

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
East Spearfish Creek (Hanna), Lawrence County
09-0016-00
1998

Table 1. Population and Biomass Estimates for East Spearfish Creek (Hanna)

Site Number: 37	Date Sampled: 06/01/1998	Conductivity (umhos/cm): 302
Site Midpoint (Latitude, Longitude): 44.27474914, -103.85439849	Site Length (m): 112	pH: 8.0
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 4.8	Water Temperature (C): 8.3
Stream Classification: BK0, BR1	Number of Pass: 3	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	5	5	6	5	105	2	45	42	2.20	72	145.4	23.6
Brook Trout	All	5	5	6	5	105	2	45	42	2.20	72	145.4	23.6
Brown Trout	<200mm	275	318	346	290	6653	185	2839	2694	165.50	4568	134.7	27.9
Brown Trout	>=200mm	82	87	95	82	1820	224	777	737	199.77	1250	234.5	122.9
Brown Trout	All	425	472	498	446	9874	492	4214	3999	439.68	6781	157.6	49.9

Site Number: 41	Date Sampled: 06/02/1998	Conductivity (umhos/cm): 295
Site Midpoint (Latitude, Longitude): 44.27433541, -103.85066615	Site Length (m): 100	pH: 8.6
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.2	Water Temperature (C): 6.9
Stream Classification: BK0, BR1	Number of Pass: 3	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)
Brook Trout	<200mm	4	4	4	4	124	5	40	50	4.66	64	172.5	42.0
Brook Trout	All	4	4	4	4	124	5	40	50	4.66	64	172.5	42.0
Brown Trout	<200mm	178	210	236	184	6522	162	2100	2641	144.92	3379	127.7	24.9
Brown Trout	>=200mm	34	34	36	34	1056	124	340	428	110.94	547	232.4	117.7

Brown Trout All 212 241 263 219 7484 298 2410 3031 265.76 3878 144.5 39.8

Site Number: 54

Date Sampled: 06/12/1998

Conductivity (umhos/cm): 454

Site Midpoint (Latitude, Longitude): 44.26528884, -103.84758730

Site Length (m): 100

pH: 9.0

Survey Completed by: South Dakota Game, Fish and Parks

Mean Width (m): 3.0

Water Temperature (C): 7.6

Stream Classification: BR1

Number of Pass: 3

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	110	115	122	110	3859	117	1150	1563	104.47	1850	131.7	30.3
Brown Trout	>=200mm	30	30	31	30	1007	115	300	408	102.62	483	226.8	114.2
Brown Trout	All	140	145	151	140	4866	235	1450	1971	209.78	2333	152.1	48.3

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 East Spearfish Creek (Hanna), 1988-1998

Site 37

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 22, 1988	1	1-1	
	Jun 01, 1998	5	5-6	
Brown Trout <200mm	Sep 22, 1988	187	177-198	
	Oct 01, 1992	222	220-226	
	Jun 01, 1998	318	290-346	
Brown Trout >=200mm	Sep 22, 1988	86	85-89	BR3
	Oct 01, 1992	95	95-96	BR1

Brown Trout >=200mm

Jun 01, 1998

87

82-95

BR1

Site 41

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Oct 02, 1992	1	1-1	
	Jun 02, 1998	4	4-4	
Brown Trout <200mm	Sep 21, 1988	99	89-112	
	Oct 02, 1992	228	180-276	
	Jun 02, 1998	210	184-236	
Brown Trout >=200mm	Sep 21, 1988	80	78-84	BR3
	Oct 02, 1992	33	33-33	BR1
	Jun 02, 1998	34	34-36	BR1

Site 54

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 21, 1988	5	5-5	
Brown Trout <200mm	Sep 21, 1988	86	75-101	
	Sep 13, 1990	96	89-106	
	Jun 12, 1998	115	110-122	

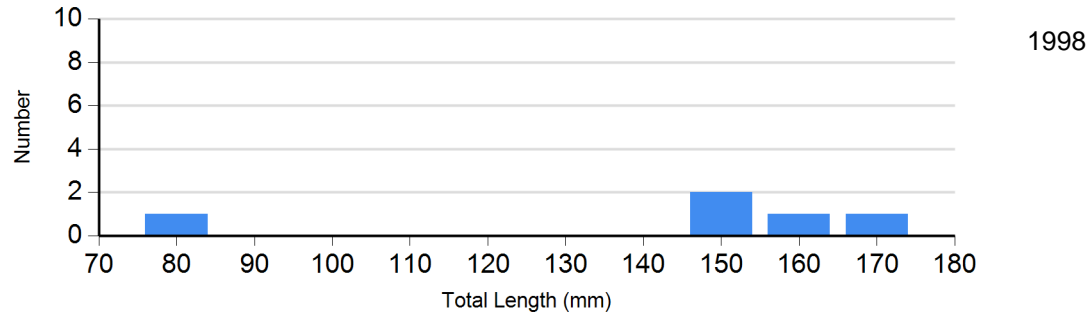
Brown Trout >=200mm	Sep 21, 1988	95	94-98	BR3
	Sep 13, 1990	39	39-40	BR3
	Jun 12, 1998	30	30-31	BR1

Length Frequency Distribution

Length frequency histogram of species sampled by year.

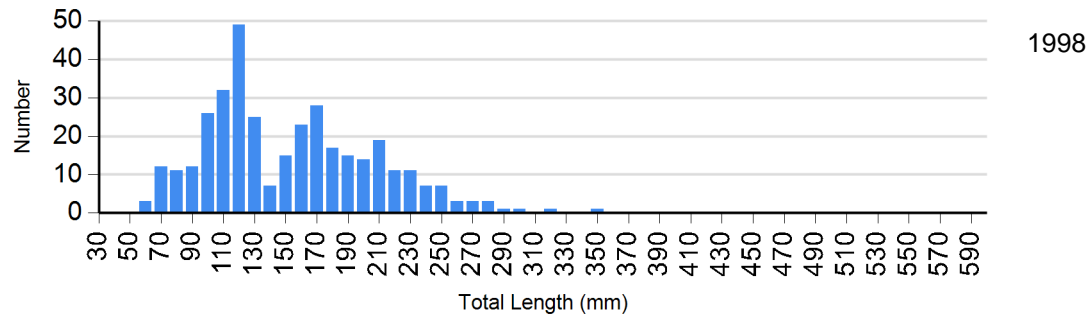
Site: 37

Species: Brook Trout



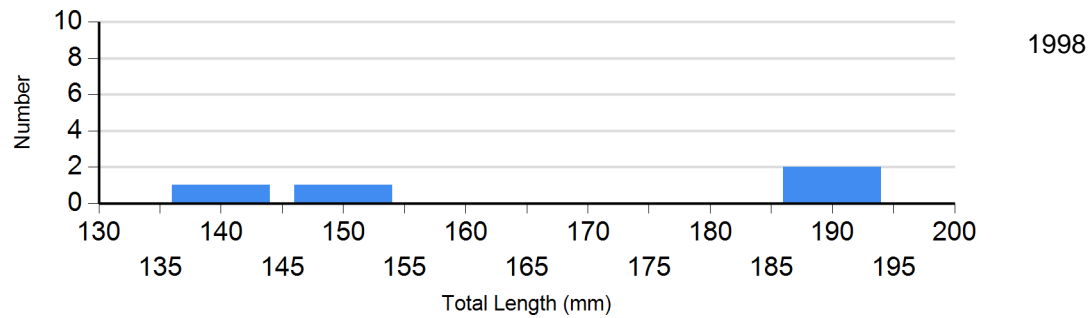
Site: 37

Species: Brown Trout

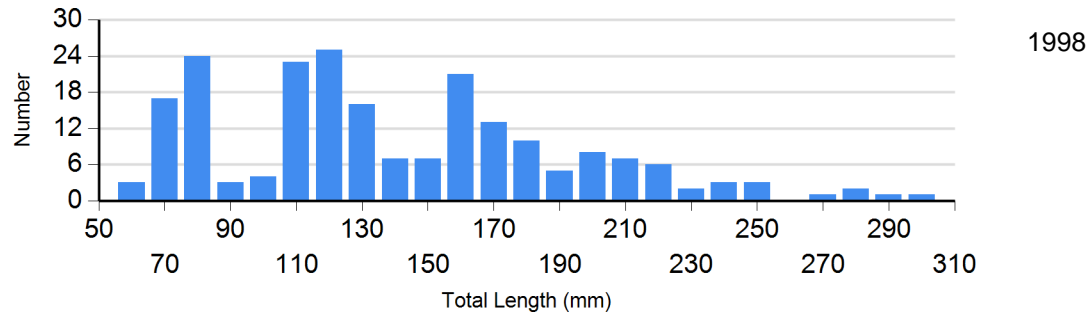


Site: 41

Species: Brook Trout



Site: 41
Species: Brown Trout



Site: 54
Species: Brown Trout

