

— Impact of acadja fisheries on fish assemblages in Lake Nokoué, Benin, West Africa



Acadjas are artificial systems aimed at enhancing fish production by providing additional substrata for development of plants and animals upon which the fish will feed. This study aims to evaluate the impact of acadjas on fish assemblages and on conservation of the fish fauna diversity in Lake Nokoué in Benin. Between June 2003 and September 2004, experimental acadjas were installed and monitored. Fish samples were obtained from two areas of Lake Nokoué (Ganvié and Zogbo stations) within and without acadjas with the assistance of artisanal fishermen. Physico-chemical parameters were also measured inside and outside of the experimental acadjas in the same two stations. Twenty-five fish species belonging to 17 families were identified in acadjas out of a total of 51 species belonging to 34 families inventoried in 2001 at Lake Nokoué (i.e. 49% of the specific richness of the ichthyofauna). Fifty-six percent of fish fauna caught in acadjas are estuarine forms and represent 78% of all estuarine forms of Lake Nokoué in 2001. The analysis of variance showed that the specific richness of the acadjas varied significantly according to the station ($p < 0.05$), with a high specific richness in Zogbo station where acadjas are less abundant. Acadjas are selective for some fish species

such as cichlids which represent 95% of the total numeric abundance and contribute about 90% of the total fish biomass. The high densities of acadjas could contribute to the reduction of the richness of fish fauna. Rational management could consist of reorganizing the surface areas of Lake Nokoué by preserving areas for other fish species that do not colonize acadjas.

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