

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Redwater River, Butte County
15-0005-00
2016

Table 1. Population and Biomass Estimates for Redwater River

Site Number: 253	Date Sampled: 07/13/2016	Conductivity (umhos/cm): 855
Site Midpoint (Latitude, Longitude): 44.59180586, -103.86953923	Site Length (m): 100	pH:
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 5.1	Water Temperature (C): 19.0
Stream Classification: BR1	Number of Pass: 3	Voltage:

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	14	14	15	14	275	22	140	111	19.81	225	118.8	80.7
Brown Trout	>=200mm	23	23	24	23	452	83	230	183	74.21	370	270.3	184.0
Brown Trout	All	37	37	38	37	727	118	370	294	105.51	595	213.0	162.6
Longnose Sucker	All	5	5	6	5	98	40	50	40	35.85	80	351.6	408.8
Mountain Sucker	All	3	3	3	3	59	3	30	24	2.75	48	168.7	52.3
Shorthead Redhorse	All	5	5	5	5	98	52	50	40	46.60	80	377.6	531.4
White Sucker	All	6	6	6	6	118	28	60	48	24.97	97	275.7	237.3

Site Number: 292	Date Sampled: 07/13/2016	Conductivity (umhos/cm): 810
Site Midpoint (Latitude, Longitude): 44.59541465, -103.89073296	Site Length (m): 100	pH: 7.9
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 7.9	Water Temperature (C): 21.0
Stream Classification: BR2	Number of Pass: 2	Voltage:

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	5	5	5	5	63	17	50	26	15.34	80	290.0	271.8

Brown Trout	All	5	5	5	5	63	17	50	26	15.34	80	290.0	271.8
Stone Cat	All	3	3	4	3	38	2	30	15	1.66	48	169.3	49.0
White Sucker	All	3	3	4	3	38	20	30	15	17.77	48	371.7	524.7

Site Number: 570

Site Midpoint (Latitude, Longitude): 44.57807483, -104.01316146

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR2

Date Sampled: 07/13/2016

Site Length (m): 100

Mean Width (m): 6.7

Number of Pass: 2

Conductivity (umhos/cm): 894

pH:

Water Temperature (C): 20.0

Voltage:

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	8	8	11	8	120	6	80	48	4.91	129	133.5	46.0
Brown Trout	>=200mm	7	7	8	7	105	19	70	42	17.36	113	269.1	185.9
Brown Trout	All	15	15	18	15	224	26	150	91	23.21	241	196.8	115.9
Longnose Dace	All	2	2	4	2	30	0	20	12	0.16	32	64.5	6.0
White Sucker	All	4	4	4	4	60	11	40	24	9.77	64	249.0	183.0

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 Redwater River, 2006-2016

Site 253

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jul 13, 2016	14	14-15	
Brown Trout >=200mm	Jul 13, 2016	23	23-24	BR1
Longnose Sucker	Jul 13, 2016	5	5-6	
Mountain Sucker	Jul 13, 2016	3	3-3	
Shorthead Redhorse	Jul 13, 2016	5	5-5	
White Sucker	Jul 13, 2016	6	6-6	

Site 292

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout >=200mm	Jul 13, 2016	5	5-5	BR2
Stone Cat	Jul 13, 2016	3	3-4	
White Sucker	Jul 13, 2016	3	3-4	

Site 570

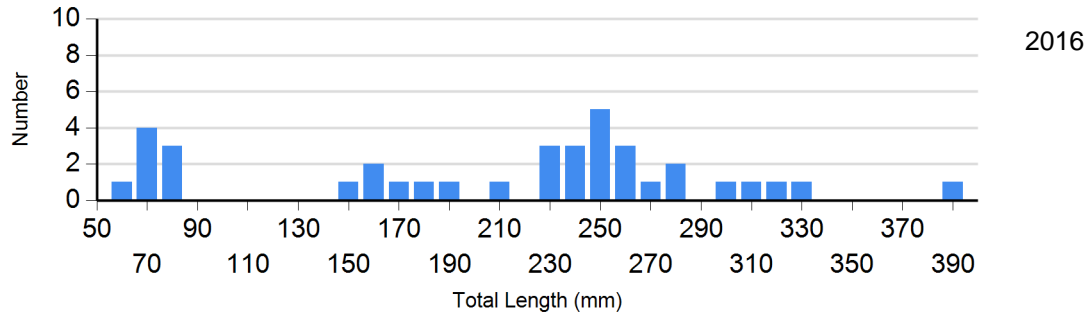
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Jul 13, 2016	8	8-11	
Brown Trout >=200mm	Jul 13, 2016	7	7-8	BR2
Longnose Dace	Jul 13, 2016	2	2-4	
White Sucker	Jul 13, 2016	4	4-4	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

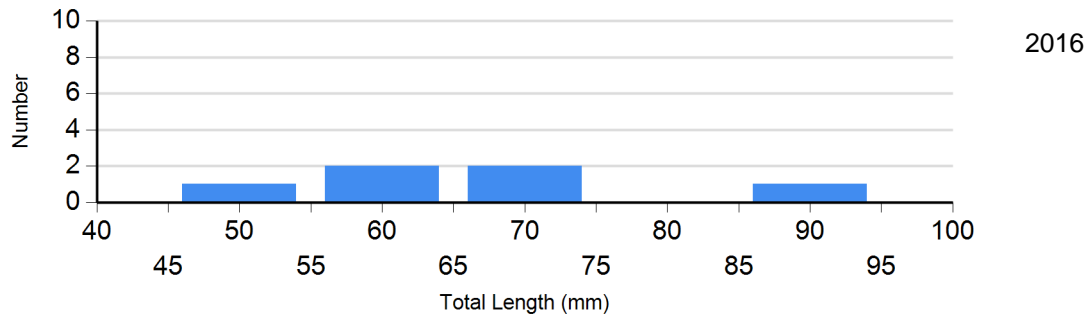
Site: 253

Species: Brown Trout



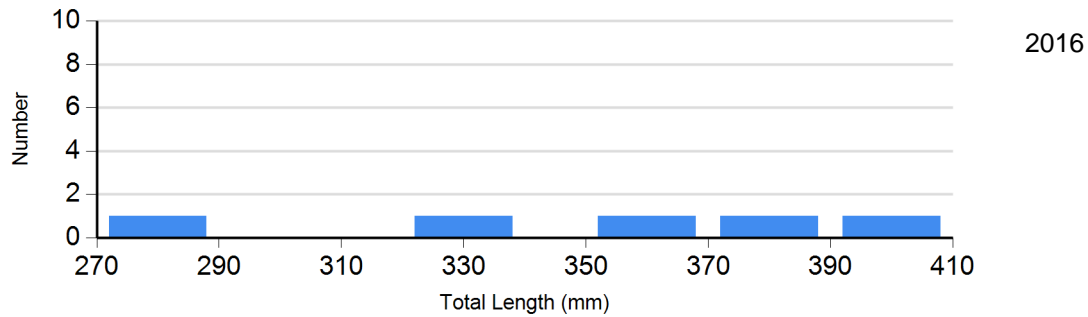
Site: 253

Species: Longnose Dace

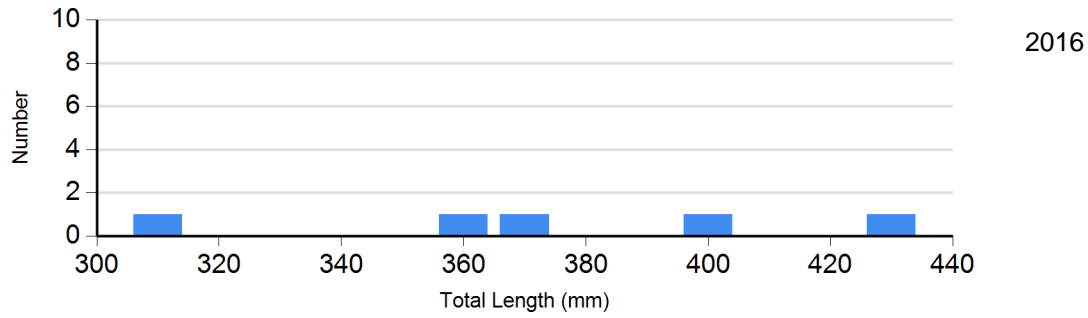


Site: 253

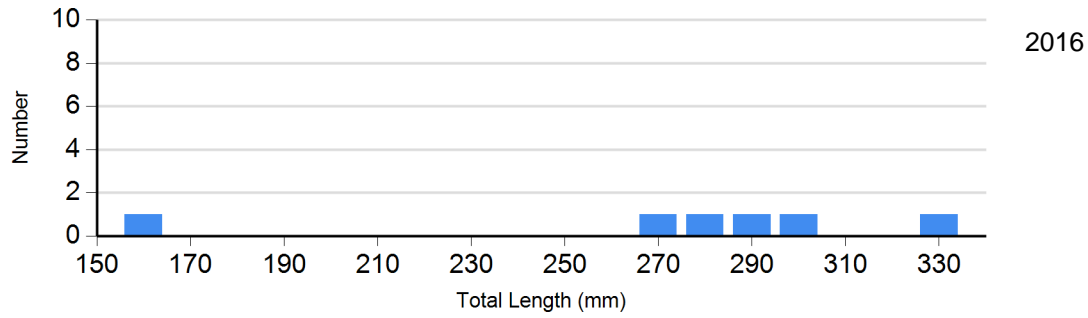
Species: Longnose Sucker



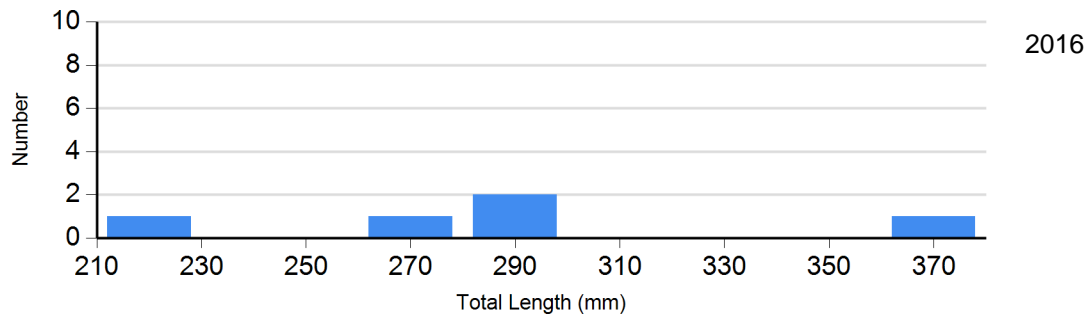
Site: 253
Species: Shorthead Redhorse



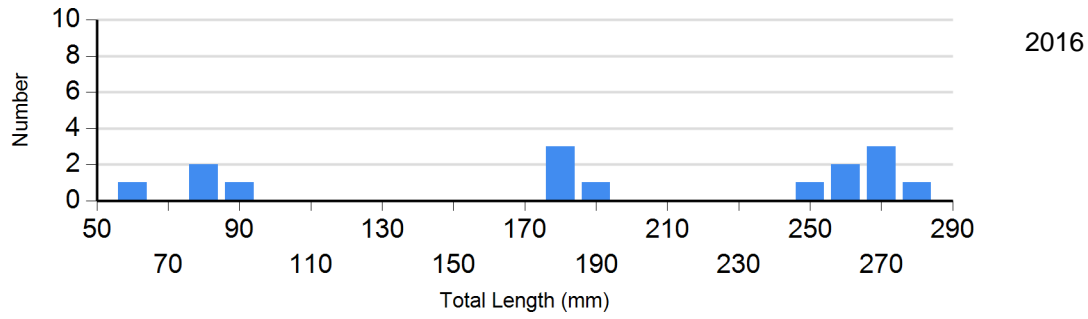
Site: 253
Species: White Sucker



Site: 292
Species: Brown Trout



Site: 570
Species: Brown Trout



Site: 570
Species: White Sucker

