

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Whitewood Creek, Lawrence County
09-0056-00
1993

Table 1. Population and Biomass Estimates for Whitewood Creek

Site Number: 394	Date Sampled: 09/15/1993	Conductivity (umhos/cm): 750
Site Midpoint (Latitude, Longitude): 44.45180071, -103.62039810	Site Length (m): 100	pH: 9.3
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 6.1	Water Temperature (C): 9.0
Stream Classification: BR3	Number of Pass: 6	Voltage: 200

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	7	7	8	7	115	2	70	46	1.35	113	93.9	13.2
Brown Trout	>=200mm	1	1	1	1	16	4	10	7	3.82	16	281.0	261.0
Brown Trout	All	8	8	9	8	131	6	80	53	5.69	129	117.3	48.6
Creek Chub	All	12	12	12	12	197	6	120	80	5.55	193	133.9	31.6
Longnose Dace	All	876	2037	2679	1395	33393	210	20370	13524	187.28	32775	86.8	6.3
White Sucker	All	5	5	5	5	82	8	50	33	6.86	80	196.0	93.8

Site Number: 558	Date Sampled: 09/14/1993	Conductivity (umhos/cm): 920
Site Midpoint (Latitude, Longitude): 44.38550441, -103.71870274	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 5.0	Water Temperature (C): 10.0
Stream Classification: BR1	Number of Pass: 3	Voltage: 150

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	41	43	48	41	863	57	430	350	50.96	692	182.0	66.1
Brown Trout	>=200mm	50	50	51	50	1004	164	500	407	146.71	805	246.6	163.7

Brown Trout	All	93	95	99	93	1908	228	950	773	203.89	1529	217.5	119.7
Hatchery Brown Trout	>=200mm	19	19	20	19	382	74	190	155	65.69	306	267.4	192.8
Hatchery Brown Trout	All	19	19	20	19	382	74	190	155	65.69	306	267.4	192.8
Longnose Dace	All	14	14	15	14	281	2	140	114	1.45	225	83.8	5.8
Mountain Sucker	All	14	15	19	14	301	13	150	122	11.23	241	150.5	41.8

Site Number: 588
Site Midpoint (Latitude, Longitude): 44.36654564, -103.73424434
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BR2

Date Sampled: 02/02/1993
Site Length (m): 100
Mean Width (m): 3.7
Number of Pass: 3
Conductivity (umhos/cm): 1100
pH:
Water Temperature (C): 8.0
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	6	6	7	6	162	5	60	66	4.59	97	140.8	31.7
Brown Trout	>=200mm	9	9	11	9	243	27	90	99	23.89	145	234.2	110.0
Brown Trout	All	15	15	17	15	405	32	150	164	28.48	241	196.9	78.7
Hatchery Brown Trout	<200mm	2	2	2	2	54	3	20	22	2.90	32	189.0	60.0
Hatchery Brown Trout	>=200mm	28	28	30	28	757	87	280	306	78.02	451	243.0	115.5
Hatchery Brown Trout	All	30	30	32	30	811	91	300	328	80.91	483	239.4	111.8
Longnose Dace	All	3	3	4	3	81	0	30	33	0.34	48	77.7	4.7
Mountain Sucker	All	1	1	1	1	27	1	10	11	0.92	16	146.0	38.0

Site Number: 589
Site Midpoint (Latitude, Longitude): 44.36581459, -103.73345189
Survey Completed by: Chadwick Ecological Services
Stream Classification: BK3, BR3

Date Sampled: 10/27/1993
Site Length (m):
Mean Width (m): 0.0
Conductivity (umhos/cm):
pH:
Water Temperature (C): 7.0

Number of Pass: 3

Voltage:

150

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	9	9	11	9	0	0	0	0	0.00	0	134.1	23.3
Brook Trout	>=200mm	2	2	2	2	0	0	0	0	0.00	0	233.5	127.0
Brook Trout	All	11	11	13	11	0	0	0	0	0.00	0	152.2	42.2
Brown Trout	<200mm	10	10	11	10	0	0	0	0	0.00	0	107.7	13.8
Brown Trout	>=200mm	23	23	23	23	0	0	0	0	0.00	0	232.6	155.2
Brown Trout	All	33	33	34	33	0	0	0	0	0.00	0	194.7	112.4
Longnose Dace	All	14	20	40	14	0	0	0	0	0.00	0	74.9	3.5

Site Number: 612

Site Midpoint (Latitude, Longitude): 44.35478049, -103.73811696

Survey Completed by: Chadwick Ecological Services

Stream Classification: BK0, BR3

Date Sampled: 10/27/1993

Site Length (m):

Mean Width (m): 0.0

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C): 7.0

Voltage:

150

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	3	3	4	3	0	0	0	0	0.00	0	154.7	31.3
Brook Trout	All	3	3	4	3	0	0	0	0	0.00	0	154.7	31.3
Brown Trout	<200mm	2	2	4	2	0	0	0	0	0.00	0	105.0	12.0
Brown Trout	>=200mm	30	30	31	30	0	0	0	0	0.00	0	252.9	161.5
Brown Trout	All	33	33	35	33	0	0	0	0	0.00	0	243.6	152.1
Longnose Dace	All	1	1	2	1	0	0	0	0	0.00	0	50.0	3.0
Mountain Sucker	All	8	8	10	8	0	0	0	0	0.00	0	162.9	65.3

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 Whitewood Creek, 1983-1993

Site 394

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Sep 15, 1993	7	7-8	
Brown Trout >=200mm	Sep 15, 1993	1	1-1	BR3
Creek Chub	Sep 15, 1993	12	12-12	
Longnose Dace	Sep 15, 1993	2037	1395-2679	
White Sucker	Sep 15, 1993	5	5-5	

Site 558

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Oct 03, 1992	102	60-173	

Brown Trout <200mm	Sep 14, 1993	43	41-48	
Brown Trout >=200mm	Oct 03, 1992	24	24-25	BR1
	Sep 14, 1993	50	50-51	BR1
Hatchery Brown Trout >=200mm	Oct 03, 1992	68	68-69	
	Sep 14, 1993	19	19-20	
Longnose Dace	Oct 03, 1992	36	14-150	
	Sep 14, 1993	14	14-15	
Mountain Sucker	Oct 03, 1992	44	36-59	
	Sep 14, 1993	15	14-19	
White Sucker	Oct 03, 1992	1	1-1	

Site 588

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Feb 02, 1993	6	6-7	
Brown Trout >=200mm	Feb 02, 1993	9	9-11	BR2
Hatchery Brown Trout <200mm	Feb 02, 1993	2	2-2	
Hatchery Brown Trout >=200mm	Feb 02, 1993	28	28-30	

Longnose Dace	Feb 02, 1993	3	3-4
Mountain Sucker	Feb 02, 1993	1	1-1

Site 589

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Oct 27, 1993	9	9-11	
Brook Trout >=200mm	Oct 27, 1993	2	2-2	BK3
Brown Trout <200mm	Oct 27, 1993	10	10-11	
Brown Trout >=200mm	Oct 27, 1993	23	23-23	BR3
Longnose Dace	Oct 27, 1993	20	14-40	

Site 612

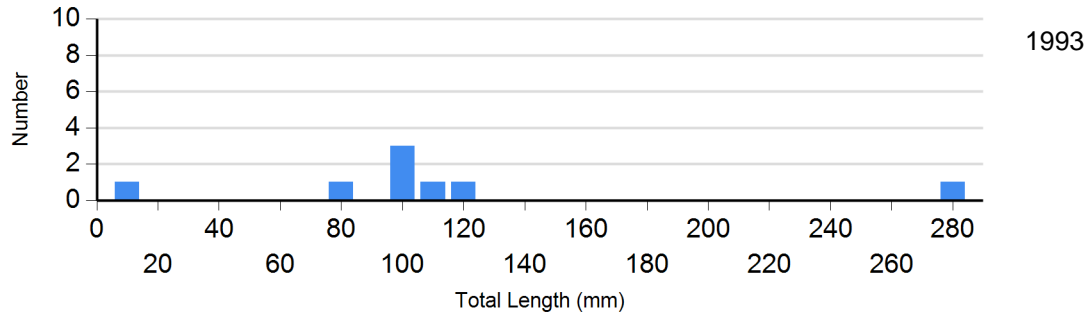
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Oct 27, 1993	3	3-4	
Brown Trout <200mm	Oct 27, 1993	2	2-4	
Brown Trout >=200mm	Oct 27, 1993	30	30-31	BR3
Longnose Dace	Oct 27, 1993	1	1-2	
Mountain Sucker	Oct 27, 1993	8	8-10	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

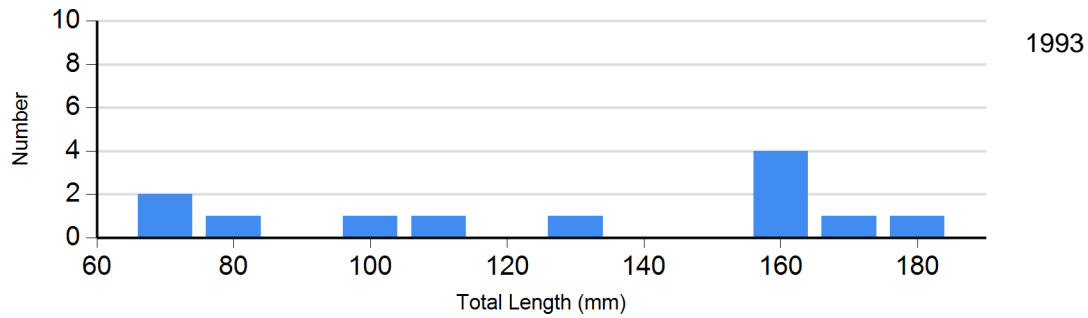
Site: 394

Species: Brown Trout



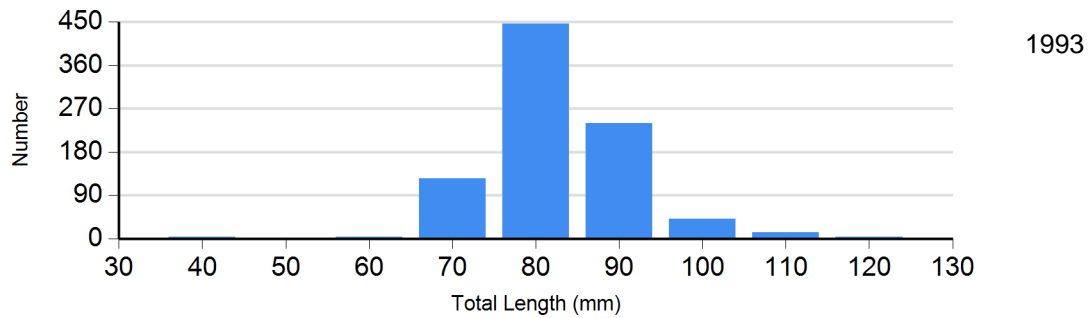
Site: 394

Species: Creek Chub

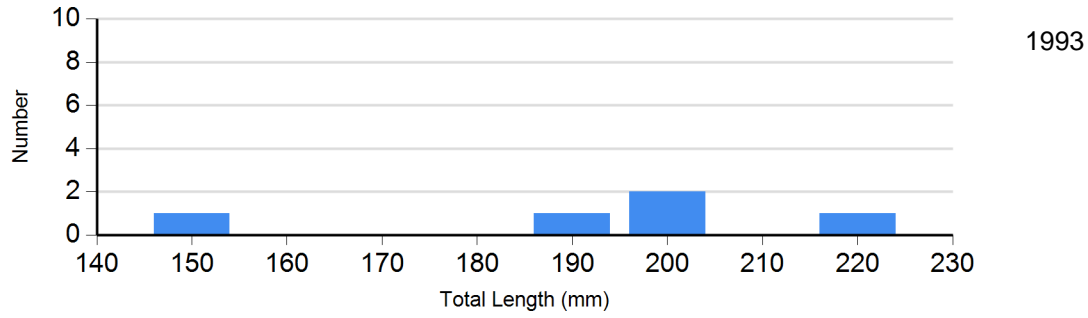


Site: 394

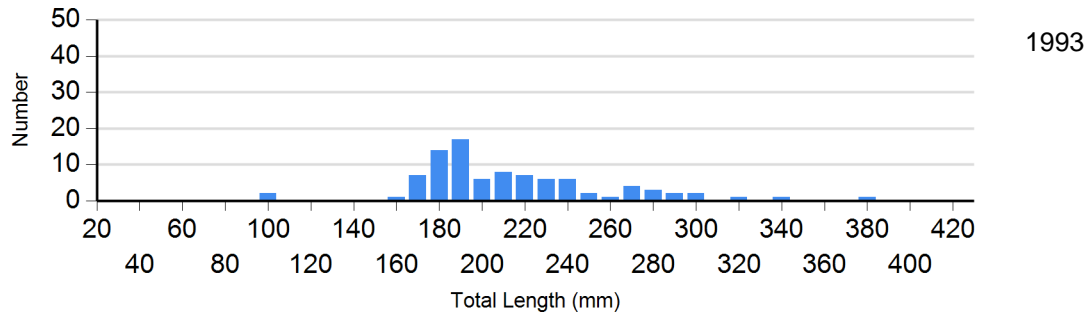
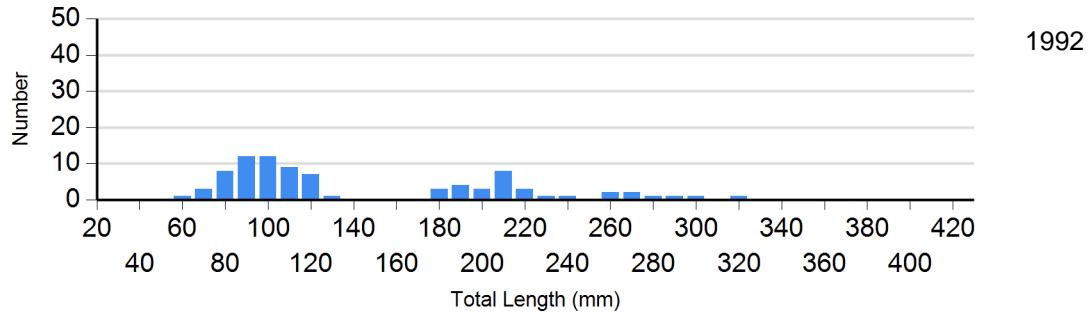
Species: Longnose Dace



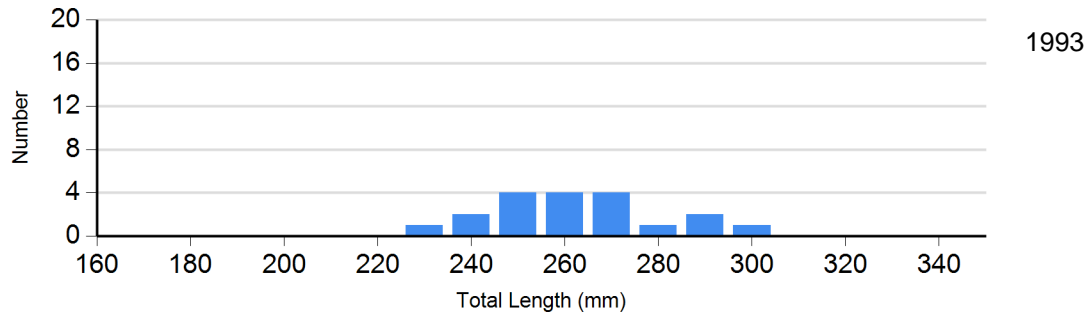
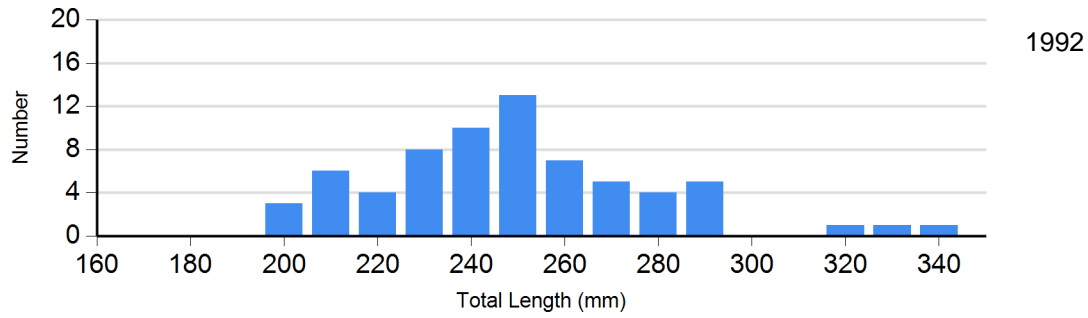
Site: 394
Species: White Sucker



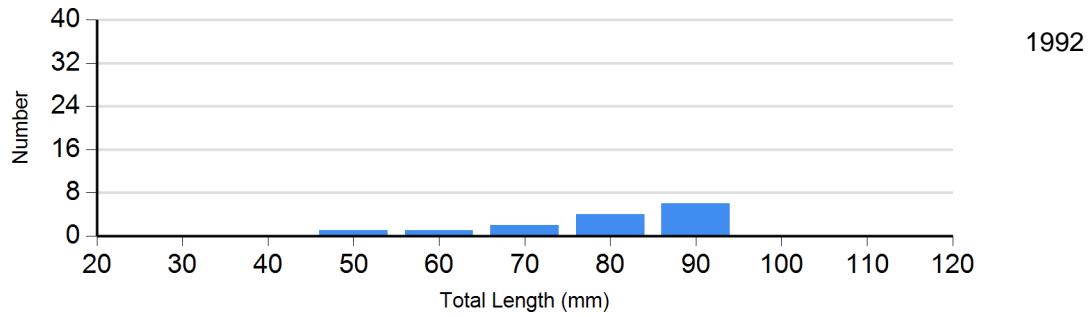
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Species: Brown Trout

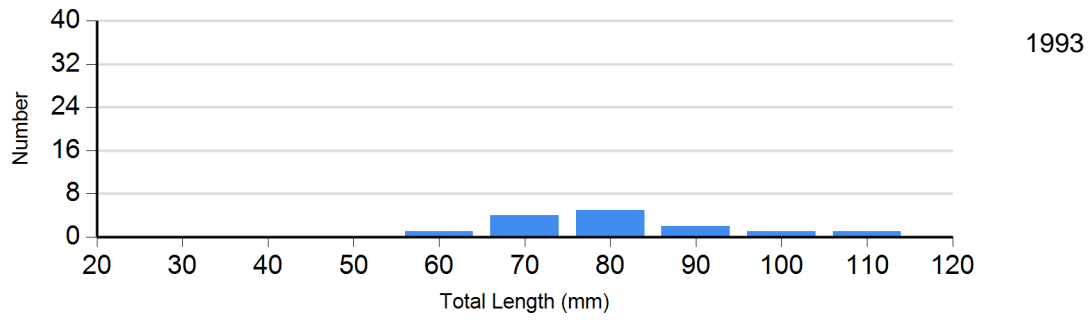


Site: 558
Species: Hatchery Brown Trout

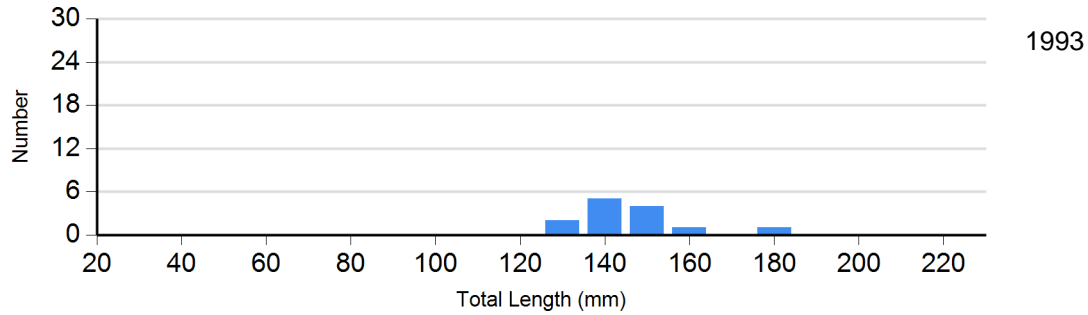
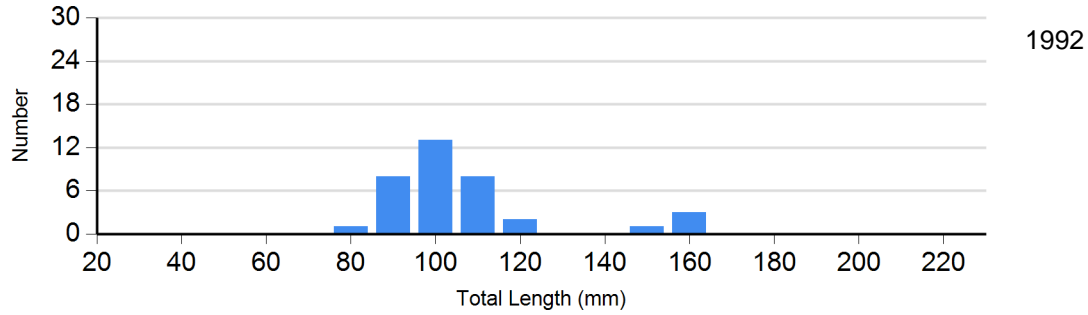


Site: 558
Species: Longnose Dace

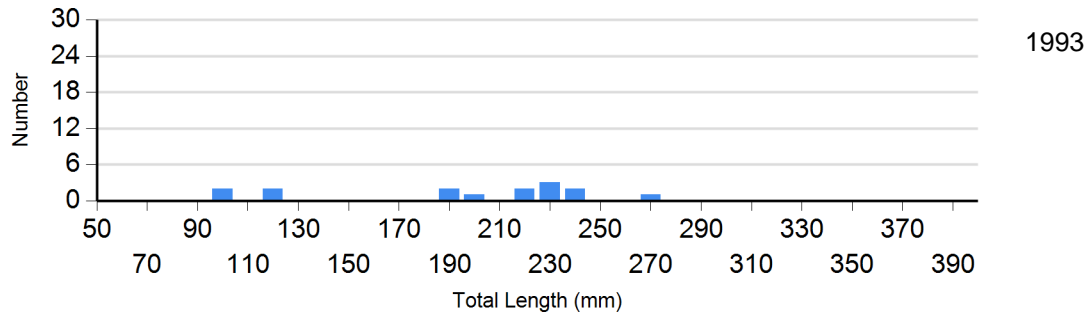




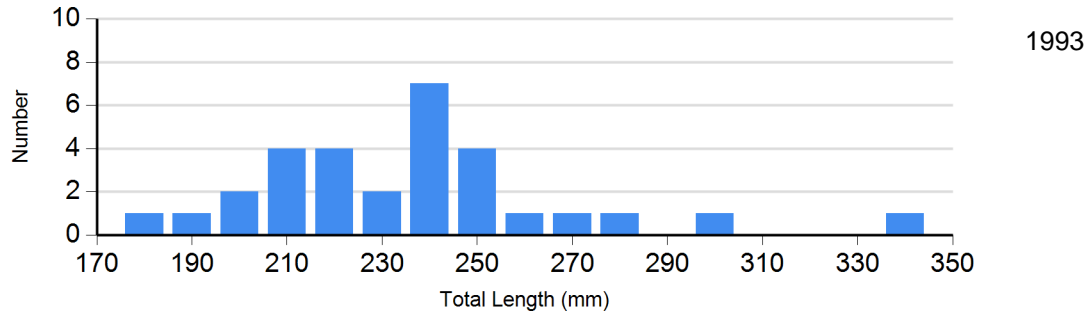
Site: 558
Species: Mountain Sucker



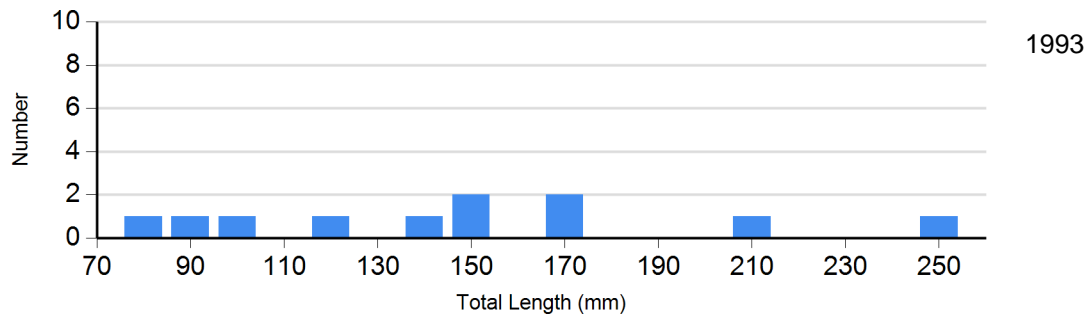
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Species: Brown Trout



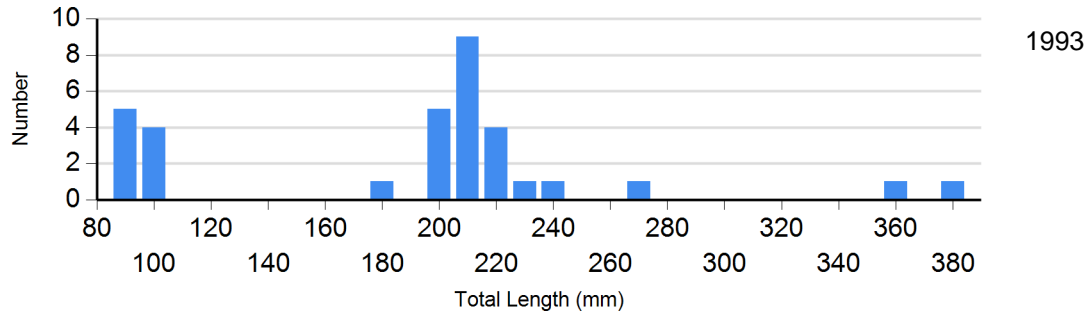
Site: 588
Species: Hatchery Brown Trout



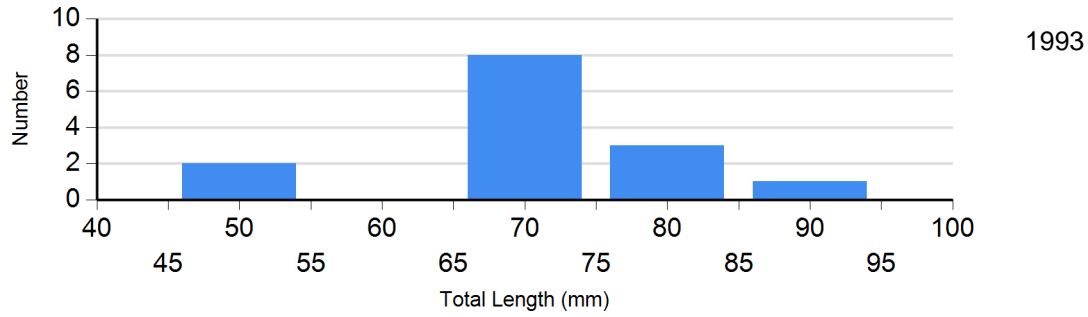
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Species: Brook Trout



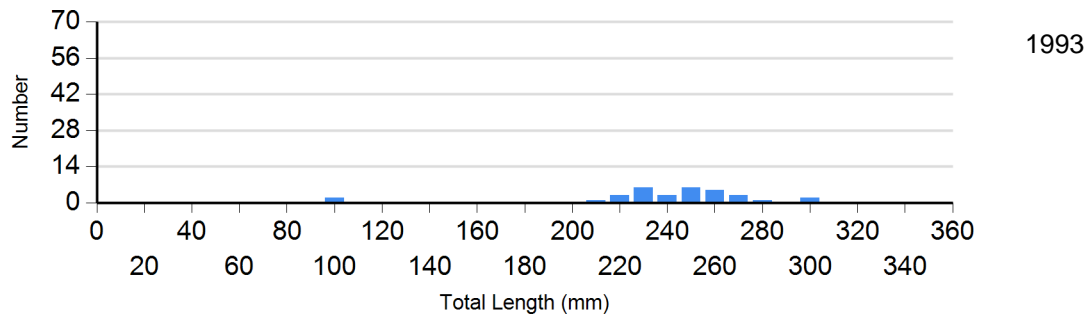
Site: 589
Species: Brown Trout



Site: 589
Species: Longnose Dace



Site: 612
Species: Brown Trout



Site: 612
Species: Mountain Sucker

