Fisheries of Lake Quarun, Egypt

Khamis A. HUSSEIN

The National Institute of Oceanography and Fisheries Al-Anfushy, ALEXANDRIA (**Egypt**)

Lake Quarun is a desert lake located 180 km. west of Cairo. The isolation of the lake in the western desert resulted to various salinity levels from about fresh water (drainage water) to about 32 ppt in the open lake.

The sharp decrease of the annual catches was expected as a result of several influences; among which the uncontrolled transplantation of marine fish fry into the lake seems to be the most important. A total catch of about 3000 tons landed in 1971 dropped to about 500 tons during the last years.

Material and method

Monthly collections of water samples, fish eggs and larvae, data on fish catch and used gear were obtained for the period from June 1990 to September 1991.

Results and conclusion

During the period of sampling, salinity of lake water varied form 2.1 ppt near the openings of the drains to about 32 ppt in the open lake. The unusual increase in water salinity was due to the high level of evaporation which affected severely populations of different tilapias. The catch analysis revealed that *Tilapia zillii* was numerically dominant, making up the 1.4% of the catches. *Oreochromis aureus* amounted to 4.5% and the rest of 1.5% was shared between *Oreochromis niloticus* and *Sarotherodon galilaeus*.

Solea vulgaris caught by trammel net (operated on the lake bottom) constituted about 10% of the total annual catch of the lake amounting to 135 tons in 1989. The recorded catch was about six times higher in 1966 (863 tons).

Catches with trammel net, frequently used in the lake, included species such as anchovy (*Engraulis* sp.) with average length from 7 to 10 cm. and gobies (*Gobius niger*) with average length from 10 to 13 cm.

The seasonal study of fish eggs and larvae confirmed the successful completion of spawning of adult anchovies in the lake. Larvae of about 1.3 cm. total length appeared in the hauled samples. Neither larvae nor eggs of grey mullets were identified and hence the observations of WIMPNEY (1936) and EL-ZARKA (1963), according to which *Mugil capito* and *Mugil saliens* spawn in the lake were not confirmed (*Mugil* spp. are annually transplanted into the lake).

Fisheries of lake Quarun would be developed if the illigal fishing and uncontrolled transplantation of marine fishes was eliminated.

Other marine fishes such as the cartilagenous skate (*Rhinobatus* sp.), sea bass (*Morone labrax*) and sea bream (*Chrysopherus aurata*) which are hap-hazard transplanted with the fry of grey mullets, appeared as adult fish in the lake.

Other factors, such as shrimp fisheries and water salinity are considered to base a sound policy for the future development and management of the lake.