

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Palmer Gulch, Pennington County
02-9211-00
2015

Table 1. Population and Biomass Estimates for Palmer Gulch

Site Number: 70
Site Midpoint (Latitude, Longitude): 43.91492450, -103.51848248
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK1, RB1

Date Sampled: 09/10/2015
Site Length (m): 100
Mean Width (m): 1.2
Number of Pass: 3
Conductivity (umhos/cm): 294
pH: 7.9
Water Temperature (C): 13.2
Voltage: 350

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	47	50	56	47	4167	38	500	1688	33.65	805	89.7	9.0
Brook Trout	>=200mm	5	5	5	5	417	73	50	169	65.48	80	245.6	176.0
Brook Trout	All	52	54	59	52	4500	180	540	1823	160.57	869	104.7	40.0
Creek Chub	All	15	15	16	15	1250	37	150	506	32.65	241	105.4	29.3
Rainbow Trout	>=200mm	1	1	1	1	83	27	10	34	23.88	16	298.0	321.0
Rainbow Trout	All	1	1	1	1	83	27	10	34	23.88	16	298.0	321.0

Site Number: 102
Site Midpoint (Latitude, Longitude): 43.89857213, -103.53613880
Survey Completed by: South Dakota Game, Fish and Parks
Stream Classification: BK2

Date Sampled: 06/22/2015
Site Length (m): 100
Mean Width (m): 2.6
Number of Pass: 3
Conductivity (umhos/cm): 115
pH: 7.1
Water Temperature (C): 7.0
Voltage: 350

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	22	23	27	22	882	35	230	357	31.52	370	140.4	40.0
Brook Trout	>=200mm	4	4	4	4	153	24	40	62	21.18	64	239.0	154.8
Brook Trout	All	26	27	30	26	1035	60	270	419	53.96	434	155.6	58.4
White Sucker	All	12	12	14	12	460	52	120	186	46.61	193	215.7	113.5

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 Palmer Gulch, 2005-2015

Site 70

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 10, 2015	50	47-56	
Brook Trout >=200mm	Sep 10, 2015	5	5-5	BK1
Creek Chub	Sep 10, 2015	15	15-16	
Rainbow Trout >=200mm	Sep 10, 2015	1	1-1	RB1

Site 102

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 22, 2015	23	22-27	
Brook Trout >=200mm	Jun 22, 2015	4	4-4	BK2

White Sucker

May 13, 2009

14

14-14

Jun 22, 2015

12

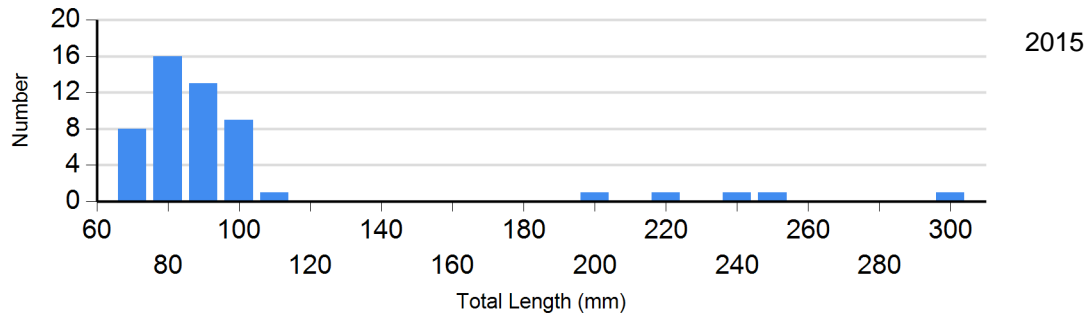
12-14

Length Frequency Distribution

Length frequency histogram of species sampled by year.

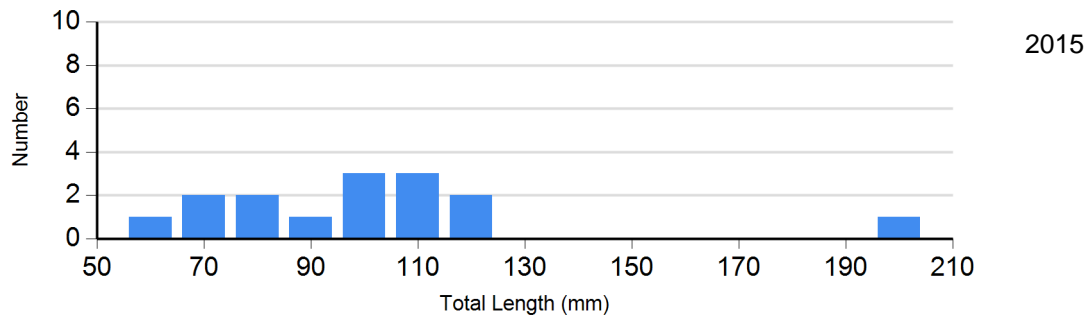
Site: 70

Species: Brook Trout



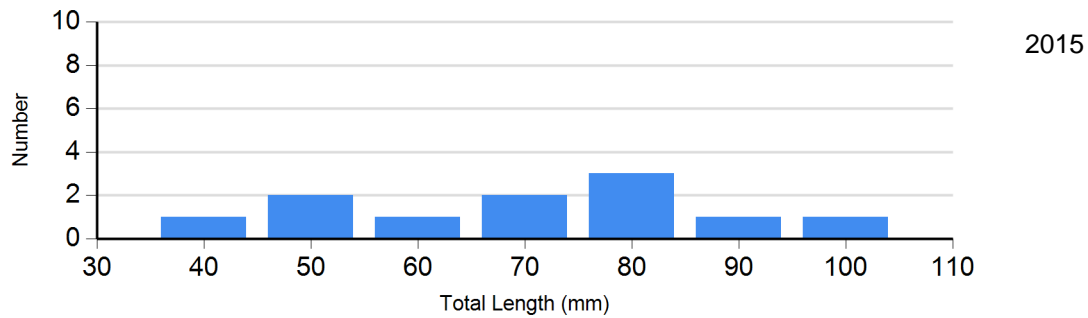
Site: 70

Species: Creek Chub

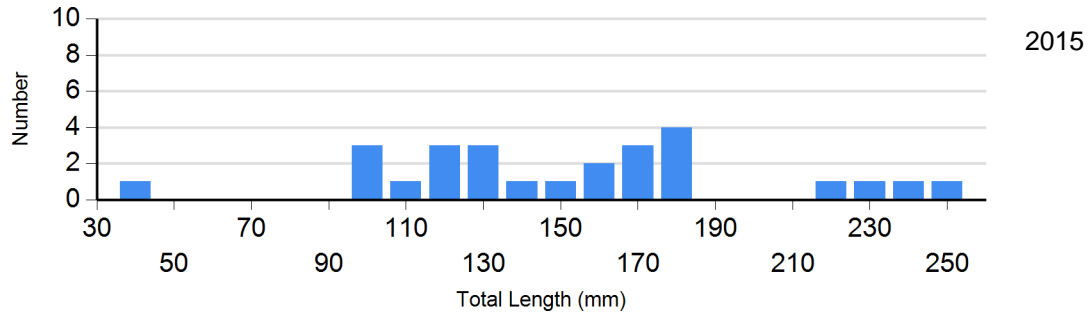


Site: 70

Species: Longnose Dace



Site: 102
Species: Brook Trout



Site: 102
Species: White Sucker

