III. b) Microfish Calculation summary

Stream: Limestone Run Pavilion Site
Species: Total Fish

Removal Pattern: 114 70
Total Catch = 184
Population Estimate = 287

Chi Square = 0.024
Pop Est Standard Err = 50.823
Lower Conf Interval = 186.878
Upper Conf Interval = 387.122

Capture Probability = 0.400
Capt Prob Standard Err = 0.091
Lower Conf Interval = 0.220
Upper Conf Interval = 0.580

The confidence intervals represent 69.77% of the population estimate.

Stream: Limestone Run Pavilion Site
Species: Hognose Sucker

Removal Pattern: 26 18
Total Catch = 44
Population Estimate = 72

Chi Square = 0.109
Pop Est Standard Err = 29.810
Lower Conf Interval = 44.000
Upper Conf Interval = 131.442
Capture Probability = 0.373
Capt Prob Standard Err = 0.195
Lower Conf Interval = -.016
Upper Conf Interval = 0.762

The confidence intervals represent 165.12% of the population estimate.

The population estimate lower confidence interval was set equal to the total catch. Actual calculated lower CI was 12.558.

Stream: Limestone Run Pfleeger Farm Site
Species: Total Fish

Removal Pattern: 182 128
Total Catch = 310
Population Estimate = 596

Chi Square = 0.017
Pop Est Standard Err = 129.473
Lower Conf Interval = 342.233
Upper Conf Interval = 849.767

Capture Probability = 0.307
Capt Prob Standard Err = 0.080
Lower Conf Interval = 0.150
Upper Conf Interval = 0.464

The confidence intervals represent 85.16% of the population estimate.

IV. Species Diversity
The number of individuals within the 13 taxa and 9 taxa at Pavilion and Pfleeger sites, respectively, resulted in the following species diversity values:

Limestone Pavilion

Shannon: 3.072
Simpson: 0.8576

Pfleeger Farm

Shannon: 2.652
Simpson: 0.8117

V. Summary of Population Data

In Summary both calculation procedures came up with similar densities of 295.36 and 287 for the Total Fish Population at Pavilion Site with densities of 84.5 and 72 for Hognose Sucker population estimates (also at Pavilion Site). The estimates for Pfleeger Farm were also similar with densities of 613.41 and 596 for the Total Fish Population. The populations are for 120 meter stretches for both Pavilion Site and Pfleeger Farm Site.