

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Whitewood Creek, Lawrence County
09-0056-00
2008

Table 1. Population and Biomass Estimates for Whitewood Creek

Site Number: 409	Date Sampled: 07/17/2008	Conductivity (umhos/cm): 986
Site Midpoint (Latitude, Longitude): 44.44223417, -103.62944341	Site Length (m): 100	pH: 9.1
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 9.3	Water Temperature (C): 21.1
Stream Classification: BR3	Number of Pass: 1	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)
Brown Trout	>=200mm	1	1	1	1	11	2	10	4	1.76	16	232.0	183.0
Brown Trout	All	1	1	1	1	11	2	10	4	1.76	16	232.0	183.0
Mountain Sucker	All	308	308	308	308	3309	57	3080	1340	50.68	4956	111.5	17.2

Site Number: 558	Date Sampled: 07/16/2008	Conductivity (umhos/cm): 859
Site Midpoint (Latitude, Longitude): 44.38550441, -103.71870274	Site Length (m): 100	pH: 8.7
Survey Completed by: South Dakota Game, Fish and Parks	Mean Width (m): 6.1	Water Temperature (C): 15.3
Stream Classification: BR2, RB2	Number of Pass: 1	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	4	4	4	4	65	5	40	26	4.29	64	137.0	73.5
Brown Trout	>=200mm	12	12	12	12	196	42	120	79	37.24	193	268.3	212.7
Brown Trout	All	16	16	16	16	262	47	160	106	41.53	257	235.5	177.9
Mountain Sucker	All	7	7	7	7	114	3	70	46	2.80	113	134.1	27.4
Rainbow Trout	>=200mm	3	3	3	3	49	17	30	20	15.09	48	317.3	344.7

Rainbow Trout All 3 3 3 3 49 17 30 20 15.09 48 317.3 344.7

Site Number: 588

Site Midpoint (Latitude, Longitude): 44.36654564, -103.73424434

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BR1

Date Sampled: 07/15/2008

Site Length (m): 100

Mean Width (m): 4.9

Number of Pass: 1

Conductivity (umhos/cm): 973

pH: 8.6

Water Temperature (C): 14.9

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)
Brown Trout	<200mm	7	7	7	7	142	6	70	57	5.63	113	156.9	44.4
Brown Trout	>=200mm	33	33	33	33	669	106	330	271	94.24	531	249.0	157.9
Brown Trout	All	40	40	40	40	810	112	400	328	99.86	644	232.9	138.0

Site Number: 690

Site Midpoint (Latitude, Longitude): 44.31971358, -103.76779760

Survey Completed by: South Dakota Game, Fish and Parks

Stream Classification: BK2, BR0

Date Sampled: 08/12/2008

Site Length (m): 100

Mean Width (m): 3.6

Number of Pass: 1

Conductivity (umhos/cm): 420

pH: 8.7

Water Temperature (C): 13.1

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	48	48	48	48	1317	64	480	533	57.24	772	161.9	48.7
Brook Trout	>=200mm	5	5	5	5	137	14	50	56	12.74	80	209.4	104.0
Brook Trout	All	119	119	119	119	3264	176	1190	1322	157.12	1915	166.4	53.9
Brown Trout	<200mm	5	5	5	5	137	7	50	56	6.27	80	163.8	51.2
Brown Trout	All	11	11	11	11	302	15	110	122	13.79	177	163.8	51.2

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 Whitewood Creek, 1998-2008

Site 409

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout >=200mm	Jul 17, 2008	1	1-1	BR3
Mountain Sucker	Jul 17, 2008	308	308-308	

Site 558

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Jun 03, 1998	3	3-3	
	Sep 10, 1998	1	1-2	
	Sep 19, 2000	10	9-15	
	Sep 27, 2005	1	1-1	

Brook Trout >=200mm	Jun 03, 1998	3	3-3	BK3
	Sep 10, 1998	1	1-1	BK3
	Jun 22, 1999	2	2-2	BK3
Brown Trout <200mm	Jun 03, 1998	14	14-14	
	Sep 10, 1998	67	53-88	
	Jun 22, 1999	28	28-30	
	Sep 16, 1999	122	110-135	
	Jun 28, 2000	58	57-61	
	Sep 19, 2000	98	87-111	
	May 04, 2005	5	5-5	
	Sep 27, 2005	174	168-181	
	Jul 16, 2008	4	4-4	
Brown Trout >=200mm	Jun 03, 1998	39	37-44	BR1
	Sep 10, 1998	66	65-69	BR1
	Jun 22, 1999	31	30-35	BR2
	Sep 16, 1999	41	41-42	BR1

Brown Trout >=200mm	Jun 28, 2000	50	49-53	BR1
	Sep 19, 2000	84	78-93	BR1
	May 04, 2005	15	15-15	BR2
	Sep 27, 2005	21	21-21	BR1
	Jul 16, 2008	12	12-12	BR2
Longnose Dace	Jun 03, 1998	20	10-70	
	Sep 10, 1998	61	37-112	
	Sep 19, 2000	8	8-8	
	May 04, 2005	39	40-50	
	Sep 27, 2005	41	38-48	
Mountain Sucker	Jun 03, 1998	90	23-490	
	Sep 10, 1998	51	47-59	
	Jun 22, 1999	28	13-95	
	Sep 16, 1999	16	15-20	
	Jun 28, 2000	7	7-8	
	Sep 19, 2000	6	6-7	

Mountain Sucker	May 04, 2005	15	16-20	
	Sep 27, 2005	19	19-20	
	Jul 16, 2008	7	7-7	
Rainbow Trout >=200mm	Jul 16, 2008	3	3-3	RB2

Site 588

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 10, 1998	2	2-5	
	Sep 18, 1999	3	3-4	
	Jun 28, 2000	2	2-2	
	Sep 19, 2000	14	14-16	
Brook Trout >=200mm	Jun 22, 1999	12	12-13	BK2
	Sep 18, 1999	2	2-3	BK3
	Jun 28, 2000	5	5-6	BK2
	Sep 19, 2000	2	2-3	BK3
Brown Trout <200mm	Sep 10, 1998	10	10-12	
	Jun 22, 1999	2	2-2	

Brown Trout <200mm	Sep 18, 1999	20	14-40	
	Jun 28, 2000	8	8-8	
	Sep 19, 2000	94	89-101	
	Jul 15, 2008	7	7-7	
Brown Trout >=200mm	Sep 10, 1998	3	3-4	BR3
	Jun 22, 1999	6	6-9	BR2
	Sep 18, 1999	20	20-21	BR1
	Jun 28, 2000	18	18-19	BR1
	Sep 19, 2000	18	18-20	BR1
	Jul 15, 2008	33	33-33	BR1
Longnose Dace	Sep 10, 1998	2	2-4	
	Sep 18, 1999	4	4-5	
	Jun 28, 2000	1	1-1	
	Sep 19, 2000	44	39-54	
Mountain Sucker	Sep 10, 1998	14	11-25	
	Sep 18, 1999	5	5-6	

Mountain Sucker	Jun 28, 2000	2	2-6
	Sep 19, 2000	21	21-23

Site 690

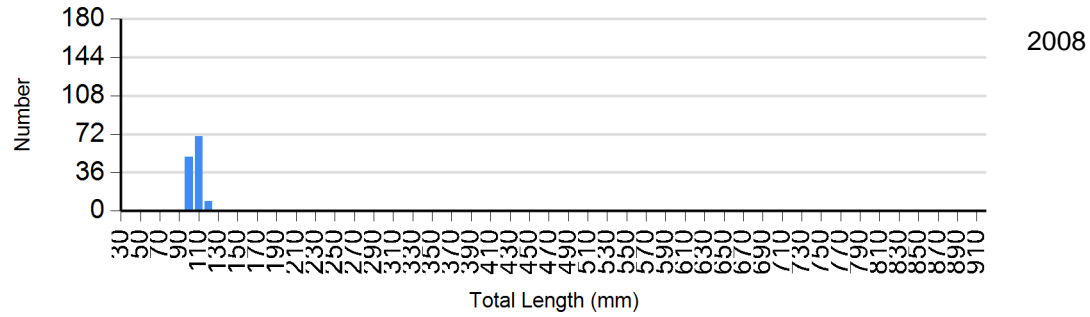
Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brook Trout <200mm	Sep 18, 1999	125	122-130	
	Jun 10, 2003	14	14-14	
	Aug 12, 2008	48	48-48	
Brook Trout >=200mm	Sep 18, 1999	6	6-6	BK2
	Aug 12, 2008	5	5-5	BK2
Brown Trout <200mm	Sep 18, 1999	275	264-286	
	Jun 10, 2003	23	23-24	
	Aug 12, 2008	5	5-5	
Brown Trout >=200mm	Sep 18, 1999	53	53-54	BR1
	Jun 10, 2003	29	29-30	BR1
Longnose Dace	Sep 18, 1999	2	2-4	

Length Frequency Distribution

Length frequency histogram of species sampled by year.

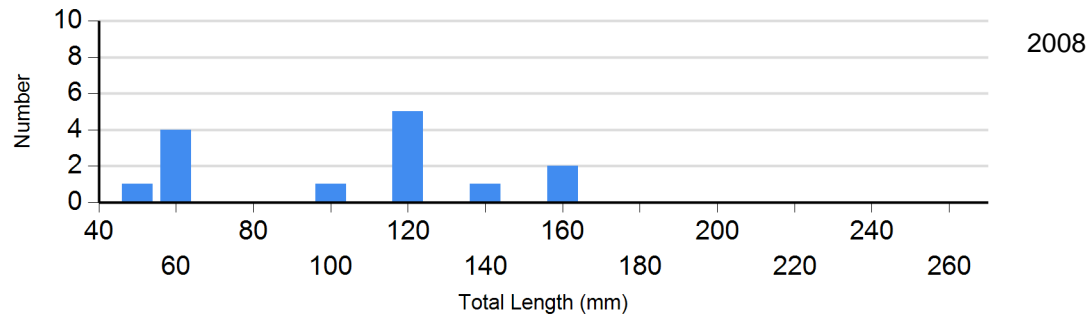
Site: 409

Species: Mountain Sucker



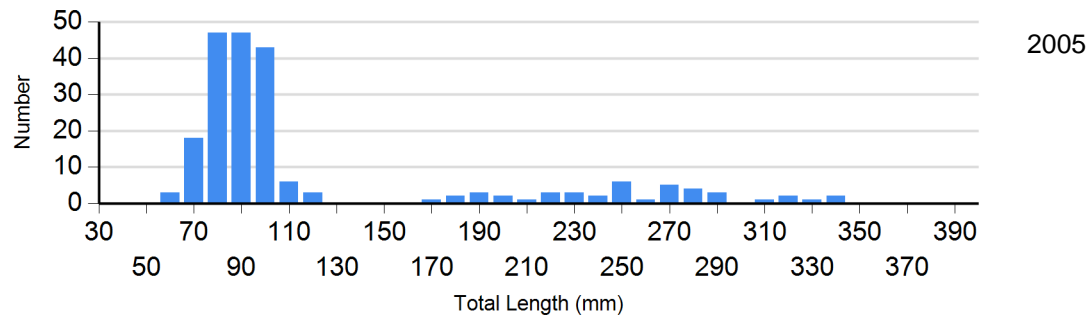
Site: 409

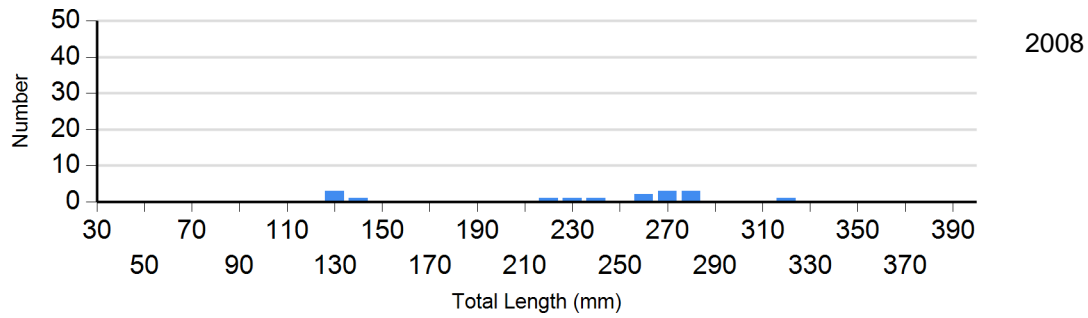
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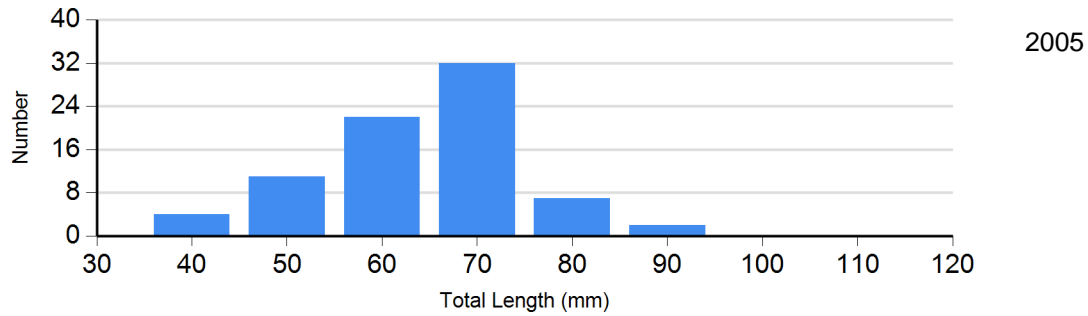
Site: 558

Species: Brown Trout

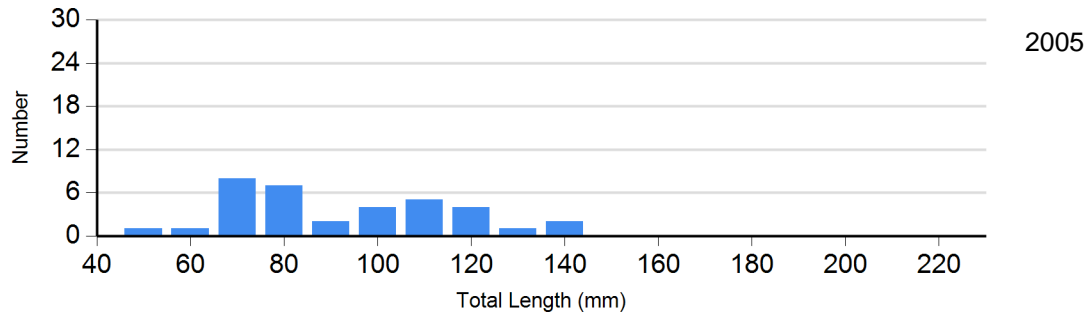


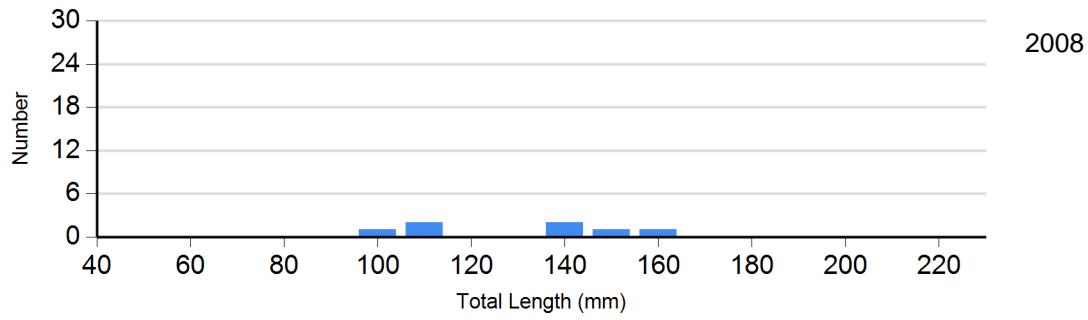


Site: 558
Species: Longnose Dace

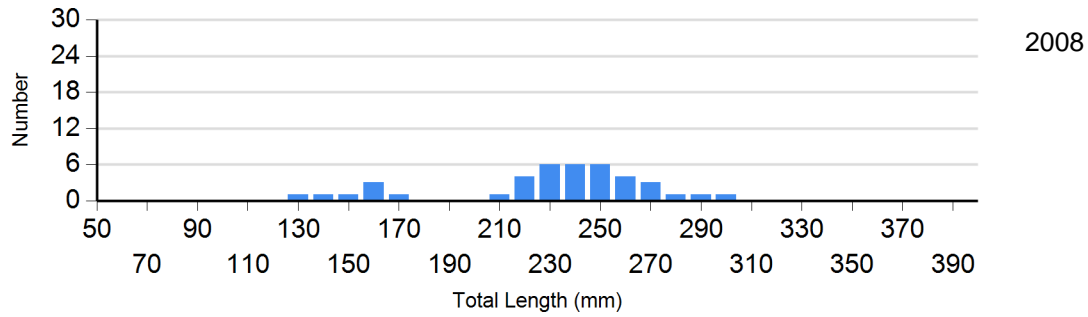


Site: 558
Species: Mountain Sucker

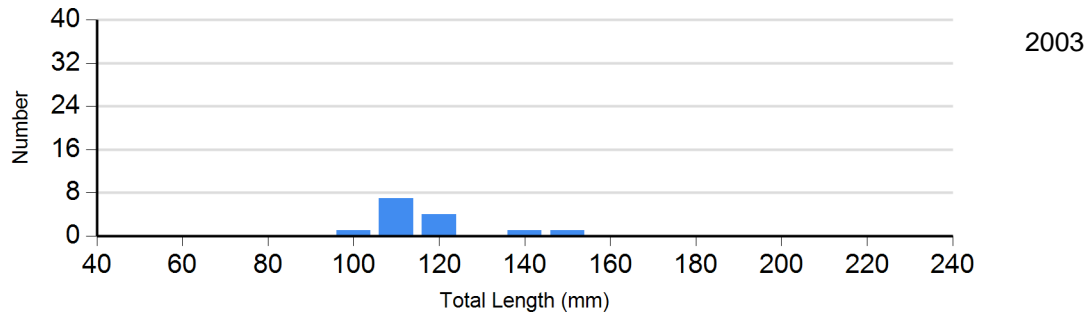


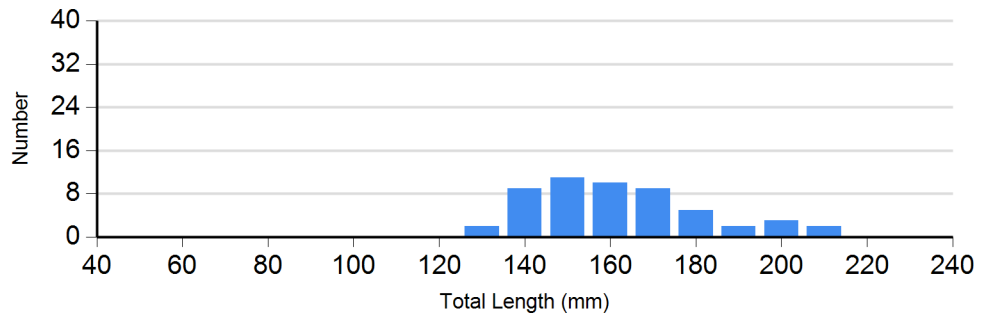


Site: 588
Species: Brown Trout



Site: 690
Species: Brook Trout





Site: 690
Species: Brown Trout

