

Great Barrier Reef Marine Park Amendment Regulations 2002 (No. 1) 2002 No. 72

EXPLANATORY STATEMENT

STATUTORY RULES 2002 No. 72

ISSUED BY AUTHORITY OF THE MINISTER FOR THE ENVIRONMENT AND HERITAGE

Great Barrier Reef Marine Park Act 1975

Great Barrier Reef Marine Park Amendment Regulations 2002 (No. 1)

Subsection 66(1) of the *Great Barrier Reef Marine Park Act 1975* (the Act) provides that the Governor-General may make regulations, not inconsistent with this Act or with a zoning plan, prescribing all matters required or permitted by this Act to be prescribed or necessary or convenient to be prescribed for carrying out or giving effect to this Act.

Paragraph 66(2)(p) of the Act provides that regulations may be made regulating or prohibiting the taking of animals or plants into, or out of, the Marine Park.

Paragraph 66(2)(r) of the Act provides that regulations may be made regulating or prohibiting the taking into the Marine Park, and the use in the Marine Park, of weapons, traps, nets, snares, fishing apparatus and other devices.

Paragraph 66(2)(u) of the Act provides that regulations may be made providing for the grant or issue of licences, permissions, permits and authorities, the conditions subject to which they are granted or issued and the charging of any fees by the Authority in respect of such licences, permissions, permits and authorities.

Paragraph 66(4)(b) of the Act provides that a regulation is taken not to be inconsistent with a zoning plan merely because it prohibits an activity that is otherwise allowed or permitted by the zoning plan.

The purpose of the Regulations is to prohibit trawling in the Mission Beach trawl closure area. The area closed to trawling traverses two Sections of the Great Barrier Reef Marine Park ("the Marine Park") - the Cairns Section and the Central Section - together with unzoned areas. The Mission Beach trawl closure area was proposed in response to public concern about the dead fish slicks in the Mission Beach area as the result of discarded bycatch from trawlers. Such extensive fish kills have an adverse impact on tourism (of which the Mission Beach area is dependent) and impacts adversely on the World Heritage values of the Marine Park.

In addition, the Regulations set up a permission system by which persons who use or enter the Mission Beach trawl closure area for the purpose of collecting black tiger prawns for aquaculture operations may apply to the Authority for a permission to use and enter the Mission Beach trawl closure area for this purpose. This will ensure the continuation of the supply of broodstock to the aquaculture industry.

The regulations commence on gazettal.

REGULATION IMPACT STATEMENT

PROHIBITION OF TRAWLING IN SHALLOW INSHORE WATERS OFF MISSION BEACH

PREPARED BY THE GREAT BARRIER REEF MARINE PARK AUTHORITY

Introduction

The Great Barrier Reef Marine Park (GBRMP) is one of the world's largest marine protected areas, encompassing a complex array of diverse ecosystems. Because of its large size, diversity and uniqueness, the Great Barrier Reef is an internationally significant ecological resource. As a consequence, it has World Heritage status.

The management of fish stocks in the GBRMP and World Heritage Area (WHA) is the responsibility of Queensland. The Great Barrier Reef Marine Park Authority (GBRMPA), in keeping with its responsibility to protect the natural resources of the GBRMP whilst providing for reasonable use of the Great Barrier Reef Region., contributes to the management of fishing primarily through the use of management zones that restrict certain fishing activities in specific areas.

The East Coast Trawl Fishery is Queensland's largest commercial fishery in terms of number of operators, level and value of production, and area. The fishery targets prawns, scallops, bugs and squid, with a wide range of other species taken incidentally. Some 170,890 square kilometres of the Great Barrier Reef Marine Park (about 50%) is open to trawling and, historically, about 70% of the effort in the fishery has occurred in the Marine Park.

A recent major research program (1991-1996) on the impacts of trawling in the Great Barrier Reef Marine Park commissioned by GBRMPA and undertaken by the Commonwealth Scientific and Industrial Research Organisation and the Queensland Department of Primary Industries found that trawling has major impacts on the seabed. The study found that for every tonne of prawns taken by a trawler, 6-10 tonnes of bycatch is taken, most of which is discarded. Each pass of a trawl net along the seabed removes 525% of seabed life. The impact is cumulative, with 13 passes of a trawl net removing 7090% of seabed life. The study clearly demonstrated that trawling has a significant adverse impact on marine, particularly seabed, ecosystems and is in line with the findings of similar studies on the impacts of bottom trawling undertaken in other parts of the world.

Following extensive negotiations between the Commonwealth, Queensland and industry, Queensland recently introduced revised management arrangements for the East Coast Trawl Fishery, which made significant improvements to the management of the fishery. These changes included the capping of fishing effort; a reduction in effort of 10.86% via a structural adjustment scheme funded jointly by the Commonwealth and State governments; a further 5% across-theboard effort reduction by industry; the introduction of tradable effort units; effort unit penalties upon trading to compensate for increases in effort due to improvements in technology; the introduction of a satellite-based vessel monitoring system; the closure of areas of the Great Barrier Reef Marine Park where trawling historically had not occurred in order to prevent expansion of the fishery; and the introduction of turtle excluder devices and bycatch reduction devices in trawl nets used in the Marine Park.

What is the problem being addressed?

The issue addressed by the proposed Regulation is the elimination of repeated and extensive fish kills in the Mission Beach area (northern Queensland) as a result of discarded bycatch from trawlers targeting banana prawns in shallow (up to 10m deep), inshore waters.

Such fish kills have occurred at regular intervals since trawling became common in the Mission Beach area in the 1970s. On one occasion in the 1980s, so many fish were washed up on local beaches that a local Shire grader was used to bury the discards. Residents have noticed changes in the abundance and variety of fish off Mission Beach since trawling began.

As a recent example, in May 2001, dead fish were found along a 10km-stretch of local beaches. In addition, a slick of dead fish 600m-1km wide and 35-4km long was recorded 2km offshore by the Queensland Parks and Wildlife Service. The density of dead fish in the slick varied, but in

some places was as high as 40-50 fish per square metre. The dead fish included dollarfish (Family Leiognathidae), trevally (Carangidae), grunter (Haemulidae), silver jewfish (Sciaenidae), stripies and fingermark bream (Lutjanidae). Such occurrences are unacceptable as part of any fishery that purports to be ecologically sustainable, all the more so if the fishery occurs in the Great Barrier Reef Marine Park and a World Heritage Area, in a prime tourism and recreational region.

Apart from the ecological impacts, such extensive fish kills caused by trawling have an impact on recreational amenity, tourism businesses and the Commonwealth's reputation as the guardian of a World Heritage Area. The value of tourism to the Queensland economy, in terms of jobs and income, is substantial. Most tourists who visit Queensland come to see one of the natural wonders of the world, the Great Barrier Reef. The occurrence of dead fish on beaches and floating on the water are not the images that domestic and international tourists expect to take home after visiting the Great Barrier Reef World Heritage Area.

What are the objectives of Government action?

To prevent the occurrence of extensive fish kills caused by trawlers operating in shallow, inshore waters off Mission Beach, which in turn will:

- (1) protect biodiversity and conserve the natural resources of the Great Barrier Reef Marine Park as required under the *Great Barrier Reef Marine Park Act 1975*;
- (2) reduce the impact on the recreational amenity of a major tourism area; and
- (3) satisfy the Commonwealth's stewardship obligations for a World Heritage site.

Which options for dealing with the problem were considered?

Option 1 - The status quo

Recent changes in management arrangements for the East Coast Trawl Fishery under Queensland fisheries legislation have not addressed the issue of dead fish on beaches in the Mission Beach area caused by trawlers operating in shallow, inshore waters. The mandatory use of bycatch reduction devices in trawlers operating in the Great Barrier Reef Marine Park has not solved the problem. Indeed, the on-going occurrence of extensive fish kills as a result of trawl discards in the Mission Beach area points to the inadequacy of such devices in significantly reducing fish bycatch in inshore trawl fisheries.

Option 2 - Industry Self Regulation

A voluntary code of conduct, introduced by local trawler operators in an attempt to address the problem, has proved ineffective. Any trawler operator with a T1 endorsement in the Queensland East Coast Trawl Fishery can trawl in the area and can choose to adopt or ignore any local codes of conduct.

Option 3 - Proposed new Regulations

To prevent the occurrence of fish kills caused by trawlers targeting banana prawns in shallow, inshore waters off Mission Beach, it is proposed that a new Regulation be introduced to prohibit trawling in shallow, inshore waters in the area.

The proposed trawl closure (see map) covers an area of about 400 square kilometres. It incorporates some existing Great Barrier Reef Marine Park zones in which trawling is prohibited already; these zones collectively make up some 130 square kilometres. In addition, some 16 square kilometres in the proposed trawl closure are closed to trawling under Queensland

fisheries legislation. Consequently, the area in the proposed closure that will be closed to trawling for the first time is 254 square kilometres or about a seventh of 1% of the 170,890 square kilometres of the Great Barrier Reef Marine Park currently open to trawling.

Although there is broad agreement on the need for a trawl closure, the extent of the closure was the subject of intense debate and involved consideration of closures proposed by the two community-based, local marine advisory committees (LMACs) at Mission Beach and Hinchinbrook, a proposal submitted by the Queensland Seafood Industry Association and the recommendation of the Great Barrier Reef Marine Park Authority (GBRMPA).

The Mission Beach LMAC proposal included all of Rockingham Bay, located immediately to the south of the proposed trawl closure. The Hinchinbrook LMAC supported the Mission Beach LMAC's proposed trawl closure north of Dunk Island, but proposed an alternative closure boundary running about 4km offshore in Rockingham Bay, immediately north of Hinchinbrook Island. The Hinchinbrook LMAC's rationale for its proposed closure boundary in Rockingham Bay was that trawling for banana prawns in inshore areas is the primary cause of the fish kills and that the Mission Beach LMAC's proposal would cause unnecessary hardship to trawler operators targeting tiger prawns in deeper, offshore waters. However, the Hinchinbrook LMACs proposal does not include all the shallow areas in Rockingham Bay. Under its proposal, some areas of shallow water would still be open to trawling.

The Queensland Seafood Industry Association proposed a much smaller closure than those proposed by the LMACs.

The closure recommended by the GBRMPA was a compromise between the closures proposed by the two community-based LMACs at Mission Beach and Hinchinbrook. The GBRMPA proposal took into account the bathymetry of the area. Under this option, the area closed to trawling for the first time would have been some 610 square kilometres. It included all shallow inshore waters in Rockingham Bay, but excluded from the closure most of the deeper waters in which tiger prawns occur. Banana prawns typically are caught in shallow, inshore waters to a depth of about 10m, whereas tiger prawns typically are taken at depths of 10-25m. The GBRMPA recommendation was based on achieving the best environmental outcomes by protecting inshore habitat, particularly sea grass beds and dugong habitat, and minimising the potential for fish kills caused by trawlers targeting banana prawns in shallow inshore waters, while at the same time enabling trawlers to continue to target tiger prawns in deeper offshore waters.

Who is likely to be affected?

The primary benefit of the proposed Regulation is greater protection of the natural resources and biodiversity of the Great Barrier Reef Marine Park and World Heritage Area for the Australian and world community.

This has major flow-on benefits to recreational users of the area and the tourism industry, which is focused on providing visitors with an experience of the natural wonders of the Great Barrier Reef Marine Park and World Heritage Area, and contributes substantially to the Queensland and Australian economies.

The value of tourism to the Queensland economy, in terms of jobs and income, is substantial. According to Tourism Queensland, tourism contributes over \$6 billion annually to the Queensland economy, \$2.4 billion of which is in export earnings, and employs almost 150,000 people.

A study of the economic and financial values of the Great Barrier Reef Marine Park carried out by KPMG Consulting estimated that in recent years (1993/94-1997/98), the gross, annual, financial value of direct commercial tourism use of the Marine Park ranged from \$411 million to \$507 million. During the same period, the gross, annual, financial value of direct recreational fishing and boating use of the Marine Park was estimated to range from \$108 million to \$120 million. In comparison, during the same period, the gross, annual, financial value of direct commercial

fishing in the Marine Park ranged from \$121 million to \$149 million. Thus, the combined gross, annual, financial values of direct tourism and recreational fishing and boating use of the Marine Park is more than four times the gross, annual, financial values of direct commercial fishing.

The above estimates of the financial values of the direct uses of the Great Barrier Reef Marine Park do not include consideration of the flow-on impacts or the effects of linkages of these activities with other industries in the Queensland economy. KPMG Consulting extended the direct contribution analysis and considered the indirect or flow-on effects of these activities in terms of output and employment. For the 1994-95 financial year, the total output effects of tourism and recreational boating and fishing (\$1,099,300 million) were 5.7 times greater than those for commercial fishing (\$193,900 million). Similarly, for the 1994-95 financial year, the total employment effects of tourism and recreational boating and fishing (\$14,896 million) were 5.5 times greater than those for commercial fishing (\$2,720 million).

The KPMG study clearly demonstrates that tourism and recreational boating and fishing in the Great Barrier Reef Marine Park are worth substantially more to the economy than commercial fishing in the Marine Park both in terms of direct financial value and flow-on effects. Furthermore, tourism and recreational boating and fishing have substantially less impact on the environment than bottom trawling.

The Queensland East Coast Trawl fleet is characterised by a high degree of mobility. Most trawlers involved in the fishery operate in several areas and travel extensive distances while doing so. This characteristic is thought to be a response to the seasonal nature of the various species taken in the fishery. All trawler operators with a T1 endorsement can trawl throughout the Queensland East Coast from the tip of Cape York to the Queensland/New South Wales border. The proposed closure will impact on those trawler operators who target banana prawns in the shallow inshore waters off Mission Beach. However, the proposed closure is very small compared with the area of the Great Barrier Reef Marine Park in which trawlers can operate.

The banana prawn catch in the Queensland East Coast Trawl Fishery is extremely variable (depending on climatic conditions), varying between 300 and 1100 tonnes per year. Typically, banana prawns make up about 6% of the annual catch in the fishery, with 75% of the banana prawns taken south of Ingham, i.e. in areas south of the proposed closure. Tiger prawns are also taken in the Mission Beach area, usually in deeper offshore waters. The main season for banana prawns is March-May., whereas for tiger prawns it is March-August. Most banana prawns are sold on the domestic market, while most tiger prawns are exported. Current prices paid to fishers by a processor in Mackay, central Queensland, are \$14-15 per kg for banana prawns and \$19 per kg for tiger prawns.

The proposed Mission Beach trawl closure extends across two 30-minute, logbook-recording grids (118 and 119 of Queensland East Coast trawler operators' logbooks). The average recorded catch over the period 1995-2000 for these two grids was 51 tonnes of banana prawns and 108 tonnes of tiger prawns per year. Given existing trawl exclusion zones in these grids, there are about 4000 square kilometres available to trawling. The trawl grounds to be closed under the proposed Mission Beach closure make up about 10% of this area. Trawler operators will be prevented from taking prawns in the shallow water off Mission Beach. Some of the tiger prawn grounds off Mission Beach will be included in the proposed closure, but most of the tiger prawn grounds will remain outside the proposed closure. Since tiger prawns move between the two areas, trawler operators will still be able to access tiger prawns in the offshore grounds.

Under the GBRMPA recommendation, most of Rockingham Bay immediately to the south of the proposed Mission Beach trawl closure would also have been closed to trawling, thereby preventing access by trawler operators to the banana prawn grounds in the shallow, inshore waters of the Bay. Trawler operators would also have been prevented from accessing some of the tiger prawn grounds in the deeper waters of Rockingham Bay.

The average number of trawlers that reported operating in logbook grids 118 and 119 from 1995 to 2000 was 233. Some trawlers targeted banana prawns only, some targeted tiger prawns only, and others reported catching both tiger prawns and banana prawns:

Year	trawlers taking banana prawns	trawlers taking tiger prawns	total trawlers
1995	45	176	203
1996	52	190	238
1997	119	221	274
1998	81	212	253
1999	81	175	222
2000	92	165	206

The results of a recent study (entitled *A Guide to the Fishers of Queensland Town Resource Cluster Analysis and Social Profiles of Queensland's Commercial Fishing Industry*) undertaken by the Cooperative Research Centre for the Sustainable Development of the Great Barrier Reef indicate the relative importance of the area to trawler operators who live in the area and those who come from outside the area. The study was undertaken between August 1999 and April 2000, so its findings can be related to the logbook data for 1999 and 2000.

The analysis was based on questionnaires filled in by 1008 commercial fishers, representing 41.2% of all commercial fishers. Of the respondents, 106 said that they fished in the area that is to be covered by the proposed Mission Beach closure/ Rockingham Bay area. Of these, 88 were classified as "roamers" (i.e. they did not live in the area, but fished in the area) and between 62 and 82 per month reported trawling in the area; the remaining 20 said they were "localisers" (i.e. lived in the area and worked in the area) and between 3 and 6 per month reported trawling in the area.

Given that the study was based on 41.2% of commercial fishers, then multiplying by 2.4 would give a rough estimate of the behaviour of all fishers. On this basis, only about 7 - 14 trawler operators, who live and work in the area, actually work the proposed Mission Beach closure/ Rockingham Bay closure area each month. On the other hand, 149 - 197 trawler operators, who live outside the area but work part of the time in the area., work in the proposed Mission Beach closure /Rockingham Bay area each month. These figures appear close to the mark because the total number of trawlers that reported in their log books that they operated in grids 118 and 119 in 1999 and 2000 (the period covered by the study) was 222 and 206 respectively. Since this study was undertaken, some 240 vessels have been removed from Queensland East Coast trawl fleet (see below), so the number of trawler operators impacted by the closure will be correspondingly less.

Recent reform of the Queensland East Coast Trawl Fishery has reduced effort in the fishery by some 15% (10% via a structural adjustment scheme, to which the Commonwealth and Queensland governments each contributed \$10m). In 1999. there were 750 trawlers operating the East Coast Trawl Fishery. As a result of the government-funded licence buyback scheme and other mechanisms in the trawl fishery management plan, there are now some 240 trawlers less operating in the Great Barrier Reef Marine Park than there were two years ago.

In essence, today, there are fewer trawlers operating in the East Coast Trawl Fishery and fewer days spent trawling in the Great Barrier Reef Marine Park than there were two years ago. Furthermore, to address the issue of effort creep due to improvements in technology and fishing practices (estimated to be about 3% per year), penalties on effort units are imposed on transfers of licences, transfers of effort units and replacement of fishing vessels. Given that the proposed closure is so small compared to the remaining trawl grounds and that effort in the fishery has been substantially reduced in the past two years, it is unlikely that the proposed closure will cause any significant increase in effort in other areas.

As far as the consumers of local seafood are concerned, any shortfall in the overall catch of banana prawns in the Queensland East Coast Trawl Fishery can be more than made up by the production of banana prawns in aquaculture. Banana prawns are now well established in the Queensland aquaculture industry to the extent that aquaculture production of banana prawns in 2000-01 exceeded the wild catch of banana prawns in the East Coast Trawl Fishery for the same period. Aquaculture production is likely to increase substantially over the next decade. The Great Barrier Reef Marine Park Regulations (Aquaculture) were introduced in February 2000 to ensure that aquaculture developments adjacent to the Great Barrier Reef Marine Park are undertaken in an ecologically sustainable manner.

The inshore area off Mission Beach is a source of broodstock for the leader (black tiger) prawn aquaculture industry in Australia. Leader prawns are not common along the Queensland east coast, but are taken in banana prawn catches in shallow water close to shore. Each mature female leader prawn is capable of producing 250,000-400,000 offspring. Australian prawn hatcheries require 3000-5000 broodstock per year, with 1500 broodstock on average collected each year in the Mission Beach area. In general, trawl operators have not entered the leader prawn broodstock market because most prawns caught by trawling are dead by the time they are sorted from the catch. According to the Australian Prawn Farmers' Association, local prawn hatcheries are finding it difficult to obtain broodstock because most of the estimated 100,000 leader prawns caught each year in the Queensland trawl fishery are usually mixed with banana prawns and sold dead, either fresh or frozen. However, many broodstock leader prawns caught off the Queensland coast are sold overseas where they command a much higher price than locally. Some sources say that as much as 85% of the broodstock leader prawns taken along the Queensland coast is exported. The proposed regulation provides for the issuing of up to five permissions (from the Great Barrier Reef Marine Park Authority) for the collection of live leader prawns in the Mission Beach trawl closure for aquaculture broodstock so that the Australian aquaculture industry is not impacted by the proposed trawl closure.

Consultation

There has been extensive consultation on the proposed trawl closure at a local level.

A trawl closure was recommended by the two, local, community-based groups established by the Great Barrier Reef Marine Park Authority to advise it on local marine issues. These LMACs are representative of their local communities and typically comprise commercial fishing interests, recreational fishing interests, charter boat/fishing guides, recreational boating/ yachting interests, conservation interests, Aboriginal interests, tourism interests, local government authorities, progress associations, local user groups involved in the management of natural resources and others who can demonstrate a separate significant stakeholder interest in marine resource matters in the region. Representatives of the Queensland Environmental Protection Agency (including the Queensland Parks and Wildlife Service) and Queensland Department of Primary Industries also attend meetings of these committees.

The proposed trawl closure was discussed at Queensland's Trawl Management Advisory Committee (established to provide advice to the Queensland Fisheries Service on the management of Queensland's trawl fisheries) and at the GBRMPA's Fisheries Reef Advisory Committee (established to provide advice to the Authority on fisheries issues, particularly in relation to auditing fisheries in the Great Barrier Reef Marine Park and World Heritage Area in accordance with the principles of ecologically sustainable development).

The proposed trawl closure was discussed with local trawler operators at a meeting in Innisfail, at which fishing industry representatives from Cairns and Townsville also were present, and at a meeting between the CBRMPA, LMAC representatives, fishing industry representatives and the local State Member of Parliament.

Before the decision on the extent of the proposed trawl closure was finalised, extensive discussions were held between the CBRMPA, the Queensland Seafood Industry Association and the Minister for the Environment and Heritage.

In summary, the local communities in the Mission Beach area support a trawl closure, as do recreational fishers, the tourism industry and conservation groups. Commercial fishers are concerned about any loss of access to local trawl grounds.

Conclusion and adopted option

To help safeguard the natural resources of the Great Barrier Reef Marine Park and World Heritage Area and, at the same time, reduce the adverse impacts on the recreational amenity in a prime tourism area, the on-going and extensive fish kills in the Mission Beach area caused by trawlers operating in shallow, inshore waters must be prevented.

It is recommended that trawling be prohibited in the shallow, inshore waters off Mission Beach.

Given the high mobility of the Queensland East Coast trawl fleet, those trawler operators who historically have targeted banana prawns in the shallow inshore waters off Mission Beach and who will be directly impacted by the adopted option will still be able to target banana prawns in most of Rockingham Bay immediately to the south of the proposed closure and continue to operate in other parts of the trawl fishery.

Implementation and review

The proposed Regulation will be introduced under the *Great Barrier Reef Marine Park Act 1975*.

Any fines imposed as a result of the proposed Regulations will be by a court of competent jurisdiction. A person against whom a fine is imposed will be able to appeal if the requirements of the relevant court are satisfied.

As agreed at the 28th Great Barrier Reef Ministerial Council, the Great Barrier Reef Marine Park Authority will audit the performance of the Queensland East Coast Trawl Fishery on an annual basis to determine if it achieves its objective of ecological sustainability within the Great Barrier Reef Marine Park and World Heritage Area. In carrying out the audit, the Authority will apply the National Fisheries Assessment Guidelines developed by Environment Australia. The proposed regulation will be reviewed as part of the Great Barrier Reef Marine Park Authority's audit of the trawl fishery.

The impact of the proposed trawl closure will be monitored closely. If extensions to the closure are needed to avoid on-going problems of fish kills, then extensions to the proposed closure will be considered.