

THE JURISDICTION AND OPERATION OF TOURIST AND FISHING VESSELS IN THE GREAT BARRIER REEF

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Summary

An overview is presented of tourism and the marine industry in Queensland with particular reference to the Great Barrier Reef region. A more detailed look at the various elements of marine activity then follows with particular emphasis on tourist operations on and around the Reef.

Recreational boating and supporting facilities are described following which a look is taken at the organisation and extent of the commercial fishing industry in Queensland. State certificates of competency and licensing arrangements are then described.

An explanation of present marine safety administration in Queensland is given, followed by a detailed look at the proposals for a new maritime legislative regime in the State, including new marine pollution provisions. Reference is made to the new arrangements for the licensing of Queensland Coast and Torres Strait pilots by the Commonwealth.

Duty of care principles and the obligations on vessel operators are discussed. A holistic approach to vessel safety is the one most likely to succeed.

Some of the procedures, systems and technological advances that the marine industry will have to absorb are described and the position of the marine industry in Queensland as it operates within the Great Barrier Reef region is described.

Introduction

Queensland is a "Leading State" with features including a strengthening economy with strong growth forecast, an enviable climate and mecca for tourists, bounteous natural resources and recreational opportunities, over 2000 nautical miles of coastline and with the gem of the Great Barrier Reef stretching some 2000 kms.

Tourism

Spending by visitors to Queensland amounts to approximately \$2.7 billion of which some \$1 billion for the State's economy is generated by The Reef. There are over 2.5 million visitors to the Great Barrier Reef region annually and overseas visitors outnumber interstate and intrastate visitors. We can expect the tourist numbers to continue to increase. Projections for the Cairns area alone indicate an increase in excess of 300% over the next 10 years.

Those countries where there is a good deal of disposable income and where there is a growing desire to travel, particularly the Asia Pacific region, will generate additional traffic.

As an example of tourist operations, out of the Cairns area close on 1 million tourists visit the Reef, most by high speed craft, each year, representing something of the order of \$100 million in dollar terms for the local economy.

²Text compiled by the editor from the author's talking notes.

There are a number of major routes to the Reef from ports along the Queensland coast and there are a number of charter operations which go to the outer Reef and Coral Sea Islands.

The Reef experience is such that once having sampled it most visitors aim to return prompting many repeat visits. The wonder that is the Reef makes it the ambition of many overseas visitors to include it in their Australian itinerary - in fact for many it is their very reason for coming to our country in the first place.

Cruise ships

Calls by overseas cruise ships to Queensland ports are on the increase. Last year there were 54 international cruise calls and cruising the Queensland coast has become an integral part of many itineraries. A recent visitor - probably the best known of them all and the most instantly recognisable - the "QE2", with a full complement of passengers, recently made her fourth call to Brisbane, as part of her world cruise. From Brisbane her programme took her up through the Inner Route and through Torres Strait before proceeding on to Darwin. Off Low Isles she transferred over 200 passengers to a Quicksilver wave piercing catamaran from Port Douglas for an trip to Agincourt Reef, before re-embarking them at the end of the day further up the coast off Cooktown.

Those who chose not to go on the Reef trip were able as an alternative to enjoy a leisurely meander along the coast during the day in near perfect conditions (the transfer took place using the QE2's own adjustable access pontoon).

Intrastate vessels

In addition to the international cruise business there are a number of smaller intrastate vessels which offer very attractive programmes. There are approximately 4000 commercial vessels other than Drive-yourself and Hire boats currently in survey in Queensland. Of these, approximately 600 are Class I vessels and in addition a number of other vessels have some limited passenger carrying capability. The larger day passenger catamarans are fast, well appointed vessels carrying over 300 passengers and a crew of 15. They are able to offer a variety of activities out on the Reef and have a solid reputation for customer satisfaction and tourist appeal.

Examples of intrastate cruising vessels range from the smaller type with accommodation for approximately 30 to the largest one which can accommodate 136 passengers and has a crew of 30.

Coastal barges

These are a significant sector of the industry in their own right and the various classes of vessel are represented amongst the fifty or so, both passenger and non passenger, coming into this category. Typical of the modern barge is one which is designed to carry 30 cars, 200 tonnes of freight and 50 passengers. A larger passenger and vehicular barge operating as a Smooth Waters ferry would have space for 50 vehicles and a certificate for up to 400 passengers.

Charter boats

There is a very well developed charter boat industry in Queensland and bare-boat chartering, particularly out of the Whitsundays area, is very popular.

Private pleasure craft

In addition, there are over 111,000 private pleasure vessel registrations in Queensland giving the opportunity to many to take advantage of the extensive opportunities for recreational boating and angling in State waters. There are 14 Crown boat harbours and several other recognised boat havens, 350 public boat ramps, 80 public landings and 71 marinas in the State.

Queensland has a vibrant and comprehensive marine industry. Builders and designers of a whole range of craft have a high reputation for innovation and quality products in both domestic and overseas markets; the marine engineering, chandlery suppliers and support sectors offer a first rate service; there are numerous and diverse commercial operations serving the State; there is a thriving fishing industry; and recreational boating is well catered for.

Commercial fishing

Management of commercial fishing in the State comes under the *Fishing Industry Organization and Marketing Act 1982* administered by the Department of Primary Industries.

The Queensland Fish Management Authority (QFMA) is constituted under this Act and has responsibility inter alia for fishery conservation and resource management, the promotion of the fishing and aquaculture industry, the fostering of recreational fishing, and the issue of Master Fisherman's and Assistant Fisherman's licences and fishing vessel licenses. In addition, the Transport Department surveys commercial fishing vessels 10 metres in length and over and currently is responsible for approximately 1100 such craft.

There are over 2000 primary fishing vessel licences and over 6000 licensed commercial fishermen in Queensland. There is a catch value of the order of \$400 million. The industry supports over 14,000 jobs, directly and indirectly excluding processing, wholesaling and retailing.

Seafarers certificates of competency and training

State certificates of competency are issued by the Marine Board. The Board is also the licensing authority for pilotage and pilotage exemption and for the granting of recreational speed boat driver's licences.

There are some 18,000 Queensland commercial certificates and licences, of all grades, presently in force, as well as a large number of Speed Driver's Licences: over 200,000.

Maritime training is co-ordinated by the State Maritime Education Co-ordinating Executive (MECE) under the auspices of the State department DEVITIR, combining six colleges of TAFE offering certificate courses as well as a number of short vocational and technical courses and courses aimed at the recreational sailor. There is close co-operation between my Division and MECE in syllabus development. There are some private providers of maritime instruction in the State as well.

Marine safety administration

Responsibility for the administration of maritime safety is presently overseen by the Marine Board of Queensland, constituted under the Queensland Marine Act, subject to the Minister for Transport. Following a government review of the Marine Board and maritime safety administration, some 18 months ago, a process was commenced aimed at replacing the present Marine Act with a more appropriate maritime legislative regime in the State to accord with policy objectives.

The focus is set to change from the present dependence on detailed prescriptive regulation and licensing requirements, to more responsive arrangements with the emphasis more on self-regulation. It will be the duty of operators themselves to ensure safe operation of the vessel, its passengers and crew and the environment. The objective is safety management and a safety culture, with those responsible for the operation meeting their obligations in a more responsive climate. The objective is to encourage efficiency and growth in the industry and meet the State's needs while promoting safety.

Adequate safeguards and an incentive to achieve compliance, with appropriate sanctions for those who fail, will underpin the system. The present drafting stage of the Bill continues to involve extensive consultation with interested parties. There will be important consultative provisions within the Bill and it is intended that appropriate representative bodies will be set up under the Act to advise the Minister on safety policy and investigate major marine incidents.

Much greater attention will be paid to vessel operating standards. A system of monitoring and auditing will be put in place and designers and builders will be expected to move towards having verifiable quality systems. Under the new Bill the regulation of Queensland Coast and Torres Strait Pilotage will no longer be a State function and will be transferred to AMSA.

Objectives of the legislation - policy statement

"The objective of the legislation is to establish a regulatory regime which will provide a safe environment for the operation of the marine industry in Queensland waters, including both the coastal and inland waters. The regime so established will require to be consistent with both international and national obligations.

The objective is to be achieved by a regulatory scheme which:-

- lays down appropriate standards relevant to the circumstances to which they are to apply;
- provides incentives to vessel builders, owners and operators to meet those standards and sanctions for those who fail to do so;
- enables effective detection of failure to meet standards;
- provides on-going consultations with those effected;
- establishes a mechanism for the continued monitoring of the operation of the legislation through the consultative mechanisms;
- provides for a system of appeals from administrative decisions to ensure openness and fairness in administration; and
- is economical in both the costs of administration and the costs of compliance.

Responsibility for administering the new Act will rest with the Director-General of Transport under the Minister and will convey a range of powers and functions to implement the provisions of the Act and deal effectively with breaches of safety."

Pollution prevention

More or less coincidental with the introduction of a new Marine Safety Bill will be a new Marine Pollution Bill for Queensland waters applying to all vessels and giving effect to MARPOL 73/78 annexes I (Oil), II (Noxious Liquid Substances), III (Harmful Substances carried in Packaged Form) and V (Garbage). MARPOL 73/78 Annex IV (Sewage) will have to wait - it is not yet in force internationally.

Once in force the new Marine Pollution Act will ensure that there is appropriate State jurisdiction in matters of marine pollution, to the degree to which control is in force internationally. Of necessity, up to now, such comprehensive control has had to rely on Commonwealth legislation. Tourist vessels and other commercial operations, the fishing industry, the recreational user - all have a vital role to play in pollution prevention.

Good operational practices, good housekeeping, by exercising vigilance and prudent seamanship are all vital ingredients for adequate prevention. Such vessels can also be a contingent resource, even though limited maybe, in an emergent situation. A proper understanding, when encountering other traffic, of the constraints under which other vessels, both large and small, and possibly restricted in their ability to manoeuvre, are operating is essential.

General

A much greater emphasis in the future on operators discharging their duty of care will involve the operator having to have in place, as a minimum, a verifiable basic safety management system, geared to the particular operation. Properly trained and motivated crew and the provision of a well-designed, built and maintained vessel. In addition it will be necessary to have the right back-up and contingency arrangements in place for when things might not quite go to plan. Above all a paramount commitment to safety will have to be provided if that duty of care is to be properly discharged.

On the world scene, the debate on substandard vessels and operations on the one hand, and Quality, the 'Green Tanker', the "Ship of the Future" and Double Hulls etc. on the other goes on. The 'Safety Case', Risk Management, Safety Management Systems, contingent liability, contingent valuation methodology (CVM) and Escort Tugs, and the better enforcement of existing requirements, are all issues which are being given a much wider and often frequent airing, especially following any particularly public casualty. Sound-bites and emotive phrases seem to be media stock in trade. Selectivity can also creep in, resulting in considerably less air time for some casualties; consider the relatively limited prominence, minimal reporting and even lesser public debate afforded to the recent, tragic, "Neptune" sinking in the Caribbean, a major loss of life from a coastal ferry in a less developed country when set against some of the exhaustively reported "high profile" incidents - though in themselves extremely serious, round about the same time.

Further and to the future

The introduction of competency based training, better crew motivation and much improved operational standards are all necessary in order to better address the human element involved in vessel safety. Dealing calmly, sensibly and authoritatively with the sometimes shrill and often un-informed chorus of "something must be done" is never easy, a balanced response always difficult to achieve.

The hope is always that wise counsels will be allowed to prevail, with a better and more lasting solution the outcome. I suggest that the advocates of a holistic approach to safe operations will, at last, have their day. Safety will be better served as a result.

Meanwhile the pace of developments in vessel design, technology and equipment, both nationally and internationally is quickening. There is a new and exciting array of equipment, systems and safety management tools, much of it novel. As an industry we have available to us, right now, or look like having in the not too distant future:

- sophisticated simulators
 - Hand-held GPS
 - Differential GPS
 - ECDIS - electronic chart display information system
 - Integrated Bridges
- a wide range of propulsion systems and a selection of different rudder types and manoeuvring aids, in addition to:
 - EDI - electronic data interchange
 - GMDSS - global maritime distress and safety system
 - EPIRBS - emergency position indicating radio beacon
 - SARTS - search and rescue transponders
 - Dynamic underkeel clearance programmes
 - VER - voyage event recorders - 'Black Boxes'
 - Laser beam berthing aids
 - VTS - vessel traffic services

and a system marketed as 'Pilotwatch', a portable radar display ("radar in a briefcase") using a technique known as "data compression image transfer" to enable radar pictures from shore stations to be transmitted over VHF channels to portable receivers.

We are also asked to consider:

- bridge resource management (BRM) which is based on aircraft flight deck management systems increasingly used in aviation. This involves training programmes for ships officers and marine pilots and aimed to address the 'management error factor' involved in ship incidents by equipping those involved to better manage the human and technical resources in an operational maritime environment;
- failure mode and effect analysis (FMEA) which analyses the consequences of failure of each individual component on the safety of the system or operation by considering the behaviour and interaction of the components;
- vessel calling and identification system (VCIS) which will assist identification and request a target vessel to communicate, giving the ability, through advances in the application of GPS, for a ship or shore operator to automatically interrogate a vessel or series of vessels in a known position and the selected vessel's name, course, speed and draft to be transmitted automatically and be vectored and shown on a graphical display at the calling station. The selected vessel could be requested to communicate and this request would be displayed, combined with a visual and audible alarm, on board the selected vessel;
- Radar Target Enhancers, for low radar signatures as in the case of buoys and small craft which presently rely on passive reflectors;
- radar controlled autopilot (ARCAP);
- close approach radar and thermal imaging system (CARAT) enabling the visual outline of an approaching vessel rather than just the radar target to be seen to assist collision avoidance; and
- Marine Night Vision systems.

In the surveying field and marine environmental monitoring there is:

- LADS - laser airborne depth sounding equipment; and
- MERMAID - Marine environmental remote controlled measuring and integrated detection system for marine pollution monitoring

In the innovative and high speed craft arena there are:

- SWATHs - small waterplane area twin hull
- SESs - surface effect ship
- SSCs - semi submerged catamaran
- ASCs - advanced slender catamarans
- WPCs - wave piercing catamarans which have achieved world wide acclaim for their Australian builders
- the SEMP - superconducting electromagnetic propulsion vessel with the Japanese "Yamato I" possibly pointing the way ahead to the further development of this technology.

All these emerging technologies will require an even greater emphasis on the management of the human interface, on proper operational procedures and safety management systems.

Conclusion

In this brief overview of Queensland's marine activity and jurisdictional arrangements coming within the purview of my Division, some general comment on the maritime scene overall, and just a 'soupcon' of some of the technological, organisational and operational advances coming our way as an industry. I hope that I have been able to paint a contextual picture of the marine activities as they presently exist, or are likely to exist in the future, on or around the Great Barrier Reef.

At the same time I trust that I have conveyed to you the aims and objectives of the measures being taken in the State to further foster a responsible and efficient industry: that is up to the challenge, is conscious of its unique capabilities and opportunities, and is mindful of its obligations to operate in a manner which can deliver a safe operation within this absolutely unique and ecologically sensitive treasure that is the Reef.

QUESTIONS AND ANSWERS *

Kerry Dwyer's presentation

Question

Given the vast numbers of craft that you have identified in the GBRMP along the Queensland coast, how frequently do small craft cause navigational hazards to the larger craft navigating within the restricted pilotage area?

Answer

We do get a lot of reports but the pilots could give a better estimate.

Question

There are a lot of tour operators in the northern area of the GBR that have a considerable amount of speed now, 20-25 knots. There has been talk that this could double very shortly, is that likely to happen and where?

Answer

Yes, well we have been advised of a new vessel which is planned to have a capacity of 600 passengers and a 45 knot service speed. That only means that they are going to go further afield and probably further north because this area is largely untapped as a tourist resource. Certainly it would be a lot more flexible for operating out of places like Townsville which is forty miles from the Reef. I think there will be more of this rather than less and it will be the Queensland Department of Transport's task to deal with the safety implications.

* Note: This text is not a verbatim record of the questions and answers. To assist with comprehension, the Editor has deleted some text and made modifications to highlight key points. Speakers are not identified.