

# ARCHAEAL COMMUNITY STRUCTURE IN THE SEDIMENTS OF AN EMBAYMENT LITTORAL ZONE OF KENTUCKY LAKE RESERVOIR

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Molecular techniques were applied to study the Archaeal community in sediment samples from five sites within the flood plain of Ledbetter Creek embayment of Kentucky Lake reservoir, one terrestrial site nearby, and one site within the embayment. To determine if there are changes in the community as the temperature or water level changed, samples were taken monthly for one year, DNA was extracted, the rDNA amplified using Archaeal specific primers, and the 570 bp amplified fragments subjected to ARDRA analysis using *AluI*. Site-to-site comparisons found no differences within the littoral zone community or between the littoral zone community and the embayment community. There was a significant difference between the littoral zone community and the terrestrial community. When the data from the five littoral zone sites from each month were pooled and compared monthly, they showed significant differences through the year. These data suggest that the anthropogenic manipulation of the water level does not contribute significantly to the changes that occur in the Archaeal community diversity in the flood plain of this embayment.