

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Crow Creek (Trib. of Redwater), Lawrence County
09-0037-00
2019

Table 1. Population and Biomass Estimates for Crow Creek (Trib. of Redwater)

| | | |
|--|---------------------------------|-----------------------------------|
| Site Number: 25 | Date Sampled: 08/14/2019 | Conductivity (umhos/cm): 0 |
| Site Midpoint (Latitude, Longitude): 44.56403568, -104.00754495 | Site Length (m): 100 | pH: 7.0 |
| Survey Completed by: South Dakota Game, Fish and Parks | Mean Width (m): 9.0 | Water Temperature (C): 0.0 |
| Stream Classification: BR2, RB0 | Number of Pass: 3 | Voltage: 175 |

| 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 | 29 | 29 | 30 | 29 | 322 | 4 | 290 | 131 | 3.85 | 467 | 107.5 | 13.4 |
| Brown Trout | >=200mm | 9 | 9 | 10 | 9 | 100 | 16 | 90 | 41 | 14.03 | 145 | 242.6 | 157.1 |
| Brown Trout | All | 38 | 38 | 39 | 38 | 422 | 20 | 380 | 171 | 17.88 | 611 | 139.5 | 47.4 |
| Longnose Sucker | All | 1 | 1 | 5 | 1 | 11 | 9 | 10 | 5 | 7.91 | 16 | 445.0 | 797.0 |
| Rainbow Trout | <200mm | 1 | 1 | 1 | 1 | 11 | 1 | 10 | 5 | 0.50 | 16 | 170.0 | 50.0 |
| Rainbow Trout | All | 1 | 1 | 1 | 1 | 11 | 1 | 10 | 5 | 0.50 | 16 | 170.0 | 50.0 |
| White Sucker | All | 2 | 1 | 2 | 2 | 11 | 6 | 10 | 5 | 4.95 | 16 | 356.0 | 499.0 |

| | | |
|--|---------------------------------|-----------------------------------|
| Site Number: 31 | Date Sampled: 08/14/2019 | Conductivity (umhos/cm): 0 |
| Site Midpoint (Latitude, Longitude): 44.56201742, -104.00884914 | Site Length (m): 100 | pH: 7.0 |
| Survey Completed by: South Dakota Game, Fish and Parks | Mean Width (m): 7.0 | Water Temperature (C): 0.0 |
| Stream Classification: BR2, RB2 | Number of Pass: 3 | Voltage: 175 |

| 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 | 16 | 14 | 200 | 4 | 140 | 81 | 3.98 | 225 | 120.8 | 22.3 |

| | | | | | | | | | | | | | |
|--------------------|---------|----|----|----|----|-----|-----|-----|-----|--------|-----|-------|--------|
| Brown Trout | >=200mm | 24 | 25 | 29 | 24 | 357 | 103 | 250 | 145 | 91.53 | 402 | 301.5 | 287.0 |
| Brown Trout | All | 38 | 41 | 48 | 38 | 586 | 111 | 410 | 237 | 99.10 | 660 | 234.9 | 189.5 |
| Longnose Sucker | All | 1 | 1 | 5 | 1 | 14 | 14 | 10 | 6 | 12.92 | 16 | 485.0 | 1013.0 |
| Rainbow Trout | >=200mm | 4 | 4 | 5 | 4 | 57 | 54 | 40 | 23 | 48.04 | 64 | 440.8 | 941.5 |
| Rainbow Trout | All | 4 | 4 | 5 | 4 | 57 | 54 | 40 | 23 | 48.04 | 64 | 440.8 | 941.5 |
| White Sucker | All | 23 | 23 | 25 | 23 | 329 | 164 | 230 | 133 | 146.05 | 370 | 354.4 | 497.8 |

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 Crow Creek (Trib. of Redwater), 2009-2019

Site 25

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|----------------------|--------------|----------|------------|-----------------------|
| Brown Trout <200mm | Aug 14, 2019 | 29 | 29-30 | |
| Brown Trout >=200mm | Aug 14, 2019 | 9 | 9-10 | BR2 |
| Longnose Sucker | Aug 14, 2019 | 1 | 1-5 | |
| Rainbow Trout <200mm | Aug 14, 2019 | 1 | 1-1 | |
| White Sucker | Aug 14, 2019 | 1 | 2-2 | |

Site 31

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|--------------------|--------------|----------|------------|-----------------------|
| Brown Trout <200mm | Jul 09, 2015 | 16 | 16-16 | |

| | | | | |
|-----------------------|--------------|-----|---------|-----|
| Brown Trout <200mm | May 26, 2016 | 31 | 31-31 | |
| | May 25, 2017 | 49 | 45-57 | |
| | Aug 14, 2019 | 14 | 14-16 | |
| Brown Trout >=200mm | Jul 09, 2015 | 29 | 29-29 | BR1 |
| | May 26, 2016 | 22 | 22-23 | BR2 |
| | May 25, 2017 | 135 | 131-141 | BR1 |
| | Aug 14, 2019 | 25 | 24-29 | BR2 |
| Longnose Sucker | Jul 09, 2015 | 4 | 4-4 | |
| | May 26, 2016 | 10 | 10-11 | |
| | May 25, 2017 | 11 | 11-11 | |
| | Aug 14, 2019 | 1 | 1-5 | |
| Rainbow Trout <200mm | May 25, 2017 | 1 | 1-1 | |
| Rainbow Trout >=200mm | May 25, 2017 | 18 | 18-18 | RB1 |
| | Aug 14, 2019 | 4 | 4-5 | RB2 |
| White Sucker | Jul 09, 2015 | 9 | 9-9 | |
| | May 26, 2016 | 4 | 4-4 | |

White Sucker

May 25, 2017

10

10-10

Aug 14, 2019

23

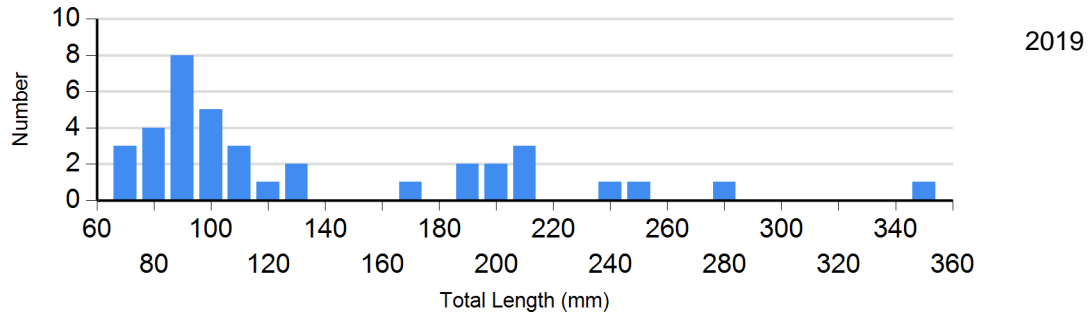
23-25

Length Frequency Distribution

Length frequency histogram of species sampled by year.

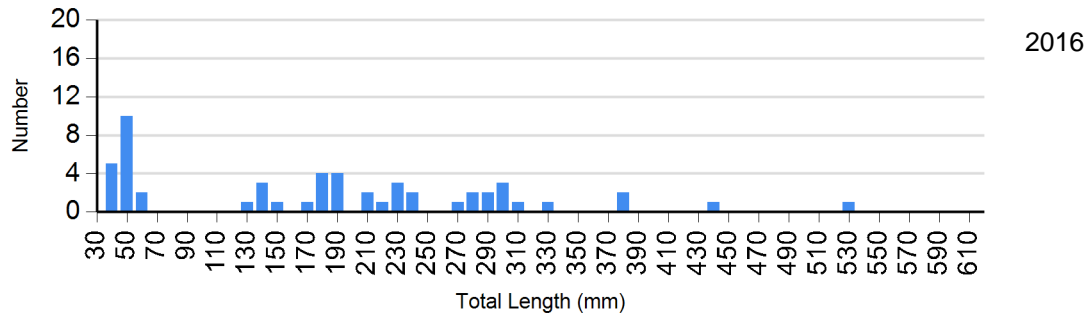
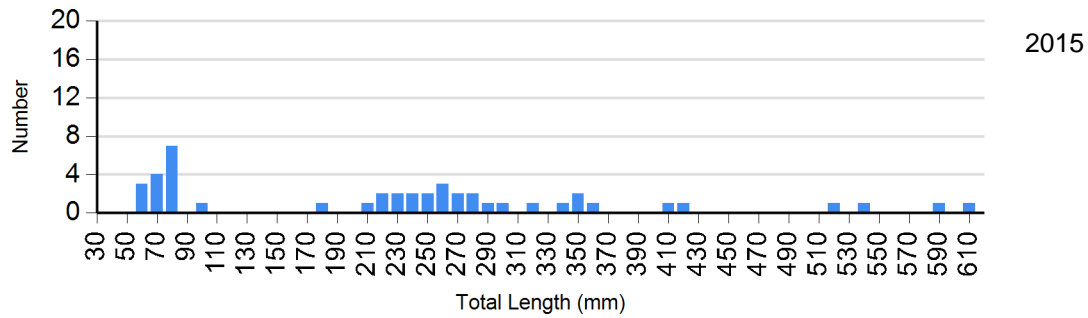
Site: 25

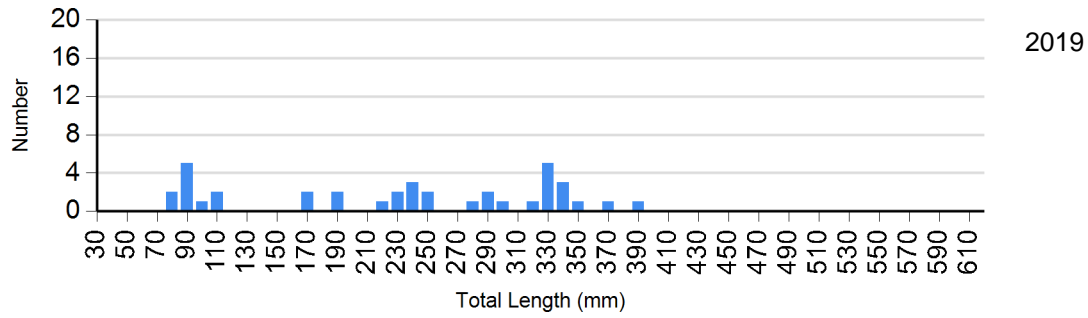
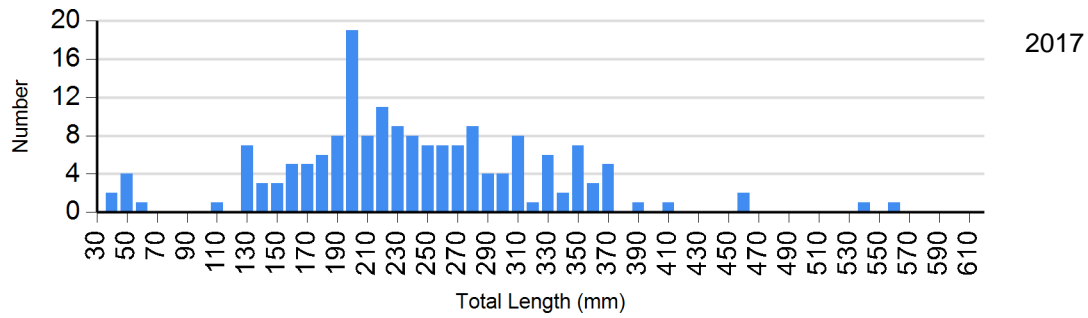
Species: Brown Trout



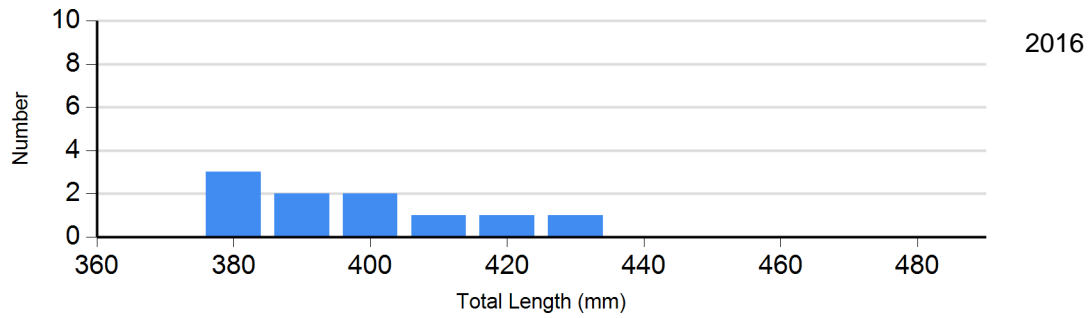
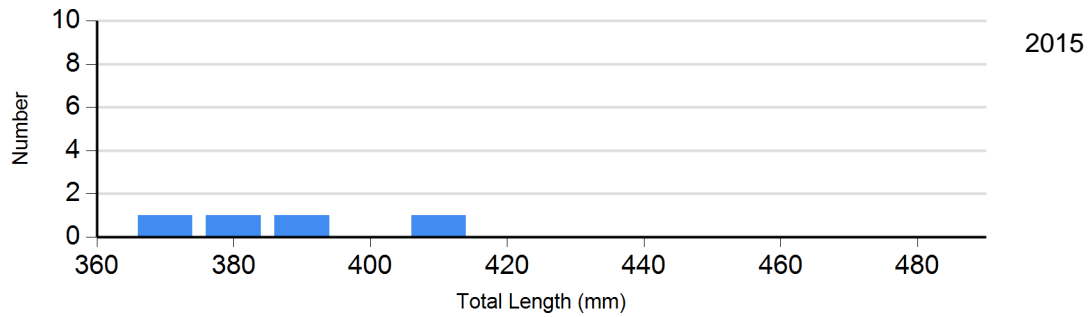
Site: 31

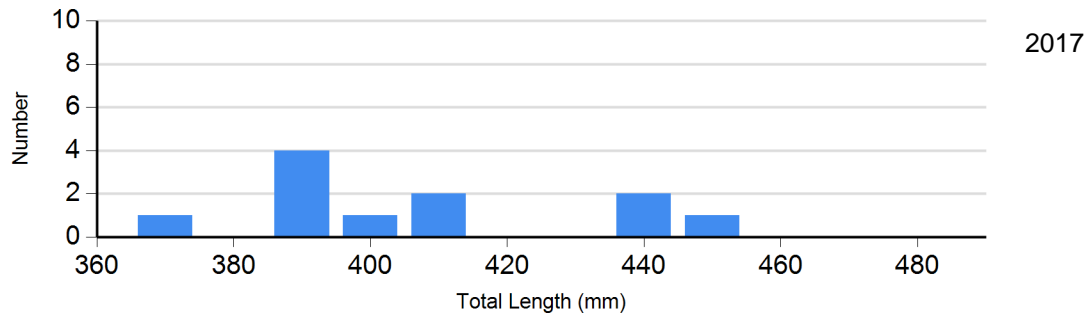
Species: Brown Trout



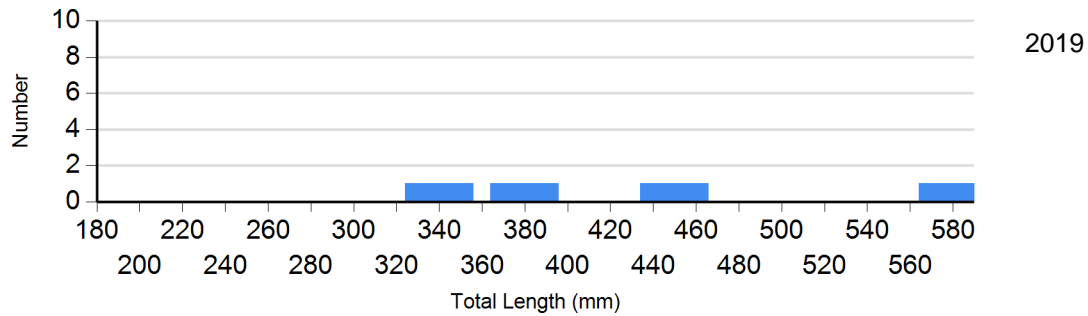
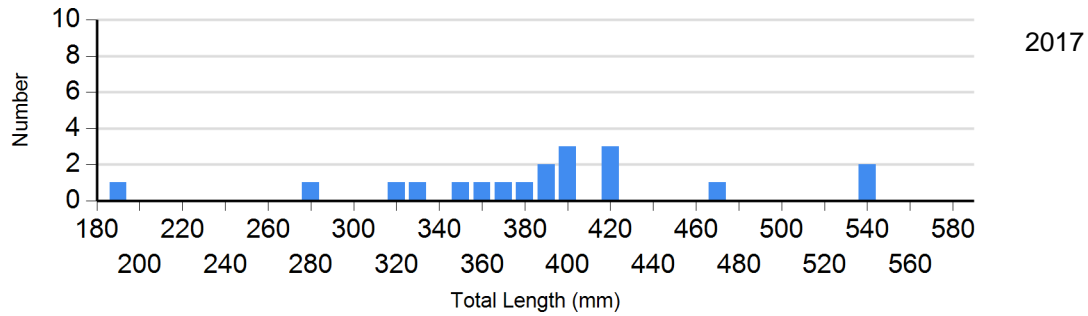


Site: 31
Species: Longnose Sucker





Site: 31
Species: Rainbow Trout



Site: 31
Species: White Sucker

