

## **Bioeconomic Modelling for Barramundi (*Lates calcarifer*) in Queensland: Implications for Recreational Fishing Following Recent Gill Netting Closures**

**Authors :** Sabiha S. Marine, Nicole Flint, John Rolfe

**Abstract :** The Queensland state government introduced commercial gill net fishing closures in Cairns, Mackay, and Rockhampton in November 2015 to increase the recreational fishing opportunities, nature-based tourism, and economic benefits in these three regional areas. This management change is likely to improve the potential for more desirable stock structures through natural recruitment. Barramundi (*Lates calcarifer*) is one of the popular target fish for recreational and commercial fishers in Northern Australia. This investigation examines the effects of reduced commercial fishing from both biological and economic perspectives, particularly on the local Barramundi population of the Fitzroy River in Rockhampton, the largest river catchment flowing to the eastern coast of Australia. Data on different parameters of biological and economic aspects have been collated from secondary sources for analysis through a system simulation approach to identify the effectiveness of the commercial netting closures on recreational fishing effort, especially for the Barramundi population. The results have the potential to explain certain consequences of the netting closures in Queensland, which could serve to inform future fisheries management decisions. The study output as a whole will help in the better management of fisheries resources by evaluating recreational fishing opportunities in Queensland, where the potential for increases in recreation is high.

**Keywords :** Barramundi, bioeconomic model, fishery management, recreational fishing

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