

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Rapid Creek - North Fork, Pennington County
02-0075-00
2016

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

Site Number: 119	Date Sampled: 05/25/2016	Conductivity (umhos/cm): 360
Site Midpoint (Latitude, Longitude): 44.19752923, -103.76147540	Site Length (m): 100	pH: 7.4
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 2.8	Water Temperature (C):
Stream Classification: BK3, BR2	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)
Brook Trout	<200mm	23	23	25	23	821	24	230	333	21.81	370	141.0	29.7
Brook Trout	>=200mm	1	1	1	1	36	4	10	14	3.28	16	222.0	103.0
Brook Trout	All	24	24	25	24	857	28	240	347	25.10	386	144.4	32.8
Brown Trout	<200mm	18	18	18	18	643	13	180	260	11.93	290	132.2	20.8
Brown Trout	>=200mm	7	7	7	7	250	58	70	101	51.50	113	265.6	230.7
Brown Trout	All	25	25	25	25	893	71	250	362	63.43	402	169.6	79.6
Longnose Dace	All	59	70	86	59	2500	37	700	1013	33.35	1126	87.8	14.9
Mountain Sucker	All	11	11	13	11	393	16	110	159	14.16	177	148.8	40.4
White Sucker	All	1	1	1	1	36	1	10	14	1.21	16	153.0	38.0

Site Number: 119	Date Sampled: 05/25/2016	Conductivity (umhos/cm): 302
Site Midpoint (Latitude, Longitude): 44.19752923, -103.76147540	Site Length (m): 100	pH: 2.6
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 3.9	Water Temperature (C):
Stream Classification: BK2, BR2	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)
Brook Trout	<200mm	25	25	25	25	649	41	250	263	36.46	402	168.0	63.0
Brook Trout	>=200mm	3	3	3	3	78	12	30	32	10.49	48	230.7	151.0
Brook Trout	All	28	28	28	28	726	53	280	294	46.95	451	174.8	72.4
Brown Trout	<200mm	19	19	21	19	493	20	190	200	17.84	306	143.4	40.5
Brown Trout	>=200mm	11	11	11	11	285	56	110	116	49.64	177	245.4	194.8
Brown Trout	All	30	30	31	30	778	76	300	315	67.48	483	180.8	97.1
Longnose Dace	All	59	134	299	59	3476	46	1340	1408	41.39	2156	72.7	13.3
Mountain Sucker	All	34	38	46	34	986	29	380	399	25.95	611	132.0	29.5
White Sucker	All	4	4	4	4	104	22	40	42	19.86	64	218.3	214.3

Site Number: 185

Site Midpoint (Latitude, Longitude): 44.22998341, -103.79465365

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK2, RB1

Date Sampled: 05/25/2016

Site Length (m): 100

Mean Width (m): 1.4

Number of Pass: 3

Conductivity (umhos/cm): 416

pH: 7.4

Water Temperature (C):

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	35	35	36	35	2484	69	350	1006	61.81	563	124.2	27.9
Brook Trout	>=200mm	2	2	2	2	142	15	20	57	12.99	32	205.5	102.5
Brook Trout	All	37	37	38	37	2626	85	370	1063	75.95	595	128.6	32.4
Rainbow Trout	>=200mm	1	1	2	1	71	8	10	29	7.16	16	205.0	113.0
Rainbow Trout	All	1	1	2	1	71	8	10	29	7.16	16	205.0	113.0

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 Rapid Creek - North Fork, 2006-2016

Site 119

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 18, 2014	6	6-9	
	Sep 08, 2015	20	20-20	
	May 25, 2016	25	25-25	
	May 25, 2016	23	23-25	
Brook Trout >=200mm	Jun 18, 2014	5	5-5	BK2
	Sep 08, 2015	4	4-4	BK2
	May 25, 2016	3	3-3	BK2

Brook Trout >=200mm	May 25, 2016	1	1-1	BK3
Brown Trout <200mm	Jun 18, 2014	7	7-9	
	Sep 08, 2015	37	37-38	
	May 25, 2016	19	19-21	
	May 25, 2016	18	18-18	
Brown Trout >=200mm	Jun 18, 2014	9	9-10	BR2
	Sep 08, 2015	8	8-8	BR2
	May 25, 2016	7	7-7	BR2
	May 25, 2016	11	11-11	BR2
Longnose Dace	Jun 18, 2014	99	88-112	
	Sep 08, 2015	56	40-85	
	May 25, 2016	134	59-299	
	May 25, 2016	70	59-86	
Mountain Sucker	Jun 18, 2014	62	44-93	
	Sep 08, 2015	14	11-25	
	May 25, 2016	11	11-13	

Mountain Sucker	May 25, 2016	38	34-46	
Rainbow Trout >=200mm	Jun 18, 2014	1	1-1	RB2
White Sucker	Jun 18, 2014	121	115-129	
	Sep 08, 2015	1	1-1	
	May 25, 2016	1	1-1	
	May 25, 2016	4	4-4	

Site 185

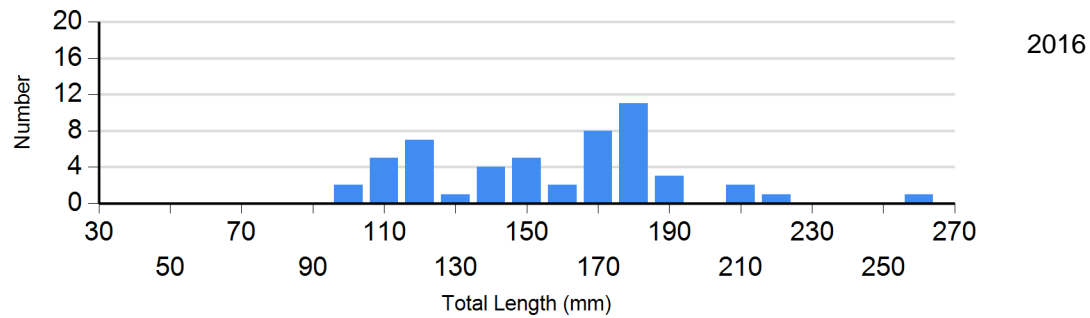
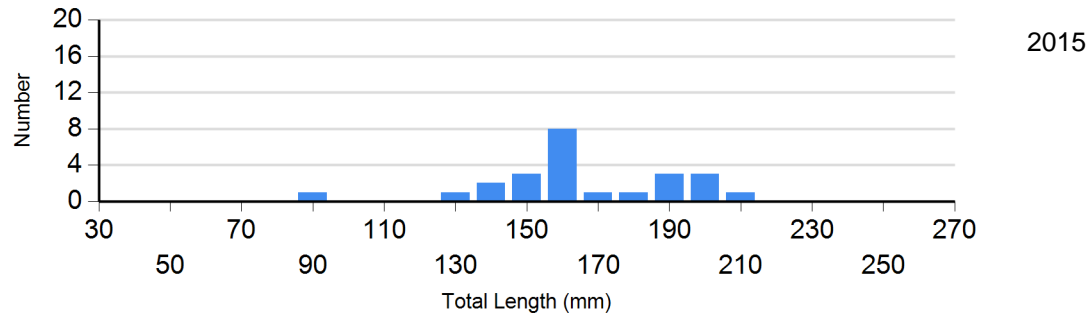
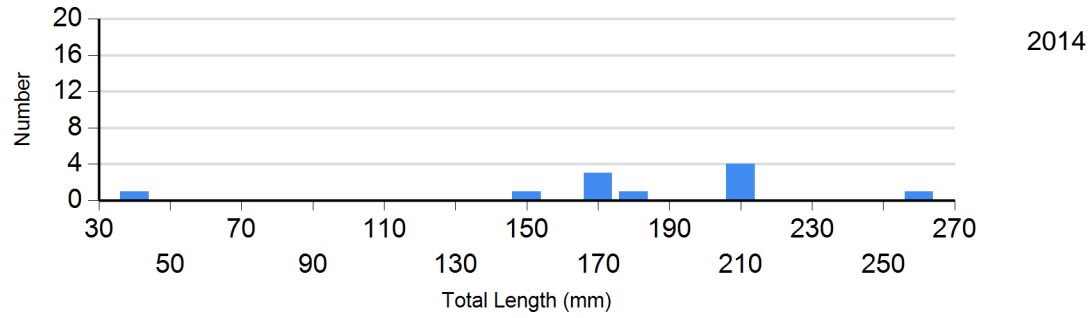
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 23, 2008	15	15-15	
	Jun 18, 2014	18	18-19	
	May 25, 2016	35	35-36	
Brook Trout >=200mm	Jun 23, 2008	1	1-1	BK3
	Jun 18, 2014	3	3-4	BK2
	May 25, 2016	2	2-2	BK2
Longnose Dace	Jun 23, 2008	1	1-1	
	Jun 18, 2014	1	1-2	

Length Frequency Distribution

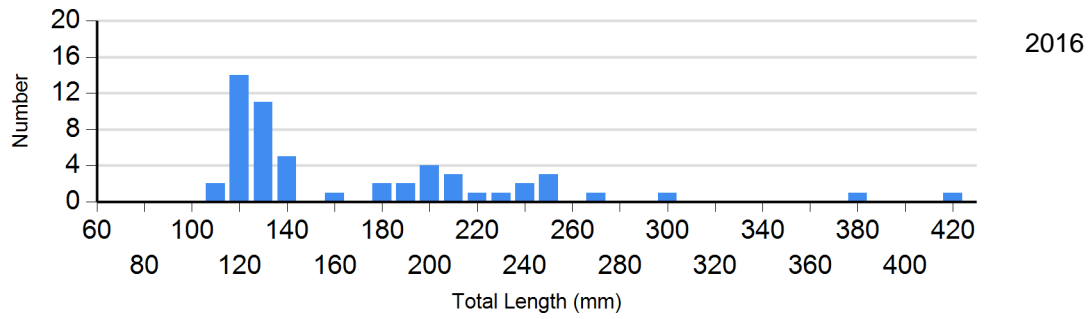
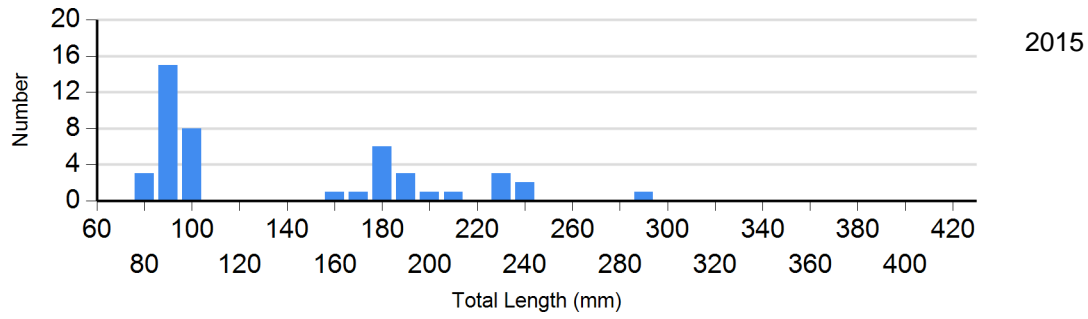
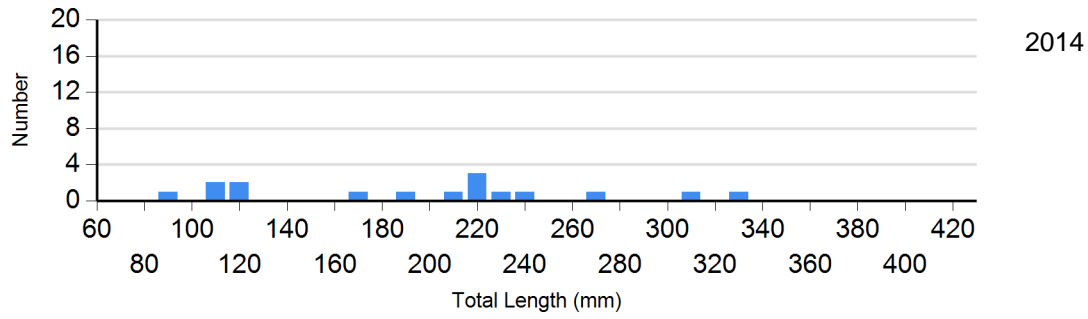
Length frequency histogram of species sampled by year.

Site: 119

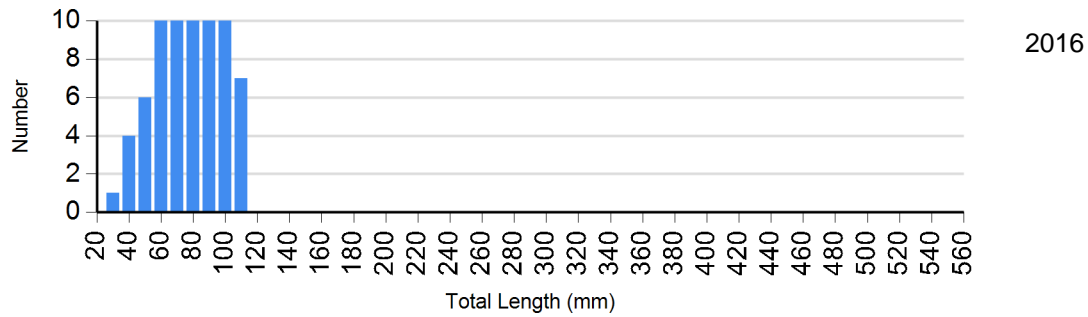
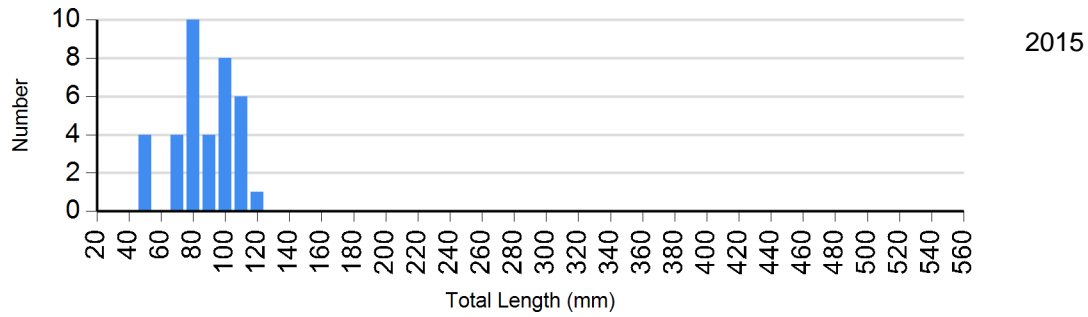
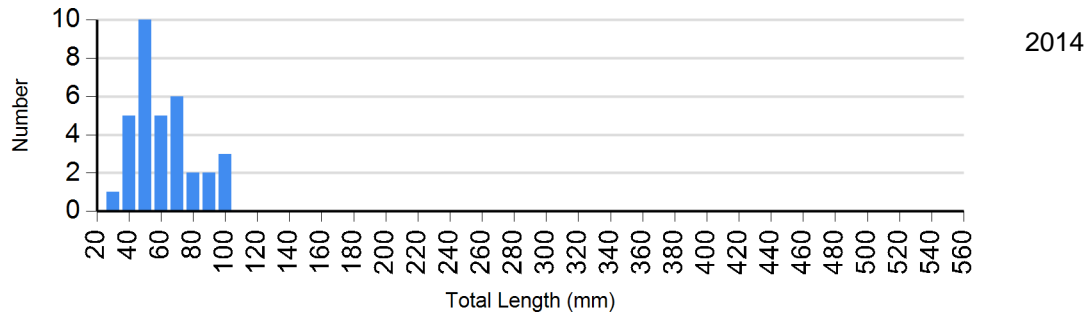
Species: Brook Trout



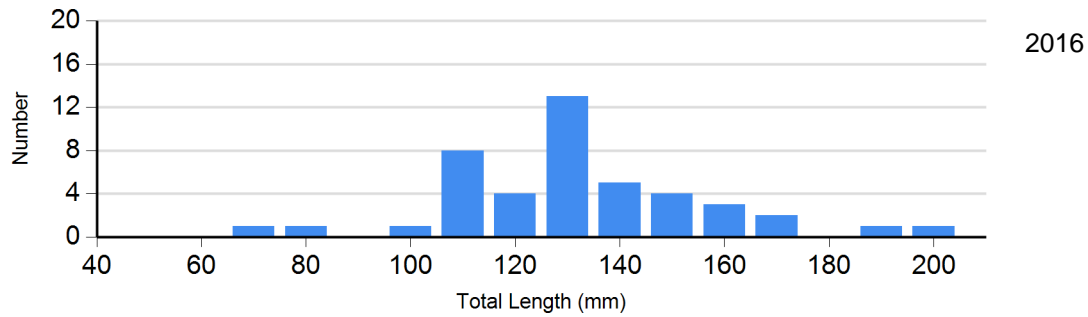
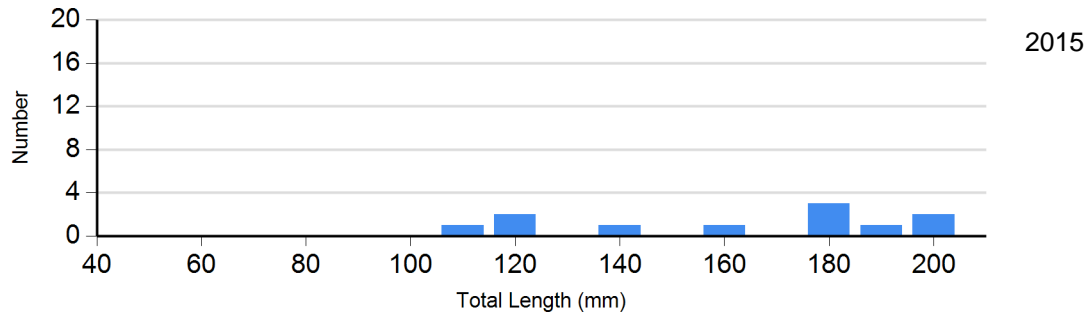
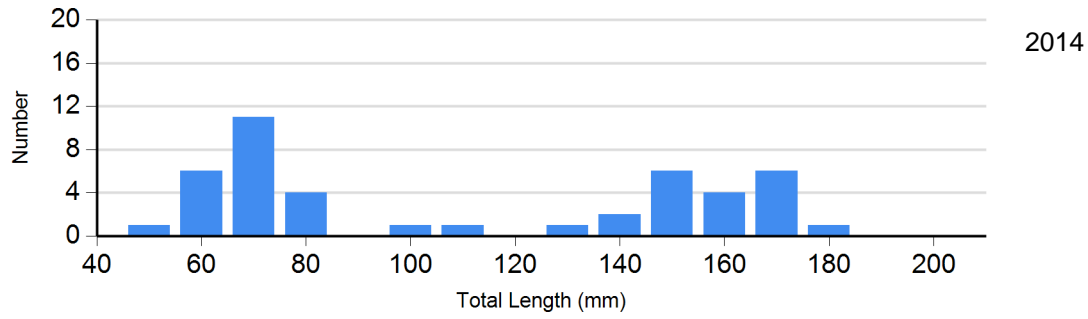
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Species: Brown Trout



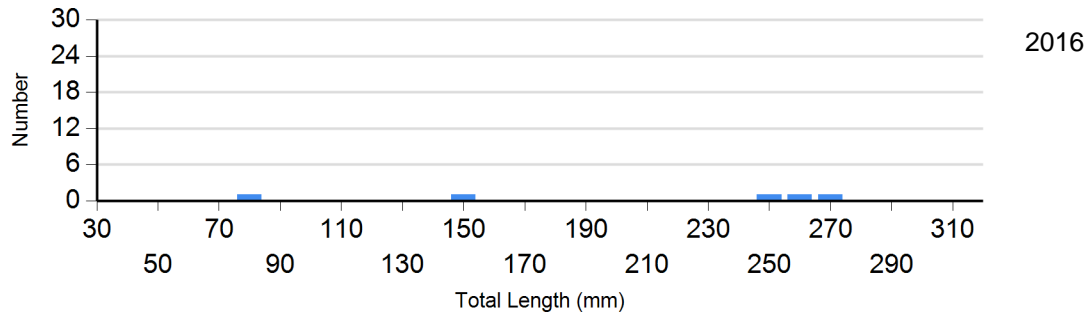
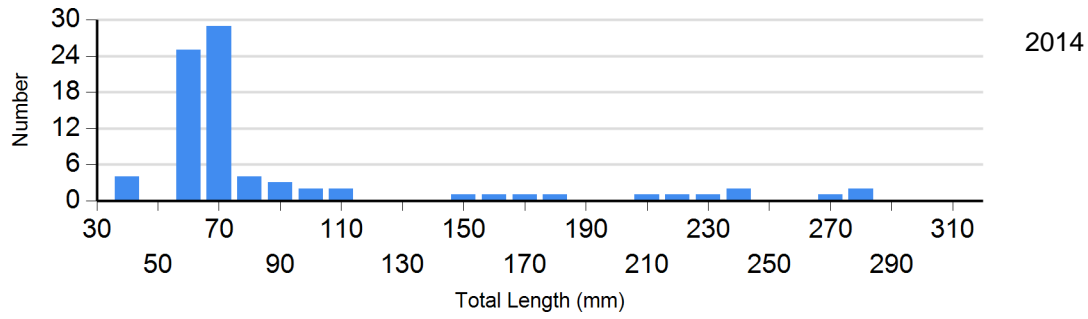
Site: 119
Species: Longnose Dace



Site: 119
Species: Mountain Sucker



Site: 119
Species: White Sucker



Site: 185
Species: Brook Trout

