

**SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY**  
**Rapid Creek - North Fork, Pennington County**  
**02-0075-00**  
**1993**

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

<b>Site Number:</b> 2	<b>Date Sampled:</b> 08/11/1993	<b>Conductivity (umhos/cm):</b> 260
<b>Site Midpoint (Latitude, Longitude):</b> 44.13240684, -103.73631714	<b>Site Length (m):</b> 100	<b>pH:</b> 8.4
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 3.0	<b>Water Temperature (C):</b> 14.0
<b>Stream Classification:</b> BR2	<b>Number of Pass:</b> 3	<b>Voltage:</b> 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)
Brown Trout	<200mm	22	25	33	22	845	26	250	342	23.24	402	137.4	30.8
Brown Trout	>=200mm	5	5	6	5	169	19	50	68	16.68	80	223.6	110.6
Brown Trout	All	27	30	37	27	1014	46	300	410	41.26	483	153.3	45.6
Hatchery Brown Trout	>=200mm	12	12	13	12	405	57	120	164	50.47	193	242.5	139.4
Hatchery Brown Trout	All	12	12	13	12	405	57	120	164	50.47	193	242.5	139.4
Longnose Dace	All	73	102	141	73	3446	12	1020	1396	10.90	1641	73.3	3.5
Mountain Sucker	All	3	3	4	3	101	3	30	41	2.99	48	141.0	33.0
White Sucker	All	4	4	4	4	135	8	40	55	6.70	64	159.8	55.5

---

<b>Site Number:</b> 185	<b>Date Sampled:</b> 06/24/1993	<b>Conductivity (umhos/cm):</b> 282
<b>Site Midpoint (Latitude, Longitude):</b> 44.22998341, -103.79465365	<b>Site Length (m):</b> 100	<b>pH:</b> 8.4
<b>Survey Completed by:</b> South Dakota Game, Fish and Parks	<b>Mean Width (m):</b> 1.5	<b>Water Temperature (C):</b> 7.0
<b>Stream Classification:</b> None	<b>Number of Pass:</b> 3	<b>Voltage:</b> 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)
Longnose Dace	All	63	73	87	63	5000	17	730	2025	14.78	1175	69.7	3.3
Mountain Sucker	All	1	1	2	1	68	1	10	28	0.86	16	117.0	14.0

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	
<b>Class BR1</b>	Number of wild Brown Trout exceeds 150 per acre
<b>Class BR2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BR3</b>	Number of wild Brown Trout is less than 25 per acre
<b>Class BK1</b>	Number of wild Brook Trout exceeds 150 per acre
<b>Class BK2</b>	Number of wild Brook Trout ranges from 25 to 150 per acre
<b>Class BK3</b>	Number of wild Brook Trout is less than 25 per acre
<b>Class RB1</b>	Number of wild Rainbow Trout exceeds 25 per acre
<b>Class RB2</b>	Number of wild Rainbow Trout is less than 25 per acre

Table 2. Species composition and population estimates on Rapid Creek - North Fork, 1983-1993

**Site 2**

Species/Size	Date	Pop Est.	(95% C.I.)	Stream Classification
Brown Trout <200mm	Aug 11, 1993	25	22-33	
Brown Trout >=200mm	Aug 11, 1993	5	5-6	BR2
Hatchery Brown Trout >=200mm	Aug 11, 1993	12	12-13	
Longnose Dace	Aug 11, 1993	102	73-141	
Mountain Sucker	Aug 11, 1993	3	3-4	
White Sucker	Aug 11, 1993	4	4-4	

**Site 185**

---

<b>Species/Size</b>	<b>Date</b>	<b>Pop Est.</b>	<b>(95% C.I.)</b>	<b>Stream Classification</b>
Longnose Dace	Jun 24, 1993	73	63-87	
Mountain Sucker	Jun 24, 1993	1	1-2	

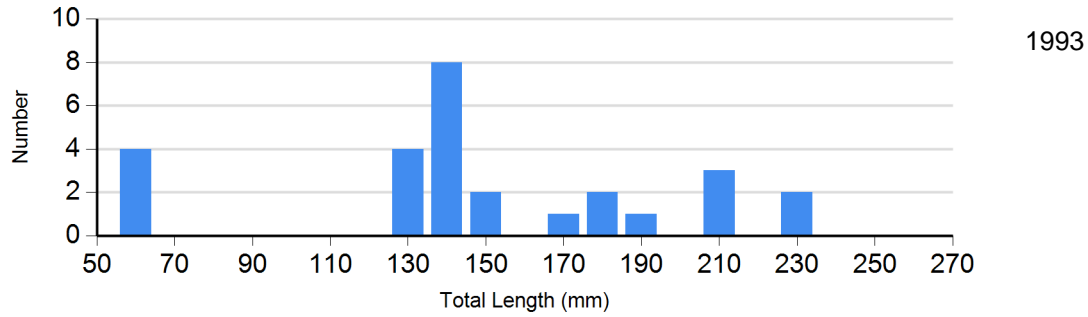
---

## Length Frequency Distribution

Length frequency histogram of species sampled by year.

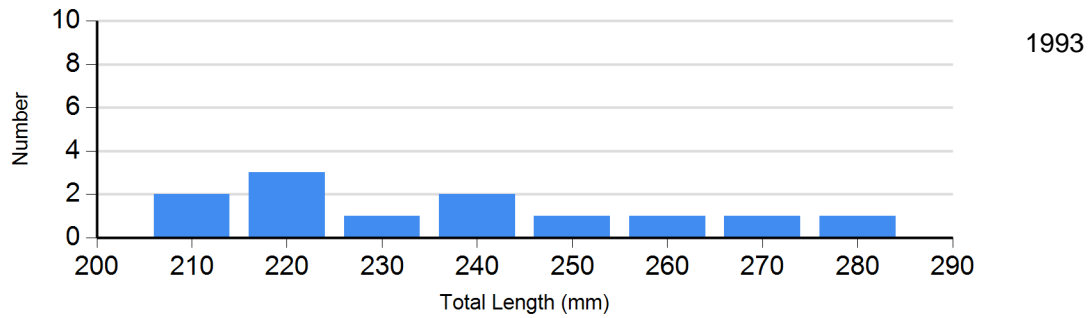
**Site: 2**

**Species: Brown Trout**



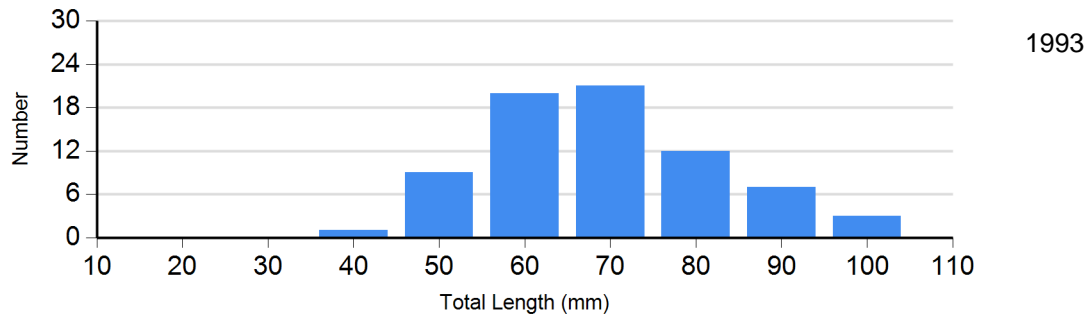
**Site: 2**

**Species: Hatchery Brown Trout**

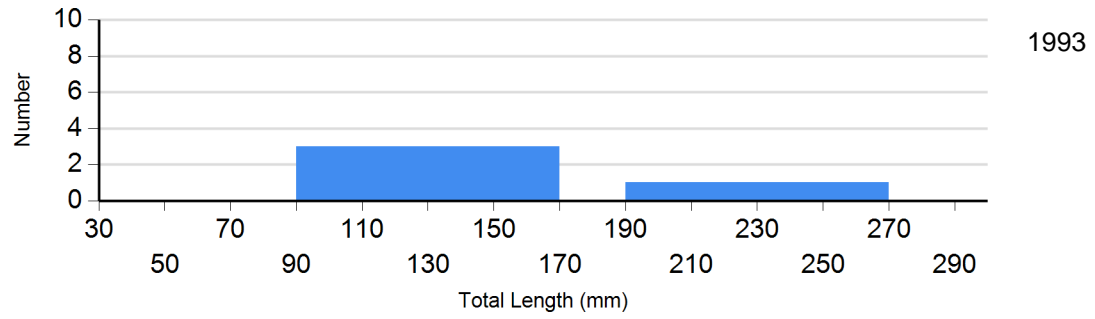


**Site: 2**

**Species: Longnose Dace**



**Site: 2**  
**Species: White Sucker**



**Site: 185**  
**Species: Longnose Dace**

