

The Effect of Anthropogenic Activities on Fish Composition and Diversity of River Chanchaga in Niger State, Nigeria

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Abstract

Fish species composition and diversity of River Chanchaga which is located in the Southern part of Niger state, Nigeria were studied. The sampling was conducted for a period of 4 months, 20 species from 8 families were identified. These families are Bagridae, Clariidae, Cichlidae, Characidae, Claroteidae, Mochokeidae, Malapteruridae and Mormyridae. The total catch for all species during the sampling period was 282, Cichlidae were the most dominant with total catch of 142, while Bagridae had the lowest diversity with total catch of 3. On the monthly fish species, the result indicated that August had the highest composition and diversity $7.190 \pm 17.520^{\circ}$ while June had the lowest of $5.714 \pm 13.330^{\circ}$. Therefore, there is need for effective monitoring and conservation strategies to ensure sustainability of the River.

Keywords: anthropogenic, fish diversity, fish species, River Chanchaga

Introduction

Water bodies especially freshwater are among the most intensively human influenced ecosystem on earth as a result, various anthropogenic activities take place on Rivers which result to pollution. Most of these activities includes irrigation, domestic activities, generation of hydropower, hence affecting the natural ecological setup thereby altering the water system and affecting the aquatic organisms that live inside.

River Chanchaga is prominent river which flows along several Local Government Area in Niger State and a municipal river been used by the riparian communities, meanwhile some reaches of the river is presently faced with agitation arising from car washing, block industries, illegal gold mining, indiscriminate defecation, illegal fishing and industrial activities. River Chanchaga being a unique of the major Rivers in Niger state. It is an important river figure for Minna, Center metropolitan of Niger State in Chanchaga Local Government Area of the state. It serves equally a source of internal needs, non-industrial fishing, and drinking water also process of irrigating of agrarian farm lands in its proximity for the riparian community

The degeneration of water resources is owing to increase in contamination triggered through the anthropogenic activities. Bukola *et al* (2005) in their studies reported that anthropogenic activities end result in an important reduction of water resources of aquatic ecosystem in catchment. The contamination of watercourses by anthropological made action is currently posing a risk to water resources and diversity.

The composition and diversity of fish in the river is manipulated or influenced by these anthropogenic and increasing activities in the catchment of the River Chanchaga with identified to be on the high side, thereby affecting the resources in it most especially the river biodiversity.

The fish diversity in most Nigerian inland waters are vaguely on the decline (Ajao 2003). This has been attributed to many causes such as ranging from lack of management of the fisheries resources to environmental degradation of the water bodies. For sustainable exploitation of these fisheries resources, there is need to have a comprehensive knowledge of the ichthyofaunal proportion and frequency of