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Foraminifera Diversity of Murray's Pool (western Bahrain) and their fight against Land Reclamation

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Coastal land in Bahrain is sharply declining due to rapid Urbanization and expansion of housing, transport and recreational facilities projects. Flourishing foraminiferal microhabits are stretched thin and foraminiferal space is at a premium. In this study, we survey a semi-enclosed lagoon that we named "Murray's Pool" because this is the same location as the one studied by Basson & Murray (1995), the only previous study of Foraminifera in western Bahrain. The site is now under threat by developers who are in the process of extending the seafront park on the south side of the town of Askar. The purpose of our study is to document the foraminiferal abundance and diversity across the lagoon before it disappears under a park. We identified five microhabitats, namely tidal channel, tidal flat, marsh, bacterial mat, and marsh back-pool environments. Faunal analysis from the five shallow-water subenvironments reveals a single diverse assemblage of benthic foraminifera. The most common species across all the microhabitats is Spirolina arietina. Species evenness, species richness, Shannon-Wiener diversity index, assemblage composition, and percentage abundances were determined for each subenvironment. The Shannon-Wiener Diversity Index and species evenness in the bacterial mat microhabitat is higher than at the other sites. The vegetated marsh microhabitat in general, has the proportions of individuals in the community distributed more equitably among the species. The tidal channel shows the highest total abundance, but has 5 fewer species compared with the marsh subenvironment.