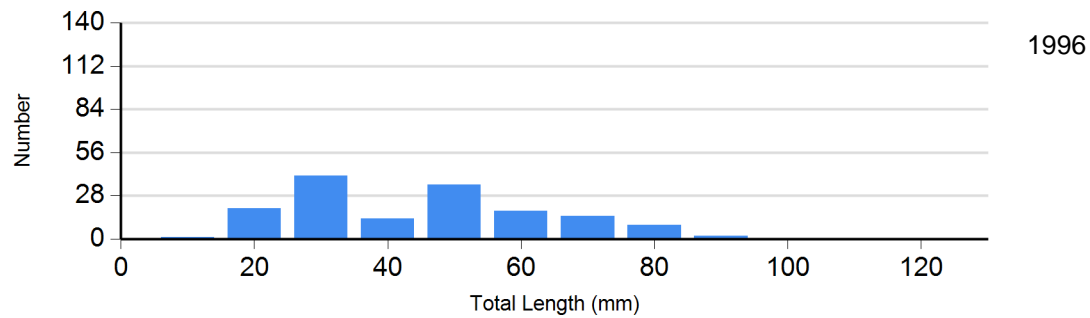
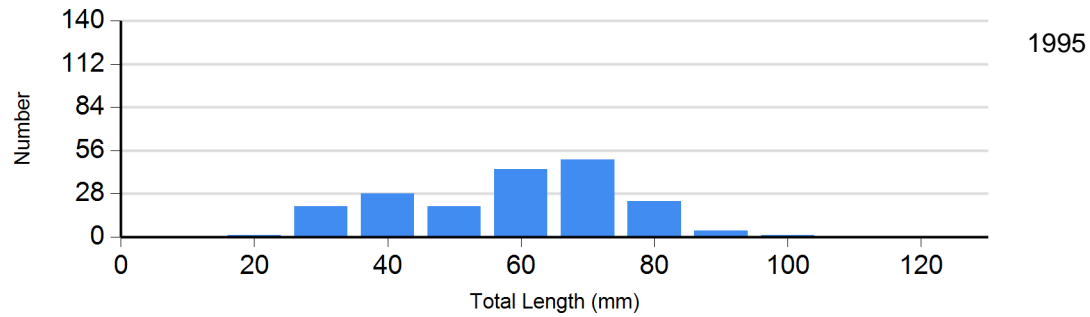
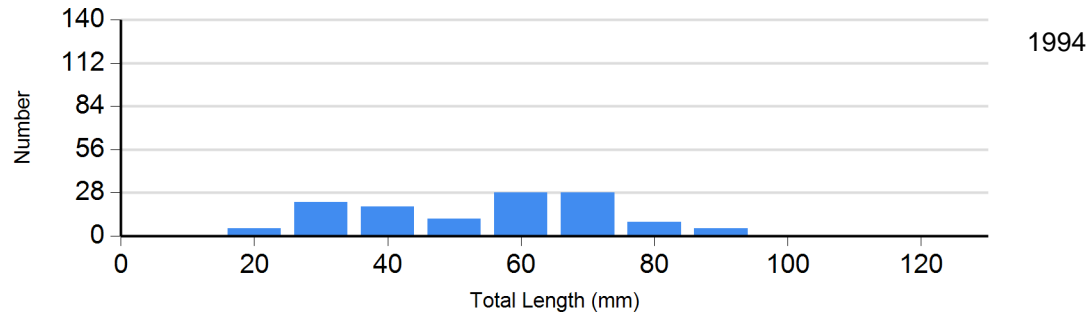
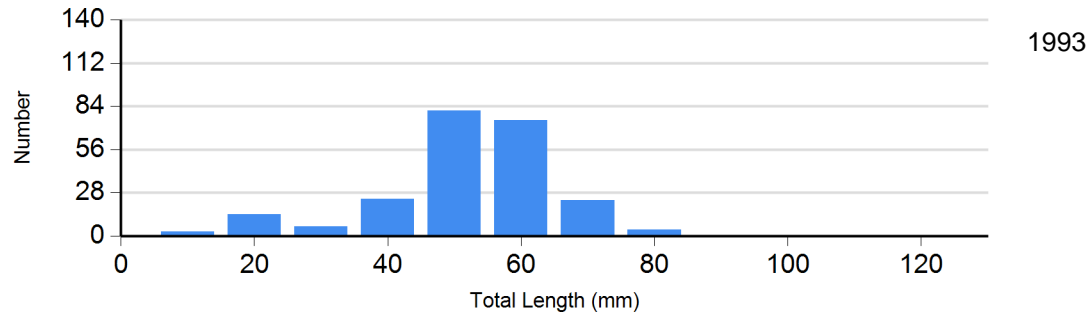


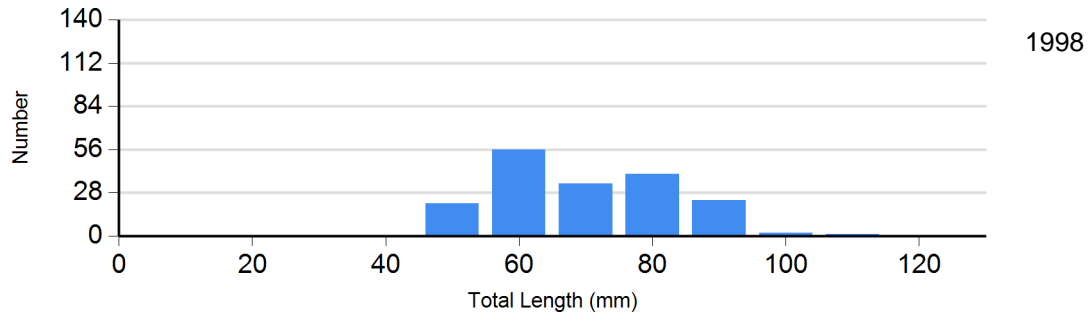
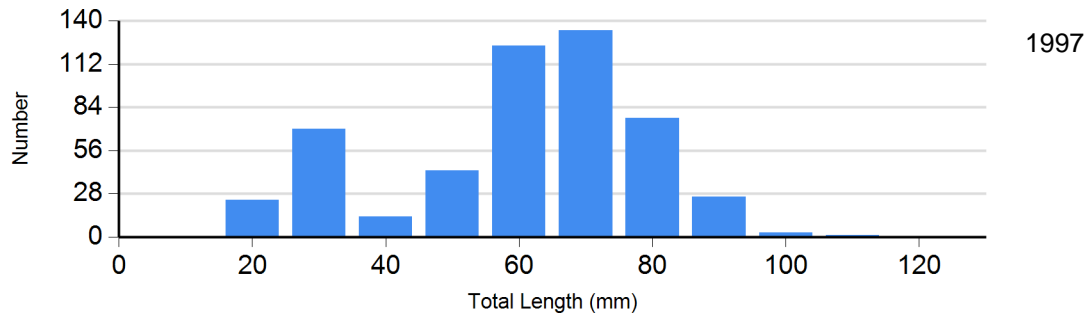
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Species: Brook Trout



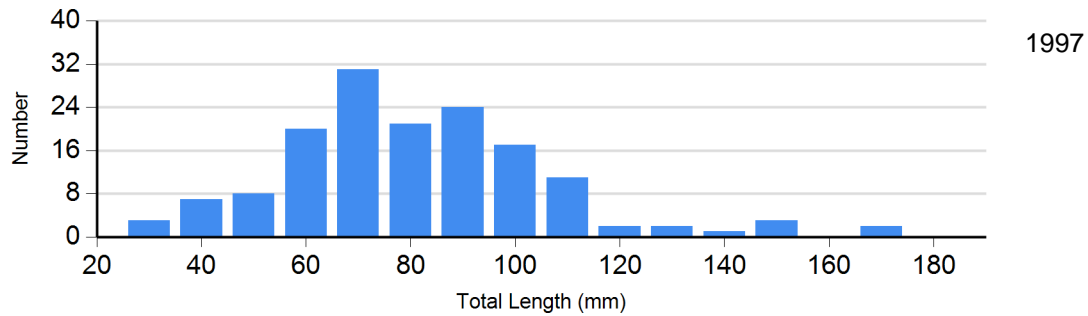
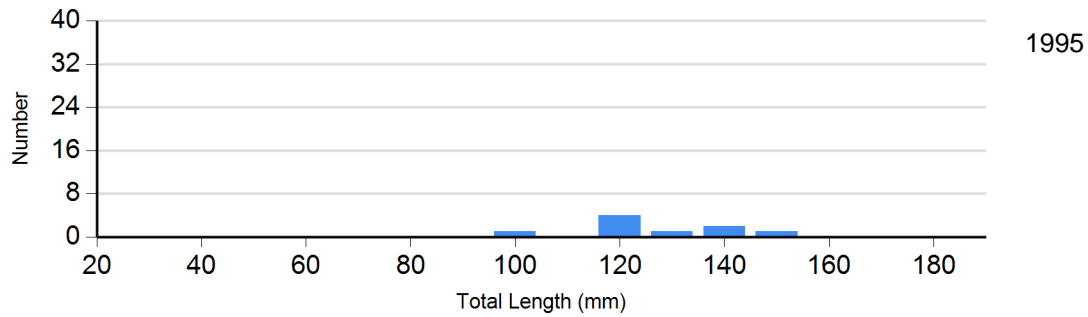


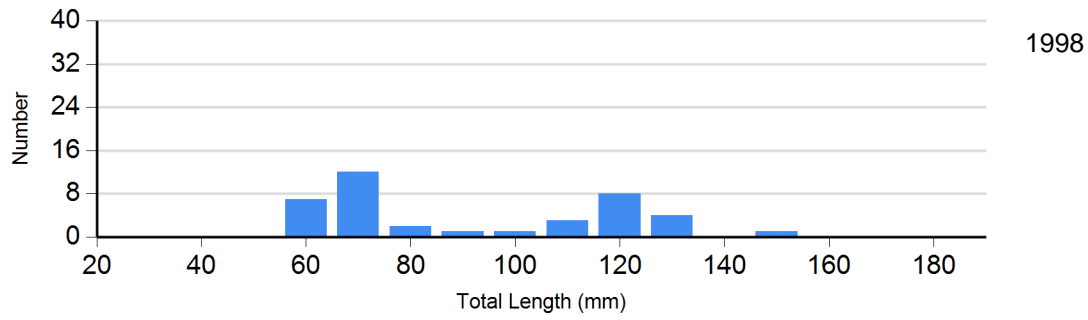
Site: 988
Species: Longnose Dace





Site: 988
Species: Mountain Sucker





Site: 988
Species: White Sucker

