

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Elk Creek, Meade County
09-0015-00
1993

Table 1. Population and Biomass Estimates for Elk Creek

Site Number: 1891	Date Sampled: 07/27/1993	Conductivity (umhos/cm): 1100
Site Midpoint (Latitude, Longitude): 44.23222178, -103.31879709	Site Length (m): 100	pH: 8.4
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.0	Water Temperature (C): 15.0
Stream Classification: None	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)
Creek Chub	All	1	1	2	1	25	0	10	10	0.02	16	46.0	1.0
Hatchery Brown Trout	<200mm	2	2	3	2	50	3	20	20	3.10	32	188.0	69.5
Hatchery Brown Trout	>=200mm	3	3	4	3	75	8	30	30	7.14	48	220.7	106.7
Hatchery Brown Trout	All	5	5	6	5	125	11	50	51	10.25	80	207.6	91.8
Rock Bass	All	75	110	157	75	2750	74	1100	1114	65.87	1770	103.1	26.8
White Sucker	All	6	6	9	6	150	11	60	61	10.13	97	179.0	75.7

Site Number: 2309	Date Sampled: 05/24/1993	Conductivity (umhos/cm): 205
Site Midpoint (Latitude, Longitude): 44.29773491, -103.58253202	Site Length (m): 100	pH: 8.8
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 5.8	Water Temperature (C): 14.0
Stream Classification: BK3, BR0	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	8	8	10	8	137	3	80	55	2.40	129	122.8	19.6
Brook Trout	>=200mm	2	2	2	2	34	7	20	14	6.65	32	277.5	217.5

Brook Trout	All	10	10	11	10	171	10	100	69	9.05	161	153.7	59.2
Brown Trout	<200mm	1	1	1	1	17	0	10	7	0.21	16	110.0	14.0
Brown Trout	All	1	1	1	1	17	0	10	7	0.21	16	110.0	14.0
Longnose Dace	All	437	436	465	437	7466	13	4360	3024	11.35	7015	53.9	1.7
Mountain Sucker	All	291	451	564	338	7723	69	4510	3128	61.63	7257	86.9	8.9
Unidentified YOY Trout	<200mm	2	1	2	2	17	0	10	7	0.02	16	39.5	1.0
Unidentified YOY Trout	All	2	1	2	2	17	0	10	7	0.02	16	39.5	1.0
White Sucker	All	47	91	185	47	1558	30	910	631	26.88	1464	104.2	19.3

Site Number: 2537

Site Midpoint (Latitude, Longitude): 44.25638126, -103.75581378

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0, BR0

Date Sampled: 05/24/1993

Site Length (m): 100

Mean Width (m): 1.5

Number of Pass: 5

Conductivity (umhos/cm): 230

pH: 8.6

Water Temperature (C): 7.0

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	8	11	24	8	743	16	110	301	13.85	177	123.8	20.9
Brook Trout	All	8	11	24	8	743	16	110	301	13.85	177	123.8	20.9
Brown Trout	<200mm	2	2	3	2	135	1	20	55	1.21	32	103.5	10.0
Brown Trout	All	2	2	3	2	135	1	20	55	1.21	32	103.5	10.0
Longnose Dace	All	1	1	1	1	68	1	10	27	1.09	16	126.0	18.0

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 Elk Creek, 1983-1993

Site 1891

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Creek Chub	Jul 27, 1993	1	1-2	
Hatchery Brown Trout <200mm	Jul 27, 1993	2	2-3	
Hatchery Brown Trout >=200mm	Jul 27, 1993	3	3-4	
Rock Bass	Jul 27, 1993	110	75-157	
White Sucker	Jul 27, 1993	6	6-9	

Site 2309

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 24, 1993	8	8-10	

Brook Trout >=200mm	May 24, 1993	2	2-2	BK3
Brown Trout <200mm	May 24, 1993	1	1-1	
Longnose Dace	May 24, 1993	436	437-465	
Mountain Sucker	May 24, 1993	451	338-564	
White Sucker	May 24, 1993	91	47-185	

Site 2537

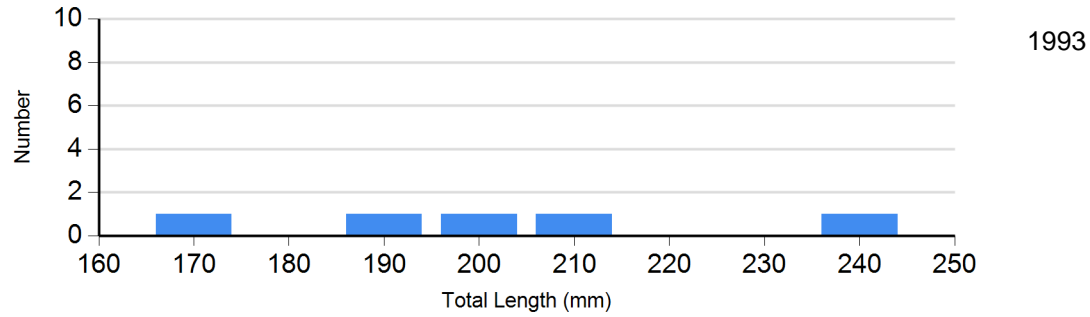
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 24, 1993	11	8-24	
Brown Trout <200mm	May 24, 1993	2	2-3	
Longnose Dace	May 24, 1993	1	1-1	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

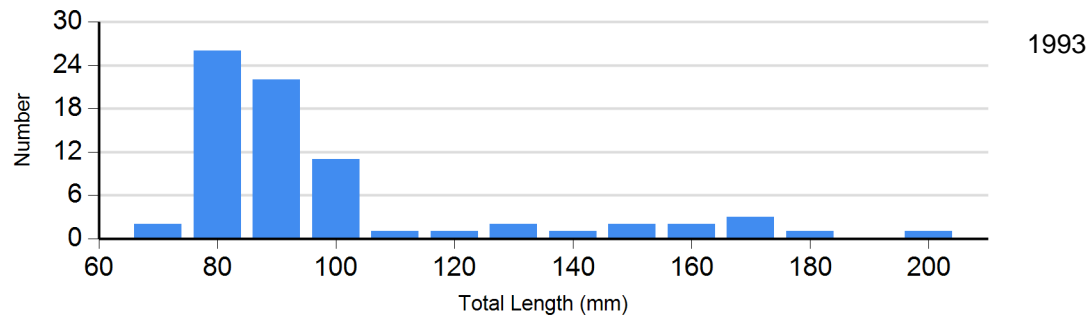
Site: 1891

Species: Hatchery Brown Trout



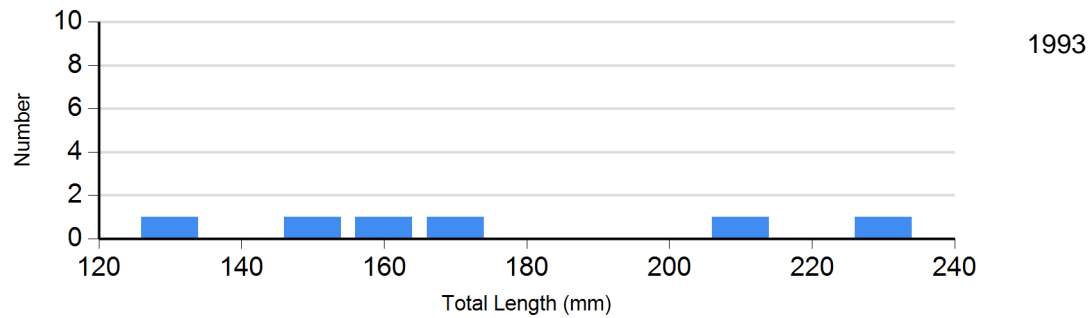
Site: 1891

Species: Rock Bass

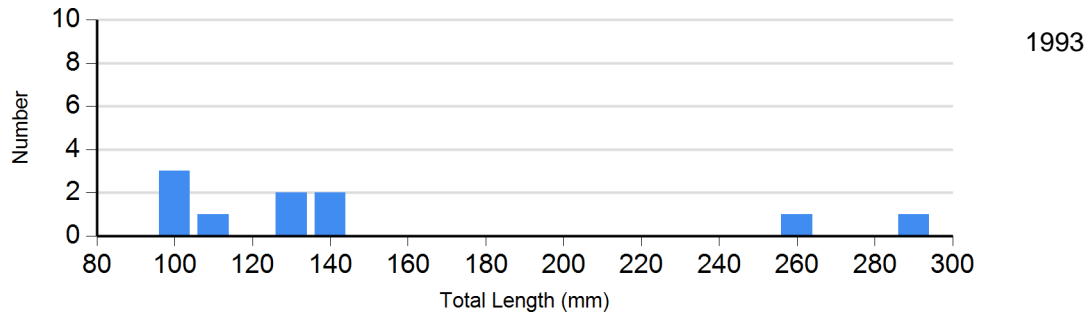


Site: 1891

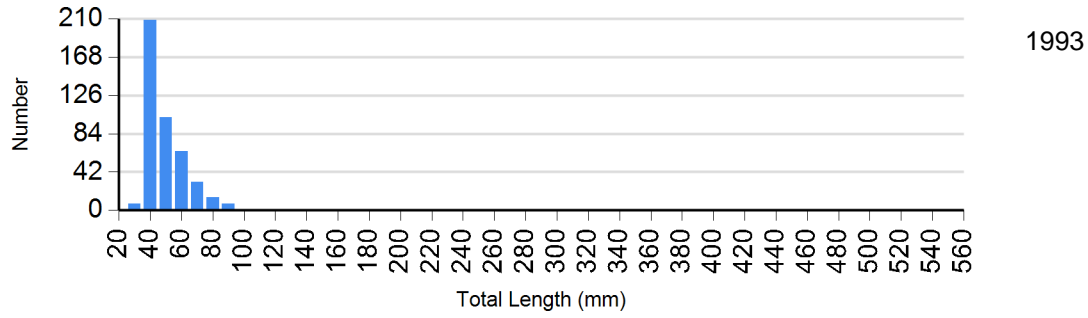
Species: White Sucker



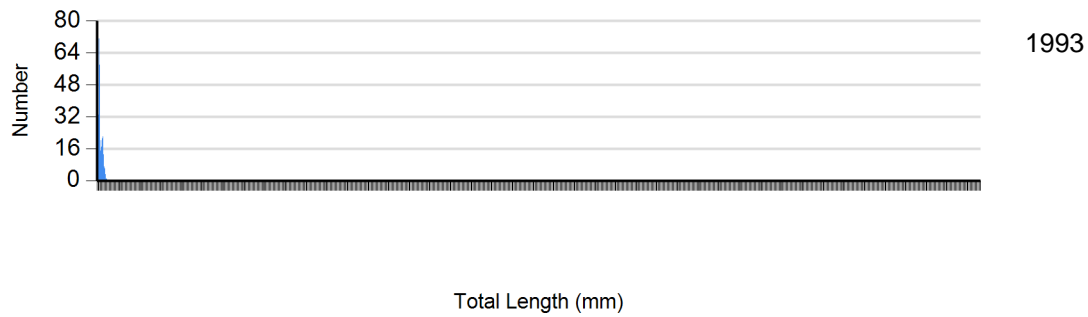
Site: 2309
Species: Brook Trout



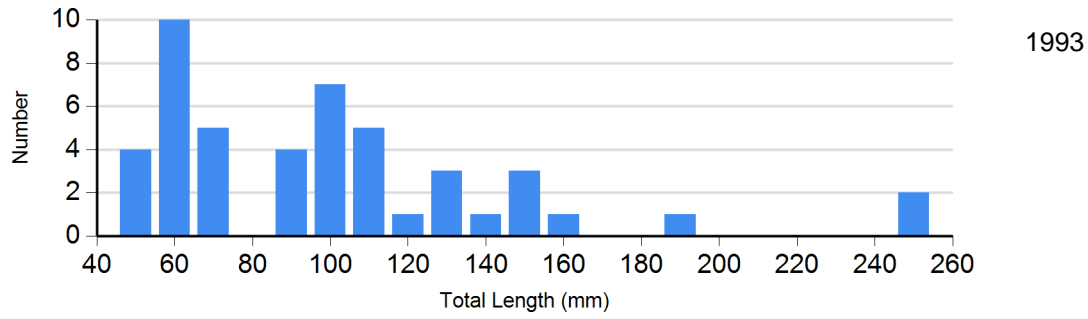
Site: 2309
Species: Longnose Dace



Site: 2309
Species: Mountain Sucker



Site: 2309
Species: White Sucker



Site: 2537
Species: Brook Trout

