

Spatial Distribution of Fish at Big Creek

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While surveying Big Creek I came across a persisting pattern regarding the distribution of the fish fauna. Big Creeks fluvial complexity allows for an assortment of diverse habitats to arise; each with its own distinct characteristics that ultimately creates multiple niches for the fish fauna. The three most recurrent habitats I observed at Big Creek were riffles, runs and recession pools. The image below was taken while sampling and it shows the three habitat types with captions.

Riffles are characterized by areas of white water that are well oxygenated and highly turbulent. Multiple hook and line samples revealed that the riffled areas are inhabited by adult Rainbow Trout. On average the Rainbow Trout caught here measured 17cm in fork length. Similarly the hook and line sampling method was also applied to study run habitats.

Runs generally came after riffled areas and consisted of long sections of continuously fast flowing water. Runs are different from riffles in that they lack the turbulent white water and are therefore not as substantially oxygenated. Aside from the difference in dissolved oxygen levels the water temperature remained the same amongst riffles and runs. Numerous hook and line samples indicated that Mountain whitefish occupy the run habitat.

The third and last habitat I came across at Big Creek was recession pools. Many recession pools lined the bank of Big Creek and were easily distinguished from the last two habitats. Most notably the recession pools had warm shallow water and were secluded from the fast flowing creek. At first glance it seems almost impossible that such a habitat is hospitable for any fish. Using a very small dip net and a cautious eye I sampled numerous recession pools along Big Creek. The sampling revealed that the recession pools appear to be the niche of the juvenile Longnose Dace. The figure below shows just how small these juvenile fish are.

Big Creek is a fascinating place with a diverse wildlife. I would have enjoyed sampling the creek even further. I found the recession pools with the juvenile Dace the most intriguing. I am interested in knowing more about their movements and their survival especially as the water dissipates and makes them vulnerable to predation.

Tables and Figures



Figure 1. Riffles, runs and recession pools at Big Creek.



Figure 2. Longnose Dace (less than 2 cm).