

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**French Creek, Custer County**  
**21-0017-00**  
**1992**

Table 1. Population and Biomass Estimates for French Creek

**Site Number:** 1129  
**Site Midpoint (Latitude, Longitude):** 43.71790044, -103.48904117  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** None

**Date Sampled:** 07/08/1992  
**Site Length (m):** 63  
**Mean Width (m):** 11.4  
**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)
Creek Chub	All	39	41	46	39	358	5	651	145	4.87	1047	104.9	15.2
Fathead Minnow	All	9	9	11	9	79	0	143	32	0.27	230	66.6	3.8
Hatchery Brown Trout	>=200mm	5	5	6	5	44	6	79	18	5.56	128	240.2	142.6
Hatchery Brown Trout	All	5	5	6	5	44	6	79	18	5.56	128	240.2	142.6
Mountain Sucker	All	3	3	4	3	26	2	48	11	1.38	77	164.0	59.0
White Sucker	All	193	197	202	193	1722	107	3127	697	95.73	5031	161.9	62.3

**Site Number:** 1130  
**Site Midpoint (Latitude, Longitude):** 43.71860787, -103.48972931  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BR2

**Date Sampled:** 07/08/1992  
**Site Length (m):** 100  
**Mean Width (m):** 6.5  
**Number of Pass:** 3  
**Conductivity (umhos/cm):** 300  
**pH:**  
**Water Temperature (C):** 21.0  
**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)
Brown Trout	>=200mm	9	9	9	9	138	24	90	56	21.61	145	242.9	175.3
Brown Trout	All	9	9	9	9	138	24	90	56	21.61	145	242.9	175.3

Creek Chub	All	71	74	79	71	1135	21	740	460	18.90	1191	116.4	18.6
Fathead Minnow	All	3	3	4	3	46	0	30	19	0.19	48	74.7	4.7
Longnose Dace	All	118	292	583	118	4479	24	2920	1814	21.04	4698	79.1	5.3
Mountain Sucker	All	19	19	20	19	291	13	190	118	11.82	306	155.3	45.4
White Sucker	All	124	124	125	124	1902	111	1240	770	99.20	1995	168.3	58.4

Site Number: 1159  
 Site Midpoint (Latitude, Longitude): 43.71916963, -103.50696188  
 Survey Completed by: South Dakota Game, Fish and Parks  
 Stream Classification: BR2

Date Sampled: 05/05/1992  
 Site Length (m): 100  
 Mean Width (m): 3.5  
 Number of Pass: 2  
 Conductivity (umhos/cm): 280  
 pH:  
 Water Temperature (C): 17.0  
 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)
Brown Trout	>=200mm	10	10	11	10	289	64	100	117	57.21	161	275.0	221.7
Brown Trout	All	10	10	11	10	289	64	100	117	57.21	161	275.0	221.7
Creek Chub	All	111	123	137	111	3555	63	1230	1440	56.57	1979	97.3	17.8
Fathead Minnow	All	1	1	1	1	29	0	10	12	0.15	16	70.0	6.0
Mountain Sucker	All	33	36	43	33	1040	51	360	421	45.38	579	152.4	48.8
White Sucker	All	38	39	43	38	1127	274	390	457	244.56	628	187.4	243.0

Site Number: 1175  
 Site Midpoint (Latitude, Longitude): 43.72893468, -103.50268003  
 Survey Completed by: South Dakota Game, Fish and Parks  
 Stream Classification: BR1, RB0

Date Sampled: 05/05/1992  
 Site Length (m): 100  
 Mean Width (m): 4.0  
 Number of Pass: 2  
 Conductivity (umhos/cm): 250  
 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)
Brown Trout	<200mm	1	1	4	1	25	2	10	10	1.34	16	160.0	60.0
Brown Trout	>=200mm	34	37	44	34	925	169	370	375	150.85	595	255.9	182.6
Brown Trout	All	35	39	48	35	975	175	390	395	155.95	628	253.1	179.1
Creek Chub	All	44	43	53	44	1075	20	430	435	17.68	692	99.1	18.4
Longnose Dace	All	28	27	38	28	675	4	270	273	3.79	434	73.9	6.3
Mountain Sucker	All	14	31	115	14	775	35	310	314	31.14	499	137.6	45.0
Rainbow Trout	<200mm	1	1	1	1	25	2	10	10	1.43	16	180.0	64.0
Rainbow Trout	All	1	1	1	1	25	2	10	10	1.43	16	180.0	64.0
White Sucker	All	70	92	123	70	2300	263	920	932	234.65	1480	207.2	114.3

Site Number: 1209

Site Midpoint (Latitude, Longitude): 43.73981314, -103.51873650

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR1, RB1

Date Sampled: 05/05/1992

Site Length (m): 100

Mean Width (m): 6.7

Number of Pass: 2

Conductivity (umhos/cm):

pH:

Water Temperature (C): 12.0

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)
Black Bullhead	All	3	3	4	3	45	6	30	18	5.06	48	203.0	126.7
Black Crappie	All	12	13	18	12	194	4	130	79	3.68	209	115.6	21.3
Brown Trout	<200mm	3	3	3	3	45	4	30	18	3.13	48	192.3	78.3
Brown Trout	>=200mm	35	35	37	35	522	113	350	212	100.55	563	266.1	215.6
Brown Trout	All	38	38	40	38	567	116	380	230	103.68	611	260.3	204.7
Creek Chub	All	102	150	210	102	2239	41	1500	907	36.77	2414	106.1	18.4
Fathead Minnow	All	25	32	49	25	478	3	320	193	2.39	515	73.7	5.6

Golden Shiner	All	1	1	1	1	15	0	10	6	0.27	16	125.0	20.0
Rainbow Trout	<200mm	1	1	1	1	15	1	10	6	1.00	16	185.0	75.0
Rainbow Trout	>=200mm	28	28	29	28	418	78	280	169	69.70	451	255.0	186.8
Rainbow Trout	All	29	29	30	29	433	79	290	175	70.70	467	252.6	182.9
White Sucker	All	271	294	312	276	4388	723	2940	1777	645.76	4730	195.1	164.8

**Site Number:** 1225  
**Site Midpoint (Latitude, Longitude):** 43.74858053, -103.52075333  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BR1, RB2

**Date Sampled:** 05/05/1992  
**Site Length (m):** 100  
**Mean Width (m):** 3.9  
**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)
Brown Trout	>=200mm	22	22	23	22	570	137	220	231	122.02	354	281.8	239.8
Brown Trout	All	22	22	23	22	570	137	220	231	122.02	354	281.8	239.8
Rainbow Trout	>=200mm	2	2	4	2	52	9	20	21	7.75	32	245.0	167.5
Rainbow Trout	All	2	2	4	2	52	9	20	21	7.75	32	245.0	167.5

**Site Number:** 1245  
**Site Midpoint (Latitude, Longitude):** 43.76014673, -103.51526140  
**Survey Completed by:** South Dakota Game, Fish and Parks  
**Stream Classification:** BR3, RB2

**Date Sampled:** 05/04/1992  
**Site Length (m):** 100  
**Mean Width (m):** 0.0  
**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)
Black Bullhead	All	27	41	77	27	0	0	410	0	0.00	660	166.7	73.9
Black Crappie	All	2	2	4	2	0	0	20	0	0.00	32	135.0	45.0
Brown Trout	<200mm	1	1	1	1	0	0	10	0	0.00	16	190.0	80.0

Brown Trout	>=200mm	44	45	48	44	0	0	450	0	0.00	724	258.4	200.1
Brown Trout	All	45	46	49	45	0	0	460	0	0.00	740	256.9	197.4
Creek Chub	All	119	134	151	119	0	0	1340	0	0.00	2156	117.9	25.3
Cutthroat Trout	>=200mm	1	1	4	1	0	0	10	0	0.00	16	230.0	125.0
Cutthroat Trout	All	1	1	4	1	0	0	10	0	0.00	16	230.0	125.0
Fathead Minnow	All	21	21	22	21	0	0	210	0	0.00	338	72.9	6.5
Golden Shiner	All	1	1	1	1	0	0	10	0	0.00	16	110.0	15.0
Largemouth Bass	All	1	1	1	1	0	0	10	0	0.00	16	130.0	30.0
Rainbow Trout	<200mm	3	3	3	3	0	0	30	0	0.00	48	160.0	65.0
Rainbow Trout	>=200mm	35	35	35	35	0	0	350	0	0.00	563	250.0	182.9
Rainbow Trout	All	38	38	38	38	0	0	380	0	0.00	611	242.9	173.6
White Sucker	All	245	249	254	245	0	0	2490	0	0.00	4006	191.1	109.0

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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	
<b>Class BR1</b>	Number of wild Brown Trout exceeds 150 per acre
<b>Class BR2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BR3</b>	Number of wild Brown Trout is less than 25 per acre
<b>Class BK1</b>	Number of wild Brook Trout exceeds 150 per acre
<b>Class BK2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BK3</b>	Number of wild Brook Trout is less than 25 per acre
<b>Class RB1</b>	Number of wild Rainbow Trout exceeds 25 per acre
<b>Class RB2</b>	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on French Creek, 1982-1992

**Site 1129**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	Jul 08, 1992	41	39-46	
Fathead Minnow	Jul 08, 1992	9	9-11	
Hatchery Brown Trout ≥200mm	Jul 08, 1992	5	5-6	
Mountain Sucker	Jul 08, 1992	3	3-4	
White Sucker	Jul 08, 1992	197	193-202	

**Site 1130**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout ≥200mm	Jul 08, 1992	9	9-9	BR2

Creek Chub	Jul 08, 1992	74	71-79
Fathead Minnow	Jul 08, 1992	3	3-4
Longnose Dace	Jul 08, 1992	292	118-583
Mountain Sucker	Jul 08, 1992	19	19-20
White Sucker	Jul 08, 1992	124	124-125

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**Site 1159**


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<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brown Trout >=200mm	May 05, 1992	10	10-11	BR2
Creek Chub	May 05, 1992	123	111-137	
Fathead Minnow	May 05, 1992	1	1-1	
Mountain Sucker	May 05, 1992	36	33-43	
White Sucker	May 05, 1992	39	38-43	

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**Site 1175**


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<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Brown Trout <200mm	May 05, 1992	1	1-4	
Brown Trout >=200mm	May 05, 1992	37	34-44	BR1
Creek Chub	May 05, 1992	43	44-53	

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Longnose Dace	May 05, 1992	27	28-38
Mountain Sucker	May 05, 1992	31	14-115
Rainbow Trout <200mm	May 05, 1992	1	1-1
White Sucker	May 05, 1992	92	70-123

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**Site 1209**

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<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Black Bullhead	May 05, 1992	3	3-4	
Black Crappie	May 05, 1992	13	12-18	
Brown Trout <200mm	May 05, 1992	3	3-3	
Brown Trout >=200mm	May 05, 1992	35	35-37	BR1
Creek Chub	May 05, 1992	150	102-210	
Fathead Minnow	May 05, 1992	32	25-49	
Golden Shiner	May 05, 1992	1	1-1	
Rainbow Trout <200mm	May 05, 1992	1	1-1	
Rainbow Trout >=200mm	May 05, 1992	28	28-29	RB1
White Sucker	May 05, 1992	294	276-312	

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**Site 1225**



Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout >=200mm	May 05, 1992	22	22-23	BR1
Rainbow Trout >=200mm	May 05, 1992	2	2-4	RB2

**Site 1245**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Black Bullhead	May 04, 1992	41	27-77	
Black Crappie	May 04, 1992	2	2-4	
Brown Trout <200mm	May 04, 1992	1	1-1	
Brown Trout >=200mm	May 04, 1992	45	44-48	BR3
Creek Chub	May 04, 1992	134	119-151	
Cutthroat Trout >=200mm	May 04, 1992	1	1-4	
Fathead Minnow	May 04, 1992	21	21-22	
Golden Shiner	May 04, 1992	1	1-1	
Largemouth Bass	May 04, 1992	1	1-1	
Rainbow Trout <200mm	May 04, 1992	3	3-3	
Rainbow Trout >=200mm	May 04, 1992	35	35-35	RB2

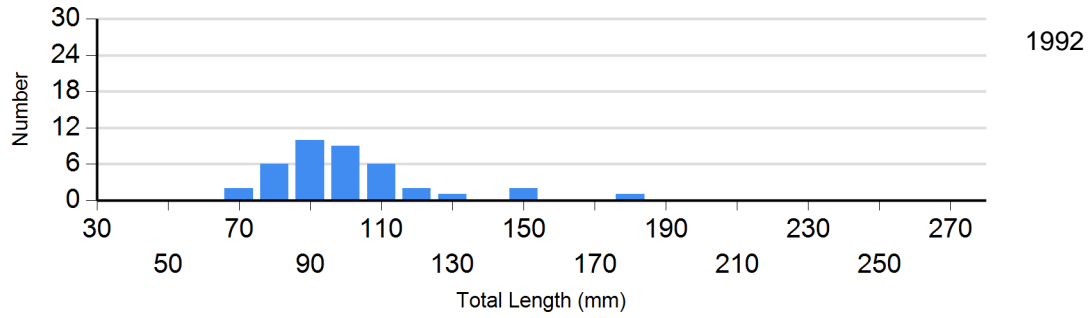


## Length Frequency Distribution

Length frequency histogram of species sampled by year.

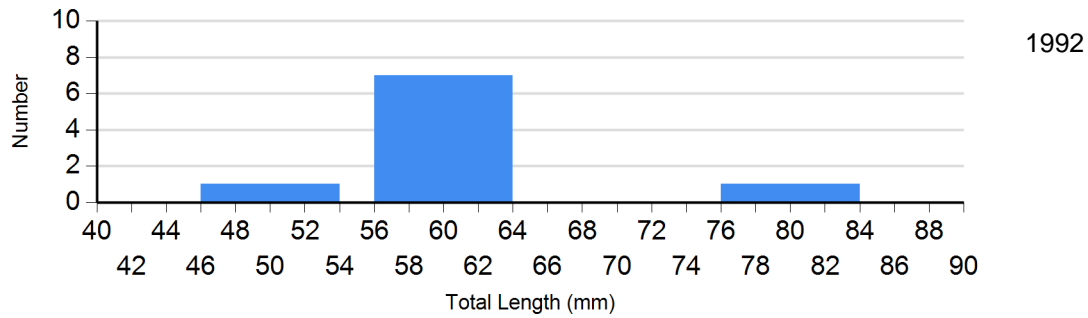
**Site:** 1129

**Species:** Creek Chub



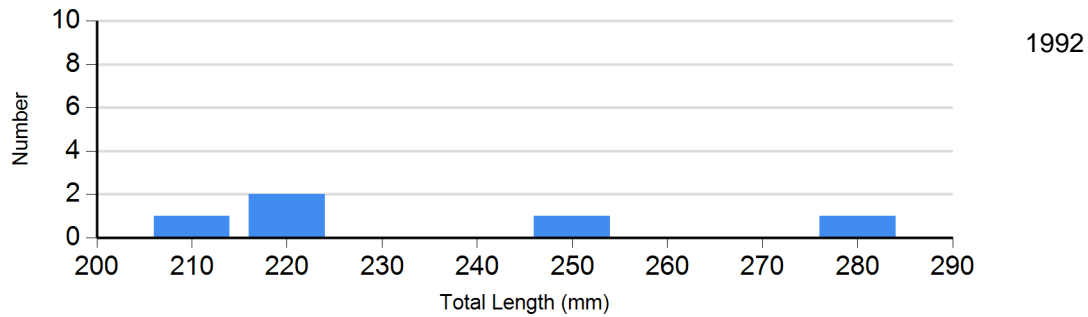
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**Species:** Fathead Minnow

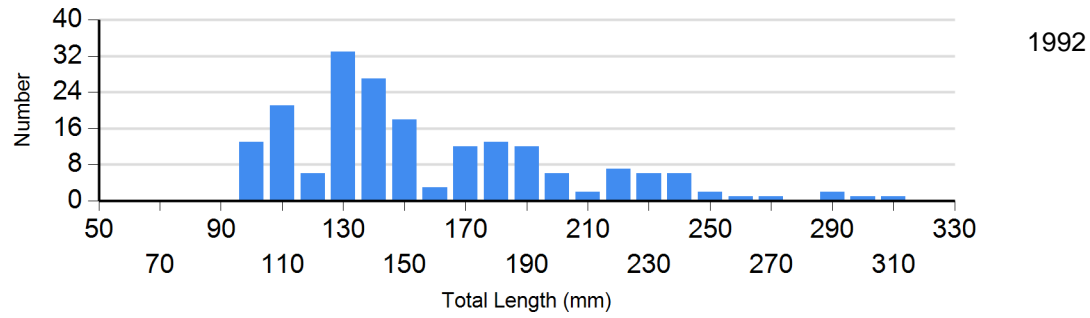


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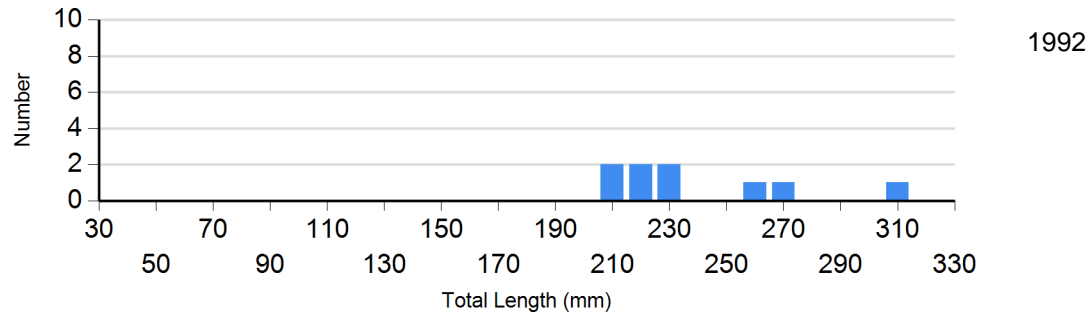
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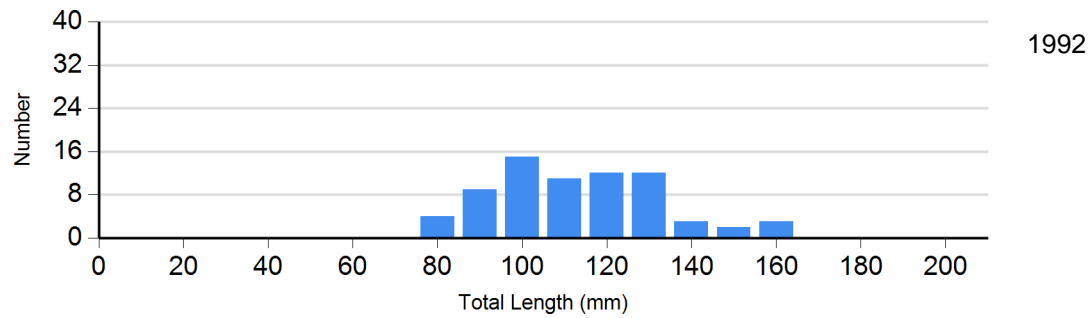
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**Species:** White Sucker



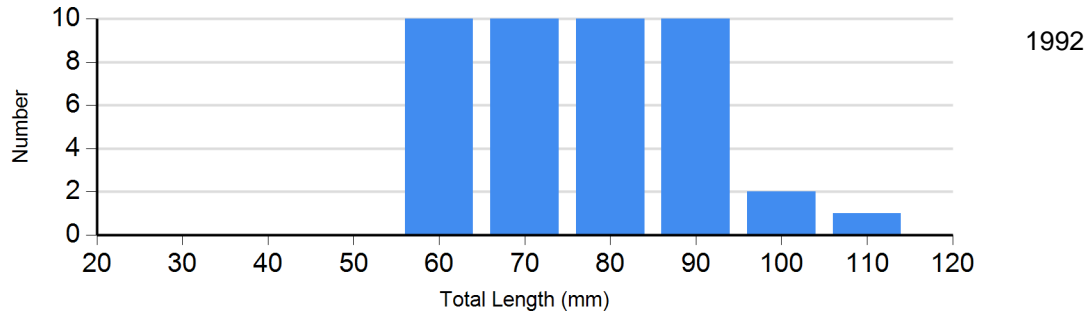
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**Species:** Brown Trout



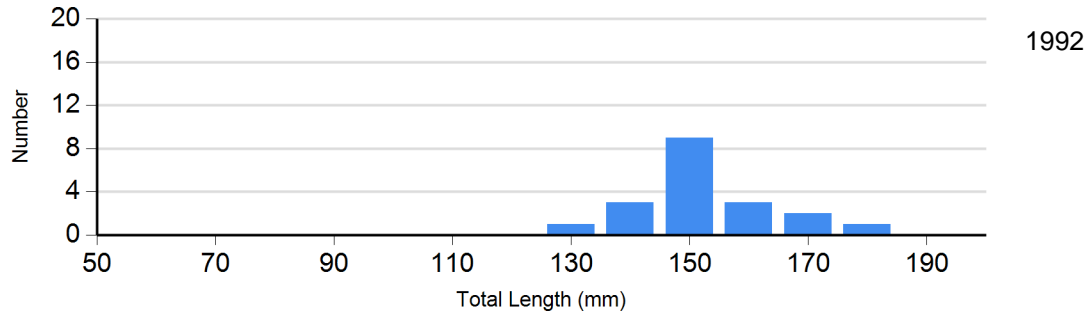
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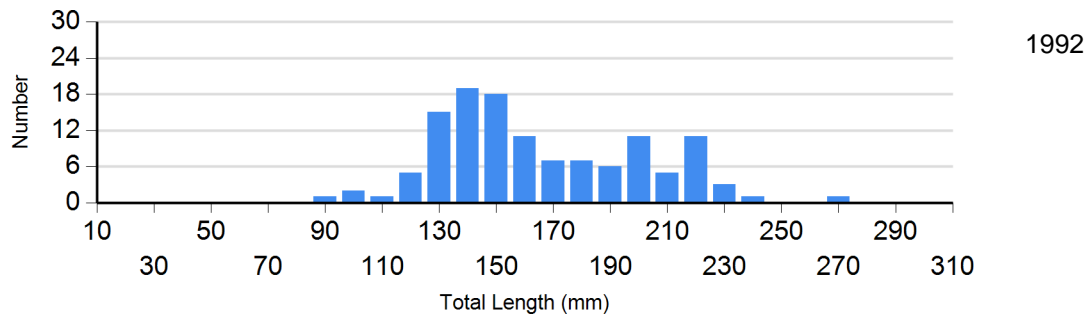
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**Species:** Longnose Dace



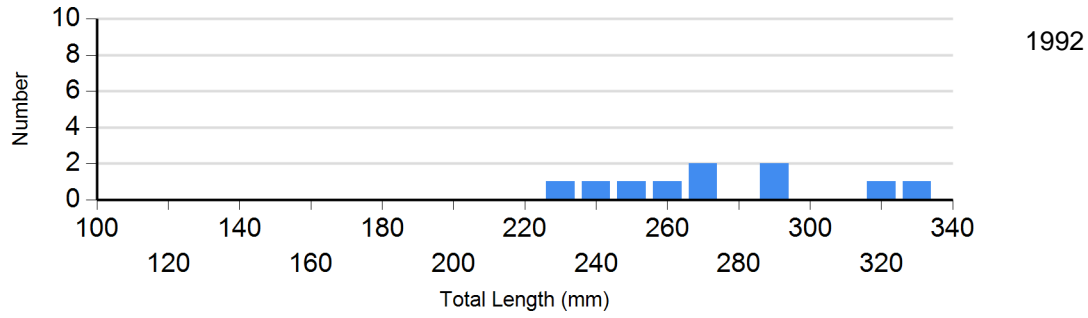
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**Species:** Mountain Sucker



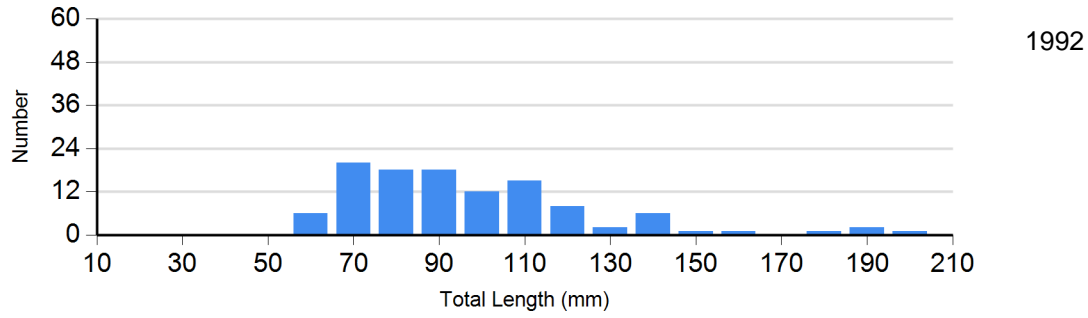
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**Species:** White Sucker



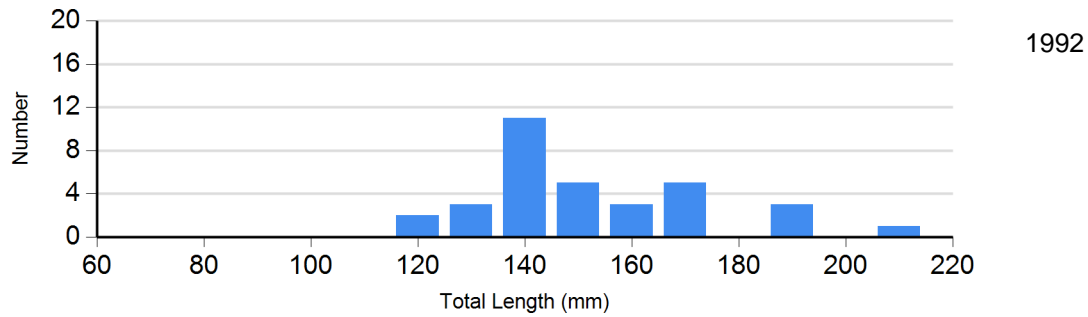
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**Species:** Brown Trout



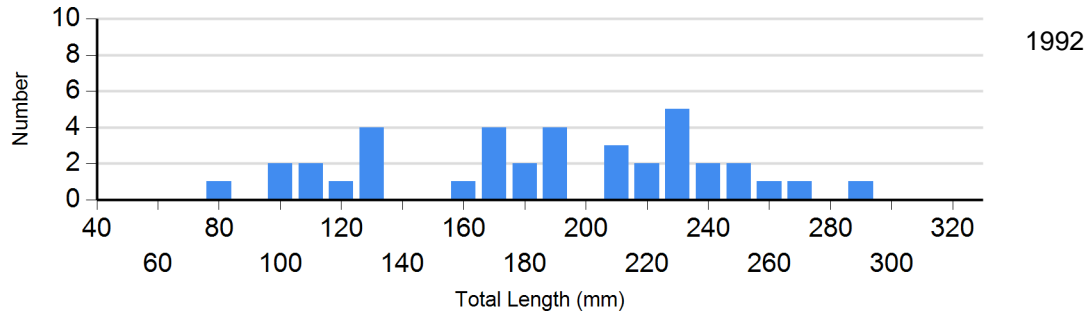
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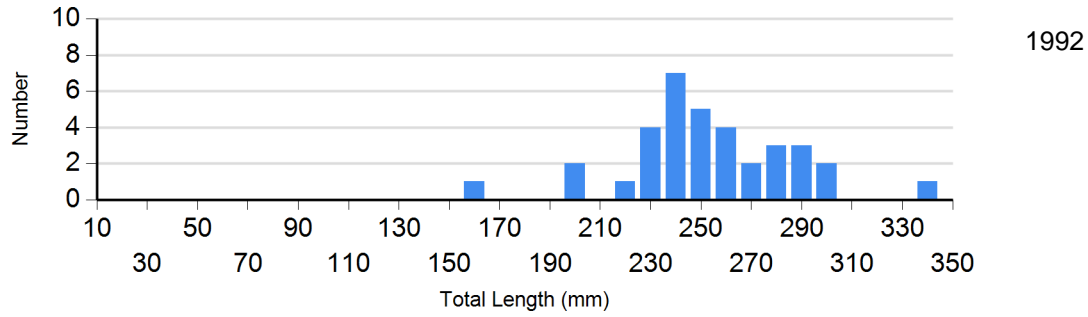
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**Species:** Mountain Sucker



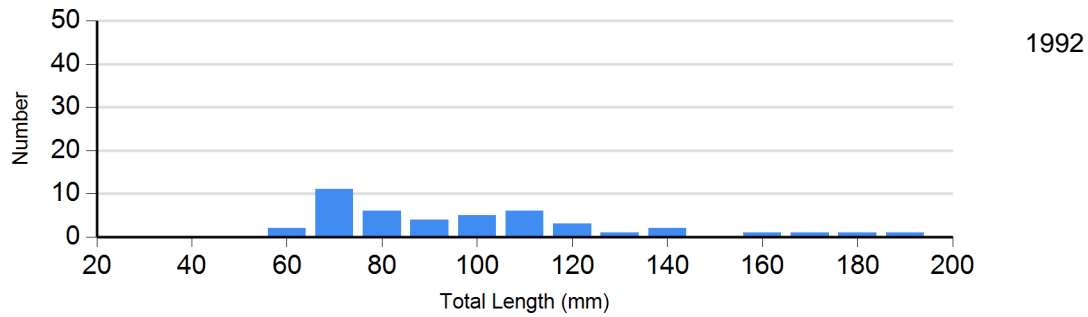
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**Species:** White Sucker



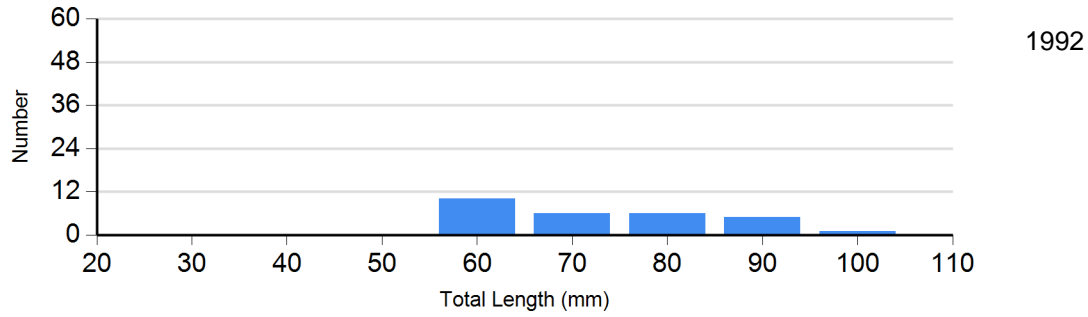
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**Species:** Brown Trout



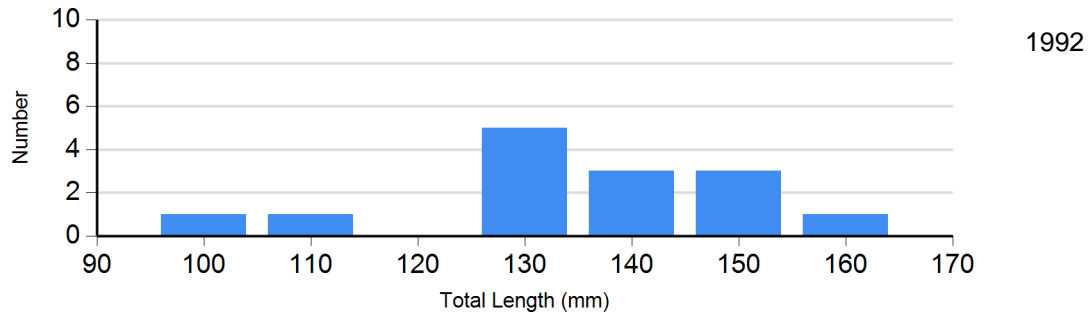
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**Species:** Creek Chub



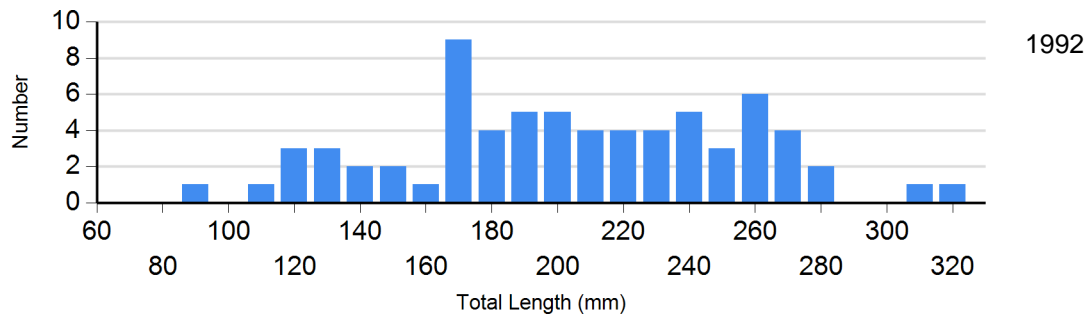
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**Species:** Longnose Dace



**Site:** 1175  
**Species:** Mountain Sucker

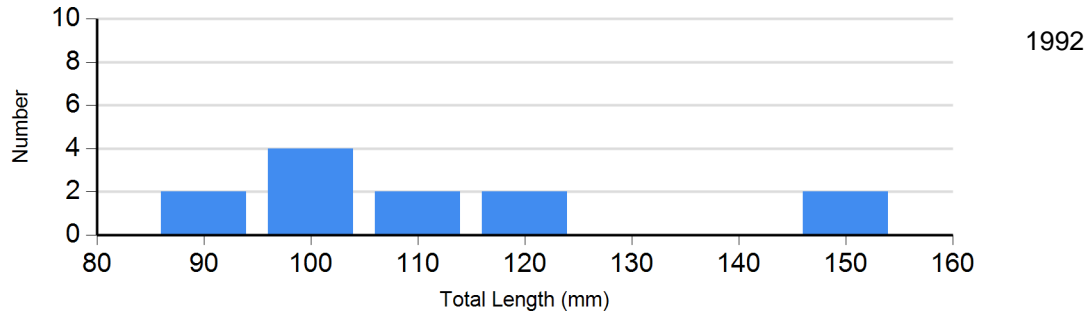


**Site:** 1175  
**Species:** White Sucker

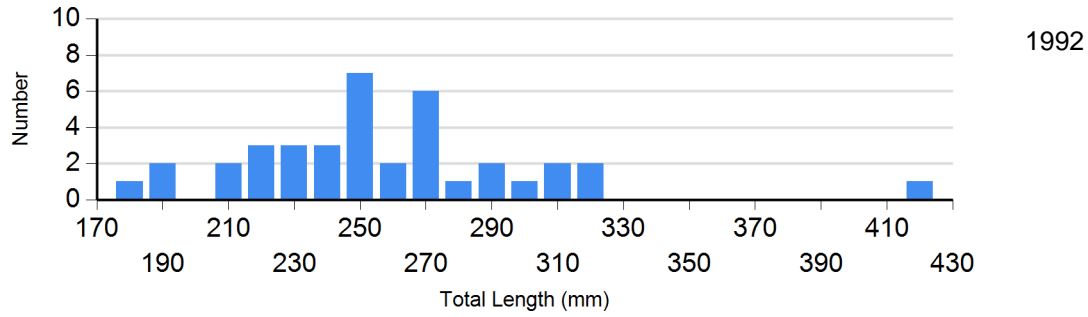




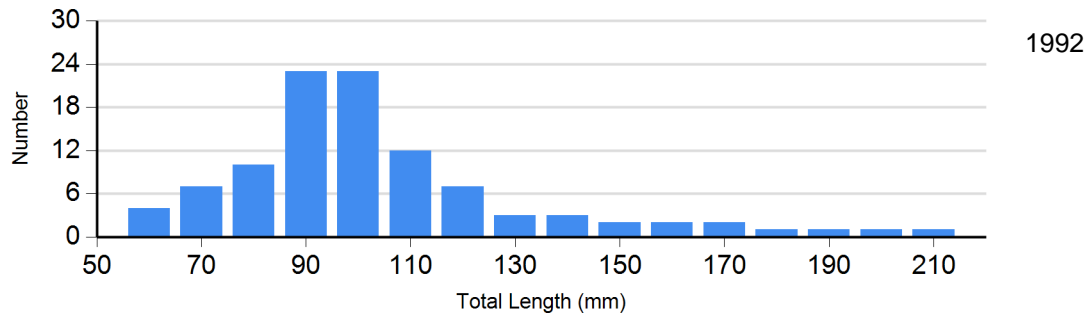
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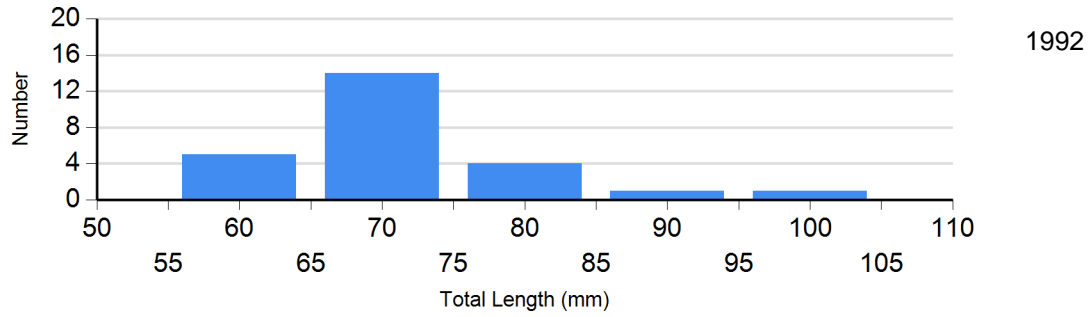
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**Species:** Brown Trout



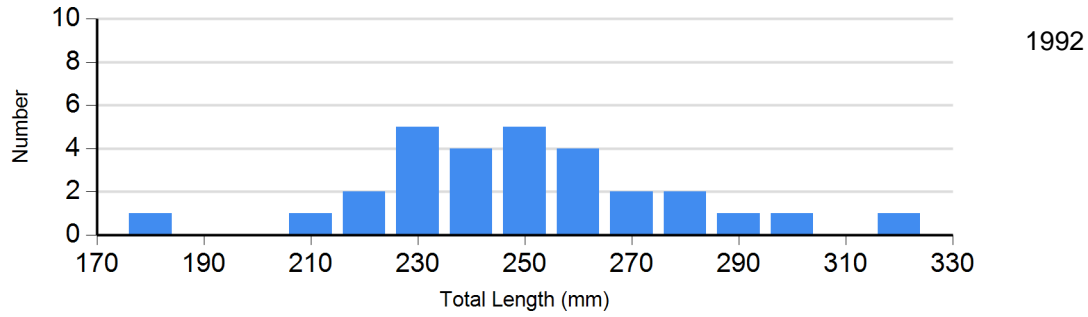
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**Species:** Creek Chub



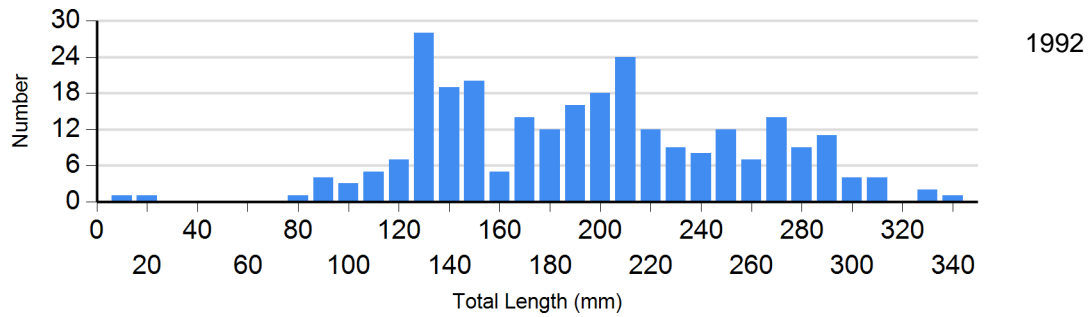
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**Species:** Fathead Minnow



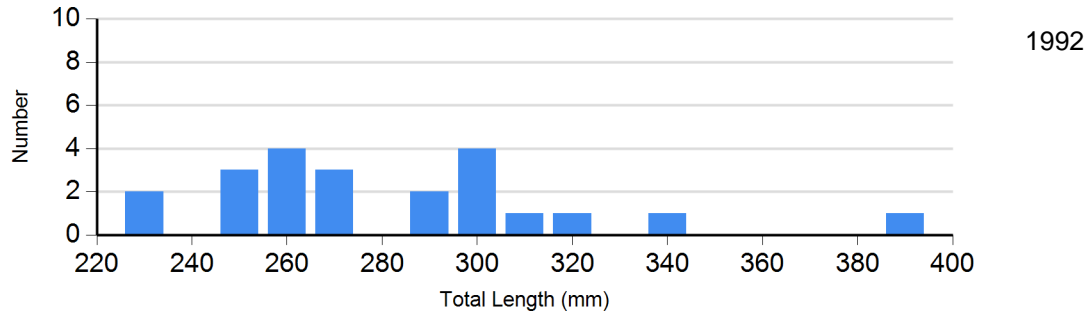
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**Species:** Rainbow Trout



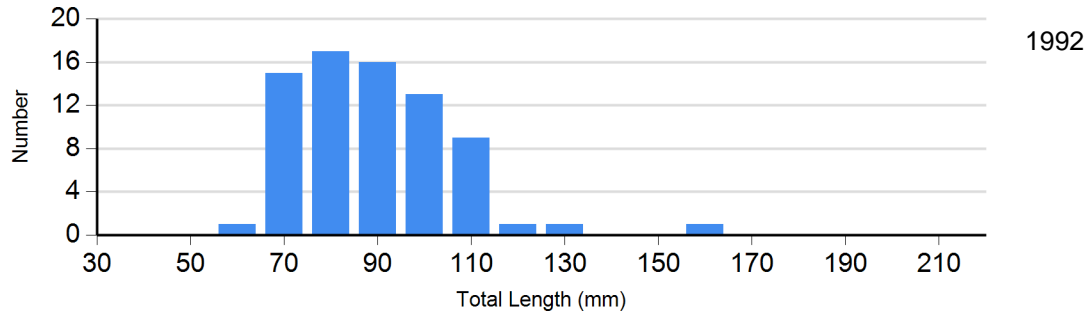
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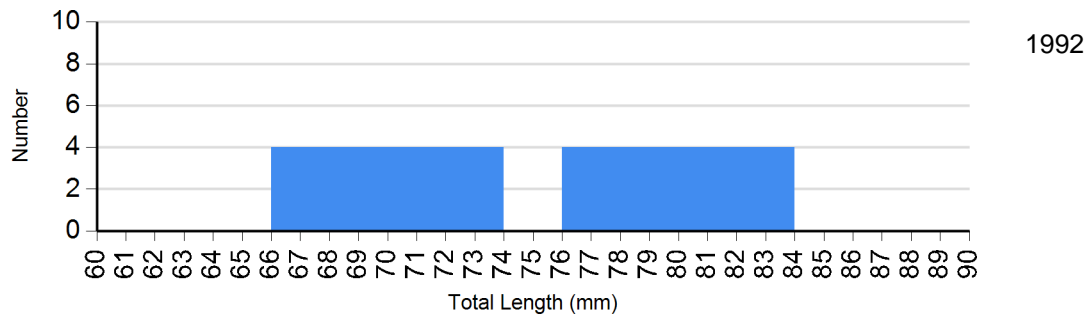
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Species: Brown Trout



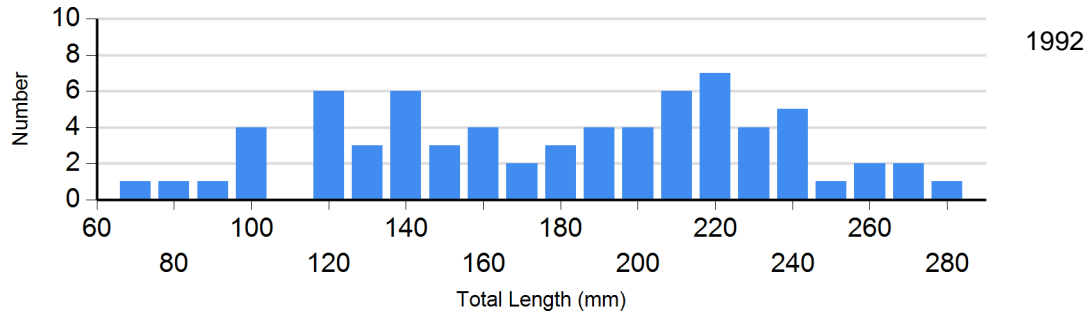
Site: 1225  
Species: Creek Chub



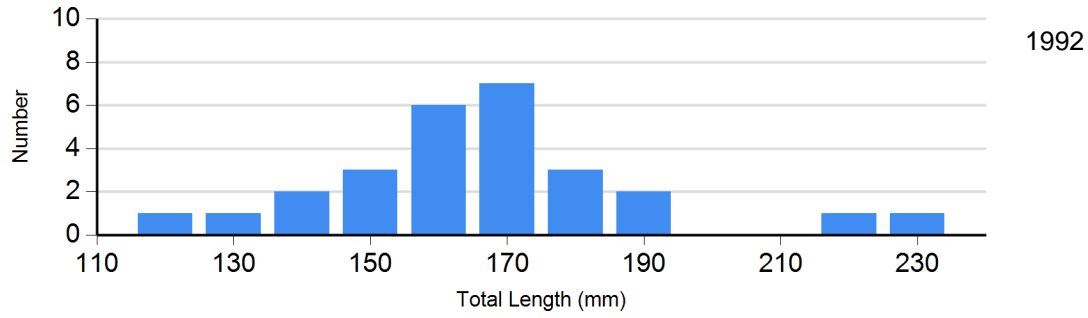
Site: 1225  
Species: Fathead Minnow



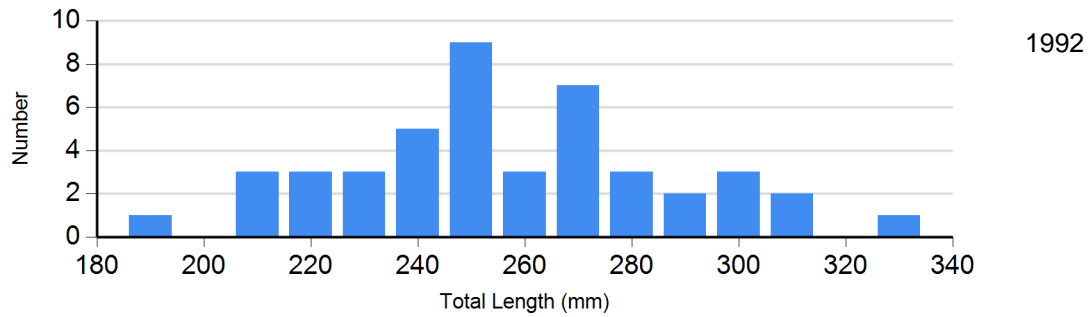
**Site:** 1225  
**Species:** White Sucker



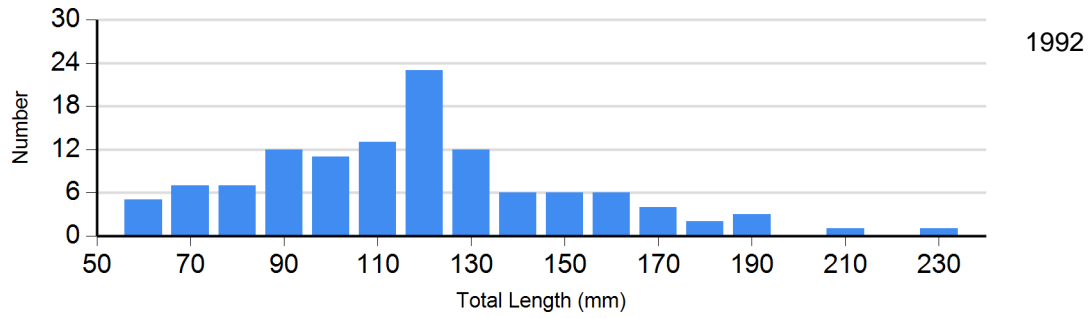
**Site:** 1245  
**Species:** Black Bullhead



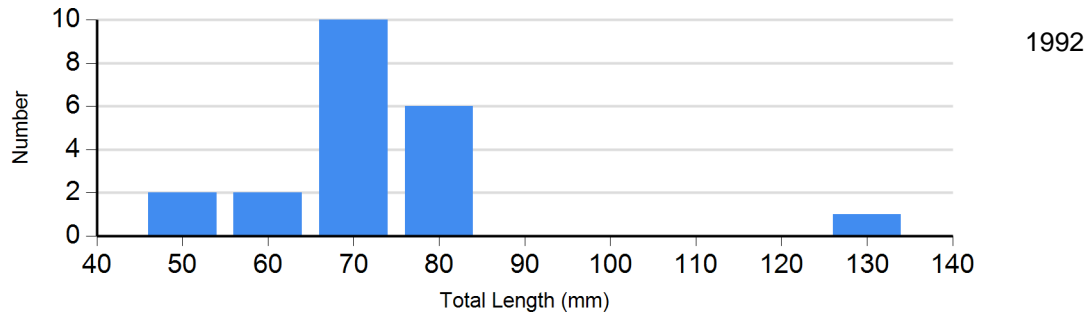
**Site:** 1245  
**Species:** Brown Trout



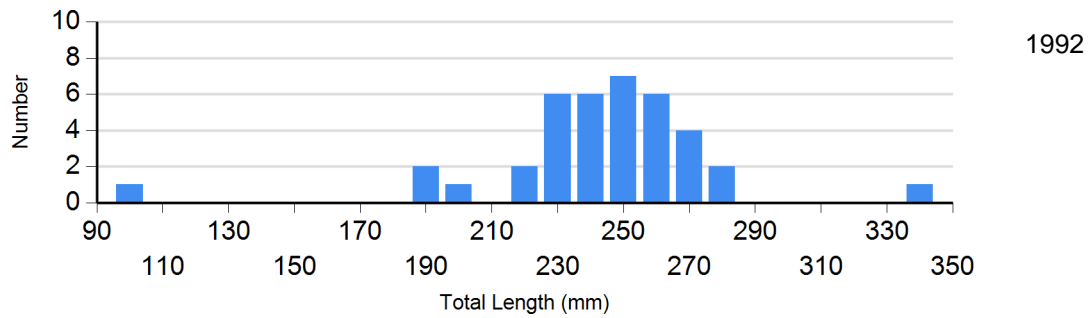
**Site:** 1245  
**Species:** Creek Chub



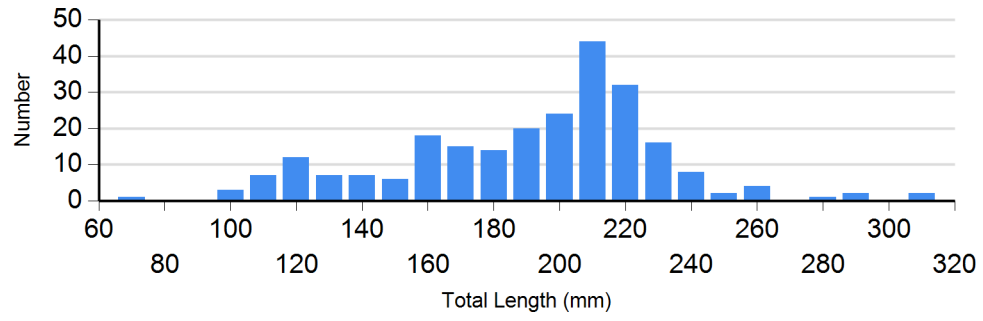
**Site:** 1245  
**Species:** Fathead Minnow



**Site:** 1245  
**Species:** Rainbow Trout



Site: 1245  
Species: White Sucker



1992