

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Rapid Creek - Rhodes Fork, Pennington County
02-9212-00
2014

Table 1. Population and Biomass Estimates for Rapid Creek - Rhodes Fork

Site Number: 7

Site Midpoint (Latitude, Longitude): 44.14214752, -103.84916391

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK0, BR1

Date Sampled: 06/12/2014

Site Length (m): 100

Mean Width (m): 2.9

Number of Pass: 3

Conductivity (umhos/cm): 413

pH: 8.6

Water Temperature (C): 10.5

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	5	5	6	5	175	5	50	71	4.38	80	121.2	28.0
Brook Trout	All	5	5	6	5	175	5	50	71	4.38	80	121.2	28.0
Brown Trout	<200mm	136	140	146	136	4904	173	1400	1986	154.13	2253	123.1	35.2
Brown Trout	>=200mm	13	13	14	13	455	85	130	184	76.01	209	237.5	186.9
Brown Trout	All	149	153	159	149	5360	274	1530	2171	244.57	2462	133.1	51.1

Site Number: 22

Site Midpoint (Latitude, Longitude): 44.13423814, -103.85992535

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK3, BR1

Date Sampled: 06/12/2014

Site Length (m): 100

Mean Width (m): 3.7

Number of Pass: 3

Conductivity (umhos/cm): 418

pH: 6.5

Water Temperature (C): 10.0

Voltage: 275

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	165	177	189	165	4745	131	1770	1922	116.58	2848	120.5	27.5
Brook Trout	>=200mm	1	1	1	1	27	3	10	11	2.44	16	205.0	102.0
Brook Trout	All	166	178	189	167	4772	134	1780	1933	119.55	2864	121.0	28.1
Brown Trout	<200mm	89	94	101	89	2520	114	940	1021	101.58	1512	119.8	45.1
Brown Trout	>=200mm	14	14	14	14	375	48	140	152	42.46	225	219.0	126.7
Brown Trout	All	103	107	113	103	2869	179	1070	1162	159.42	1722	133.3	62.2

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 Rapid Creek - Rhodes Fork, 2004-2014

Site 7

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 16, 2008	1	1-1	
	Jun 12, 2014	5	5-6	
Brown Trout <200mm	Jun 16, 2008	57	57-57	
	Jun 12, 2014	140	136-146	
Brown Trout >=200mm	Jun 16, 2008	7	7-7	BR2
	Jun 12, 2014	13	13-14	BR1

Site 22

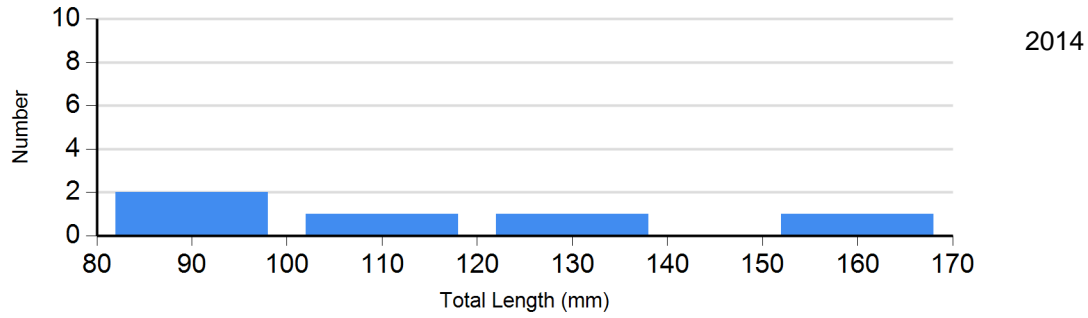
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 12, 2014	177	165-189	
Brook Trout >=200mm	Jun 12, 2014	1	1-1	BK3
Brown Trout <200mm	Jun 12, 2014	94	89-101	
Brown Trout >=200mm	Jun 12, 2014	14	14-14	BR1

Length Frequency Distribution

Length frequency histogram of species sampled by year.

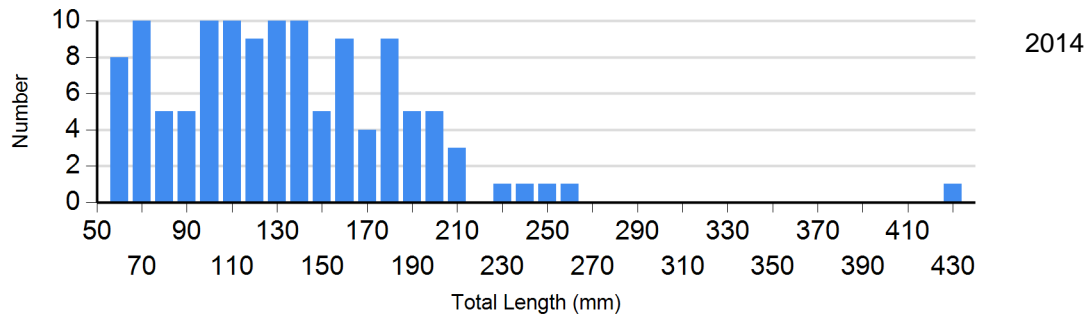
Site: 7

Species: Brook Trout



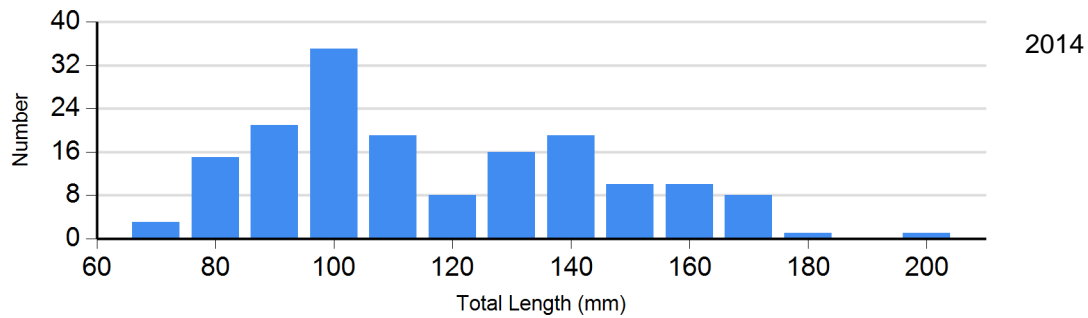
Site: 7

Species: Brown Trout

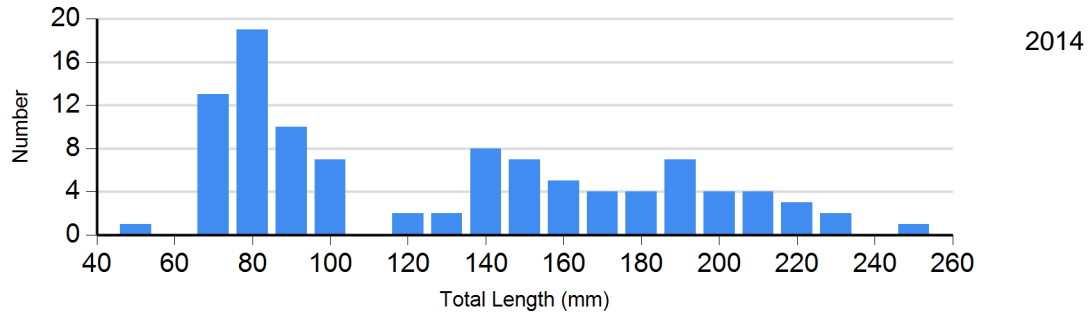


Site: 22

Species: Brook Trout

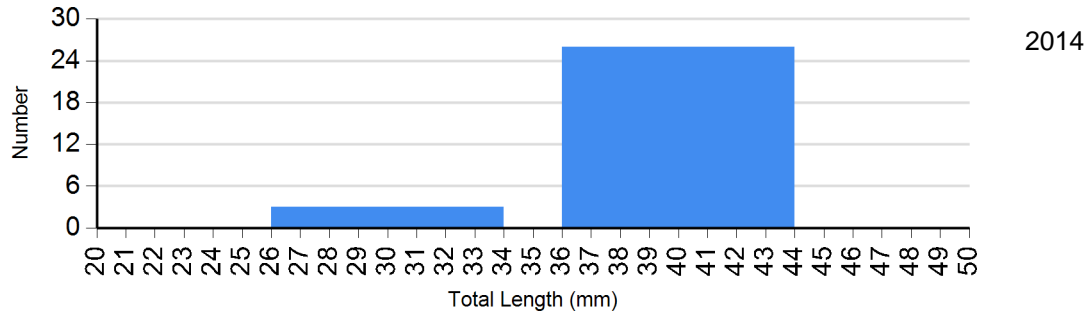


Site: 22
Species: Brown Trout



2014

Site: 22
Species: YOY Catostomus sp.



2014