

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.

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