

Transport and Main Roads

Ship operations and activities on the Maroochy River

Final Report to the General Manager

Document control sheet

Contact for enquiries and proposed changes

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1 Executive summary

Maritime Safety Queensland is an agency established by the *Maritime Safety Queensland Act 2002* and also a division of the Department of Transport and Main Roads. The agency is responsible for the administration and regulation of the *Transport Operations (Marine Safety) Act 1994*. One of the agency's functions is to monitor and manage the operations and activities of ships to ensure marine safety.

The purpose of this report is to inform the General Manager of Maritime Safety Queensland, the decision-maker for matters of marine safety.

The Maroochy River system is a major waterway system on the Sunshine Coast, which includes the Maroochy River, Coolum Creek, Petrie Creek and Eudlo Creek. The character of these waterways varies greatly from broad expanses of navigable water like the Maroochy River near Maroochydore, to narrow sections with tight bends or shallow waters, such as Eudlo and Coolum Creeks. These features are important considerations when regulating for the safe operations of ships.

The level of ship traffic on certain areas of the Maroochy River system has increased significantly during recent times. These areas include sections of the river system used for high-speed activities, such as water skiing, wake boarding and the operations of personal watercraft. Maritime Safety Queensland has also received a number of complaints regarding the high-speed operations of speed boats and personal watercraft on waters of the Maroochy River from Bli Bli to Maroochydore, as well as Eudlo Creek.

In June 2009, Maritime Safety Queensland released its discussion paper on ship operations and activities on the Maroochy River system. The river system was divided into seven areas (numbered 1 to 7) and its main tributaries of Coolum, Petrie, Paynter and Eudlo Creeks. The purpose of the discussion paper was to highlight the operations and activities of ships on each of the areas and the creeks, and promote discussion amongst stakeholders and the broader maritime community.

The discussion paper made a number of recommendations about speed limits and water skiing prohibitions, amongst other things. Maritime Safety Queensland had not made any decisions regarding changes to speed limits and water skiing, at that time. The discussion paper was the first phase of a process that could result in regulatory change.

The discussion paper generated considerable public response. Maritime Safety Queensland received 239 written comments and submissions, as well as a large number of enquiries from different groups within the maritime community. Further, the Member for Buderim tabled a petition signed by 685 petitioners before the Queensland Parliament on 4 August 2009. The petition requested Maritime Safety Queensland to preserve the existing water skiing regime and to hold unbiased and open discussions with all stakeholders before any decisions are made.

The response to the discussion paper identified three groups:

- water skiers who expressed concern about the reduction in areas where water skiing might be allowed
- paddlers who expressed concern about the interaction between powered and passive craft, primarily on Eudlo Creek
- the residents of Cook Road at Bli Bli who were concerned about ship traffic, wash and bank erosion near their dwelling houses.

In October 2009, Maritime Safety Queensland formed the Maroochy River Reference Group made up of key stakeholders from the local maritime community. The group's membership included the Maroochy River Water Ski Association, the Sunshine Coast Kayak Club, representation for the residents of Cook Road at Bli Bli, the Sunshine Coast Regional Council, Surf Life Saving Queensland and four State Government departments. The Reference Group was chaired by the Director (Maritime Services).

The principle objective of the Reference Group was to produce this report, which would enable the General Manager of Maritime Safety Queensland to properly exercise discretion in relation to speed limits and water skiing prohibitions. The secondary objective of the Reference Group was to document issues that fall outside the sphere of marine safety, with a view to progressing resolution of those issues through other mechanisms, such as the establishment of a marine zone.

The Reference Group met on eight occasions from November 2009 to July 2011. Its members carefully considered comments and submissions from the discussion paper, as well as documents tabled during the meetings. The group identified a number of factors that influenced marine safety, including:

- the level and type of ship activities
- the history and popularity of those activities
- competing interests of different groups within the maritime community
- natural features and characteristics of the river system
- specific hazards and obstructions.

The Reference Group followed a problem-solving methodology to gain an appreciation of relevant issues before deciding on solutions, which have become the recommendations of this report. The Reference Group strived to make recommendations that provide a balanced approach to regulation for marine safety on the Maroochy River system.

The Reference Group makes 54 recommendations, which are grouped as either general recommendations for the Maroochy River system or recommendations specific to a particular area or creek.

In brief, the Reference Group's specific recommendations for speed limits and water skiing prohibitions are:

Maroochy River system

- Expand the speed limits of 6 knots throughout the Maroochy River system to include all creeks and waterways flowing into the Maroochy River, except certain waters of Coolum Creek, Petrie Creek and Eudlo Creek.

- Review the new speed limits and water skiing prohibitions by December 2012.

Area 1 – North and South Maroochy Rivers to Brown’s Rocks

- Reduce the speed limit from 40 knots to 6 knots for waters within 50 metres upstream and downstream of Brown’s Rocks.
- Expand the water skiing prohibition to include waters upstream from 50 metres downstream of Brown’s Rocks.
- From 50 metres upstream of Brown’s Rocks to the river’s confluence with its north and south arms, either:
 - reduce the speed limit from 40 knots to 20 knots; or alternatively
 - reduce the speed limit from 40 knots to 6 knots.

Area 2 – Brown’s Rock to near Dunethin Rock

- Expand the speed limit of 6 knots near Dunethin Rock to include waters from 50 metres upstream to 400 metres downstream of Lake Dunethin.

Area 3 – Near Dunethin Rock to the cane train bridge

- Reduce the speed limit from 40 knots to 6 knots for waters within 50 metres upstream and downstream of the cane train bridge.

Area 4 – Cane train bridge to downstream of Coolum Creek

- From 450 metres to 720 metres downstream of Small Creek, either:
 - reduce the speed limit of 40 knots to 20 knots and expand the water skiing prohibition to include these waters as well; or alternatively
 - reduce the speed limit of 40 knots to 6 knots.

Area 5 – Downstream of Coolum Creek to David Low Bridge

- Reduce the speed limit from 40 knots to 20 knots for waters from 1,500 metres downstream of Coolum Creek to 1,050 metres upstream of the David Low Bridge.
- For waters near Cook Road:
 - reduce the speed limit from 40 knots to 20 knots (as mentioned above) and erect speed signs for operational speed limits near the dwelling houses on Cook Road, or alternatively
 - reduce the speed limit from 40 knots to 20 knots (as mentioned above) and implement a periodic speed limit of 6 knots from 1,300 metres to 1,050 metres upstream of the David Low Bridge for weekends and public holidays; or alternatively
 - reduce the speed limit from 40 knots to 6 knots from 1,300 metres to 1,050 metres upstream of the David Low Bridge.
- Review the new speed limit near Cook Road by December 2012.

Area 6 – David Low Bridge to upstream of Sunshine Motorway Bridge

- Reduce the speed limit from 40 knots to 20 knots for waters from 50 metres upstream to 1,000 metres downstream of the David Low Bridge.
- Expand the water skiing prohibition to include waters from 50 metres upstream to 1,000 metres downstream of the David Low Bridge.

Area 7 – Upstream of Sunshine Motorway Bridge to Maroochy Bar

- Reduce the speed limit from 40 knots to 20 knots for waters downstream from 200 metres upstream of the Sunshine Motorway Bridge to the river's mouth, except for nominated personal watercraft on the Maroochy River commercial personal watercraft area, which will remain 30 knots.
- Reduce the water skiing prohibition from downstream of 500 metres upstream of the Sunshine Motorway Bridge to downstream of 200 metres upstream of that bridge.

Coolum Creek

- Reduce the speed limit from 40 knots to 20 knots for waters downstream from West Coolum Road.
- Reduce the speed limit from 40 knots to 6 knots for waters upstream of West Coolum Road.

Petrie and Paynter Creeks

- Reduce the speed limit from 40 knots to 20 knots for waters to the Bridge on David Low Way at Diddillibah.
- Reduce the speed limit from 40 knots to 6 knots for waters upstream from the bridge on David Low Way at Diddillibah, including Paynter Creek.

Eudlo Creek

- Reduce the speed limit of 40 knots to 6 knots for waters upstream from 1,150 metres upstream of the public boat ramp in Fishermans Road.
- Maintain the speed limit of 6 knots for the creek and the adjoining lagoon from Eudlo Creek Bridge to 50 metres upstream of the Fishermans Road public boat ramp.
- For other waters of the creek, either:
 - maintain the speed limit of 40 knots and expand the water skiing prohibition to allow water skiing on conditions; or alternatively
 - reduce the speed limit of 40 knots to 20 knots and expand the water skiing prohibition to include all waters of the creek.

The Reference Group also makes a number of recommendations that relate to:

- increasing the enforcement presence
- erecting new regulatory and warning signs

- updating Beacon to Beacon
- fixing new reflectors for the cane train bridge
- developing and implementing a new code of conduct for water skiers and paddlers on Eudlo Creek
- developing and implementing a new safety management plan for water skiers on Eudlo Creek
- a proposal for a marine zone by Sunshine Coast Regional Council.

All of the Reference Group's recommendations are set out in appendix 1 of this report, with specific recommendations set out in the relevant sections.

The relevant sections also contain maps that describe the recommendations.

2 Introduction

The Maroochy River system is a major waterway system within the Sunshine Coast Area of Maritime Safety Queensland's Brisbane Region. The entire river system extends more than 30 kilometres inland from the river's mouth at Maroochydhore.

The river system divides into two arms at its tidal limit called the North Maroochy River and the South Maroochy River respectively. Below the confluence of these rivers lies the extensive estuary system named the Maroochy River. A number of creeks and waterways flow into the Maroochy River, including Coolum Creek, Petrie Creek and Eudlo Creek.

Ships of various types and sizes operate on the Maroochy River and some of the adjoining creeks and waterways. These are recreational ships, such as speed boats, dinghies, personal watercraft, canoes and kayaks; fishing ships such as beam trawlers, crabbing boats and net dories; and commercial ships, such as hire and drive ships of different types (like sailing boats, dinghies and personal watercraft), as well as larger passenger vessels used for environmental tours.

The level of ship traffic on the Maroochy River system fluctuates greatly according to the time of year, the day of the week, and even the time of day. The mid to lower reaches of the Maroochy River and Eudlo Creek regularly experience very high concentrations of recreational and commercial ship traffic during weekends, public holidays and school holidays, particularly during Christmas and Easter.

The natural features of certain areas of the Maroochy River system, when coupled with high levels of ship traffic, or a particular type of ship operation and activity, may result in situations that compromise marine safety, or worse. Since July 2000, Maritime Safety Queensland has received 58 reports of marine incidents on the river system. Features of the waterway were identified as a contributing factor to 15 of these marine incidents, and excessive speed or wash was identified as a contributing factor to nine.

The Reference Group believes it is timely to review the existing regulatory regime for the operations and activities of ships on the Maroochy River system, with a view to implementing a new marine safety system.

3 Purpose

The purpose of this report is to inform the General Manager so that he may properly exercise his discretion regarding speed limits and water skiing prohibitions for the better management of ships on waters of the Maroochy River system.

In arriving at his decisions, the General Manager must have careful consideration to the objectives of the *Transport Operations (Marine Safety) Act 1994*, in particular, to provide a system that achieves an appropriate balance between —

- a) regulating the maritime industry to ensure marine safety; and
- b) enabling the effectiveness and efficiency of the Queensland maritime industry to be further developed.

4 Scope

This report is confined to matters that affect marine safety.

However, the report identifies some unresolved issues (such as bank instability and erosion) and consequently makes recommendation 8. This recommendation is that the Sunshine Coast Regional Council should consider a proposal for a marine zone, a statutory mechanism that might help local governments manage a combination of marine safety and other issues.

5 Legislation

Some relevant provisions of marine safety legislation for ship operations and activities on the Maroochy River system are:

- section 8 of the *Maritime Safety Queensland Act 2002*, which sets out the functions and powers of Maritime Safety Queensland
- section 3 of the *Transport Operations (Marine Safety) Act 1994*, which sets out the objectives of marine safety legislation
- section 43 of the *Transport Operations (Marine Safety) Act 1994*, which imposes the general safety obligation to operate a ship safely
- part 9 of the *Transport Operations (Marine Safety) Act 1994*, which deals with aids to navigation
- section 123 of the *Transport Operations (Marine Safety) Act 1994*, which defines a marine incident
- section 206A of the *Transport Operations (Marine Safety) Act 1994*, which provides the power to fix speed limits for ships
- section 211 of the *Transport Operations (Marine Safety) Act 1994*, which gives effect to the *International Regulations for Preventing Collisions at Sea 1972* (the Collision Regulations)
- rule 6 of the Collision Regulations, which deals with safe speed
- rule 8 of the Collision Regulations, which deals with action to avoid collision
- rule 9 of the Collision Regulations, which deals with narrow channels
- section 127 of the *Transport Operations (Marine Safety) Regulation 2004*, which creates operational speed limits for ships, other than personal watercraft (for example, 6 knots within 30 metres of a ship at anchor)
- section 127A of the *Transport Operations (Marine Safety) Regulation 2004*, which creates operational speed limits for personal watercraft (for example, 6 knots within 60 metres of the shore, subject to certain conditions)
- section 127B of the *Transport Operations (Marine Safety) Regulation 2004*, which places a freestyling restriction on personal watercraft if one or more dwelling houses are visible within 100 metres of the shore

- section 128 of the *Transport Operations (Marine Safety) Regulation 2004*, which creates an operational speed limit if a ship's wash is reasonably capable of causing a marine incident or damage to the shoreline
- section 130 of the *Transport Operations (Marine Safety) Regulation 2004*, which deals with speed signs erected by the general manager
- section 221 of the *Transport Operations (Marine Safety) Regulation 2004*, which deals with unlawful operations that endanger marine safety (for example, water skiing)
- section 222 of the *Transport Operations (Marine Safety) Regulation 2004*, which sets out certain water skiing requirements (for example, the personal flotation device (PFD) and observer requirements)
- part 9A of the *Transport Operations (Marine Safety) Regulation 2004*, which deals with marine zones
- section 226A of the *Transport Operations (Marine Safety) Regulation 2004*, which deals with signs erected by a government entity or a local government (for example, water skiing signs).

6 Background

Maritime Safety Queensland and its enforcement partners – the Queensland Boating and Fisheries Patrol and the Queensland Police Service (namely the Sunshine Coast District Water Police) – occasionally receive complaints regarding the operations and activities of some types of ships on the Maroochy River system, mainly on the lower reaches of the Maroochy River near Bli Bli and Maroochydore, and also on Eudlo Creek. These complaints are usually information from members of the public regarding excessive speed and wash by speed boats and personal watercraft.

Since April 1998, private consultants have performed surveys of ship traffic at certain locations on the Maroochy River. The most recent survey was conducted on 11 April 2009, which was Easter Saturday. The locations for this survey were the Maroochy River at Maroochydore, the Maroochy River at Bli Bli, and Eudlo Creek at Maroochydore. The survey results suggested a decrease from the levels of ship traffic observed during the survey of 2008, which were very high. The survey also suggested that ship operations were generally consistent with previous years and that passive craft numbers peak in the morning and that numbers of personal watercraft peak in the afternoon. In total, there were more than 870 observations of ships of various types operating on the lower reaches of the river from 6 am to 6 pm on the day of the survey.¹

In July 2005, the Ship Hydrodynamics Centre of the Australian Maritime College produced a report entitled *Vessel Wash Impacts on Bank Erosion* for the Maroochy River. The report proposed certain ship operating criteria based on the energy of a

¹ *Sunshine Coast Vessel Activity Survey 2009*

maximum wave and a ship's waterline length. The report sets out some useful information about ship operations reasonably capable of causing shoreline damage, and made a number of recommendations for the Maroochy River upstream of the David Low Bridge at Bli Bli, as well as near the Cod Hole at Maroochydore. However, these recommendations did not consider issues that affect marine safety; for example, rule 9 of the Collision Regulations.

Towards the end of 2005, the then Minister for Transport and Main Roads received a letter from the State Member for Nicklin regarding the operations and activities of speed boats towing water skiers on the Maroochy River near Bli Bli. The residents of the four dwelling houses at the northern end of Cook Road at Bli Bli had written to the Member complaining about bank erosion, and excessive speed and noise from speed boats.

The Minister asked Maritime Safety Queensland to ensure that these complaints were investigated and that appropriate action was taken to ensure marine safety. The process was supposed to involve consultation with other government entities, including the Queensland Boating and Fisheries Patrol, the Environmental Protection Agency (as the Department of Environment and Resource Management was then known), and the then Maroochy Shire Council.

In March 2006, Maritime Safety Queensland placed a public notice in a local newspaper regarding ship activities on the Maroochy River. The notice invited public submissions on issues such as speed limits, water skiing, wake boarding and other types of ship use that might affect marine safety on the waterway. The closing date for submissions was 28 April 2006.

By the end of May 2006, Maritime Safety Queensland had received 10 written submissions to its notice. The main areas of public concern seemed to be:

- bank erosion caused by speed boats engaged in water skiing and wake boarding activities
- unsafe activities of personal watercraft
- excessive speed by speed boats and personal watercraft
- excessive noise from speed boats and personal watercraft.

Another area of concern was the interaction of high-speed power-driven ships, like speed boats and personal watercraft, with passive craft, like canoes and kayaks. This was particularly an issue during periods of high ship traffic on weekends, public holidays and school holidays.

Maritime Safety Queensland performed an inspection of the Maroochy River system from Brown's Rocks to the river's mouth during August 2006. The purpose of the inspection was to produce a report on ship activities within the river system, which considered the character of the waterway and reviewed ship activities in terms of marine safety. Other pressing issues meant that production of this report was re-prioritised.

Maritime Safety Queensland performed further inspections of the Maroochy River system from Brown's Rocks to Maroochydore during late 2007, mid 2008 and early 2009. The agency took particular note of the level and type of ship traffic, and the

river's natural features, such as the width of navigable water, bends, hazards and underwater obstructions.

In June 2009, Maritime Safety Queensland released a discussion paper on ship operations and activities on the Maroochy River system. The purpose of the discussion paper was to highlight those operations and activities on certain areas and creeks of the river system, and promote discussion amongst stakeholders and the broader maritime community. Similar to this report, the discussion paper was confined to matters that affect marine safety.

The discussion paper made 20 recommendations about speed limits and water skiing prohibitions, including a suggestion to the Sunshine Coast Regional Council for a marine zone, amongst other things. Maritime Safety Queensland had not made any decisions regarding changes to speed limits and water skiing at that time. The discussion paper was the first phase of a consultation process that could result in regulatory change.

The discussion paper generated considerable public response. Maritime Safety Queensland received 239 written comments and submissions, as well as a large number of enquiries from different groups within the maritime community. There were also more than 40 letters to the Premier and the Minister for Transport, and a number of reports in the Sunshine Coast Daily newspaper. It was clear that two distinct groups held strong and different views on the best way to manage ship operations and activities on the Maroochy River system: the water skiers and the paddlers.

On 4 August 2009, the State Member for Buderim tabled a petition signed by 685 petitioners before the Queensland Parliament. The principle petitioner was the president of the Maroochy River Water Ski Association. The petition requested Maritime Safety Queensland to preserve the existing water skiing regime and to hold unbiased and open discussions with all stakeholders before any decisions are made.

Maritime Safety Queensland hosts regular meetings with its enforcement partners and the Sunshine Coast Regional Council to formally discuss complaints and other marine safety issues on the Maroochy River system. Enforcement operations by shipping inspectors of the Queensland Boating and Fisheries Patrol and Maritime Safety Queensland's Field Compliance Team have successfully targeted the operations of speed boats and personal watercraft on the river from Bli Bli to Maroochydore, including Eudlo Creek.

7 Reference Group

In October 2009, Maritime Safety Queensland formed the Maroochy River Reference Group made up of key stakeholders from the local maritime community. Specifically, the group's membership comprised representatives from:

- Maroochy River Water Ski Association
- Sunshine Coast Kayak Club
- residents of Cook Road at Bli Bli

- Sunshine Coast Regional Council
- Surf Life Saving Queensland
- Department of Environment and Resource Management
- Queensland Boating and Fisheries Patrol
- Queensland Police Service
- Maritime Safety Queensland.

The Reference Group's meetings were chaired by the Director (Maritime Services), a senior executive officer of Maritime Safety Queensland. The meetings were convened in Maritime Safety Queensland's Sunshine Coast office at Mooloolaba.

The principle objective of the Reference Group was to produce this report, which would enable the General Manager of Maritime Safety Queensland to properly exercise discretion in relation to speed limits and water skiing prohibitions. The secondary objective of the Reference Group was to document issues that fall outside the sphere of marine safety, with a view to progressing resolution of those issues through other mechanisms, such as the establishment of a marine zone.

The Reference Group met on eight occasions from November 2009 to July 2011. The group's members carefully considered the comments and submissions from the discussion paper and identified many factors that influenced each other's views on solutions to advance marine safety, including:

- local knowledge and experience of the group's members
- local knowledge of shipping inspectors
- data on natural features of the waterways gathered during the inspections
- marine safety data, including marine incident and ship survey data
- operations of recreational ships, commercial ships and fishing ships
- existing legislative requirements
- speed limits on other Sunshine Coast waterways – for example, the Noosa River system
- managing and monitoring compliance with legislative requirements
- historical use of the Maroochy River system
- popularity of certain activities
- competing interests of different groups within the maritime community.

The Reference Group adopted a problem-solving methodology to gain an appreciation of relevant issues before deciding on solutions, which have become the recommendations of this report. The members considered each area of the Maroochy River system, identified and discussed marine safety and other issues, and then carefully considered a range of solutions. The issues and solutions were captured in a series of documents called discussion and solutions templates.

The Reference Group also observed the following principles when considering regulatory solutions:

- regulatory simplification
- minimal regulation to ensure safety
- targeted regulation – avoiding regulation if safety risks can be managed in other ways
- respect for different points of view.

The Reference Group was directed to the objectives of marine safety legislation throughout their discussions. Consistent with these objectives, the group makes their recommendations to provide a marine safety system that achieves an appropriate balance between —

- a) regulating ship operations and activities to ensure marine safety; and
- b) enabling the ongoing use of the Maroochy River system by different groups with competing interests.

The Reference Group also makes recommendation 8 to highlight part 9A of the *Transport Operations (Marine Safety) Regulation 2004*, the mechanism by which the Sunshine Coast Regional Council could propose a marine zone for the Maroochy River system. A marine zone could make ships subject to certain operating requirements, providing those requirements are consistent with the objectives of marine safety legislation. The group remains mindful that isolated problems such as noise, amenity and bank erosion are best managed under local laws or environmental legislation.

Sections 9 to 12 of this report set out detailed information about the Maroochy River system, the existing legislative requirements and the Reference Group's recommendations.

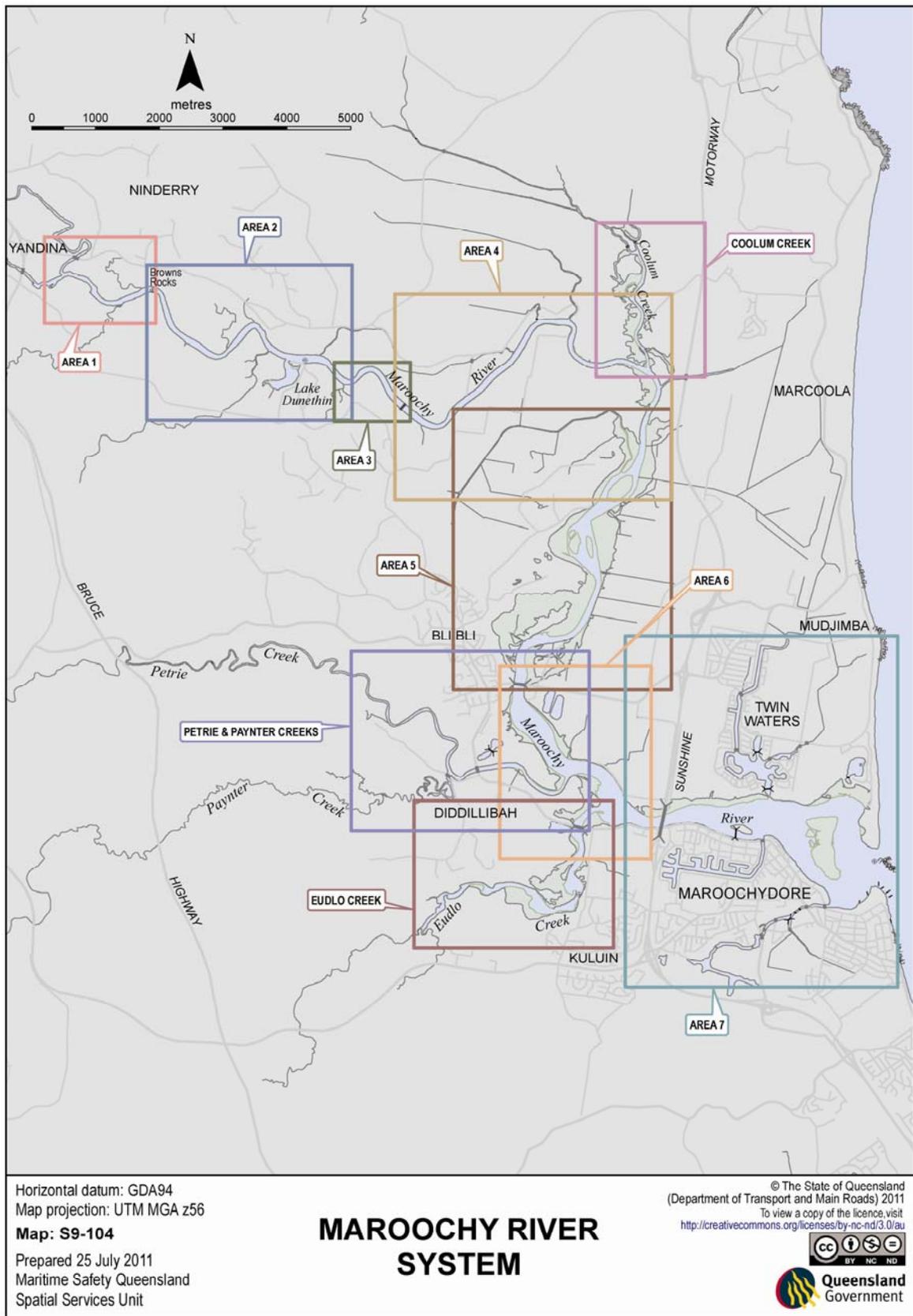
8 Maroochy River system

This report sets out information and recommendations in relation to the following waters of the Maroochy River system:

- **Maroochy River**
 - downstream of the confluence of the North and South Maroochy Rivers at Yandina to Brown's Rocks at the suburb called Maroochy River (referred to as **Area 1**)
 - downstream of Brown's Rocks to a small unnamed creek immediately downstream of Dunethin Rock at the suburb of Maroochy River (referred to as **Area 2**)
 - downstream of the small unnamed creek immediately downstream of Dunethin Rock to a point approximately 50 metres downstream of the cane train bridge at the suburb of Maroochy River, which is approximately two kilometres downstream of Dunethin Rock (referred to as **Area 3**)
 - downstream of the point approximately 50 metres downstream of the cane train bridge to a point approximately 1,500 metres downstream of the river's confluence with Coolum Creek at Marcoola (referred to as **Area 4**)
 - downstream of the point approximately 1,500 metres downstream of Coolum Creek to the David Low Bridge at Bli Bli (referred to as **Area 5**)
 - downstream of the David Low Bridge to a point approximately 500 metres upstream of the Sunshine Motorway Bridge at Maroochydore (referred to as **Area 6**)
 - downstream of the point approximately 500 metres upstream of the Sunshine Motorway Bridge to the river's mouth at Maroochydore (referred to as **Area 7**)
- **Coolum Creek**
- **Petrie Creek and Paynter Creek**
- **Eudlo Creek.**

A map that depicts these areas and creeks can be found on page 21.

Maps of each area and creek that depict the existing regulatory regime and the Reference Group's recommendations can be found in relevant sections of the report.



Areas and creeks of the Maroochy River system

9 Maroochy River

The Maroochy River is a major waterway on the Sunshine Coast. It comprises the main part of the Maroochy River system, which begins at the confluence of the North Maroochy River and the South Maroochy River at Yandina and flows into the South Pacific Ocean near Cotton Tree at Maroochydore.

The Maroochy River and navigable waters of all rivers and creeks flowing into it, either directly or indirectly, are waters within the Brisbane pilotage area as provided by section 71 of the *Transport Operations (Marine Safety) Act 1994*. The Regional Harbour Master (Brisbane) is empowered to give directions within the pilotage area in relation to:

- ships and their operations
- owners and masters of ships
- persons in charge of places adjacent to the pilotage area
- persons responsible for obstructions to navigation, amongst other things.

The Maroochy River is subject to tidal influence for its entire length, which is approximately 27 kilometres. The river's upper reaches flow through a level to slightly undulating floodplain, initially being constricted by steep, low hills. However, the river eventually widens and becomes quite expansive once it leaves the hilly terrain. There are several mid-channel islands downstream of Coolum Creek.

The river's lower reaches are a complex and dynamic system of channels, sand banks, intertidal shoals and sand bars. Channel Island and Goat Island divide the river near its mouth into the main and south channels. The river's mouth is migratory, moving to the north and south according to prevailing coastal conditions and weather events, such as floods and cyclones. Pincushion Island is currently separated from the mainland.

Some of the banks of the Maroochy River and its adjoining waterways have been heavily modified with concrete and revetment walls. Furthermore, downstream of the Cod Hole at Maroochydore, the river contains three extensive man-made modifications to the natural waterway: Cornmeal Creek, and the canal systems of Twin Waters and Maroochy Waters.

The main land uses along the banks of the Maroochy River are native vegetation, agriculture and grazing, with small areas of residential, commercial and industrial developments. The dominant agricultural crop for many years was sugar cane. However, ongoing challenges confronting the sugar industry mean that alternative crops are now often considered in its place. Large areas of the river's banks have been cleared of all riparian vegetation. Some areas suffer from severe erosion and bank instability.

The majority of remnant riparian vegetation is found on freehold land. Residential areas, including both urban and rural developments, occupy only a small proportion of the river's banks. Urban residential development comprises the bulk of this, and is concentrated on the river's southern bank downstream of the Sunshine Motorway Bridge at Maroochydore.

Recreational and commercial boating activities are very popular on the Maroochy River, including passive uses like fishing, sailing, environmental tours, canoeing and kayaking; and more active pursuits like water skiing, wake boarding and personal watercraft freestyling. Water skiing has been popular since the 1950s; however, there seems to be a recent trend towards wake boarding. There are currently more than 27,200 registered recreational ships stored at addresses within Maritime Safety Queensland's Sunshine Coast Area.²

A small number of fishing ships, like small beam trawlers, crabbing boats and net dories, operate on certain areas of the Maroochy River and its adjoining waterways. Activities within all commercial fisheries are regulated under fisheries legislation. For example, a person must not possess or use nets to take fish for trade or commerce upstream of the North and South Maroochy Rivers or downstream of the Cod Hole.

Maritime Safety Queensland maintains records of marine incidents. Since July 2000, the agency has received 58 reports of marine incidents on waters of the Maroochy River system. Of these events, six involved collisions between ships, seven involved boats engaged in water skiing, 18 involved collisions with objects or groundings, and three involved collisions of ships with people in the water. Nineteen of these marine incidents caused injuries to 21 people, nine of whom were hospitalised. A summary of some marine incident data from July 2000 to June 2010 may be found at appendix 4.

The most recent hydrographic surveys of the Maroochy River system were conducted during the early part of 2001 by the former Maritime Division of Queensland Transport, as Maritime Safety Queensland was then known. The survey areas included the main channel of the Maroochy River from the river's mouth at Cotton Tree to the confluence of the river's north and south arms at Yandina. The survey data may be found on plan number E305004, sheets 1 to 19, dated 28 February 2001.

Maritime Safety Queensland manages and maintains a series of aids to navigation, regulatory signs and warning signs throughout the Maroochy River and some of the adjoining creeks. The regulatory signs are speed signs and water skiing signs, while the warning signs provide information about obstructions and hazards.

Finally, the Maroochy River and the adjoining creeks and waterways are coastal waters as defined by the *Transport Operations (Marine Pollution) Act 1995*. Any unlawful discharge from a ship of oil, noxious liquid, packaged harmful substances, sewage or garbage is an indictable offence of strict liability. This means that a ship's owner, master and, in certain circumstances, a member of the crew, may be criminally responsible for a pollution incident, even if the discharge happens by mistake or accident.

Sections 9.1 to 9.7 of this report discuss Areas 1 to 7 of the Maroochy River in greater detail.

² Statistics gathered from Maritime Safety Queensland's *SafetyData Assist* in January 2011

9.1 Area 1 – North and South Maroochy Rivers to Brown's Rocks

The North and South Maroochy Rivers meander from their respective sources at Eerwah Vale and the Wappa Dam and join to form the Maroochy River at Yandina. Area 1 of the Maroochy River is the section of the river from its confluence with the north and south arms to Brown's Rocks, which are approximately 1.6 kilometres further downstream at the suburb called Maroochy River. Area 1 also includes a very small creek called Caboolture Creek, which flows into the Maroochy River approximately 540 metres upstream of Brown's Rocks.

Land uses along the banks of Area 1 are predominantly agriculture and grazing, with some industrial development near the Bruce Highway at Yandina, and a small amount of rural residential development – there is one dwelling house adjacent to the Area's northern bank at Brown's Rocks. Most riparian vegetation has been cleared from the river's banks, except for narrow strips of less than 10 metres in width.

Some sections of the river's banks are suffering from erosion and instability. The bank instability is probably due to vegetation clearance, stock damage, wave action and rainwater runoff. There are no conservation parks along the banks of Area 1.

The waters of Area 1 are navigable for small powered ships up to five metres in length, like small dinghies and speed boats; and passive craft, like canoes and kayaks. The depth of navigable water varies from less than one metre to about five metres at lowest astronomical tide. The width of navigable water reduces from approximately 70 metres near Brown's Rocks to less than 40 metres at the confluence of the Maroochy River with its north and south arms. The Reference Group noted that Area 1 should be considered confined waters.

The waters of Caboolture Creek are extremely narrow and shallow. The creek is navigable by only the smallest of ships, like dinghies, kayaks and canoes.

Brown's Rocks represent a significant hazard to the navigation of ships in the middle of the river. There are also two rock bars about 500 metres and 700 metres respectively upstream of Caboolture Creek, before the river's confluence with the north and south arms. There are currently no signs or aids to navigation to warn ship masters of these hazards.

Water skiing activities are prohibited on waters of Area 1.

There are no aids to navigation in Area 1, but there is a water skiing sign at Brown's Rocks.

There are no public boat ramps for Area 1.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Area 1. The most recent survey was conducted during February 2001.

9.1.1 Waterway users and issues

The user density for Area 1 ranges from very low to low, even during weekends, public holidays and school holidays.

The waterway users of Area 1 are predominantly:

- small recreational dinghies and speed boats engaged in recreational fishing
- occasional fast moving recreational personal watercraft
- slow moving recreational passive craft, like kayaks and canoes
- occasional shore-based recreational fishers and swimmers.

Brown's Rocks create a natural barrier for most ship operations.

The Reference Group identified two prevailing waterway issues for Area 1:

- the area's natural features, which mean that ships cannot navigate safely at high speed
- conflict between powered ships navigating at speed with anchored ships and passive craft, due to the narrow width of the waterway.

Maritime Safety Queensland has received one report of a marine incident in Area 1 since July 2000 – recreational speed boat collided with Brown's Rocks during January 2006.

9.1.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Area 1 (including Caboolture Creek) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

A speed limit of 6 knots applies to all ships on waters upstream of the confluence of the Maroochy River with its north and south arms. This speed limit was also fixed by gazette notice on 21 May 2004.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* also apply.

All waters of Area 1 (including all watercourses and canals flowing into it) are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

Maritime Safety Queensland has not received any complaints regarding contraventions of marine safety legislation in Area 1, since at least January 2007.

9.1.3 Recommendations

Area 1 of the Maroochy River is a narrow and often shallow waterway subject to low levels of ship traffic, even on weekends, public holidays and school holidays. Brown's Rocks are a significant hazard to navigation.

The Reference Group believes the existing water skiing prohibition achieves an acceptable level of marine safety and should be maintained, except that the boundary of the prohibition should not be Brown's Rocks themselves but an imaginary line a reasonable distance downstream of the navigation hazard.

The Reference Group believes that high-speed ship operations on Area 1 endanger marine safety, because of the river's natural features. The group contends that a ship's master navigating these waters at high speed is unable to satisfy the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed ship operations on Caboolture Creek are unsafe.

Consequently, the Reference Group believes that the existing regulatory regime for Area 1 should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

9 – North and South Maroochy Rivers – existing speed limits of 6 knots

That the General Manager should maintain the existing speed limits of 6 knots for all ships on waters of North Maroochy River and South Maroochy River upstream of the confluence of these rivers with Maroochy River at Yandina.

11 – Maroochy River (Areas 1 and 2) – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River within 50 metres upstream and downstream of Brown's Rocks.

12 – Maroochy River (Areas 1 and 2) – new water skiing prohibition

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River upstream from 50 metres downstream of Brown's Rocks.

This is an administrative correction to describe the boundary of the water skiing prohibition as 50 metres downstream of Brown's Rocks, instead of the boundary as Brown's Rocks, which are an underwater obstruction and a danger to navigation.

13 – Maroochy River (Area 1) – new warning signs

That Maritime Safety Queensland should erect three new warning signs at strategic location in Area 1 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *for upstream of Brown's Rocks – one warning sign – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION*
- *at Brown's Rocks – two warning signs – UNDERWATER OBSTRUCTION / NAVIGATE WITH CAUTION.*

The Reference Group expressed different views on a speed limit upstream of Brown's Rocks. Some members believe that 20 knots is appropriate because of the low number of marine incidents, the low user density and the absence of marine complaints. However, other members believe that 6 knots is more appropriate because of the river's natural features and the principle of regulatory simplification – 6 knots would be an extension of the speed limit from recommendations 9 and 11.

Consequently, the Reference Group puts forward the following recommendations as options:

10A – Maroochy River (Area 1) – new speed limit of 20 knots – Option 1

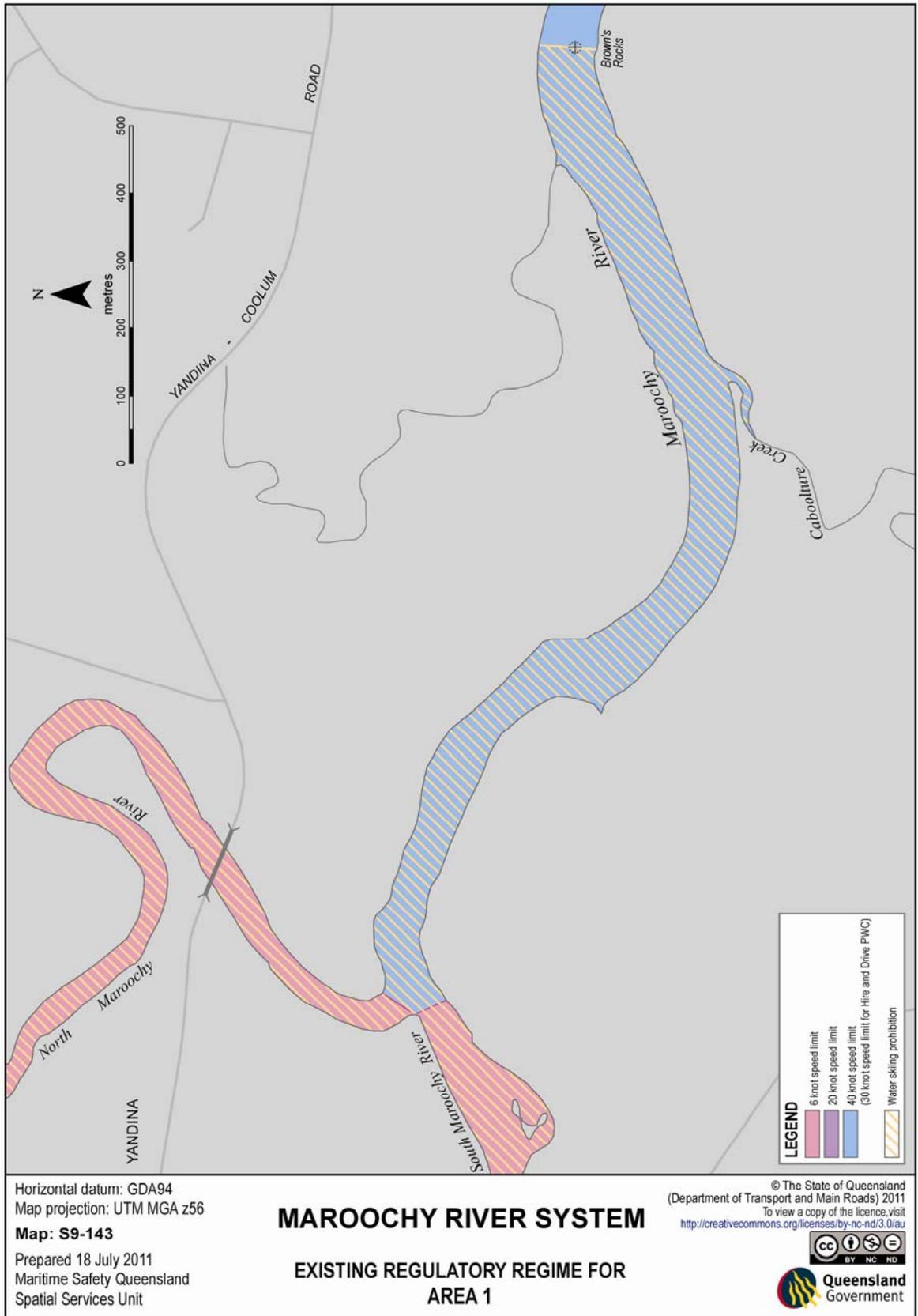
That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River upstream from 50 metres upstream of Brown's Rocks to the river's confluence with its north and south arms at Yandina; or alternatively

10B – Maroochy River (Area 1) – new speed limit of 6 knots – Option 2

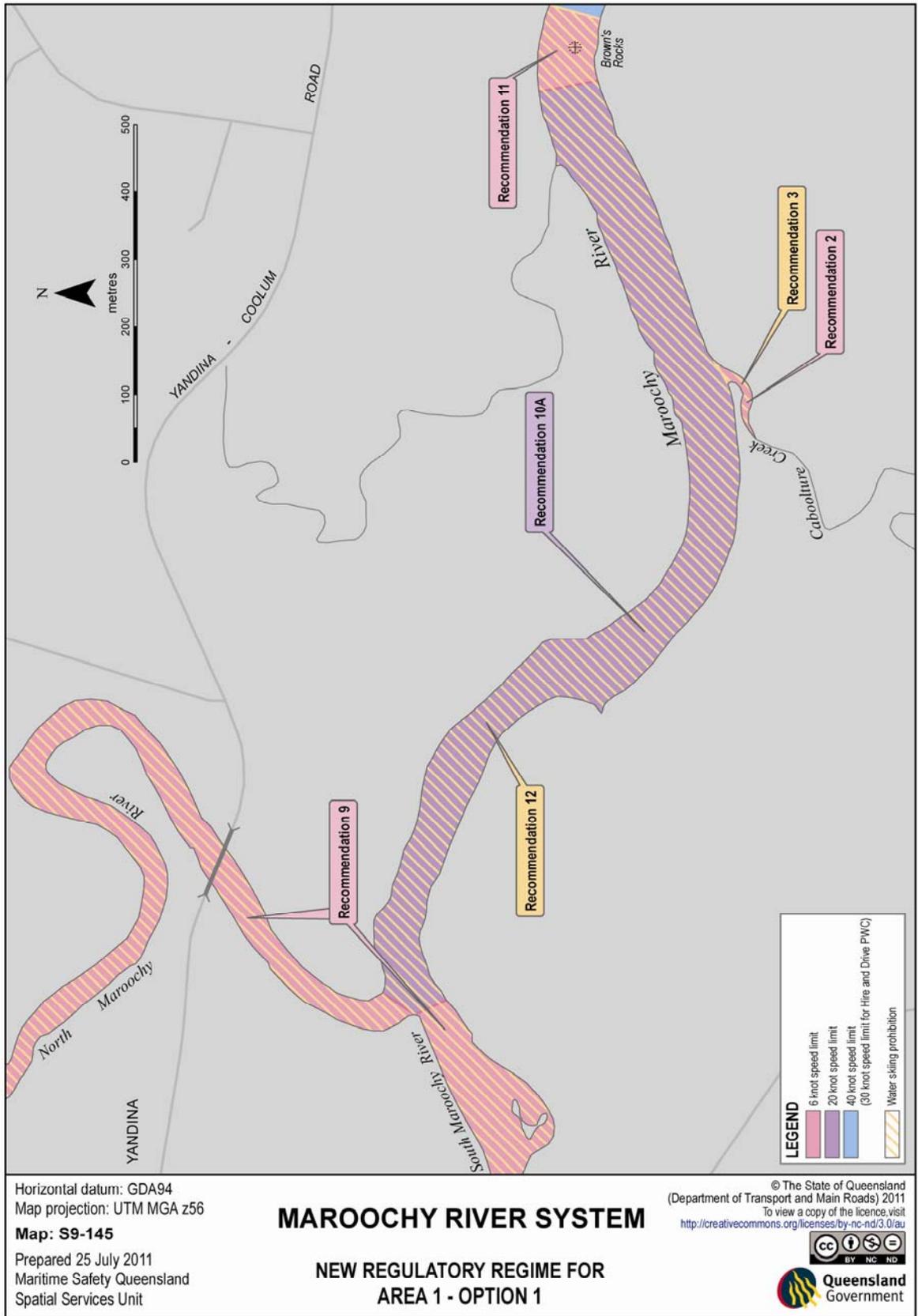
That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River upstream from 50 metres upstream of Brown's Rocks to the river's confluence with its north and south arms at Yandina

The Reference Group did not identify any unresolved issues for Area 1.

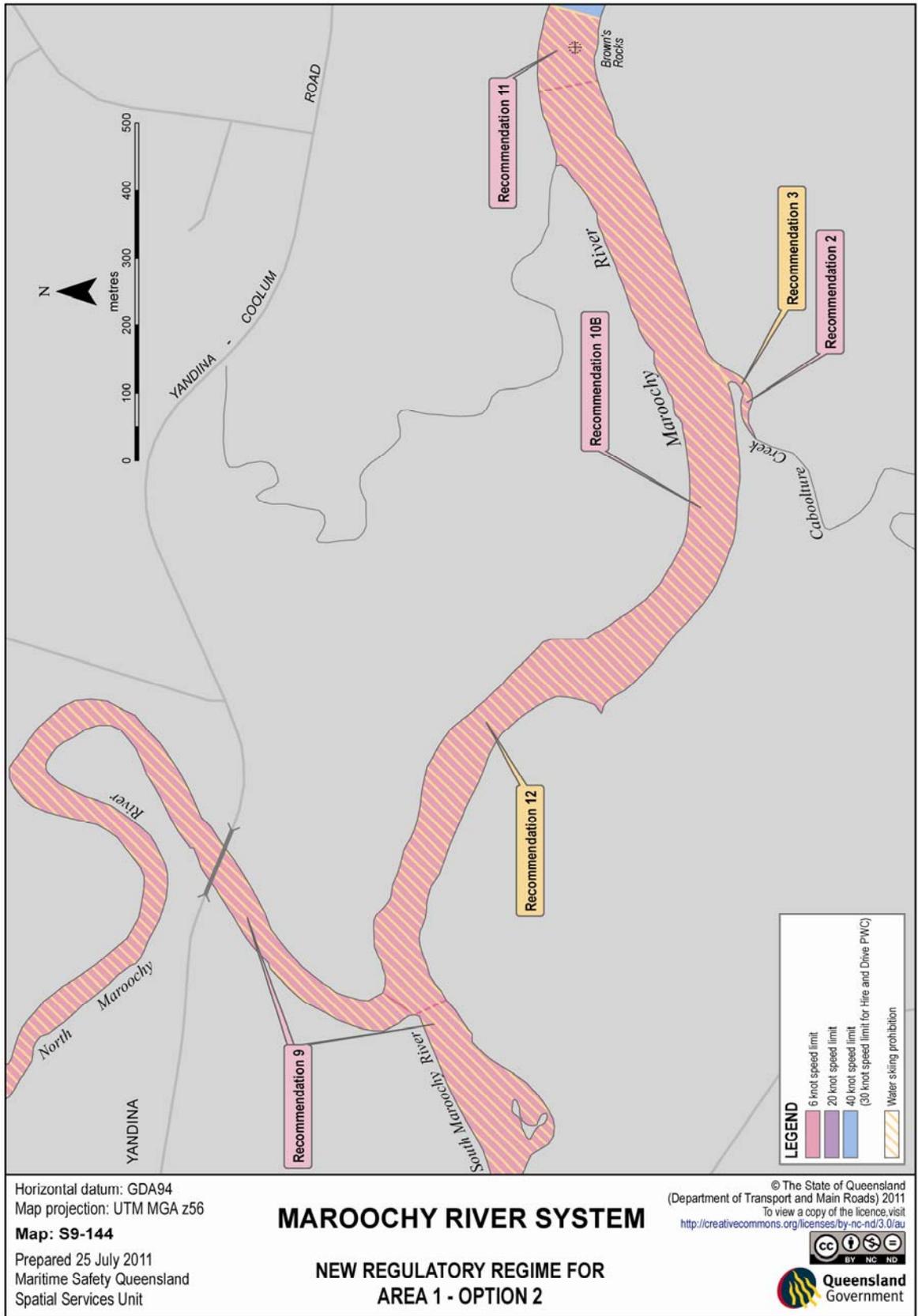
Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 28 to 30.



Map S9-143 – Existing regulatory regime for Area 1



Map S9-145 – New regulatory regime for Area 1 – Option 1



Map S9-144 – New regulatory regime for Area 1 – Option 2

9.2 Area 2 – Brown’s Rocks to near Dunethin Rock

Area 2 of the Maroochy River is the section of the river downstream from Brown’s Rocks to a small unnamed creek immediately downstream of Dunethin Rock at the suburb called Maroochy River, and includes Ashton’s Wharf, Lake Dunethin and two very small creeks called Rocky Creek and Boggy Creek. The distance from Brown’s Rocks to the small unnamed creek is approximately 4.2 kilometres.

Land uses along the banks of Area 2 are predominantly agriculture and grazing, with a small amount of commercial industrial development and rural residential development – there are less than 10 dwelling houses within 100 metres of the river’s banks. Except for narrow strips of less than 10 metres in width, most riparian vegetation has been cleared from the river’s banks. However, there are two areas of approximately 200 metres in length along the river’s banks near Dunethin Rock and Ashton’s Wharf where small forests of riparian vegetation still remain.

Many sections of the river’s banks in Area 2 are suffering from erosion and instability, some of it severe. Most bank instability is probably attributable to vegetation clearance, stock damage, wave action and rainwater runoff. The banks are also quite steep, which means they may not absorb wash energy from wash generating activities, like wake boarding.

The Department of Environment and Resource Management has previously received a development application for tidal works in Area 2, as part of the integrated development assessment system process under former integrated planning legislation. The department’s policy is to maintain the amenity of Area 2, as best as possible. The development application was refused at the resource entitlement stage of the process.

The waters of Area 2 are navigable for small powered ships up to seven metres in length, like dinghies, speed boats, motor boats and personal watercraft; and passive craft, like canoes and kayaks. The depth of navigable water varies from about one metre to six metres at lowest astronomical tide. The width of navigable water varies according to the state of the tide from:

- approximately 50 to 75 metres upstream of Ashton’s Wharf
- more than 110 metres upstream and downstream of Dunethin Rock
- approximately 80 metres at the small unnamed creek.

The waters of Rocky Creek, Boggy Creek and the small unnamed creek immediately downstream of Lake Dunethin are very narrow and shallow. Lake Dunethin is also very shallow, often less than 0.5 metres at lowest astronomical tide. All of these waterways are navigable by only the smallest of ships, such as dinghies, kayaks and canoes.

Submerged rocks near the middle of the river near Dunethin Rock represent a significant hazard to navigation. There are a number of overhead cables near Dunethin Rock that represent a hazard to navigation as well. There is also an underwater gravel shelf just upstream of Ashton’s Wharf that sometimes moves according to current and tide. This shelf presents as a potential hazard to the navigation of power driven ships, in terms of propeller strike.

Water skiing activities are currently permitted on Area 2 from a point approximately 100 metres upstream of Ashton's Wharf to Brown's Rocks, a distance of approximately 2.3 kilometres. The width of navigable water on this section of the river varies from 55 to 75 metres. There is a 90° bend in the river approximately 700 metres upstream of Ashton's Wharf. The width of navigable water at the bend is less than 55 metres.

There is a public boat ramp for Area 2 at the end of Lake Dunethin Road near the confluence of Lake Dunethin with the river, which is regularly used to launch speed boats used for water skiing. Sunshine Coast Regional Council has also established a public pontoon and viewing platform near the entrance to Lake Dunethin as part of its Maroochy River canoe trail project.

There are no aids to navigation in Area 2, but there are warning signs, water skiing signs and speed signs near Dunethin Rock and the small unnamed creek, and a number of overhead cable signs. The Reference Group believes that an additional water skiing sign near the public boat ramp would help to highlight the water skiing prohibition.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Area 2. The most recent survey was conducted during February 2001.

9.2.1 Waterway users and issues

The user density for Area 2 ranges from very low to low, even during weekends, public holidays and school holidays.

The waterway users of Area 2 are predominantly:

- small recreational dinghies and speed boats engaged in recreational fishing
- slower moving recreational motor boats
- occasional fast moving recreational speed boats and personal watercraft towing water skiers and wake boarders
- occasional fast moving recreational and commercial personal watercraft
- slow moving recreational passive craft, like kayaks and canoes
- occasional shore-based recreational fishers and swimmers.

The Reference Group identified a number of waterway issues in Area 2:

- wake boarding – particular types of wake boarding boats are designed to generate large wash, which may contribute to shoreline damage and bank erosion
- contraventions of operational speed limits by recreational personal watercraft
- excessive speed by speed boats and personal watercraft in confined waters near Dunethin Rock
- conflict between shore fishers and high-speed operations of recreational speed boats and personal watercraft near Dunethin Rock
- contraventions of water skiing prohibitions.

Information from the Maroochy River Water Ski Association suggests that water skiing activities are much less prevalent in Area 2 than further downstream.

Maritime Safety Queensland has received one report of a marine incident in Area 2 since July 2000 – a recreational motor boat collided with a submerged object in August 2000.

9.2.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on most of Area 2 (including the waterways and creeks flowing into it) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

A speed limit of 6 knots applies to all ships on waters approximately 150 metres upstream and downstream of submerged rocks (marked by a speed sign) located approximately 250 metres downstream of Lake Dunethin. This speed limit was also fixed by gazette notice on 21 May 2004.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* may also apply.

The waters of Area 2 from the small unnamed creek immediately downstream of Dunethin Rock to a point approximately 100 metres upstream of Ashton's Wharf are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 4 December 1998.

The waters of all watercourses and canals flowing into Area 2 (including Rocky Creek, Lake Dunethin and Boggy Creek) are also stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

Maritime Safety Queensland has not received any complaints regarding contraventions of marine safety legislation in Area 2, since at least January 2007.

9.2.3 Recommendations

Area 2 of the Maroochy River is a relatively narrow waterway subject to low levels of ship traffic, even on weekends, public holidays and school holidays. The submerged rocks near Dunethin Rock represent a significant hazard to navigation.

The Reference Group believes the existing water skiing prohibitions achieve an acceptable level of marine safety and should be maintained.

However, the Reference Group believes that high-speed ship operations on waters near the entrance to Lake Dunethin and Dunethin Rock endanger marine safety, because of the nature of these features. The group contends that a ship's master navigating these waters at high speed is unable to comply fully with the operational speed limits of the *Transport Operations (Marine Safety) Regulation 2004* and rules 6, 8 and 9 of the Collision Regulations.

Importantly, the Reference Group acknowledges that a contravention of any one of these legislative requirements may cause a marine incident, which in turn, may be evidence of a contravention of the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed ship operations on the waterways and creeks flowing into Area 2 are unsafe.

Consequently, the Reference Group believes that the existing regulatory regime for Area 2 should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

14 – Maroochy River (Area 2) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 50 metres downstream of Brown's Rocks to 50 metres upstream of Lake Dunethin.

15 – Maroochy River (Area 2) – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River from 50 metres upstream of Lake Dunethin to 400 metres downstream of Lake Dunethin.

16 – Maroochy River (Area 2) – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of Maroochy River from 100 metres upstream of Ashton's Wharf to the river's confluence with the small unnamed creek immediately downstream of Dunethin Rock.

17 – Maroochy River (Area 2) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 400 metres downstream of Lake

Dunethin to 50 metres upstream of the cane train bridge at the suburb of Maroochy River.

The Reference Group identified some unresolved issues in Area 2:

- extensive shoreline damage
- wash generation by certain types of speed boats used for wake boarding
- land management practices that contribute to bank erosion.

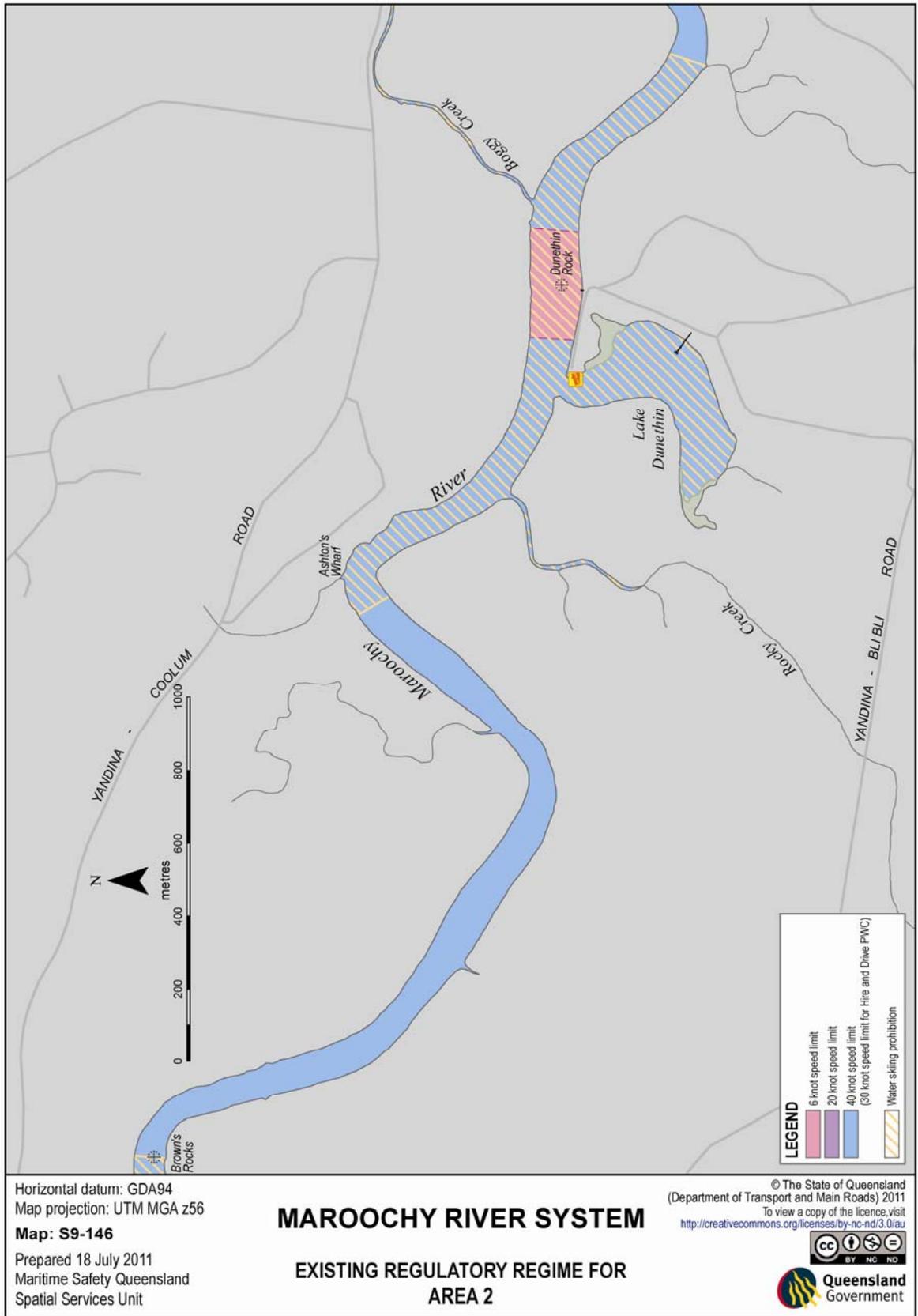
The Maroochy River Water Ski Association presented a document to the Reference Group that mentioned speed boats more than 6.1 metres in length, which are specifically designed for wash enhancement during wake boarding activities. The Reference Group acknowledges that a ship's wash is directly related to the ship's waterline length, and that wash is capable of causing damage to the shoreline.

Consequently, the Reference Group also makes the following recommendation:

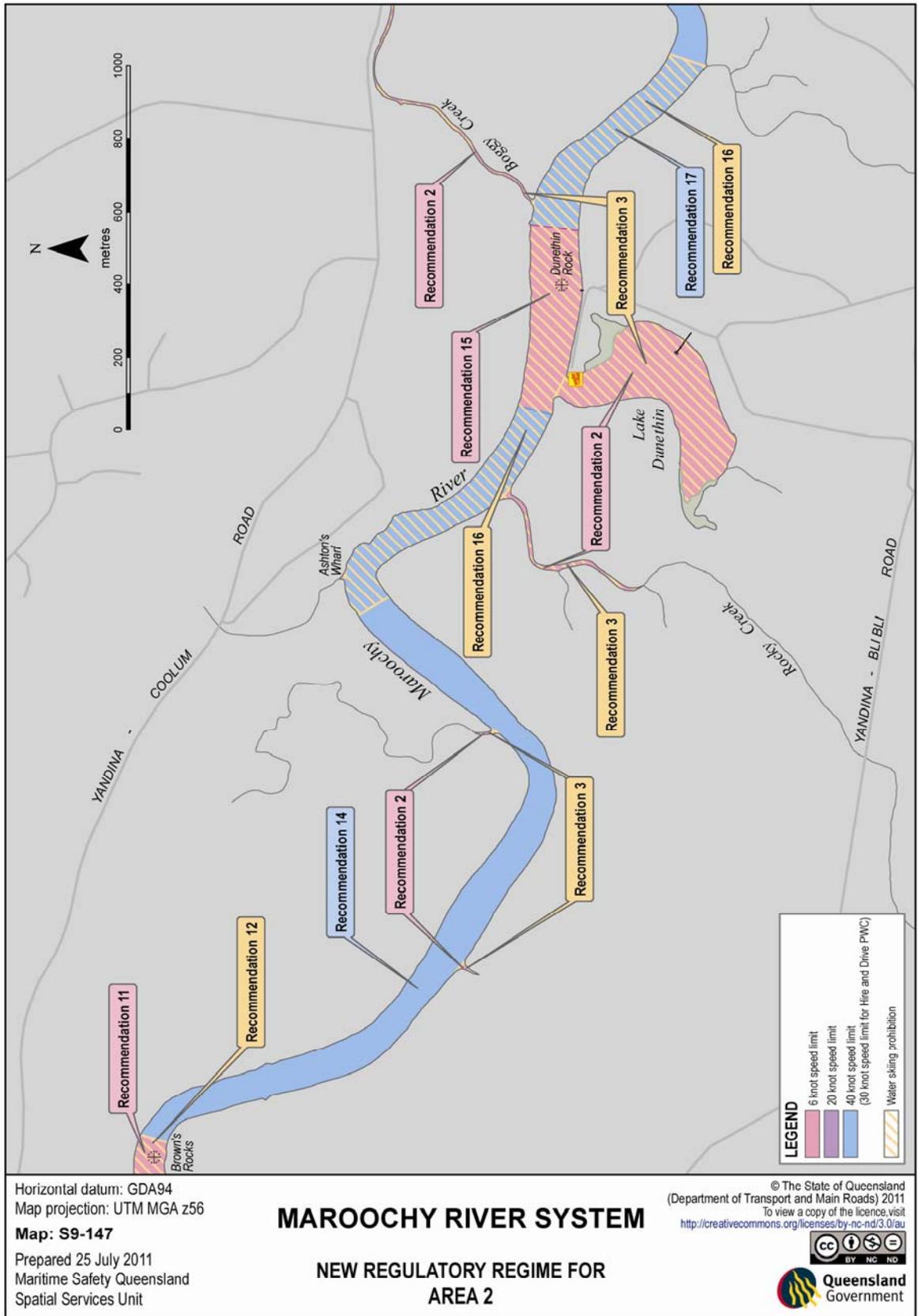
8 – Maroochy River system – proposal for a marine zone

That Sunshine Coast Regional Council should consider a proposal for a marine zone, as envisaged by part 9A of the Transport Operations (Marine Safety) Regulation 2004, to manage wash capable of causing damage to the shoreline by a requirement that a ship more than 6.1 metres in length must not be operated in the marine zone for wake boarding.

Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 36 and 37.



Map S9-146 – Existing regulatory regime for Area 2



Map S9-147 – New regulatory regime for Area 2

9.3 Area 3 – Near Dunethin Rock to the cane train bridge

Area 3 of the Maroochy River is the section of the river downstream from the small unnamed creek immediately downstream of Dunethin Rock to 50 metres downstream of the disused cane train bridge at the suburb of Maroochy River, which is approximately two kilometres downstream of Dunethin Rock. Area 3 is approximately 1.3 kilometres in length.

Land use along the banks of Area 3 is predominantly agriculture, with only a few dwelling houses within 100 metres of the river's banks. Except for narrow strips of 15 metres or less in width, most riparian vegetation has been cleared from the river's banks.

Some sections of the river's banks in Area 3 are suffering from erosion and severe instability. The bank instability is probably attributable to vegetation clearance, wave action and rainwater runoff. There are no conservation parks along this section of the Maroochy River.

The waters of Area 3 are navigable for small powered ships up to seven metres in length, like dinghies, speed boats, motor boats and personal watercraft; and passive craft, like kayaks and canoes. The depth of navigable water varies from about two metres to five metres at lowest astronomical tide. The width of navigable water varies from:

- approximately 55 metres at a bend just downstream of the small unnamed creek
- less than 65 metres at the next bend further downstream of the small unnamed creek
- approximately 80 metres near the disused cane train bridge.

The small unnamed creek immediately downstream of Dunethin Rock is extremely narrow and shallow. The creek is navigable by only the smallest of ships, like dinghies, kayaks and canoes.

With the exception of slow moving passive craft, such as kayaks and canoes, all ships travelling upstream of the cane train bridge must navigate beneath a raised span of the bridge, which is less than 10 metres wide. The clearance height for the cane train bridge is 3.5 metres at highest astronomical tide. Except for some small blue reflectors on the downstream side, there are no other reflectors or lights on the cane train bridge to assist night-time navigation. It is common for shore-based recreational fishers to fish from the cane train bridge during the day and night.

Water skiing activities are currently permitted on waters of Area 3, except for 50 metres upstream and downstream of the cane train bridge. The length of the water skiing area is approximately 1.2 kilometres. There is a 90° bend in the river approximately 480 metres downstream of the small unnamed creek immediately downstream of Dunethin Rock. The width of navigable water at this bend is less than 65 metres.

There is an overhead cable just upstream of the cane train bridge. This represents a hazard to navigation and is identified by a sign.

There are no aids to navigation in Area 3, but there are water skiing signs near the small unnamed creek and the cane train bridge.

There are no public boat ramps for Area 3.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Area 3. The most recent survey was conducted during February 2001.

9.3.1 Waterway users and issues

The user density for Area 3 ranges from very low to medium during weekends, public holidays and school holidays, depending on the time of day.

The waterway users of Area 3 are predominantly:

- dinghies and speed boats engaged in recreational fishing
- slower moving motor boats
- fast moving speed boats and personal watercraft towing water skiers and wake boarders
- fast moving speed boats and personal watercraft
- slow moving passive craft, like kayaks and canoes
- occasional shore fishers and swimmers.

The Reference Group identified two waterway issues in Area 3:

- conflict between speed boats navigating the cane train bridge and recreational fishers fishing from the bridge
- interaction of fast moving speed boats and personal watercraft towing water skiers and wake boarders with recreational fishers in dinghies and speed boats setting crabs pots.

Maritime Safety Queensland has not received any reports of marine incidents in Area 3, since at least July 2000.

9.3.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Area 3 (including small the unnamed creek) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* may also apply.

The waters of Area 3 within 50 metres upstream and downstream of the cane train bridge are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

The waters of all watercourses and canals flowing into Area 3 are also stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997 as well.

Maritime Safety Queensland has not received any complaints regarding contraventions of marine safety legislation in Area 3, since at least January 2007.

9.3.3 Recommendations

Area 3 of the Maroochy River is a relatively narrow waterway subject to low to medium levels of ship traffic on weekends, public holidays and school holidays. The cane train bridge is a significant hazard to navigation.

The Reference Group believes the existing water skiing prohibitions achieve an acceptable level of marine safety and should be maintained.

However, the Reference Group believes that high-speed ship operations near the cane train bridge endanger marine safety, because of the nature of this hazard. The group contends that a ship's master navigating near and beneath the bridge at high speed is unable to satisfy the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed ship operations on the small unnamed creek flowing into Area 3 are unsafe.

Consequently, the Reference Group believes that the existing regulatory regime for Area 3 should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

18 – Maroochy River (Area 3) – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River within 50 metres upstream and downstream of the cane train bridge at the suburb of Maroochy River.

19 – Maroochy River (Area 3) – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of Maroochy River within 50 metres upstream and downstream of the cane train bridge at the suburb of Maroochy River.

20 – Maroochy River (Area 3) – new reflectors for the cane train bridge

To assist night time navigation, that Sunshine Coast Regional Council should fix suitable reflectors to the cane train bridge across Maroochy River at the suburb of Maroochy River.

The Reference Group identified some unresolved issues in Area 3:

- extensive shoreline damage
- wash generation by certain types of speed boats used for wake boarding
- land management practices that contribute to bank erosion.

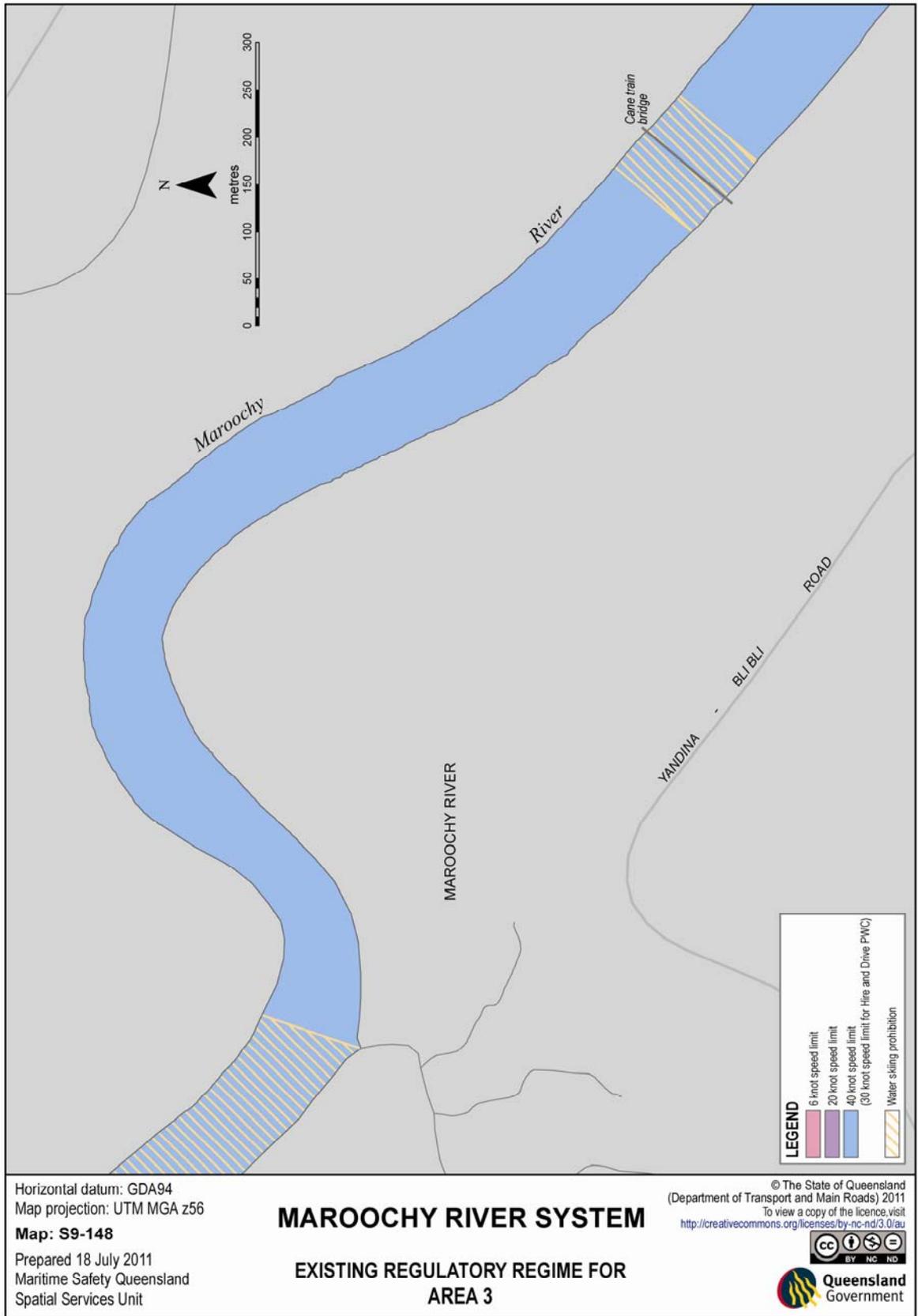
As mentioned in section 9.2.3, the Maroochy River Water Ski Association presented a document to the Reference Group that mentioned speed boats more than 6.1 metres in length, which are specifically designed for wash enhancement during wake boarding activities. The Reference Group acknowledges that a ship's wash is directly related to the ship's waterline length, and that wash is capable of causing damage to the shoreline.

Consequently, the Reference Group also makes the following recommendation:

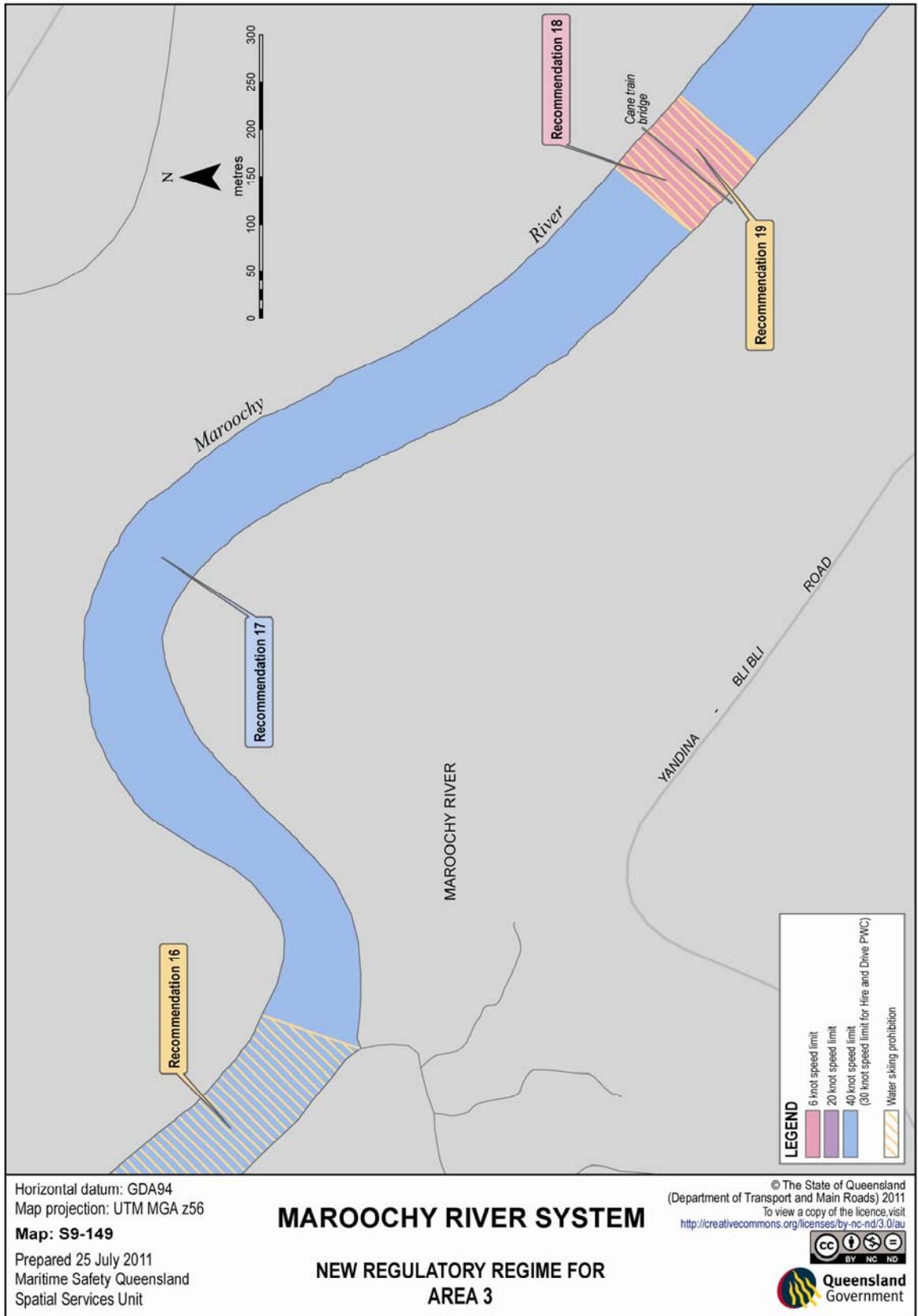
8 – Maroochy River system – proposal for a marine zone

That Sunshine Coast Regional Council should consider a proposal for a marine zone as envisaged by part 9A of the Transport Operations (Marine Safety) Regulation 2004 to manage wash capable of causing damage to the shoreline by a requirement that a ship more than 6.1 metres in length must not be operated in the marine zone for wake boarding.

Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 42 and 43.



Map S9-148 – Existing regulatory regime for Area 3



Map S9-149 – New regulatory regime for Area 3

9.4 Area 4 – Cane train bridge to downstream of Coolum Creek

Area 4 of the Maroochy River is the section of the river from 50 metres downstream of the disused cane train bridge to approximately 1,500 metres downstream of the river's confluence with Coolum Creek at Maroola, and includes Boggy Creek, Small Creek, a small unnamed creek and some drains. This section of the river is approximately 6.7 kilometres in length. It is very popular for passive pursuits, like recreational fishing, canoeing and kayaking, as well as high-speed activities, such as water skiing and wake boarding.

Land uses along the banks of Area 4 are predominantly native vegetation, agriculture and grazing, with only small areas of rural development – there are fewer than 10 dwelling houses within 100 metres of the river's banks. Most riparian vegetation has been cleared from the river's banks downstream of the cane train bridge to about 400 metres upstream of Coolum Creek, except for narrow strips of about five metres to 20 metres in width. Forests of native riparian vegetation still remain downstream of Coolum Creek. Area 4 forms part of the Maroochy fish habitat area under fisheries legislation.

Several sections of the river's banks in Area 4 are suffering from erosion and instability, some of it severe. The bank instability is probably due to vegetation clearance, stock damage, wave action and rainwater runoff. The Sunshine Coast Regional Council is concerned about the extent of bank instability just upstream of the river's confluence with Coolum Creek; it commenced a bank rehabilitation project in 2009.

The waters of Area 4 are navigable for small powered ships up to seven metres in length, mainly because of shallow waters further downstream. The depth of navigable water varies from about two metres to seven metres at lowest astronomical tide. The width of navigable water varies from:

- approximately 55 metres at a bend downstream of the cane train bridge
- approximately 80 metres near the river's confluence with Boggy Creek
- approximately 60 metres at the bend near Small Creek
- less than 55 metres at a bend approximately 630 metres downstream of Small Creek
- approximately 60 metres near the river's confluence with an unnamed drain immediately downstream of Coolum Creek.

The waters of Boggy Creek, Small Creek, the small unnamed creek immediately downstream of Small Creek and all of the drains flowing into Area 4 are very narrow and shallow. These waterways are navigable by only the smallest of ships, such as dinghies, kayaks and canoes.

Water skiing activities are currently permitted on waters of Area 4. The length of the water skiing area is approximately 6.7 kilometres. There are two bends of about 90° within this area:

- the bend approximately 700 metres downstream of the cane train bridge
- the bend approximately 630 metres downstream of Small Creek.

The width of navigable waters at both of these bends is approximately 55 metres, which results in reduced operating and passing distances for ship traffic. The Reference Group noted that the bend downstream of Small Creek obscures clear view of approaching ship traffic until the bend has been negotiated. This bend represents a significant hazard to navigation on confined waters.

A number of overhead cables cross the river in Area 4. These cables represent a hazard to navigation and are marked by signs.

There are no aids to navigation in Area 4, but there are water skiing signs near the cane train bridge and approximately 1,500 metres downstream of Coolum Creek. There are also a number of fish habitat signs.

There are no public boat ramps for Area 4.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Area 4. The most recent survey was conducted during February 2001.

9.4.1 Waterway users and issues

The user density for Area 4 ranges from very low to medium during weekends, public holidays and school holidays, depending on the time of day.

The waterway users of Area 4 are predominantly:

- dinghies and speed boats engaged in recreational fishing
- slower moving motor boats
- fast moving speed boats and personal watercraft towing water skiers and wake boarders
- fast moving speed boats
- occasional fast moving personal watercraft
- slow moving passive craft, like kayaks and canoes.

The Reference Group identified a number of waterway issues in Area 4:

- interaction and congestion of different types of ships during weekends and holidays
- perception by some water skiers and wake boarders that the area is solely for water skiing activities
- anti-social behaviour by some water skiers and wake boarder towards anchored and slow moving craft – contraventions of operational speed limits
- frustration amongst waterway users due to the mixed nature activities within the area – recreational fishers, water skiers and wake boarders
- effects from wake boarding – particular types of wake boarding boats are designed to generate large wash, which may contribute to shoreline damage and bank erosion.

Maritime Safety Queensland has not received any reports of marine incidents in Area 4, since July 2000. However, anecdotal information from paddlers suggests that speed boats towing wake boarders have caused wash which has swamped or

capsized canoes and kayaks.³ These events would constitute marine incidents pursuant section 123 of the *Transport Operations (Marine Safety) Act 1994*.

9.4.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Area 4 (and all creeks and drains flowing into it) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* may also apply.

The waters of all watercourses and canals flowing into Area 4 (including Boggy Creek, Small Creek and Coolum Creek) are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

Maritime Safety Queensland has not received any complaints regarding contraventions of marine safety legislation in Area 4, since at least January 2007.

9.4.3 Recommendations

Area 4 of the Maroochy River is a relatively narrow waterway subject to medium levels of ship traffic on weekends, public holidays and school holidays. Except for Coolum Creek, the creeks and drains flowing into Area 4 are very narrow and shallow.

The Reference Group acknowledges the history and popularity of Area 4 for water skiing activities. Generally, the group's members believe the existing water skiing prohibition achieves an acceptable level of marine safety and should be maintained.

However, the Reference Group believes that water skiing activities and high-speed ship operations around the sharp bend approximately 630 metres downstream of Small Creek endanger marine safety, because of the nature of this hazard. The group contends that a ship's master towing a water skier at high speed on these waters is unable to satisfy the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed ship operations on waters of the small creeks and drains flowing into Area 4 are unsafe.

³ Public comments during an information session for *Maroochy River Trail* at Maroochydore on 7 October 2008

Consequently, the Reference Group believes that the existing regulatory regime for Area 4 should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

21 – Maroochy River (Area 4) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 50 metres downstream of the cane train bridge at the suburb of Maroochy River to 450 metres downstream of the river's confluence with Small Creek.

22 – Maroochy River (Areas 4 and 5) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 720 metres downstream of the river's confluence with Small Creek to 1,500 metres downstream of the river's confluence with Coolum Creek.

24 – Maroochy River (Area 4) – new warning signs

That Maritime Safety Queensland should erect two new warning signs at strategic locations in Area 4 for the sharp bend near Small Creek – SHARP BEND / KEEP STARBOARD (with an arrow ).

The Reference Group expressed different views on the best way to ensure marine safety for the navigation hazard presented by the sharp bend approximately 630 metres downstream of Small Creek. Some members believe that a speed limit of 6 knots is appropriate, based on the principle of regulatory simplification, whilst others believe a speed limit of 20 knots in conjunction with a water skiing prohibition is more appropriate. The members supporting the latter position believe that good masters observing rules 6, 8 and 9 of the Collision Regulations can safely navigate the bend at 20 knots.

Consequently, the Reference Group puts forward the following recommendations as options:

23A – Maroochy River near Small Creek (Area 4) – new speed limit of 20 knots with new water skiing prohibition – Option 1

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River from 450 metres downstream of the river's confluence with Small Creek to 720 metres downstream of the river's confluence with Small Creek; in conjunction with

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River from 450 metres downstream of the river's confluence with Small Creek to 720 metres downstream of the river's confluence with Small Creek; or alternatively

23B – Maroochy River near Small Creek (Area 4) – new speed limit of 6 knots – Option 2

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River from 450 metres downstream of the river's confluence with Small Creek to 720 metres downstream of the river's confluence with Small Creek.

The Reference Group identified some unresolved issues in Area 4:

- extensive shoreline damage
- wash generation by certain types of speed boats used for wake boarding
- land management practices that contribute to bank erosion.

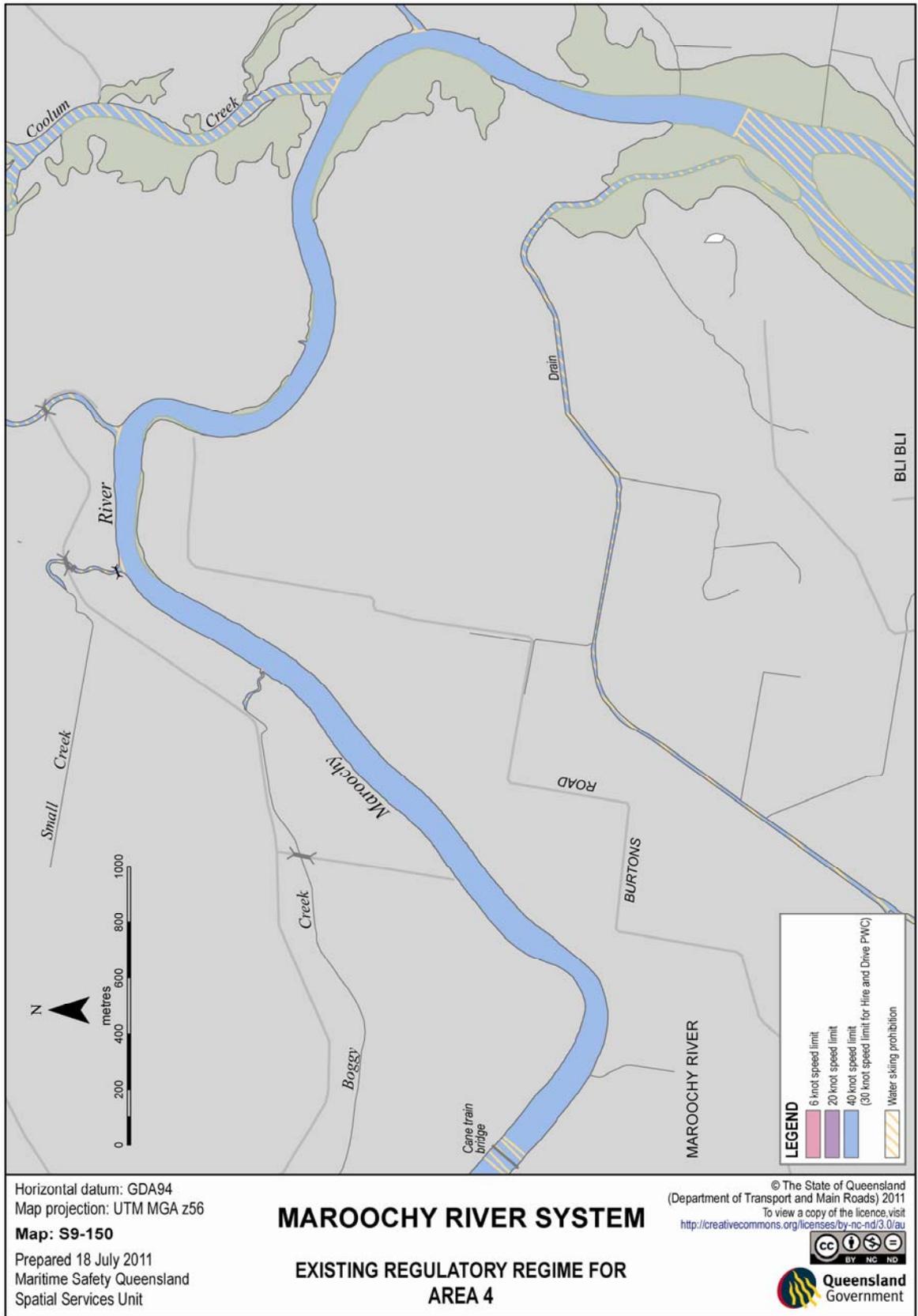
As mentioned in section 9.2.3, the Maroochy River Water Ski Association presented a document to the Reference Group that mentioned speed boats more than 6.1 metres in length, which are specifically designed for wash enhancement during wake boarding activities. The Reference Group acknowledges that a ship's wash is directly related to the ship's waterline length, and that wash is capable of causing damage to the shoreline.

Consequently, the Reference Group also makes the following recommendation:

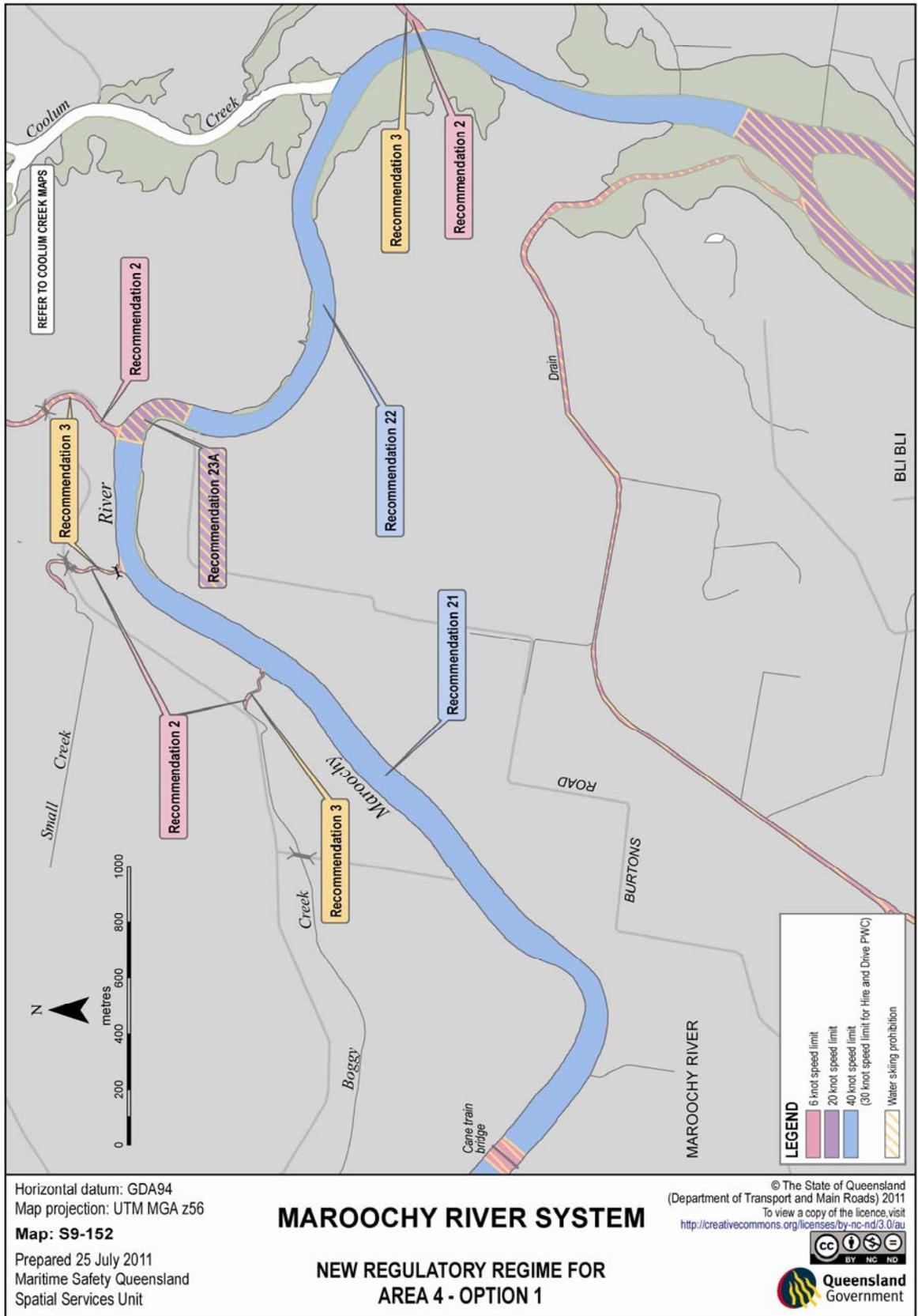
8 – Maroochy River system – proposal for a marine zone

That Sunshine Coast Regional Council should consider a proposal for a marine zone, as envisaged by part 9A of the Transport Operations (Marine Safety) Regulation 2004, to manage wash capable of causing damage to the shoreline by a requirement that a ship more than 6.1 metres in length must not be operated in the marine zone for wake boarding.

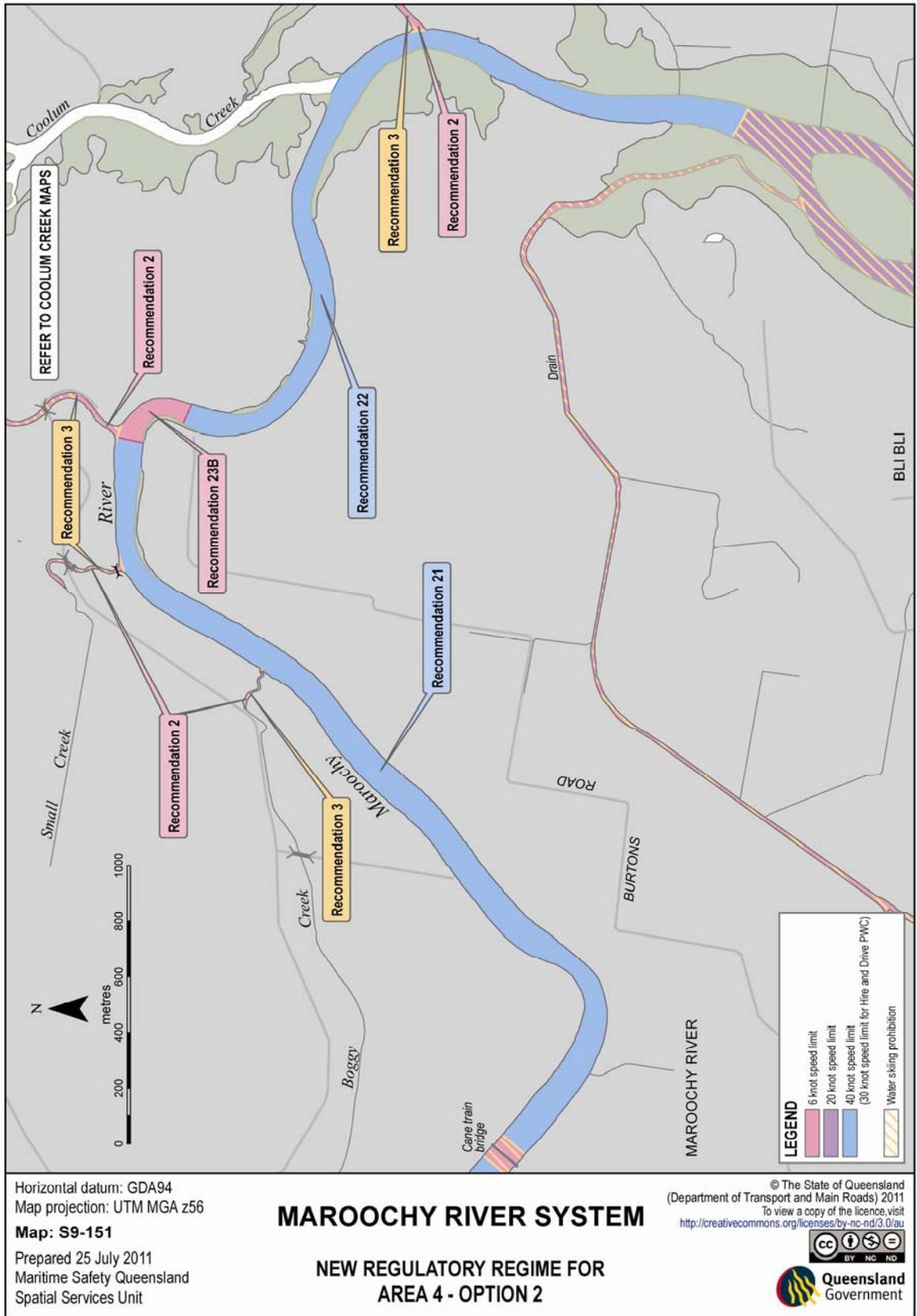
Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 49 to 51.



Map S9-150 – Existing regulatory regime for Area 4



Map S9-152 – New regulatory regime for Area 4 – Option 1



Map S9-151 – New regulatory regime for Area 4 – Option 2

9.5 Area 5 – Downstream of Coolum Creek to David Low Bridge

Area 5 of the Maroochy River is a dynamic section of the river from approximately 1,500 metres downstream of Coolum Creek to the David Low Bridge at Bli Bli, and includes a number of small drains. The length of this section is approximately 6.2 kilometres. It is very popular for canoeing, kayaking, recreational fishing and also, where not prohibited, water skiing activities.

Land uses along the banks of Area 5 are predominantly native vegetation and agriculture, with only two areas of rural residential development at Bli Bli: there is one dwelling house near the end of Stoney Wharf Road on the river's western bank; and four dwelling houses at the end of Cook Road on the river's eastern bank. Both banks retain most of their riparian vegetation, except for sections near the dwelling houses, and also a section of the eastern bank about 960 metres in length, which is approximately 1.8 kilometres upstream of the David Low Bridge. Area 5 forms part of the Maroochy fish habitat area under fisheries legislation. There is also a wetland sanctuary that includes approximately 2.2 kilometres of the river's western bank from just upstream of the David Low Bridge.

A section of the river's bank near the end of Cook Road at Bli Bli seems to be suffering from ongoing erosion and instability. This section is approximately 320 metres in length, directly adjacent to the rural residential development. The bank instability is probably due to wave action and rainwater runoff. The Reference Group noted that certain ship operations generate wash capable of causing shoreline damage. The group also acknowledges the concern of the Cook Road residents about erosion and instability near their dwelling houses.

There are four mid-channel islands in Area 5: an unnamed island approximately 3.8 kilometres upstream of the David Low Bridge; and the three Bli Bli Islands approximately 2.7 kilometres upstream of the same bridge. The river's main channel runs to the east of the unnamed island and between the two largest of the Bli Bli Islands. All of the channels around the islands change constantly through movement of sand banks.

The waters of Area 5 are navigable for small powered ships up to seven metres in length, mainly because the clearance height of the David Low Bridge is 2.8 metres at highest astronomical tide. The depth of navigable water in the main channel varies from about one metre to six metres at lowest astronomical tide. The width of navigable waters varies considerably from:

- approximately 110 metres at the start of Area 5 downstream from Coolum Creek
- less than 50 metres within the channel to the east of the unnamed island
- approximately 120 metres just downstream of the unnamed island
- approximately 10 metres [sic] near a sharp bend just upstream of the Bli Bli Islands
- approximately 75 metres within the channel between the main Bli Bli Islands
- approximately 70 to 90 metres where the river narrows downstream of the Bli Bli Islands

- approximately 85 metres at the end of Cook Road
- approximately 100 metres just downstream of the most downstream dwelling house in Cook Road
- approximately 100 metres at the bend approximately 600 metres upstream of the David Low Bridge
- approximately 120 to 150 metres just upstream of the David Low Bridge.

The Reference Group noted that the sharp bend just upstream of the Bli Bli Islands obscures clear view of approaching ship traffic until the bend has been negotiated. This bend, together with the narrow width of navigable water at that location, represents a significant hazard to navigation on confined waters.

The waters of the small drains flowing into this section of the river are very narrow and shallow. They are navigable by only the smallest of ships, such as dinghies, kayaks and canoes.

Water skiing activities are permitted on certain waters of Area 5, namely from 50 metres upstream of the David Low Bridge to a point approximately 50 metres downstream of the most downstream house in Cook Road.⁴ The water skiing area is approximately 1,000 metres in length. The width of navigable water is at least 100 metres. The Reference Group noted that water skiers seem to modify their activities according to the level of ship traffic in the area.

Maritime Safety Queensland cannot accurately identify the upstream boundary of the water skiing prohibition near the most downstream house in Cook Road. However, the boundary is approximately 1,050 metres upstream from the David Low Bridge. The Reference Group noted that a boundary described in relation to the bridge is more appropriate.

Water skiing activities are prohibited on all other waters of Area 5.

There are no aids to navigation in Area 5, except for a special mark beacon that indicates a sewage outfall pipe just downstream of the Bli Bli Islands. There are water skiing signs approximately 1,500 metres downstream of Coolum Creek, approximately 50 metres downstream of the most downstream house in Cook Road, and also near the David Low Bridge. There are a number of fish habitat signs as well.

There are no public boat ramps for Area 5. However, there are two informal launching areas: one near the end of Stoney Wharf Road; the other adjacent to the western end of the David Low Bridge. There is also a pontoon approximately 1.8 kilometres upstream of the David Low Bridge that provides access from the river to a boardwalk in the wetland sanctuary.

Maritime Safety Queensland does not conduct regular hydrographic survey of Area 5. The most recent survey was conducted during February 2001.

⁴ The dwelling house in Cook Road is approximately 1,100 metres upstream of the David Low Bridge

9.5.1 Waterway users and issues

The user density for Area 5 ranges from very low to high during weekends, public holidays and school holidays, depending on the time of day.

The waterway users of Area 5 are predominantly:

- dinghies and speed boats engaged in recreational fishing
- slower moving motor boats
- fast moving speed boats and personal watercraft towing water skiers and wake boarders
- fast moving speed boats and personal watercraft
- slow moving passive craft, like kayaks and canoes
- shore-based recreational fishers.

Water skiing and wake boarding activities are very popular in Area 5, where not prohibited.

The Reference Group identified a number of waterway issues in Area 5:

- interaction and congestion of different types of ships during weekends and holidays
- passing and operating distances by some powered ships near anchored and slow moving craft – contraventions of operational speed limits
- effects from wake boarding – particular types of wake boarding boats are designed to generate large wash, which may contribute to shoreline damage and bank erosion
- effects of wash from high-speed ship operations generally
- interaction between powered ships and anchored ships around and beneath the David Low Bridge.

Maritime Safety Queensland has not received any reports of marine incidents in Area 5 since July 2000. However, anecdotal information from paddlers appears to suggest regular contraventions of the operational speed limits by the masters of speed boats towing wake boarders, primarily involving wash and interaction with kayaks and canoes.⁵

9.5.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Area 5 (and all creeks and drains flowing into it) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

⁵ Public comments during an information session for *Maroochy River Trail* at Maroochydore on 7 October 2008

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* may also apply.

The waters of Area 5 from a point approximately 1,500 metres downstream of the confluence with Coolum Creek to a point approximately 50 metres downstream of the most downstream house in Cook Road at Bli Bli are stated by gazette notice as waters where water skiing is an activity that endangers marine safety.⁶ The gazette notice was published on 4 December 1998.

The waters of Area 5 within 50 metres upstream (and downstream) of the David Low Bridge at Bli Bli are also stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

The waters of all watercourses and canals flowing into Area 5 are also stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997 as well.

Maritime Safety Queensland received a number of complaints regarding noise, wash and water skiing activities in Area 5 near Cook Road during 2007, 2008 and 2009. This section of the river has been the subject of compliance operations by shipping inspectors.

9.5.3 Recommendations

Area 5 of the Maroochy River is often subject to high levels of ship traffic on weekends, public holidays and school holidays.

The upper part of Area 5 where water skiing endangers marine safety (which is approximately 5.2 kilometres in length from just upstream of the unnamed mid-channel island to just downstream of Cook Road) is a narrow and shallow waterway. The sharp bend and confined waters just upstream of the Bli Bli Islands create a significant navigation hazard.

The lower part of Area 5 (which includes the water skiing area of approximately 1,000 metres in length) is a broader and deeper waterway.

The drains that flow into Area 5 are very narrow and shallow.

The Reference Group acknowledges the history and popularity of the lower part of Area 5 for high-speed ship operations, including water skiing and wake boarding, where not prohibited. Generally, the group's members believe the existing water skiing prohibition achieves an acceptable level of marine safety and should be maintained, except that the boundary of the prohibition requires an administrative correction.

However, the Reference Group believes that high-speed ship operations on the upper part of Area 5 seriously compromise marine safety, because of the river's natural features and the level of ship traffic. The group contends that a ship's

⁶ The dwelling house in Cook Road is approximately 1,100 metres upstream of the David Low Bridge

master operating at high speed on these waters is unable to comply with the operational speed limits of the *Transport Operations (Marine Safety) Regulation 2004* and rules 6, 8 and 9 of the Collision Regulations.

Importantly, the Reference group acknowledges that a contravention of any one of these legislative requirements may cause a marine incident, which in turn, may be evidence of a contravention of the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed ship operations on waters of the small drains flowing into Area 5 are unsafe.

Consequently, the Reference Group believes that the existing regulatory regime for Area 5 should be expanded to provide a better marine safety system, and therefore makes the following recommendations for:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

25 – Maroochy River (Area 5) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 1,050 metres upstream of David Low Bridge at Bli Bli to 50 metres upstream of David Low Bridge at Bli Bli.

26 – Maroochy River (Area 5) – new speed limit of 20 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River from 1,500 metres downstream of the river's confluence with Coolum Creek to 1,050 metres upstream of David Low Bridge at Bli Bli.

29 – Maroochy River near Cook Road (Area 5) – update Beacon to Beacon

That Maritime Safety Queensland should update Beacon to Beacon to include a note that describes the type of ship operations reasonably expected on Maroochy River near Cook Road and the likelihood of ship traffic congestion during weekends and public holidays.

30 – Maroochy River (Area 5) – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of Maroochy River from 1,500 metres downstream of the river's confluence with Coolum Creek to 1,050 metres upstream of David Low Bridge at Bli Bli (refer to recommendation 54).

31 – Maroochy River (Area 5) – new warning signs

That Maritime Safety Queensland should erect four new warning signs at strategic locations in Area 5 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *for the sharp bend upstream of Bli Bli Islands – two warning signs – SHARP BEND / KEEP STARBOARD (with an arrow )*
- *near Bli Bli Islands – two warning signs – SAND BANKS / NAVIGATE WITH CAUTION.*

54 – Maroochy River (Area 5) – administrative correction

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River from 1,500 metres downstream of the river's confluence with Coolum Creek to 1,050 metres upstream of David Low Bridge at Bli Bli.

This is an administrative correction to accurately describe the boundary of the water skiing prohibition 50 metres downstream of the most downstream house in Cook Road, which is approximately 1,050 metres upstream of the David Low Bridge at Bli Bli.

The Reference Group expressed different views on the best regime to ensure marine safety near Cook Road at Bli Bli. The residents of Cook Road suggest that either a 6 knots speed limit, or at least a periodic speed limit of 6 knots for weekends and public holidays, will enhance marine safety and address the problem of shoreline damage near their dwelling houses. Other members believe, however, that a regulatory regime that includes a water skiing prohibition, operational speed limits, a freestyling restriction and the new speed limit of 20 knots for all ships from recommendation 26 is more appropriate.

Those members who support the latter position refer to the report by the Ship Hydrodynamics Centre of the Australian Maritime College, mentioned in section 8. They highlight the increased wash from some ships navigating at 6 knots, and also the increased noise and adverse impact on amenity due to the extra time it would take for ships travelling at 6 knots to pass the residential dwellings.

Consequently, the Reference Group puts forward the following recommendations as options:

27A – Maroochy River near Cook Road (Area 5) – new speed limit of 20 knots with speed signs for operational speed limits – Option 1

That the General Manager should fix the speed limit of 20 knots (as mentioned in recommendation 26) and that Maritime Safety Queensland should erect two new regulatory signs for operational speed limits at strategic locations near the dwelling houses on Cook Road at Bli Bli (as mentioned in recommendation 4); or alternatively

27B – Maroochy River near Cook Road (Area 5) – new periodic speed limit of 6 knots for weekends and public holidays – Option 2

That the General Manager should fix by gazette notice a new periodic speed limit of 6 knots for all ships on waters of Maroochy River from 1,300 metres upstream of David Low Bridge at Bli Bli to 1,050 metres upstream of David Low Bridge at Bli Bli for weekends and public holidays; or alternatively

27C – Maroochy River near Cook Road (Area 5) – new speed limit of 6 knots – Option 3

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River from 1,300 metres upstream of David Low Bridge at Bli Bli to 1,050 metres upstream of David Low Bridge at Bli Bli.

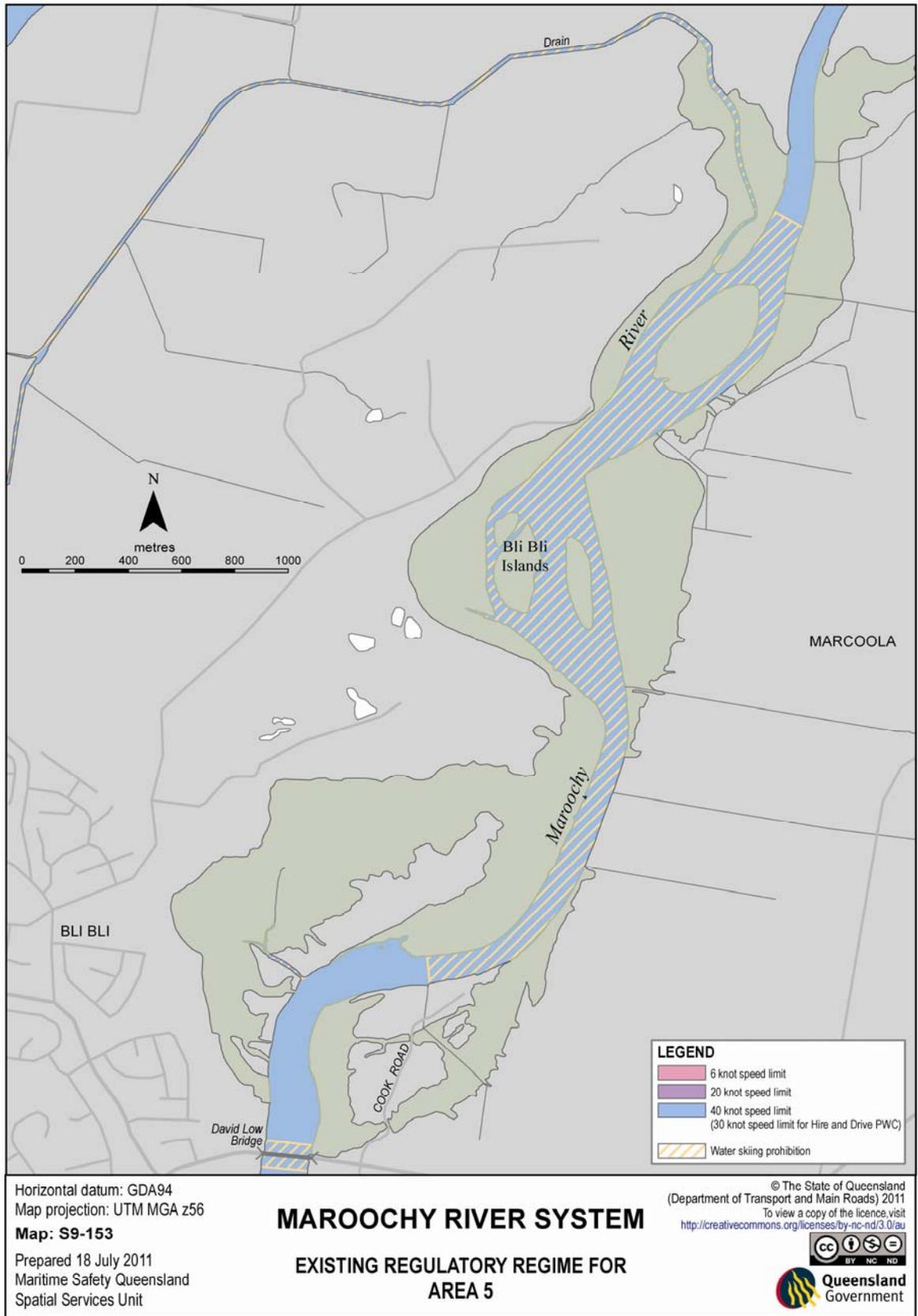
Following from these recommendations, the Reference Group also makes the following recommendation:

28 – Maroochy River near Cook Road (Area 5) – review of new speed limit

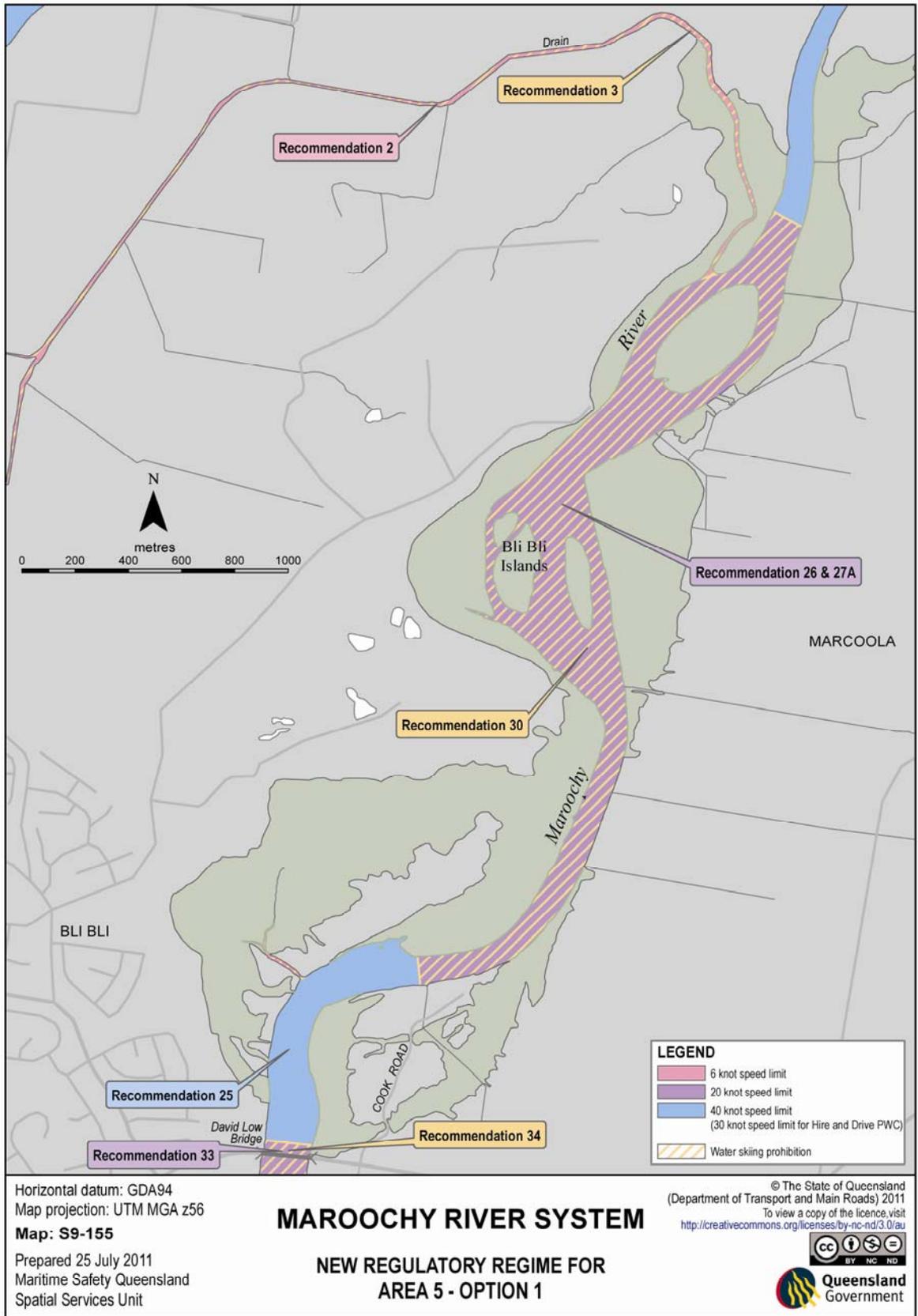
That the Reference Group should re-convene to review the implementation and affect of the new speed limit for waters of Maroochy River adjacent to Cook Road at Bli Bli, before December 2012.

The Reference Group identified one unresolved issue in Area 5 – tidal works within the fish habitat area that might help prevent bank erosion near the dwelling houses in Cook Road. The Sunshine Coast Regional Council is the assessment manager for tidal works in accordance with the integrated development assessment system under the *Sustainable Planning Act 2009*. The Reference Group intends to refer this issue to council.

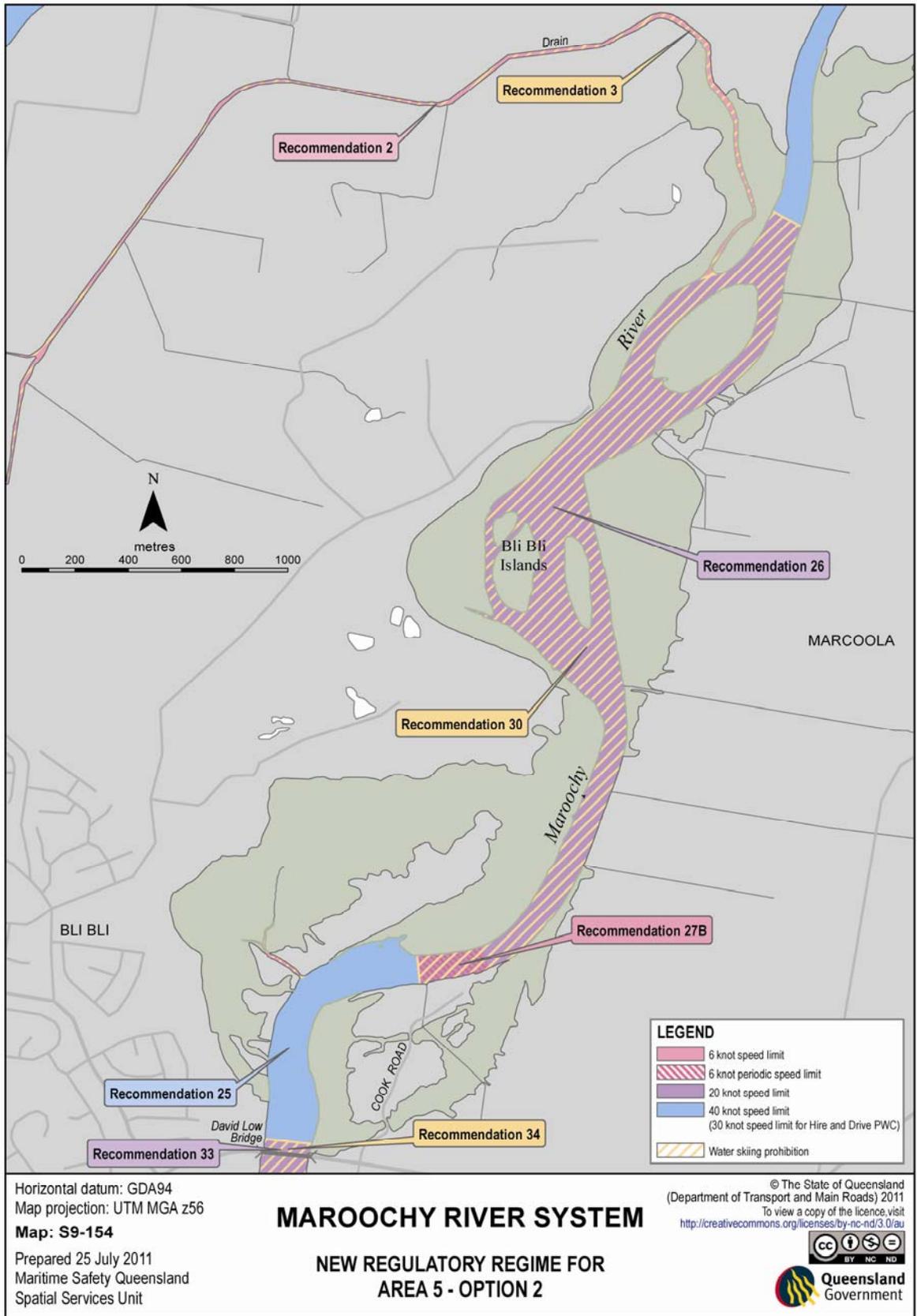
Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 59 to 62.



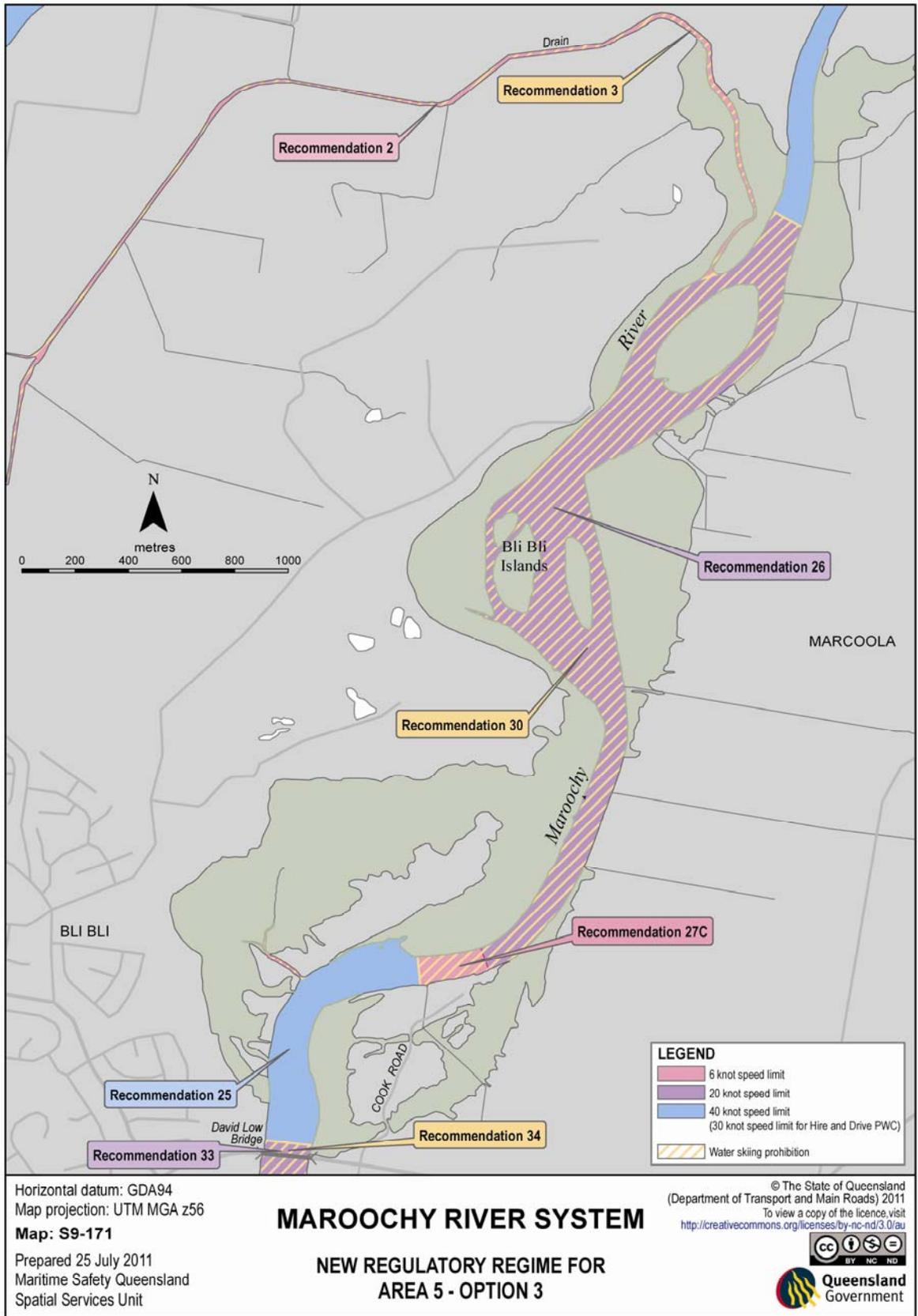
Map S9-153 – Existing regulatory regime for Area 5



Map S9-155 – New regulatory regime for Area 5 – Option 1



Map S9-154 – New regulatory regime for Area 5 – Option 2



Map S9-171 – New regulatory regime for Area 5 – Option 3

9.6 Area 6 – David Low Bridge to upstream of Sunshine Motorway Bridge

Area 6 of the Maroochy River is the section of the river from the David Low Bridge at Bli Bli to 500 metres upstream of the Sunshine Motorway Bridge at Maroochydore, and includes some small drains. This section of the river is approximately 2.9 kilometres in length. It is very popular for all types of ship operations and activities, including speed boats, dinghies, personal watercraft, passive craft and water skiing.

Land uses along the banks of Area 6 are predominantly native vegetation, agriculture, a small amount of commercial development, and a very small amount of rural and urban residential development – there are fewer than 50 dwelling houses within 100 metres of the river's banks. The western bank retains most of its riparian vegetation to the mouth of Eudlo Creek. The eastern bank also retains most of its riparian vegetation, except for two sections: along the shore of Muller Park immediately downstream of the David Low Bridge; and a section approximately one kilometre in length, which is adjacent to the urban and rural developments. Area 6 forms part of the Maroochy fish habitat area under fisheries legislation.

The Reference Group is not aware of any environmental issues, such as erosion or bank instability, which may present a problem within Area 6.

The waters of Area 6 are navigable for small powered ships up to 12 metres in length. The depth of navigable water varies from about one metre at lowest astronomical tide to more than four metres at lowest astronomical tide. The width of navigable water is not less than 100 metres, except where the main channel narrows to less than 60 metres between sand banks approximately 500 metres to one kilometre downstream of the David Low Bridge. A series of aids to navigation mark navigable waters of the main channel through this area.

The waters of the small drains flowing into this section of the river are very narrow and shallow. They are navigable by only the smallest of ships, such as dinghies, kayaks and canoes.

Water skiing activities are currently permitted on certain waters of Area 6, namely from 50 metres downstream of the David Low Bridge to 500 metres upstream of the Sunshine Motorway Bridge. The water skiing area is approximately 2.8 kilometres in length. There are water skiing signs near the David Low Bridge, the mouth of Petrie Creek, the mouth of Eudlo Creek and approximately 500 metres upstream of the Sunshine Motorway Bridge. Information from shipping inspectors suggest that most ships towing water skiers do not attempt to navigate the area where the main channel narrows between the sand banks.

The Reference Group examined the features of the main channel within one kilometre downstream of the David Low Bridge. In addition to the sand banks and the aids to navigation, there is an oyster area adjacent to the river's western bank near the most upstream starboard lateral beacon. The Reference Group noted that

these features represent a significant hazard to the navigation of ships engaged in water skiing activities.

For at least 11 years, the water skiing signs supposed to mark the boundary of the water skiing prohibition 500 metres upstream of the Sunshine Motorway Bridge were positioned approximately 250 metres upstream of the bridge. Maritime Safety Queensland repositioned these signs to the location stated in the relevant gazette notice on 21 October 2008. The width of navigable water near this boundary begins to narrow approximately 200 metres upstream of the Sunshine Motorway Bridge. Section 9.7 of the report discusses this issue in more detail.

There are two public boat ramps for Area 6: the Muller Park public boat ramp off David Low Way at Bli Bli; and the public boat ramp commonly called the Cod Hole boat ramp off Bradman Avenue at Maroochydore.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Area 6. The most recent survey was conducted during February 2001.

9.6.1 Waterway users and issues

The user density for Area 6 ranges from low to very high during weekends, public holidays and school holidays, depending on the time of day.

The waterway users of Area 6 are predominantly:

- dinghies and speed boats engaged in recreational fishing
- slower moving motor boats
- passenger vessels conducting environmental tours
- fast moving speed boats and personal watercraft towing water skiers and wake boarders
- fast moving speed boats and personal watercraft
- slow moving passive craft, like small sailing boats, kayaks and canoes
- shore-based recreational fishers.

Water skiing and wake boarding activities are very popular on Area 6, where not prohibited.

The *Sunshine Coast Vessel Activity Survey 2009* reported 236 observations of ships on Area 6 during a 12 hour period on 11 April 2009. This number included 149 recreational speed boats, 27 recreational personal watercraft and 27 paddle craft, which represented about 20 ship movements per hour. The total number of ships also represented a 45% decrease from the total number of ships observed during the survey in 2008. The number of ships was consistent with the surveys from 1998 to 2002.

The Reference Group identified a number of waterway issues in Area 6:

- interaction and congestion of different types of ships during weekends and holidays
- passing and operating distances by some powered ships near launching areas, anchored boats and slow moving craft – contraventions of operational speed limits

- frustration amongst waterways users due to the mixed nature of activities within the area
- loss of direction for ship navigation due to the broad nature of the area's lower section
- contraventions of the freestyling restriction by recreational personal watercraft
- minor conflict between water skiers and recreational fishers in anchored boats.

Maritime Safety Queensland has received 12 reports of marine incidents in Area 6 since July 2000. Two of these events resulted in serious injuries to two people who required hospitalisation.

9.6.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Area 6 (and all creeks and drains flowing into it) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* may also apply.

The waters of Area 6 within 50 metres (upstream and downstream) of the David Low Bridge at Bli Bli are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

The waters of all watercourses and canals flowing into Area 6, except for certain waters of Eudlo Creek, are also stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997 as well.

Reports from shipping inspectors suggest that some speed boats and personal watercraft in Area 6 regularly contravene the personal flotation device and observer requirements for water skiing activities.

Maritime Safety Queensland has also received anecdotal reports that some speed boats towing water skiers commence their water skiing activities near the mouth of Eudlo Creek and then navigate at high speed from Area 6 to Area 5 beneath the David Low Bridge.

9.6.3 Recommendations

Area 6 of the Maroochy River is a broad waterway often subject to very high levels of ship traffic on weekends, public holidays and school holidays.

The sand banks marked by the aids to navigation approximately 500 metres to one kilometre downstream of the David Low Bridge represent a significant hazard to navigation for ships travelling at high speed and towing water skiers.

The small drains that flow into Area 6 are very narrow and shallow.

The Reference Group recognises the importance and popularity of Area 6 for all types of boating activities, particularly water skiing and wake boarding.

However, the Reference Group believes that high-speed ship operations and water skiing activities near and around the sand banks and the aids to navigation within 1,000 metres downstream of the David Low Bridge (as well as the oyster area) endanger marine safety, because of the nature of these hazards. The group contends that a ship's master navigating these waters at high speed and towing a water skier is unable to satisfy the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed ship operations on waters of the small drains that flow into Area 6 are unsafe.

Consequently, the Reference Group believes that the existing regulatory regime for Area 6 should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

32 – Maroochy River (Area 6) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 1,000 metres downstream of David Low Bridge at Bli Bli to 200 metres upstream of Sunshine Motorway Bridge at Maroochydore.

33 – Maroochy River (Area 6) – new speed limit of 20 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River from 50 metres upstream of David Low Bridge at Bli Bli to 1,000 metres downstream of David Low Bridge at Bli Bli.

34 – Maroochy River (Area 6) – new water skiing prohibition

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River from 50 metres upstream of David Low Bridge at Bli Bli to 1,000 metres downstream of David Low Bridge at Bli Bli.

35 – Maroochy River (Area 6) – new warning signs

That Maritime Safety Queensland should erect five new warning signs at strategic locations in Area 6 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *at the public boat ramps at Muller Park, Fishermans Road and Cod Hole – three warning signs (one at each location) – BUSY WATERWAY (with graphical symbols for powered ship, personal watercraft, water skiing, sailing ship and paddle craft) NAVIGATE TO CONDITIONS*
- *between David Low Bridge and Sunshine Motorway Bridge – two warning signs – SAND BANKS / NAVIGATE WITH CAUTION.*

53 – Maroochy River (Areas 6 and 7) and Eudlo Creek – new education campaign

That Maritime Safety Queensland should develop and implement a new recreational boating education campaign for Maroochy River and Eudlo Creek to raise community awareness about:

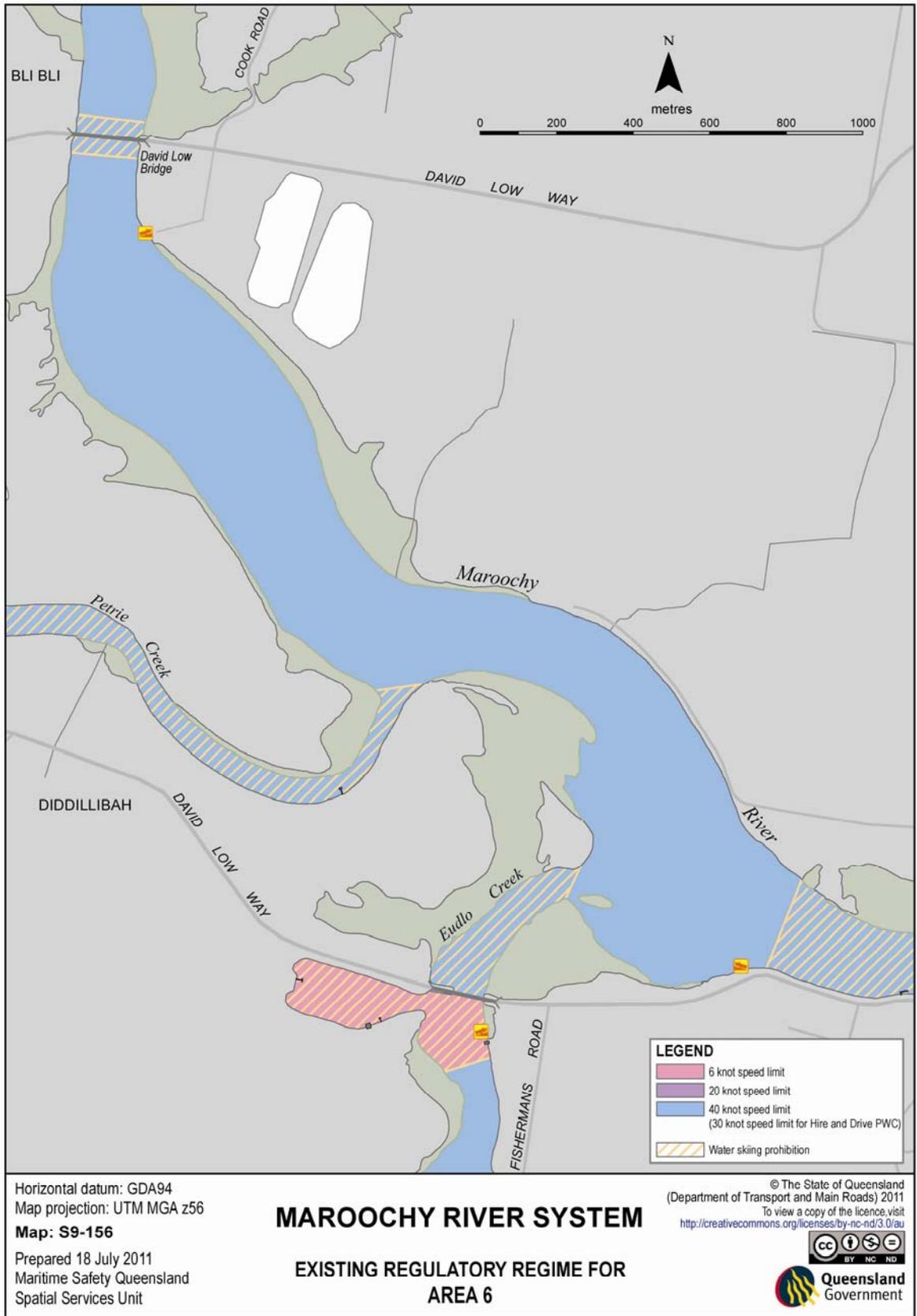
- *different types of ship operations and activities reasonably expected between Bli Bli and Maroochydore*
- *water skiing on Eudlo Creek (subject to recommendations 49A or 49B)*
- *freestyling restriction for personal watercraft*
- *operational speed limits for ships and personal watercraft.*

The education campaign could include:

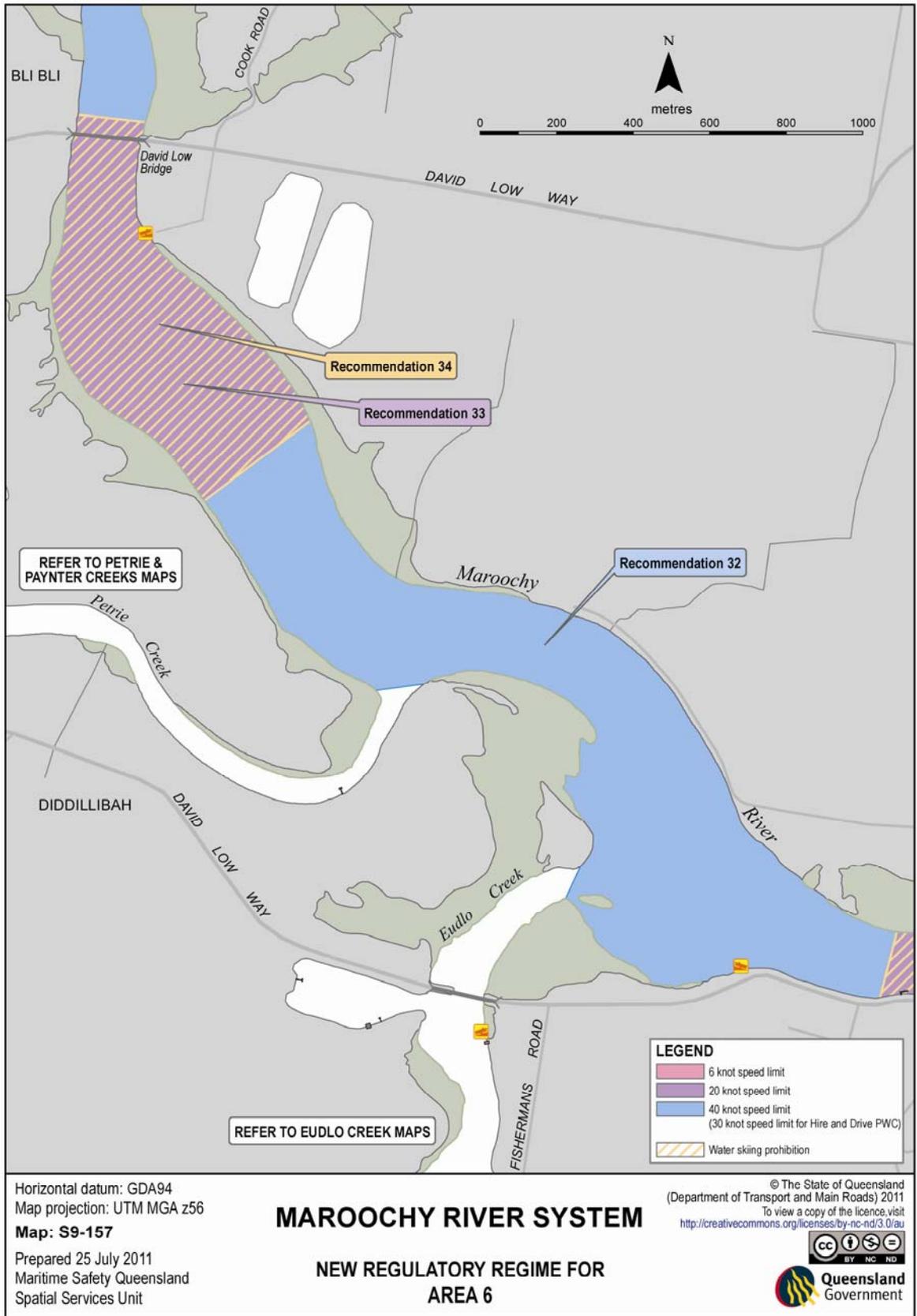
- information packs
- information on Maritime Safety Queensland's website
- information on Department Transport and Main Road's Facebook and Twitter pages
- links from Maritime Safety Queensland's website to other government websites
- links from websites owned by external entities to Maritime Safety Queensland's website (subject to approval where necessary)
- articles in Maritime Safety Queensland's publication *Seascope*
- notices to mariners.

The Reference Group did not identify any unresolved issues for Area 6.

Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 68 and 69.



Map S9-156 – Existing regulatory regime for Area 6



Map S9-157 – New regulatory regime for Area 6

9.7 Area 7 – Upstream of Sunshine Motorway Bridge to Maroochy Bar

Area 7 of the Maroochy River is the section of the river from 500 metres upstream of the Sunshine Motorway Bridge at Maroochydore to the river's coastal bar at Cotton Tree. This section of the river is approximately 4.7 kilometres to five kilometres in length, depending on the course a ship takes to the river's mouth. Area 7 is very popular for all types of ship operations and activities, including speed boats, dinghies, personal watercraft, kayaks, canoes and sail boats.

Land uses along the river's banks in Area 7 are predominantly native vegetation, and residential and commercial development. The river's northern bank retains all of its riparian vegetation: the Maroochy River Conservation Park commences approximately 500 metres downstream of the Sunshine Motorway Bridge and continues along this bank all the way to the river's mouth; whilst the southern bank is the suburb of Maroochydore, the commercial and business centre of the Sunshine Coast. The river's southern bank has been heavily modified with concrete and revetment walls along most of its length. There are many dwelling houses within 100 metres of the river's banks. There are also numerous pontoons and jetties, particularly from Picnic Point to Cornmeal Creek. The section of Area 7 adjacent to Pacific Paradise forms part of the Maroochy fish habitat area under fisheries legislation. The boundary of the fish habitat area is the river's midstream.

The Reference Group is not aware of any environmental issues, such as erosion or bank instability, which may present a problem within Area 7.

There are two major canal systems that flow into Area 7: Twin Waters on the river's northern bank approximately 1.7 kilometres downstream from the Sunshine Motorway Bridge; and Maroochy Waters, which is almost opposite Twin Waters on the southern bank. A weir prevents ship access to Twin Waters.

There are three mid-channel islands within Area 7: Chambers Island, approximately one kilometre downstream of the Sunshine Motorway Bridge; and Channel and Goat Islands, approximately 2.3 kilometres downstream of the same bridge. The river divides into two channels at Channel Island: the main channel, which flows to the north of Channel Island to the Black Bank; and the south channel, which flows between Goat Island and the mainland.

Cornmeal Creek enters the south channel just over one kilometre upstream from the river's mouth. This creek is very narrow and shallow, and flows beneath the Sunshine Plaza shopping complex at Maroochydore. These waters are navigable by only the smallest of ships, such as dinghies, kayaks and canoes. A number of small paddle craft, water bikes and kayaks are offered for hire from a pontoon within the shopping complex.

The depth of navigable water in Area 7 varies considerably from about one metre or less at lowest astronomical tide near the river's mouth to more than six metres at lowest astronomical tide at the Cod Hole. The clearance height of the Sunshine Motorway Bridge is 8.6 metres at highest astronomical tide. The waters upstream of Chambers Island are navigable by larger ships up to 20 metres in length; however,

sand shoaling downstream of Chambers Island can make navigation by larger ships very difficult. For example, for a number of years, a 20 metre sailing ship was berthed alongside a jetty at Cotton Tree because it was unable to navigate safely out of the river.

The Reference Group noted that constantly changing sand banks at or near the Maroochy Bar can make crossing the bar very dangerous. The Maroochy Bar is a coastal bar for which a personal flotation device requirement under the *Transport Operations (Marine Safety) Act 1994* applies to ships less than 4.8 metres in length.

The width of navigable waters in Area 7 varies considerably:

- approximately 180 metres about 500 metres upstream of the Sunshine Motorway Bridge
- approximately 160 metres just upstream of this bridge
- more than 250 metres about 500 metres downstream of the bridge
- approximately 400 metres just upstream of Chambers Island
- approximately 200 metres off Picnic Point
- approximately 180 metres at the northern end of Channel Island
- less than 70 metres in the main channel near the Black Bank
- less than 50 metres in the south channel near Goat Island.

There is a series of aids to navigation from downstream of Chambers Island that mark navigable waters of the main channel to the Black Bank, and navigable waters of the south channel towards Cotton Tree.

There are also a number of signs in the south channel that warn of shoaling and constantly changing sand banks.

There is a series of speed signs that mark three 6 knots speed zones: one zone from the western to the eastern ends of Chambers Island; a second upstream from the entrance to Maroochy Waters; and a third downstream from the northern end of Goat Island to a beacon at Cotton Tree. The Reference Group could not accurately identify the boundary for the speed zone near the northern end of Goat Island because Channel Island and Goat Island now seem to form one landmass.

The Reference Group examined the features of the river adjacent to its southern bank from Chambers Island, to Picnic Point, across to Channel and Goat Islands, and through to Cotton Tree, as well as the existing speed limits of 40 and 6 knots. These waters of Area 7 are often subject to high levels of ship traffic and become shallow at low tide, which means that ship masters must exercise caution. The existing speed limit of 6 knots does not extend to the waters immediately adjacent to the Picnic Point public boat ramp. Some members of the Reference Group feel that a 6 knots speed zone is more appropriate for these waters.

However, Maritime Safety Queensland examined the 6 knots speed zones from Chambers Island to Cotton Tree separately, having consideration to the following:

- level and type of ship traffic
- character of the waters
- locations for speed related complaints

- channels of the river into Maroochy Waters, past Picnic Point and towards the Black Bank
- existing aids to navigation
- existing regulatory regime; in particular, operational speed limits and the freestyling restriction.

Maritime Safety Queensland observed that the existing 6 knots speed zones, together with the operational speed limits, the freestyling restriction and the water skiing prohibition, achieve an acceptable level of marine safety, and are consistent with the Reference Group's regulatory principles of minimal and targeted regulation.

In September 2008, Maritime Safety Queensland established the Maroochy River commercial personal watercraft area adjacent to the river's northern bank near Twin Waters. The anchoring, berthing, mooring or operating of ships is prohibited within the area from sunrise to sunset, except for certain personal watercraft registered as commercial ships. Basically, the area formalises a safer zone for the users of hire and drive personal watercraft separate from the operations of other ships. The area was re-configured in December 2010 following consultation with stakeholders. The area is now 460 metres in length, 120 metres in width at its upstream end and 80 metres in width at its downstream end, with a total area of 4.43 hectares. The area is marked with eight special mark buoys.

The establishment of the Maroochy River commercial personal watercraft area was part of a body of work for the better management of hire and drive personal watercraft on the Sunshine Coast. Other elements of this work included the standardisation of registration conditions, an exemption from the operational speed limit for personal watercraft of 6 knots within 60 metres of the shore when operating within the area, and consistent safety management plans by the providers of these craft.

Water skiing activities are prohibited on all waters of Area 7, as well as all watercourses and canals flowing into it.

However, as mentioned in section 9.6, the Reference Group noted the peculiar situation regarding the boundary of the water skiing prohibition downstream of 500 metres upstream of the Sunshine Motorway Bridge.⁷ For at least the past 11 years, the water skiing signs to mark this boundary were positioned approximately 250 metres upstream of the bridge. Maritime Safety Queensland repositioned these signs to 500 metres upstream of the bridge on 21 October 2008, as soon as the anomaly was identified.

The repositioning of the water skiing signs prompted an immediate response from some members of the Maroochy River Water Ski Association, who were extremely unhappy about this course of action.

Maritime Safety Queensland discussed this issue with representatives of the association on 15 December 2008. The following points were noted:

⁷ The prohibition was stated by a gazette notice published on 28 February 1997

- the width of navigable water between the position 250 metres upstream of the bridge to the position 500 metres upstream of the bridge is more than 160 metres
- the depth of navigable water between these positions is at least three metres at lowest astronomical tide
- the nearest pontoon is approximately 100 metres downstream from the 250 metres position
- the Cod Hole public boat ramp is approximately 85 metres upstream from the 500 metres position
- the long history and popularity of water skiing on this section of the river.

The Reference Group was unable to ascertain the reason behind the original positioning of the water skiing signs approximately 250 metres upstream from the Sunshine Motorway Bridge.

The Maroochy River Water Ski Association suggested that the boundary for the water skiing prohibition could be moved to 150 metres upstream from the Sunshine Motorway Bridge. Maritime Safety Queensland examined the location in June 2011, having consideration to the character of the waterway and the nearest pontoon, which is approximately 150 metres upstream from the bridge. The agency observed that a prohibition boundary at 200 metres upstream from the bridge affords a distance of at least 50 metres from the upstream end of the pontoon, with navigable waters of at least 150 metres in width.

The Reference Group considered the information provided by Maritime Safety Queensland and believes that a boundary for the water skiing prohibition at 200 metres upstream from the bridge provides a benefit to water skiers that does not compromise marine safety. Recommendation 41 is the administrative measure to state a new boundary in recognition of this.

There are two public boat ramps for Area 7: the Picnic Point public boat ramp at the end of Picnic Point Esplanade at Maroochydyore; and the public boat ramp at the end of Nojoor Road at Twin Waters.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Area 7. The most recent survey was conducted during February 2001.

9.7.1 Waterway users and issues

The user density for Area 7 ranges from low to very high during weekends, public holidays and school holidays, depending on the time of day.

The waterway users of Area 7 are predominantly:

- dinghies and speed boats engaged in recreational fishing
- slower moving motor boats
- passenger vessels conducting environmental tours
- fast moving speed boats and personal watercraft
- slow moving passive craft, like small sailing boats, kayaks and canoes
- shored-based recreational fishers
- swimmers.

Until 21 October 2008, the ship traffic included fast moving speed boats and personal watercraft towing water skiers and wake boarders to within 250 metres upstream of the Sunshine Motorway Bridge.

The *Sunshine Coast Vessel Activity Survey 2009* reported 412 observations of ships on Area 7 during a 12 hour period on 11 April 2009. This number included 233 recreational speed boats, 59 recreational personal watercraft and 90 paddle craft, which represented about 34 ship movements per hour. Area 7 recorded the third highest number of ship observations for the Sunshine Coast during this survey.

The Reference Group identified a number of waterway issues for Area 7:

- interaction and congestion of different types of ships during weekends and holidays – anchored ships beneath the Sunshine Motorway Bridge
- passing and operating distances by some powered ships near launching areas, anchored boats and slow moving craft – contraventions of operational speed limits
- conflict between ship traffic and recreational fishers
- conflict between ship traffic and swimmers near the Black Bank
- contraventions of the freestyling restriction by recreational personal watercraft
- contraventions of speed limits by powered ships – from Picnic Point to Cotton Tree and in the Maroochy Waters canal system
- contraventions of the water skiing prohibition near the Nojoor Road public boat ramp
- contraventions by sailing boats entering the Maroochy River commercial personal watercraft area
- interaction of ship traffic with swimmers.

Maritime Safety Queensland has received 35 reports of marine incidents in Area 7 since July 2000. Eighteen of these happened on the Maroochy Bar, nine happened near Chambers Island and Picnic Point, and three happened near the Sunshine Motorway Bridge. Four of these events resulted in serious injuries to five people who required hospitalisation.

9.7.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on certain waters of Area 7 (including the Maroochy River commercial personal watercraft area) because no other speed limit has been fixed for this section of the Maroochy River. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

A speed limit of 6 knots applies to all ships on:

- certain waters to the south of Chambers Island
- certain waters to the west of Goat Island to Cotton Tree
- all creeks and waterways flowing into the Maroochy River downstream of the Sunshine Motorway Bridge.

These speed limits were fixed by gazette notice on 21 May 2004.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* also applies.

All waters of Area 7 are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

The waters of all watercourses and canals flowing into Area 7 are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997 as well.

The waters of the Maroochy River commercial personal watercraft area are stated by gazette notice as waters where the anchoring, berthing, mooring and operating of a ship from sunrise to sunset endangers marine safety, other than nominated personal watercraft, rescue ships and certain commercial ships. The gazette notice was published on 17 December 2010.

In conjunction with the commercial personal watercraft area, an exemption has been given to persons operating certain commercial personal watercraft within the area from the operational speed limit for personal watercraft of 6 knots within 60 metres of the shore, subject to certain conditions. The gazette notice was published on 17 December 2010.

Maritime Safety Queensland has received a number of complaints regarding excessive speed by speed boat and personal water craft, and noise from personal watercraft in Area 7, mainly from the residents of dwellings at Picnic Point to Cotton Tree.

9.7.3 Recommendations

Area 7 of the Maroochy River is a complex and dynamic waterway characterised by a system of broad and narrow channels, intertidal shoals and shallow sand banks. The area is often subject to very high levels of ship traffic on weekends, public holidays and school holidays, depending on the time of day.

The waters of Area 7 adjacent to the river's southern bank from Chambers Island to Cotton Tree are shallow, with continually changing sand banks presenting a hazard to navigation at low tide.

The Reference Group recognises the importance and popularity of Area 7 for many types of on-water activities, both active and passive uses. Generally, the group's members believe the existing water skiing prohibitions achieve an acceptable level of marine safety, to the extent that the boundary of the prohibition upstream of the Sunshine Motorway Bridge can be moved 300 metres closer to the bridge.

However, the Reference Group believes that high-speed ship operations on Area 7 downstream of 200 metres upstream of the Sunshine Motorway Bridge seriously compromise marine safety, because of the river's natural features and the level of

ship traffic. The group contends that a ship's master navigating these waters at high speed is unable to comply with the operational speed limits of the *Transport Operations (Marine Safety) Regulation 2004* and rules 6, 8 and 9 of the Collision Regulations.

Importantly, the Reference Group acknowledges that a contravention of any one of these legislative requirements may cause a marine incident, which in turn, may be evidence of a contravention of the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes, generally, that high-speed ship operations on waters of Area 7 adjacent to the river's southern bank from Chambers Island to Cotton Tree are unsafe.

Consequently, the Reference Group believes that the existing regulatory regime for Area 7 should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 2 – New speed limit of 6 knots for creeks and waterways flowing into Maroochy River
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

36 – Maroochy River (Area 7) – existing speed limits of 6 knots

That the General Manager should maintain the existing speed limits of 6 knots for all ships on waters of all creeks and waterways flowing into Maroochy River downstream of Sunshine Motorway Bridge.

37 – Maroochy River (Area 7) – existing speed limit of 6 knots

That the General Manager should maintain the existing speed limit of 6 knots for all ships on waters of Maroochy River within the area bounded by an imaginary line from:

- *a point on the mainland adjacent to the intersection of Buna Street and Bradman Avenue at Maroochydore to*
- *the western extremity of Chambers Island to*
- *the eastern extremity of Chambers Island to*
- *the upstream point at the entrance to Maroochy Waters canal; and*

That the General Manager should maintain the existing speed limit of 6 knots for all ships on waters of Maroochy River within the area bounded by an imaginary line from:

- *a point on the mainland approximately 110 metres downstream of the boat ramp at Picnic Point (as marked by a speed sign) then*
- *along an easterly line to the landmass of Channel Island and Goat Island then*
- *along the western side of the island landmass to the southern extremity of Goat Island then*
- *in a generally easterly direction to the port lateral beacon on the end of the most downstream groyne at Cotton Tree.*

38 – Maroochy River (Area 7) – existing speed limit of 30 knots

That the General Manager should maintain the existing speed limit of 30 knots for certain ships on waters of the Maroochy River commercial personal watercraft area, namely nominated personal watercraft only.

39 – Maroochy River (Area 7) – new speed limit of 20 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River downstream from 200 metres upstream of Sunshine Motorway Bridge at Maroochydore, except for nominated personal watercraft on waters of the Maroochy River commercial personal watercraft area.

40 – Maroochy River (Area 7) – existing prohibition for operating etc.

That the General Manager should maintain the existing prohibition for anchoring, berthing, mooring and operating of all ships from sunrise to sunset on waters of the Maroochy River commercial personal watercraft area because those activities endanger marine safety, except for nominated personal watercraft.

41 – Maroochy River (Area 7) – new water skiing prohibition

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River downstream from 200 metres upstream of Sunshine Motorway Bridge at Maroochydore.

42 – Maroochy River (Area 7) – new warning signs

That Maritime Safety Queensland should erect four new warning signs at strategic locations in Area 7 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *at the public boat ramps at Picnic Point and Nojoor Road – two warning signs (one at each location) – BUSY WATERWAY (with graphical symbols for powered ship, personal watercraft, sailing ship and paddle craft) NAVIGATE TO CONDITIONS*
- *between Sunshine Motorway Bridge and Maroochy Bar – two warning signs – SAND BANKS / NAVIGATE WITH CAUTION.*

53 – Maroochy River (Areas 6 and 7) and Eudlo Creek – new education campaign

That Maritime Safety Queensland should develop and implement a new recreational boating education campaign for Maroochy River and Eudlo Creek to raise community awareness about:

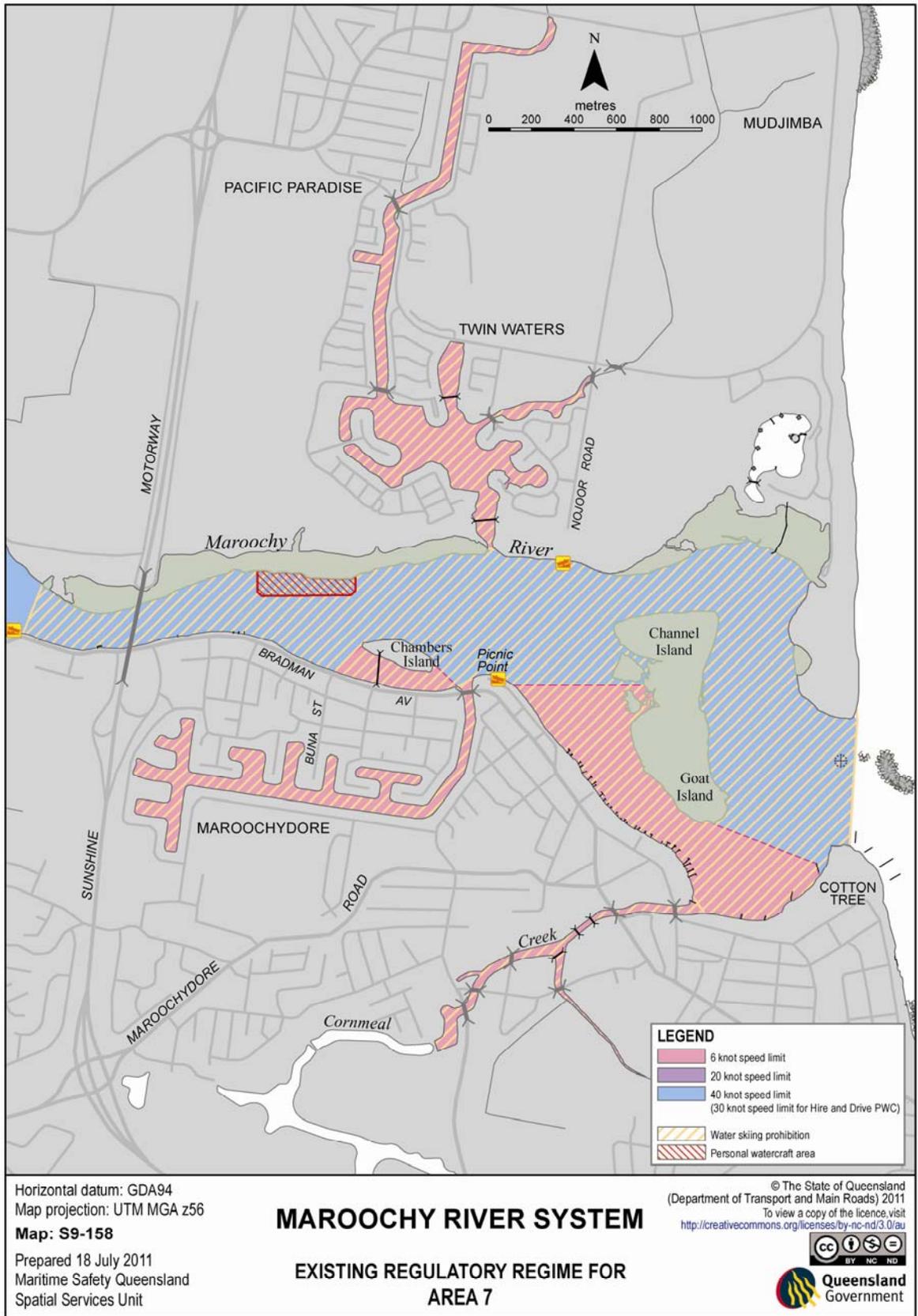
- *different types of ship operations and activities reasonably expected between Bli Bli and Maroochydore*
- *water skiing on Eudlo Creek (subject to recommendations 49A or 49B)*
- *freestyling restriction for personal watercraft*
- *operational speed limits for ships and personal watercraft.*

The education campaign could include:

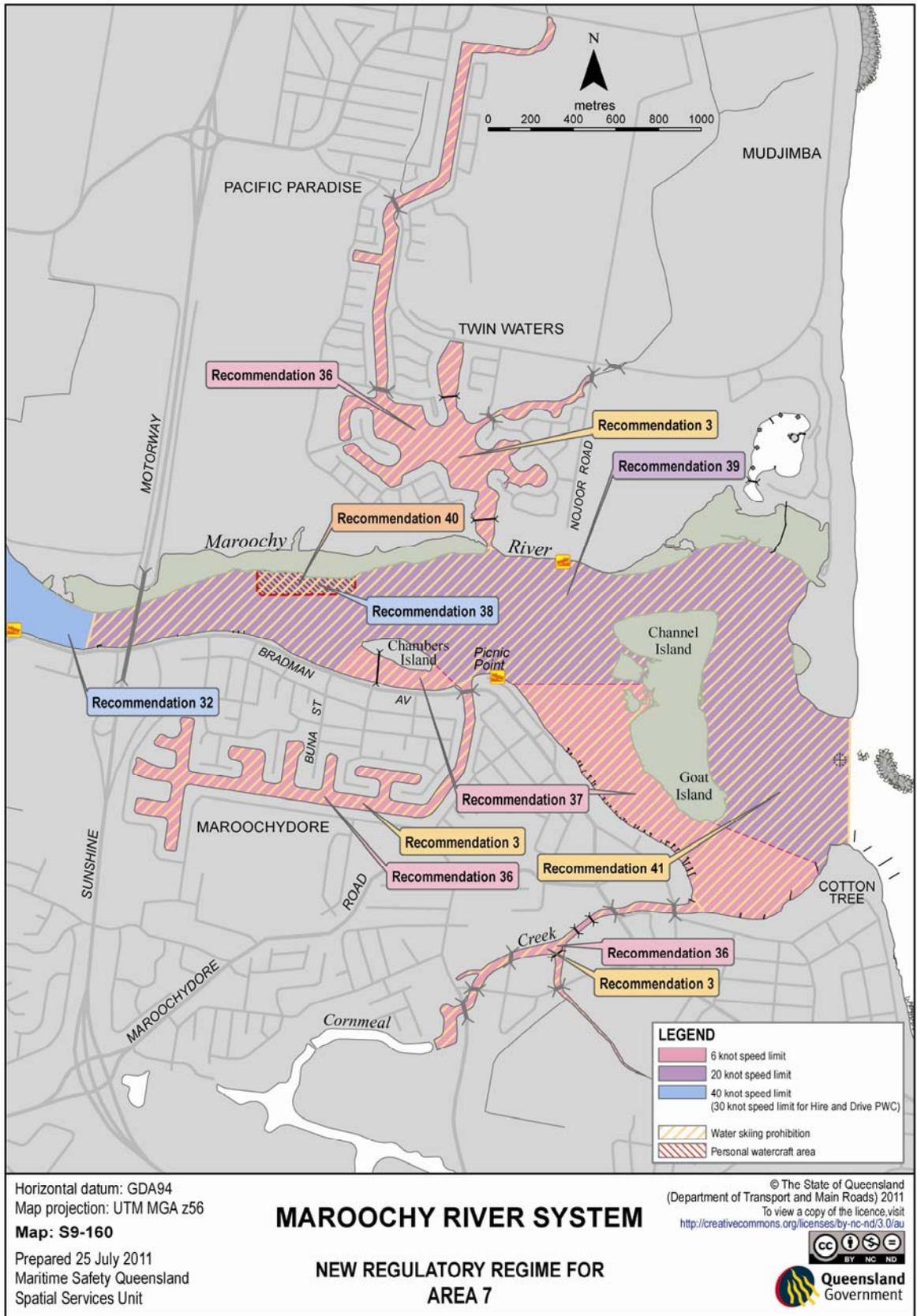
- information packs
- information on Maritime Safety Queensland's website
- information on Department Transport and Main Road's Facebook and Twitter pages
- links from Maritime Safety Queensland's website to other government websites
- links from websites owned by external entities to Maritime Safety Queensland's website (subject to approval where necessary)
- articles in Maritime Safety Queensland's publication *Seascope*
- notices to mariners.

The Reference Group did not identify any unresolved issues for Area 7.

Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 79 and 80.



Map S9-158 – Existing regulatory regime for Area 7



Map S9-160 – New regulatory regime for Area 7

10 Coolum Creek

Yandina and Doonan Creeks meander from their source in the Eumundi Range near the suburb of Yandina Creek and join to form Coolum Creek near the suburb of Coolum Beach. Coolum Creek then flows into the Maroochy River approximately 6.3 kilometres upstream of the David Low Bridge at Bli Bli.

Land use along the banks of Coolum Creek is predominantly native vegetation; there are no residential developments. However, Unitywater manages and operates the Coolum Sewage Treatment Plant adjacent to the creek's eastern bank off West Coolum Road. The Sunshine Coast Regional Council also manages the Coolum Creek North Conservation Area adjacent to the creek's western bank and the Coolum Creek South Conservation Area adjacent to the creek's eastern bank from its confluence with the Maroochy River. Both banks of Coolum Creek retain all of their native riparian vegetation. The downstream section of the creek forms part of the Maroochy fish habitat area under fisheries legislation.

The Reference Group is not aware of any environmental issues, such as erosion or bank instability, which may present a problem within Coolum Creek.

The waters of Coolum Creek are navigable for small ships up to five metres in length, like dinghies and speed boats; and passive craft, like canoes and kayaks. The depth of navigable water is about 1.5 metres at lowest astronomical tide, with less than one metre near the creek's entrance. There is a mid-channel island within the creek approximately two kilometres upstream of its confluence with the Maroochy River. The width of navigable water varies from approximately 40 metres at the creek's mouth to less than 20 metres near the southern end of the mid-channel island.

The remains of two old cane train bridges cross the creek separately near the southern end of the mid-channel island. There is no clearance for ships beneath these bridges, except during the lowest of tides. There are also anecdotal reports from shipping inspectors that underwater obstructions and fallen trees are common upstream of the bridges. The waters of the creek upstream of the bridges are navigable by only the smallest of ships, such as unpowered dinghies, canoes and kayaks.

Water skiing activities are prohibited on waters of Coolum Creek.

There are no aids to navigation in Coolum Creek, but there is a series of signs erected within the creek and at its mouth.

There are no public boat ramps for Coolum Creek; however, there is a launching area near the end of West Coolum Road, which is approximately 920 metres upstream of the creek's confluence with Maroochy River. Anecdotal reports from shipping inspectors suggest there is a high likelihood for submerged logs and other navigation obstructions upstream of this road.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Coolum Creek. The most recent survey was conducted during February 2001.

10.1.1 Waterway users and issues

The user density for Coolum Creek ranges very low to low, even during weekends, public holidays and school holidays.

The waterway users of Coolum Creek are mainly:

- dinghies and speed boats engaged in recreational fishing
- occasional fast moving personal watercraft
- occasional passenger vessels conducting environmental tours
- slow moving passive craft, like kayaks and canoes.

The remains of the two cane train bridges create a physical barrier for all but the smallest ships. The bridges are effectively the end of navigable waters of the creek.

The Reference Group identified the prevailing waterway issue for Coolum Creek as the creek's natural features (for example, its shallow entrance and the presence of underwater obstructions), which mean that ships cannot navigate the creek safely at high speed.

Maritime Safety Queensland has received one report of a marine incident in Coolum Creek since July 2000. A commercial passenger vessel grounded and became stranded on a mud bank during an environmental tour in June 2006.

10.1.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Coolum Creek because no other speed limit has been fixed for the waterway. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* also apply.

All waters of Coolum Creek are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

Maritime Safety Queensland has not received any complaints regarding contraventions of marine safety legislation on Coolum Creek, since at least January 2007.

10.1.3 Recommendations

Coolum Creek is a narrow and shallow waterway subject to low levels of ship traffic, even on weekends, public holidays and school holidays.

The Reference Group believes the existing water skiing prohibition achieves an acceptable level of marine safety and should be maintained.

The Reference Group believes that high-speed ship operations on Coolum Creek up to West Coolum Road compromise marine safety, because of the creek's natural features. The group contends that a ship's master navigating these waters

at high speed is unable to comply with the operational speed limits of the *Transport Operations (Marine Safety) Regulation 2004* and rules 6, 8 and 9 of the Collision Regulations.

Importantly, the Reference Group acknowledges that a contravention of any one of these legislative requirements may cause a marine incident, which in turn, may be evidence of a contravention of the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed operations on Coolum Creek upstream of West Coolum Road are unsafe, because of the creek's natural features.

Consequently, the Reference Group believes that the existing regulatory regime for Coolum Creek should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

43 – Coolum Creek – new speed limits of 20 knots and 6 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Coolum Creek from the creek's confluence with Maroochy River to approximately 920 metres upstream from the creek's confluence with Maroochy River (a point adjacent to West Coolum Road); in conjunction with

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Coolum Creek upstream from approximately 920 metres upstream from the creek's confluence with Maroochy River (a point adjacent to West Coolum Road).

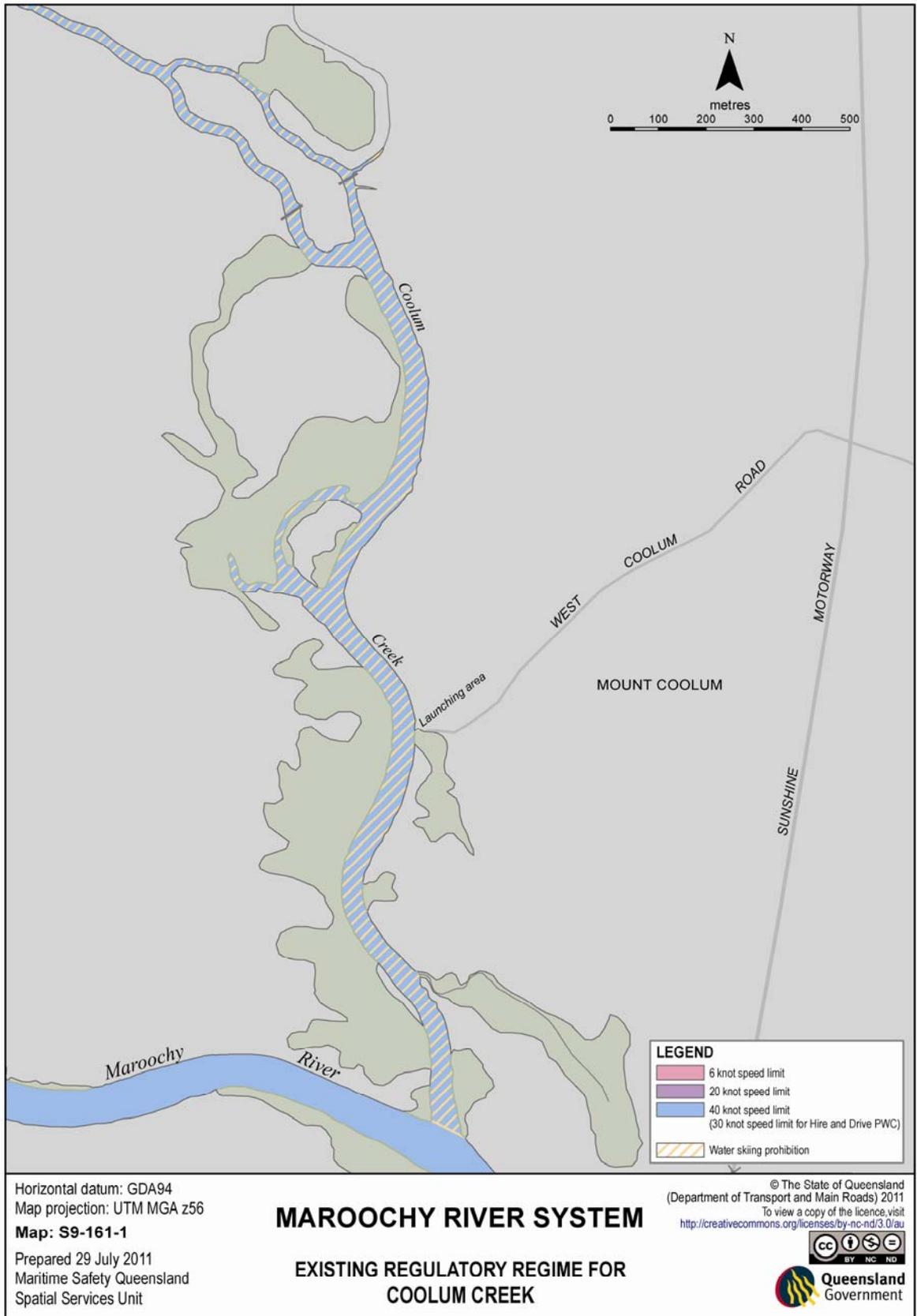
44 – Coolum Creek – new warning sign

That Maritime Safety Queensland should erect one new warning sign in Coolum Creek near West Coolum Road – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION.

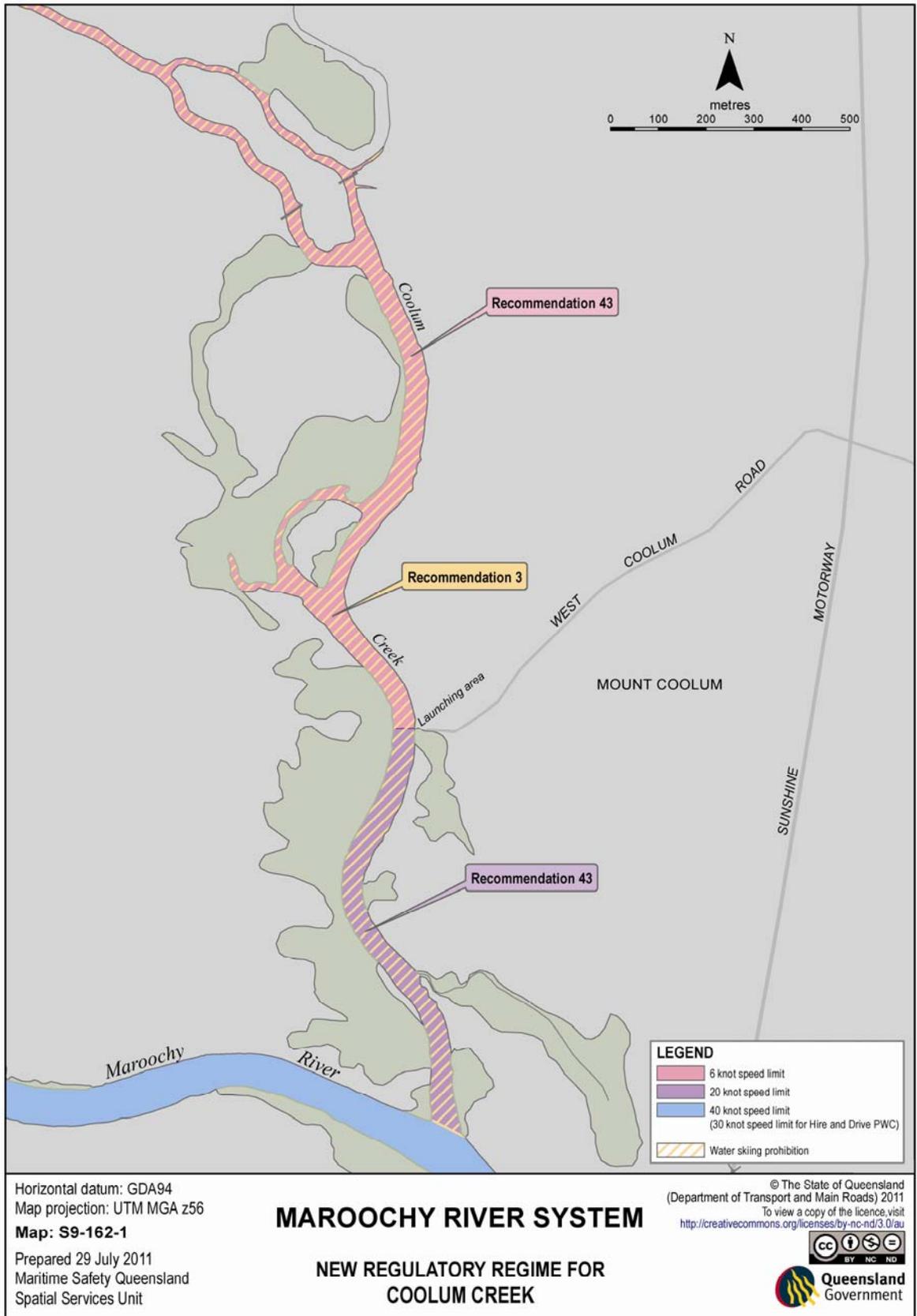
The Reference Group identified the biodiversity and environmental value of Coolum Creek as unresolved issues that require better management. The Reference Group

intends to refer these issues to the Sunshine Coast Regional Council for consideration.

Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 85 and 86.



Map S9-161-1 – Existing regulatory regime for Coolum Creek



Map S9-162-1 – New regulatory regime for Coolum Creek

11 Petrie and Paynter Creeks

Petrie Creek is a feeder tributary to the Maroochy River. It meanders from its source in the Blackall Range near Hunchy and joins the river approximately 1.7 kilometres upstream of the Sunshine Motorway Bridge at Maroochydore. Paynter Creek flows into Petrie Creek approximately two kilometres from Petrie Creek's confluence with the Maroochy River.

Land uses along the banks of Petrie Creek are predominantly agriculture and small areas of rural residential development, with some commercial development towards the Bruce Highway near Nambour. Most riparian vegetation has been cleared from the creek's banks, except for narrow strips of about 20 metres to less than five metres in width. There are no conservation areas along the banks of Petrie Creek. The downstream section of the creek forms part of the Maroochy fish habitat area under fisheries legislation.

The Reference Group is not aware of any environmental issues, such as erosion or bank instability, which may present a problem within Petrie Creek.

The waters of Petrie Creek to the unnamed road bridge on David Low Way at Diddillibah are navigable by shallow draught ships up to 12 metres in length, depending on the stage of the tide. The clearance height for the road bridge is about three metres at highest astronomical tide. The depth of navigable water is less than two metres at lowest astronomical tide. The width of navigable water in this section of the creek varies from approximately 30 to 60 metres.

Upstream of Petrie Creek's confluence with Paynter Creek, the waterway meanders at angles of 90° or less, and becomes very narrow and shallow. Just downstream of the Bruce Highway at Rosemount, the width of the waterway is less than 10 metres. Anecdotal reports from canoeists suggest the presence of rock bars and other submerged hazards in the creek's upper reach.

Paynter Creek flows into Petrie Creek near the Dusty Rhodes Bridge at Diddillibah, which has a clearance height of about three metres. Paynter Creek is an extremely narrow and shallow waterway that meanders from its source at West Woombye. The waters of the creek are navigable by only the smallest of ships, such as dinghies, kayaks and canoes.

Water skiing activities are prohibited on waters of Petrie Creek and Paynter Creek.

There are no aids to navigation in either creek, but there are two water skiing signs erected near the mouth of Petrie Creek.

There is an informal public boat ramp for Petrie Creek off Petrie Creek Road at Diddillibah at the creek's confluence with Paynter Creek.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Petrie Creek. The most recent survey was conducted during February 2001, and then only to just within the entrance of the creek.

11.1.1 Waterway users and issues

The user density for Petrie and Paynter Creeks ranges from low to very low, even during weekends, public holidays and school holidays.

The waterway user of Petrie and Paynter Creeks are mainly:

- dinghies and speed boats engaged in recreational fishing
- occasional fast moving personal watercraft
- occasional slow moving passive craft, like kayaks and canoes
- shore-based recreational fishers.

The Reference Group identified two waterway issues for Petrie and Paynter Creeks:

- the natural features of both creeks (for example, underwater obstructions and the meandering channels), which mean that ships cannot navigate safely at high speed
- effects of wash from high-speed ship operations generally.

Maritime Safety Queensland has not received any reports of marine incidents on Petrie or Paynter Creeks since July 2000.

11.1.2 Existing legislative requirements

A general smooth water speed limit of 40 knots applies to all ships on Petrie and Paynter Creeks because no other speed limit has been fixed for these waterways. The general speed limit was fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* apply.

The freestyling restriction provided by section 127B of the *Transport Operations (Marine Safety) Regulation 2004* may also apply.

All waters of Petrie and Paynter Creeks are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

Maritime Safety Queensland has not received any complaints regarding contraventions of marine safety legislation on Petrie Creek or Paynter Creek, since at least January 2007.

11.1.3 Recommendations

Petrie Creek is a narrow, meandering waterway subject to low levels of ship traffic, even on weekends, public holidays and school holidays.

Paynter Creek is a very narrow and shallow meandering waterway.

The Reference Group believes the existing water skiing prohibition achieves an acceptable level of marine safety and should be maintained.

The Reference Group believes that high-speed ship operations on Petrie Creek from the creek's confluence with the Maroochy River to the bridge on David Low Way endanger marine safety, because of the creek's natural features. The group contends that a ship's master navigating these waters at high speed is unable to comply with the operational speed limits of the *Transport Operations (Marine Safety) Regulation 2004* and rules 6, 8 and 9 of the Collision Regulations.

Importantly, the Reference Group acknowledges that a contravention of any one of these legislative requirements may cause a marine incident, which in turn, may be evidence of a contravention of the general safety obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*.

The Reference Group also believes that high-speed operations on Paynter Creek are unsafe, because of the creek's natural features.

Consequently, the Reference Group believes that the existing regulatory regime for Petrie and Paynter Creeks should be expanded to provide a better marine safety system, and therefore makes the following recommendations:

General recommendations

- 1 – Enforcement presence
- 3 – Existing water skiing prohibition for creeks and waterways flowing into Maroochy River
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

45 – Petrie and Paynter Creeks – new speed limits of 20 knots and 6 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Petrie Creek from the creek's confluence with Maroochy River to the bridge across the creek on David Low Way at Diddillibah; in conjunction with

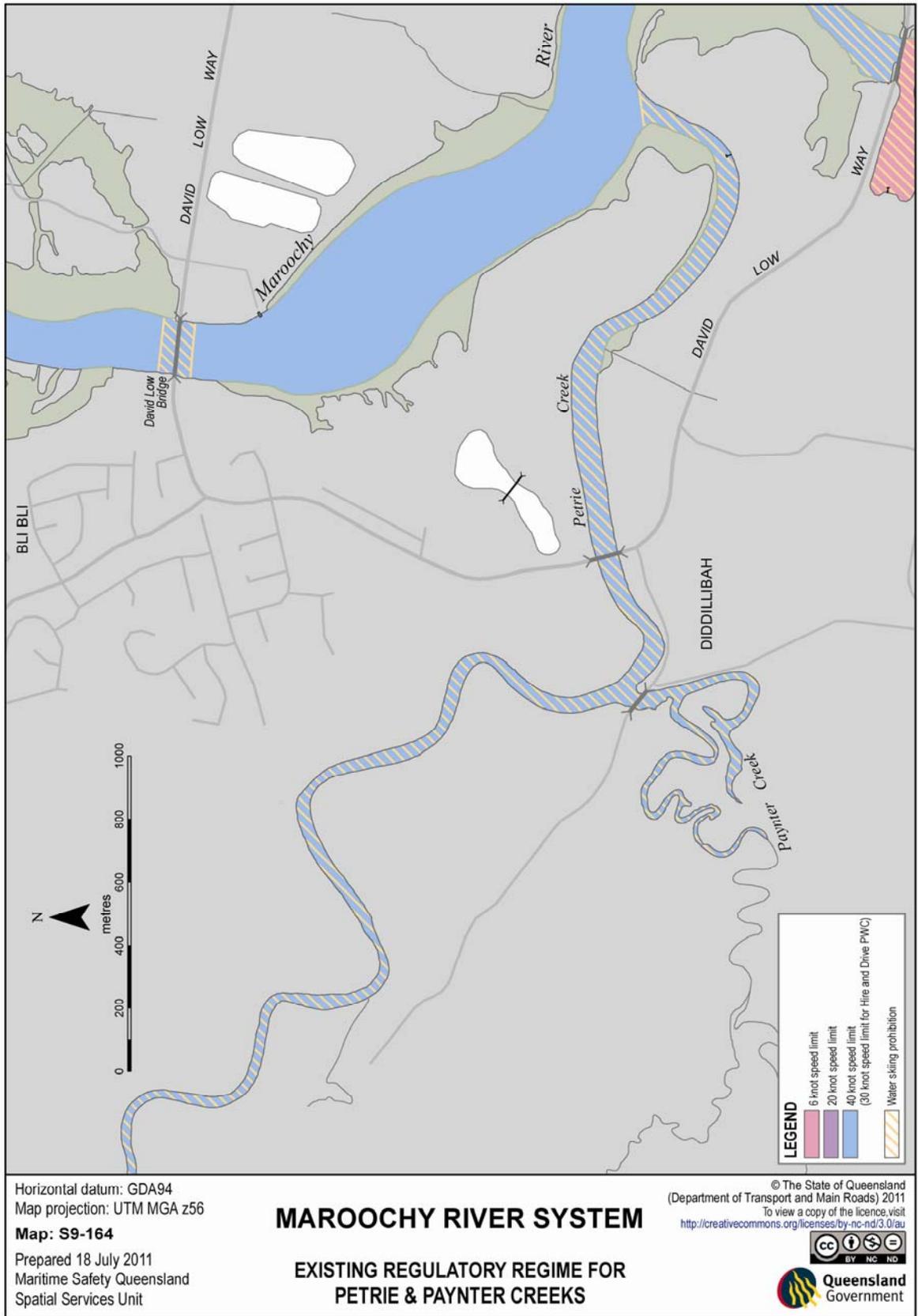
That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Petrie Creek upstream from the bridge across the creek on David Low Way at Diddillibah, including all creeks and waterways flowing into Petrie Creek upstream of the bridge.

46 – Petrie Creek – new warning sign

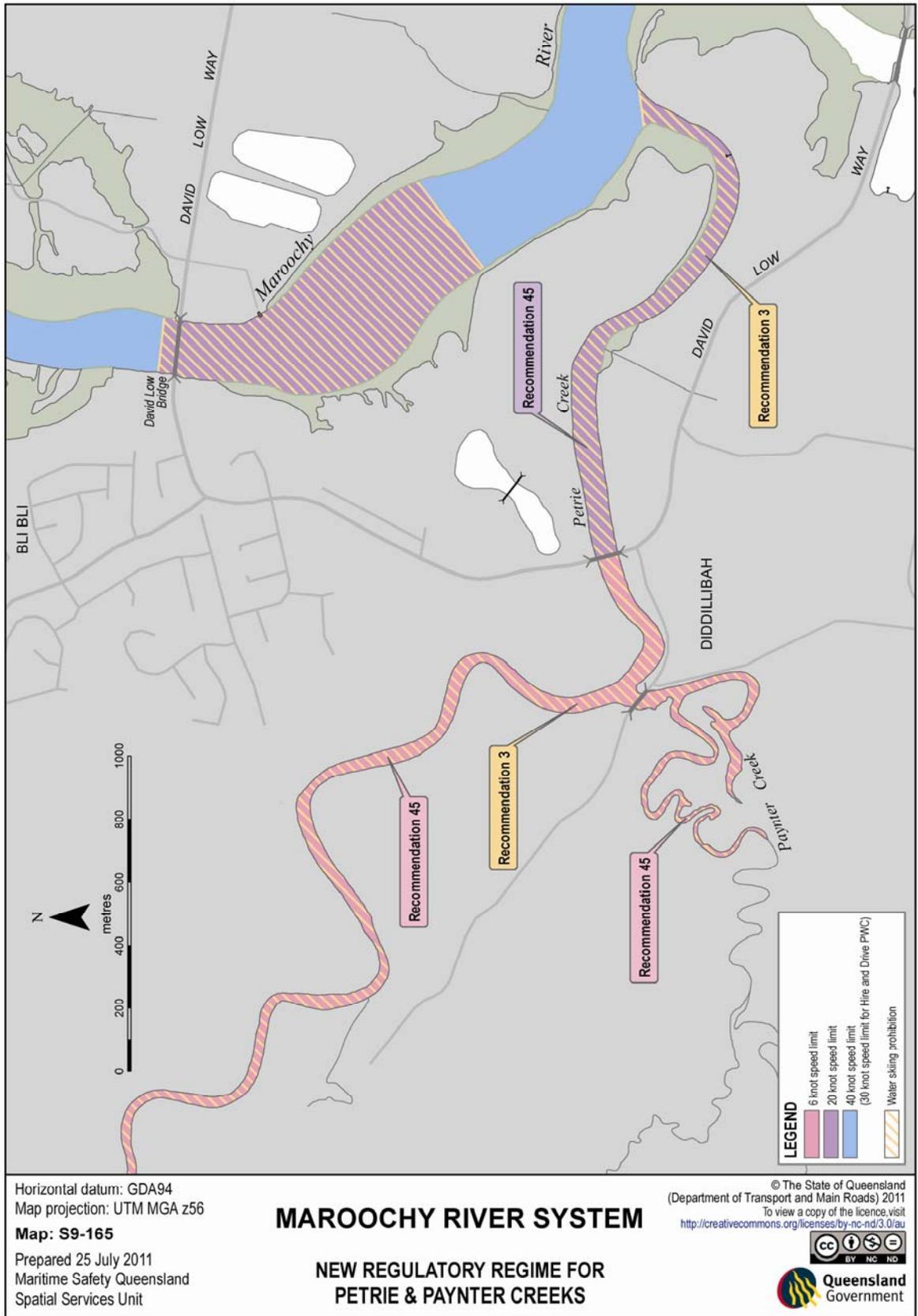
That Maritime Safety Queensland should erect one new warning sign at the entrance to Petrie Creek – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION.

The Reference Group did not identify any unresolved issues for Petrie or Paynter Creeks.

Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 91 and 92.



Map S9-164 – Existing regulatory regime for Petrie and Paynter Creeks



Map S9-165 – New regulatory regime for Petrie and Paynter Creeks

12 Eudlo Creek

Eudlo Creek is a feeder tributary to the Maroochy River. It flows from the Blackall Range near Eudlo and joins the river approximately 950 metres upstream of the Sunshine Motorway Bridge at Maroochydore. Eudlo Creek is very popular for different types of ship operations and activities, particularly kayaks, canoes and water skiing.

Land use along the banks of Eudlo Creek is predominantly native vegetation, with relatively small areas of commercial development at Maroochydore. The Eudlo Creek Conservation Area follows the creek's northern bank for approximately 2.4 kilometres upstream of the Eudlo Creek Bridge near Maroochydore; and the Buderim Conservation Park follows the creek's southern bank for approximately 1.1 kilometres upstream of the conservation area at Kunda Park. Rural residential development occupies only a very small area of the creek's northern bank along its upper reach. The majority of the creek's banks retain their native riparian vegetation. The creek also forms part of the Maroochy fish habitat area under fisheries legislation.

The Reference Group is not aware of any environmental issues, such as erosion or bank instability, which may present a problem within Eudlo Creek.

The waters of Eudlo Creek are navigable for small ships up to six metres in length. The depth of navigable waters is often quite shallow – less than one metre at lowest astronomical tide in many areas of the channel, with mud flats becoming exposed at low tides adjacent to the creek's western bank. The width of navigable water is approximately 90 metres or less. There is also a 90° bend in the creek near the middle of the area where water skiing activities are currently permitted, approximately 620 metres from the start of that area. The width of navigable water at the bend is approximately 70 metres. The clearance height of the Eudlo Creek Bridge at Diddillibah is about 3 metres at highest astronomical tide. Reports from shipping inspectors suggest the presence of submerged logs and other underwater obstructions near the upstream end of the area used for water skiing, as well as further upstream.

The Maroochy River Resort is set on the waterfront of a small man-made lagoon connected to the creek, just upstream of the Eudlo Creek Bridge. The lagoon joins the creek approximately 560 metres upstream of its confluence with the Maroochy River. A number of kayaks, canoes and paddle craft are offered for hire from the resort; however, these craft are supposed to be used only on waters of the lagoon. A BoatSafe Training Organisation also utilises facilities at the resort for the delivery of BoatSafe training courses on Saturdays, depending on participant numbers.

The waters of Eudlo Creek used for water skiing activities are those from 50 metres upstream of a public boat ramp adjacent to the Lions Park off Fishermans Road at Maroochydore to 1,150 metres upstream of the same boat ramp. This part of Eudlo Creek has been used for water skiing activities since at least the 1960s. There are sand shoals within this area; the depth of navigable water is from 0.9 to 1.9 metres at lowest astronomical tide. Information from the Maroochy River Water Ski

Association suggests that experienced water skiers avoid water skiing activities in the creek during low tide. It is also well known that the Maroochy River Water Ski Association and the Sunshine Coast Kayak Club have previously expressed different views about the nature and suitability of water skiing and passive craft activities on this part of the creek.

In late 2007, following discussions with the Sunshine Coast Regional Council, the Maroochy River Water Ski Association and the Sunshine Coast Canoe Club (as the kayak club was then known) participated in a resolution process that culminated in the production of a code of conduct for water skiers and paddlers on Eudlo Creek. The purpose of the code was to articulate shared understandings and relevant obligations for both user groups, with a view to ensuring safe and harmonious enjoyment of the waterway. The Reference Group noted that it is timely to review the code, with support from Maritime Safety Queensland.

There are no aids to navigation in the creek, but there is a series of speed signs and water skiing signs erected both within the creek and near its mouth.

The public boat ramp in the Lions Park off Fishermans Road is the only boat ramp with direct access to Eudlo Creek.

The club house for the Sunshine Coast Kayak Club is situated adjacent to a public car park at the southern end of the Lions Park. There is a picnic area and children's playground nearby. A community market also takes place on a grassed area near the intersection of Fishermans Road and David Low Way every Sunday morning from 6 am to midday.

Maritime Safety Queensland erected a tide gauge in Eudlo Creek, which gathered data for tidal information. The agency established the time difference for tides in Eudlo Creek with tides in the Mooloolah River, the nearest standard port:

- high tide for Eudlo Creek – high tide for Mooloolah River +100 minutes, with an actual ratio of 0.83
- low tide for Eudlo Creek – low tide for Mooloolah River +55 minutes, with an actual ratio of 0.45.

This means that low tide for Eudlo Creek occurs 55 minutes later than low tide for the Mooloolah River, and that the height of low tide in the creek is less than half the height of low tide in the river.

It is also important to highlight that tidal conditions at any location may be affected by meteorological conditions and seasonal variations.

Maritime Safety Queensland does not conduct regular hydrographic surveys of Eudlo Creek. The most recent survey was conducted during February 2001, but it only included those waters of the creek from its mouth to near the end of the water skiing area.

12.1.1 Waterway users and issues

The user density for Eudlo Creek ranges from very low to high during weekends, public holidays and school holidays, depending on the time of day.

The waterway users of Eudlo Creek are mainly:

- dinghies and speed boats engaged in recreational fishing
- fast moving personal watercraft
- fast moving speed boats and personal watercraft towing water skiers and wake boarders
- slow moving hire and drive dinghies and pontoon boats
- slow moving passive craft, like kayaks and canoes.

It is also reasonable to expect swimmers in the water, including children, near a little beach on the creek's eastern bank about 200 metres upstream from the public boat ramp. The width of navigable water near this beach is approximately 70 metres.

The Sunshine Coast Kayak Club uses the creek near its club house as a marshalling area and also the start and finish line for aquatic events, such as kayak races. It is not uncommon for there to be more than 60 kayaks participating in these events.

The Maroochy River Water Ski Association also regularly uses the creek for water skiing activities, where not prohibited. Eudlo Creek has been a very popular location for this type of activity for more than 50 years.

The little beach is also used by the operators of speed boats and personal watercraft towing water skiers, not members of the local water ski association, as a start and finish point for their water skiing activities.

The *Sunshine Coast Vessel Activity Survey 2009* reported 225 observations of ships on Eudlo Creek during a 12 hour period on 11 April 2009. This number included 127 recreational speed boats, 41 recreational personal watercraft and 54 paddle craft, which represented about 19 ship movements per hour. An analysis of ship observations revealed an operational pattern: paddle craft primarily in the morning; and personal watercraft during the afternoon. This was the first time that a survey of this nature was conducted for Eudlo Creek.

Maritime Safety Queensland also performed observations of Eudlo Creek during short periods on 41 days from 3 April 2010 to 30 May 2010. The agency reported observations of 580 ships and 80 people either swimming or recreationally fishing from the shore. The number of ships included 495 paddle craft, 11 speed boats, 35 water skiers and 15 personal watercraft. The vast majority of paddle craft activities appeared to be finished by mid-morning; and most water skiing, personal watercraft and swimming activities seemed to occur from 12 pm onwards.

The Reference Group identified a number of waterway issues for Eudlo Creek:

- natural features of the creek – depth and width of navigable water, and underwater obstructions
- increased numbers of paddlers during aquatic and school events – up to 60 participants
- interaction and congestion of different types of ships from the creek's mouth to near the club house of the Sunshine Coast Kayak Club during weekends and holidays – most popular boat ramp for the Maroochy River system

- location of the club house within the area used for water skiing – paddlers launch into this area
- conflict between water skiers and paddlers – the turning and drop-off point for water skiers is the same as the launching point for paddlers
- effects from wake boarding – particular types of wake boarding boats are designed to generate large wash
- effects of wash from high-speed ship operations on the operations of passive craft
- contraventions of water skiing requirements and operational speed limits
- at times, the creek's capacity for water skiing activities appears to be reached or exceeded.

The Maroochy River Water Ski Association presented a document to the Reference Group that set out a number of points for consideration in relation to water skiing activities on Eudlo Creek, including:

- information and warning signs
- direction of navigation
- ship length
- length of tow ropes
- number of ships engaged in water skiing at one time
- tidal state, indicated by a tide board or other marker
- wake boarding and use of air chairs
- safety management plan, incorporating an induction program and a water skiing roster system
- code of conduct.

The Reference Group carefully examined these points when developing the solutions to address the waterway issues on the creek. The association's document is captured as item P5298 on Sunshine Coast office container 245/00012.

The Sunshine Coast Kayak Club also presented a document to the Reference Group that set out its position in relation to water skiing activities. The Reference Group carefully considered this document when developing the regulatory solutions for the creek. The club's document is captured as item P5307 on Sunshine Coast office container 245/00012.

Maritime Safety Queensland has received eight reports of marine incidents in Eudlo Creek since July 2000. Two of these involved collisions, one was the swamping of a passive craft by a speed boat, and four were water skiing incidents. The water skiing incidents resulted in injuries to four people, three of whom required hospitalisation.

12.1.2 Existing legislative requirements

A speed limit of 6 knots applies to all ships on waters of Eudlo Creek and the connected waterway from and including the Eudlo Creek Bridge on David Low Way to waters 50 metres upstream of the public boat ramp in Fisherman's Road. This speed limit was fixed by gazette notice on 21 May 2004.

A general smooth water speed limit of 40 knots applies to all ships on all other waters of Eudlo Creek because no other speed limit has been fixed for the waterway. The general speed limit was also fixed by gazette notice on 21 May 2004.

A speed limit of 30 knots or less applies to all personal watercraft used for hire and drive operations, following recommendations from a coronial report in March 2010. The speed limit was fixed by gazette notice on 27 May 2011.

The operational speed limits provided by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004* also apply.

All waters of Eudlo Creek, except for those 50 metres upstream of the public boat ramp in Fishermans Road to 1,150 metres upstream of the same boat ramp, are stated by gazette notice as waters where water skiing is an activity that endangers marine safety. The gazette notice was published on 28 February 1997.

Maritime Safety Queensland has received a number of complaints regarding the operations of speed boats and personal watercraft on Eudlo Creek. Reports from shipping inspectors also suggest that speed boats and personal watercraft regularly contravene operational speed limits and water skiing requirements, particularly the personal flotation device requirement and the observer requirement.

12.1.3 Recommendations

Eudlo Creek is a narrow and shallow waterway, often subject to high levels of ship traffic on weekends, public holidays and school holidays, depending on the time of day. The waters of the creek used for water skiing activities are also shallow, especially at low tide.

The Reference Group recognises the importance and popularity of Eudlo Creek for different types of on-water activities, both active and passive uses.

The Reference Group believes that specific information and education for the recreational boating community, to raise awareness of waterway issues on Eudlo Creek, is fundamental to the success of any new regulatory regime.

The Reference Group also believes that high-speed ship operations upstream from the upstream boundary of the existing water skiing prohibition are unsafe.

The Reference Group fully appreciates the concerns of all stakeholders, as well as the effect that an expanded regulatory regime could have on users of Eudlo Creek. The group highlights the overarching general safety obligation imposed on all persons involved with ship operations, particularly owners and masters. The group also acknowledges the difficulties associated with the practical enforcement of a regulatory regime that contains many elements. In arriving at its recommendations, the Reference Group followed principles set out in section 7.

However, the Reference Group's members expressed two different views on the most appropriate way to ensure marine safety —

1. Some members believe that the existing water skiing prohibition should be maintained, augmented with certain regulatory conditions and other safety

management arrangements that could include:

- maximum length of a ship towing a water skier – 6.1 metres
- maximum number of tow lines attached to a ship – one
- maximum number of ships engaged in the activity at one time – three
- maximum length of the tow line – 18.3 metres
- prohibition on water skiing on some low tides, indicated by a tide board
- standard direction of navigation – anti-clockwise so that ships towing water skiers pass port to port
- prohibitions on wake boarding, towing of tubes, and use of air chairs and other hydrofoil-type water skis
- rostering for water skiing activities.

These members believe that a system incorporating these elements would achieve an acceptable level of marine safety and allow the continuation of certain water skiing activities. They also believe that a maximum ship length of 6.1 metres should relieve concerns about excessive wash and the interaction of powered ships with paddle craft, because speed boats designed specifically for wake boarding and wash generation are generally built over this length.

2. Other members believe that the speed limit for the creek from its entrance to the end of the existing water skiing area (except for the 6 knots speed zone) should be reduced from 40 to 20 knots and that the existing water skiing prohibition should be expanded to include all waters of the creek. This position effectively ends all water skiing activities on Eudlo Creek.

The members supporting the latter position believe that high-speed operations and water skiing activities endanger marine safety, because of the creek's natural features and the level of ship traffic. These members contend that a ship's master navigating the creek at high speed and towing a water skier is unable comply with the operational speed limits of the *Transport Operations (Marine Safety) Regulation 2004* and rules 6, 8 and 9 of the Collision Regulations.

As mentioned elsewhere in this report, a contravention of one of these legislative requirements may cause a marine incident, which in turn, may be evidence of a contravention of the general safety obligation.

Consequently, the Reference Group believes that the existing regulatory regime for Eudlo Creek should be expanded to provide a better marine safety system, and therefore makes the following recommendations, including recommendations for a new water skiing prohibition and speed limit as options:

General recommendations

- 1 – Enforcement presence
- 4 – New speed signs
- 5 – New water skiing signs
- 6 – Update Beacon to Beacon
- 7 – Review of new speed limits and water skiing prohibitions by December 2012

Specific recommendations

47 – Eudlo Creek – existing speed limits of 6 knots

That the General Manager should maintain the existing speed limits of 6 knots for all ships on waters of Eudlo Creek and the adjoining lagoon from Eudlo Creek Bridge on David Low Way at Maroochydore to 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydore.

48 – Eudlo Creek – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Eudlo Creek upstream from 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydore.

49A – Eudlo Creek – existing speed limit 40 knots and new water skiing prohibition, on conditions – Option 1

That the General Manager should maintain the existing speed limit of 40 knots for all ships on certain waters of Eudlo Creek, namely:

- *waters from the creek's confluence with Maroochy River to Eudlo Creek Bridge*
- *from 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydore to 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydore; in conjunction with*

That the General Manager should state by gazette notice a new water skiing prohibition for all waters of Eudlo Creek, except for waters from 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydore to 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydore, providing the following conditions are met:

- *a ship towing a water skier must not be more than 6.1 metres in length*
- *there must not be more than one tow line attached to a ship; or alternatively*

49B – Eudlo Creek – new speed limit 20 knots and new water skiing prohibition – Option 2

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on certain waters of Eudlo Creek, namely:

- *waters from the creek's confluence with Maroochy River to Eudlo Creek Bridge*
- *from 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydore to 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydore; in conjunction with*

That the General Manager should state by gazette notice a new water skiing prohibition for all waters of Eudlo Creek.

50 – Eudlo Creek – new warning signs

That Maritime Safety Queensland should erect three new warning signs at strategic locations in Eudlo Creek to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *at the end of the existing water skiing area – one warning sign – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION*

- *near the public boat ramp – one warning sign – SHALLOW WATERWAY / NAVIGATE WITH CAUTION*
- *near the public boat ramp – one warning sign – BUSY WATERWAY (with graphical symbols for powered ship, personal watercraft, water skiing, sailing ship and paddle craft) NAVIGATE TO CONDITIONS.*

51 – Eudlo Creek – new code of conduct

That Maroochy River Water Ski Association and Sunshine Coast Kayak Club, with support from Maritime Safety Queensland, should develop and implement a code of conduct for water skiers and paddlers on Eudlo Creek (subject to recommendations 49A or 49B).

52 – Eudlo Creek – new safety management plan

That Maroochy River Water Ski Association, with support from Maritime Safety Queensland, should develop and implement a new safety management plan for water skiing activities on Eudlo Creek, incorporating the following:

- *maximum ship length – 6.1 metres*
- *maximum number of tow lines – one*
- *maximum number of ships at one time – three*
- *maximum length of tow lines – 18.3 metres*
- *standard direction of navigation on the creek – anti-clockwise so that ships towing water skiers pass port to port*
- *safety induction program – ship masters and water skiers before participating in water skiing activities on the creek*
- *water skiing roster – club members and visitors*
- *tidal information – time difference from Mooloolaba Boat Harbour*
- *local information – potential obstructions to navigation and other hazards on the creek*
- *strong discouragement for certain activities – wake boarding, towing of tubes, and use of air chairs and other hydrofoil-type water skis*
- *information signs – ship length, tow lines, direction of navigation, tidal information*
- *warning signs – erected by Maritime Safety Queensland.*

This recommendation is subject to recommendations 49A or 49B.

53 – Maroochy River (Areas 6 and 7) and Eudlo Creek – new education campaign

That Maritime Safety Queensland should develop and implement a new recreational boating education campaign for Maroochy River and Eudlo Creek to raise community awareness about:

- *different types of ship operations and activities reasonably expected between Bli Bli and Maroochydore*
- *water skiing on Eudlo Creek (subject to recommendations 49A or 49B)*
- *freestyling restriction for personal watercraft*
- *operational speed limits for ships and personal watercraft.*

The education campaign could include:

- information packs
- information on Maritime Safety Queensland's website
- information on Department Transport and Main Road's Facebook and Twitter pages
- links from Maritime Safety Queensland's website to other government websites
- links from websites owned by external entities to Maritime Safety Queensland's website (subject to approval where necessary)
- articles in Maritime Safety Queensland's publication *Seascope*
- notices to mariners.

The Reference Group identified two issues for Eudlo Creek that may be addressed through a marine zone:

- wake generation by certain types of speed boats used for wake boarding – primarily their interaction with other types of craft, which sometimes results in contraventions of an operational speed limit for wash
- higher risks posed by certain water skiing activities, namely towing of tubes, air chairs and other hydrofoil-type water skis – due to the level of ship traffic, the depth of water in the creek, and in the case of tubes, the lack of control that might be exercised by a water skier participating in that activity.

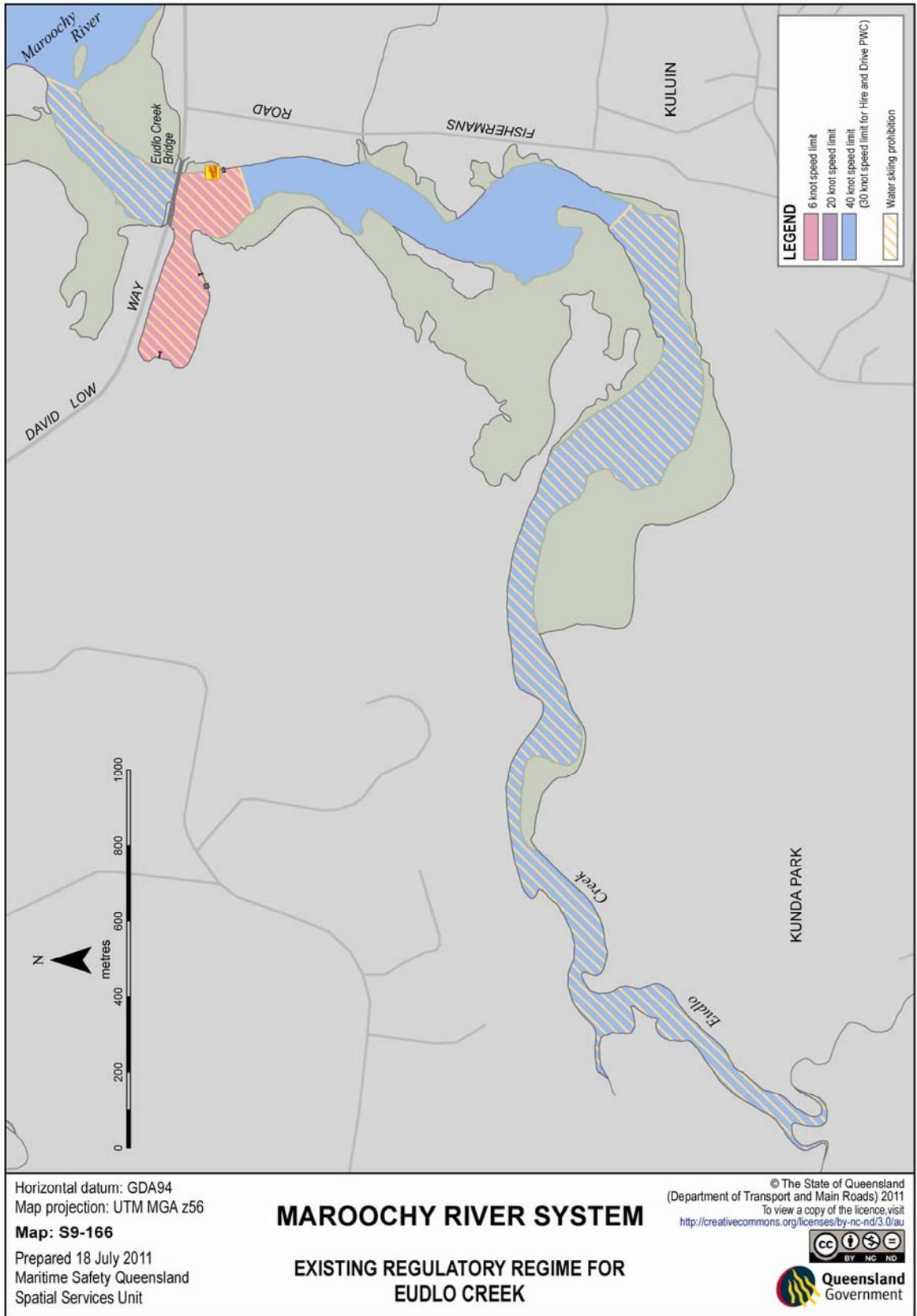
Consequently, the Reference Group also makes the following recommendation:

8 – Maroochy River system – proposal for a marine zone

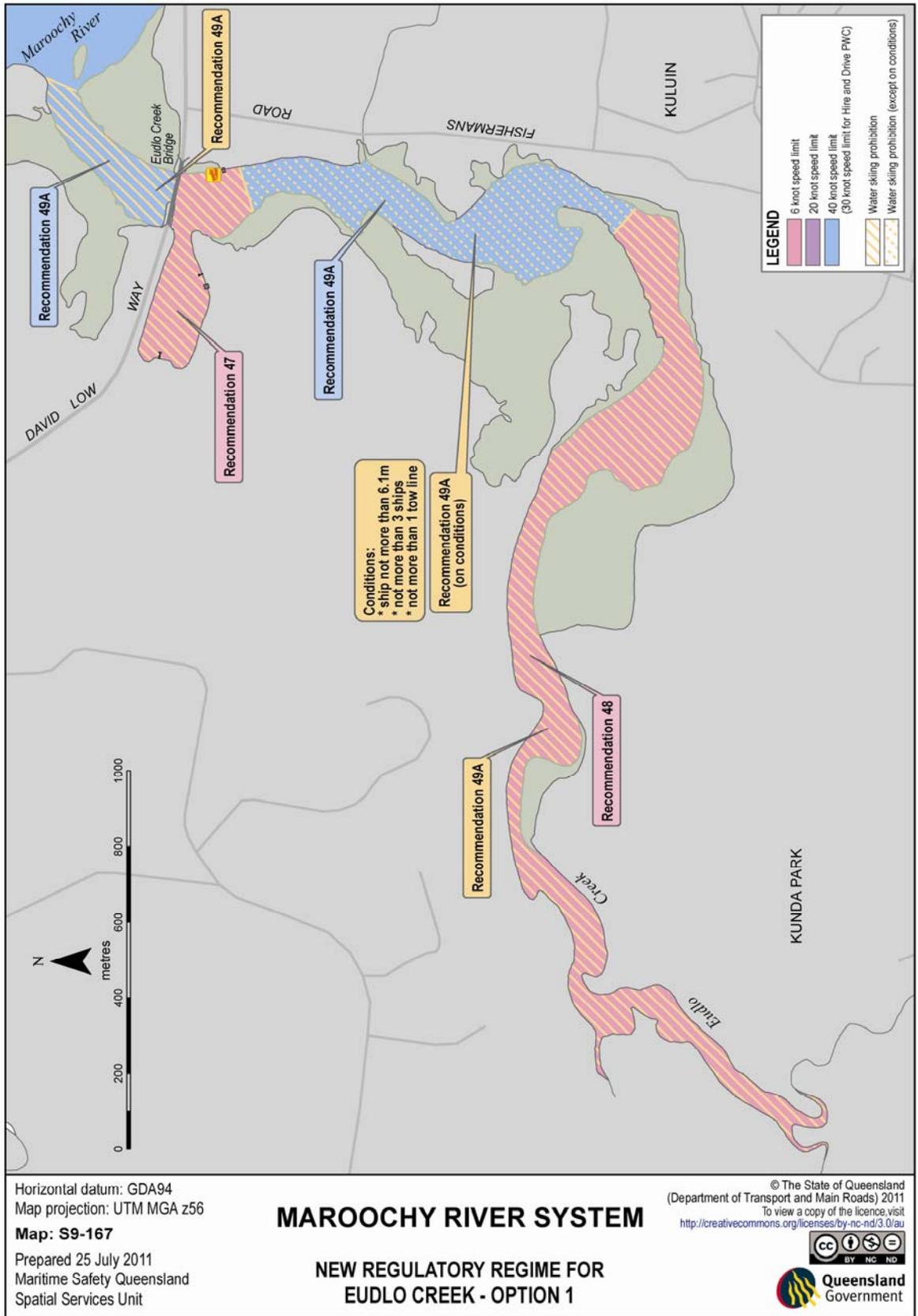
That Sunshine Coast Regional Council should consider a proposal for a marine zone, as envisaged by part 9A of the Transport Operations (Marine Safety) Regulation 2004, to manage certain types of water skiing activities on Eudlo Creek by a requirement that:

- *a ship more than 6.1 metres in length must not be operated on the creek for wake boarding*
- *a ship must not be operated on the creek for towing of tubes and hydrofoil-type water skis.*

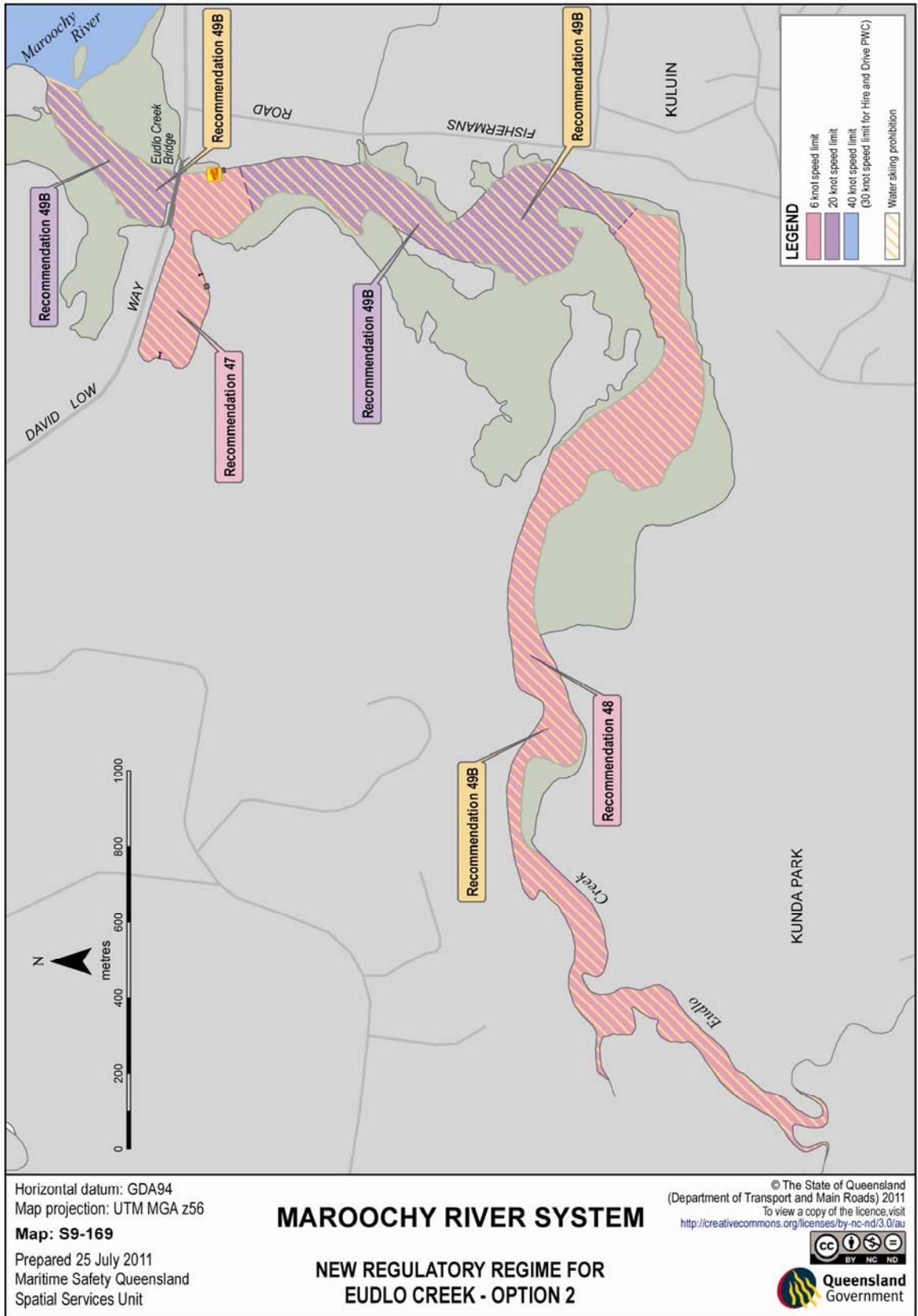
Maps that depict the existing regulatory regime and the new regime recommended by the Reference Group can be found on pages 102 to 104.



Map S9-166 – Existing regulatory regime for Eudlo Creek



Map S9-167 – New regulatory regime for Eudlo Creek – Option 1



Map S9-169 – New regulatory regime for Eudlo Creek – Option 2

Appendix 1 – Recommendations

The Reference Group makes 54 recommendations to provide a new marine safety system that achieves an appropriate balance between regulation and the diverse or competing interests within the maritime community.

General recommendations

1 – Maroochy River system – enforcement presence

Where practicable, that Maritime Safety Queensland, Queensland Boating and Fisheries Patrol and Sunshine Coast District Water Police should commit to an increased on-water enforcement presence throughout the Maroochy River system.

2 – Maroochy River system – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of all creeks and waterways flowing into Maroochy River, except Coolum Creek, Petrie Creek and Eudlo Creek.

3 – Maroochy River system – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of all creeks and waterways flowing into Maroochy River (including Lake Dunethin), except certain waters of Eudlo Creek (subject to conditions set out in recommendation 49A, or subject to recommendation 49B).

4 – Maroochy River system – new regulatory signs

That the General Manager should erect 52 new speed signs at strategic locations throughout the Maroochy River system for all new speed limits, including six speed signs for operational speed limits.

5 – Maroochy River system – new regulatory signs

That Maritime Safety Queensland should erect 13 new water skiing signs at strategic locations throughout the Maroochy River system for all new water skiing prohibitions.

6 – Maroochy River system – update Beacon to Beacon

That Maritime Safety Queensland should update the Beacon to Beacon directory to include:

- *all new regulatory signs and warning signs*
- *notes to explain the freestyling restriction and operational speed limits.*

7 – Maroochy River system – review of new speed limits and water skiing prohibitions

That the Reference Group should re-convene to review the implementation and effect of all new speed limits and water skiing prohibitions, before December 2012.

8 – Maroochy River system – proposal for a marine zone

That Sunshine Coast Regional Council should consider a proposal for a marine zone, as envisaged by part 9A of the Transport Operations (Marine Safety) Regulation 2004, to manage unresolved waterways issues as documented by the Reference Group:

- *wash capable of causing shoreline damage*
- *wash capable of causing a marine incident*
- *certain types of water skiing activities on Eudlo Creek.*

Specific recommendations

9 – North and South Maroochy Rivers – existing speed limits of 6 knots

That the General Manager should maintain the existing speed limits of 6 knots for all ships on waters of North Maroochy River and South Maroochy River upstream of the confluence of these rivers with Maroochy River at Yandina.

10A – Maroochy River (Area 1) – new speed limit of 20 knots – Option 1

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River upstream from 50 metres upstream of Brown's Rocks to the river's confluence with its north and south arms at Yandina; or alternatively

10B – Maroochy River (Area 1) – new speed limit of 6 knots – Option 2

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River upstream from 50 metres upstream of Brown's Rocks to the river's confluence with its north and south arms at Yandina.

11 – Maroochy River (Areas 1 and 2) – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River within 50 metres upstream and downstream of Brown's Rocks.

12 – Maroochy River (Areas 1 and 2) – new water skiing prohibition

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River upstream from 50 metres downstream of Brown's Rocks.

This is an administrative correction to describe the boundary of the water skiing prohibition as 50 metres downstream of Brown's Rocks, instead of the boundary as Brown's Rocks, which are an underwater obstruction and a danger to navigation.

13 – Maroochy River (Area 1) – new warning signs

That Maritime Safety Queensland should erect three new warning signs at strategic location in Area 1 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *for upstream of Brown's Rocks – one warning sign – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION*
- *at Brown's Rocks – two warning signs – UNDERWATER OBSTRUCTION / NAVIGATE WITH CAUTION.*

14 – Maroochy River (Area 2) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 50 metres downstream of Brown's Rocks to 50 metres upstream of Lake Dunethin.

15 – Maroochy River (Area 2) – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River from 50 metres upstream of Lake Dunethin to 400 metres downstream of Lake Dunethin.

16 – Maroochy River (Area 2) – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of Maroochy River from 100 metres upstream of Ashton's Wharf to the river's confluence with the small unnamed creek immediately downstream of Dunethin Rock.

17 – Maroochy River (Area 2) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 400 metres downstream of Lake Dunethin to 50 metres upstream of the cane train bridge at the suburb of Maroochy River.

18 – Maroochy River (Area 3) – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River within 50 metres upstream and downstream of the cane train bridge at the suburb of Maroochy River.

19 – Maroochy River (Area 3) – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of Maroochy River within 50 metres upstream and downstream of the cane train bridge at the suburb of Maroochy River.

20 – Maroochy River (Area 3) – new reflectors for the cane train bridge

To assist night time navigation, that Sunshine Coast Regional Council should fix suitable reflectors to the cane train bridge across Maroochy River at the suburb of Maroochy River.

21 – Maroochy River (Area 4) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 50 metres downstream of the cane train

bridge at the suburb of Maroochy River to 450 metres downstream of the river's confluence with Small Creek.

22 – Maroochy River (Areas 4 and 5) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 720 metres downstream of the river's confluence with Small Creek to 1,500 metres downstream of the river's confluence with Coolum Creek.

23A – Maroochy River near Small Creek (Area 4) – new speed limit of 20 knots with new water skiing prohibition – Option 1

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River from 450 metres downstream of the river's confluence with Small Creek to 720 metres downstream of the river's confluence with Small Creek; in conjunction with

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River from 450 metres downstream of the river's confluence with Small Creek to 720 metres downstream of the river's confluence with Small Creek; or alternatively

23B – Maroochy River near Small Creek (Area 4) – new speed limit of 6 knots – Option 2

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River from 450 metres downstream of the river's confluence with Small Creek to 720 metres downstream of the river's confluence with Small Creek.

24 – Maroochy River (Area 4) – new warning signs

That Maritime Safety Queensland should erect two new warning signs at strategic locations in Area 4 for the sharp bend near Small Creek – SHARP BEND / KEEP STARBOARD (with an arrow ).

25 – Maroochy River (Area 5) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 1,050 metres upstream of David Low Bridge at Bli Bli to 50 metres upstream of David Low Bridge at Bli Bli.

26 – Maroochy River (Area 5) – new speed limit of 20 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River from 1,500 metres downstream of the river's confluence with Coolum Creek to 1,050 metres upstream of David Low Bridge at Bli Bli.

27A – Maroochy River near Cook Road (Area 5) – new speed limit of 20 knots with speed signs for operational speed limits – Option 1

That the General Manager should fix the speed limit of 20 knots (as mentioned in recommendation 26) and that Maritime Safety Queensland should erect two new regulatory signs for operational speed limits at strategic locations near the dwelling houses on Cook Road at Bli Bli (as mentioned in recommendation 4); or alternatively

27B – Maroochy River near Cook Road (Area 5) – new periodic speed limit of 6 knots – Option 2

That the General Manager should fix by gazette notice a new periodic speed limit of 6 knots for all ships on waters of Maroochy River from 1,300 metres upstream of David Low Bridge at Bli Bli to 1,050 metres upstream of David Low Bridge at Bli Bli for weekends and public holidays; or alternatively

27C – Maroochy River near Cook Road (Area 5) – new speed limit of 6 knots – Option 3

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Maroochy River from 1,300 metres upstream of David Low Bridge at Bli Bli to 1,050 metres upstream of David Low Bridge at Bli Bli.

28 – Maroochy River near Cook Road (Area 5) – review of new speed limit

That the Reference Group should re-convene to review the implementation and affect of the new speed limit for waters of Maroochy River adjacent to Cook Road at Bli Bli, before December 2012.

29 – Maroochy River near Cook Road (Area 5) – update Beacon to Beacon

That Maritime Safety Queensland should update Beacon to Beacon to include a note that describes the type of ship operations reasonably expected on Maroochy River near Cook Road and the likelihood of ship traffic congestion during weekends and public holidays.

30 – Maroochy River (Area 5) – existing water skiing prohibition

That the General Manager should maintain the existing water skiing prohibition for waters of Maroochy River from 1,500 metres downstream of the river's confluence with Coolum Creek to 1,050 metres upstream of David Low Bridge at Bli Bli (refer to recommendation 54).

31 – Maroochy River (Area 5) – new warning signs

That Maritime Safety Queensland should erect four new warning signs at strategic locations in Area 5 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *for the sharp bend upstream of Bli Bli Islands – two warning signs – SHARP BEND / KEEP STARBOARD (with an arrow *

- *near Bli Bli Islands – two warning signs – SAND BANKS / NAVIGATE WITH CAUTION.*

32 – Maroochy River (Area 6) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for all ships on waters of Maroochy River from 1,000 metres downstream of David Low Bridge at Bli Bli to 200 metres upstream of Sunshine Motorway Bridge at Maroochydore.

33 – Maroochy River (Area 6) – new speed limit of 20 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River from 50 metres upstream of David Low Bridge at Bli Bli to 1,000 metres downstream of David Low Bridge at Bli Bli.

34 – Maroochy River (Area 6) – new water skiing prohibition

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River from 50 metres upstream of David Low Bridge at Bli Bli to 1,000 metres downstream of David Low Bridge at Bli Bli.

35 – Maroochy River (Area 6) – new warning signs

That Maritime Safety Queensland should erect five new warning signs at strategic locations in Area 6 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *at the public boat ramps at Muller Park, Fishermans Road and Cod Hole – three warning signs (one at each location) – BUSY WATERWAY (with graphical symbols for powered ship, personal watercraft, water skiing, sailing ship and paddle craft) NAVIGATE TO CONDITIONS*
- *between David Low Bridge and Sunshine Motorway Bridge – two warning signs – SAND BANKS / NAVIGATE WITH CAUTION.*

36 – Maroochy River (Area 7) – existing speed limits of 6 knots

That the General Manager should maintain the existing speed limits of 6 knots for all ships on waters of all creeks and waterways flowing into Maroochy River downstream of Sunshine Motorway Bridge.

37 – Maroochy River (Area 7) – existing speed limit of 6 knots

That the General Manager should maintain the existing speed limit of 6 knots for all ships on waters of Maroochy River within the area bounded by an imaginary line from:

- *a point on the mainland adjacent to the intersection of Buna Street and Bradman Avenue at Maroochydore to*
- *the western extremity of Chambers Island to*
- *the eastern extremity of Chambers Island to*
- *the upstream point at the entrance to Maroochy Waters canal; and*

That the General Manager should maintain the existing speed limit of 6 knots for all ships on waters of Maroochy River within the area bounded by an imaginary line from:

- *a point on the mainland approximately 110 metres downstream of the boat ramp at Picnic Point (as marked by a speed sign) then*
- *along an easterly line to the landmass of Channel Island and Goat Island then*
- *along the western side of the island landmass to the southern extremity of Goat Island then*
- *in a generally easterly direction to the port lateral beacon on the end of the most downstream groyne at Cotton Tree.*

38 – Maroochy River (Area 7) – existing speed limit of 40 knots

That the General Manager should maintain the existing speed limit of 40 knots for certain ships on waters of the Maroochy River commercial personal watercraft area, namely nominated personal watercraft only.

39 – Maroochy River (Area 7) – new speed limit of 20 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Maroochy River downstream from 200 metres upstream of Sunshine Motorway Bridge at Maroochydore, except for nominated personal watercraft on waters of the Maroochy River commercial personal watercraft area.

40 – Maroochy River (Area 7) – existing prohibition for operating etc.

That the General Manager should maintain the existing prohibition for anchoring, berthing, mooring and operating of all ships from sunrise to sunset on waters of the Maroochy River commercial personal watercraft area because those activities endanger marine safety, except for nominated personal watercraft.

41 – Maroochy River (Area 7) – new water skiing prohibition

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River downstream from 200 metres upstream of Sunshine Motorway Bridge at Maroochydore.

42 – Maroochy River (Area 7) – new warning signs

That Maritime Safety Queensland should erect four new warning signs at strategic locations in Area 7 to warn waterway users about obstructions and hazardous conditions that affect navigation:

- *at the public boat ramps at Picnic Point and Nojoor Road – two warning signs (one at each location) – BUSY WATERWAY (with graphical symbols for powered ship, personal watercraft, sailing ship and paddle craft) NAVIGATE TO CONDITIONS*
- *between Sunshine Motorway Bridge and Maroochy Bar – two warning signs – SAND BANKS / NAVIGATE WITH CAUTION.*

43 – Coolum Creek – new speed limits of 20 knots and 6 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Coolum Creek from the creek's confluence with Maroochy River to approximately 920 metres upstream from the creek's confluence with Maroochy River (a point adjacent to West Coolum Road); in conjunction with

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Coolum Creek upstream from approximately 920 metres upstream from the creek's confluence with Maroochy River (a point adjacent to West Coolum Road).

44 – Coolum Creek – new warning sign

That Maritime Safety Queensland should erect one new warning sign in Coolum Creek near West Coolum Road – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION.

45 – Petrie and Paynter Creeks – new speed limits of 20 knots and 6 knots

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on waters of Petrie Creek from the creek's confluence with Maroochy River to the bridge across the creek on David Low Way at Diddillibah; in conjunction with

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Petrie Creek upstream from the bridge across the creek on David Low Way at Diddillibah, including all creeks and waterways flowing into Petrie Creek upstream of the bridge.

46 – Petrie Creek – new warning sign

That Maritime Safety Queensland should erect one new warning sign at the entrance to Petrie Creek – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION.

47 – Eudlo Creek – existing speed limit of 6 knots

That the General Manager should maintain the existing speed limit of 6 knots for all ships on waters of Eudlo Creek and the adjoining lagoon from Eudlo Creek Bridge on David Low Way at Maroochydore to 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydore.

48 – Eudlo Creek – new speed limit of 6 knots

That the General Manager should fix by gazette notice a new speed limit of 6 knots for all ships on waters of Eudlo Creek upstream from 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydore.

49A – Eudlo Creek – existing speed limit of 40 knots and new water skiing prohibition, on conditions – Option 1

That the General Manager should maintain the existing speed limit of 40 knots for all ships on certain waters of Eudlo Creek, namely:

- *waters from the creek's confluence with Maroochy River to Eudlo Creek Bridge*

- from 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydhore to 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydhore; in conjunction with

That the General Manager should state by gazette notice a new water skiing prohibition for all waters of Eudlo Creek, except for waters from 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydhore to 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydhore, providing the following conditions are met:

- a ship towing a water skier must not be more than 6.1 metres in length
- there must not be more than one tow line attached to a ship; or alternatively

49B – Eudlo Creek – new speed limit of 20 knots and new water skiing prohibition – Option 2

That the General Manager should fix by gazette notice a new speed limit of 20 knots for all ships on certain waters of Eudlo Creek, namely:

- waters from the creek's confluence with Maroochy River to Eudlo Creek Bridge
- from 50 metres upstream of the public boat ramp in Fishermans Road at Maroochydhore to 1,150 metres upstream of the public boat ramp in Fishermans Road at Maroochydhore; in conjunction with

That the General Manager should state by gazette notice a new water skiing prohibition for all waters of Eudlo Creek.

50 – Eudlo Creek – new warning signs

That Maritime Safety Queensland should erect three new warning signs at strategic locations in Eudlo Creek to warn waterway users about obstructions and hazardous conditions that affect navigation:

- at the end of the existing water skiing area – one warning sign – POTENTIAL OBSTRUCTIONS / NAVIGATE WITH CAUTION
- near the public boat ramp – one warning sign – SHALLOW WATERWAY / NAVIGATE WITH CAUTION.
- near the public boat ramp – one warning sign – BUSY WATERWAY (with graphical symbols for powered ship, personal watercraft, water skiing, sailing ship and paddle craft) NAVIGATE TO CONDITIONS.

51 – Eudlo Creek – new code of conduct

That Maroochy River Water Ski Association and Sunshine Coast Kayak Club, with support from Maritime Safety Queensland, should develop and implement a code of conduct for water skiers and paddlers on Eudlo Creek (subject to recommendations 49A or 49B).

52 – Eudlo Creek – new safety management plan

That Maroochy River Water Ski Association, with support from Maritime Safety Queensland, should develop and implement a new safety management plan for water skiing activities on Eudlo Creek, incorporating the following:

- maximum ship length – 6.1 metres

- *maximum number of tow lines – one*
- *maximum number of ships – three*
- *maximum length of tow lines – 18.3 metres*
- *standard direction of navigation on the creek – anti-clockwise so that ships towing water skiers pass port to port*
- *safety induction program – ship masters and water skiers before participating in water skiing activities on the creek*
- *water skiing roster – club members and visitors*
- *tidal information – time difference from Mooloolaba Boat Harbour*
- *local information – potential obstructions to navigation and other hazards on the creek*
- *strong discouragement for certain activities – wake boarding, towing of tubes, and use of air chairs and other hydrofoil-type water skis*
- *information signs – ship length, two lines, direction of navigation, tidal information*
- *warning signs – erected by Maritime Safety Queensland.*

This recommendation is subject to recommendations 49A or 49B.

53 – Maroochy River (Areas 6 and 7) and Eudlo Creek – new education campaign

That Maritime Safety Queensland should develop and implement a new recreational boating education campaign for Maroochy River and Eudlo Creek to raise community awareness about:

- *different types of ship operations and activities reasonably expected between Bli Bli and Maroochydore*
- *water skiing on Eudlo Creek (subject to recommendations 49A or 49B)*
- *freestyling restriction for personal watercraft*
- *operational speed limits for ships and personal watercraft.*

The education campaign could include:

- *information packs*
- *information on Maritime Safety Queensland's website*
- *information on Department Transport and Main Road's Facebook and Twitter pages*
- *links from Maritime Safety Queensland's website to other government websites*
- *links from websites owned by external entities to Maritime Safety Queensland's website (subject to approval where necessary)*
- *articles in Maritime Safety Queensland's publication Seascope*
- *notices to mariners.*

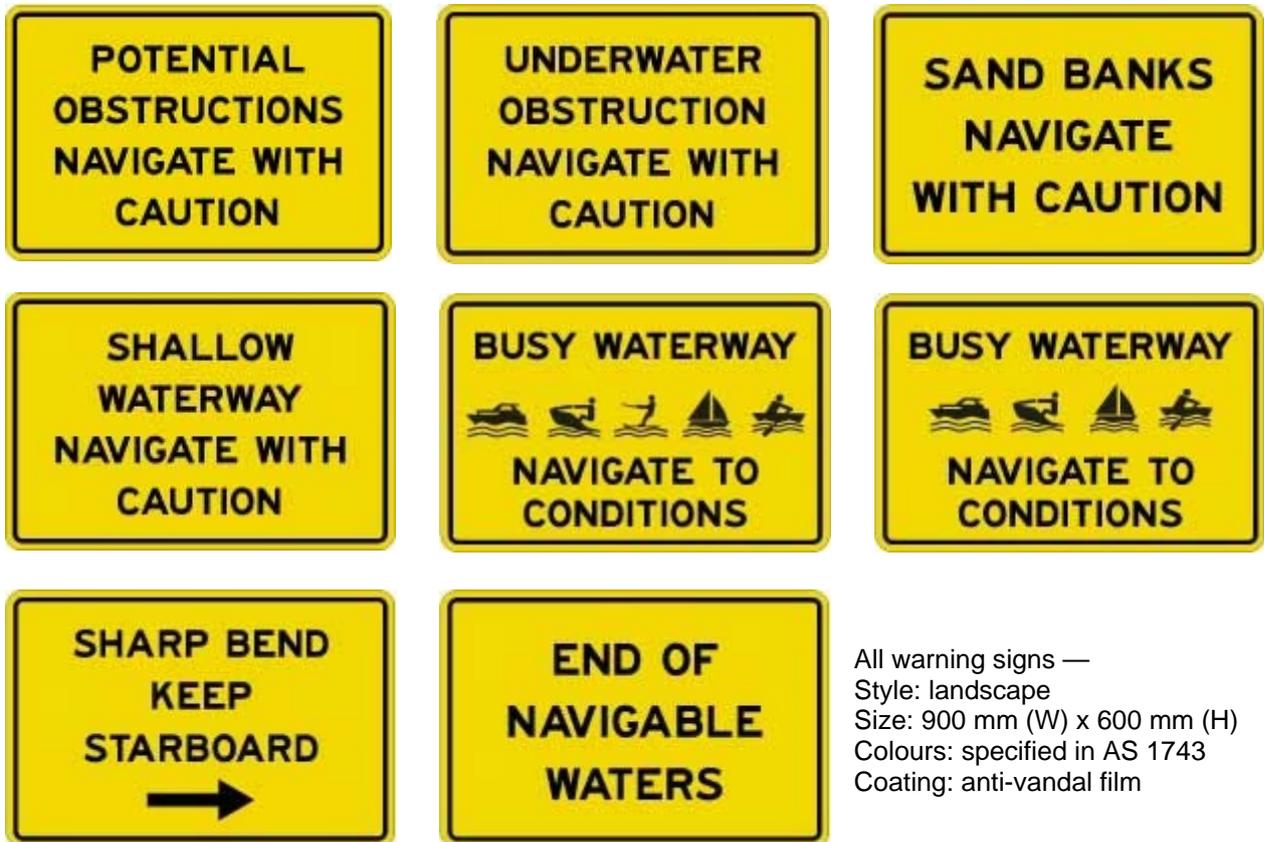
54 – Maroochy River (Area 5) – administrative correction

That the General Manager should state by gazette notice a new water skiing prohibition for waters of Maroochy River from 1,500 metres downstream of the river's confluence with Coolum Creek to 1,050 metres upstream of David Low Bridge at Bli Bli.

This recommendation is an administrative correction to accurately describe the boundary of the water skiing prohibition 50 metres downstream of the most downstream house in Cook Road, which is approximately 1,050 metres upstream of the David Low Bridge at Bli Bli.

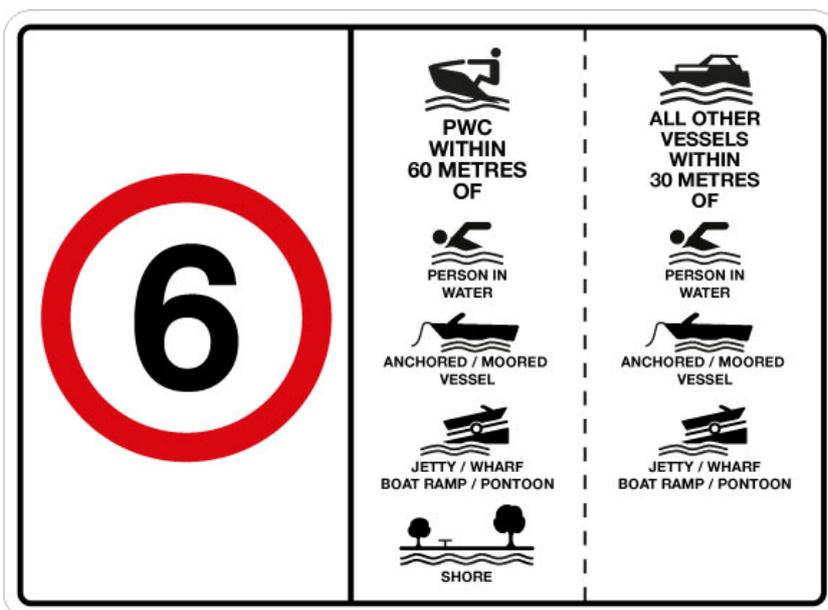
Appendix 2 – New signs

Warning signs



All warning signs —
 Style: landscape
 Size: 900 mm (W) x 600 mm (H)
 Colours: specified in AS 1743
 Coating: anti-vandal film

Regulatory signs



Speed signs for operational speed limit of 6 knots —
 Style: landscape
 Size: 1,500 mm (W) x 1,100 mm (H)
 Colours: specified in AS 1743
 Coating: anti-vandal film

Standard speed signs (6 knots, 20 knots and 40 knots) —
 Style: portrait
 Size: 600 mm (W) x 900 mm (H)
 Colours: specified in AS 1743
 Coating: anti-vandal film

Water skiing signs —
 Style: portrait
 Size: see page 117
 Colours: specified in AS 1743
 Coating: anti-vandal film



Water skiing signs —
 Standard: 1,100 mm (W) x 1,400 mm (H)
 On conditions: 1,100 mm (W) x 1,500 mm (H)

The warning signs, the water skiing signs and the speed sign for the operational speed limit are new signs not currently described in Maritime Safety Queensland's *Standard Endorsed Equipment Catalogue*.

All warning signs and regulatory signs are consistent with relevant Australian Standards (AS 1742.1—2003, AS 1742.2—2009, AS 1742.4—2008, AS 1743—2001 and AS 2416.1:2010), as far as practicable.

The Reference Group recommends 23 new warning signs and 65 new regulatory signs. The new regulatory signs comprise 46 new speed signs, six new speed signs for the operational speed limits and 13 new water skiing signs.

Preliminary investigations suggest the cost of these new signs could be about \$17,750, which includes the cost for pipes and fixing hardware.

Appendix 3 – Queensland legislation

Maritime Safety Queensland Act 2002

8 Functions and powers of MSQ

(1) MSQ has the following functions—

(a) for the *Transport Operations (Marine Safety) Act 1994*—

(i) to develop strategies for marine safety, including on advice received from the Marine Board established under that Act; and

Example —

education campaign for the safe use of recreational ships

(ii) to make standards for designing, building and operating commercial ships for approval by the Governor in Council, and to monitor and audit the implementation of the standards; and

(iii) to accredit ship designers, ship builders or marine surveyors; and

(iv) to approve an entity to conduct training programs for the operation of ships or to conduct examinations for issuing licences under that Act; and

(v) to licence masters, other than recreational masters, crew members and pilots; and

(vi) to set up and maintain aids to navigation; and

(vii) to handle the investigation process into marine incidents; and

(viii) to monitor and manage the movement of ships in Queensland waters; and

(ix) to monitor and manage the operation and activities of ships in Queensland waters; and

(x) to monitor and manage unseaworthy ships or abandoned, stranded, sunk or wrecked ships;

(b) ...

Transport Operations (Marine Safety) Act 1994

3 Objectives of this Act

(1) The overall primary objective of this Act is, consistent with the objectives of the *Transport Planning and Coordination Act 1994*, to provide a system that achieves an appropriate balance between —

(a) regulating the maritime industry to ensure marine safety; and

(b) enabling the effectiveness and efficiency of the Queensland maritime industry to be further developed.

(2) In particular, the objectives of this Act are —

- (a) to allow the Government to have a strategic overview of marine safety and related marine operational issues; and
- (b) to establish a system under which —
 - (i) marine safety and related marine operational issues can be effectively planned and efficiently managed; and
 - (ii) influence can be exercised over marine safety and related marine operational issues in a way that contributes to overall transport efficiency; and
 - (iii) account is taken of the need to provide adequate levels of safety with an appropriate balance between safety and cost.
- (3) These objectives are to be achieved mainly by imposing general safety obligations to ensure seaworthiness and other aspects of marine safety, and allowing a general safety obligation to be discharged by complying with relevant standards or in other appropriate ways chosen by the person on whom the obligation is imposed.
- (4) In particular, a ship may be taken to sufficiently comply with the general safety obligation even though a certificate of survey has not been issued for the ship.
- (4A) A further objective of this Act is to manage the operation and activities of ships.
- (5) The objectives of the Act are also achieved by establishing the Marine Board as a representative body to advise the Minister.
- (6) The objectives of the Act, and how they are achieved, are further explained in part 3 (How to understand this Act).

10 Meaning of ship

- (1) A ship is any kind of boat or other vessel used, or intended to be used, in navigation by water or for any other purpose on water.
- (2) Without limiting subsection (1), a ship includes a boat or other vessel —
 - (a) whatever its size; and
 - (b) however it is propelled or moved; and
 - (c) whether it is on land or in water.
- (3) A ship includes, for example —
 - (a) a barge, lighter or other floating vessel; and
 - (b) a hovercraft or other surface effect craft.
- (4) A ship does not include a vessel declared by regulation not to be a ship.
- (5) A regulation may provide that a ship includes an aircraft when it is on water or is taking off, or landing on, water.
- (6) Except as provided by a regulation under subsection (5), a ship does not include an aircraft.

(7) A reference to a ship includes the ship's equipment.

10A Meaning of commercial ship, fishing ship and recreational ship, and related provision

(1) A commercial ship is —

(a) a ship other than a fishing ship or recreational ship; or

(b) a tender to a ship other than a fishing ship or recreational ship.

(2) A fishing ship is —

(a) a ship authorised, under an authority under the *Fisheries Act 1994*, for fishing purposes; or

(b) a ship authorised, under a development permit under the *Integrated Planning Act 1997*, for aquaculture purposes; or

(c) a ship that is a boat for which a licence has been granted under the *Fisheries Management Act 1991* (Cwlth) or the *Torres Strait Fisheries Act 1984* (Cwlth); or

(d) a tender to a ship mentioned in paragraph (a), (b) or (c).

(3) A recreational ship is —

(a) a ship used only for private recreation; or

(b) a tender to a ship used only for private recreation.

(4) For subsection (3), a regulation may provide for deciding if a ship is used only for private recreation.

43 General obligation on persons involved with operations of a ship to operate it safely

(1) A person involved with a ship's operation (including the owner, master, pilot and crew members) must not cause the ship to be operated unsafely.

Maximum penalty — 500 penalty units or imprisonment for 1 year.

(2) Without limiting subsection (1), a person causes a ship to be operated unsafely if the person causes the ship to be operated in a way that —

(a) causes a marine incident; or

(b) contravenes —

(i) conditions of the ship's registration about safety; or

(ii) a provision of a regulation that is declared by a regulation to be a provision to which this section applies.

(3) However, if the contravention of subsection (1) causes the death of, or grievous bodily harm to, a person, the owner, master, pilot, crew member or other person commits an indictable offence and is liable to a maximum penalty of 5,000 penalty units or imprisonment for 2 years.

(4) A person does not contravene this section because of subsection (2) (a) if the only basis for holding that a marine incident has been caused is lawful damage to, or danger of lawful damage to, property of which the person is the sole owner.

(5) In this section —

lawful damage means damage that is not unlawful under the *Criminal Code*, section 469.

Part 9 Aids to navigation

104 Meaning of aid to navigation

(1) An aid to navigation is a device designed to be used for navigation or the guidance of mariners, including a device to help in —

- (a) fixing a ship's position; or
- (b) deciding a safe course for a ship; or
- (c) warning a ship of dangers or obstructions.

Examples —

beacon, buoy, light, lighthouse, marine mark, radio aid or signal

(2) An aid to navigation includes any structure or equipment ancillary to the aid to navigation.

Examples —

1 the battery house providing a lighthouse with power

2 lifesaving equipment that is part of an aid to navigation

(3) However, an aid to navigation does not include a device on board a ship.

105 General manager may set up an aid to navigation

(1) The general manager may set up an aid to navigation —

- (a) in or near a pilotage area; and
- (b) in any other place where the general manager considers the aid to navigation is desirable to ensure the safety of people or ships or other property.

(2) The general manager may enter into agreements for setting up an aid to navigation.

(3) This section does not limit other powers that the general manager has to set up aids to navigation.

106 Unlawful interference with an aid to navigation

(1) A person must not unlawfully interfere with an aid to navigation.

Maximum penalty — 500 penalty units or imprisonment for 1 year.

(2) However, if —

- (a) the interference with the aid causes a marine incident; and
- (b) the marine incident involves the death of, or grievous bodily harm to, a person;

the person commits an indictable offence and is liable to a maximum penalty of 5,000 penalty units or imprisonment for 2 years.

(3) A person unlawfully interferes with an aid to navigation if the person wilfully, and without authority, justification or excuse, detrimentally interferes with the effective or efficient operation of the aid.

Examples of detrimental interference —

1 A person removes, alters, damages or disturbs the aid.

2 A person obstructs the operation of the aid.

107 Trespassing on an aid to navigation

A person must not —

(a) moor a ship to an aid to navigation or climb the aid, unless the person has a reasonable excuse for mooring the ship or climbing the aid; or

(b) if the aid to navigation is a lighthouse — enter the lighthouse or any enclosed area around the lighthouse, unless the person has a reasonable excuse for entering the lighthouse or area.

Maximum penalty — 40 penalty units.

107A Damage to an aid to navigation

(1) This section applies if a ship damages or destroys an aid to navigation.

(2) The master and the owner of the ship are jointly and severally liable for the expense of repairing or reinstating the aid to navigation.

(3) The amount of the expense may be recovered as a debt by the State by action in a court of competent jurisdiction from the master and the owner of the ship.

123 What is a marine incident

(1) A **marine incident** is an event causing or involving —

(a) the loss of a person from a ship; or

(b) the death of, or grievous bodily harm to, a person caused by a ship's operations; or

(c) the loss or presumed loss or abandonment of a ship; or

(d) a collision with a ship; or

(e) the stranding of a ship; or

(f) material damage to a ship; or

(g) material damage caused by a ship's operations; or

(h) danger to a person caused by a ship's operations; or

(i) danger of serious damage to a ship; or

(j) danger of serious damage to a structure caused by a ship's operations.

(2) A marine incident also includes another event prescribed by regulation.

(3) However, a marine incident does not include an event declared by regulation not to be a marine incident.

206A General manager's power to fix speed limits for ships

(1) The general manager may fix speed limits for ships by gazette notice.

(2) The gazette notice is not subordinate legislation.

(3) A person must not operate a ship at a speed of more than a speed limit fixed under this section.

Maximum penalty — 200 penalty units.

(4) The general manager may erect or mark, at a place in waters for which a speed limit is fixed under subsection (1) or adjacent to the waters, a sign (a speed sign) stating the speed limit for the waters.

(5) A speed sign may be an official traffic sign except that the speed indicated by the number on the sign is the speed in knots.

(6) This section does not prevent a regulation making provision about speed limits.

(7) If there is an inconsistency between a regulation and a gazette notice, the regulation prevails to the extent of the inconsistency.

(8) It is declared that a gazette notice under this section is taken never to have been subordinate legislation.

211 Regulation may give effect to treaties, conventions or international agreements or documents

(1) A regulation may give effect (with or without changes and whether in whole or part) to a treaty, convention or international agreement or document about ships.

Examples —

1 The Prevention of Collisions Convention (within the meaning of the Commonwealth Navigation Act, part IV).

2 The Safety Convention (also within the meaning of the Commonwealth Navigation Act, part IV).

3 Resolutions, codes, recommendations and other documents issued by the International Maritime Organisation.

(2) A person must not contravene a regulation made under subsection (1) that is declared to be a regulation to which this subsection applies, unless the person has a reasonable excuse.

Maximum penalty — 500 penalty units or imprisonment for 1 year.

International Regulations for Preventing Collisions at Sea 1972

Rule 2 Responsibility

(a) Nothing in these Rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the

neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

(b) In construing and complying with these Rules due regard shall be had to all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved, which may make a departure from these Rules necessary to avoid immediate danger.

Rule 6 Safe speed

Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

In determining a safe speed the following factors shall be among those taken into account:

(a) By all vessels:

(i) the state of visibility;

(ii) the traffic density including concentrations of fishing vessels or any other vessels;

(iii) the manoeuvrability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions;

(iv) at night the presence of background light such as from shore lights or from back scatter of her own lights;

(v) the state of wind, sea and current, and the proximity of navigational hazards;

(vi) the draught in relation to the available depth of water.

(b) Additionally, by vessels with operational radar:

(i) the characteristics, efficiency and limitations of the radar equipment;

(ii) any constraints imposed by the radar range scale in use;

(iii) the effect on radar detection of the sea state, weather and other sources of interference;

(iv) the possibility that small vessels, ice and other floating objects may not be detected by radar at an adequate range;

(v) the number, location and movement of vessels detected by radar;

(vi) the more exact assessment of the visibility that may be possible when radar is used to determine the range of vessels or other objects in the vicinity.

Rule 8 Action to avoid collision

(a) Any action to avoid collision shall be taken in accordance with the Rules of this Part and shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.

(b) Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.

(c) If there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close quarters situation provided that it is made in good time, is substantial and does not result in another close-quarters situation.

(d) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.

(e) If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

(f) (i) A vessel which, by any of these Rules, is required not to impede the passage or safe passage of another vessel shall, when required by the circumstances of the case, take early action to allow sufficient sea room for the safe passage of the other vessel.

(ii) A vessel required not to impede the passage or safe passage of another vessel is not relieved of this obligation if approaching the other vessel so as to involve risk of collision and shall, when taking action, have full regard to the action which may be required by the Rules of this part.

(iii) A vessel the passage of which is not to be impeded remains fully obliged to comply with the Rules of this part when the two vessels are approaching one another so as to involve risk of collision.

Rule 9 Narrow channels

(a) A vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable.

(b) A vessel of less than 20 metres in length or a sailing vessel shall not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway.

(c) A vessel engaged in fishing shall not impede the passage of any other vessel navigating within a narrow channel or fairway.

(d) A vessel shall not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within such channel or fairway. The latter vessel may use the sound signal prescribed in Rule 34 (d) if in doubt as to the intention of the crossing vessel.

(e) (i) In a narrow channel or fairway when overtaking can take place only if the vessel to be overtaken has to take action to permit safe passing, the vessel intending to overtake shall indicate her intention by sounding the appropriate signal prescribed in Rule 34 (c) (i). The vessel to be overtaken shall, if in agreement,

sound the appropriate signal prescribed in Rule 34 (c) (ii) and take steps to permit safe passing. If in doubt she may sound the signals prescribed in Rule 34 (d).

(ii) This Rule does not relieve the overtaking vessel of her obligation under Rule 13.

(f) A vessel nearing a bend or an area of a narrow channel or fairway where other vessels may be obscured by an intervening obstruction shall navigate with particular alertness and caution and shall sound the appropriate signal prescribed in Rule 34 (e).

(g) Any vessel shall, if the circumstances of the case admit, avoid anchoring in a narrow channel.

Transport Operations (Marine Safety) Regulation 2004

127 Speed limit for ship, other than personal watercraft, operating in particular places

(1) This section applies to a ship other than a personal watercraft.

(2) A person must not operate a ship in waters at a speed of more than 6 knots if the ship is within 30 metres of any of the following —

- (a) a person in the waters;
- (b) a ship at anchor, moored or made fast to the shore or aground;
- (c) a jetty, wharf, boat ramp or pontoon in or on the waters.

Maximum penalty — 200 penalty units.

(3) Subsection (2) does not apply to a ship if the ship is in waters for which a speed limit of 6 knots or less has been fixed under section 206A of the Act.

127A Speed limit for personal watercraft operating in particular places

(1) A person must not operate a personal watercraft in waters at a speed of more than 6 knots if the personal watercraft is within 60 metres of any of the following —

- (a) a person in the waters;
- (b) a ship at anchor, moored or made fast to the shore or aground;
- (c) a jetty, wharf, boat ramp or pontoon in or on the waters;
- (d) the boundary of a bathing reserve;
- (e) the shore.

Maximum penalty — 200 penalty units.

(2) Despite subsection (1) (e), a person may operate a personal watercraft in waters within 60 metres of the shore at a speed of more than 6 knots but no more than the speed limit for the waters if —

- (a) the personal watercraft is being operated for the purpose of water skiing; or
- (b) each of the following apply —
 - (i) the waters are less than 120 metres wide;

- (ii) the person is operating the personal watercraft along or near the centre of the waters, or within a marked channel;
 - (iii) the person uses the personal watercraft to move through the waters in a straight line or in the most appropriate or direct route taking into account the circumstances of the waters; or
- (c) complying with subsection (1) (e) would endanger the person or another person.
- (3) Subsections (1) and (2) do not apply to a personal watercraft if the personal watercraft is in waters for which a speed limit of 6 knots or less has been fixed under section 206A of the Act.
- (4) In this section —

bathing reserve means a bathing reserve established under the *Local Government Act 1993*, section 935.

127B Other restrictions for personal watercraft operating in particular places

- (1) A person must not while operating a personal watercraft freestyle, surf or wave jump within 200m of the shore if —
- (a) the personal watercraft is being operated in coastal waters; and
 - (b) 1 or more dwellings are within 100m of the shore and are visible from, and in the vicinity of, where the personal watercraft is being operated.

Maximum penalty — 200 penalty units.

- (2) In this section —

coastal waters means the coastal waters of the State, and includes other waters within the limits of the State that are subject to the ebb and flow of the tide.

128 Speed limit for ship if wash can cause marine incident or shoreline damage

- (1) A person must not operate a ship at a speed at which the ship's wash is reasonably capable of causing —

- (a) a marine incident; or
- (b) damage to the shoreline.

Maximum penalty — 200 penalty units.

- (2) Subsection (1) applies even if a speed limit is fixed under section 206A of the Act.

130 Interfering with speed sign

- (1) A person must not interfere with a speed sign erected or marked by the general manager under section 206A (4) of the Act unless the person has a reasonable excuse.

Maximum penalty — 200 penalty units.

- (2) In this section —

interfere with includes damage, destroy, mark and remove.

221 Unlawful operations if endangering marine safety

(1) A person who is the owner or master of a ship must not anchor, berth, moor or operate the ship in waters if doing so endangers marine safety.

Maximum penalty — 100 penalty units.

(2) For subsection (1), the general manager, by gazette notice, may state the waters where the anchoring, berthing, mooring or operating of a ship, or type of ship, endangers marine safety.

Example —

The general manager may publish a gazette notice stating that the operating of a ship within 60 m either side of the boundaries of a flagged swimming area endangers marine safety.

(3) A person must not conduct an activity in waters if doing so in the waters endangers marine safety.

Maximum penalty — 100 penalty units.

Examples of an activity —

water skiing or tobogganing

(4) For subsection (3), the general manager, by gazette notice, may state the waters where the conducting of a stated activity endangers marine safety.

(5) A person who is the owner or master of a ship must not operate the ship within 30 metres of a diver in the water if a code A flag is displayed in the vicinity of the diver.

Maximum penalty — 100 penalty units.

(6) However, subsection (5) does not apply to the ship attending the diver.

222 Water skiing

(1) A skier must wear a PFD type 2 or 3.

Maximum penalty — 100 penalty units.

(2) A skier does not commit an offence against subsection (1) if —

(a) the skier is participating in a skiing event; and

(b) it is impractical or unsafe for the skier to wear a personal flotation device.

(3) A person (an **operator**) must not operate a ship towing a skier unless —

(a) if the skier is required to wear a PFD type 2 or 3 under subsection (1) — the skier is wearing the PFD; and

(b) there is another person (an **observer**) on the ship, who is more than 12 years, and is competent to act under subsection (5), watching the skier at all times.

Maximum penalty — 100 penalty units.

(4) Subsection (3) (a) does not apply if —

- (a) the operator is towing a skier; and
- (b) the skier is participating in a skiing event; and
- (c) it is impractical or unsafe for the skier to wear a personal flotation device.

(5) The observer must immediately tell the operator if —

- (a) there is a danger, or potential for danger, to the skier; or
- (b) the skier signals the observer; or
- (c) the skier has a mishap.

(6) In this section —

skier means a person who is water skiing.

skiing event means any of the following —

- (a) a commercial display;
- (b) a trick or novelty skiing event in a program of events organised by a genuine water sports entity;
- (c) a genuine practice session for a display or event mentioned in paragraph (a) or (b).

Part 9A Marine zones

222A Marine zones

(1) An area listed in schedule 14A, column 1 is a marine zone.

(2) A person who is the owner or master of a ship must not operate the ship in a marine zone in contravention of a requirement listed in schedule 14A, column 2 for the marine zone.

Maximum penalty — 200 penalty units.

222B Proposal for marine zone

(1) A government entity or a local government (a **proposing entity**) may give the general manager a proposal for an area (a **proposed area**) to be a marine zone under section 222A.

(2) The proposal must be in the approved form.

(3) The approved form may require the proposing entity to include any of the following information in the proposal —

- (a) a description of the proposed area, including details of the boundaries of the proposed area and a map or chart showing its locality;
- (b) the requirements to be placed on the operation of a ship in the proposed area;
- (c) why the proposed marine area should be a marine zone;
- (d) who the proposing entity has consulted, the nature of the consultation and the results of the consultation.

222C Consultation for marine zone

(1) Before a proposing entity gives the general manager a proposal under section 222B in relation to a proposed area, the proposing entity must —

(a) consult about the proposal with —

(i) the harbour master for the proposed area; and

(ii) each person carrying on an established business in the proposed area; and

(iii) if the proposing entity is a government entity — the local government for the proposed area; and

(b) publish, at least once in a newspaper circulating generally in the proposed area, a notice stating —

(i) a description of the proposed area, including details of the boundaries of the area and a map or chart showing its locality; and

(ii) the requirements to be placed on the operation of a ship in the proposed area; and

(iii) why the proposed area should be a marine zone; and

(iv) that any person may make written submissions about the proposal; and

(v) the period during which submissions may be made; and

(vi) the requirements for properly making a submission; and

(vii) a contact telephone number for information about the proposal or making a submission.

(2) The consultation period must be for at least 28 days after notice is first published under subsection (1) (b).

226A Interfering with sign

(1) This section applies if a government entity or a local government erects a sign in or near —

(a) waters to which section 221 applies; or

(b) a marine zone listed in schedule 14A.

(2) A person must not interfere with the sign unless the person has a reasonable excuse.

Maximum penalty — 200 penalty units.

Appendix 4 – Marine incident data

Maroochy River system

Date	Ship type	Location	Incident type	Cause	Injuries
20/08/00	Recreational speed boat	Dunethin Rock	Collision with submerged object	Navigation error	No
18/10/00	Recreational speed boat	Eudlo Creek	Collision with submerged object	Operator error	No
27/01/01	Commercial passenger vessels (x 2)	Maroochydore	Collision of ships	Contravention of regulation	No
13/04/01	Recreational motor bar	Maroochydore	Onboard injury	Weather conditions	Yes
20/12/01	Hire and Drive personal watercraft	Chambers Island	Grounding	Operator error	Yes
29/01/02	Recreational speed boat	Bli Bli	Water skiing incident	Operator error	Yes
17/08/02	Hire and Drive motor boat	Bli Bli	Person overboard	Intoxication	No
02/12/02	Recreational personal watercraft	Maroochydore	Collision of ship with person in water	Sea conditions	Yes
18/07/03	Hire and Drive personal watercraft	Chambers Island	Grounding	Operator error	Yes
30/12/03	Hire and Drive personal watercraft	Chambers Island	Person overboard	Operator error	Yes
17/01/04	Hire and Drive personal watercraft	Chambers Island	Grounding	Navigation error	No
23/01/04	Commercial passenger vessel	Maroochy Bar	Onboard fall	Navigation error	Yes
24/01/04	Recreational personal watercraft (x 2)	Cotton Tree	Collision of ships	Contravention of regulation	No
05/02/04	Commercial IRB	Maroochy Bar	Collision with submerged object	Operator error	No
07/02/04	Hire and Drive personal watercraft	Maroochy Bar	Capsize	Navigation error	No
14/02/04	Commercial passenger vessel	Bli Bli	Structural failure	Navigation error	No
09/04/04	Recreational speed boats (x 2)	Maroochydore	Collision of ships	Operator error	No
02/10/04	Recreational personal watercraft / paddle craft	Bli Bli	Close call	Contravention of regulation	No
31/10/04	Hire and Drive personal watercraft	Bli Bli	Grounding	Excessive speed	No
21/11/04	Recreational personal watercraft	Bli Bli	Collision with bridge	Excessive wash	Yes
11/12/04	Commercial passenger vessel	Picnic Point	Grounding	Weather conditions	No
23/04/05	Commercial passenger vessel	Bli Bli	Collision with jetty	Weather conditions	No
22/06/05	Commercial non-passenger vessel	Maroochydore	Person overboard	Excessive speed	No
03/07/05	Commercial passenger vessel	Cod Hole	Collision with object	Excessive speed	No
08/12/05	Recreational kayak	Eudlo Creek	Capsize	Excessive speed	Yes
19/12/05	Recreational speed boat	Eudlo Creek	Water skiing incident	Excessive wash	Yes
30/12/05	Recreational speed boat	Cod Hole	Close call	Excessive wash	No
01/01/06	Recreational sail boat	Maroochy Bar	Grounding	Navigation error	No
02/01/06	Recreational speed boat	Brown's Rocks	Grounding	Operator error	No
13/01/06	Commercial personal watercraft	Maroochy Bar	Capsize	Navigation error	No
10/03/06	Commercial personal watercraft	Chambers Island	Person overboard	Operator error	Yes
18/06/06	Commercial speed boat	Maroochy Bar	Collision of ship with person in water	Excessive speed	Yes
29/06/06	Commercial passenger vessel	Coolum Creek	Grounding	Operator error	No

09/07/06	Recreational speed boat	Maroochy Bar	Capsize	Operator error	No
16/11/06	Recreational personal watercraft	Picnic Point	Grounding	Navigation error	Yes
23/11/06	Recreational kayak	Eudlo Creek	Close call	Excessive speed	No
08/01/07	Recreational personal watercraft	Maroochy Bar	Grounding	Navigation error	Yes
25/02/07	Recreational speed boat	Eudlo Creek	Water skiing incident	Contravention of regulation	Yes
11/06/07	Recreational personal watercraft	Maroochy Bar	Capsize	Navigation error	Yes
08/09/07	Recreational sail boats (x 2)	Maroochydhore	Collision of ships	Insecure mooring	No
18/11/07	Recreational speed boat	Maroochy Bar	Capsize	Operator error	No
17/12/07	Recreational speed boat	Eudlo Creek	Water skiing incident	Operator error	Yes
13/01/08	Recreational motor boat	Maroochy Bar	Capsize	Operator error	No
17/01/08	Recreational personal watercraft	Maroochy Bar	Capsize	Operator error	No
19/04/08	Commercial non-passenger vessel	Picnic Point	Onboard fire	Electrical fault	No
04/05/09	Recreational personal watercraft (x 2)	Eudlo Creek	Collision of ships	Contravention of regulation	No
17/05/08	Recreational motor boat	Maroochy Bar	Capsize	Operator error	No
02/11/08	Recreational speed boat	Maroochy Bar	Capsize	Operator error	No
10/01/09	Recreational personal watercraft (x 2)	Maroochy Bar	Collision of ships	Contravention of regulation	No
04/02/09	Commercial IRB	Maroochy Bar	Capsize	Sea conditions	No
28/02/09	Commercial IRB	Maroochy Bar	Onboard injury	Sea conditions	Yes
06/04/09	Recreational paddle craft (x 2)	Maroochydhore	Collision with sign	Navigation error	No
25/04/09	Recreational speed boat	Cod Hole	Water skiing incident	Navigation error	No
09/05/09	Recreational speed boat	Eudlo Creek	Water skiing incident	Operator error	Yes
12/07/09	Recreational speed boat	Maroochy Bar	Persons overboard	Operator error	No
05/02/10	Recreational speed boat	Bli Bli	Water skiing incident	Operator error	No
03/04/10	Recreational personal watercraft	Maroochydhore	Collision with AtoN	Navigation error	No
02/06/10	Recreational motor boat	Bli Bli	Person overboard	Unknown	Fatal

Appendix 5 – Glossary

If the context of a term does not explain its meaning, then the term has the following meaning:

Aid to navigation means an aid to navigation as defined by section 104 of the *Transport Operations (Marine Safety) Act 1994*. It does not mean a sign or a speed sign.

Commercial ship means a commercial ship as defined by section 10A of the *Transport Operations (Marine Safety) Act 1994*.

Confined waters mean waters of the Maroochy River system with navigable waters less than 60 metres in width.

Fishing ship means a fishing ship as defined by section 10A of the *Transport Operations (Marine Safety) Act 1994*.

Freestyling means operating a personal watercraft in a way that its course or speed is insufficiently predictable to allow the masters of other ships to readily decide what course and speed to take in order to avoid a collision with the personal watercraft.

Freestyling restriction means the restriction imposed by section 127B of the *Transport Operations (Marine Safety) Regulation 2004*. It does not mean a freestyling prohibition or requirement imposed by the *Transport Infrastructure (Sunshine Coast Waterways) Management Plan 2000*.

General Manager means the General Manager of Maritime Safety Queensland.

General safety obligation includes the obligation imposed by section 43 of the *Transport Operations (Marine Safety) Act 1994*, namely that a person involved with a ship's operation (including the owner and master) must operate the ship safely. A contravention of the general safety obligation is a criminal offence that carries severe penalties, including imprisonment.

High-speed ship operations mean ship operations or activities at speeds higher than 20 knots.

Marine incident means an event defined by section 123 of the *Transport Operations (Marine Safety) Act 1994*.

Marine safety legislation includes the *Maritime Safety Queensland Act 2002*, the *Transport Operations (Marine Safety) Act 1994*, the *Transport Operations (Marine Safety) Regulation 2004* and the *International Regulations for Preventing Collisions at Sea 1972* (the Collision Regulations). It does not mean transport legislation dealing with waterways management; for example, the *Transport Infrastructure Act 1994* and the *Transport Infrastructure (Sunshine Coast Waterways) Management Plan 2000* made under that act.

Marine zone means an area of a waterway established as a marine zone under part 9A of the *Transport Operations (Marine Safety) Regulation 2004*.

Navigable waters mean waters of the river system on which a ship could reasonably safely navigate, having consideration to the natural features of the waterway, and the character of the ship and its operations. It does not mean the width of the river from bank to bank.

Operational speed limits and **operational speed limits for personal watercraft** mean the speed limits imposed by sections 127, 127A and 128 of the *Transport Operations (Marine Safety) Regulation 2004*.

Personal watercraft means a powered ship that has a fully enclosed hull that does not take on water if capsized and is designed to be operated by a person standing, crouching or kneeling on it or sitting astride it. These craft are commonly called jet skis.

Recreational ship means a recreational ship as defined by section 10A of the *Transport Operations (Marine Safety) Act 1994*.

Regulatory sign means a speed sign or a water skiing sign.

Rules 6, 8 and 9 of the Collision Regulations mean the relevant rules of the *International Regulations for Preventing Collisions at Sea 1972* relating to safe speed, action to avoid collision and narrow channels.

Ship means any kind of boat or other vessel used, or intended to be used, in navigation by water, or for any other purpose on water, as defined by section 10 of the *Transport Operations (Marine Safety) Act 1994*. A ship includes a boat or vessel whatever its size, and however it is propelled or moved. A ship may also include an aircraft when it is on the water or is taking off from, or landing on, the water.

Sign means a sign other than a regulatory sign. A sign is not an aid to navigation.

Speed sign means an official traffic sign except that the speed indicated by numbers on the sign is the speed in knots. A speed sign is not an aid to navigation.

User density means the number of ships and persons reasonably expected on a particular area or creek of the river system at a given time:

- Nil means 0 ships and persons
- Very low means 1 to 5 ships and persons
- Low means 6 to 10 ships and persons
- Medium means 11 to 20 ships and persons
- High means 21 to 30 ships and persons
- Very high means 31 or more ships and persons.

Water skiing means towing a person by a line attached to a ship, and includes water skiing, wake boarding and towing a person riding on a toboggan or a tube.

Water skiing requirements include the personal flotation device (PFD) and observer requirements set out in section 222 of the *Transport Operations (Marine Safety) Regulation 2004*.

The full text of legislative provisions mentioned above can be found at appendix 3.