

SOUTH DAKOTA BLACK HILLS COLD STREAM SURVEY
Whitewood Creek, Lawrence County
09-0056-00
2000

Table 1. Population and Biomass Estimates for Whitewood Creek

Site Number: 43
Site Midpoint (Latitude, Longitude): 44.62164896, -103.47136669
Survey Completed by: Chadwick Ecological Services
Stream Classification: BR2

Date Sampled: 09/28/2000
Site Length (m): 106
Mean Width (m): 5.4
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C):
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 | 21 | 22 | 26 | 21 | 404 | 7 | 208 | 164 | 5.83 | 334 | 110.8 | 16.2 |
| Brown Trout | >=200mm | 11 | 11 | 11 | 11 | 202 | 51 | 104 | 82 | 45.89 | 167 | 281.1 | 254.2 |
| Brown Trout | All | 32 | 32 | 34 | 32 | 588 | 55 | 302 | 238 | 48.81 | 486 | 169.3 | 92.9 |
| Longnose Dace | All | 1114 | 1113 | 1157 | 1114 | 20460 | 43 | 10500 | 8286 | 38.18 | 16895 | 62.2 | 2.1 |
| White Sucker | All | 9 | 9 | 9 | 9 | 165 | 9 | 85 | 67 | 7.91 | 137 | 106.1 | 53.6 |

Site Number: 44
Site Midpoint (Latitude, Longitude): 44.62092026, -103.47188053
Survey Completed by: Chadwick Ecological Services
Stream Classification: None

Date Sampled: 09/27/2000
Site Length (m): 86
Mean Width (m): 6.6
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C):
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) |
|----------------|------------|-----------------------|----------------|--------------|--------------|----------------|-----------------|----------|------------|--------------|------------|------------------|---------------------|
| Fathead Minnow | All | 1 | 1 | 5 | 1 | 15 | 0 | 12 | 6 | 0.03 | 19 | 65.0 | 2.4 |
| Flathead Chub | All | 1 | 1 | 1 | 1 | 15 | 1 | 12 | 6 | 0.67 | 19 | 183.0 | 50.0 |
| Longnose Dace | All | 102 | 109 | 118 | 102 | 1642 | 3 | 1267 | 665 | 2.94 | 2039 | 59.4 | 2.0 |

| | | | | | | | | | | | | | |
|--------------|-----|----|----|----|----|-----|---|-----|-----|------|-----|------|-----|
| Sand Shiner | All | 2 | 2 | 2 | 2 | 30 | 0 | 23 | 12 | 0.04 | 37 | 54.5 | 1.4 |
| Stone Cat | All | 21 | 27 | 42 | 21 | 407 | 4 | 314 | 165 | 3.21 | 505 | 77.1 | 8.8 |
| White Sucker | All | 25 | 27 | 32 | 25 | 407 | 2 | 314 | 165 | 1.83 | 505 | 80.8 | 5.0 |

Site Number: 131
Site Midpoint (Latitude, Longitude): 44.58943150, -103.52027768
Survey Completed by: Chadwick Ecological Services
Stream Classification: BR0

Date Sampled: 09/27/2000
Site Length (m): 86
Mean Width (m): 7.9
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C):
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 | 13 | 0 | 12 | 5 | 0.10 | 19 | 92.0 | 8.6 |
| Brown Trout | All | 1 | 1 | 1 | 1 | 13 | 0 | 12 | 5 | 0.10 | 19 | 92.0 | 8.6 |
| Creek Chub | All | 6 | 6 | 8 | 6 | 76 | 0 | 70 | 31 | 0.17 | 112 | 62.8 | 2.5 |
| Longnose Dace | All | 906 | 1088 | 1152 | 1024 | 13807 | 41 | 12651 | 5592 | 36.17 | 20356 | 64.8 | 2.9 |
| Mountain Sucker | All | 1 | 1 | 1 | 1 | 13 | 0 | 12 | 5 | 0.34 | 19 | 139.0 | 30.0 |
| Stone Cat | All | 39 | 57 | 91 | 39 | 723 | 6 | 663 | 293 | 5.08 | 1066 | 70.0 | 7.9 |
| White Sucker | All | 32 | 32 | 34 | 32 | 406 | 6 | 372 | 164 | 5.37 | 599 | 81.8 | 14.8 |

Site Number: 295
Site Midpoint (Latitude, Longitude): 44.51740810, -103.60458517
Survey Completed by: Chadwick Ecological Services
Stream Classification: BR3

Date Sampled: 09/28/2000
Site Length (m): 98
Mean Width (m): 6.9
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C):
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 | 34 | 34 | 35 | 34 | 496 | 9 | 347 | 201 | 8.10 | 558 | 121.1 | 18.3 |

| | | | | | | | | | | | | | |
|-----------------|---------|------|------|------|------|-------|----|-------|-------|-------|-------|-------|-------|
| Brown Trout | >=200mm | 2 | 2 | 3 | 2 | 29 | 5 | 20 | 12 | 4.17 | 33 | 247.0 | 160.0 |
| Brown Trout | All | 36 | 36 | 38 | 36 | 526 | 14 | 367 | 213 | 12.27 | 591 | 128.1 | 26.2 |
| Longnose Dace | All | 1777 | 1776 | 1827 | 1777 | 25927 | 64 | 18122 | 10500 | 57.32 | 29159 | 62.7 | 2.5 |
| Mountain Sucker | All | 12 | 16 | 30 | 12 | 234 | 4 | 163 | 95 | 3.42 | 263 | 112.5 | 16.4 |
| White Sucker | All | 2 | 2 | 4 | 2 | 29 | 0 | 20 | 12 | 0.15 | 33 | 85.5 | 5.6 |

Site Number: 558

Site Midpoint (Latitude, Longitude): 44.38550441, -103.71870274

Survey Completed by: KNK Aquatic Ecology

Stream Classification: BR1

Date Sampled: 06/28/2000

Site Length (m): 100

Mean Width (m): 7.5

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C): 12.2

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) |
|-----------------|------------|-----------------------|----------------|--------------|--------------|----------------|-----------------|----------|------------|--------------|------------|------------------|---------------------|
| Brown Trout | <200mm | 57 | 58 | 61 | 57 | 771 | 47 | 580 | 312 | 41.86 | 933 | 162.2 | 60.8 |
| Brown Trout | >=200mm | 49 | 50 | 53 | 49 | 665 | 130 | 500 | 269 | 115.97 | 805 | 258.9 | 195.3 |
| Brown Trout | All | 106 | 108 | 112 | 106 | 1436 | 177 | 1080 | 582 | 157.71 | 1738 | 206.9 | 123.0 |
| Mountain Sucker | All | 7 | 7 | 8 | 7 | 93 | 4 | 70 | 38 | 3.79 | 113 | 153.1 | 45.6 |

Site Number: 558

Site Midpoint (Latitude, Longitude): 44.38550441, -103.71870274

Survey Completed by: KNK Aquatic Ecology

Stream Classification: BK0, BR1

Date Sampled: 09/19/2000

Site Length (m): 100

Mean Width (m): 7.1

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C): 15.6

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 | 9 | 10 | 15 | 9 | 140 | 1 | 100 | 57 | 0.52 | 161 | 72.0 | 4.1 |
| Brook Trout | All | 9 | 10 | 15 | 9 | 140 | 1 | 100 | 57 | 0.52 | 161 | 72.0 | 4.1 |

| | | | | | | | | | | | | | |
|-----------------|---------|-----|-----|-----|-----|------|-----|------|------|--------|------|-------|-------|
| Brown Trout | <200mm | 87 | 98 | 111 | 87 | 1376 | 34 | 980 | 557 | 30.24 | 1577 | 120.4 | 24.6 |
| Brown Trout | >=200mm | 78 | 84 | 93 | 78 | 1180 | 208 | 840 | 478 | 185.42 | 1352 | 249.3 | 176.0 |
| Brown Trout | All | 165 | 183 | 199 | 167 | 2570 | 247 | 1830 | 1041 | 220.74 | 2944 | 181.3 | 96.2 |
| Longnose Dace | All | 8 | 8 | 8 | 8 | 112 | 0 | 80 | 46 | 0.41 | 129 | 74.6 | 4.1 |
| Mountain Sucker | All | 6 | 6 | 7 | 6 | 84 | 2 | 60 | 34 | 2.18 | 97 | 118.3 | 29.0 |

Site Number: 588

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

Survey Completed by: KNK Aquatic Ecology

Stream Classification: BK2, BR1

Date Sampled: 06/28/2000

Site Length (m): 100

Mean Width (m): 4.6

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C): 17.8

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 | 2 | 2 | 2 | 2 | 43 | 3 | 20 | 18 | 3.11 | 32 | 175.0 | 80.0 |
| Brook Trout | >=200mm | 5 | 5 | 6 | 5 | 109 | 25 | 50 | 44 | 22.22 | 80 | 262.4 | 229.0 |
| Brook Trout | All | 7 | 7 | 8 | 7 | 152 | 28 | 70 | 62 | 25.33 | 113 | 237.4 | 186.4 |
| Brown Trout | <200mm | 8 | 8 | 8 | 8 | 174 | 14 | 80 | 70 | 12.46 | 129 | 180.4 | 80.3 |
| Brown Trout | >=200mm | 18 | 18 | 19 | 18 | 391 | 82 | 180 | 158 | 73.00 | 290 | 249.7 | 208.9 |
| Brown Trout | All | 26 | 26 | 27 | 26 | 565 | 96 | 260 | 229 | 85.46 | 418 | 228.3 | 169.3 |
| Longnose Dace | All | 1 | 1 | 1 | 1 | 22 | 0 | 10 | 9 | 0.29 | 16 | 109.0 | 15.0 |
| Mountain Sucker | All | 2 | 2 | 6 | 2 | 43 | 3 | 20 | 18 | 2.66 | 32 | 171.0 | 68.5 |

Site Number: 588

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

Survey Completed by: KNK Aquatic Ecology

Stream Classification: BK3, BR1

Date Sampled: 09/19/2000

Site Length (m): 100

Mean Width (m): 4.4

Number of Pass: 3

Conductivity (umhos/cm):

pH:

Water Temperature (C): 15.6

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 | 14 | 14 | 16 | 14 | 320 | 2 | 140 | 129 | 1.96 | 225 | 84.7 | 6.9 |
| Brook Trout | >=200mm | 2 | 2 | 3 | 2 | 46 | 10 | 20 | 18 | 8.81 | 32 | 273.0 | 216.0 |
| Brook Trout | All | 16 | 16 | 18 | 16 | 365 | 12 | 160 | 148 | 10.76 | 257 | 108.3 | 33.0 |
| Brown Trout | <200mm | 89 | 94 | 101 | 89 | 2146 | 46 | 940 | 869 | 41.49 | 1512 | 120.3 | 21.7 |
| Brown Trout | >=200mm | 18 | 18 | 20 | 18 | 411 | 80 | 180 | 166 | 71.25 | 290 | 249.8 | 194.2 |
| Brown Trout | All | 107 | 113 | 121 | 107 | 2580 | 131 | 1130 | 1045 | 116.73 | 1818 | 142.1 | 50.7 |
| Longnose Dace | All | 39 | 44 | 54 | 39 | 1005 | 6 | 440 | 407 | 5.15 | 708 | 78.9 | 5.7 |
| Mountain Sucker | All | 21 | 21 | 23 | 21 | 479 | 31 | 210 | 194 | 27.85 | 338 | 158.4 | 65.0 |

Site Number: 599

Site Midpoint (Latitude, Longitude): 44.36363265, -103.73830179

Survey Completed by: KNK Aquatic Ecology

Stream Classification: BK2, BR1

Date Sampled: 06/06/2000

Site Length (m): 115

Mean Width (m): 5.5

Number of Pass: 4

Conductivity (umhos/cm):

pH:

Water Temperature (C): 15.6

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 | 3 | 3 | 3 | 3 | 54 | 3 | 26 | 22 | 2.85 | 42 | 171.0 | 58.7 |
| Brook Trout | >=200mm | 13 | 13 | 13 | 13 | 236 | 38 | 113 | 95 | 33.79 | 182 | 240.8 | 160.7 |
| Brook Trout | All | 16 | 16 | 16 | 16 | 290 | 41 | 139 | 117 | 36.64 | 224 | 227.7 | 141.6 |
| Brown Trout | <200mm | 20 | 20 | 22 | 20 | 362 | 22 | 174 | 147 | 19.77 | 280 | 154.7 | 61.1 |
| Brown Trout | >=200mm | 54 | 55 | 58 | 54 | 996 | 208 | 478 | 404 | 185.60 | 770 | 250.7 | 208.6 |
| Brown Trout | All | 74 | 75 | 78 | 74 | 1359 | 229 | 652 | 550 | 204.73 | 1049 | 224.7 | 168.8 |
| Longnose Dace | All | 1 | 1 | 3 | 1 | 18 | 0 | 9 | 7 | 0.02 | 14 | 62.0 | 1.0 |
| Mountain Sucker | All | 2 | 2 | 2 | 2 | 36 | 3 | 17 | 15 | 2.25 | 28 | 170.0 | 69.5 |

Site Number: 599
Site Midpoint (Latitude, Longitude): 44.36363265, -103.73830179
Survey Completed by: KNK Aquatic Ecology
Stream Classification: BK2, BR1

Date Sampled: 09/18/2000
Site Length (m): 100
Mean Width (m): 5.2
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C): 17.2
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 | 21 | 20 | 26 | 21 | 386 | 4 | 200 | 156 | 3.63 | 322 | 87.0 | 10.5 |
| Brook Trout | >=200mm | 10 | 12 | 20 | 10 | 232 | 34 | 120 | 94 | 30.74 | 193 | 240.2 | 148.6 |
| Brook Trout | All | 31 | 30 | 37 | 31 | 579 | 32 | 300 | 235 | 28.47 | 483 | 136.4 | 55.1 |
| Brown Trout | <200mm | 79 | 254 | 716 | 79 | 4903 | 98 | 2540 | 1986 | 87.40 | 4087 | 112.5 | 20.0 |
| Brown Trout | >=200mm | 50 | 56 | 66 | 50 | 1081 | 223 | 560 | 438 | 199.04 | 901 | 257.5 | 206.2 |
| Brown Trout | All | 130 | 214 | 307 | 130 | 4131 | 378 | 2140 | 1673 | 337.66 | 3443 | 168.7 | 91.5 |
| Longnose Dace | All | 27 | 50 | 113 | 27 | 965 | 4 | 500 | 391 | 3.89 | 805 | 74.1 | 4.5 |
| Mountain Sucker | All | 29 | 89 | 340 | 29 | 1718 | 150 | 890 | 696 | 133.62 | 1432 | 182.2 | 87.1 |

Site Number: 612
Site Midpoint (Latitude, Longitude): 44.35478049, -103.73811696
Survey Completed by: KNK Aquatic Ecology
Stream Classification: BK2, BR1, RB2

Date Sampled: 06/29/2000
Site Length (m): 100
Mean Width (m): 5.8
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C): 18.9
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 | 7 | 7 | 8 | 7 | 121 | 3 | 70 | 49 | 2.39 | 113 | 130.1 | 22.1 |
| Brook Trout | >=200mm | 6 | 6 | 9 | 6 | 104 | 11 | 60 | 42 | 9.82 | 97 | 214.2 | 106.0 |
| Brook Trout | All | 13 | 13 | 15 | 13 | 225 | 14 | 130 | 91 | 12.22 | 209 | 168.9 | 60.8 |

| | | | | | | | | | | | | | |
|---------------|---------|----|----|----|----|------|-----|-----|-----|--------|------|-------|-------|
| Brown Trout | <200mm | 51 | 52 | 56 | 51 | 900 | 42 | 520 | 364 | 37.11 | 837 | 153.4 | 46.2 |
| Brown Trout | >=200mm | 27 | 27 | 29 | 27 | 467 | 84 | 270 | 189 | 74.89 | 434 | 249.3 | 179.6 |
| Brown Trout | All | 78 | 80 | 84 | 78 | 1384 | 128 | 800 | 561 | 114.14 | 1287 | 186.6 | 92.4 |
| Longnose Dace | All | 9 | 8 | 13 | 9 | 138 | 2 | 80 | 56 | 1.37 | 129 | 101.3 | 11.1 |
| Rainbow Trout | >=200mm | 1 | 1 | 1 | 1 | 17 | 3 | 10 | 7 | 2.24 | 16 | 252.0 | 145.0 |
| Rainbow Trout | All | 1 | 1 | 1 | 1 | 17 | 3 | 10 | 7 | 2.24 | 16 | 252.0 | 145.0 |

Site Number: 612
Site Midpoint (Latitude, Longitude): 44.35478049, -103.73811696
Survey Completed by: KNK Aquatic Ecology
Stream Classification: BK2, BR1

Date Sampled: 09/18/2000
Site Length (m): 100
Mean Width (m): 4.9
Number of Pass: 3
Conductivity (umhos/cm):
pH:
Water Temperature (C): 17.8
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 | 107 | 113 | 121 | 107 | 2297 | 14 | 1130 | 930 | 12.19 | 1818 | 81.7 | 5.9 |
| Brook Trout | >=200mm | 4 | 4 | 5 | 4 | 81 | 10 | 40 | 33 | 9.02 | 64 | 231.3 | 124.3 |
| Brook Trout | All | 111 | 118 | 127 | 111 | 2398 | 24 | 1180 | 971 | 21.86 | 1899 | 87.1 | 10.2 |
| Brown Trout | <200mm | 155 | 168 | 180 | 156 | 3415 | 64 | 1680 | 1383 | 57.40 | 2703 | 108.6 | 18.8 |
| Brown Trout | >=200mm | 33 | 33 | 34 | 33 | 671 | 118 | 330 | 272 | 105.40 | 531 | 249.7 | 176.0 |
| Brown Trout | All | 188 | 198 | 208 | 188 | 4024 | 187 | 1980 | 1630 | 166.78 | 3186 | 133.3 | 46.4 |
| Longnose Dace | All | 8 | 8 | 10 | 8 | 163 | 2 | 80 | 66 | 1.67 | 129 | 105.6 | 11.5 |

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, 1990-2000

Site 43

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|----------|------------|-----------------------|
| Brown Trout <200mm | Oct 11, 1996 | 1 | 1-1 | |
| | Sep 28, 2000 | 22 | 21-26 | |
| Brown Trout >=200mm | Oct 11, 1996 | 2 | 2-2 | BR3 |
| | Sep 28, 2000 | 11 | 11-11 | BR2 |
| Longnose Dace | Oct 11, 1996 | 3 | 3-3 | |
| | Sep 28, 2000 | 1113 | 1114-1157 | |
| White Sucker | Oct 11, 1996 | 3 | 3-3 | |

White Sucker

Sep 28, 2000

9

9-9

Site 44

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Creek Chub | Oct 09, 1996 | 1 | 1-5 | |
| Fathead Minnow | Sep 27, 2000 | 1 | 1-5 | |
| Flathead Chub | Oct 09, 1996 | 2 | 2-3 | |
| | Sep 27, 2000 | 1 | 1-1 | |
| Longnose Dace | Oct 09, 1996 | 3 | 3-3 | |
| | Sep 27, 2000 | 109 | 102-118 | |
| Sand Shiner | Sep 27, 2000 | 2 | 2-2 | |
| Stone Cat | Oct 09, 1996 | 65 | 49-91 | |
| | Sep 27, 2000 | 27 | 21-42 | |
| White Sucker | Oct 09, 1996 | 1 | 1-2 | |
| | Sep 27, 2000 | 27 | 25-32 | |

Site 131

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Brown Trout <200mm | Oct 10, 1996 | 1 | 1-1 | |

| | | | |
|--------------------|--------------|------|-----------|
| Brown Trout <200mm | Sep 27, 2000 | 1 | 1-1 |
| Creek Chub | Oct 10, 1996 | 1 | 1-1 |
| | Sep 27, 2000 | 6 | 6-8 |
| Longnose Dace | Oct 10, 1996 | 3 | 3-3 |
| | Sep 27, 2000 | 1088 | 1024-1152 |
| Mountain Sucker | Sep 27, 2000 | 1 | 1-1 |
| Stone Cat | Sep 27, 2000 | 57 | 39-91 |
| White Sucker | Oct 10, 1996 | 22 | 21-26 |
| | Sep 27, 2000 | 32 | 32-34 |

Site 295

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Brown Trout <200mm | Oct 11, 1996 | 5 | 5-6 | |
| | Nov 04, 1999 | 27 | 24-34 | |
| | Sep 28, 2000 | 34 | 34-35 | |
| Brown Trout >=200mm | Nov 04, 1999 | 10 | 10-12 | BR3 |
| | Sep 28, 2000 | 2 | 2-3 | BR3 |

| | | | |
|-----------------|--------------|------|-----------|
| Longnose Dace | Oct 11, 1996 | 2 | 3-4 |
| | Nov 04, 1999 | 357 | 358-390 |
| | Sep 28, 2000 | 1776 | 1777-1827 |
| Mountain Sucker | Oct 11, 1996 | 8 | 8-9 |
| | Sep 28, 2000 | 16 | 12-30 |
| White Sucker | Oct 11, 1996 | 1 | 1-1 |
| | Nov 04, 1999 | 1 | 1-1 |
| | Sep 28, 2000 | 2 | 2-4 |

Site 558

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Brook Trout <200mm | Sep 27, 1994 | 1 | 1-2 | |
| | Sep 23, 1996 | 1 | 1-2 | |
| | Oct 10, 1997 | 1 | 1-1 | |
| | Jun 03, 1998 | 3 | 3-3 | |
| | Sep 10, 1998 | 1 | 1-2 | |
| | Sep 19, 2000 | 10 | 9-15 | |

| | | | | |
|---------------------|--------------|-----|---------|-----|
| 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 | Oct 03, 1992 | 102 | 60-173 | |
| | Sep 14, 1993 | 43 | 41-48 | |
| | Sep 27, 1994 | 60 | 52-72 | |
| | Sep 07, 1995 | 27 | 25-32 | |
| | Sep 23, 1996 | 101 | 83-122 | |
| | Oct 10, 1997 | 77 | 73-83 | |
| | 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 | |
| Brown Trout >=200mm | Oct 03, 1992 | 24 | 24-25 | BR1 |

| | | | | |
|---------------------|--------------|----|--------|-----|
| Brown Trout >=200mm | Sep 14, 1993 | 50 | 50-51 | BR1 |
| | Sep 27, 1994 | 44 | 44-46 | BR1 |
| | Sep 07, 1995 | 28 | 28-29 | BR1 |
| | Sep 23, 1996 | 38 | 38-39 | BR1 |
| | Oct 10, 1997 | 58 | 57-61 | BR1 |
| | 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 |
| | Jun 28, 2000 | 50 | 49-53 | BR1 |
| | Sep 19, 2000 | 84 | 78-93 | BR1 |
| Longnose Dace | Oct 03, 1992 | 36 | 14-150 | |
| | Sep 14, 1993 | 14 | 14-15 | |
| | Sep 27, 1994 | 33 | 19-77 | |
| | Sep 07, 1995 | 8 | 7-14 | |
| | Sep 23, 1996 | 8 | 8-9 | |

| | | | |
|-----------------|--------------|----|--------|
| Longnose Dace | Oct 10, 1997 | 10 | 11-13 |
| | Jun 03, 1998 | 20 | 10-70 |
| | Sep 10, 1998 | 61 | 37-112 |
| | Sep 19, 2000 | 8 | 8-8 |
| Mountain Sucker | Oct 03, 1992 | 44 | 36-59 |
| | Sep 14, 1993 | 15 | 14-19 |
| | Sep 27, 1994 | 23 | 22-27 |
| | Sep 07, 1995 | 20 | 17-29 |
| | Sep 23, 1996 | 19 | 16-28 |
| | Oct 10, 1997 | 20 | 14-40 |
| | 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 |

White Sucker

Oct 03, 1992

1

1-1

Sep 27, 1994

1

1-2

Site 588

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Brook Trout <200mm | Sep 27, 1994 | 2 | 2-3 | |
| | Oct 10, 1997 | 24 | 7-190 | |
| | 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 | Sep 27, 1994 | 5 | 5-6 | BK2 |
| | Oct 10, 1997 | 4 | 4-4 | BK2 |
| | 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 | Feb 02, 1993 | 6 | 6-7 | |
| | Sep 27, 1994 | 43 | 42-46 | |
| | Sep 07, 1995 | 11 | 11-13 | |
| | Sep 23, 1996 | 116 | 60-221 | |
| | Oct 10, 1997 | 82 | 22-432 | |
| | Sep 10, 1998 | 10 | 10-12 | |
| | Jun 22, 1999 | 2 | 2-2 | |
| | Sep 18, 1999 | 20 | 14-40 | |
| | Jun 28, 2000 | 8 | 8-8 | |
| | Sep 19, 2000 | 94 | 89-101 | |
| Brown Trout >=200mm | Feb 02, 1993 | 9 | 9-11 | BR2 |
| | Sep 27, 1994 | 26 | 26-27 | BR1 |
| | Sep 07, 1995 | 6 | 6-9 | BR2 |
| | Sep 23, 1996 | 23 | 23-24 | BR1 |
| | Oct 10, 1997 | 64 | 57-75 | BR1 |
| | Sep 10, 1998 | 3 | 3-4 | BR3 |

| | | | | |
|---------------------|--------------|----|-------|-----|
| Brown Trout >=200mm | 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 |
| Longnose Dace | Feb 02, 1993 | 3 | 3-4 | |
| | Sep 07, 1995 | 1 | 1-1 | |
| | Sep 23, 1996 | 7 | 7-9 | |
| | 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 | Feb 02, 1993 | 1 | 1-1 | |
| | Sep 27, 1994 | 4 | 4-4 | |
| | Sep 07, 1995 | 2 | 2-3 | |
| | Sep 23, 1996 | 3 | 3-4 | |
| | Sep 10, 1998 | 14 | 11-25 | |

| | | | |
|-----------------|--------------|----|-------|
| Mountain Sucker | Sep 18, 1999 | 5 | 5-6 |
| | Jun 28, 2000 | 2 | 2-6 |
| | Sep 19, 2000 | 21 | 21-23 |

Site 599

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Brook Trout <200mm | Oct 12, 1994 | 1 | 1-1 | |
| | Sep 15, 1995 | 4 | 4-5 | |
| | Sep 26, 1996 | 17 | 14-27 | |
| | Sep 22, 1997 | 10 | 10-12 | |
| | Dec 03, 1997 | 40 | 37-46 | |
| | Sep 10, 1998 | 15 | 15-17 | |
| | Jun 21, 1999 | 5 | 5-6 | |
| | Sep 17, 1999 | 13 | 11-21 | |
| | Jun 06, 2000 | 3 | 3-3 | |
| | Sep 18, 2000 | 20 | 21-26 | |
| Brook Trout >=200mm | Sep 15, 1995 | 2 | 2-2 | BK3 |

| | | | | |
|---------------------|--------------|----|-------|-----|
| Brook Trout >=200mm | Sep 26, 1996 | 1 | 1-1 | BK3 |
| | Sep 22, 1997 | 1 | 1-2 | BK3 |
| | Dec 03, 1997 | 4 | 4-4 | BK2 |
| | Sep 10, 1998 | 1 | 1-1 | BK3 |
| | Jun 21, 1999 | 12 | 12-13 | BK2 |
| | Sep 17, 1999 | 9 | 9-11 | BK2 |
| | Jun 06, 2000 | 13 | 13-13 | BK2 |
| | Sep 18, 2000 | 12 | 10-20 | BK2 |
| Brown Trout <200mm | Oct 12, 1994 | 26 | 22-36 | |
| | Sep 15, 1995 | 2 | 2-3 | |
| | Sep 26, 1996 | 15 | 15-17 | |
| | Sep 22, 1997 | 20 | 20-22 | |
| | Dec 03, 1997 | 43 | 39-51 | |
| | Sep 10, 1998 | 37 | 36-41 | |
| | Jun 21, 1999 | 17 | 14-26 | |
| | Sep 17, 1999 | 41 | 40-44 | |

| | | | | |
|---------------------|--------------|-----|--------|-----|
| Brown Trout <200mm | Jun 06, 2000 | 20 | 20-22 | |
| | Sep 18, 2000 | 254 | 79-716 | |
| Brown Trout >=200mm | Oct 12, 1994 | 37 | 37-38 | BR1 |
| | Sep 15, 1995 | 18 | 18-20 | BR1 |
| | Sep 26, 1996 | 47 | 47-49 | BR1 |
| | Sep 22, 1997 | 54 | 54-56 | BR1 |
| | Dec 03, 1997 | 91 | 90-94 | BR1 |
| | Sep 10, 1998 | 4 | 4-7 | BR2 |
| | Jun 21, 1999 | 14 | 12-21 | BR2 |
| | Sep 17, 1999 | 47 | 38-63 | BR1 |
| | Jun 06, 2000 | 55 | 54-58 | BR1 |
| | Sep 18, 2000 | 56 | 50-66 | BR1 |
| Longnose Dace | Oct 12, 1994 | 1 | 1-2 | |
| | Sep 26, 1996 | 2 | 2-4 | |
| | Sep 22, 1997 | 4 | 4-6 | |
| | Sep 10, 1998 | 5 | 5-7 | |

| | | | |
|-----------------|--------------|----|--------|
| Longnose Dace | Sep 17, 1999 | 5 | 5-7 |
| | Jun 06, 2000 | 1 | 1-3 |
| | Sep 18, 2000 | 50 | 27-113 |
| Mountain Sucker | Oct 12, 1994 | 4 | 4-5 |
| | Sep 15, 1995 | 1 | 1-3 |
| | Sep 22, 1997 | 4 | 4-4 |
| | Sep 10, 1998 | 22 | 22-23 |
| | Jun 21, 1999 | 1 | 1-1 |
| | Sep 17, 1999 | 16 | 16-18 |
| | Jun 06, 2000 | 2 | 2-2 |
| | Sep 18, 2000 | 89 | 29-340 |
| White Sucker | Sep 26, 1996 | 1 | 1-1 |

Site 612

| Species/Size | Date | Pop Est. | (95% C.I.) | Stream Classification |
|---------------------|--------------|-----------------|-------------------|------------------------------|
| Brook Trout <200mm | Oct 27, 1993 | 3 | 3-4 | |
| | Oct 12, 1994 | 11 | 11-12 | |

| | | | | |
|---------------------|--------------|-----|---------|-----|
| Brook Trout <200mm | Sep 17, 1995 | 6 | 6-8 | |
| | Sep 25, 1996 | 31 | 31-33 | |
| | Sep 22, 1997 | 106 | 105-109 | |
| | Jun 02, 1998 | 32 | 32-33 | |
| | Sep 10, 1998 | 23 | 23-25 | |
| | Jun 21, 1999 | 4 | 4-4 | |
| | Sep 17, 1999 | 17 | 17-18 | |
| | Jun 29, 2000 | 7 | 7-8 | |
| | Sep 18, 2000 | 113 | 107-121 | |
| Brook Trout >=200mm | Oct 12, 1994 | 2 | 2-2 | BK3 |
| | Sep 17, 1995 | 2 | 2-2 | BK3 |
| | Jun 02, 1998 | 5 | 5-6 | BK2 |
| | Sep 10, 1998 | 4 | 4-4 | BK2 |
| | Jun 21, 1999 | 8 | 8-9 | BK2 |
| | Sep 17, 1999 | 5 | 5-5 | BK2 |
| | Jun 29, 2000 | 6 | 6-9 | BK2 |

| | | | | |
|---------------------|--------------|-----|---------|-----|
| Brook Trout >=200mm | Sep 18, 2000 | 4 | 4-5 | BK2 |
| Brown Trout <200mm | Oct 27, 1993 | 2 | 2-4 | |
| | Oct 12, 1994 | 4 | 4-4 | |
| | Sep 17, 1995 | 8 | 8-10 | |
| | Sep 25, 1996 | 55 | 53-60 | |
| | Sep 22, 1997 | 183 | 180-188 | |
| | Jun 02, 1998 | 61 | 60-64 | |
| | Sep 10, 1998 | 98 | 94-104 | |
| | Jun 21, 1999 | 44 | 27-86 | |
| | Sep 17, 1999 | 221 | 210-232 | |
| | Jun 29, 2000 | 52 | 51-56 | |
| | Sep 18, 2000 | 168 | 156-180 | |
| Brown Trout >=200mm | Oct 27, 1993 | 30 | 30-31 | BR3 |
| | Oct 12, 1994 | 11 | 11-11 | BR2 |
| | Sep 17, 1995 | 14 | 14-16 | BR2 |
| | Sep 25, 1996 | 5 | 5-5 | BR2 |

| | | | | |
|---------------------|--------------|-----|--------|-----|
| Brown Trout >=200mm | Sep 22, 1997 | 18 | 18-18 | BR2 |
| | Jun 02, 1998 | 22 | 22-22 | BR1 |
| | Sep 10, 1998 | 21 | 21-22 | BR1 |
| | Jun 21, 1999 | 25 | 25-27 | BR2 |
| | Sep 17, 1999 | 31 | 31-32 | BR1 |
| | Jun 29, 2000 | 27 | 27-29 | BR1 |
| | Sep 18, 2000 | 33 | 33-34 | BR1 |
| Longnose Dace | Oct 27, 1993 | 1 | 1-2 | |
| | Oct 12, 1994 | 5 | 5-7 | |
| | Sep 17, 1995 | 3 | 3-5 | |
| | Sep 25, 1996 | 24 | 23-28 | |
| | Sep 22, 1997 | 116 | 67-195 | |
| | Jun 02, 1998 | 56 | 40-85 | |
| | Sep 10, 1998 | 26 | 19-44 | |
| | Jun 21, 1999 | 2 | 2-6 | |
| | Sep 17, 1999 | 20 | 10-70 | |

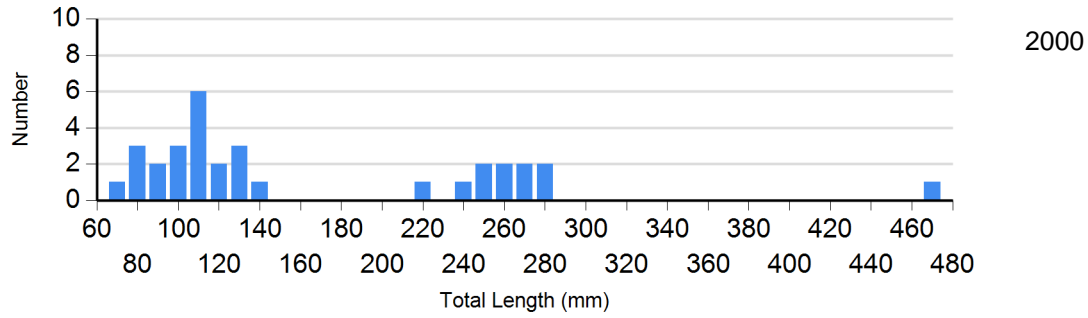
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|-----------------------|--------------|---|------|-----|
| Longnose Dace | Jun 29, 2000 | 8 | 9-13 | |
| | Sep 18, 2000 | 8 | 8-10 | |
| Mountain Sucker | Oct 27, 1993 | 8 | 8-10 | |
| Rainbow Trout >=200mm | Oct 12, 1994 | 1 | 1-1 | RB2 |
| | Sep 17, 1995 | 3 | 3-4 | RB1 |
| | Jun 29, 2000 | 1 | 1-1 | RB2 |

Length Frequency Distribution

Length frequency histogram of species sampled by year.

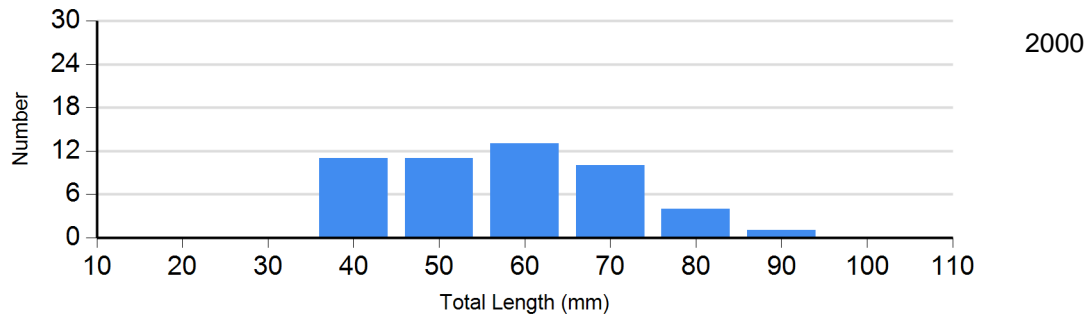
Site: 43

Species: Brown Trout



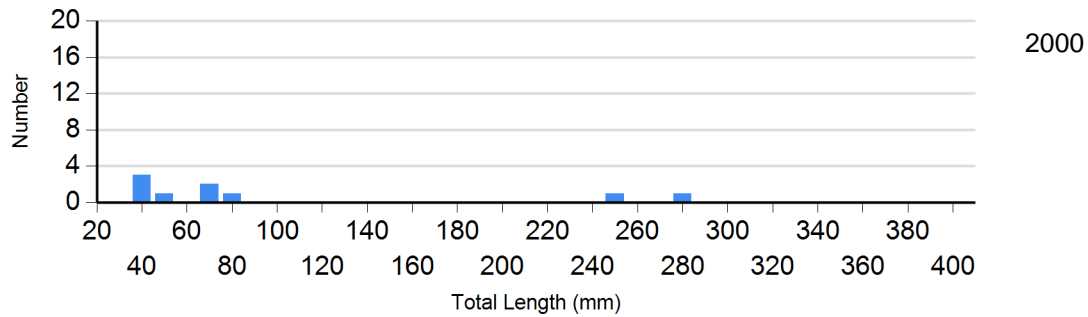
Site: 43

Species: Longnose Dace

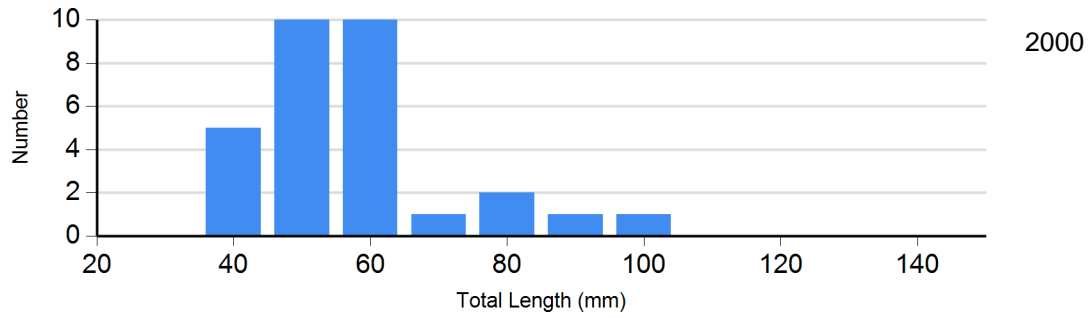


Site: 43

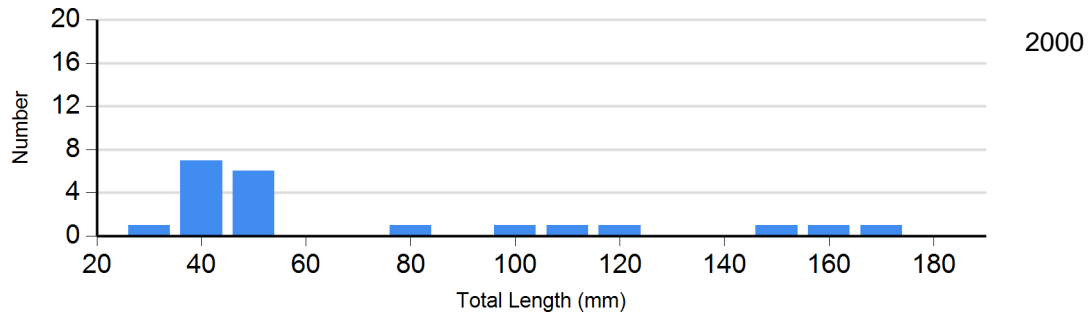
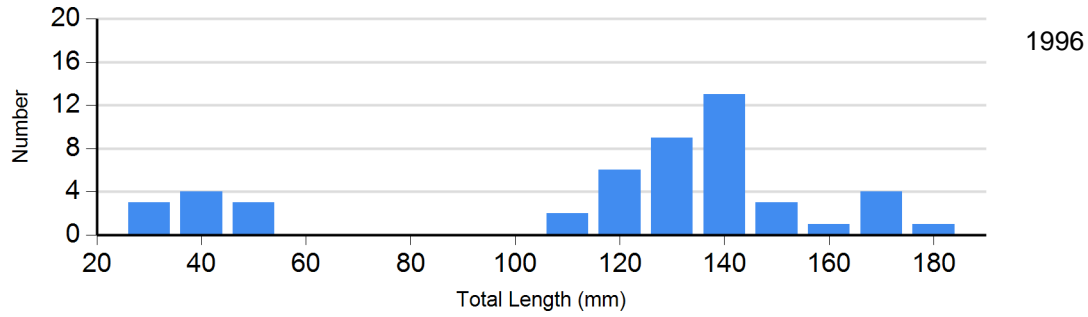
Species: White Sucker



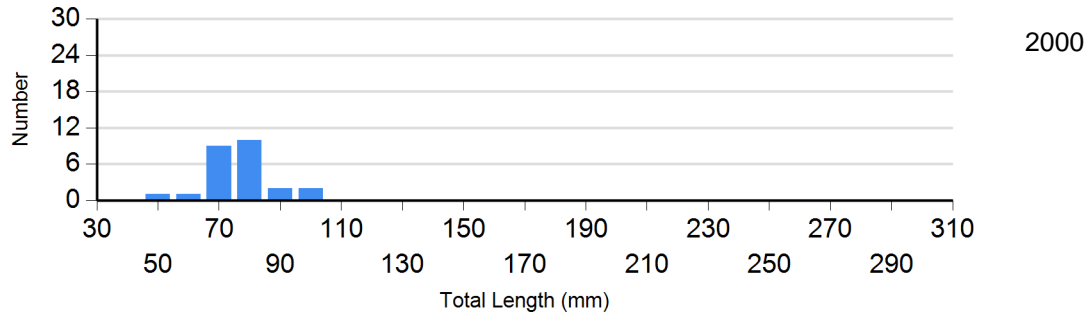
Site: 44
Species: Longnose Dace



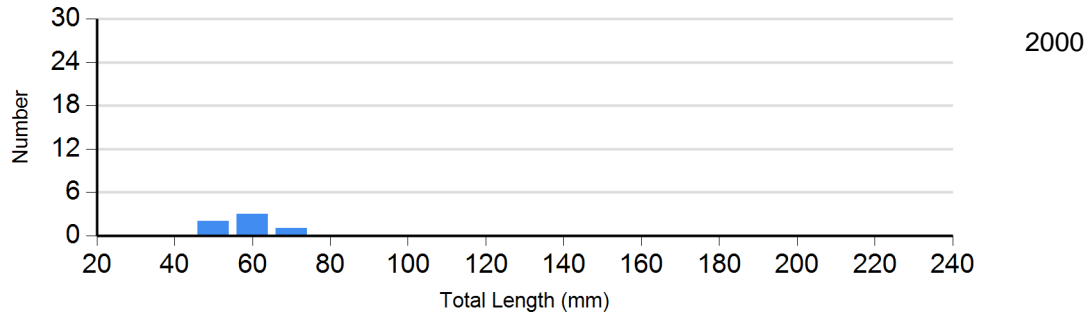
Site: 44
Species: Stone Cat



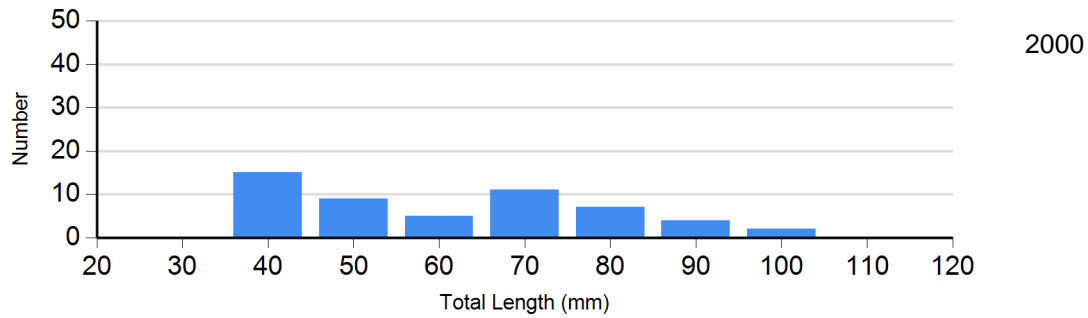
Site: 44
Species: White Sucker



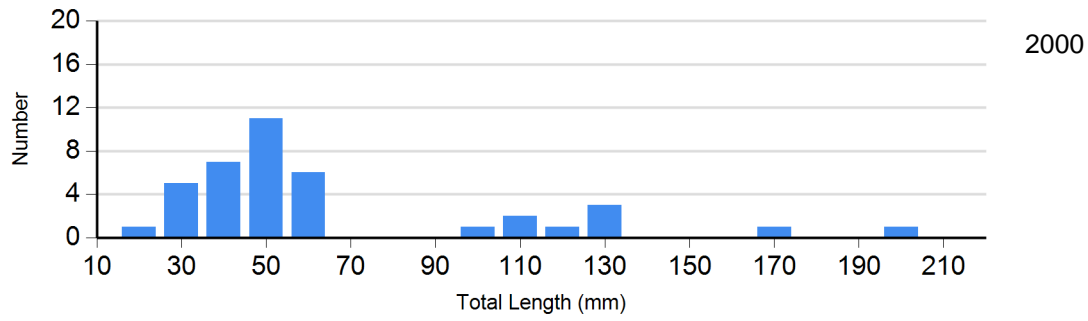
Site: 131
Species: Creek Chub



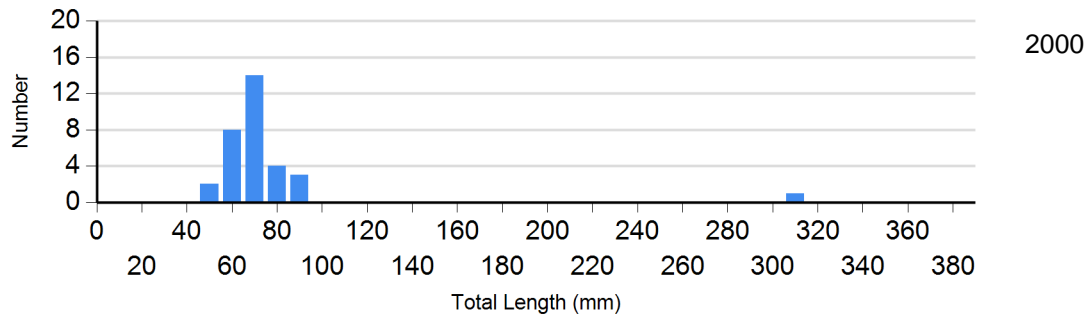
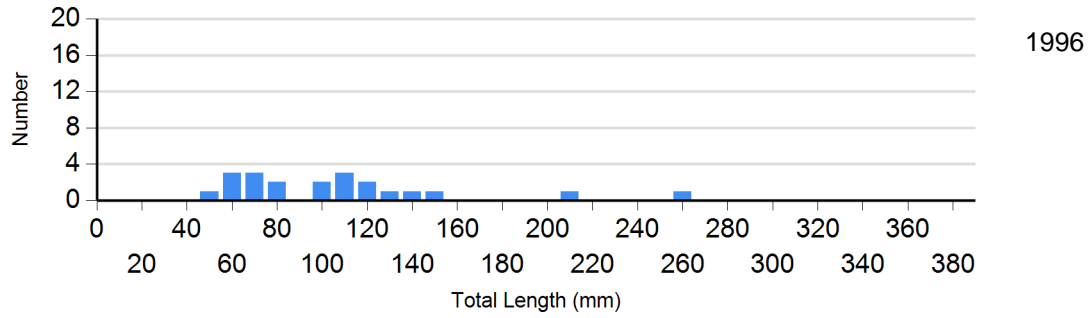
Site: 131
Species: Longnose Dace



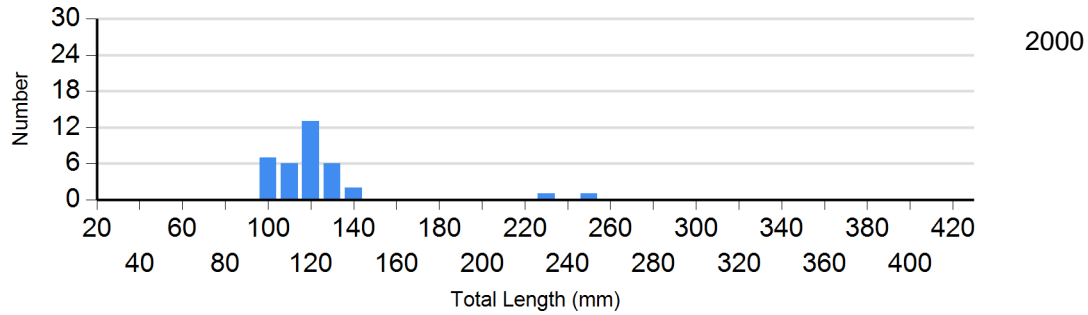
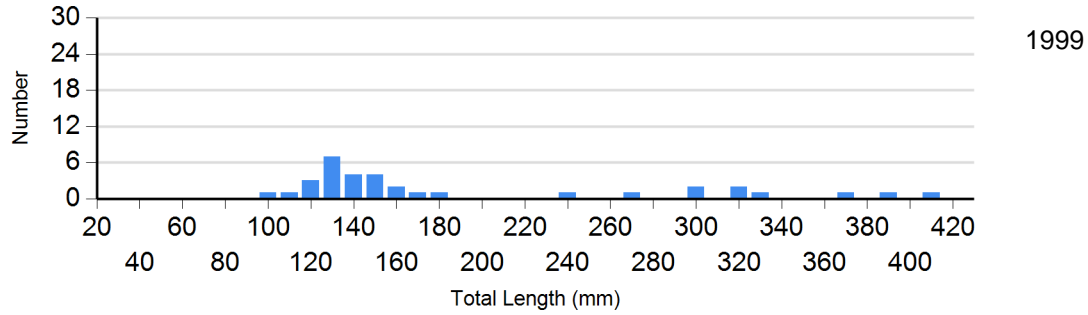
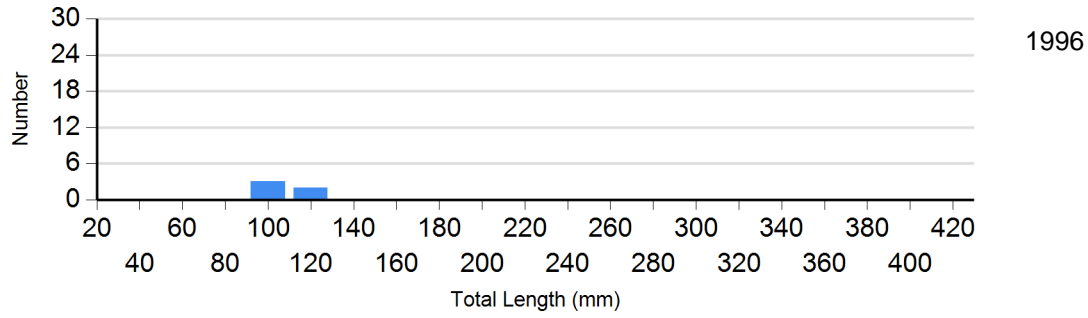
Site: 131
Species: Stone Cat



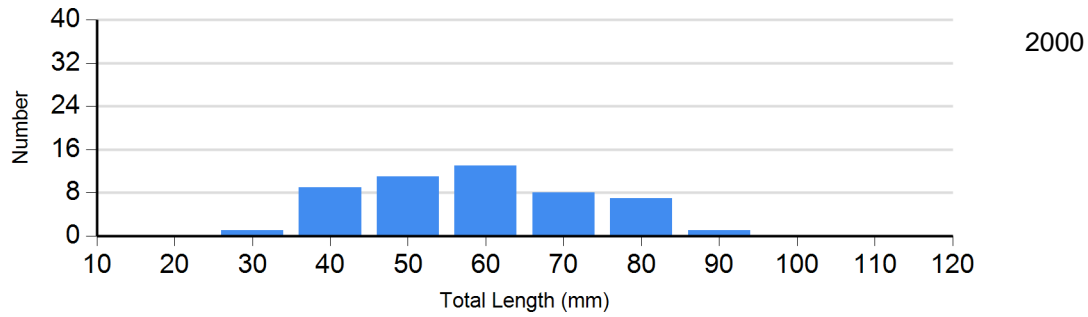
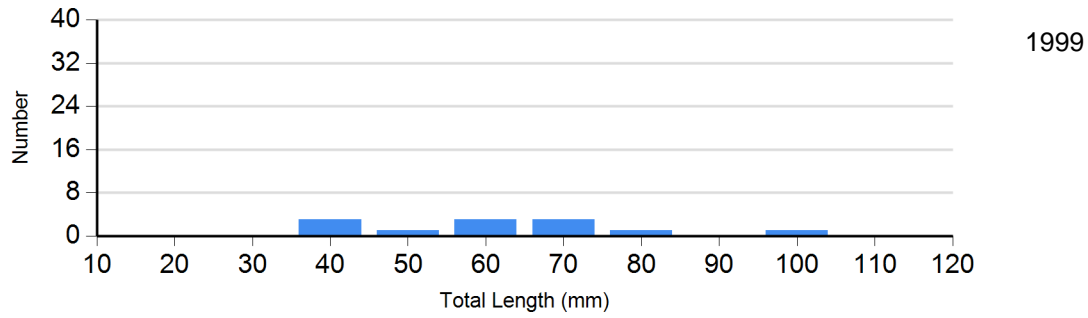
Site: 131
Species: White Sucker



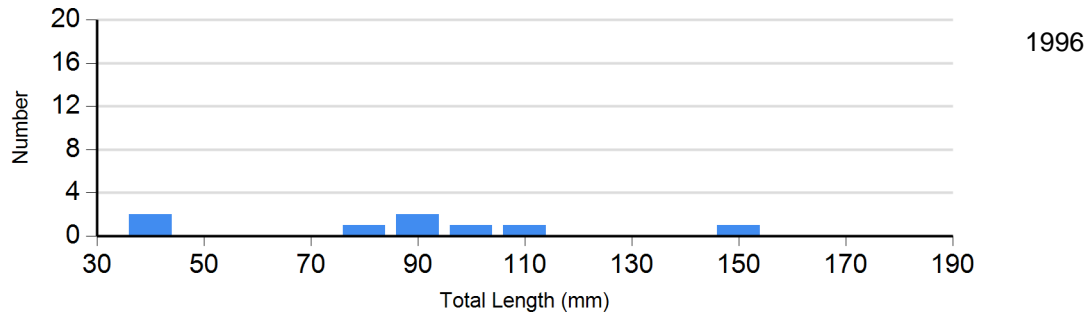
Site: 295
Species: Brown Trout

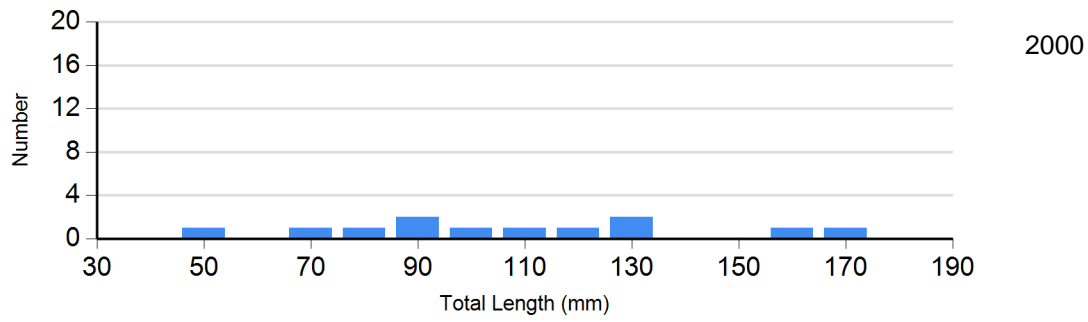


Site: 295
Species: Longnose Dace

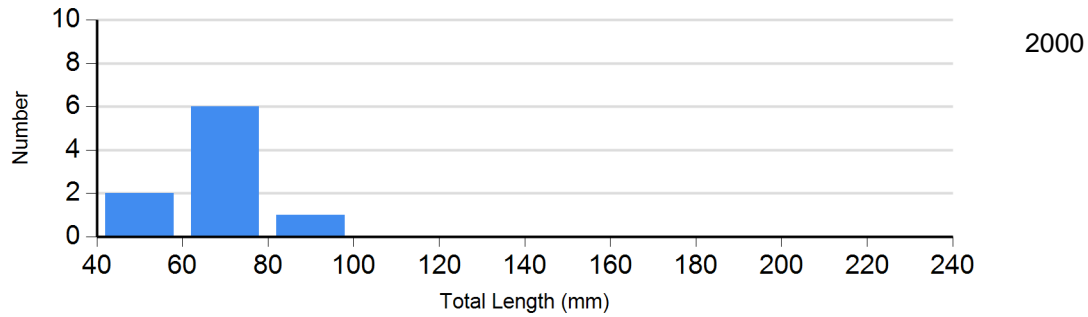
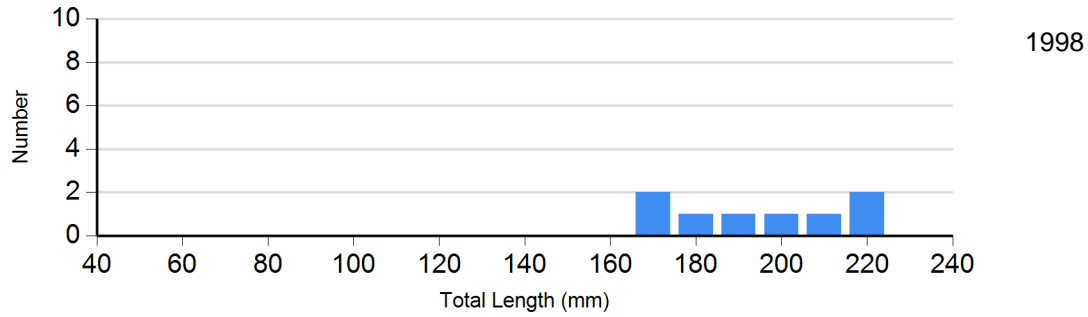


Site: 295
Species: Mountain Sucker

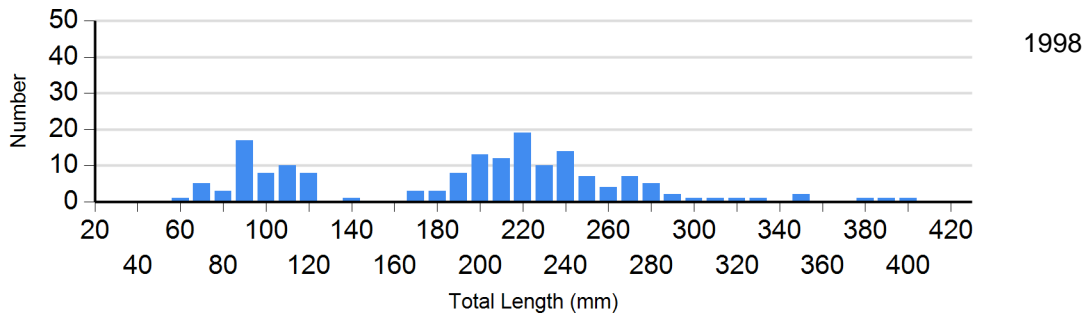
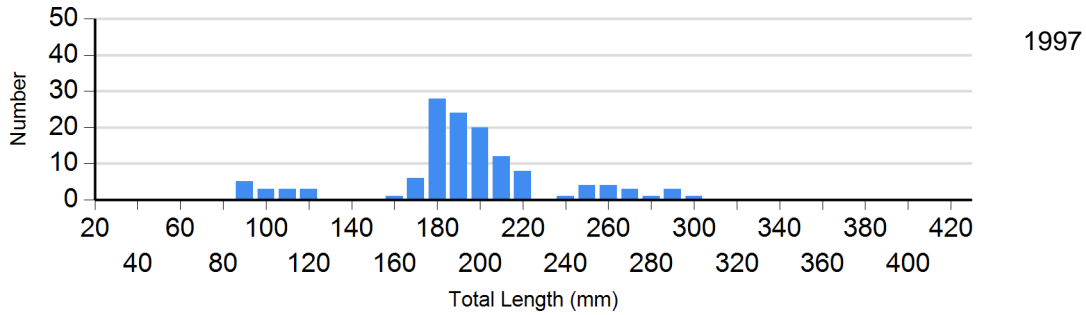
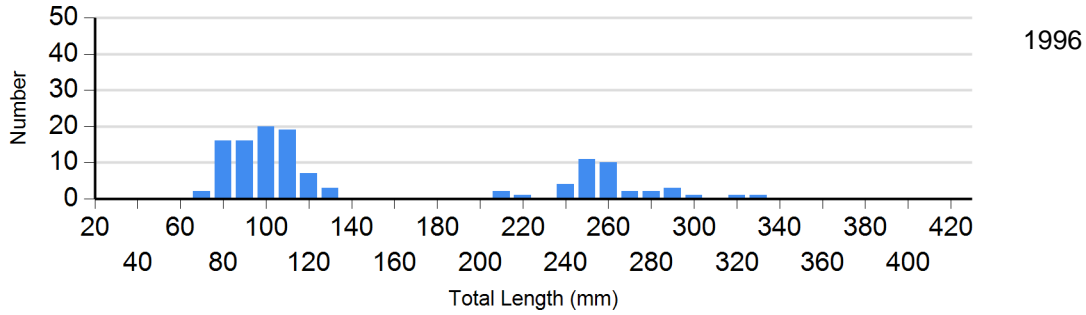
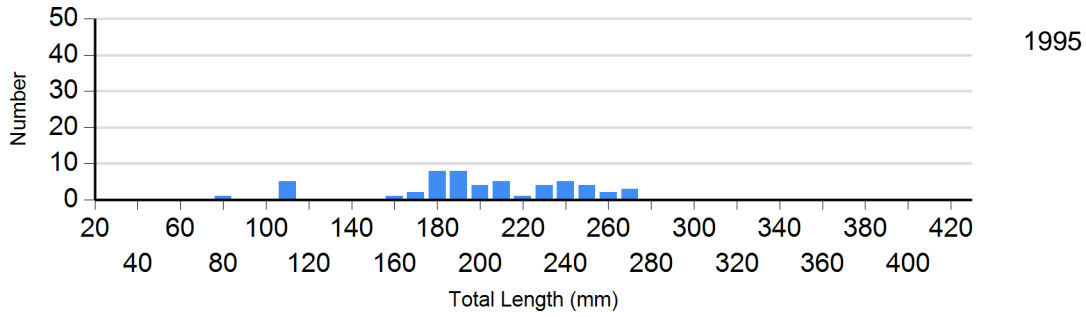


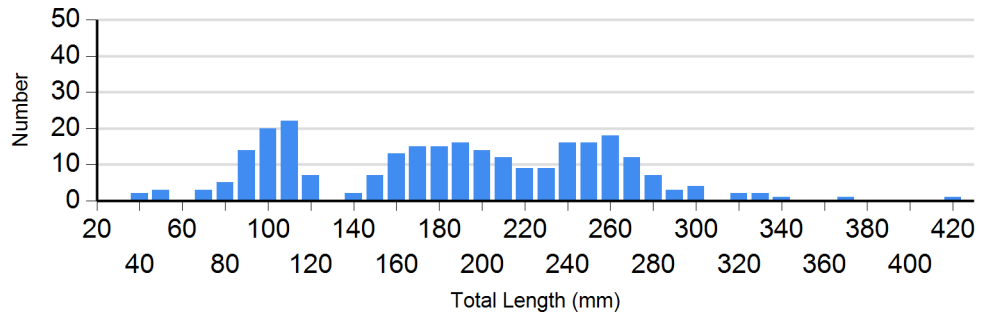
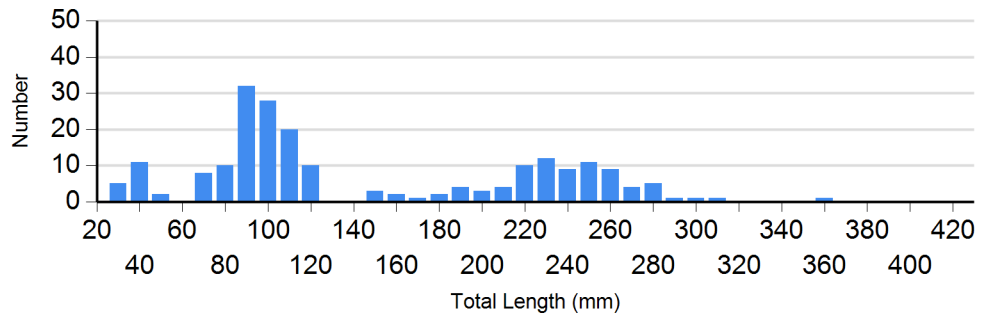


Site: 558
Species: Brook Trout

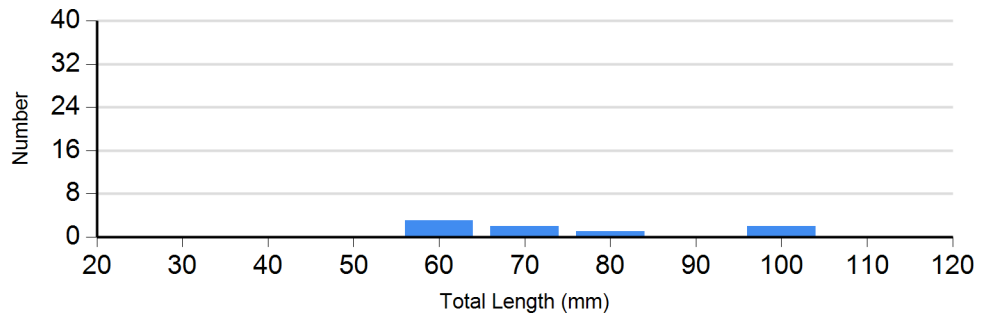
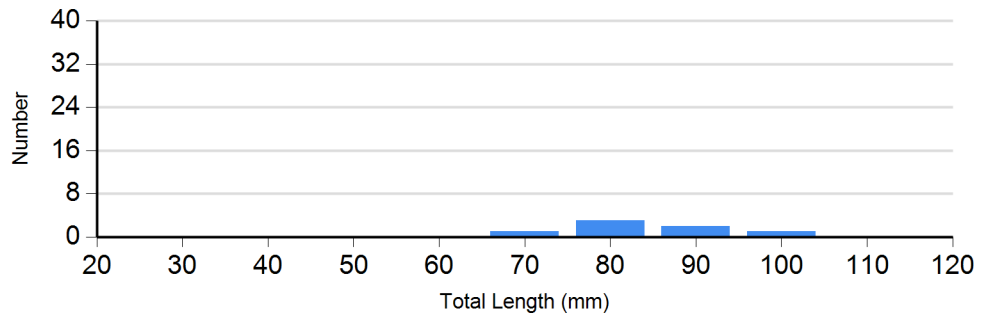


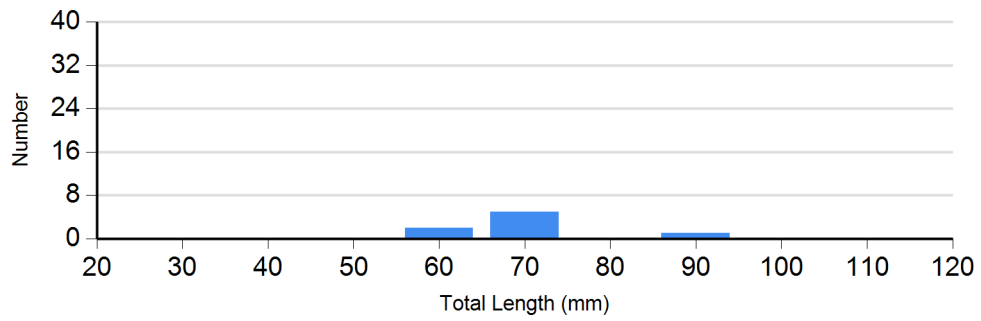
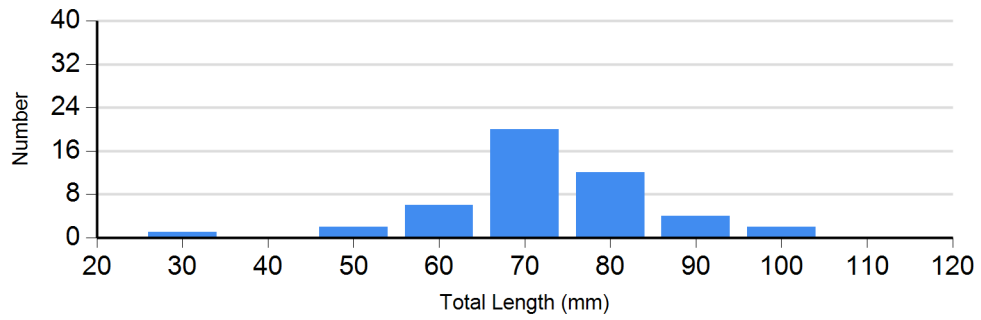
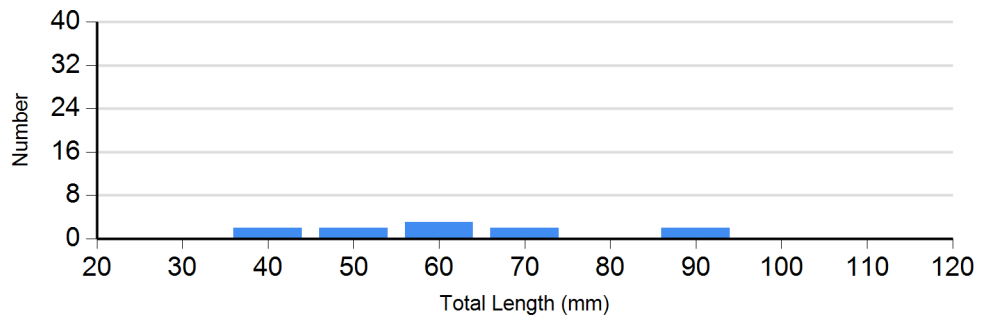
Site: 558
Species: Brown Trout



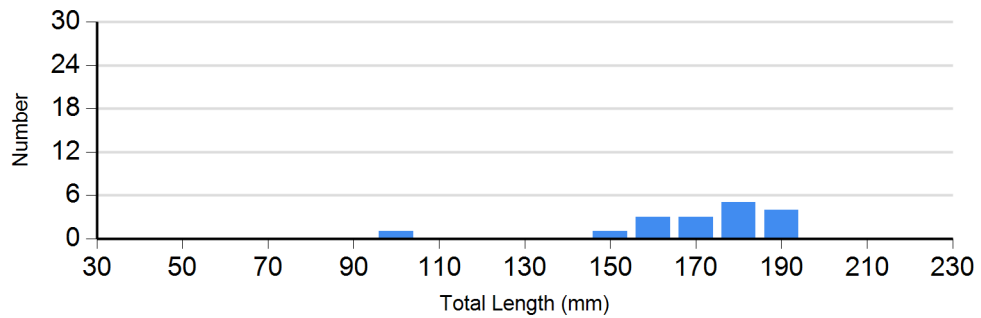


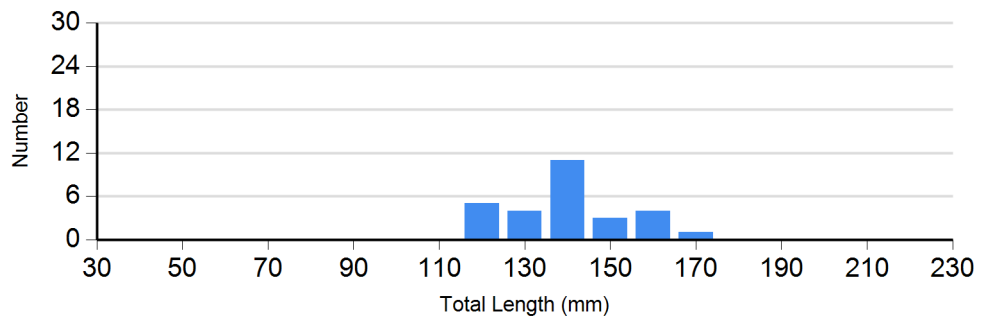
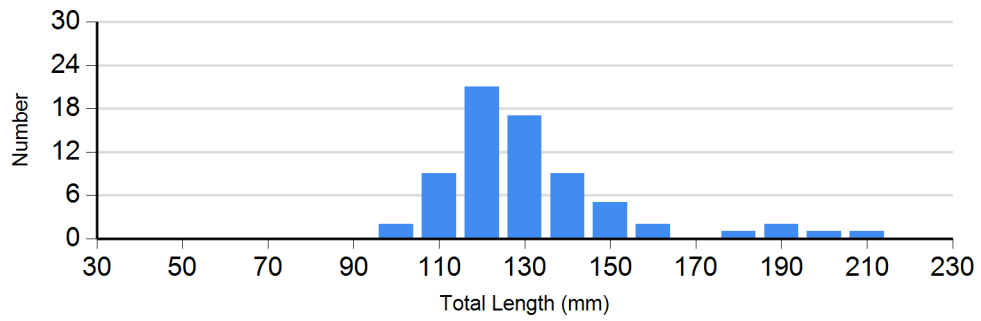
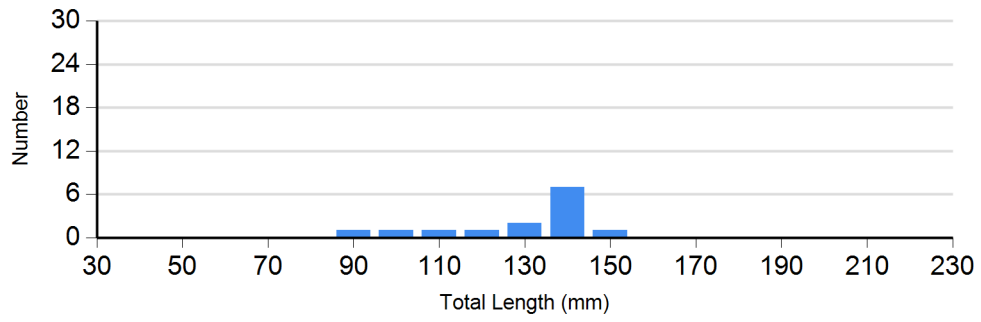
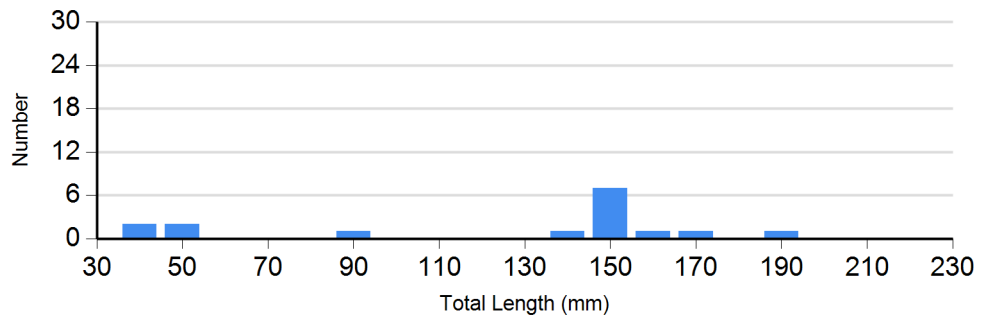
Site: 558
Species: Longnose Dace

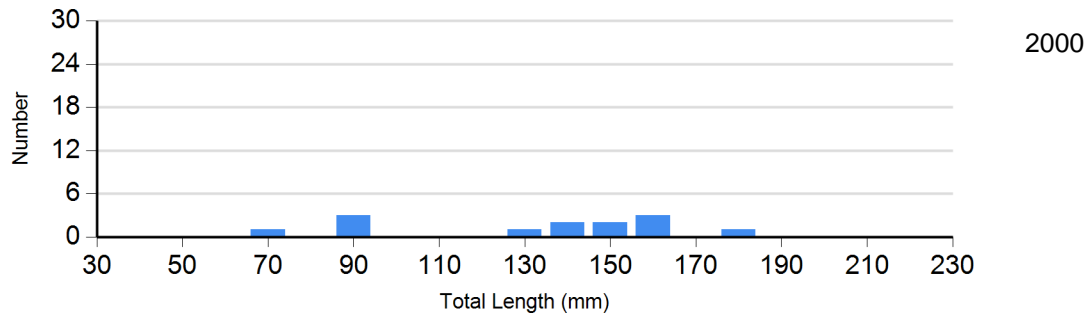




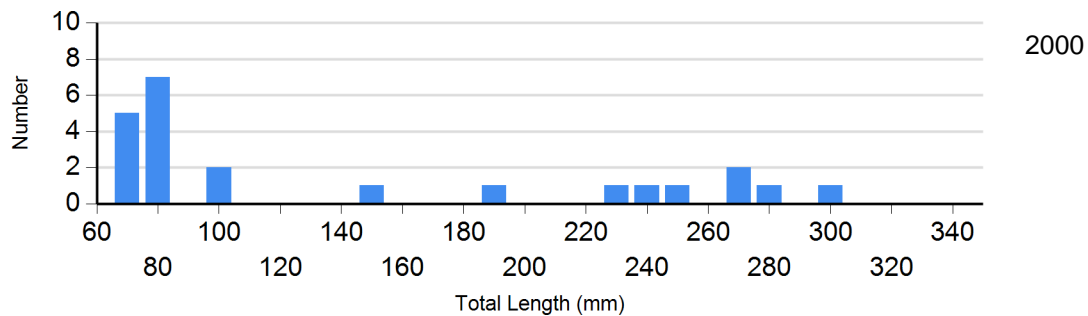
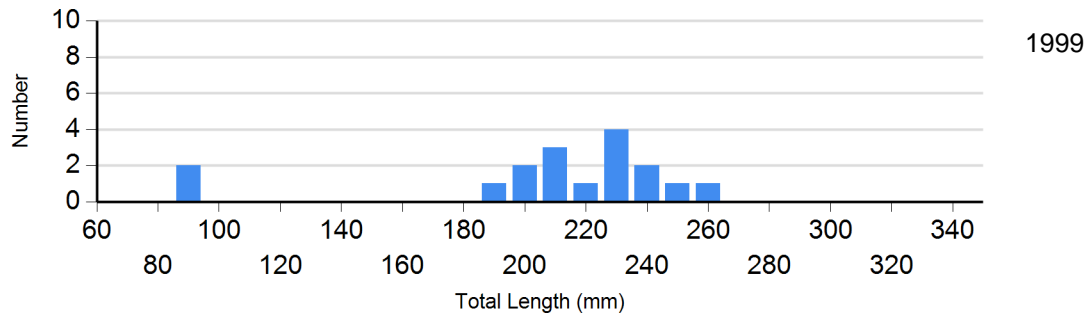
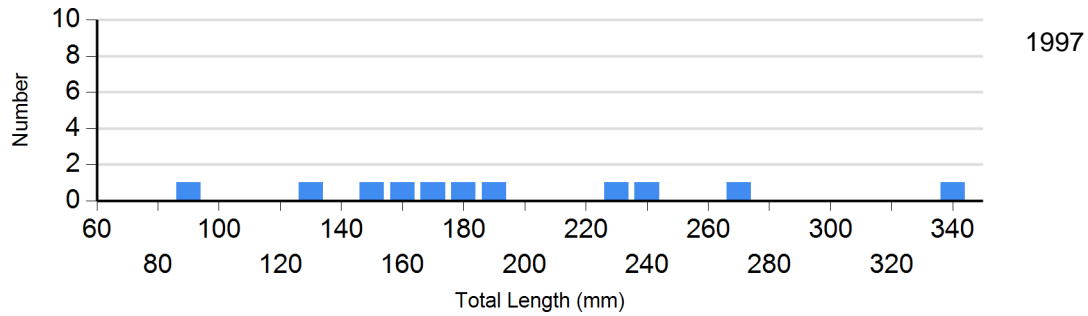
Site: 558
Species: Mountain Sucker



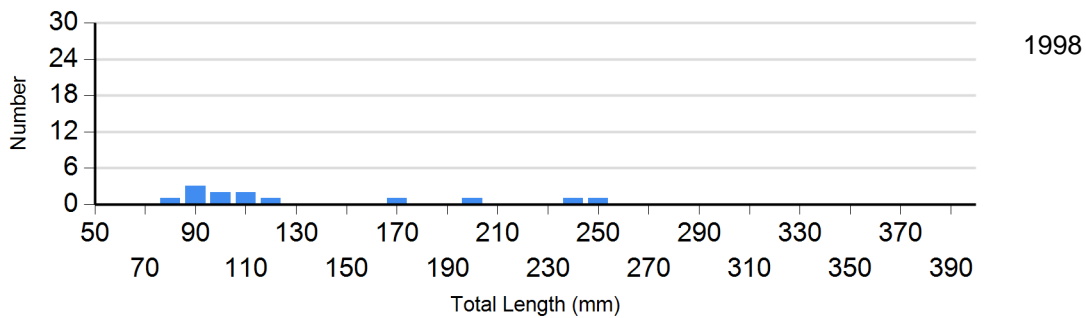
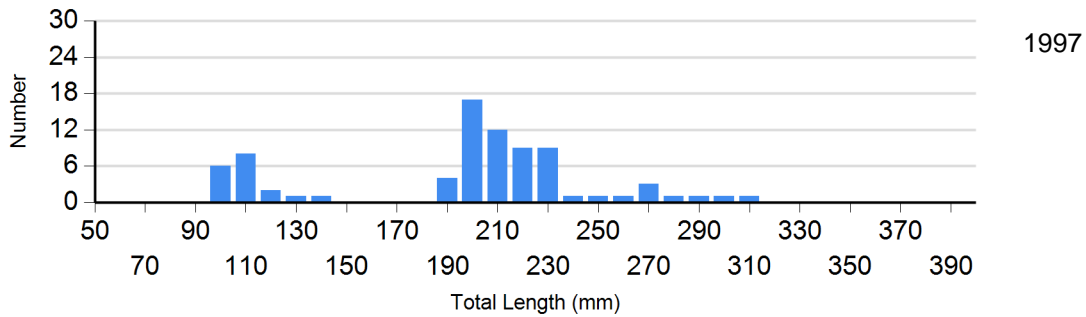
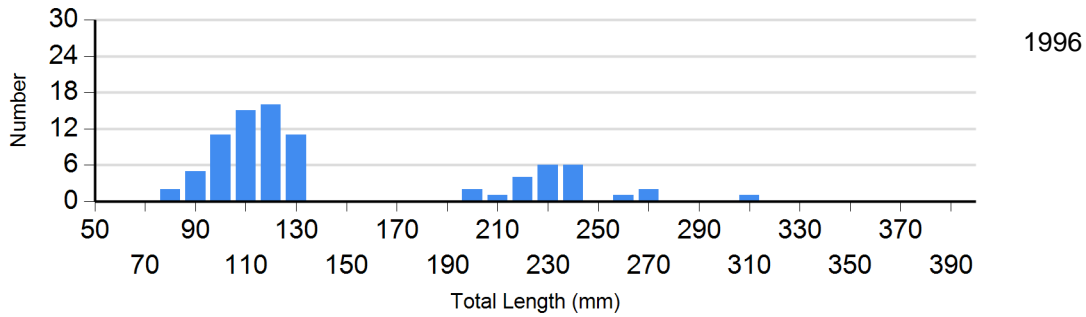
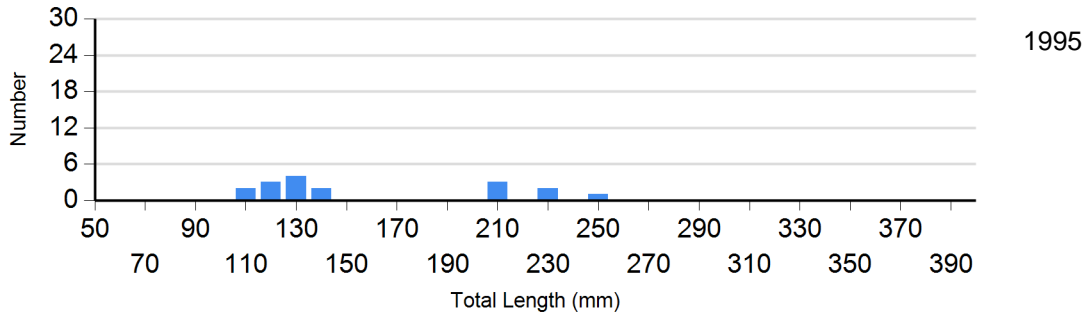


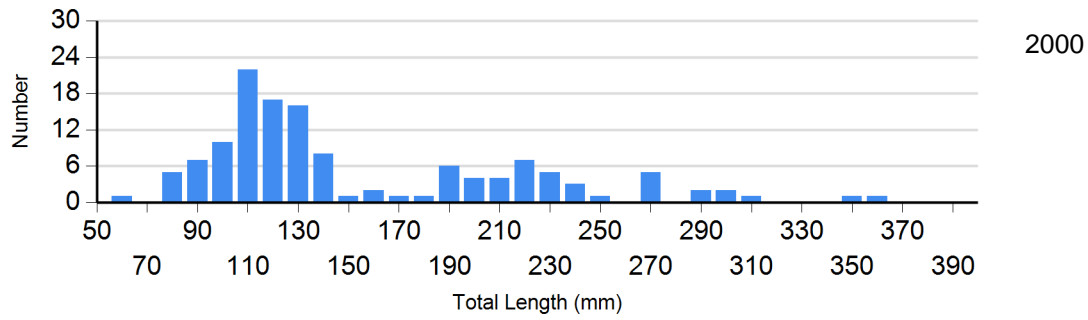
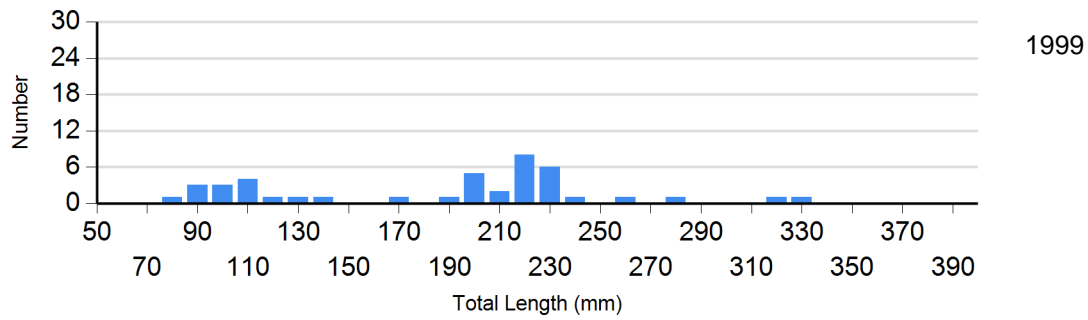


Site: 588
Species: Brook Trout

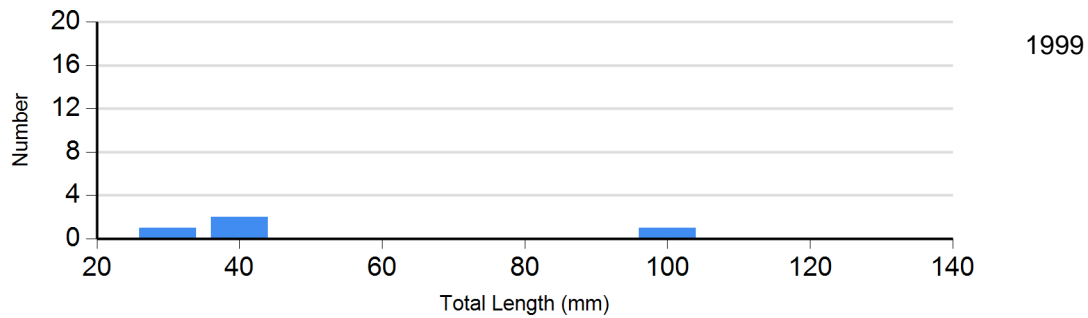
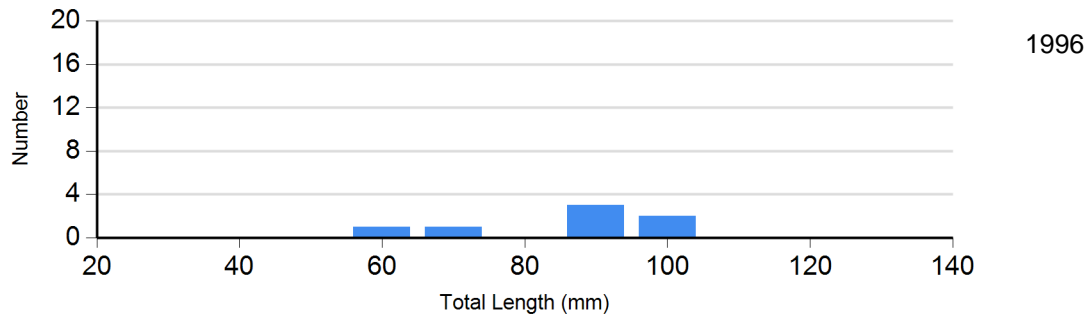


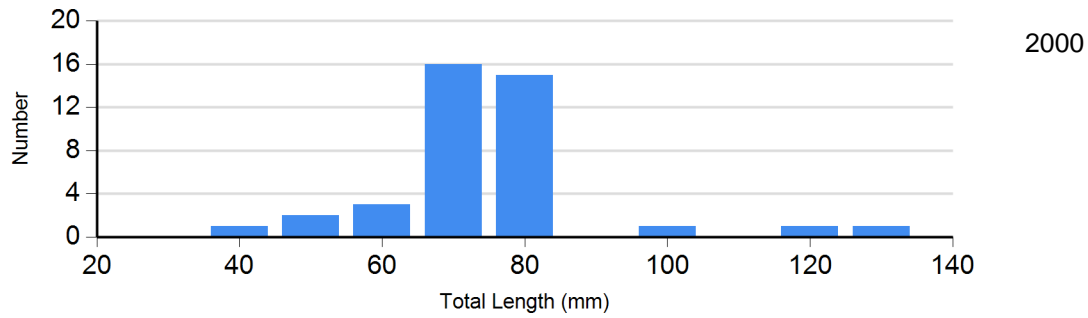
Site: 588
Species: Brown Trout



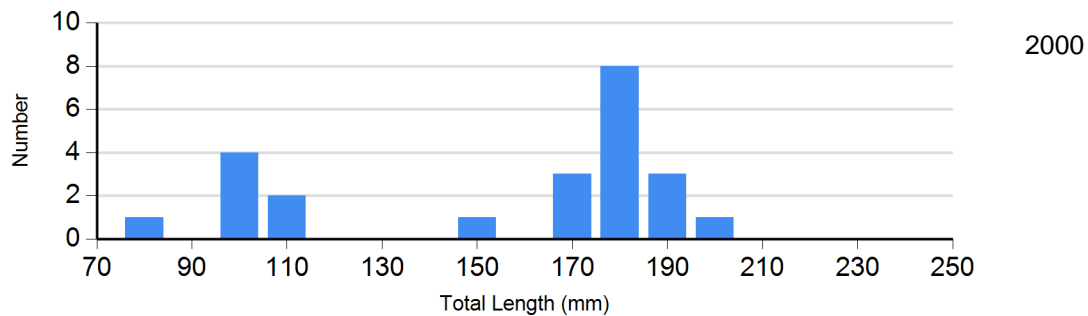
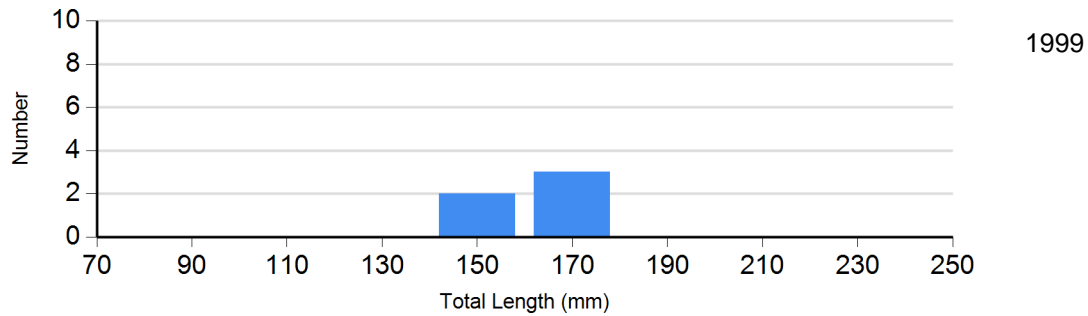
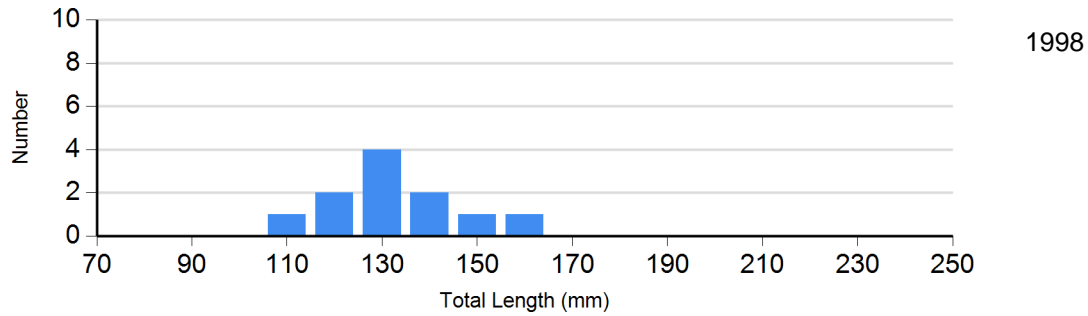


Site: 588
Species: Longnose Dace

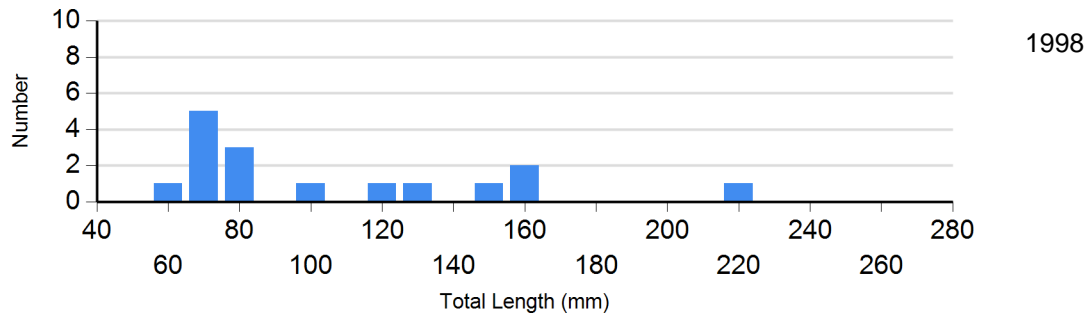
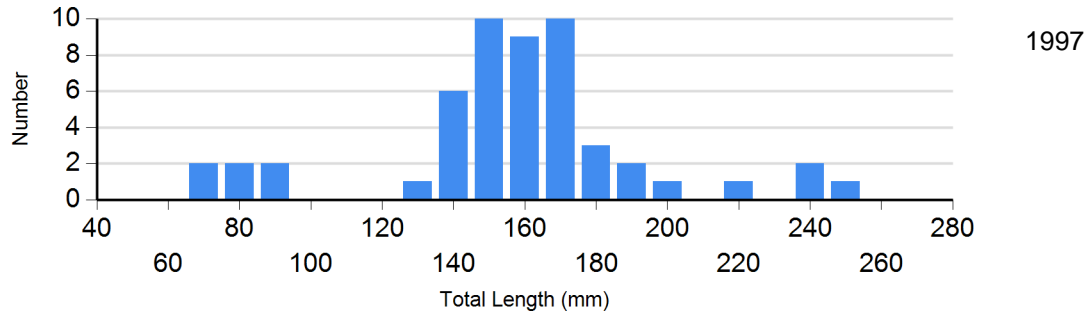
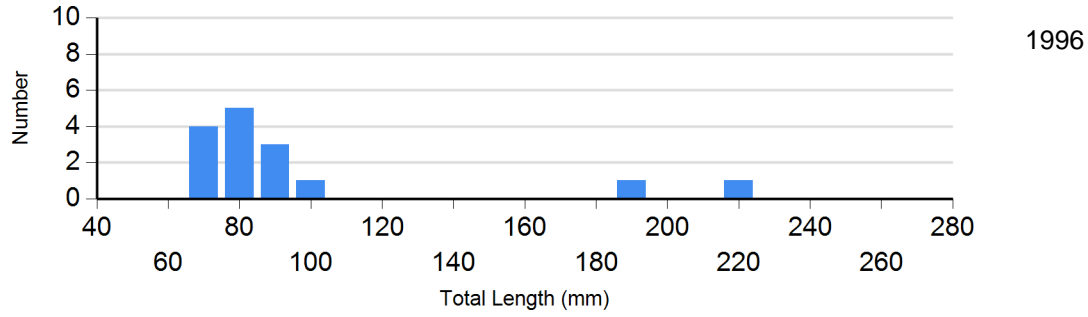
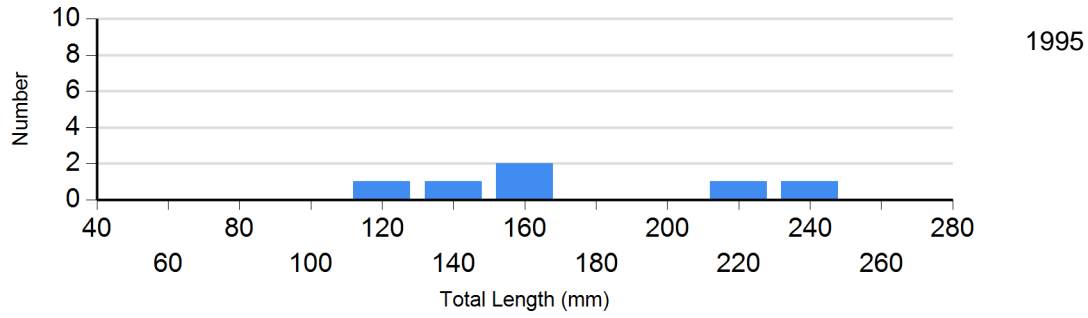


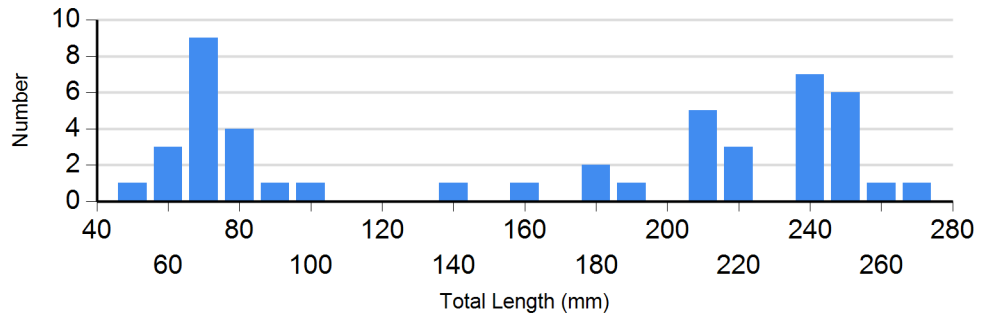
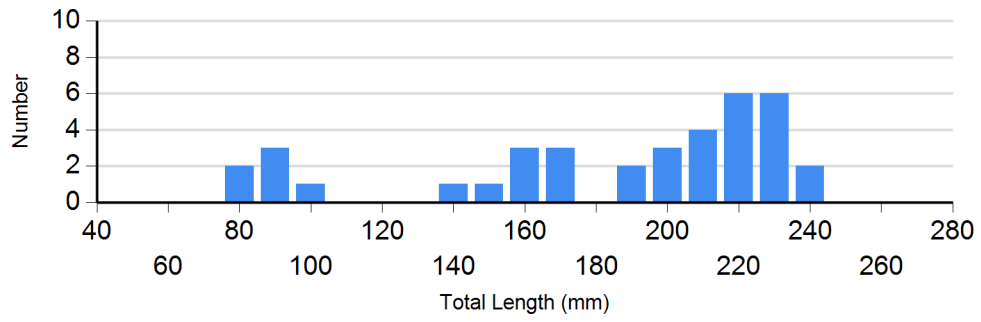


Site: 588
Species: Mountain Sucker

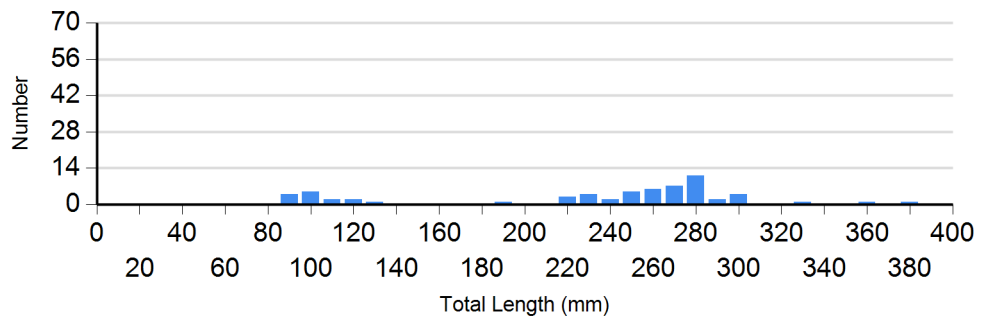
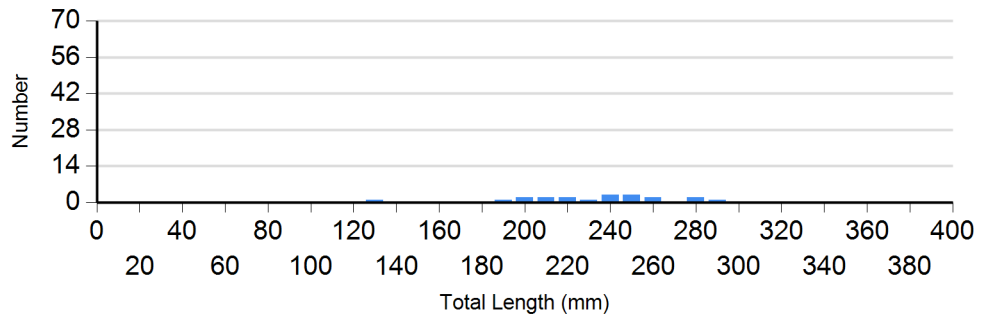


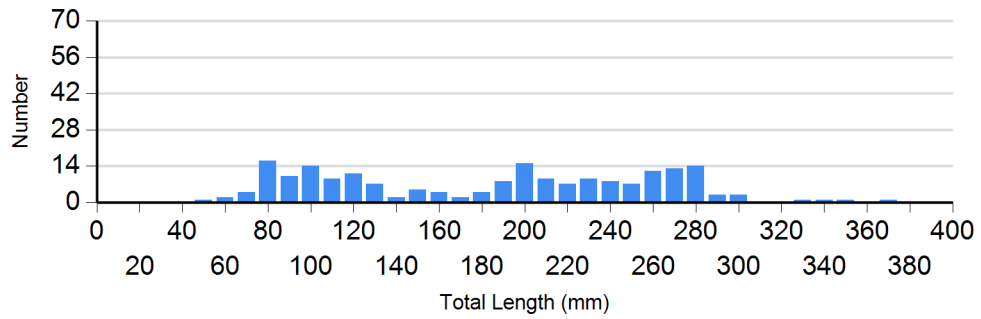
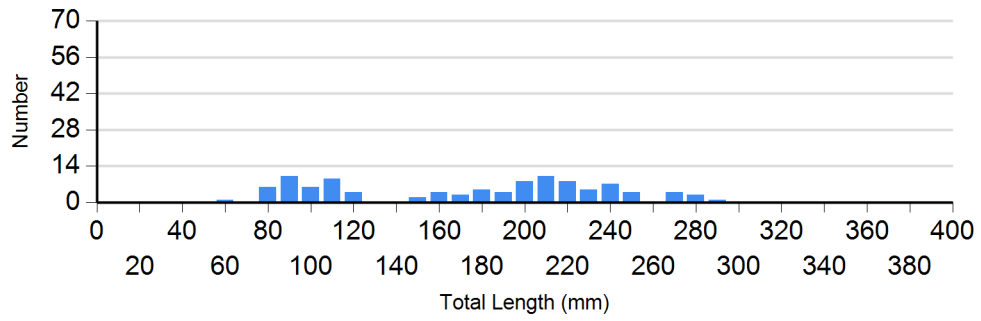
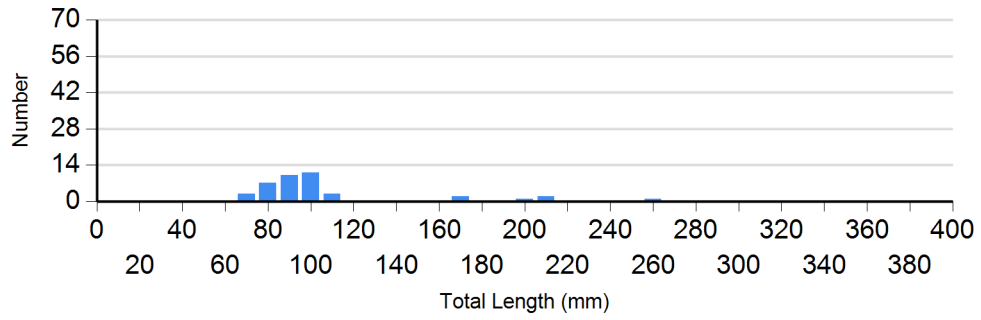
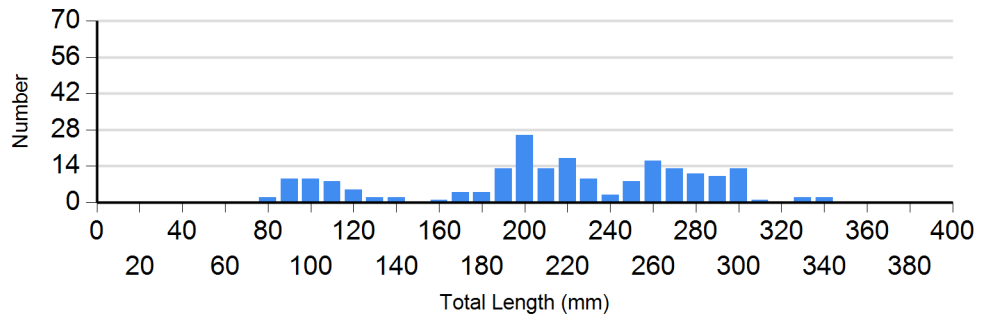
Site: 599
Species: Brook Trout



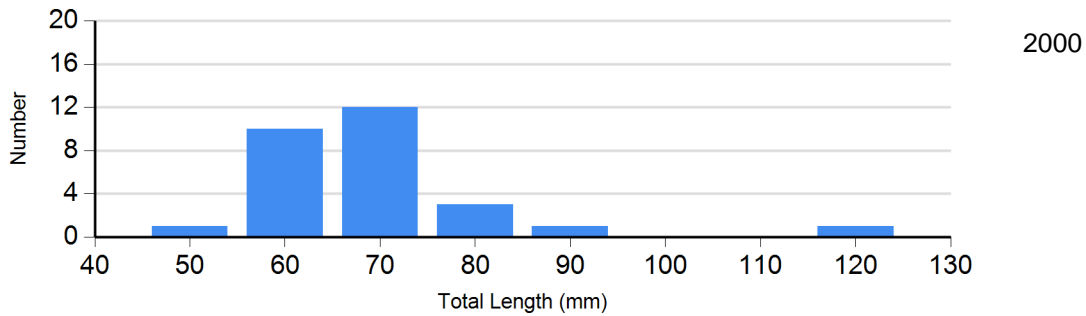
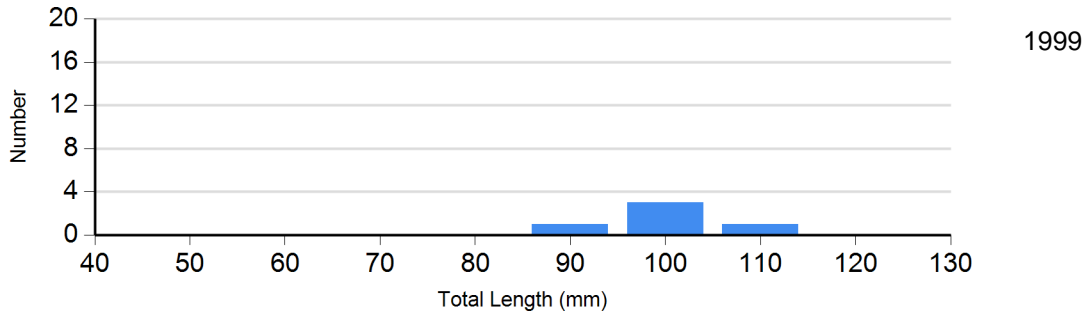
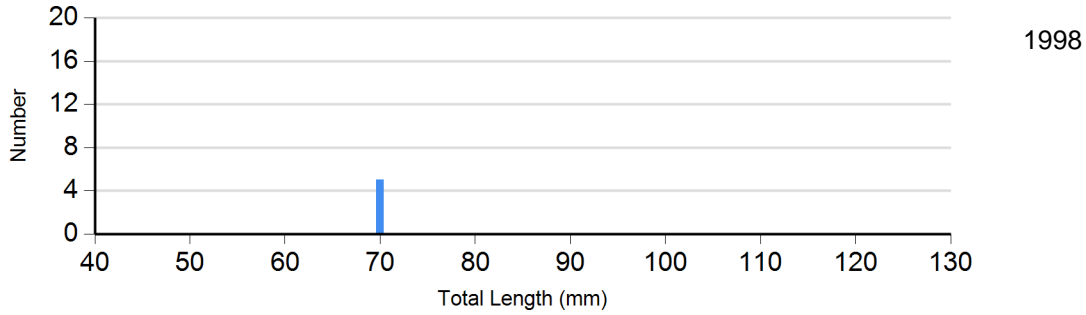
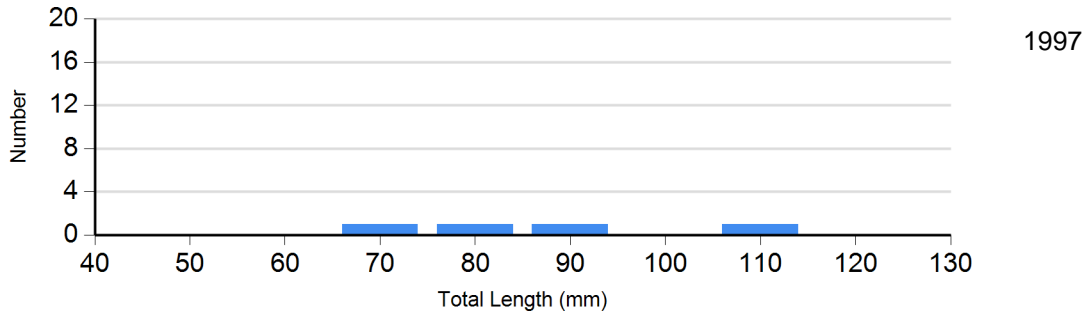


Site: 599
Species: Brown Trout

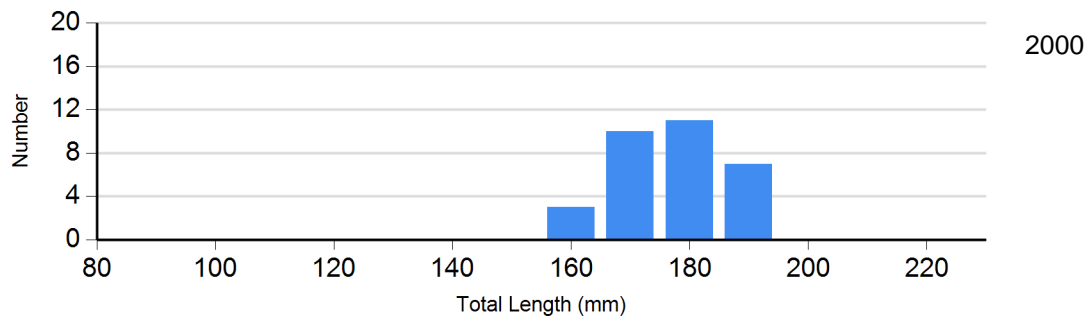
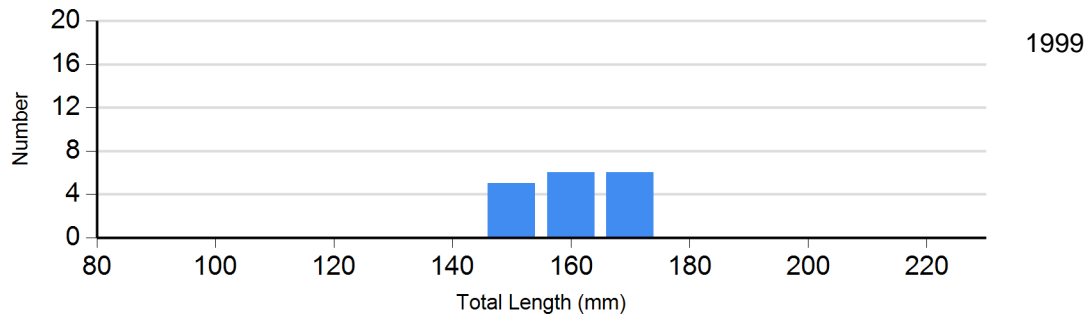
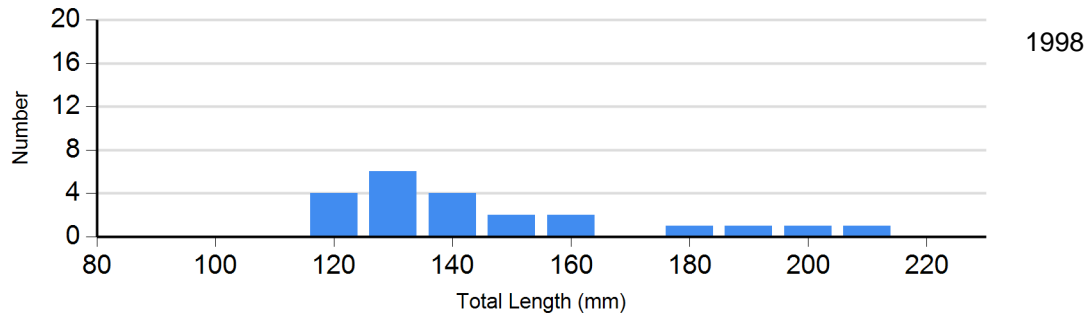
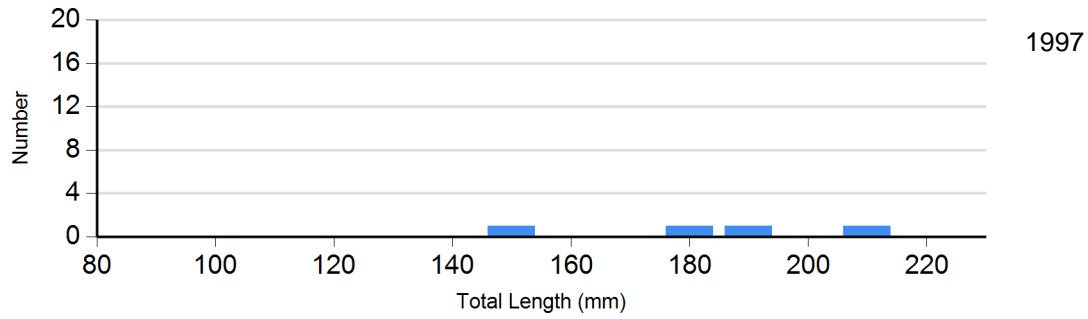




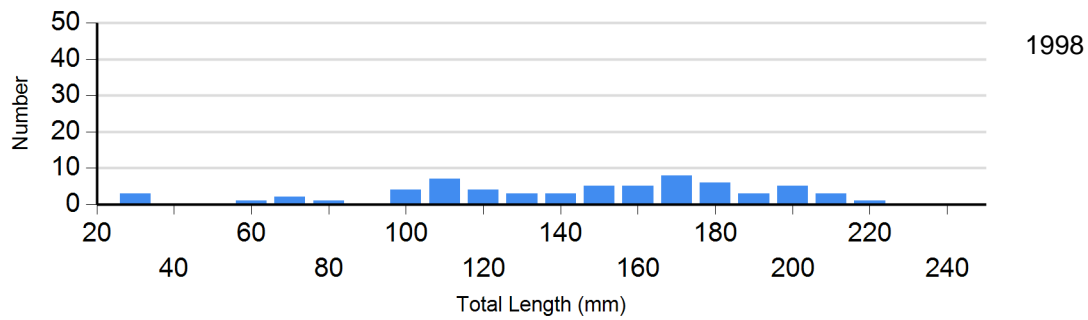
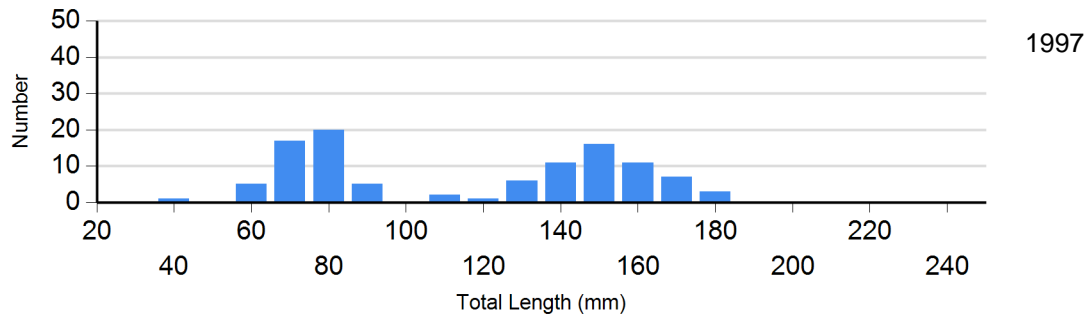
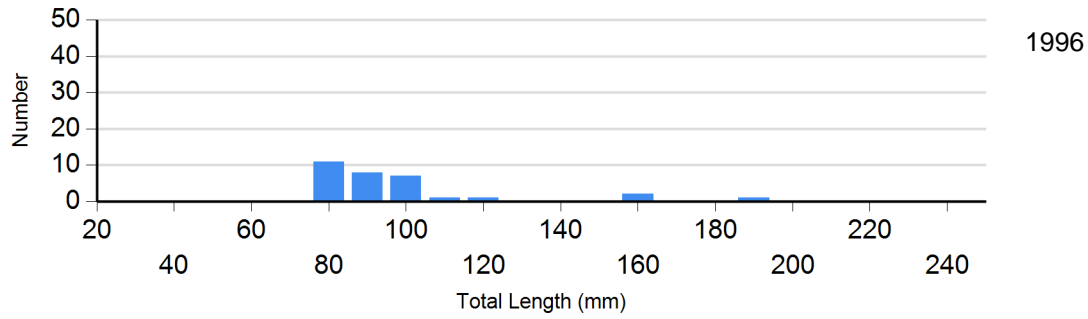
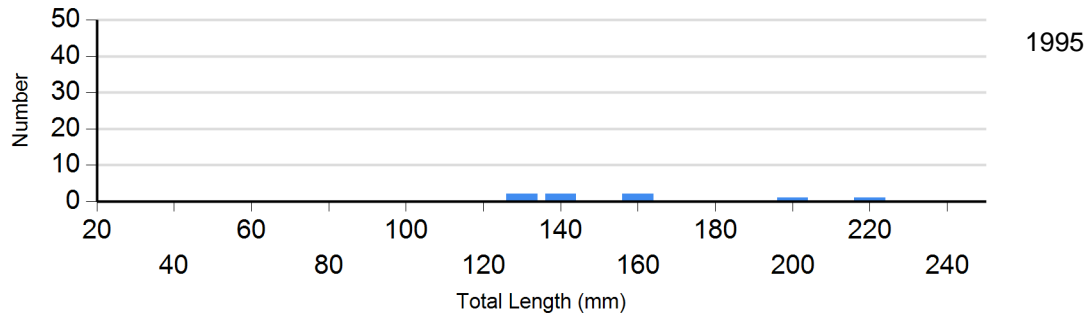
Site: 599
Species: Longnose Dace

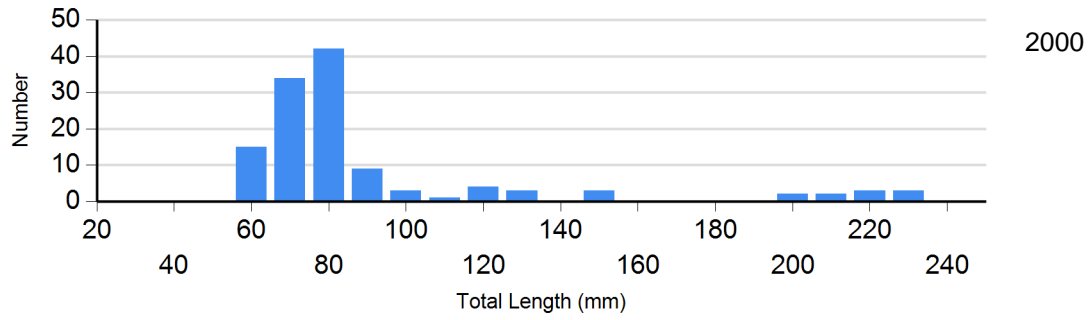
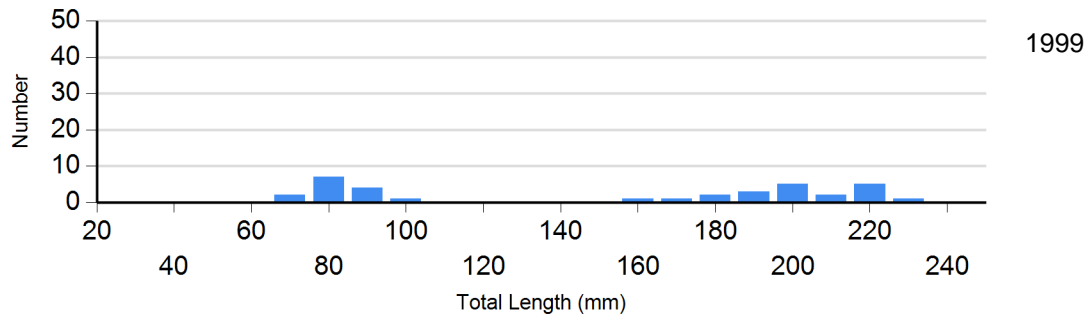


Site: 599
Species: Mountain Sucker

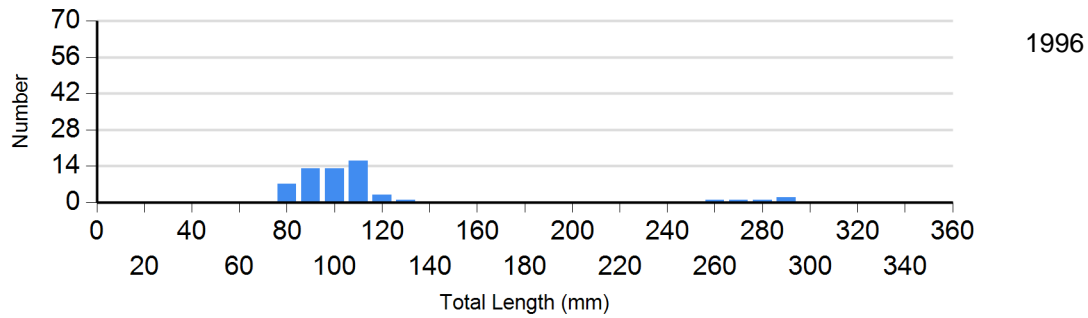
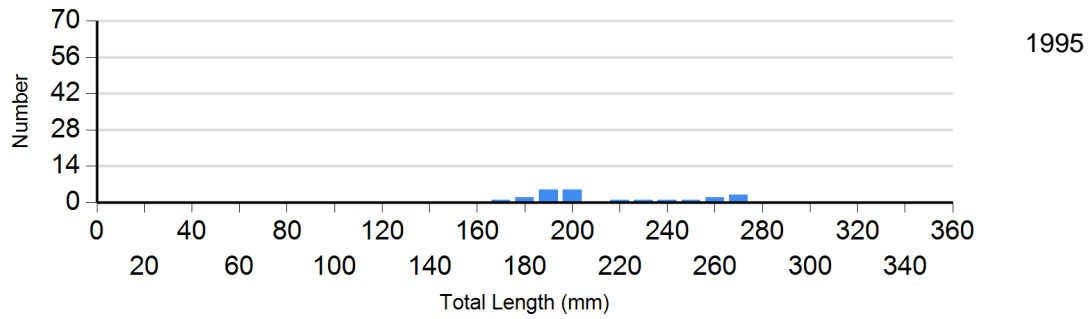


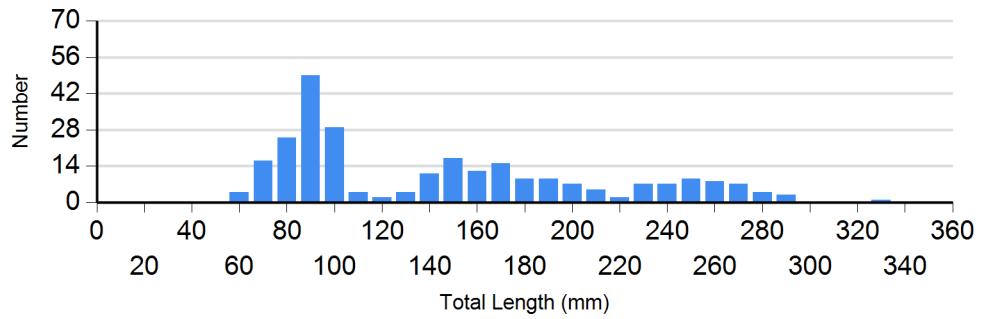
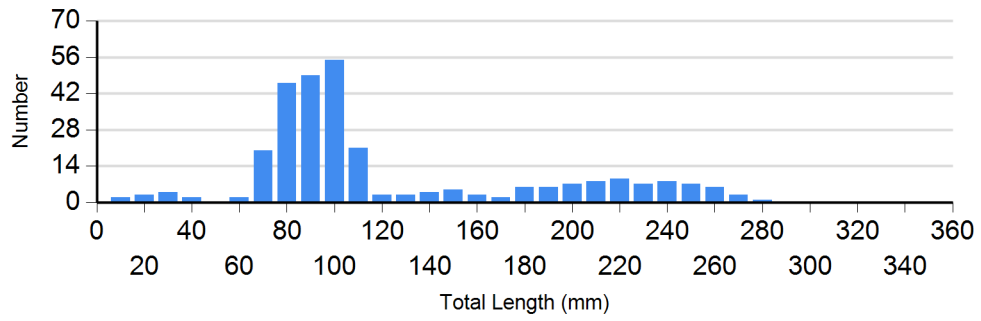
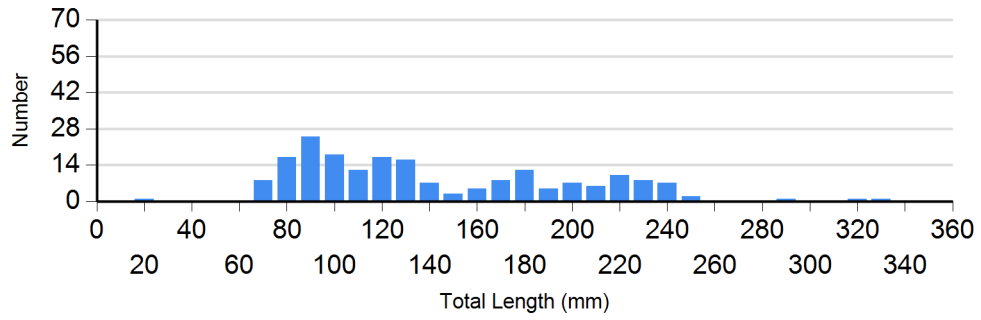
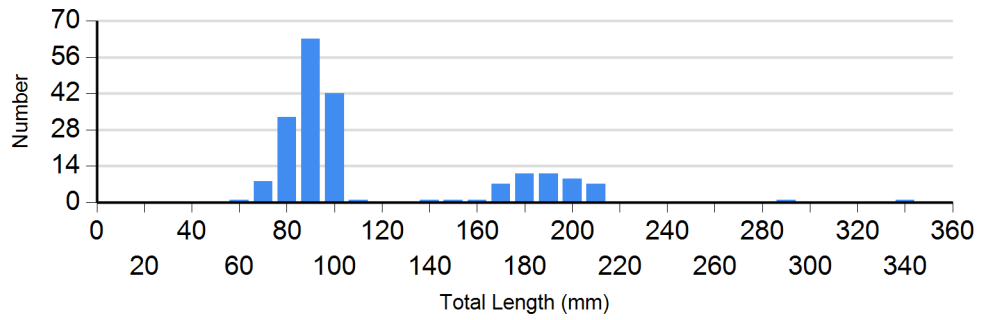
Site: 612
Species: Brook Trout





Site: 612
Species: Brown Trout





Site: 612
Species: Longnose Dace

