







THE DEPLETED INSHORE FISHERIES of the GREAT BARRIER REEF MARINE PARK need urgent MANAGEMENT CHANGE

FINAL VERSION

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The Network for Sustainable Fishing

The Network for Sustainable Fishing (NSF) is an informal network of individuals and organisations supporting fishing sectors in Queensland operating for the benefit of communities at acceptable levels of sustainability. NSF members urge that all significant risks to fish stocks must be recognized and adequately addressed. NSF members consider Inshore species numbers within the GBRMP and further south are currently unacceptably low to the extent they are overfished.

Fish numbers and species diversity will only be given the opportunity to rebuild if urgent, firm management action is taken. Fish stocks do require being better and more fairly managed to ensure their security, whilst aiming for a better balance, for communities, of economic and ecologically sustainable yields.

Website activity for NSF is currently undertaken by Fishers For Conservation; background and updates are available from www.ffc.org.au/Grey_Mackerel.html#latest.

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COVER PLATES

From top: (for sources see Acknowledgments, p.16)

- i) Aerial view of the Daintree River, 140 km in length with a catchment of 2,125 km², possessing only very small areas of mangroves and therefore having small and fragile inshore fish stocks
- ii) King Threadfin, a species with sex reversal, becoming female when about 8 yrs old at a length of over 1 metre
- iii) Grey Mackerel, a fast growing species vulnerable to netting of its inshore spawning aggregations (considered a high risk operation by GBRMPA); large declines in numbers may be masked by hyperstability
- iv) Golden Snapper (Fingermark), matures at around 15yrs of age and targeted when spawning by offshore gillnetters
- Map showing relative sizes of rivers in eastern Australia, note tiny size of Daintree and Barron Rivers in Far North Queensland in relation to Burdekin and Fitzroy; productivity of their adjacent coastal waters will be roughly proportional to outflow

DISCLAIMER

It is recognized that insufficient research on GBRMP's inshore fisheries has been undertaken by any party to conclusively prove or disprove all the claims and concepts discussed here in the context of the GBRMP. Because of widespread observations our inshore stocks in the GBRMP have fallen to unacceptably low levels, the authorities are urged to follow the precautionary principle and respond appropriately to these concerns and the unresolved conflicts relating to the Park's declining inshore fish stocks and fisheries.

CONTENTS

SUMMARY				
INTRODUCTION				
ISSUES				
	i)	The Federal Government's Assessment of the East Coast Fin Fish Fishery (ECIFF)	7	
	ii)	The previous assessment done in 2008	1	
	iii)	Concerns of overfishing by gillnets in inshore waters of the GBRMP	7	
	iv)	Fish species especially susceptible to overfishing by gillnets	8	
	v)	Some short-comings of the current fishing regulations	9	
	vi)	Illegal netting, four-inch mesh, bait nets and lack of fisheries surveillance and enforcement	9	
	vii)	"I'd better take them before someone else does"	10	
	viii)	Risks to inshore fish stocks from dredging and dumping	10	
	ix)	By catch and waste, including drownings of dugongs, endemic inshore dolphins and turtles	11	
	x)	Compensation paid for RAP	13	
CONCLUSIONS				
1)	Queensland fisheries are not yet suited to co-management	14	
	ii)	Authorities need to learn from history and take firm action to halt declining stocks	14	
	iii)	Environmentalists and sports fishers sue US Gov. for failing to protect fish stocks	15	
RECOMMENDATIONS FOR URGENT CHANGE				
ACKNOWLEDGEMENTS				
APPENDIX 1: Claims, responses and concepts				
APPENDIX 2: Quotes from the independent review of the ECIFF, 2008.				
APPENDIX 3: Notes from resigned fishing guide with 15 years regional fishing experience				
APPENDIX 4: Cairns Post article on funding for buyback				
ACI	RON	IYMS & GLOSSARY	34	

SUMMARY

Charter, recreational fishers and some small-scale commercial fishers are deeply concerned that numbers and sizes of large fish found in inshore waters of the GBRMP are at unacceptably low levels. Popular species are currently at risk of commercial and even local extinction. Whilst these risks are currently given insufficient attention by our fisheries management agencies, they do require more and urgent attention.

Recent scientific findings indicate that risks to some species currently commercially fished are unacceptably high. Continued netting at present levels may result in the commercial extinction of some local stocks, including King threadfin (salmon), Blue threadfin and Barramundi. Grey mackerel, a fast maturing species which also has local populations, is also considered by line fishers to be at high risk of commercial extinction from netting their pre-spawning and spawning schools. GBRMPA also recognize netting of spawning aggregations to be a high risk activity.

Since 2006, three petitions totalling 4,500 signatures have been presented to two members of parliament requesting cessation of gillnetting near the adjacent regional centres of Cooktown, Port Douglas and Cairns. Those signing included commercial, charter and recreational fishers, persons with interests in the conservation of larger marine animals such as dugong, inshore dolphin and turtles and those with interests in tourism and the fishing sector support industries.

Many consider the main cause of the observed decline to be the failure of our fisheries management agencies to adequately manage the fishery. Some of the more serious management failures are identified in this submission.

Estuaries and adjacent inshore waters around urban areas have experienced such significant reductions in fish numbers over recent years that they should be formally recognized as overfished. Political parties have now issued new policies recognizing these concerns. Strategies must be developed to reverse the observed decline. These should **not** include restocking with juvenile fish from other areas.

Part-time gillnet fishers present the greatest risk to fish numbers in overfished areas because they may continue to subsidise otherwise unprofitable gillnetting from alternative incomes. Part-time fishers, combined with illegal gillnetting, may cause local populations of the more susceptible species to shift from commercial extinction to local extinction.

New management measures are identified which would reduce the impact of gillnetting, around urban and other areas of tourism and fisheries conservation significance and should allow stocks to recover. As under-regulated netting of mackerel carries a high risk of commercial extinction of local populations, Grey and School mackerel should be regulated to join Spanish and Spotted mackerel as line-only species.

The new management measures would also reduce the current unacceptably high risks to our inshore fishery as well as to dugong, inshore dolphin, turtles and whales. The resulting recovery of fish numbers would provide a boost to local economies.

While re-adjustment will be required to the commercial industry, including buyback of some netting licences, the alternative is the risk of some species becoming commercially extinct.

A number of claims are often heard about the economic and social repercussions of reducing current levels of gillnetting. Responses and the concepts behind these are discussed in Appendix 1.

The authorities are urged to take effective action before long-term, serious damage is done to inshore fish stocks. In a parallel situation in the USA in the 1990's, sports fishers and conservationists combined forces to win a landmark lawsuit against the government for *"failing to fulfil its duty to protect fish stocks"*. We are currently approaching the need for similar action here in Australia.



Table 1: Some GBRMP inshore species at risk of local and/or commercial extinction of local stocks, especially where species are philopatric and pre-spawning schools are targetted. [Acknowledgement: paintings taken from Swainston, Roger, 2010. 'Swainston's Fishes of Australia'. Publ. Penguin Group. Permission pending.]

INTRODUCTION

Australia is recognized as having some of the best managed fisheries in the world. It is therefore ironic that one of Australia's most poorly managed fisheries covers the only location in the world where two world heritage areas meet. This location is the coastline of the World Heritage Wet Tropics bordering the Great Barrier Reef Marine Park (GBRMP).

The fishery under scrutiny is the East Coast Fin Fish Fishery (ECIFF) which also covers coastal waters south of the GBRMP to the New South Wales Border. The ECIFF is a multi-species, multi-gear fishery, the largest and most diverse in Queensland. It covers over 5,300 kilometres of coastline, 75 major river systems and many smaller waterways. The fishery operates in both Queensland State and Commonwealth waters, including in the GBRMP.

A recent government agency assessment (GAA) of the fishery notes that 500 commercial operators fish wholly or partly in the ECIFF and that a large number of fishing licences are fished on a part time or casual basis¹. Elsewhere in this same assessment is noted that 485 licences with net fishery symbols and 1543 licences with line fishery symbols are eligible to fish in the ECIFF.

The GAA states that in 2010, 406 licences with net fishery symbols and 360 with line fishery symbols accessed the fishery. The assessment does not make it clear the relationship between the 500 commercial operators it mentions and the much larger number of licences.

With regards to the exploitation status of the many species landed in this multi-species fishery, the following are considered by the management agency to be '**Undefined**' – i.e. "some information is available but no reasonable attempt can be made to determine exploitation status at this time. This may be due to the need for additional information or analyses to adequately determine stock status."

- javelin (Pomadasys spp.)
- king threadfin (Polydactylus macrochir)
- grey mackerel (Scomberomorus semifasciatus)
- school mackerel (Scomberomorus queenslandicus)
- sharks
- trevally complex (Carangidae spp.).

The GAA states that:

"Due to the implementation of area and seasonal closures, gear, size and harvest restrictions and the harvesting method used in the fishery, significant impacts on the Great Barrier Reef Marine Park or the World Heritage values of the Great Barrier Reef World Heritage Area are considered unlikely.

On this basis the department considers that an action taken by an individual fisher, acting in accordance with the East Coast Inshore Fin Fish Fishery management arrangements in force under the Queensland Fisheries Act 1994 and the Queensland Fisheries Regulation 2008, would not be expected to have a significant impact on the Great Barrier Reef Marine Park or the World Heritage values of the Great Barrier Reef World Heritage Area.

The Network for Sustainable Fishing (NSF) strongly contest this claim both as summarised here in this document and by other material already published by NSF and referenced herein.

NSF is an ever-growing, across-the-sectors, state-wide informal network of persons with genuine concerns for our falling inshore fish numbers. NSF is keen for commercial inshore fishing in Queensland to reach optimal levels of economic and ecological sustainability.

http://www.environment.gov.au/coasts/fisheries/qld/east-coast-finfish/pubs/east-coast-finfish-wto-feb2012.pdf;

ISSUES

i) The Federal Government's Assessment of the East Coast Fin Fish Fishery (ECIFF)

The Federal Government has recently undertaken an assessment of the ECIFF against the Australian Government's *Guidelines for the Ecologically Sustainable Management of Fisheries, 2nd Edition*. The assessment formed part of the advice provided to their Minister by the Department for Sustainability, Environment, Water, Population and Communities (DSEWPAC) on the fishery, in relation to decisions under Part 13 and Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999*.

Based on advice received, the minister approved the fishery as a legitimate wild life trading operation (WTO) on 23 February, 2012 for a further three years until 27 February 2015 subject to certain provisions². Additional recommendations were made by the minister to Fisheries Queensland (FQ), the management authority for the ECIFF. These are available on the Department's website³.

The federal assessment for WTO status is essentially a desktop process based largely on GAA prepared in Brisbane by FQ for the minister's department in Canberra. The assessment included the opportunity for all stakeholders to comment. A submission was made by both email and hard copy to DSEWPAC by the Network for Sustainable Fishing, Douglas Region (NSF) on 18 October 2011 and by soft copy only by CAREFISH of Cairns.

Both networks presented in considerable detail the concerns expressed in North Queensland that the fishery is unsustainable. No response was ever received from DSEWPAC with regards to the content of these submissions. In view of the many hours that went into both preparations, being ignored in this way, has not helped to build confidence in the assessment process.

Based on the material presented below, including the views of scores of active fishers each with years of experience fishing the inshore waters of the GBRMP, many people in the Far North are confident that a truly objective and sufficiently thorough independent assessment of the ECIFF, which should include visits to North Queensland (NQ) to meet with concerned stakeholders, would determine that the fishery was *not managed in such away as to ensure ecological sustainability and should not be approved as a legitimate WTO without some major modifications to gillnetting effort and spatial management.* Reasons for this conclusion are presented below.

ii) The previous assessment done in 2008

Extracts from the previous assessment, then done by independent professional fisheries management specialists, came to very different conclusions to the latest GAA. Extracts from this assessment are presented in Appendix 2 as an important part of this submission.

Whilst a number of amendments to the regulations were made as a result of the recommendations of the 2008 assessment, these fell far short of what is required for management of a fishery at acceptable levels of risk and sustainability.

iii) Concerns of overfishing by gillnets in inshore waters of the GBRMP

An insight into some of the tension and conflict between participants in the east coast inshore fin fish fishery (ECIFF) within the Great Barrier Reef Marine Park (GBRMP) is recorded in a '*Review of Concerns...*⁴ published online in 2010 by the NSF. This tension is

² <u>http://www.environment.gov.au/coasts/fisheries/qld/east-coast-finfish/pubs/east-coast-finfish-wto-feb2012.pdf</u>

³ <u>http://www.environment.gov.au/coasts/fisheries/qld/east-coast-finfish/pubs/east-coast-finfish-conditions-feb2012.pdf</u>

⁴ Network for Sustainable Fishing, 2010. *A Review of Concerns* relating to the offshore gillnet fishery in the inshore waters of the Great Barrier Reef Marine Park in relation to the Guidelines for the Ecologically Sustainable Management of Fisheries, with recommendations for early intervention. Available on line from website of Fishers for Conservation, 62pp. www.ffc.org.au/Grey_Mackerel.html#latest.

not just between commercial, charter and recreational fishers, but also within sectors of the commercial fishery.

Deep concerns have been raised for example by NSF members, including local inshore commercial gillnetters of Douglas and Cooktown areas, complaining of small catches they claim is the result of excessive gill netting by 'out-of-towners' who had previously not fished those areas.

Commercial Grey and Spotted mackerel line fishers, apparently fishing sustainably, are in bitter disagreement with Grey mackerel gill netters who appear to have overfished some breeding grounds in just a few years, repeating a scenario in 1971 at the traditional mackerel grounds of Reywards Reef off Bowen, recorded by De Lacey⁵.

Three petitions, totalling over 4,500 signatures, the most recent in November 2011, have been sent to local Labour MPs, Jason O'Brien, (re Cooktown and Douglas Region) and Steve Wettenhall (Cairns). These have requested the closure of small areas of vulnerable inshore breeding grounds, adjacent to estuaries and urban/tourism areas, to all gill netting. These petitions contained the signatures of some commercial fishers who are, like others, concerned about the non-selective, over-efficient nature of gillnets. They recognize gill nets also cause the deaths of dugong, turtle, inshore dolphin and large non-target fish species.

One ex-commercial fisher, who signed one of the petitions, claimed over five tonnes (estimated weight) of Queenfish were dumped by the boat he worked on in a "secret" dumping coastal cave near Townsville, in just one mackerel netting season. Many other boats gillnetting Grey mackerel that season on those same grounds apparently also discarded similar quantities of Queenfish. This was in the late 1990's and staff members from "Parks" were, we are informed, aware of this dumping. Apparently the stench and blowflies from the cave were sickening.

The common thread in these concerns is the observation by the majority of skilled, experienced charter, recreational and indeed some small-scale netters that inshore fish numbers and sizes have fallen markedly over the years.

These people are concerned that fish numbers still appear to be in decline. Less apparent but likely to be of high priority are the risks of long-term damage to the fishery if remedial action is not taken soon. While a number of factors will have influenced this decline, overnetting is considered by many to be the single greatest contributor to the apparently very low numbers of large fish now remaining in our inshore waters.

iv) Fish species especially susceptible to overfishing by gillnets

Some iconic large inshore fish species used to be common to large sizes and in large schools in our inshore waters; these are illustrated in Roger Swainston's paintings in Plate 1. In Far North Queensland (FNQ), while hard research data is lacking, those who fished these waters 20 years ago or more consider that numbers of these species have fallen to a fraction of what they used to be.

This is hardly surprising considering recent scientific research findings^{6,7} reveal the biology of some of these important inshore fish species makes them particularly susceptible to overfishing. This is because populations of these species are composed of small, non-mixing local sub-populations, which, in some instances, are restricted to discrete estuary systems and adjacent turbid waters and there has been no clear attempt by industry or the authorities to match fishing effort to sizes of local fish populations. This may amount to negligence.

⁵ De Lacy, R. 2005. *The North Queensland Fishing Eldorado, Memoirs of a Gulf Fisherman*. Sid Harta Publishers, Hartwell, Victoria. 372pp.

⁶ Welch, D.J. *et al.* 2010. Defining the stock structure of northern Australia's threadfin salmon species. Final report to FRDC, Project 2007/032. Fishing & Fisheries Research Centre Tec. Rep. No. 10. James Cook University, Townsville. 192pp.

['] Welch, D.J. *et al.* 2009. Determination of management units for Grey mackerel fisheries in northern Australia. Final Report to FRDC, Project 2005/010. Fishing & Fisheries Research Centre Tec. Rep. No. 4. James Cook University, Townsville. 158pp.

Risks of local commercial extinctions⁸ as a result of the current fisheries management regime are especially high in species such as the King and Blue threadfin, Fingermark and Barramundi, which do not become females capable of breeding until having been in the fishery for several years and, with regards to King threadfin, at a length of over one metre.

Barramundi all reach first maturity as males before undergoing sex reversal at around six years of age to become females. Females used to reach a length of up to 2 metres but are now never encountered at this size⁹. Even the best charter fishers regularly complain that, where they used to be plentiful, they can rarely catch a legal sized Barramundi anymore. One ex-charter fisher caught 400 Barramundi in 2010 and only three were legal!¹⁰

v) Some short-comings of the current fishing regulations

It is a feature of our inshore fisheries management regime that there are insufficient checks and balances in place to adequately record or reduce the risk of commercial or even local extinctions of populations of susceptible species, as discussed above, in many regions of Queensland.

Queensland authorities are at present still incapable of controlling fishing effort within given local areas or according to the size of local fish stocks. For example, virtually any inshore gill netter can set nets anywhere inshore gill netting is permitted along the east coast, regardless of the condition of the fish stocks in that area.

To make matters worse, many inshore commercial net fishers can land their fish where they wish and can usually avoid having it checked by any authority as to weight or species composition. In most fisheries of developed countries, fish must be landed into centralised markets. Here catches are independently weighed and the weights and sizes of the major species are recorded. This helps secure the required level of accuracy of catch data necessary for fisheries management purposes.

Management decisions in Queensland are based not on hard data but on the unverifiable figures fishers choose to write in their logbooks. Figures collected for fishers' catches per unit of effort are often misleading as they may not take into account cases of effort creep and serial overfishing of different areas (see later). Commercial fishers have acknowledged, even in public meetings, that logbook records are incomplete at the best and at worst could be manipulated to give false histories of past catches in areas never even fished by that fisher.

Following vigorous complaints from the public about netting in Cairns Inlet, catch figures for the past 10 years were presented that showed about 40% of the landings were not even recorded to species level. This is apparently common for other areas of the ECIFF.

vi) Illegal netting, four-inch mesh, recreational bait nets and lack of fisheries surveillance and enforcement

Complaints are common from various sectors of the fishing industry and members of the general public along the urban coast of the GBRMP that there is insufficient surveillance by fisheries inspectors on the fishing grounds to deter illegal fishing activities. Fishing nets can be purchased in the larger centres without buyers having to show they are commercial fishers with gillnetting licences.

Commercial netters at night and other members of the public, at least in the Douglas Region, do occasionally find apparently unaccompanied nets, often four inch mesh with undersized fish in them, which are illegally set. NSF has received complaints that when such instances are phoned in to the authorities little or no effective action is taken. The commercial fishers do not want to risk removing the nets in case they are caught with enmeshed undersized fish still in the illegal net whilst on board their vessel.

⁸ where fish are reduced to such low levels that it is no longer worth commercially fishing for them

⁹ Swainston, Roger. 2011. Swainston's Fishes of Australia. Penguin Group. Australia. 821pp.

¹⁰ See e.g. Les Marsh's report, Appendix 3.

Commercial and recreational fishers and other members of the public have also complained to NSF that there is significant abuse of the Indigenous permit system whereby Traditional Owners may apply to use a net to fish for special events such as funerals.

Complainants claim that permit holders often use four inch mesh nets which catch undersized Barramundi, grunter, threadfin and others and are sometimes used for longer than the permit specifies. It is alleged they kill large numbers of undersized fish, and the catch may be, in a proportion of the cases, sold for profit. Many TO's, probably the majority, are firmly against this misuse of their rights but are not in a position to take any action against the minority offenders. NSF is informed that many complaints to authorities have failed to result in action.

Anyone may take a small beach seine net of regulated size and drag through critical juvenile fish nursery grounds around estuaries and other inshore areas for a "feed of prawns". This legally amounts to one bucket of prawns per person and it may be either for human consumption or bait. It can take many hours of dragging to satisfy some people.

The editor tried this approach back in 2001 and meshed 200+ juvenile Queenfish by the dorsal and anal spines in one drag. All died. The fact that this practice is allowed in a World Heritage Area, when the far less lethal cast net could be used to collect bait at a fraction of the damage to juvenile fish stocks is surely an oversight on the part of the authorities.

vii) "I'd better catch them before someone else does"

Many small-scale licensed netters recognize a need to amend the present Queensland fisheries legislation to prevent "out-of-towners" netting "their" fish. Four ex-commercial fishermen, with a combined experience of 75 years netting in the Cooktown area, signed statements advising that current levels of inshore netting for Barramundi in and around a river just south of Cooktown, are threatening the sustainability of Barramundi stocks.

The outcome of current fisheries regulations is that local fishers are discouraged from nurturing their resources and from entering into any form of co-management of local fishing effort (see **Review of Concerns)**. They are discouraged from 'going easy' on stocks in poor years e.g. letting the breeders breed because, if they don't make their catches that year, someone else is likely to step in and take it for themself.

The '*take them before someone else does*' approach has long been known as '*the tragedy of the commons*¹¹', the root of many fishery collapses the world over. It simply inhibits even the best-intentioned fisher from participating in any meaningful form of self-restraint with regards to husbanding their local fisheries.

viii) Risks to inshore fish stocks from dredging and dumping

The glamour of the clear waters of the barrier reef tends to capture the attention of the media and public at the expense of our iconic mangrove estuaries and important inshore fisheries inhabiting very much muddier waters. The danger is that there is an inherent assumption that because inshore waters are already carrying a significant natural sediment load "*a bit more won't do them any harm*". This assumption is groundless and potentially lethal to the breeding success and survival of our inshore fish species.

It is widely recognized that coastal tropical soils, including mangrove and estuary muds often have what is known as acid-sulphate characteristics. When these are disturbed, e.g. by dredging or digging and exposed to oxygen, certain chemical reactions are known to occur which can result in the formation of acids which can significantly lower the pH of the surrounding waters. In addition certain chemicals can be formed and/or become active which are toxic to some life. This has significant risks to other marine life, especially at their most vulnerable stages, namely as eggs, planktonic larvae and as juveniles.

¹¹ Hardin, Garret. 1968. **The Tragedy of the Commons**. Science, vol. 162. No. 3859 available from: <u>http://garretthardinsociety.org/articles/art_tragedy_of_the_commons.html</u>

Even out-of-season higher than usual turbidity levels can have marked impact on planktonic larvae and juvenile fish. NSF therefore has serious concerns for inshore fish populations as a result of the impacts of dredging and dumping.

ix) By catch and waste, including drownings of dugongs, endemic inshore dolphins and turtles

The public have submitted numerous reports of stranded turtle and dugong suspected of having been killed by netters, whilst the endemic, inshore snubfin dolphin have been found weighted down with concrete blocks and tied to mangroves, clearly the result of netting. Plates 3a shows how shark carcases use to be disposed of near Cooktown, as reported by Cooktown Council workers who "understood it was legal". Plate 3b shows a dugong with its tail hacked off and two others with their bellies slit open and tied to concrete blocks which were insufficient to stop them floating once they began to bloat.

Dugongs migrate inshore at night from depths of up to 35m offshore to feed in shallower waters. Gillnetters can set up to 1200 m of netting round the clock in depths over 20 m and 600m between 20 and 2 m depth. Interaction at night will not be noticed under these conditions and dugong drown within 14 minutes of being held under water. Conveniently for anyone drowning a dugong, they are negatively buoyant so sink when first drowned. This makes their detection unlikely until after the netter has moved on. Where netting occurs in areas frequented by dugong or turtle, drownings are inevitable.



Plate 3a Cooktown Council workers reported that this had been a regular occurrence at two of their dumps, shark carcases dumped after being finned. Note rare shark species in top right. This is said to be the work of a "rogue" commercial fisher, however reports have also been received of finning and dumping carcases at sea.



Plate 3b. Left: dugong found belly slit and tied to concrete blocks. Lower left. Dugong at Snapper Island National Park, Daintree, believed to be a casualty of gillnets. Bottom: Newspaper report of dugong with its tail hacked off, apparently by gillnettiers, licensed or illegal. Below: Dead iconic Hammerhead shark and Grey mackerel being landed within 800m of Snapper Island National Park. Most visiting SCUBA divers yearn to see a Hammerhead but fail to do so in the GBRMP



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S1 - EDITION 051, JULY 22, 2010
SHOCKING photos of a dugong, whose missing and flippers were deliberately cut from the bix animal before it was dumped back into the grave of the sector of

h

te said. More that 400 dead nurtles with similar injuries have also been reportedly found along local beaches inne 2006. Me Harris said he suspects the most likely users of the damaging nets are commercial fishers from "Commercial all nets are set off the reefs where

"out-of-down" " Commercial gill nets are set off the receiv where the dugongs and turtles swim," he said. The nets are up to 600 metrics in length and are left down for hours at a time. "They're supposed to be pulled out every few hours but some lenve their nets in all night. It's a lazy way to fish," he said. Dugongs can drown in less than 15 minutes and turtles only survive underwater for about half an hour.

an hour. Gill netting is not illegal among Queensland's licensed commercial fishers but Mr Harris said boats coming into the waters off Douglas tended to lay their nets at night to avoid being seen – especially by local fishers. >> continued page 2



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x) Compensation paid for RAP

Inevitably when there is any discussion about the need to better manage our inshore fisheries many members of the fishing industry, having already had to respond to the impact of GBRMPA's Representative Areas Project (RAP), again feel threatened by any move to change the status quo.

GBRMPA provided \$213.7 million for structural adjustments necessary to the fishery as a result of RAP¹². This amount went to 1782 fishers, seafood processors and upstream providers to the fishing industry. Some licences were bought out in entirety and their owners were not expected to return to fishing. However a number simply bought other licences from other regions and continued netting in their home area. This probably contributed to overly heavy pressure on local inshore fish stocks contributing to the overfishing of inshore fish stocks experienced today.

As a general observation, the Queensland commercial fishing sector is usually far more vocal than the normally silent majority of charter and recreational fishers. Some representatives of the commercial industry claim that the types of concerns highlighted in this submission are misleading and unfounded. It may indeed be in their short-term interest to do so. Responses to the five most common claims and the concepts behind these are presented in Appendix 1 as an integral part of this submission.

CONCLUSIONS

The material presented in this submission indicates that current risks to fish stocks need to be recognized and adequately addressed by government. Intervention is required to prevent the continuing decline of our inshore fish numbers and reduce the risk of the commercial and local extinction of important species. Such measures include downsizing the gillnet fleet, restricting given operators to defined home areas, removing part-time fishers and introducing additional spawning season closures to gillnetting.

Fish numbers must be allowed to rebuild, preferably without restocking which risks destroying locally adapted gene pools in species having local populations. New management measures can then ensure the long-term security of the fishery whilst giving priority to the needs of local communities.

Press releases issued at the time of writing indicate that politicians have finally begun to respond to the complaints of overfished inshore GBRMP waters coming from their electorate with the issue of new policy statements¹³. One such press cutting appearing in today's Cairns Post is presented as Appendix 4. Two weeks prior to the Queensland State elections the major parties are promising between \$9 and \$12 million to buyback gillnet licences and close off key urban and recreational/tourism/conservation areas to gillnetters.

This promised buyback is a very encouraging move but must be carefully planned and transparently executed with the full support and participation of all fisheries sectors to avoid the mistakes of the past. Such mistakes included fishers selling their licences for inflated prices and then turning round and buying other latent licences and symbols at lower prices and continuing fishing in the same area. They simply made a significant profit at no reduction in effort to the shame of the authorities concerned.

A working knowledge of the ECIFF, not apparent from rapid desktop appraisals such as the recent GAA by DSEWPAC, reveals a few other key issues as discussed below.

¹² Gunn, Fraser & Kimball. June 2010. Review of the Great Barrier Reef Marine Park Structural Adjustment Package. <u>www.environment.gov.au/coasts/gbr/.../pubs/gbrmp-sap-review.doc</u>

³ http://www.lnp.org.au/policies/revitalise-front-line-services/safeguarding-for-our-marine-resources

i) Queensland fisheries are not yet suited to co-management

In contrast with the findings of DSEWPAC it is apparent from the above that the management authorities of the ECIFF have, so far, failed in their mandated role to develop an effective regulatory framework for the ecologically and economically sustainable development of our inshore fishery. The results are divisive; some within the commercial, charter and recreational fishing sectors have become angry, frustrated and defensive, and at times have a tendency to portray the other sectors as "the enemy".

Superficially it may appear that the most constructive way forward would be for all fishing sectors and stakeholders to work together in a spirit of across-the-board co-operation to identify the underlying problems, address them accordingly and work out some sort of catch sharing arrangement. This can be referred to as co-management, described in a recent FRDC field trial as "an arrangement in which responsibilities and obligations for sustainable fisheries management are negotiated, shared and delegated between government, fishers, and other interest groups and stakeholders."

It could be argued that such a combined, multi-sector push for regulatory changes to the management of our fisheries should achieve acceptable levels of ecological and economic sustainability in our inshore fisheries. However, as has been shown from recent research¹⁴ this assumption would be most naive. The study of 130 co-managed fisheries throughout the world, including five in Australia, found that certain conditions are necessary for successful co-management of fisheries.

Researchers Gutierrez, Hilborn and Defeo "found that the most important comanagement conditions necessary for successful management of fisheries are presence of community leaders, strong social cohesion, individual or community quotas, and community-based protected areas. Additional key attributes were enforcement mechanisms, long-term management policies and influence of fishers in local markets." They found that "Leadership was critical for successful co-management of fisheries"

Discussions have of course been going on in Queensland for years between different sectors of the ECIFF and government in the form of management advisory committees. They have been spectacularly **unsuccessful** in achieving any acceptable level of economic and ecological sustainability in the fishery.

Messrs Gutierrez, Hilborn and Defeo may have predicted that effective co-management of the ECIFF under present conditions would be most unlikely as the necessary pre-conditions for its success in Queensland are lacking. This will remain the case until major changes are made to the ECIFF. It would be remiss of the authorities and politicians not to recognize this point.

ii) Authorities urged to learn from history and take firm action to halt decline

The history of overseas fish stock collapses, e.g. in the United Kingdom, the United States of America and Canada, reveals they have been preceded by a period of denial by both the more efficient fishing companies in the industry as well as by the authorities¹⁵. Meanwhile the less affluent, smaller-scale, local commercial fishers, often fishing at more or less ecologically and economically sustainable levels, and to the benefit of their local communities and local food security, were the first to be forced out of business by their more efficient but unsustainable competitors.

History shows that these larger fishing companies continued fishing at unsustainable rates until stocks collapsed. Then they either went out of business or were forced to diversify to

¹⁴ Gutierrez, et al. 2011. Leadership, social capital and incentives promote successful fisheries. Nature 470, 386–389. Available at: <u>www.nature.com/nature/journal/v470/n7334/abs/nature09689.html</u>; ¹⁵ e.g. Kurlansky, Mark. 1998. Cod: a biography of the fish that changed the world. Penguin. USA. 294p.

other areas and/or species. It is well-documented that such collapses invariably resulted in widespread job losses, significant damage to local economies, loss of local food security and recreational opportunities.

As of 10 March 2012 politicians have indicated¹⁶ they are listening now to the recreational, charter and tourism sectors and now recognize that inshore fish stocks of the GBRMP have been overfished well beyond their optimal economic and ecologically sustainable yields. Policy statements released in the last few days, suggest political parties now recognize action must be taken soon to assuage public angst and conflict over declining inshore fish numbers and species (see Appendix 4). From the outside looking in, there now needs to be a major paradigm shift within the administration of our fisheries to ensure such crucial policy issues are adequately addressed.

Policy makers for the 'Smart State' have finally recognized the need to prevent the east coast gillnet fishery blindly following a similar path to past overseas misadventures. Effective action is urgently needed as a follow-up to avoid the permanent loss of some of our inshore fish stocks and the accompanying collateral damage to communities.

The first casualty of inshore fish numbers being reduced to their current unacceptably low levels has been the value of our recreational and charter fisheries. If restrictions to gillnetting are introduced to allow fish numbers to rebuild in urban and tourism centres, recreational and charter fishing have the potential to be of far greater value to communities than inshore gillnetting through benefits to jobs, the economy and food security.

iii) Environmentalists and sports fishers sue US Gov. for failing to protect stocks

In the USA a paradigm change in the authorities' views on fisheries management was achieved in the 1990's following a not-for-profit conservation organisation backed by the combined forces of environmentalists and sports fishers, suing the federal government for failing to fulfil its duty to protect fish stocks. The US government, in an unexpected move, actually agreed that this had been the case and in 1996 passed a ...:

"landmark piece of fisheries legislation known as the Sustainable Fisheries Act (SFA) prior to (this) the burden of proof was put on conservationists to prove that a given stock of fish **wasn't abundant** enough to support a commercial fishery.

"The (USA Sustainable Fisheries) *Act which was pushed through by an unusual coalition of environmentalists and sportsfishermen*, large enough to dislodge the longentrenched commercial-fishing lobby in Congress, shifted the burden of proof from scientists to fishermen; the equation had been inverted. After the SFA was passed in 1996, fish were to be assumed to be inherently scarce unless proven otherwise."¹⁷

What has spurred the politicians to recent action prior to an election is the action taken by those first experiencing the drop in fish numbers, namely the charter, recreational and some in the small-scale commercial fishing sectors. This lobby has for once overcome the contrasting loud protests from a few in the commercial fishing lobby who were standing in the way of reforming commercial fishing and halting the depletion of our inshore fish stocks. Interestingly the commercial lobby is now agreeing that a reduction in gillnetting effort is indeed required to bring back some level of profitability to the fishery.

Should authorities fail to take effective action before more damage is done to stocks, we may need to follow the example from the USA in the 1990's when sports fishers and conservationists joined forces to launch a successful lawsuit against government for "*failing to fulfil its duty to protect fish stocks*".

¹⁶ <u>http://www.lnp.org.au/news/leader-of-the-lnp/lnp-to-get-fishing-back-on-track-with-10m-to-restore-our-sustainable-catch;</u>

¹⁷ Greenberg, Paul. 2010. Four Fish: the future of the last wild food. Penguin Press. USA. 285pp. (quote from p 145-146)

RECOMMENDATIONS FOR URGENT MANAGEMENT CHANGE

Some of the most straightforward means of encouraging the recovery of Queensland's east coast inshore fish stocks and minimising conflict between and within fishing sectors include the following measures:

- *i* close inshore spawning grounds to gillnetting for the entire spawning seasons of key species; such areas are usually inshore turbid waters adjacent to estuaries;
- ii close inshore waters adjacent to main areas of key conservation, urban, recreational and tourism importance to all gillnetting by buying out urban and other relevant netters with the condition they do not re-enter the fishery; maintain these locations as net free areas;
- *iii* require commercial fishing be a full-time occupation not supplemented by alternative sources of income, hence concentrate on the buyout of those operating part-time;
- *iv* develop fine scale spatial management by restricting each gillnet licence to operate within a given, restricted, non-transferrable 'home range' rather than allowing them to work virtually any inshore east coast netting ground;
- add Grey and School mackerel to the list of fish to be commercially caught by line only (as is already the case for Spanish and spotted mackerel;
- vi ban all recreational use of beach seine nets including small bait 'drag' nets;
- vii ban the use and sale of four inch gillnets and ban sale of all gillnetting material to anyone not in possession of an appropriate current fishing licence;
- viii review fisheries surveillance and enforcement requirements and increase to effective levels;
- ix Place greater emphasis on determining stock status of all species affected by the ECIFF and use the precautionary principle to ensure preservation of stocks where there are strong public concerns but scientific proof of overfishing is lacking;
- *x* If the need for any of the above is refuted by the current administration, have the sector independently reviewed by fisheries managers with qualifications and experience sufficient to withstand international scrutiny.

ACKNOWLEDGEMENTS

The Douglas LMAC members and GBRMPA support staff started me off, six years ago, on a mission to identify why catches in our local inshore fisheries had declined. Thanks to all past and present chairs and members, for their patience and continued assistance. The material submitted here has been prepared as a result of insights from discussions between NSF members, including a number of commercial fishers and regional NSF co-ordinators between Cooktown and Rockhampton over the last few years, as well as with staff of Fisheries Queensland and ministerial advisers. My thanks to all those who have contributed, especially for the regular contributions and encouragement of David Cass of Cooktown Fishing Restoration Group, Paul Aubin of CAREFISH, Cairns, Lance Murray of Sunfish Mackay, Kim Martin of Rockhampton, David Donald of Weipa, Randall McLellan of the Fraser Coast, Martin Bellert and Judy Lynne of Sunfish, and Nick Heath of WWF.

As it is never possible to incorporate everyone's concerns and recommendations, final responsibility for what is presented here must rest with me. Thanks to Mick Dudgeon, Cairns, for editorial support and to Sarah Hoyal and Steve Ryan of CAFNEC, Cairns, for comments on an earlier draft and for securing NSF the opportunity to present to UNESCO.

The drawings in Plate 1 are taken, permission pending, from Roger Swainston's outstanding contribution to fish biology, '*Swainston's Fishes of Australia'* publ. by the Penguin Group. Plate 5 is adapted from every freshwater fisher's *must have, the* '*Field Guide to the Freshwater Fishes of Australia'* by Gerry Allen, Hamar Midgley & Mark Allen; publ. by West Australian Museum.

APPENDIX 1: CLAIMS, RESPONSES & CONCEPTS

CLAIM 1: There have been no declines in fish numbers; our catches are steady and sustainable. The recreational fishers just want to have all the fish for themselves and to destroy the commercial industry.

RESPONSE

Whilst their skills and technology may have increased, the experience of recreational and charter fishers, who have fished the same inshore waters for many years, is that their catch rates and sizes of fish caught have fallen significantly. All these people simply cannot be wrong, inshore fish stocks have obviously declined to worrying levels. It is foolhardy of the authorities to ignore these obvious signs of overfishing by dismissal as "anecdotal evidence".

We certainly are not attempting to destroy commercial fisheries but wish to ensure that commercial inshore gillnet fishing stops destroying the recreational fishery and, in the longer term, does not destroy itself by destroying fish stocks.

We wish to see the commercial sector as an essential contributor to our food security, producing top quality protein, preferably at affordable prices. To achieve this we need to recognize that inshore stocks are currently overfished. This means that firm and innovative management measures must be introduced to allow fish numbers to rebuild.

We need our inshore fisheries to be adequately managed to achieve an acceptable and fair balance of economic and ecologically sustainable yields. This would bring much-needed certainty for all sectors of the fishing industry: commercial, charter and recreational.

CONCEPTS

It is the history of fisheries collapses the world over that the most efficient commercial fishers are the last to recognize the problem of overfishing, often not until it is too late. This is simply because they have the most efficient fishing gear and do actually fail to notice the early warning signs first experienced by small-scale fishers.

The reason for this failure to notice is now apparent. The commercial gillnet fishery, year after year, targets the resource in the same, 'traditional' localities including bottlenecks along migration routes and where they congregate to spawn. Some move on to new areas when local depletions are experienced. Pre-spawning fish come together in larger schools for local spawning migrations and have often travelled from further afield where they were more dispersed in smaller numbers and over wider areas.

Because the industry uses highly efficient fishing gear under conditions of high fish density during migration and spawning aggregations, it can maintain good catches even when stocks have fallen to very low levels. This is simply because fish have gathered from a much wider area and are all congregating in the one place, or passing through migration bottlenecks.

After communal spawning, many inshore fish species return to their normal home range, spreading out over more kilometres of coast and estuary than just their limited and once tightly packed schooling migration routes and spawning grounds. As total numbers of fishes fall because of overfishing, they become much more widely dispersed when they return to their non-breeding grounds than previously. This means their scarcity is noticed first by those who have fished them on their non-breeding grounds for years: these are the charter, recreational fishers and small-scale commercial fishers.

The condition whereby commercial fishers fail to notice declining fish stocks because they are largely targeting communally spawning fish, or schooling fish on migration to spawning grounds, using highly efficient gear, is known as hyperstability. Hyperstability is the simple explanation why the more efficient commercial fishers may be genuinely, but wrongly, convinced that recreational fishers are overstating their case when they complain that fish stocks are much reduced.

Hyperstability may be compared to taking large amounts of money every year out of your savings when you don't know the total amount in your savings account, or the interest earned. Just because you can withdraw the same amount every year, for a few years, does not mean your withdrawals are sustainable. How soon the money runs out obviously depends on the size of the withdrawals relative to the savings and the interest rate earned. The same is true for catches when targeting seasonal spawning migrations of schooling fish, enroute to, and on their breeding grounds where both the numbers of adult fish in the population and their rate of increase through breeding are unknown.

Neither Fisheries Queensland nor the commercial industry has sufficiently robust means of measuring the size of fish stocks in NQ, nor the amount of recruitment of young fish to the fishery (equivalent to interest earned) every year. In the absence of this essential information, we cannot predict how much fish can be sustainably caught in any year.

In many areas of NQ, the authorities have very limited or no means of monitoring whether most/all stocks are declining or growing. Those who fish the stocks over their normal home range rather than where they congregate to spawn, namely experienced recreational and charter fishers, are best placed to judge whether stocks are increasing or declining. They can do this simply by comparing their catches per unit of effort over the years and the sizes of the fish and species composition of their catches. In the case of Grey mackerel they can simply compare sizes and frequency of the pre-spawning schools encountered over the years on their traditional spawning grounds, in relation to time spent searching for them.

Where Queensland Fisheries have claimed sustainability in some stocks because of apparently "steady" catches they appear to have failed to adequately factor in important variables like effort creep. This is where catch per unit effort figures are inflated as time goes on, by failing to account for the greater efficiencies of bigger boats and more effective gear.

Serial overfishing, easy to overlook from the perspective of a centralised agency with insufficient field workers occurs e.g. where itinerant netters or netters on live-aboard boats move from one lightly fished area to another, serially overfishing local stocks and then moving on. Annual and daily catch rates remain high whilst local stocks are depleted.

We all certainly need to take heed of the serious damage done to countless fisheries the world over by ignoring the phenomena of hyperstability, effort creep and serial depletions of local populations of fish stocks. Authorities must wake up to the need to adequately respond to the concerns being expressed by recreational and charter sectors that something similar is happening in Queensland's east coast inshore fisheries.

History also shows that the responsible fisheries management authorities also often remain in denial for much longer than they should have, given the evidence available. Finally, due to the inevitable power of the commercial fishing lobby, politicians are usually the last to acknowledge the need for change to legislation and/or regulations, often until it is too late.

If allowed to continue, the Queensland inshore gillnetting sector places at serious risk our inshore fisheries resources as well as dugong and inshore dolphin populations while also risking the deaths of many turtle. Unless restrictions such as those proposed above are introduced, Queensland inshore gillnetting sector risks ultimately finding itself unable to

sustain catches at anything like current levels, as indeed has happened so many times before in overseas countries. By then some local populations of some species may be extinct.

CLAIM 2: Asian and other fisheries take far more fish from their waters than we do because there are far too many restrictions on our industry.

RESPONSE: You can't compare Queensland's catches with those of Asia for two simple reasons:

- i The North Queensland market takes large fish species mostly for fillet and steaks whereas Asians take all sizes of fish. Whilst most of these smaller species are present in our tropical waters, local markets have not been developed for them;
- ii The tropical inshore waters of eastern Queensland have far less nutrients, generally speaking, than Asian waters and so produce smaller quantities of fish.

CONCEPTS

Anyone who proposes Claim 2 is either being deliberately mischievous or else has a remarkably simplistic view of fisheries, displaying an ignorance of differing market demands between Australia and Asia and differences in potential productivity of the inshore waters of the two regions.



Plate 3: East Timorese at an Asian fish market with the author (above) undertaking a fish market survey when he recorded 128 species on sale; most species occur in northern Australian waters but are not marketed here as they are not popular with the majority of the public.

Background to 2(i) above:

• The waters of the GBRMP have many types of fish that the North Queensland market virtually or completely ignores, e.g. anchovies, various herrings, scads,

garfish, flyingfish, short-bodied mackerel, fusiliers, goatfish, rabbitfish, surgeonfish, unicornfish, bullet, frigate and some other tuna, and others.

- Government regulations do prevent the take of any red bass and paddletail snapper because of ciguatera risk whereas there is no ciguatera in most of Asia. Also at least 10 species of small grouper (rock cod) are completely or almost completely protected by a common minimum size (38 cm) in Queensland which they never or almost never reach.
- Most large predators are overfished in Asian waters: as a result there may well be much higher densities of their prey, i.e. more available smaller fish in Asian waters as they have lost many of their natural predators. These smaller species comprise much of the inshore Asian landings.
- The combined tonnage contributed by the above species to Asian fisheries is huge but there are no developed markets for these species in Australia.



Plate 4: Fusiliers on sale at an Asian Market, several edible species and vast tonnages of this family occur in GBRMP waters but no attempt is made in Australia to harvest them.

Background to 2(ii) above:

- Fish numbers in different coastal waters, other things being equal, are usually proportional to the levels of nutrients in their waters. Where coastal waters are not affected by upwellings, as in North Queensland's inshore waters, these nutrient levels are usually roughly proportional to the length of rivers flowing into them and the size (and fertility) of their catchments.
- As suggested by the table above, the productivity of Far North Queensland's inshore waters are more like those surrounding an island than a large continent The main rivers of FNQ are less than 200 km in length with catchments approximately 0.1% of the Yangtze and 0.26% of the Mekong. The catchment of the mighty Fitzroy and Burdekin Rivers in North Queensland are still less than 8% of the Yangtze's and less than 18% of the Mekong's.

 Table 1: Lengths and Catchments of larger Asian and North Queensland

 Rivers

River & Length (km)	Catchment (km ²)	% of Yangtze catchment
Yangtze River: 6,300	1,808,500	100%
Mekong River: 4,350	810,000	44.8%
Barron River: 165	2,138	0.1%
Daintree River: 140	2,125	0.1%
Burdekin River: 710	129,700	7.2%
Fitzroy River: 480	142,665	7.8%

 Before overfishing decimated their stocks, the once abundant fisheries of the Pacific coast of South America owed their impressive numbers to nutrient rich upwellings. NQ waters do not benefit from similar upwellings. It is therefore unrealistic to expect either Asian or South American levels of fish catches to be attainable in NQ inshore waters.



Plate 5: Showing the relative lengths of rivers along the east coast and eastern interior of Australia. These are fractions of the lengths of the big Asian rivers. (Adapted from Field Guide to the Freshwater Fishes of Australia by Allen, Midgley & Allen. Publ. by West Australian Museum)



Plate 6: The GBRMPA's overview of RAP zones between Cape Melville and Mission Beach. Note the small area of inshore waters between Cape Tribulation (north of the Daintree) and Mission Beach in the south, protected from gillnetting by yellow or green zones. Source: GBRMPA website.

CLAIM 3: If we reduce netting, local people won't be able to buy fresh local fish

RESPONSE

- This is a very short-sighted view given the evidence of declining fish sizes and numbers in the inshore waters of the GBRMP. There is a high risk that current netting levels are unsustainable and also contributing significantly to depletion of dugong, inshore dolphin and turtle numbers. If we do not reduce levels of netting to allow fish stocks to rebuild, there is a high risk that they will be fished down to commercial extinction in some areas, i.e. insufficient fish will be left to catch for sale at affordable prices.
- Already most people cannot afford to buy local fresh fish except for special occasions as overseas imports are around half the price. NSF is unaware of any sufficiently comprehensive market survey of fresh fish supplies in Queensland to substantiate Claim 3.

A more likely, although still to be confirmed scenario, is that provided (i) restrictions in fishing in green zones are observed, (ii) proposed levels of dumping dredging spoil do not significantly affect reef fish catches and (iii) Grey and School mackerel join Spanish and Spotted mackerel as regulated to be caught by line only, supplies of freshly caught reef fish and mackerel from the GBRMP and the Northern Territories may be adequate to supply the demand from upper-end markets in the region.

CONCEPTS

- This is an important issue of sustainability at optimal stock levels. The fishing public is aware inshore fish numbers are a fraction of what they used to be; if we do not restrict netting soon, we shall eventually be seriously compromising the commercial inshore fishery's potential to contribute to local food security.
- It is a common observation that many, possibly the majority of people cannot or do not buy local fresh fish either because it is not conveniently available or is too expensive. Most buy on price with imported frozen fish usually around half the price of fresh local produce. Overseas fishers work in their home countries for a fraction of the earnings of Australian workers and so can usually produce fish far more cheaply than here in Australia whilst processing and transportation costs prior to import are also relatively low in comparison to within Australia.
- Much Australian-caught fish is exported to high-end overseas markets or sent to Brisbane or Sydney markets for as high a price as possible. The overseas market prices are usually well above what the Australian public can afford, whilst most locally eaten seafood is the more affordable, imported frozen product.
- Current legislation encourages the industry to fight to the last to deny it is an issue of sustainability for the simple reason that the Queensland Fisheries Act states that fishers do not have to be compensated when fishing grounds are closed because of sustainability issues.
- Given that almost any licensed commercial gillnet fisher on the Qld east coast can migrate to almost any fishable area along the same coast, there is no possibility of local netters managing 'their own' inshore fish stocks. Any local agreement reached under any co-management agreement can be broken by unknown incomers. Because of inappropriate management regulations, it can be argued that the government has a moral responsibility to compensate all affected gill netters when any areas are closed to netting.
- Noting that consumption of locally-purchased, locally-caught inshore fish is already very low, if inshore waters and estuaries around urban areas are closed to all gillnetting and appropriate measures introduced to allow fish numbers to recover, the

consumption of fresh fish, and so food security, should eventually increase. Most of this may be from recreationally-caught fish, consumed by family and friends. Note this is not a loss to the local economy but probably a net gain, because of the boost the local recreational fishing industry support sector will receive in the medium term.

 In the case of Grey and School mackerel, regulating their commercial fishery to be line only (remember Spanish and Spotted mackerel are already line only) will allow a sustainable line fishery to rebuild for mackerel and, in addition to sustainable linecaught reef fish, may be sufficient to provide local high-end markets with top-quality, freshly-caught local produce (NB: adequate fish marketing studies to confirm or deny this claim are still lacking).

Netted mackerel rapidly die in the net and often remain in the warm water for a number of hours, rapidly losing their freshness. Under such conditions they soon become significantly inferior to line-caught mackerel which are often brain-spiked as soon as they are landed alive and quickly plunged into icy brine to maintain them at the highest quality possible. Netted mackerel are often caught in bulk and may remain on a hot deck for significant periods before being iced.

There is therefore high demand for line-caught mackerel in local restaurants and fish and chip shops but little demand for netted mackerel which sells at a much lower price. Netting of mackerel has recently resulted in gluts on even the Brisbane and Sydney markets whilst destroying the much more sustainable, higher-quality, linecaught mackerel fishery by uncontrolled overfishing of spawning migrations. Commercial mackerel line fishers have also reported losing markets for their linecaught mackerel after these markets have experienced poor quality from net caught mackerel.

CLAIM 4: Closing areas to gill netting will put many people out of work.

RESPONSE

• The number of people put out of work will be small and there is a significant to high risk this would happen anyway as stocks continue to decline. Those genuine, full-time fishers must be adequately compensated under a package that ensures they do not return to the fishery. Areas closed to gill netting are expected to recover remarkably within a few years, other than those local stocks which have already been fished to local extinction.

This recovery will help rebuild flourishing charter and recreational fisheries. In the medium term there will therefore be an overall gain in job numbers in this sector to the advantage of the local economy, tourism, local communities and food security.

CONCEPTS

- Removing commercial gill netting from around larger urban and tourism areas will allow stocks to rebuild in these areas and attract far more recreational and charter fishing than at present. Currently there are reports that FNQ are actually losing their annually returning tourists, including the grey nomads, who no longer return to the region to fish simply because their catches have dropped off so markedly.
- With their specialist knowledge of fish habits and haunts, redundant gill netters will be well positioned to become fishing guides in the charter fisheries which will take off once fish stocks improve. There will be also more job vacancies in the recreational fishing support industries and tourism as a result of more tourists coming to fish.
- FQ figures indicate that only a relatively small number of inshore net fishers are fulltime. Many or most are part-time fishers. Any significant reduction in netting would only significantly impact a small number of people who should be compensated to leave the industry and not return.

 An emphasis should be placed on removing all part-time commercial fishers. This is because when a fisher has additional employment he may subsidise his commercial fishing operations by keeping on fishing, e.g. as a "lifestyle" long after a full time commercial fisher would be forced to pull out for financial reasons. In other words, he may use his income from 'his day job' to subsidise fishing-down stocks from commercial extinction to local extinction.

The species at highest risk of local extinctions of inshore populations are fish like King salmon which are initially all males before becoming females after reaching a length of around one metre and an age of about eight years. Such populations are *'tailor-made'* for local extinction by part-time gillnetters.

CLAIM 5: Closure of so many different inshore gillnetting areas as a result of the GBRMP representative areas program (RAP) in FNQ has severely reduced gillnetters' abilities to maintain good catches and forces them to look further afield.

RESPONSE

- GBRMPA provided \$213.7 million for structural adjustments necessary to the fishery as a result of RAP¹⁸. This amount went to 1782 fishers, seafood processors and upstream providers to the fishing industry. Some licences were bought out in entirety and their owners were not expected to return to fishing. However a number simply bought other licences from other regions and continued netting in their home area. This probably contributed to overly heavy pressure on local inshore fish stocks contributing to the overfishing of inshore fish stocks experienced today.
- Actually the GBRMPA zoning map shows that only a very small percentage of inshore waters was closed to gillnetting in FNQ, (between Cape Tribulation and Mission Beach, including Cairns) much less than the 33% offshore reef closures.
- Claim 5 recognizes that there are still more licences than can permit an acceptable level of profitability from fishing in the area where the netters live. This is probably because of the re-purchasing of licences from further afield by some of those who had licences bought from them as part of the GBRMP compensation package. The best solution therefore is to reduce the number of netting licences and so reduce competition amongst netters which will eventually increase their profitability in areas further removed from urban and tourism centres.

CONCEPTS

- The RAPs zoning is considered essential by tropical marine ecosystem specialists for maintaining the ecological balance of the GBRMP at levels sufficient to satisfy ecological sustainable development including the tourism industry.
- The RAPs implementation caused changes in the industry but generous compensation was paid to cover potential losses and inconveniences.
- RAPs introduces a high level of sustainability, robustness and as much certainty as possible to an irreplaceable but highly vulnerable icon of Australia. All sectors need to accept and adapt accordingly.

¹⁰ Gunn, Fraser & Kimball. June 2010. Review of the Great Barrier Reef Marine Park Structural Adjustment Package. <u>www.environment.gov.au/coasts/gbr/.../pubs/gbrmp-sap-review.doc;</u>

Appendix 2: Quotes taken from the Independent Review: "Proposed Management Arrangements for Queensland's East Coast Inshore Fin Fish Fishery" by John Gunn, Frank Meere and John Stevens. Commissioned by the Hon Peter Garrett MP, Minister for the Environment, Heritage and the Arts; 31/10/2008.

The entire text of the independent review of the East Coast Inshore Fin Fishery was available online at: <u>http://www.environment.gov.au/coasts/fisheries/qld/east-coast-finfish/index.html</u>.

The purpose of presenting these quotes is to facilitate the opportunity to look at some of the salient points, not just in the Summary but also deep in the main text that have bearing on our push to have offshore netting of inshore waters Port Douglas to Daintree banned. The majority of the points below, taken from the text of the Garrett Review have been raised by the NSF over the last two years and especially during our response to the ECIFFF consultation exercise.

p ii from Executive Summary

"...the Panel believes that even greater weighting should be given to ecological/sustainability considerations since the fishery operates (at least in part) in the GBRWHA. Such a shift in emphasis would be more in line with contemporary application of the ESD principles.

The Panel noted that in a best practice fisheries management framework, the scale of a fishery (geographic, landed volume, value and number of operators) should not dictate the levels of risk accepted by managers, nor the fisheries management arrangements applied to minimizing the ecological risk. In the case of the ECIFF the Panel is of the view that its location within a World Heritage Area, the ecological risk profiles of target and by-product species, and the known (and potential) interactions with protected species should be the primary determinants of the management framework and resources applied to the fishery.

However the Panel is of the view that these need to be further improved given the geographical location of the fishery, the majority of which is in a WHA encompassing the GBRMP. In addition, the species taken, which includes a range of shark species, and the scope for interactions with a wide range of protected species are of concern. There is also scope for a substantial increase in effective effort, which is of concern.

Given the lack of data available to gauge sustainability and manage the fishery, ... the Panel considers that the proposed management arrangements pose a high risk to the sustainability of target and byproduct species, to protected species and potentially to the broader ecosystem. In the Panel's judgement the proposed measures do not adequately reflect a precautionary approach to managing the fishery in the face of the considerable unknowns and the high risks associated with these. The clear message, in the face of this uncertainty, is the need to lower catches and effort and hence reduce the risk.

The Panel has therefore suggested an integrated suite of conditions and recommendations, which if implemented as a package, will help move the management of the fishery towards "best practice" over a period of time (see summary ...).

p iv (of Executive Summary) Effort Management

Condition 8: By 1 February 2009 DPI&F to review and lower proposed trigger for effort from 34,000 net days to more closely reflect the average level of effort in the fishery over the last two years.

Localised depletion/Spatial Management

DPI&F to conduct a review seeking broad public and scientific input on the use of spatial management in the ECIFF to reduce the potential for localised depletion of key species (ie grey mackerel but also garfish) and interactions with protected species such as dugong, inshore dolphins and humpback whales. The findings are to be implemented by the 31 December 2010.

p v **Condition 14**: From 1 July 2009, DPI&F is to implement a catch receiver system, with enforcement checking to provide confidence in these data, to verify sales against landings and to cross check logbook catch data with catch landing data.

p4 the Panel believes that even greater weighting should be given to ecological/sustainability considerations since the fishery operates (at least in part) in the GBRWHA. Such a shift in emphasis would be more in line with contemporary application of the ESD principles.

p5 Written submissions were also received from:....

-
- Network for Sustainable Fishing in Far North Queensland/Mossman Boating and Fishing Club; and …

p6 submissions included:

 Particular concern over the localised depletion and potential collapse of grey mackerel and garfish stocks caused in some cases by the migration of large mesh net boats into the area.

p6 The Panel did not seek, nor did the TOR require, that it undertake a full assessment of the fishery under the EPBC Act, but rather sought to focus and provide advice to the Minister on the key elements of the TOR, that is:

p8 See 2.2. Guidelines for the Ecologically Sustainable Management of Fisheries 2nd edition:

p9 See 2.3. Precautionary Principle (both worth a look - my comment)

p12 10 DPI to ensure that:

 based on the risk analysis, develop and conduct scientifically robust stock assessments, commencing with those species considered at most risk (noting that where data on which to base stock assessments are of poor quality or does not exist, qualitative assessment methods will be employed); and

p15 under 3.3. Management Approach

... the Panel believes that there continue to be some significant gaps in a number of important areas which make managing the ECIFF difficult.

"It appears that many relatively routine fisheries management adjustments need Queensland Cabinet and sometimes parliamentary approval before they can be implemented. DPI&F explained that in some circumstances, depending on the issue, it could take up to 12 months to implement a relatively simple change, such as a response to a trigger, if this were not built in to the original management regime. Such a delay in providing a management response can be extremely costly to a resource or the broader ecosystem.

.... and: The Panel believes there may be considerable scope to improve the management framework in Queensland and would encourage further discussion and review of policy and legislative settings."

• compulsory Vessel Monitoring System for netters (*that automatically transmits* vessels location - my note)

p 35. **6.3 Data**

"... The level of detail in the effort data, particularly for gillnet fishing, is insufficient for monitoring, catch rate interpretation and management."

"A well designed observer scheme to validate and supplement logbook data is essential for best practice fishery management."

"There is also much scope for improvement of data collection and data sharing for monitoring of ecosystem effects."

p. There should be no netting in DPAs

p50 Effort & Retained Catch

"The reason why 'current' levels of catch are considered precautionary by DPI&F is not adequately articulated. It appears that this assumption is based on considerations of "stable" catches, "stable" unstandardised catch rates and/or no evidence of "a problem". These "quantities" are, however, risky as indicators of stock abundance or of sustainability...

... In many cases it would be risky to interpret the proposed indicators as indicators of stock abundance (e.g. catches which are subject to external influences, effort measured in coarse units such as days, and unstandardised catch rates). ...

... but it does not constitute good fisheries management practice, because it potentially perpetuates delaying action to limit fishing - often until it is too late."

p53 "In submissions to the Panel, we were made aware that some stakeholders have serious concerns about localised depletion of fin fish, including grey mackerel, garfish and Fingermark"

(from p66, **Summary of Issues**) The Queensland East Coast Inshore Fin Fish Fishery (ECIFF) is a multispecies, multi gear (gillnet and line) fishery with more than 400 commercial fishers and 750,000 recreational and charter fishers. Recreational fishers are believed to take at least half of the catch. ...

... A serious lack of validated and species-specific data on the fishery catch means there is very limited knowledge of the sustainable levels of catch for most target, byproduct and bycatch species. In addition, there is inadequate fishery-independent data on the interactions with vulnerable and protected species that are susceptible to gillnets – the primary gear used in the ECIFF.

Against this background, the (Review) Panel has concerns over the level of precaution being adopted by Department of Primary Industry & Fisheries (DPI&F) in the development of management arrangements and the setting of catch limits for target species.

Guided by the Environment Protection and Biodiversity Conservation Act and the (Commonwealth) Dept. Environment, Water, Heritage and Arts' Guidelines for the

Ecologically Sustainable Management of Fisheries 2nd Edition, the Panel's assessment is that under the management measures proposed by DPI&F and in the absence of more information the immediate risks for key target species and protected species are high, as is the risk to the broader ecosystem. The suggested conditions and recommendations reflect these risks, and a view that until more is known, catches should be reduced (my emphasis).

p72 from: 'Issues and Suggested Conditions and Recommendations':

Issue: "Localised depletion/spatial management

"Submissions to the Panel documented (albeit based largely on anecdotal information) localised depletion for some species. These depletions are not always obvious when fishery "assessments" are based on aggregate data, as they have been in the ECIFF. Yet in schooling species with local residency and/or those that form seasonal spawning aggregations, the risk of localised depletion is high e.g. grey mackerel. The DPI&F have indicated that they intend to explore greater spatial management once the proposed management changes have been implemented. The Panel considers that given the geographical size of the fishery and the potential for interactions with protected species this should be a priority.

Condition 11: DPI&F to conduct a review seeking broad public and scientific input on the use of spatial management in the ECIFF to reduce the potential for localised depletion of key species (ie grey mackerel but also garfish) and interactions with protected species such as dugong, inshore dolphins and humpback whales. The findings are to be implemented by the 31 December 2010."

p74: Issue: Management Arrangements

More generally, the proposed management arrangements for the ECIFF are complex

and inter-dependent. DPI&F indicated to the Panel that the arrangements were akin to a house of cards - if one were removed, the house would collapse. Such an approach does not allow the flexibility necessary to deal with a fishery operating in a complex, dynamic, world heritage listed ecosystem. Similarly, the past approach in the ECIFF of developing stronger management measures (e.g. quota controls) only when information (anecdotal and research data) suggested there was a problem (e.g. spotted mackerel, tailor and most recently grey mackerel) is a concern.

DPI&F informed the Panel of the significant financial constraints under which ECIFF managers operate when it comes to compliance, monitoring and observing programs. The mixture of complexity and lack of resources lead the Panel to have significant concerns about how well the proposed management measures could be implemented, enforced and ultimately made to work. It is clearly not enough to draw up measures without having the capability of enforcing them and measuring performance against management objectives.

р. 75:

The Panel also has concerns over the potential impact of the fishery on highly vulnerable species, notably inshore dolphins and dugongs (particularly in the extensive non-DPA components of the fishery). Increasing numbers of humpback whales along the Queensland coast are also likely to see increased interactions with ECIFF gill nets.

Finally while recognizing that management of the ECIFF has been significantly improved over recent years, and that DPI&F are committed to further advances towards best practice management in a WHA, the Panel suggests there needs to be a fundamental rethink of the management approach for the ECIFF over the next 3 years, to reduce complexity, ensure sustainability of all species, and to take into account significant spatial heterogeneity in the risks.

Recommendation 8: DPI&F to review management arrangements for the ECIFF and develop a (*new, outline details provided - my comment*) management regime whichetc

Notes compiled by David C. Cook, 27.11.2008 (Appendix 2 only)

APPENDIX 3: Letter from Les Marsh, resigned after 15 years as fishing guide in FNQ

Downloaded from: http://www.ffc.org.au/Grey_Mackerel.html#latest;

MANAGEMENT EXCELLENCE

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I would like to share this with you as this matter is of serious concern to us all.

Tourism is the lifeblood of Tropical North Queensland, they are recognized as probably the most important driver of our economies (no offence to mining / pastoralists / education / ADF etc).....but we all agree that this industry does pump millions into the regions coffers.

Fishing is arguably the biggest participation "sport" in the world, Florida alone reaps over \$2.3 billion from the singular pursuit of the iconic large-mouth bass. Darwin also derives millions of dollars from visiting anglers coming from all over Australasia / Japan / the States and Europe to target their barramundi – the official NT Government web site provides proof and I have sent this to you on previous occasions.

Apart from my current career in Real Estate, I was a calm water fishing guide here for almost 15 years, I have worked in the retail fishing industry, I have been a past director of Tourism Tropical North Queensland, I have been a member on the ZAC for the DPI, Fisheries prior to it being dismantled several years ago. I have undertaken fisheries research for Tourism Queensland and penned a report on the recreational fishing opportunities for the Mackay region – recommendations that have been adopted for the benefit of the industry down there.

So I do believe that I have a qualified opinion on this matter – THAT RECREATIONAL FISHING IN THIS REGION IS SO BAD, IT IS EFFECTING OUR LOCAL ECONOMY BY WAY OF LOSS OF TOURIST DOLLARS THAT COULD RUN INTO THE MILLIONS.

Cairns used to be the sportfishing capital of Australia. – FACT! We had many world records to prove it.

We used to have a fleet of dozens of game boats that plied the waters of the GBR and contributed tens of millions to our economy. Now there are only a handful that work fulltime due to lack of custom.

We used to have the recognition as the best place in the world to come to grips with a monster marlin off the continental shelf and anglers paid upwards of \$5,000 a day for the privilege.

We used to have a calm water fleet of dedicated guides working the waters from the "not so mighty" Daintree in the north to the Hinchinbrook Channel in the south – now there only half

a dozen full time. Now I'm talking local here, not remote Cape York (Cooktown, Princess Charlotte Bay, Aurukun, Seisia, Weipa, Karumba, Mornington Island & Normanton etc etc.

I personally had two custom built vessels, employed three full time guides and was about to commission my third vessel from Cairns Custom Craft when I took a step back, analyzed the situation and determined that I could not sustain the anglers "perception of a great fishery" any longer and my client numbers were dwindling. I used to take up to a dozen anglers a day in Trinity Inlet alone.

But I got sick of making excuses as to why the fishing was so poor that I could not justify taking clients money and honestly say......the tides must be wrong / the water is too cold / too hot / there has been too much rain and fresh water / that we needed more rain to flush out the system......everything but to admit that the fish stock have become so badly depleted but commercial netting and that's why we had to be content with piddly 25cm grunter and catfish instead on glorious barramundi / Fingermark / king & blue salmon / queenfish etc etc etc.

I still have my finger on the pulse however as I am the owner of an award winning web site called Fishing Cairns www.fishingcairns.com.au back in its heyday, voted the best new tourism web site in Queensland and it won the prestigious IT&T awards (I have the "Oscar" to prove it). I was also runner up in the David Koch (Sunrise) sponsored Australian E-Commerce Business Awards in the same year.

From this involvement, as a world recognized fishing charter booking agent, I can attest to the decline in visiting anglers to our once flourishing region. The experience just does not cut it anymore and the feedback / grapevine is spreading the word like wildfire.

The attached is not an isolated incident, it is repeated on a weekly basis and by many who can't be bothered to put pen to paper and express their total disillusionment with the local fishing scene.

The solution is quite simple – GET RID OF THE NETS IN INSHORE / COASTAL / TIDAL areas in highly populated / tourist destinations where the true economic value of the now limited resource may be enhanced by recreational sport fishers.

Note – I have caught over 400 barra this year and only three of them were of legal size, Keith Graham and I fished the Daintree last Sunday for a total of 8 barra but the biggest went 55cm.....still way short of the legal size of 58cm.

Kind regards,

Les Marsh

Appendix 4/

over page

Appendix 4: A press report dated 12.03.2012 indicating gillnet closures have been funded prior to the coming election.



Prepared for the Network for Sustainable Fishing, editor: David C. Cook, 12.3. 2012

combined to welcome both parties

The Queensland Seafood Industry

announcements.

"WWF is delighted to see both par-

ties step up to the plate and put this

issue beyond politics.

fishers

The fishery excludes Trinity In-

let as it has already been closed to

ACRONYMS

- CAREFISH Cairns Recreational Fishing Industry Stakeholders
- DSEWPAC (Federal) Department of Sustainability, Environment, Water, Population and Communities
- ECIFF East Coast Inshore Fin Fish Fishery
- FNQ Far North Queensland
- FQ Fisheries Queensland
- GAA government agency assessment
- GBRMP Great Barrier Reef Marine Park
- GBRMPA Great Barrier Reef Marine Park Authority
- LMAC Local Marine Advisory Committee to GBRMPA
- MPs Members of Parliament
- NQ North Queensland
- NSF Network for Sustainable Fishing
- RAP Representative Areas Programme which included about 33% of representative habitats being closed to fishing
- SFA Sustainable Fisheries Act (of the USA)

GLOSSARY

carrying capacity: maximum standing stock that can be supported by the available habitat

catch per unit effort: the amount of fish caught for a given amount of work

effort creep: where there is an investment in an under-regulated feature of the fishery with the effect of increasing catch per unit effort, e.g. the move in the ECIFF from hand hauled gillnets to labour-saving hauling by hydraulic drum winches. This may have the effect of increasing apparent CPUE whilst stocks are actually declining and may not be picked up by the authorities, hence rendering CPUE as much less use for identifying catch trends.

hyperstability: where evidence of declining fish stocks is not apparent from the CPUE or total annual landings, even though stocks are in serious decline. This can occur when aggregating stocks are fished by highly efficient gear such as nets.

production: amount of new fish added to the population over a given period of time

serial depletion: where fish stocks in different areas are reduced one after another as part of a series of events, e.g. by fishers overfishing one area and then moving on to the next

standing stock (biomass): the total weight of fish that exists at a given point in time