

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Fall River, Fall River County
27-0023-00
1993

Table 1. Population and Biomass Estimates for Fall River

Site Number: 30	Date Sampled: 06/22/1993	Conductivity (umhos/cm): 1200
Site Midpoint (Latitude, Longitude): 43.40294269, -103.41199702	Site Length (m): 100	pH: 8.2
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.1	Water Temperature (C): 21.0
Stream Classification: None	Number of Pass: 1	Voltage: 100

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)
Hatchery Brown Trout	>=200mm	1	1	1	1	24	8	10	10	6.93	16	311.0	318.0
Hatchery Brown Trout	All	1	1	1	1	24	8	10	10	6.93	16	311.0	318.0
Longnose Dace	All	3	3	3	3	73	0	30	30	0.37	48	78.7	5.7
White Sucker	All	1	1	1	1	24	5	10	10	4.07	16	258.0	187.0

Site Number: 88	Date Sampled: 06/22/1993	Conductivity (umhos/cm): 1300
Site Midpoint (Latitude, Longitude): 43.41812442, -103.45778048	Site Length (m): 100	pH: 8.1
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 6.9	Water Temperature (C): 24.0
Stream Classification: None	Number of Pass: 4	Voltage: 100

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)
Goldfish	All	5	5	5	5	73	16	50	30	14.63	80	219.2	224.8
Green Sunfish	All	21	36	79	21	525	56	360	213	49.58	579	175.3	105.8
Hatchery Brown Trout	>=200mm	1	1	5	1	15	2	10	6	1.76	16	240.0	135.0
Hatchery Brown Trout	All	1	1	5	1	15	2	10	6	1.76	16	240.0	135.0

Site Number: 131
Site Midpoint (Latitude, Longitude): 43.44260315, -103.48381983
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BR2

Date Sampled: 05/11/1993 **Conductivity (umhos/cm):** 620
Site Length (m): 100 **pH:** 7.8
Mean Width (m): 2.0 **Water Temperature (C):** 22.0
Number of Pass: 3 **Voltage:** 100

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	7	7	347	20	70	140	18.08	113	165.1	58.4
Brown Trout	>=200mm	7	7	7	7	347	45	70	140	40.49	113	226.3	130.9
Brown Trout	All	14	14	14	14	693	66	140	281	58.57	225	195.7	94.6
Green Sunfish	All	2	2	2	2	99	8	20	40	7.07	32	156.5	80.0
Hatchery Brown Trout	>=200mm	3	3	4	3	149	25	30	60	22.06	48	251.3	166.3
Hatchery Brown Trout	All	3	3	4	3	149	25	30	60	22.06	48	251.3	166.3
White Sucker	All	1	1	1	1	50	10	10	20	9.06	16	270.0	205.0

Site Number: 163
Site Midpoint (Latitude, Longitude): 43.44698252, -103.50437989
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BR0

Date Sampled: 05/12/1993 **Conductivity (umhos/cm):** 600
Site Length (m): 100 **pH:** 7.4
Mean Width (m): 3.8 **Water Temperature (C):** 20.0
Number of Pass: 3 **Voltage:** 100

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	2	2	2	2	53	10	20	21	8.50	32	239.5	180.0
Brown Trout	<200mm	1	1	1	1	26	2	10	11	1.42	16	149.0	60.0
Brown Trout	All	1	1	1	1	26	2	10	11	1.42	16	149.0	60.0
Green Sunfish	All	46	46	48	46	1217	49	460	493	43.63	740	121.7	40.2

Longnose Dace	All	14	16	23	14	423	2	160	171	2.16	257	78.2	5.7
Plains Topminnow	All	5	5	7	5	132	0	50	54	0.24	80	52.6	2.0

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 Fall River, 1983-1993

Site 30

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Hatchery Brown Trout >=200mm	Jun 22, 1993	1	1-1	
Longnose Dace	Jun 22, 1993	3	3-3	
White Sucker	Jun 22, 1993	1	1-1	

Site 88

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Goldfish	Jun 22, 1993	5	5-5	
Green Sunfish	Jun 22, 1993	36	21-79	
Hatchery Brown Trout >=200mm	Jun 22, 1993	1	1-5	

Site 131

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	May 11, 1993	7	7-7	
Brown Trout >=200mm	May 11, 1993	7	7-7	BR2
Green Sunfish	May 11, 1993	2	2-2	
Hatchery Brown Trout >=200mm	May 11, 1993	3	3-4	
White Sucker	May 11, 1993	1	1-1	

Site 163

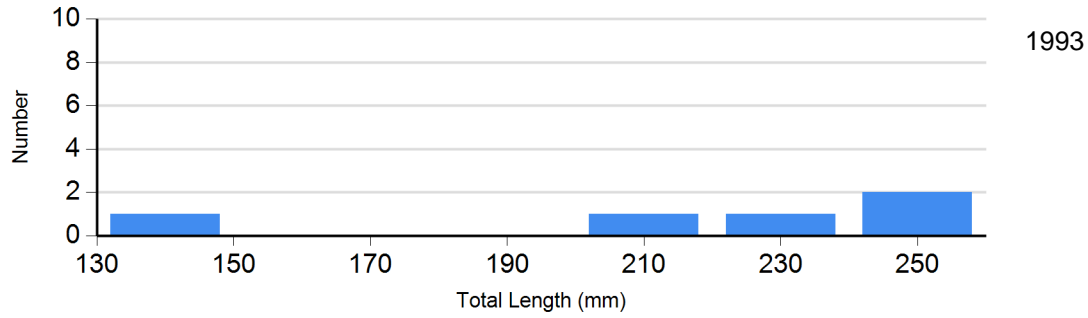
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Black Bullhead	May 12, 1993	2	2-2	
Brown Trout <200mm	May 12, 1993	1	1-1	
Green Sunfish	May 12, 1993	46	46-48	
Longnose Dace	May 12, 1993	16	14-23	
Plains Topminnow	May 12, 1993	5	5-7	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

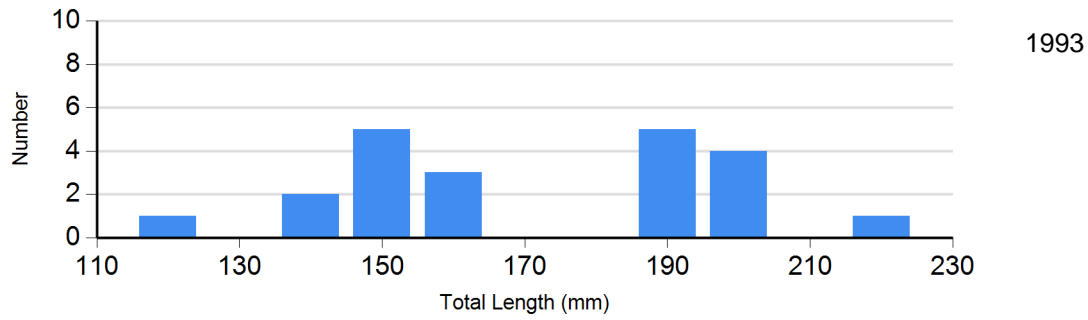
Site: 88

Species: Goldfish



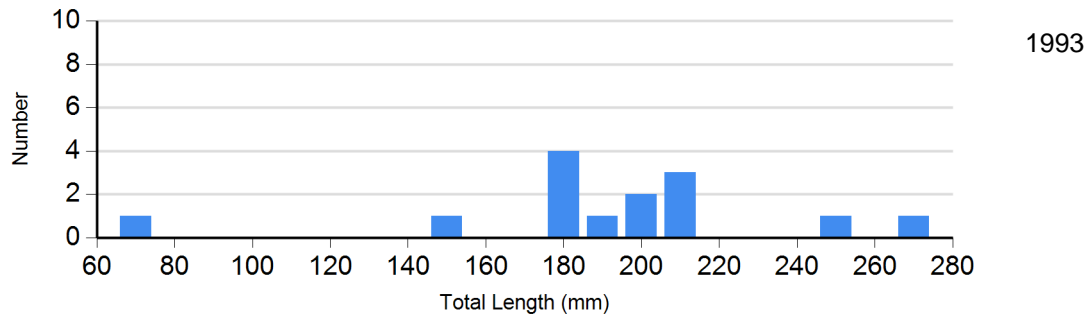
Site: 88

Species: Green Sunfish

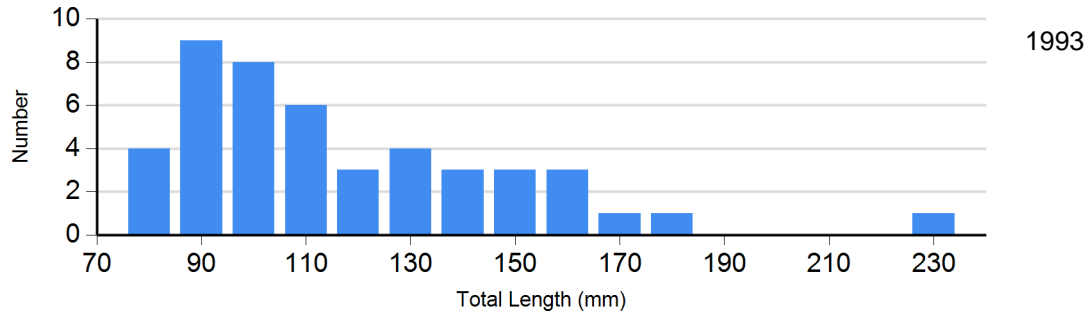


Site: 131

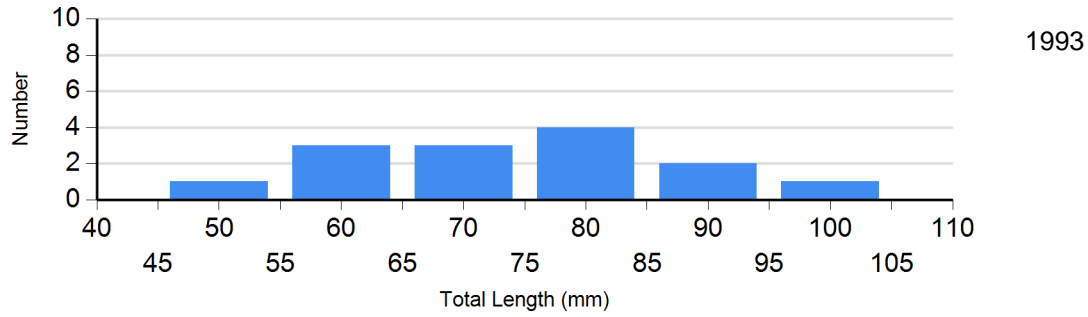
Species: Brown Trout



Site: 163
Species: Green Sunfish



Site: 163
Species: Longnose Dace



Site: 163
Species: Plains Topminnow

