

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Bear Butte Creek, Meade County
49-0023-00
1995

Table 1. Population and Biomass Estimates for Bear Butte Creek

Site Number: 955 **Date Sampled:** 09/19/1995 **Conductivity (umhos/cm):**
Site Midpoint (Latitude, Longitude): 44.33484568, -103.62910289 **Site Length (m):** 100 **pH:**
Survey Completed by: OEA Research Inc. **Mean Width (m):** 4.5 **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	2	2	3	2	44	1	20	18	0.55	32	116.5	14.0
Brook Trout	All	2	2	3	2	44	1	20	18	0.55	32	116.5	14.0

Site Number: 976 **Date Sampled:** 09/18/1995 **Conductivity (umhos/cm):**
Site Midpoint (Latitude, Longitude): 44.32812906, -103.64456485 **Site Length (m):** 100 **pH:**
Survey Completed by: OEA Research Inc. **Mean Width (m):** 5.0 **Water Temperature (C):**
Stream Classification: None **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)
Longnose Dace	All	68	74	83	68	1486	12	740	602	10.61	1191	44.6	8.0

Site Number: 977 **Date Sampled:** 09/18/1995 **Conductivity (umhos/cm):**
Site Midpoint (Latitude, Longitude): 44.32765077, -103.64555220 **Site Length (m):** 100 **pH:**
Survey Completed by: OEA Research Inc. **Mean Width (m):** 3.1 **Water Temperature (C):**
Stream Classification: None **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)
Creek Chub	All	1	1	1	1	33	0	10	13	0.15	16	74.0	5.0
White Sucker	All	6	6	8	6	196	1	60	79	1.23	97	64.7	7.0

Site Number: 986

Site Midpoint (Latitude, Longitude): 44.32485945, -103.65187821

Survey Completed by: OEA Research Inc.

Stream Classification: BK3

Date Sampled: 06/06/1995

Site Length (m): 100

Mean Width (m): 5.3

Number of Pass: 2

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	1	1	1	1	19	2	10	8	2.07	16	224.0	122.0
Brook Trout	All	1	1	1	1	19	2	10	8	2.07	16	224.0	122.0
Longnose Dace	All	1	1	1	1	19	0	10	8	0.12	16	51.0	7.0

Site Number: 986

Site Midpoint (Latitude, Longitude): 44.32485945, -103.65187821

Survey Completed by: OEA Research Inc.

Stream Classification: None

Date Sampled: 09/18/1995

Site Length (m): 100

Mean Width (m): 3.0

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)
Longnose Dace	All	48	59	77	48	1993	11	590	807	9.97	949	40.3	5.6
White Sucker	All	1	1	2	1	34	1	10	14	0.60	16	121.0	20.0

Site Number: 988

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

Date Sampled: 06/06/1995

Site Length (m): 100

Survey Completed by: OEA Research Inc.

Stream Classification: BK3

Mean Width (m): 4.2

Number of Pass: 4

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 Stickleback	All	1	1	3	1	24	0	10	10	0.04	16	64.0	2.0
Brook Trout	>=200mm	2	2	3	2	47	9	20	19	7.94	32	251.5	188.5
Brook Trout	All	2	2	3	2	47	9	20	19	7.94	32	251.5	188.5
Longnose Dace	All	101	100	113	101	2358	8	1000	955	7.26	1609	65.8	3.4
Mountain Sucker	All	6	14	73	6	330	7	140	134	6.68	225	125.5	22.7
White Sucker	All	15	28	76	15	660	20	280	267	17.92	451	130.0	30.4

Site Number: 988

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

Survey Completed by: OEA Research Inc.

Stream Classification: BK3

Date Sampled: 09/18/1995

Site Length (m): 100

Mean Width (m): 3.1

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	2	2	3	2	65	0	20	26	0.44	32	102.5	7.5
Brook Trout	>=200mm	1	1	5	1	33	7	10	13	6.36	16	260.0	218.0
Brook Trout	All	3	3	5	3	98	8	30	40	6.80	48	155.0	77.7
Creek Chub	All	1	1	5	1	33	0	10	13	0.12	16	75.0	4.0
Longnose Dace	All	94	94	94	94	3072	8	940	1244	7.57	1512	59.8	2.8
Mountain Sucker	All	3	3	3	3	98	3	30	40	3.01	48	141.3	34.3

White Sucker All 11 11 13 11 359 3 110 146 2.25 177 80.1 7.0

Site Number: 1029

Date Sampled: 06/29/1995

Conductivity (umhos/cm): 125

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

Site Length (m): 100

pH: 8.4

Survey Completed by: South Dakota Game, Fish and Parks

Mean Width (m): 4.5

Water Temperature (C): 11.0

Stream Classification: BK3

Number of Pass: 3

Voltage: 400

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	1	1	1	1	22	1	10	9	1.01	16	170.0	51.0
Brook Trout	>=200mm	2	2	6	2	44	5	20	18	4.84	32	222.5	122.5
Brook Trout	All	3	3	5	3	66	7	30	27	5.85	48	205.0	98.7
Longnose Dace	All	519	933	1179	687	20642	53	9330	8360	47.41	15012	56.4	2.6
Mountain Sucker	All	117	139	161	117	3075	56	1390	1245	50.05	2237	103.5	18.2
White Sucker	All	34	38	46	34	841	27	380	340	23.68	611	111.4	31.5

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, 1985-1995

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	
Brook Trout >=200mm	Sep 09, 1992	2	2-2	BK3
Longnose Dace	Sep 09, 1992	521	449-593	
Mountain Sucker	Sep 09, 1992	82	77-90	
White Sucker	Sep 09, 1992	10	10-12	

Site 976

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	
Brook Trout >=200mm	Sep 20, 1994	1	1-1	BK3
Longnose Dace	Apr 16, 1993	323	71-1282	
	Jun 10, 1993	79	59-107	
	Sep 18, 1995	74	68-83	
Mountain Sucker	Apr 16, 1993	2	2-4	
White Sucker	Apr 16, 1993	2	2-5	

Site 977

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 10, 1993	8	8-8	
Creek Chub	Sep 18, 1995	1	1-1	
Longnose Dace	Apr 16, 1993	128	66-239	
	Jun 10, 1993	68	44-111	
Mountain Sucker	Apr 16, 1993	16	13-26	

White Sucker	Apr 16, 1993	1	1-1
	Jun 10, 1993	2	2-4
	Sep 18, 1995	6	6-8

Site 986

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 10, 1992	6	6-6	
	May 10, 1993	9	9-10	
Brook Trout >=200mm	May 10, 1993	1	1-2	BK3
	Jun 06, 1995	1	1-1	BK3
Longnose Dace	Sep 10, 1992	537	256-818	
	May 10, 1993	3	3-5	
	Jun 06, 1995	1	1-1	
	Sep 18, 1995	59	48-77	
Mountain Sucker	Sep 10, 1992	33	19-77	
White Sucker	Sep 10, 1992	1	1-5	
	May 10, 1993	6	6-7	

White Sucker

Sep 18, 1995

1

1-2

Site 988

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Stickleback	Jun 06, 1995	1	1-3	
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	
Brook Trout >=200mm	May 10, 1993	1	1-4	BK3
	Jun 06, 1995	2	2-3	BK3
	Sep 18, 1995	1	1-5	BK3
Creek Chub	Sep 18, 1995	1	1-5	
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	

Mountain Sucker	Jun 06, 1995	14	6-73
	Sep 18, 1995	3	3-3
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

Site 1029

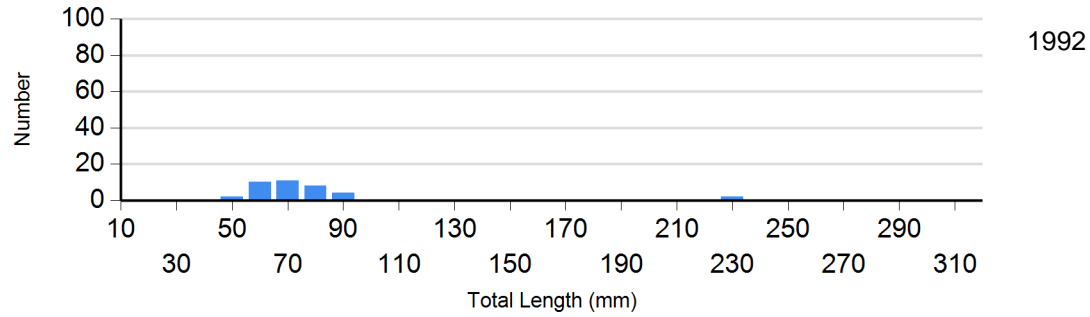
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 29, 1995	1	1-1	
Brook Trout >=200mm	Jun 29, 1995	2	2-6	BK3
Longnose Dace	Jun 29, 1995	933	687-1179	
Mountain Sucker	Jun 29, 1995	139	117-161	
White Sucker	Jun 29, 1995	38	34-46	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

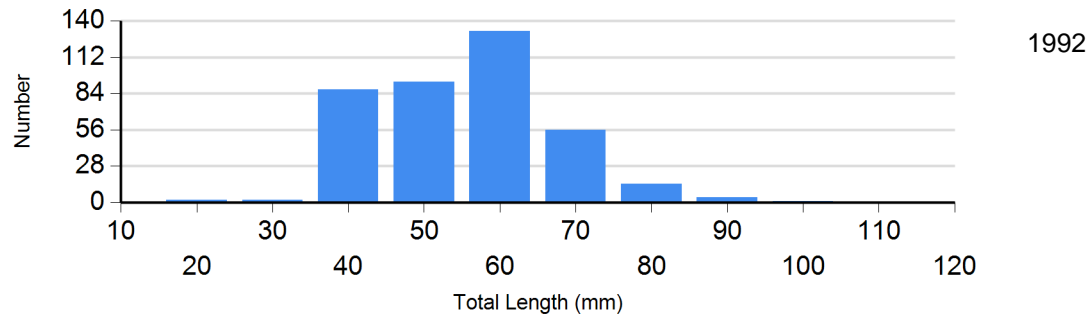
Site: 955

Species: Brook Trout



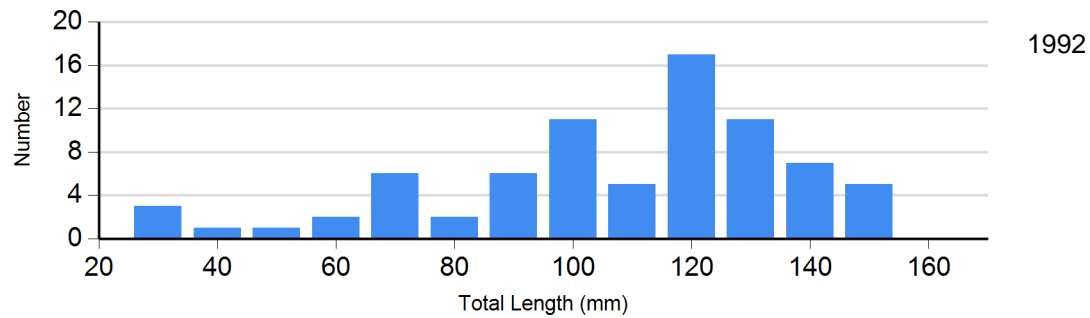
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Species: Longnose Dace

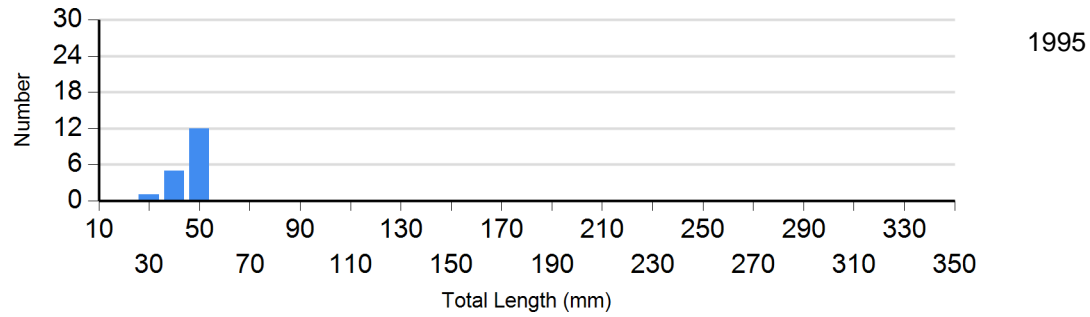
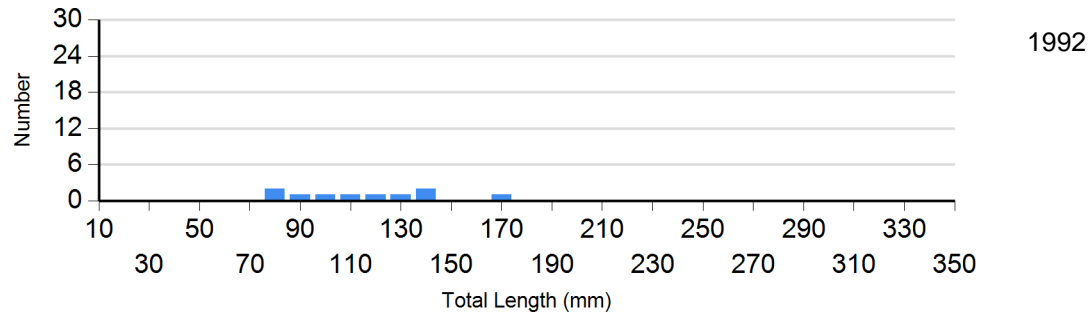


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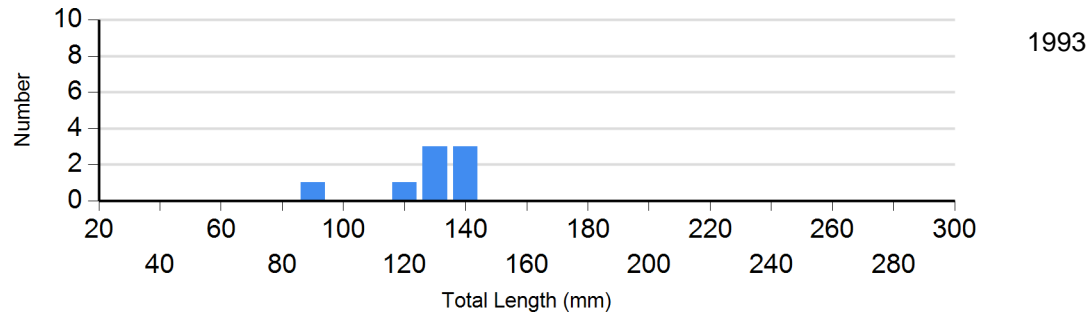
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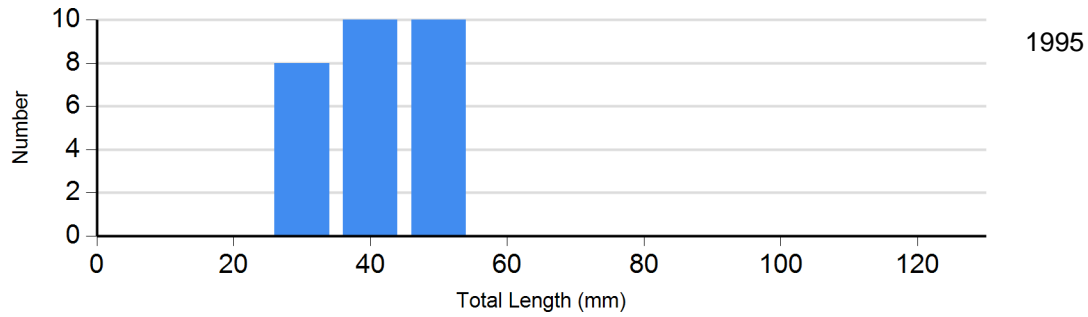
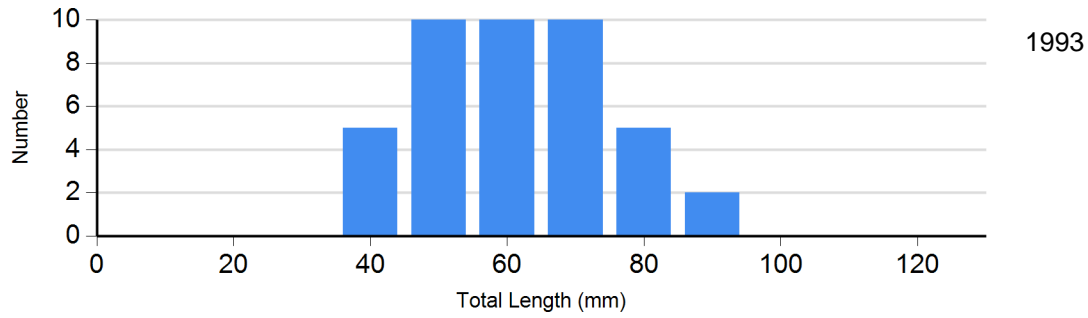
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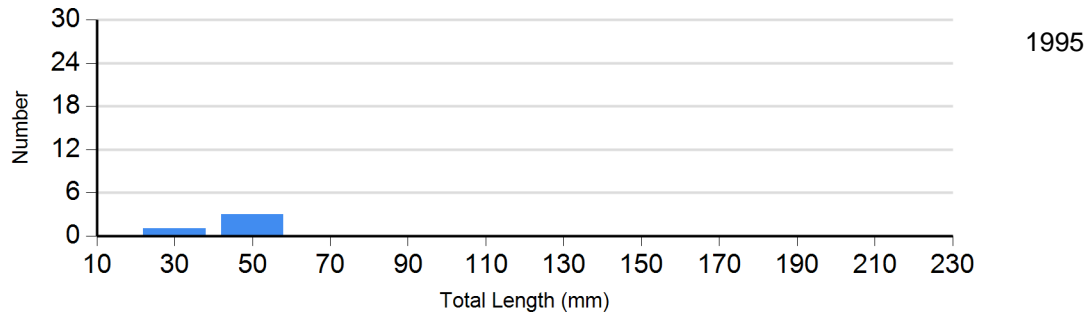
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Species: Brook Trout



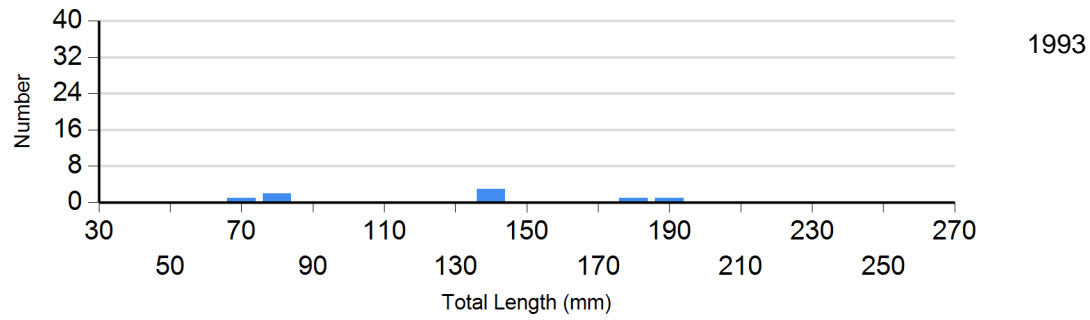
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Species: Longnose Dace



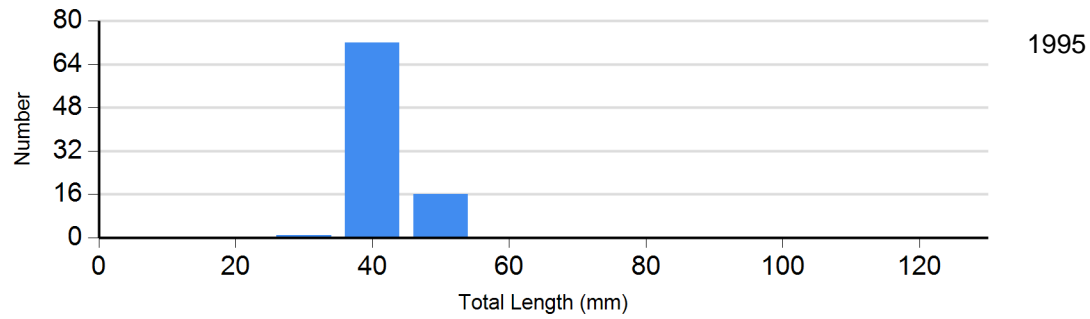
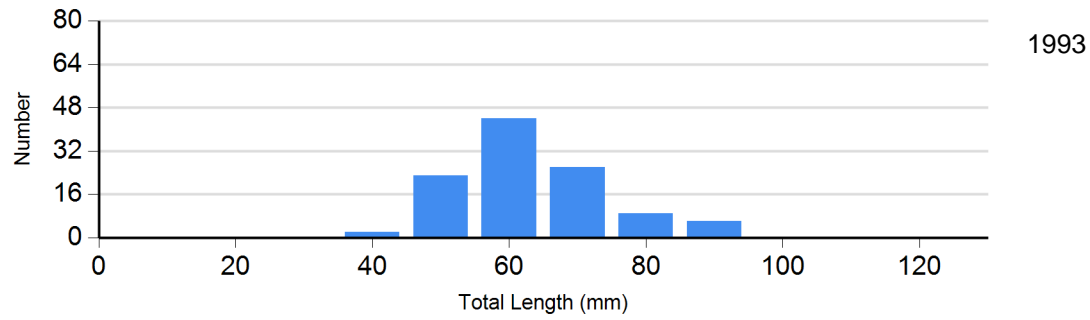
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Species: White Sucker



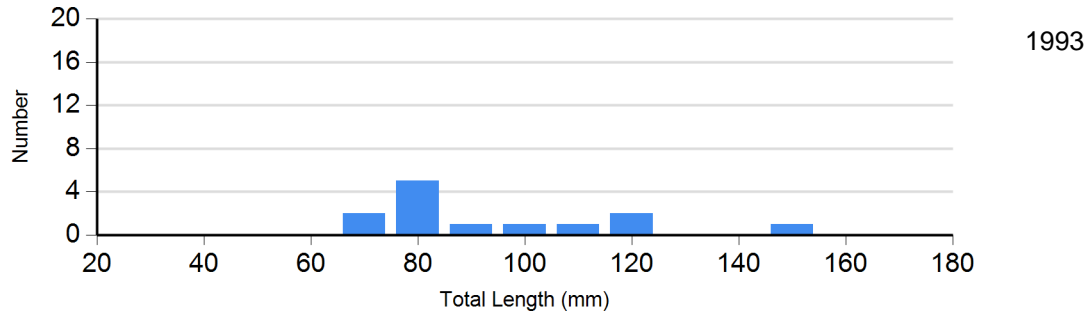
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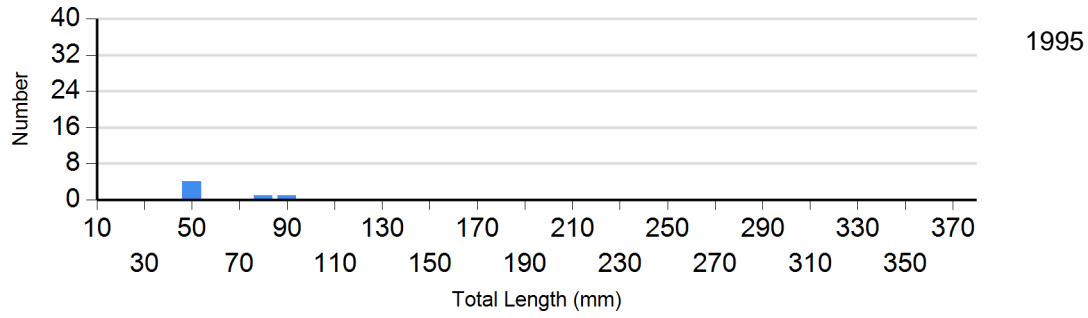
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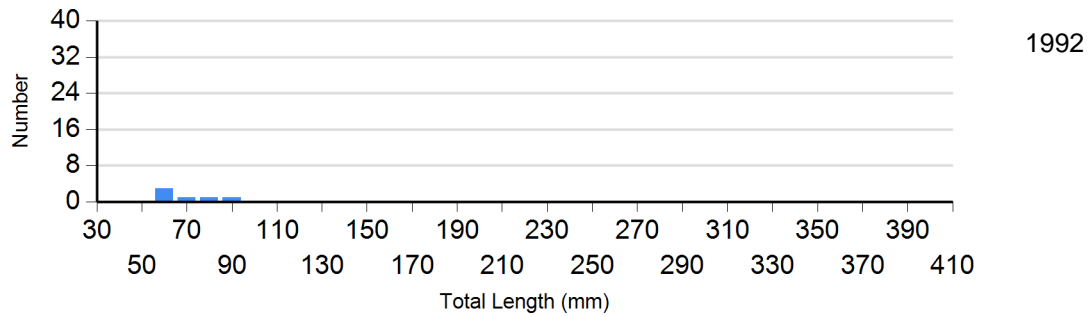
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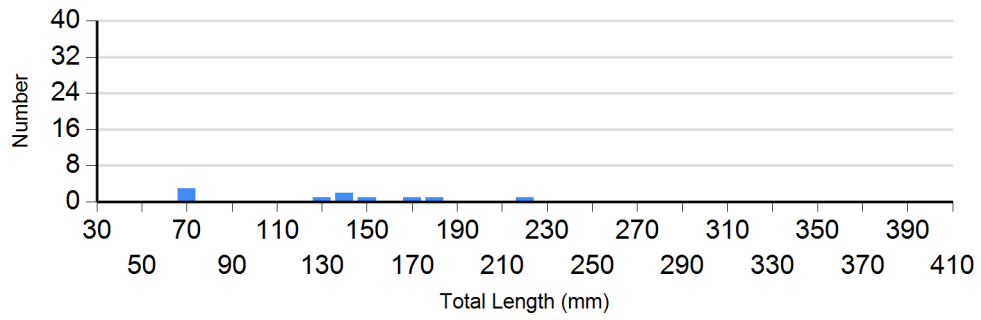


Site: 977
Species: White Sucker

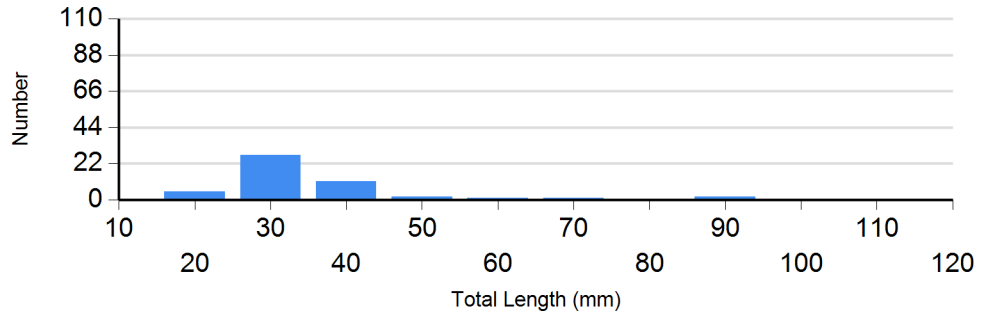
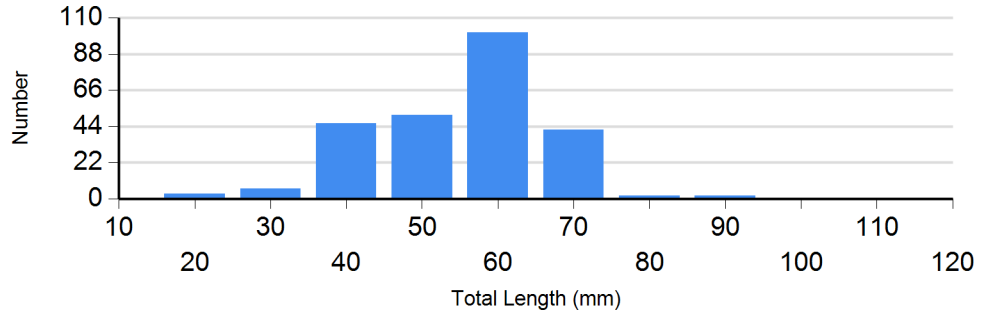


Site: 986
Species: Brook Trout

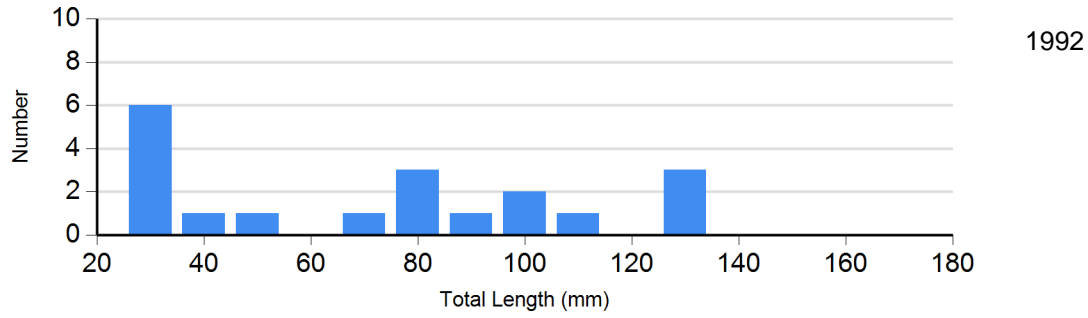




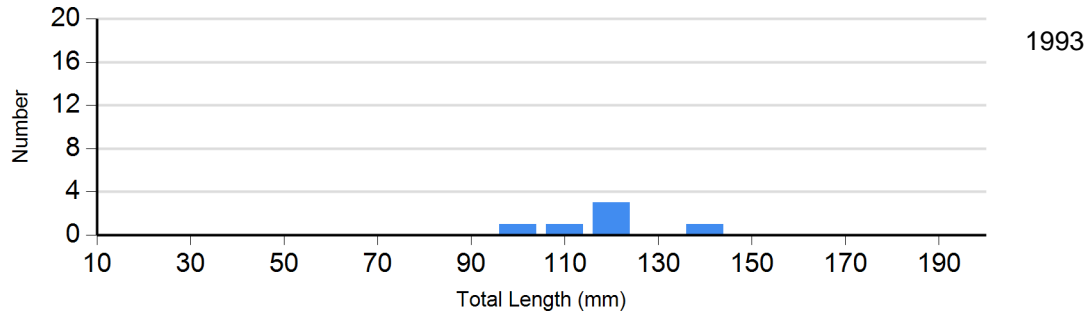
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Species: Longnose Dace



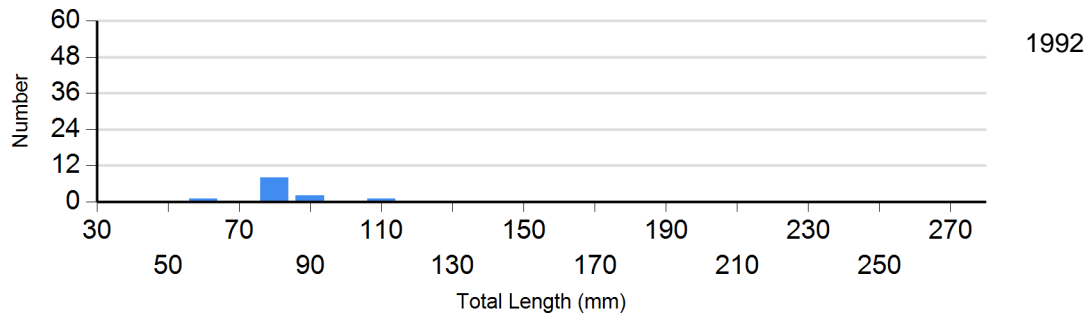
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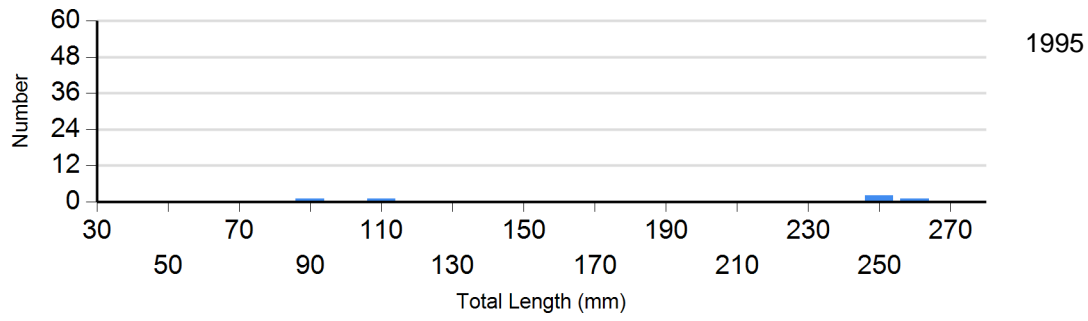
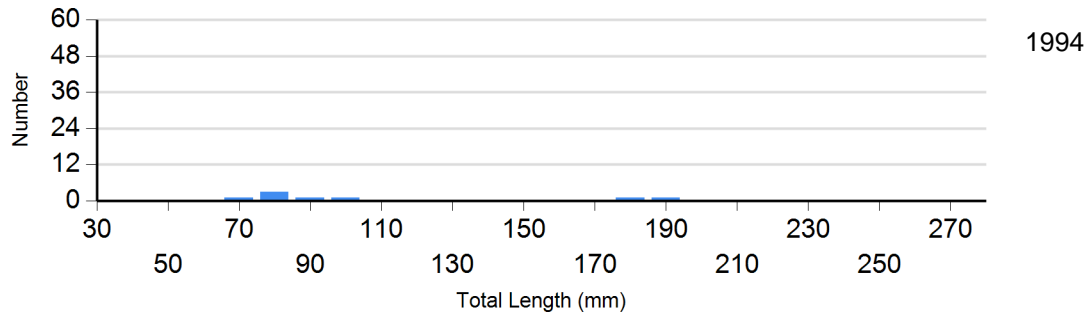
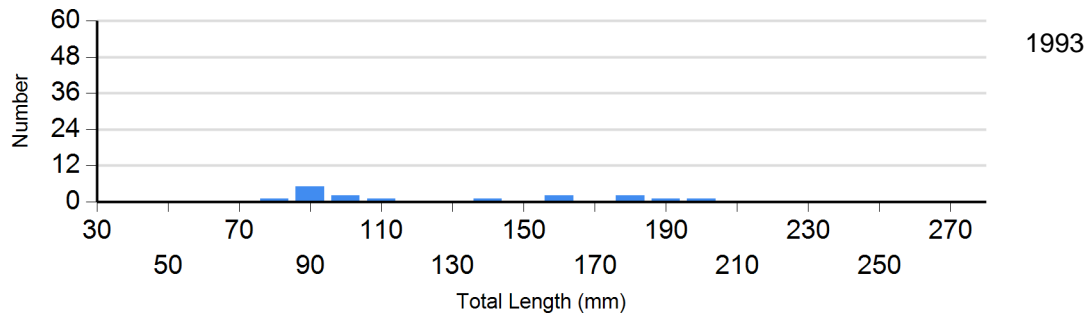


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Species: White Sucker

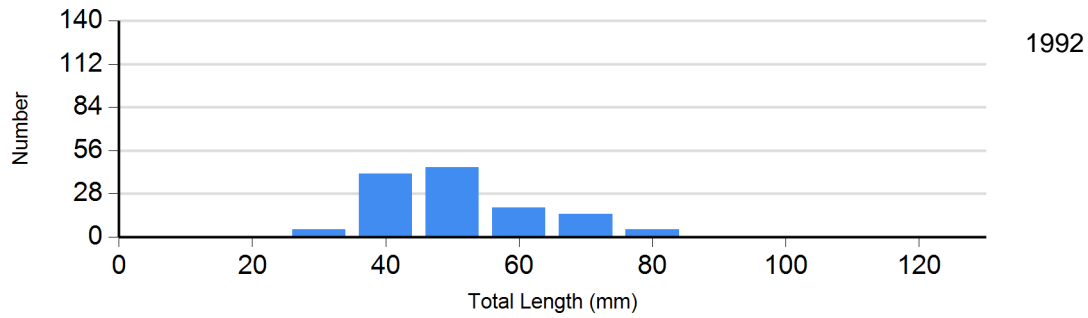


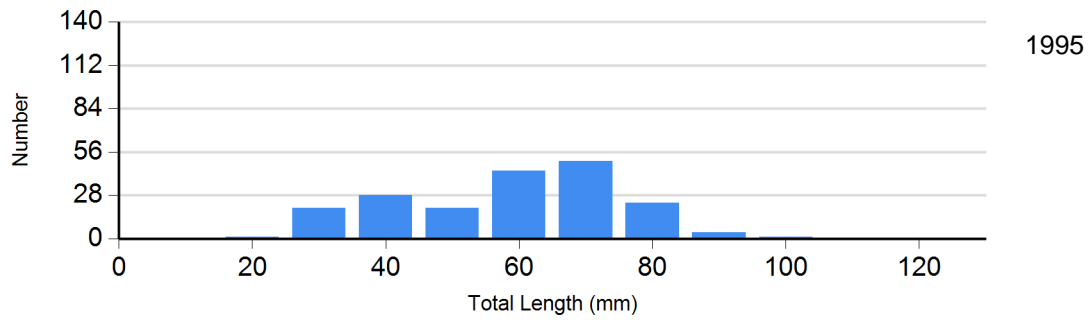
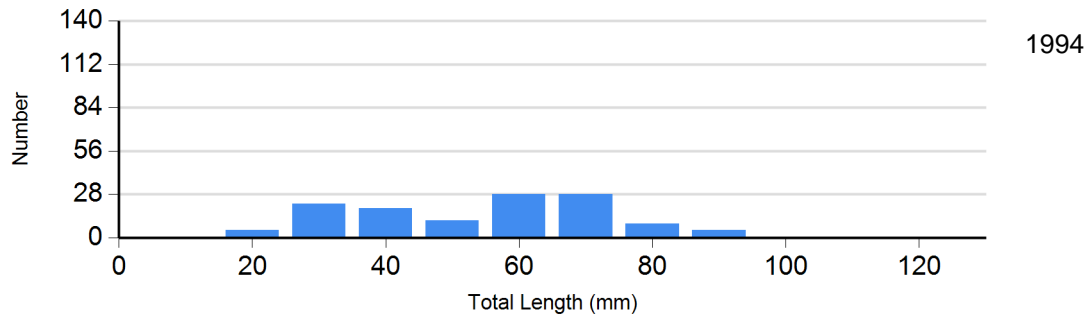
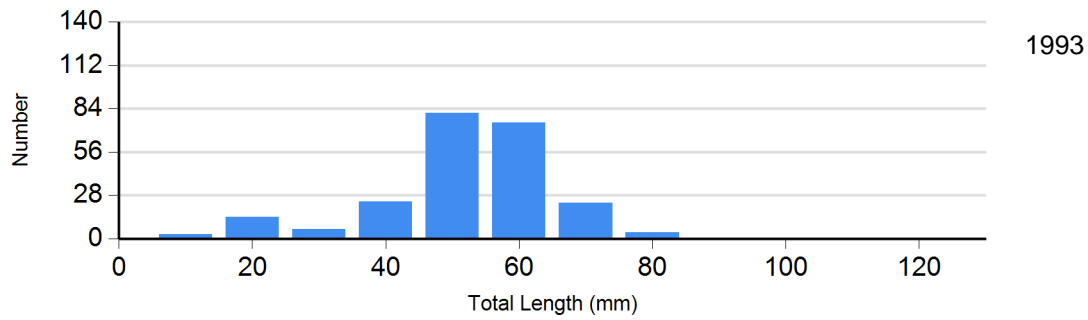
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Species: Brook Trout



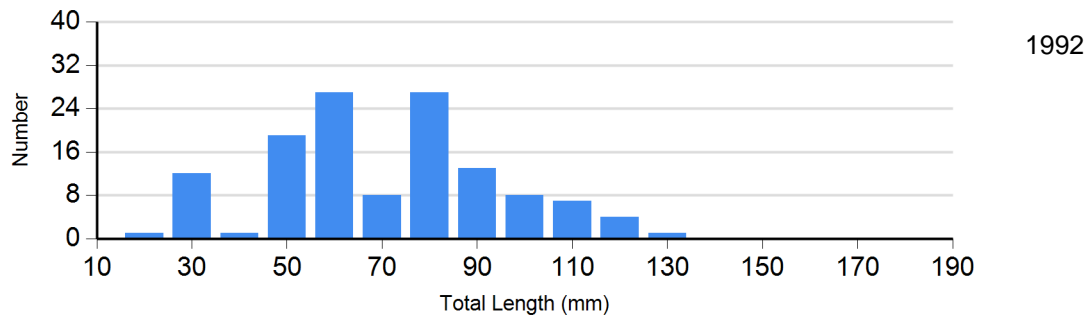


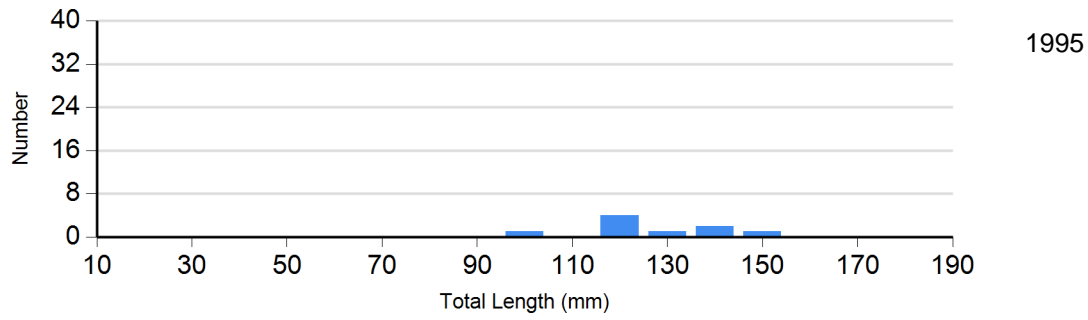
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Species: Longnose Dace



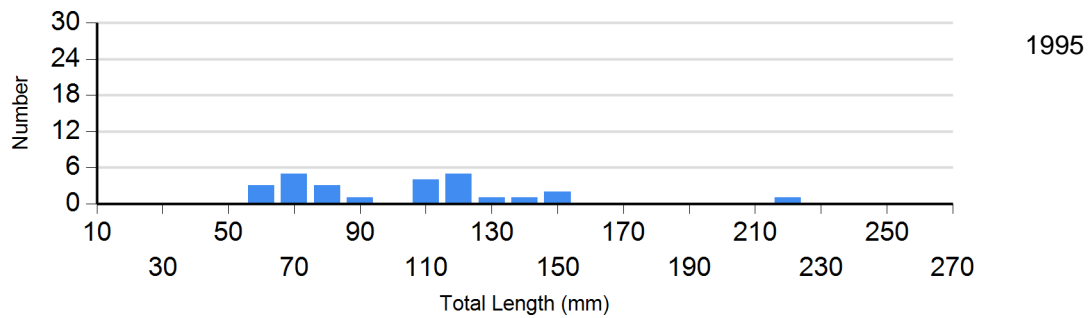
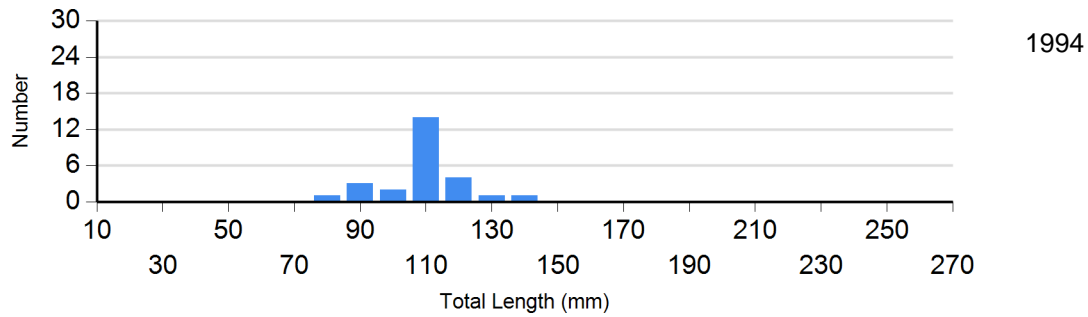
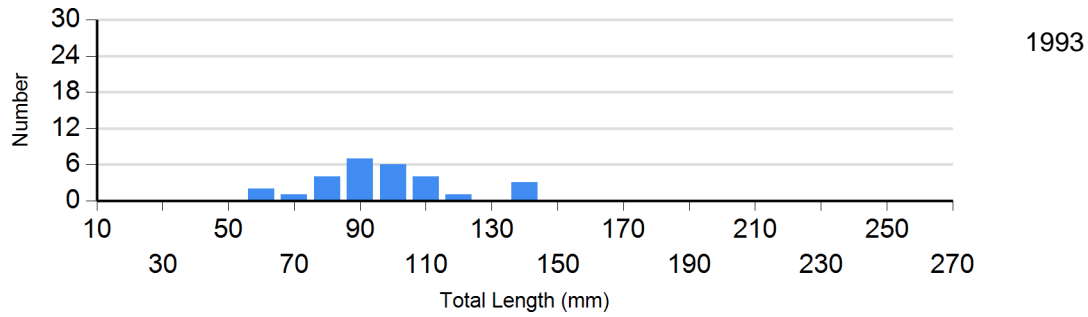


Site: 988
Species: Mountain Sucker

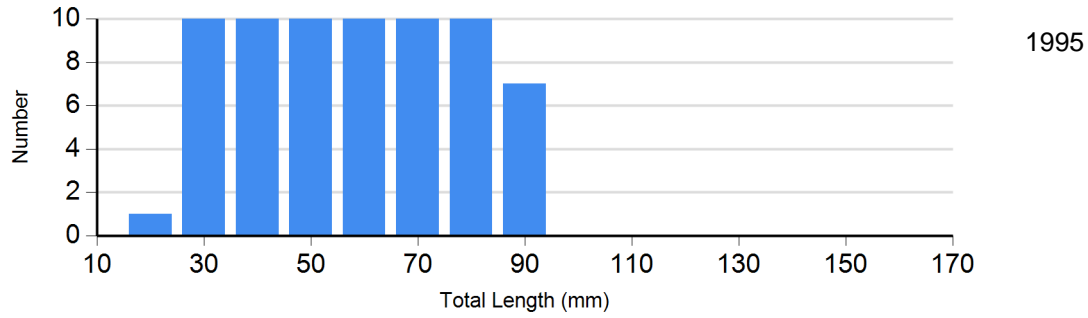




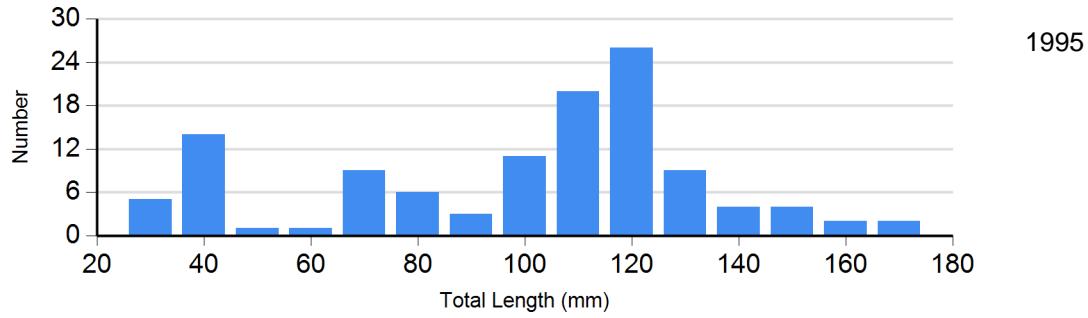
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Species: White Sucker



Site: 1029
Species: Longnose Dace



Site: 1029
Species: Mountain Sucker



Site: 1029
Species: White Sucker

