THE EFFECTIVENESS OF RECREATIONAL ONLY FISHING AREAS IN NORTH QUEENSLAND ESTUARIES FOR REDUCING CONFLICT AND IMPROVING RECREATIONAL CATCHES.

Thesis submitted by

Renae Carolyn TOBIN BSc & Grad Cert (Fisheries Management)

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James Cook University
and CRC Reef Research Centre.

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STATEMENT ON THE CONTRIBUTION OF OTHERS

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ABSTRACT

Allocation of fisheries resources to recreational fishers via Recreational Only Fishing Areas (ROFAs) is becoming increasingly common in all developed countries, particularly in coastal areas. ROFAs are often introduced with the expectation that such action will segregate competing recreational and commercial fishers (by excluding commercial fishers) and thus resolve apparent conflict over previously shared fisheries resources. ROFAs also have the expected benefit of improving recreational catch quality for previously shared species. Whether these benefits are realised, however, is unknown because little monitoring of outcomes occurs post-ROFA implementation.

Using questionnaires of recreational and commercial fishers and collection of fishery-dependent and fishery-independent recreational catch data, this study investigated the outcomes of ROFAs in north Queensland estuaries. Specifically, the study examined: the nature and source of conflict between recreational and commercial fishers competing for shared barramundi stocks; whether current estuarine ROFAs are successful in segregating and reducing conflict between these sectors; and whether ROFAs result in improved recreational catches of barramundi.

Results from the questionnaires show that while recreational fishers (anglers) have high expectations of ROFAs and would like more implemented, most anglers are unaware of locations of current ROFAs, and do not deliberately choose to use them. Consequently, current ROFAs are not increasing segregation of recreational and commercial fishers. Moreover, contact between the recreational and commercial sectors appears to already be limited due to time segregation (commercial netting is not allowed in estuaries on weekends) and the finding that most commercial fishers avoid areas heavily occupied by recreational fishers. Thus the conflict between these sectors does not appear to be due to high levels of direct contact.

Investigations of the perceptions of fishers from both sectors via the questionnaire program revealed that the underlying conflict between commercial and recreational fishers in north Queensland appears to be based on mutual misperceptions of the competing sector's operations and impacts, particularly from anglers. Such misperceptions lead to blame (i.e. anglers blame commercial fishers) for negative outcomes such as (real or perceived) catch declines. ROFAs do not address this problem of mutual misperceptions of fishers and are therefore unlikely to resolve this conflict in the long-term. Increased communication between sectors and education from fisheries managers and researchers and stakeholder representatives regarding each sector's operations and impacts on the resource is more likely to reduce conflict.

Such actions should reduce misperceptions, adjusting attitudes of fishers to be more positive towards the competing sector, and hence reducing conflict.

Despite anecdotal claims and expectations of improved recreational catches of barramundi in ROFAs compared to open estuaries in north Queensland, fishery-dependent (from charter fishing records, voluntary recreational catch logbooks, and personal fisher time series records) and fishery-independent (in the form of structured fishing surveys) recreational catch data collected though this study did not reveal improvements in catch per unit effort or success rates for barramundi in ROFAs. Results did show that the average size of barramundi caught in ROFAs was larger than those caught in the open estuaries, though the reason for this difference in size structure is unknown. Further investigation into why recreational catch benefits are not being realised and what this may mean for barramundi populations is required. Results imply natural variation may be more influential on barramundi populations than fishing, or that recreational fishing is highly variable and not a good indicator of stock structure and abundance.

Overall, results of this project suggest current estuarine ROFAs in north Queensland are not resulting in the expected benefits: i.e. they are not reducing conflict between recreational and commercial fishers or resulting in improved recreational catches of barramundi. This study highlights the importance of determining the source of conflict, and collecting quality time-series recreational catch data before and after ROFA implementation. Future studies should aim to examine both the costs and expected benefits of ROFAs to determine whether benefits outweigh the costs involved. Costs and benefits should be examined from a multi-disciplinary approach, including social, ecological and economic aspects.

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AFANT	Amateur Fisherman's Association of the Northern Territory
ANSA	Australian National Sportsfishing Association
CHRIS	Coastal Habitat Resources Information System
CPUE	Catch per unit effort
CRC Reef	CRC Reef Research Centre
DPA	Dugong Protection Area
ECIFF	East Coast Inshore Finfish Fishery
EoNF Project	Effects of Net Fishing Project
GBRMP	Great Barrier Reef Marine Park
GBRMPA	Great Barrier Reef Marine Park Authority
GBRWHA	Great Barrier Reef World Heritage Area
NSW	New South Wales
NRIFS	National Recreational and Indigenous Fishing Survey
QDPI	Queensland Department of Primary Industries
QDPI&F	Queensland Department of Primary Industries and Fisheries
QBFP	Queensland Boating and Fisheries Patrol
QSIA	Queensland Seafood Industry Association
RAP	Representative Areas Program
RFISH	QDPI&F Recreational Fisher Monitoring Program
ROFA	Recreational Only Fishing Area
WA	Western Australia