

A Comparison of the Composition and Abundance of Fish Species Caught with Experimental Gillnet with that of Artisanal Fishermen at Oyan Lake, South West Nigeria

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Abstract

A study of the composition and abundance of fish species at the shore, surface and bottom of Oyan lake was carried out at the three stations along the entire stretch of the lake.

This was compared with the catch (monitored simultaneously) from the artisanal commercial fishermen at the three fish landing sites selected along the lake. A fleet of nine passive graded experimental gill nets (mesh sizes 25.4mm to 177.8mm) of equal surface areas was used in catching fish from the shore; surface and bottom of the lake. The number and biomass of fish catch from experimental gill netting for the entire lake were 16,698 and 191, 721.2g respectively (11.5g/fish). The highest catch (No and weight) were obtained from station 3 (dam site) 6,654 and 70,826g and the least was from station 1 (lake inlet) 4,358 and 58,320g). In terms of number and weight the family Bagridae dominated both at the shore (no 30.4%; wt 38.9%) and at bottom (no 23.1%; wt 23.6%) zones of the lake while the family Cichlidae dominated the surface zone by weight only (19.9%). The Bagridae however still dominated the surface water by number (19.1%). Commercial artisanal fish landing estimates showed that the total landing (number) for the entire period of sampling was 4,628 weighing 1,856.6kg (40.1g /fish). Mean catch per boat per sampling day was estimated to be 113 (number) and 4.280kg (weight). Therefore the estimated fish landing (number and weight) per boat annually for 317 fishing days were 35, 821 and 1356.76kg (about 1.4 tonnes) respectively. The commercial fish catch (weight and number) compared with that of the experimental gill net (weight and no) gave a positive correlation ($r = 0.2$) showing that one can be extrapolated to get the other one.

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Keywords

Catch comparison, experimental gill net, artisanal fishermen, Oyan lake, Nigeria.