

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Hay Creek (Trib. of Boxelder), Lawrence County
09-0064-00
1994

Table 1. Population and Biomass Estimates for Hay Creek (Trib. of Boxelder)

Site Number: 2	Date Sampled: 05/23/1994	Conductivity (umhos/cm): 138
Site Midpoint (Latitude, Longitude): 44.23033342, -103.57592412	Site Length (m): 100	pH: 8.6
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 1.8	Water Temperature (C): 17.0
Stream Classification: BK1, BR3, RB2	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	55	57	61	55	3098	94	570	1255	83.53	917	142.5	30.2
Brook Trout	>=200mm	16	16	17	16	870	90	160	352	80.26	257	225.3	103.4
Brook Trout	All	71	73	77	71	3967	185	730	1607	165.39	1175	161.2	46.7
Brown Trout	>=200mm	1	1	1	1	54	9	10	22	7.72	16	258.0	159.0
Brown Trout	All	1	1	1	1	54	9	10	22	7.72	16	258.0	159.0
Hatchery Brown Trout	>=200mm	1	1	1	1	54	18	10	22	15.63	16	328.0	322.0
Hatchery Brown Trout	All	1	1	1	1	54	18	10	22	15.63	16	328.0	322.0
Longnose Dace	All	44	52	66	44	2826	15	520	1145	13.54	837	80.8	5.4
Rainbow Trout	>=200mm	1	1	1	1	54	6	10	22	5.77	16	235.0	119.0
Rainbow Trout	All	1	1	1	1	54	6	10	22	5.77	16	235.0	119.0

Site Number: 87	Date Sampled: 05/23/1994	Conductivity (umhos/cm): 100
Site Midpoint (Latitude, Longitude): 44.25892866, -103.63106227	Site Length (m): 100	pH: 8.0
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 1.6	Water Temperature (C): 14.0
Stream Classification: BK1	Number of Pass: 3	Voltage: 550

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	67	67	69	67	4136	128	670	1675	114.59	1078	139.5	31.0
Brook Trout	>=200mm	6	6	8	6	370	45	60	150	40.01	97	220.8	121.0
Brook Trout	All	73	74	77	73	4568	176	740	1850	157.14	1191	146.2	38.5
Longnose Dace	All	16	19	28	16	1173	6	190	475	5.11	306	81.8	4.9
Yellow Perch	All	1	1	1	1	62	1	10	25	0.83	16	118.0	15.0

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 Hay Creek (Trib. of Boxelder), 1984-1994

Site 2

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 23, 1994	57	55-61	
Brook Trout >=200mm	May 23, 1994	16	16-17	BK1
Brown Trout >=200mm	May 23, 1994	1	1-1	BR3
Hatchery Brown Trout >=200mm	May 23, 1994	1	1-1	
Longnose Dace	May 23, 1994	52	44-66	
Rainbow Trout >=200mm	May 23, 1994	1	1-1	RB2

Site 87

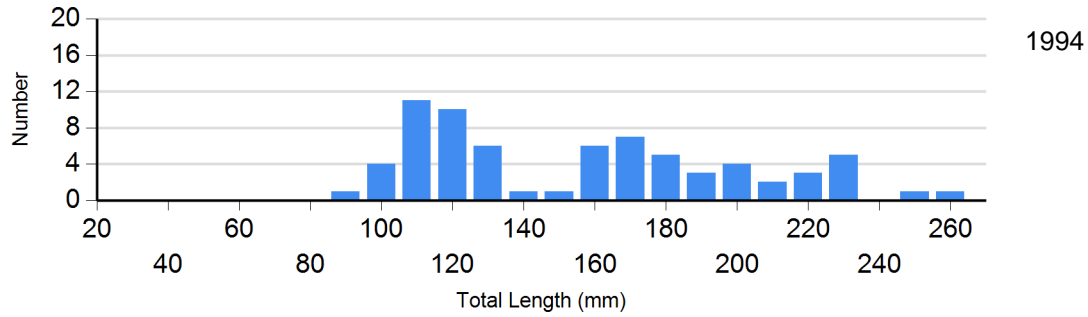
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	May 23, 1994	67	67-69	
Brook Trout >=200mm	May 23, 1994	6	6-8	BK1
Longnose Dace	May 23, 1994	19	16-28	
Yellow Perch	May 23, 1994	1	1-1	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

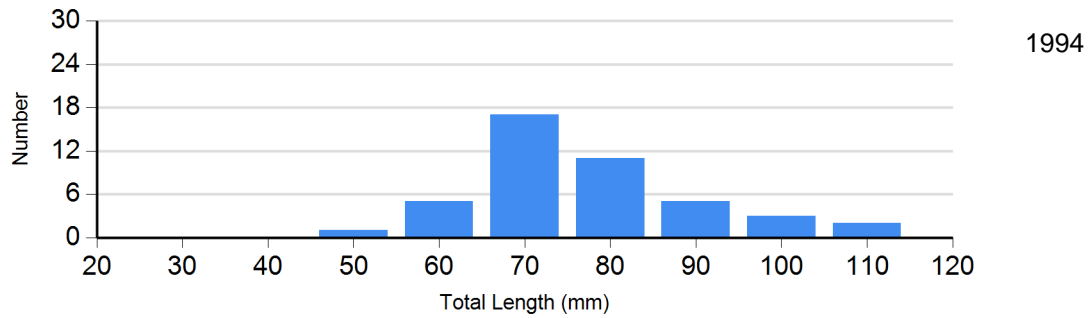
Site: 2

Species: Brook Trout



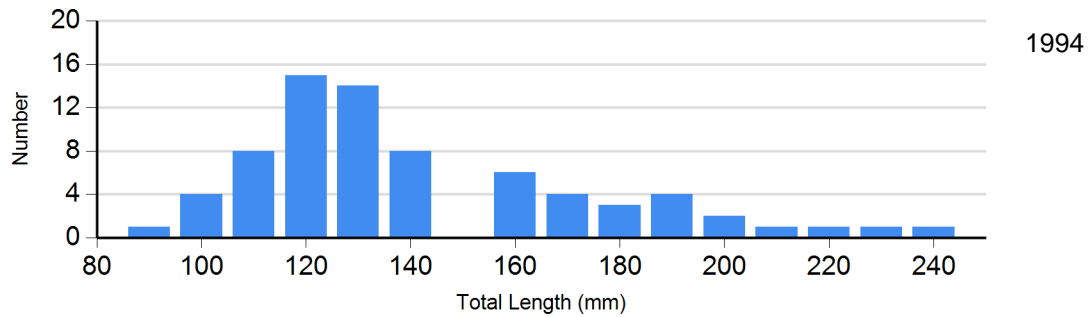
Site: 2

Species: Longnose Dace

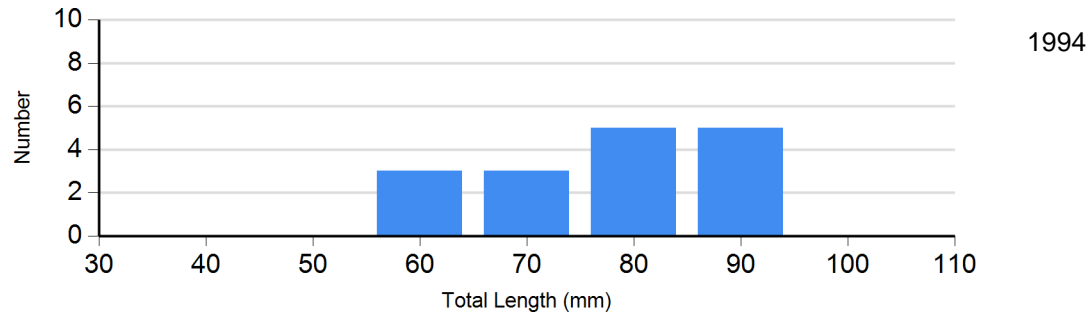


Site: 87

Species: Brook Trout



Site: 87
Species: Longnose Dace



Site: 87
Species: Unidentified YOY Trout

