

Transport for NSW Regional Boating Plan Hawkesbury River, Pittwater and Brisbane Water Region

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Table of contents

1.	Introduction.....	4
2.	Physical character of the waterways.....	6
2.1	Background.....	6
2.2	Hawkesbury River and Nepean River.....	7
2.3	Pittwater.....	9
2.4	Narrabeen Lagoon.....	10
2.5	Brisbane Water.....	10
3.	Waterway users.....	12
3.1	Analysis of waterway users.....	13
4.	Safety.....	15
4.1	Overview of existing safety activities.....	15
4.2	Complaints.....	17
4.3	Infringements.....	17
4.4	Incidents.....	18
4.5	Key findings.....	20
5.	Access.....	22
5.1	Overview of existing access facilities.....	23
5.2	Key findings.....	27
6.	Storage.....	29
6.1	Existing storage.....	30
6.2	Key findings.....	33
7.	Other issues.....	38
7.1	Commuter transport issues.....	38
7.2	Key findings.....	38
8.	Feedback on Consultation Draft.....	40
8.1	Feedback Summary.....	40
9.	Delivery Program.....	42
9.1	Summary.....	42
9.2	NSW Boating Now Funding.....	42

Table index

Table 1 – List of Better Boating Project Grants for the Region	24
Table 2 – Priority Regional Projects.....	43
Table 3 – Implementation of Boating Safety, Access and Storage Actions	44

Figure index

Figure 1 – Map of regions	5
Figure 2 – Hawkesbury River and Nepean River.....	8
Figure 3 – Pittwater and surrounds	9
Figure 4 – Brisbane Water and surrounds	11
Figure 5 – Infringement analysis	18
Figure 6 – Example access facilities within the region.....	24
Figure 7 – Completed BBP projects examples within the region	27
Figure 8 – Examples of commercial marina berths, yacht clubs, private moorings and fore and aft moorings	30
Figure 9 – Examples of marinas in Brooklyn and Berowra, including hire and drive storage.....	31
Figure 10 – Examples of storage issues and opportunities identified during regional site visits	36
Figure 11 – Examples of commuter vessels in Pittwater	39

Appendices

Appendix A – Maps



1. Introduction

The Hawkesbury River, Pittwater and Brisbane Water Regional Boating Plan has been developed as part of a major NSW Government initiative to boost the experience of recreational boating across the state. The Plan was developed by the Maritime Management Centre (MMC) in Transport for NSW working closely with the NSW Maritime Division of Roads and Maritime Services (Roads and Maritime) and with expert coastal infrastructure advice from consultants GHD.

The Plan identifies the boating safety, access and infrastructure action across the region to be implemented over the next five years. A summary of the projects and initiatives to be delivered as part of the Plan are detailed in the Delivery Program in Chapter 8. A Progress Report on the Delivery Program will be published annually to provide an update on the delivery of key projects and actions.

Funding for infrastructure projects will be allocated out of the *NSW Boating Now* program announced by the Minister for Roads and Freight in August 2014 which will see \$14m per year made available for the delivery of boating infrastructure projects over the next five years.

The Plan is one of eleven Regional Boating Plans that have been developed across the major waterways in NSW as shown in Figure 1.

Each Regional Boating Plan was developed through a two-stage consultation process. The first stage involved workshops with local Councils and key stakeholder groups as well as an online survey open to all waterway users and members of the general public. Feedback received from the first stage was then used to inform the development a Consultation Draft which formed the basis of the second stage of consultation.

Public information sessions were held in Newport, Ettalong and Windsor on 19, 20 and 21 August 2014 to discuss and seek feedback on the key findings and actions identified in the Consultation Draft. Further meetings were also held with Councils to help determine the priority infrastructure projects identified in the final Plan.



Figure 1 – Map of regions



2. Physical character of the waterways

2.1 Background

This region predominately consists of three major waterways: Hawkesbury River, Pittwater and Brisbane Water. Recreational boating is important to all three waterways and largely defines the character of the region.

Recreational users undertake a wide variety of boating activities including water-skiing, sailing and fishing and activities such as swimming and kayaking are also popular. Pittwater and Brisbane Water in particular are heavily used by recreational boaters and have numerous access points.

A unique characteristic of boating in this region is the large number of recreational vessels used for commuting purposes by people living on islands and in other isolated locations. These vessels are referred to as 'commuter vessels' throughout the remainder of this Plan. There are also a number of ferry services operating in the region, catering for both tourists and commuters.

Further details on waterway users are provided in Chapter 3.

The waterways are covered by nine councils:

- Gosford City Council (GCC);
- Hawkesbury City Council (HCC);
- Camden Council (CC);
- Pittwater Council (PC);
- Ku-ring-gai Council (KC);
- Hornsby Shire Council (HSC);
- The Hills Shire Council (tHSC);
- City of Penrith Council (CPC); and
- Warringah Council (WC).

Most councils have plans in place to manage their waterways and associated estuaries. The main objectives of these plans have been to manage and co-ordinate waterfront development, improve public safety and accessibility and to protect the visual character and natural landscape of the waterways.

The sections below outline the physical characteristics of the waterways where boating mainly occurs rather than the entire catchment and tributaries.

2.2 Hawkesbury River and Nepean River

The Hawkesbury-Nepean catchment drains an area of approximately 21,400 km² in size. The waterway itself covers an area of approximately 115 km² in size and has an average depth of 13.8 m. It is the longest coastal catchment in NSW extending from the Southern Tablelands to Broken Bay. This Plan only considers the navigable waterways used for recreational boating, which encompass all nine of the LGA's listed in Section 2.1.

The Hawkesbury River begins near Penrith at the convergence of the Grose and Nepean Rivers and reaches the ocean at Broken Bay. The river is mostly navigable. Upstream, the banks of the river are fairly well developed due to flat topography. The downstream section of the Hawkesbury is largely unspoilt national park and has steep topography.

The Hawkesbury River is tidal dominated, with its influence extending to York Reach near Wilberforce. Due to a deep and wide entrance channel, there is little amplification of the tide. Upstream near the tidal extent there are a number of areas with navigation issues due to siltation build up.

One of the main tributaries of the catchment is the Nepean River which starts close to Robertson and flows north into the Nepean Dam. The Nepean continues north, near Wallacia where it is joined by the dammed Warragamba River. Near Yarramundi, at its confluence with the Grose River, the Nepean becomes the Hawkesbury River. Navigation on the Nepean River is not recommended upstream of Warragamba Park owing to the close proximity of Warragamba Dam.

Other major tributaries include the Colo River, Mangrove Creek, Berowra Creek, Cowan Creek, Mullet Creek and Mooney Mooney Creek.

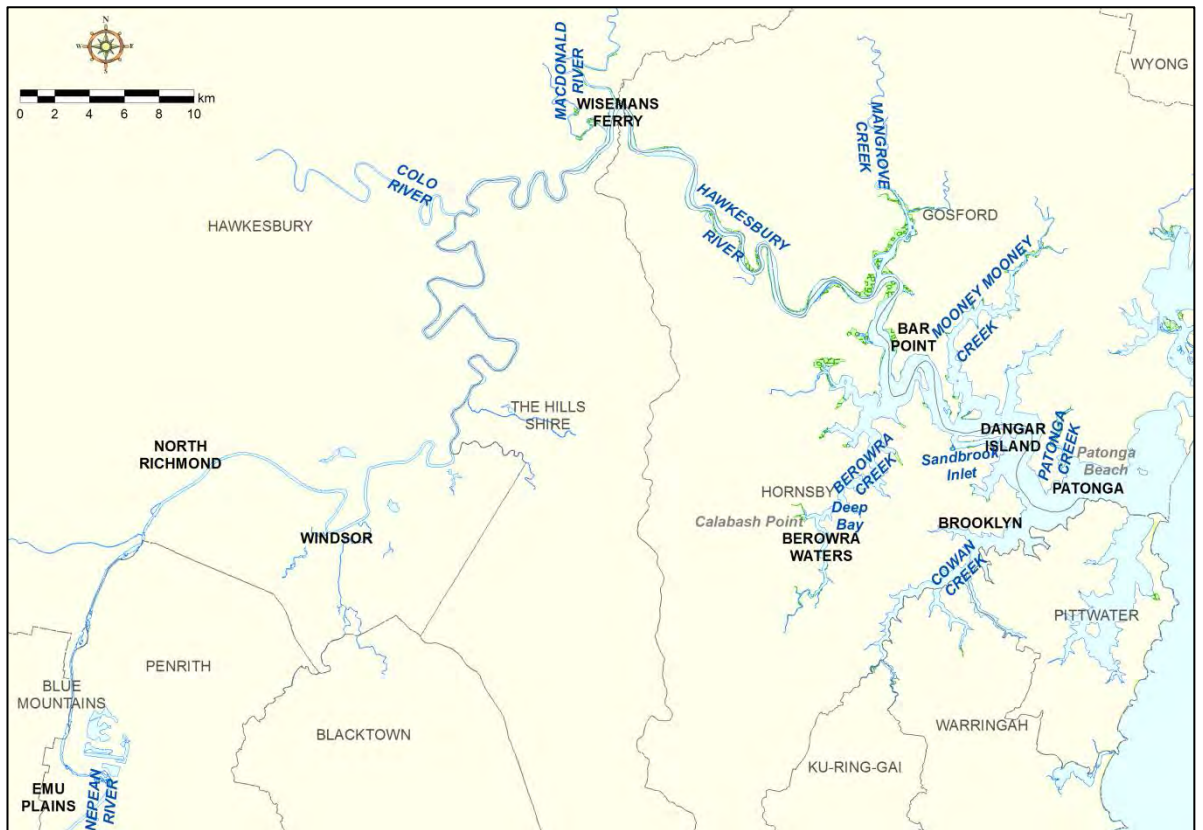


Figure 2 - Hawkesbury River and Nepean River

2.3 Pittwater

Pittwater drains a catchment area of approximately 51 km² in size. The waterway itself covers an area of approximately 18 km² in size and has an average depth of 9.9 m, although this reaches 22 m at its maximum. It is a sheltered waterway immediately north of Sydney which flows into Broken Bay from the south. Pittwater falls within the Pittwater LGA and is bounded by Mona Vale and Warriewood in the south, Palm Beach in the east and West Head in the west. The adjoining land is heavily developed in the east and primarily National Park (Ku-ring-gai Chase) in the west. Pittwater is a tidal waterway due to its proximity to the ocean resulting in generally good levels of water quality.



Figure 3 – Pittwater and surrounds

2.4 Narrabeen Lagoon

Narrabeen Lagoon drains a catchment area of approximately 52 km² in size. The waterway itself covers an area of approximately 2 km² and has an average depth of 2.3 m. It is relatively shallow across most parts of the lagoon. The waterway has an entrance to the ocean at the northern end of Narrabeen Beach that is intermittently closed and open. It also has five main creek tributaries that are largely located within the Warringah Council. Three-quarters of the catchment is located in Warringah LGA with the remaining quarter being located within the Pittwater LGA. The lagoon's catchment is composed of 67% native vegetation, largely on the western shore, with the remainder residential and a small percentage of commercial/industrial.

2.5 Brisbane Water

Brisbane Water drains a catchment area of approximately 153 km² in size. The waterway itself covers an area of approximately 28 km² in size and has an average depth of 3.1 m. It lies north of Sydney within Gosford City Council LGA. Brisbane Water is a relatively sheltered waterway during storm events. However navigation can be an issue in some locations such as The Rip and Ettalong due to ocean swell, tidal currents, eddy formation and mobile sand shoals.

Three creeks run into the main body of water. These are:

- Narara Creek - This creek is well developed upstream and consequently is a major source of sediment and pollutants to the waterway, mainly due to surface run-off;
- Erina Creek - This creek is only developed in its lower reaches; and
- Kincumber Creek – This creek is relatively small.

Brisbane Water is tidal and, because tides attenuate upstream due to sand bar formations, flushing times are quite long where these creeks deposit. Thus, the water quality can be significantly lower upstream than it is in the lower reaches. There are also a number of small coastal lagoons such as Terrigal Lagoon and Avoca Lagoon that are found within the Gosford LGA.



Figure 4 - Brisbane Water and surrounds



3. Waterway users

Recreational boating is a popular pastime in the Hawkesbury River, Pittwater and Brisbane Water regional waterways. These waterways are popular for recreational fishing, sailing, water skiers, wake vessels, rowers, kayakers, yacht racing and other regattas. The waterways also host numerous sporting events (sailing, rowing, and water skiing) throughout the year, including the “Bridge 2 Bridge” power boat and water skiing events on the Hawkesbury River. As mentioned earlier, this region has a number of ferry services that transport commuters to various neighbouring suburbs and regions.

Hawkesbury River catchment

The Hawkesbury River is an extremely popular and diverse waterway in terms of its usage. Due to its proximity to Sydney and the Central Coast, a considerable proportion of waterway users are visitors. In the lower reaches of the river, recreational activities include power boating, recreational fishing, water skiing and wakeboarding, PWC usage, house boating, sailing, kayaking, canoeing and swimming. Due to the popularity of the waterway, a number of conflicts arise including:

- Congestion around boat ramps, including lack of car/trailer parking and cars parking in trailer spots. This has been exacerbated by both the increase in the number and size of boats competing for the same facilities;
- Noise, inconsiderate behaviour and not observing regulations; and
- Conflicts between commuter vessels, large vessels or wakeboard boats and smaller, non-powered craft, mainly as a result of generated wake.

The upper reaches of the Hawkesbury are dominated by water skiing and wakeboarding, particularly in the vicinity of Wisemans Ferry. This section of the river and its tributaries, such as the Colo River, are also popular for canoeing and other forms of non-powered craft activities.

The Nepean River is especially popular for rowing; the Sydney International Regatta Centre is based in Penrith. Power boaters also utilise the river and primarily launch out of Tench Reserve. An additional facility is provided for wake boarders in the form of a cable wake park in Penrith.

Pittwater

Pittwater is one of the busiest waterways in the State and is intensively used for recreational purposes due to its proximity to Sydney. Recreational activities include swimming, sailing, kayaking, fishing, sailboarding, kite-surfing, water skiing, sailing, dragon boating and shore fishing. This waterway accommodates a relatively high number of large vessels. These vessels

are stored on private moorings or in marinas. The popularity of the waterway creates competition for limited space and infrastructure, often leading to conflict. Space is further limited by the high number of swing moorings in the waterway. To manage this popularity and minimise on-water conflict, a number of 4 and 8 knot speed restrictions along with no wash zones are enforced in Pittwater.

The inappropriate use of PWCs was highlighted as a particular concern, with PWC use becoming increasingly popular as a result of the ban of their usage on Sydney Harbour. Commercial activity is also high on Pittwater, including the commuter ferries that connect Scotland Island and the western foreshore to the mainland, and the ferry services that connects Palm Beach to The Basin and to Ettalong Beach on the Central Coast.

Narrabeen Lagoon

Narrabeen Lagoon is a popular waterway with recreational uses including kayaking/canoeing, rowing, small motorised vessels, small sailing dinghies, swimming, kite-surfing and both shore fishing and fishing from small dinghies. The lagoon is subject of an eight knot speed limit, is shallow and has restricted access under the two bridges over the main waterway at Pittwater Road and Ocean Street. These limitations minimise the use of the lagoon by larger sailing and motorised vessels and generally restricts the use of small sailing dinghies, kite boarders and sail-boarders to the south-western side of the lagoon.

Brisbane Water

Brisbane Water is a popular waterway with recreational users including power boating, fishing, water skiing, sailing, paddling, kayaking and rowing. There is a relationship between vessel size and location of use. Typically there are large vessels predominantly found downstream of the Rip Bridge and smaller vessels found upstream. Water skiing is generally permitted throughout the centre of the waterway, although it is prohibited in Correa Bay and speed restrictions apply in some other areas. PWC use is becoming increasingly popular in the waterway. Fishing is popular in a number of areas such as between Paddy's Channel, The Rip Bridge, Lintern Channel and Fagan's Bay. Sailing is popular due to the three sailing clubs. The use of sail craft is predominantly located in The Broad Water, north of Saratoga.

In the summer months, the use of Brisbane Water increases for all recreational activities, which is when on-water conflicts between user groups are highest. Commercial fishing is banned in Brisbane Water but permitted in Broken Bay and offshore. Owing to the small and shallow nature of the Gosford coastal lagoons, power boating does not take place here. These lagoons are extremely valued and popular with non-powered users for activities such as swimming, kayaking and paddle boarding.

3.1 Analysis of waterway users

3.1.1 Licence data analysis

As of the 2011 census, there were 1,037,172 people living across the LGA's in the Hawkesbury River, Pittwater and Brisbane Water region. The region generally experienced a population growth of 4.7% between 2006 and 2011, which was below the national average of 8.32% and the NSW average of 5.63%. It should be noted that two LGA's experienced growth in excess of the State average namely Ku-ring-gai Council and The Hills Shire Council.

There are approximately 103,000 boat licence holders in the Hawkesbury River, Pittwater and Brisbane Water region. This represents approximately 19% of all boating licences in NSW, the greatest contribution of any of the Regional Boating Plan regions. The region also has the highest proportion (approximately 25%) of vessels over 6 metres in the State.

The majority of licence holders in the region carry a General Boat Licence with approximately 12% licensed to operate Personal Watercrafts (PWCs). This breakdown of licence types is typical across the State.

3.1.2 Registration data analysis

There are approximately 41,000 registered recreational vessels in the Hawkesbury River, Pittwater and Brisbane Water region. This represents approximately 17% of all registered recreational vessels in NSW. The most common vessel hull types in this region are open runabouts followed by cabin runabouts and sail vessels. Whilst overall there are more power vessels registered in this area, there are nevertheless significant numbers of sail craft.

The majority (77%) of the registered vessels in this region are below 6 m and the average vessel length is 5.4 m. Vessels less than 6 m in length are defined as trailerable. This has a strong influence on the boating access and storage requirements in the region with a strong demand on boat ramps and trailer parking.

3.1.3 Other users

Whilst the data analysed above provides information on licence holders and vessels registered in the Hawkesbury River, Pittwater and Brisbane Water region, it does not capture vessels from other regions utilising these waterways. External users include boaters from nearby regions including the Central Coast and Sydney, which can add significantly to the local demand at certain times of the year.

Roads and Maritime's licence and registration data does not capture non-powered craft numbers such as kayaks, canoes, beach-launch sail craft which do not require registration. Based on the estimated total number of these vessel types in NSW, it is suggested that there may be many thousands of unregistered non-powered craft in the Hawkesbury River, Pittwater and Brisbane Water region.

The Region's waterways also incorporate a number of commuter and tourist ferry services, including the following services operating under service contracts with TfNSW:

- Palm Beach to Ettalong
- Palm Beach to The Basin
- Woy Woy to Gosford
- Brooklyn to Dangar Island
- Church Point to Scotland Island

3.1.4 Future demand

In 2010, the then NSW Maritime released a report titled *NSW Boat Ownership and Storage Growth Forecasts to 2026*. The report forecast a continuing growth trend in vessel ownership of 2.9% annually across NSW.

The Report used a different regional profile to that being used for the Regional Boating Plan; however it identified the Hawkesbury/ Broken Bay region (which incorporates Pittwater) as one of the largest areas in the State in terms of boat ownership. The continuing population growth in the region together with high boat ownership of the current population supports the forecasted trend in vessel ownership.



4. Safety

Key findings

- Stakeholder feedback suggests high levels of satisfaction with current boating safety in the Hawkesbury, Pittwater and Brisbane Water Region
- The Nepean River has a high level of use by a range of different user groups with high use seen from passive craft, particularly rowers, PWC users and towing vessels.
- Beach areas, particularly within Pittwater, Broken Bay and Brisbane Water are popular for swimming and other non-powered activities where conflicting use often occurs.
- Stakeholder consultation suggests that the large contingent of vessels over 6 m regularly create excessive wash without consideration for other waterway users, especially on Cowan Creek, Broken Bay and Pittwater.
- Improved signage and navigation aids would help enhance the overall boating experience, especially in the narrow channels and entrances to Brisbane Water where shifting sand banks and siltation are an ongoing issue.

Actions

- a. Review strategies to improve user behaviour across the region**
- b. Review the placement and planning of navigation aids and signage to improve navigation**

4.1 Overview of existing safety activities

The MMC has led a campaign with Roads and Maritime to promote the wearing of lifejackets, especially in small vessels. The campaign is a response to the fact that 9 out of 10 people who drown when boating, are not wearing a lifejacket.

The campaign has been the most comprehensive, targeted program on boating safety in NSW history. It included an extensive and targeted advertising campaign, an innovative mobile lifejacket promotional van which took the safety message to the boating public State-wide (including visits to the Hawkesbury River, Pittwater and Brisbane Water region), a zero tolerance on-water compliance approach and a host of supporting activities.

Roads and Maritime is responsible for the operational delivery of marine safety in NSW, including the operational aspects of the regulation of recreational and commercial boating activity throughout the State. The enforcement role is chiefly performed by BSOs who conduct regular on-water patrols and inspections throughout the Hawkesbury River, Pittwater and Brisbane Water waterways to provide boating safety education and ensure compliance with safety requirements (such as lifejackets), speed, wash, distance off, aquatic licences, commercial operations and mooring requirements.

Roads and Maritime also operate a Mobile Safety Education and Compliance Team which is a team of specialist BSOs who can be deployed throughout NSW.

The BSOs work in close partnership with the local NSW Police Force (both general duties police and the local Marine Area Command), often conducting joint patrols, although police officers are solely responsible for conducting random breath testing on NSW navigable waters.

BSOs also work in partnership with officers of the Department of Primary Industries (Fisheries) and National Parks' rangers in relation to matters of common interest.

In addition to State-wide regulatory requirements and boating safety campaigns, specific boating safety restrictions that apply in the Hawkesbury River, Pittwater and Brisbane Water are shown on the map included in Appendix A and online at

<http://www.rms.nsw.gov.au/maritime/using-waterways/maps/boating-maps.html> . These are summarised as follows:

- Speed restrictions such as:
 - 4 knot zones, specifically at:
 - Woy Woy Channel;
 - Coasters Retreat;
 - Milsons Passage;
 - Between Newport and Bayview;
 - Wisemans Ferry;
 - The Gut, Brooklyn;
 - The Narrows, Nepean River;
 - Colo River;
 - Sackville Ferry crossing
 - Creeks such as Kincumber Creek, Erina Creek, Narara Creek, Cowan Creek, Coal and Candle Creek, McCarrs Creek, Berowra Creek, Cattai Creek; and
 - St Huberts Island.
 - 8 knot zones at Ettalong Beach, Killcare, Paddys Channel, Narrabeen Lagoon, Smiths Creek, Careel Bay, Bayview, Clareville, Mangrove Creek, Webbs Creek, Nepean River, Macdonald River, Windsor and North Richmond.
- “no wash” zones;
- personal watercraft prohibited areas;
- all or power boats prohibited areas;
- no anchoring submarine cables;
- shallow waters;

- bar crossings;
- known seaplane operating area;
- no towing zones; and
- no wakeboarding or wakeboard boats.

Further controls exist in the International Regulations for Preventing Collisions at Sea which are observed in NSW and include, but are not limited to, the following:

- The skipper (master of the vessel) is responsible for the safety of the vessel and all people on board;
- The skipper must always:
 - keep to a safe speed for the conditions (eg., slower speeds at times of reduced visibility, rough water, congested waterway);
 - keep a proper lookout;
 - be prepared to take action to avoid a collision; and
 - display appropriate navigation lights at night.

In addition, there are also a number of general “distance off” restrictions which apply on all NSW waters – for example, vessels travelling at 10 knots or more must remain at least 60 m from people in the water and 30 m from structures, shorelines and other powered vessels. Where it is not possible to maintain the specified distances, a “safe distance” should be maintained. This is the distance which will ensure that a vessel will not endanger or injure people or damage property, having regard to relevant factors such as prevailing weather conditions, visibility, speed and any obstructions.

4.2 Complaints

Analysis of the complaints received by Roads and Maritime during the five years leading up to 1 January 2014 reveals that the majority of complaints received relate to:

- On-water behaviour including irregular riding of personal watercraft, wash and vessels not observing correct distances off (25%);
- deficient moorings or vessels that are drifting (14%); and
- speeding (13%).

The most significant number of complaints received by the Roads and Maritime for the region related to the broad Brisbane Water area (25%). Localised areas that received a number of complaints included Pittwater, Berowra Creek, Woy Woy and the Nepean River (totalling to 32%).

4.3 Infringements

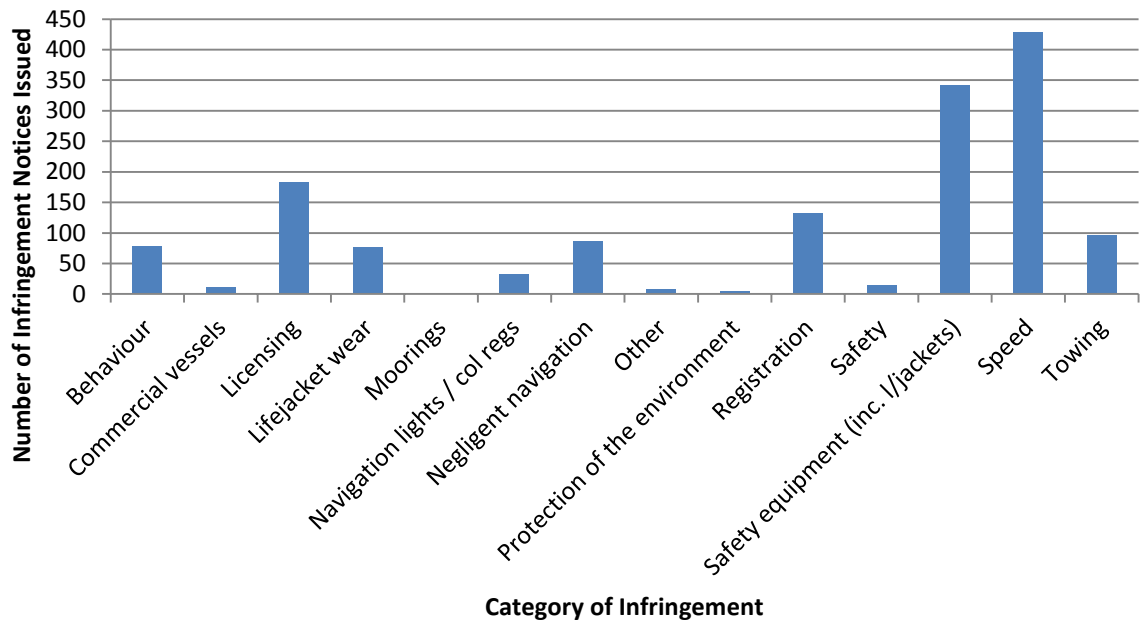
Between 2009 and 2013, the number of penalty notices issued within the Hawkesbury River, Pittwater and Brisbane Water region accounted for 12% of all infringement notices issued throughout NSW. Of the penalties issued over that period, approximately 79% were issued by Roads and Maritime, whilst the remainder were issued by NSW Police. In addition to these penalties, 2,882 formal warnings were issued. The highly trafficked waters of the Hawkesbury River accounted for more than a third of the region’s infringements.

As indicated in Figure 5 below, the infringements for which the most penalty notices were issued in the region were for:

- excessive speed (29%);

- failure to carry the correct safety equipment (28%); and
- failure to carry the required licence (10%).

Figure 5 – Infringement analysis



4.4 Incidents

In the period between 1 January 2009 and 31 December 2013, there were 259 vessel incidents reported to Roads and Maritime in the region. Eighty-nine incidents occurred in Pittwater, 75 occurred on the Hawkesbury River, 44 incidents occurred in Brisbane Water and 28 incidents occurred offshore. The remaining 23 incidents took place in a range of locations including Berowra Creek, Cowan Creek, the Nepean River, Narrabeen Lagoon and Terrigal Lagoon. One hundred and ninety-nine of the incidents involved recreational vessels, 28 involved an interaction between a recreational and commercial vessel and 32 involved commercial vessels only. This breakdown of incidents among vessel categories is broadly consistent with State-wide observations.

4.4.1 Incidents resulting in death or injury

Ten fatal incidents have occurred in the region during this period, which resulted in 11 fatalities. All but one of these incidents took place during daylight hours and half occurred on a Sunday. Vessel types that were involved in multiple incidents include open runabouts, cabin runabouts and canoes. The incident type was capsizing, fall overboard or a result of towing. Based on the data available, all but one of the deceased was not wearing an appropriate lifejacket and drowned. These victims may have survived had they been wearing a lifejacket at the time of the incident.

There were also 43 incidents which resulted in serious injury to the victim. A serious injury is classified as one requiring hospitalisation or outpatient treatment. These incidents resulted in 50 injuries, almost half of which took place on an open runabout. There was no particular trend or pattern when analysing the cause of incident, however, the most common incident type was injury on board followed by propeller incident. An additional 32 incidents resulted in minor injury to 39 persons; half of these were the result of collisions between vessels or capsizing.

4.4.2 Types of vessels

The main types of vessels involved in incidents, where known, were small powered craft (open runabouts 30%, cabin runabouts 14%), sailing vessels (21%), and larger motor cruisers (14%). PWC (5%), houseboats (3%) and canoes (1%) were not highly represented.

4.4.3 Incident locations

While incidents occurred throughout the region there are a number of areas where there were significant concentrations of incidents. These areas are:

- 20 incidents in Pittwater East from the Broken Bay entrance to Barrenjoey Head to Box Head;
- 19 incidents in Pittwater south of Church Point and Salt Pan Cove;
- 11 incidents on the Hawkesbury River between Sackville Reach and Kent Reach; and
- 11 incidents on the Hawkesbury River at Wisemans Ferry.

4.4.4 Incident cause

Behavioural and environmental factors were identified as the primary cause of the majority of incidents. Forty eight were caused by a lack of judgement, another 30 were the result of a lack of proper lookout and 30 incidents were the result of adverse weather conditions. Material factors were attributable to 21 incidents involving failure of a variety of equipment, machinery, electronics or hull; consistent with the State-wide average.

4.4.5 Incident type

Composition of incident types in the Hawkesbury River, Pittwater and Brisbane Water region was broadly consistent with State-wide averages. Over a third (92 incidents) involved collisions between vessels, which is slightly higher the State-wide average.

The next most common types of vessel incident observed in the region were vessel capsized (31 incidents), grounding (17) and collision with a fixed object (14).

4.4.6 Incident operation

Vessel operation at the time of an incident provides some insight into the nature of incidents occurring. While 143 were the result of vessels underway, 37 vessels were moored and 29 were at anchor or berth, which is a high proportion when compared to the rest of the State. Thirty three of the 92 incident collisions noted at Section 4.4.5 involved collisions with vessels that were moored, berthed or at anchor – mostly by vessels breaking their berths or moorings and colliding with other moored vessels. This finding also correlates with the high number of complaints summarised in Section 4.2 regarding moorings. Fourteen tow sport incident were reported during the period, which is a slightly greater proportion than the State-wide average for waterways where towing occurs.

4.4.7 Time of day, month and year

Where the time of the incident is known, 211 occurred during daylight; 66 in the morning and 145 in the afternoon. Forty eight incidents occurred at night, with the majority of these (33) occurring before midnight. January was by far the most common month for incidents to occur. As expected, November, December and March also had a high proportion of incidents, corresponding to the most intense periods of boating activity. Similarly, weekends were the most likely days for incidents to occur.

4.4.8 Wind and weather

During consultations, anecdotal evidence was provided suggesting that due to limited fetch lengths, the waterways of this region are relatively sheltered from changing weather conditions. However ocean swell, tidal currents, eddy formation and mobile sand shoals can cause problems for boaters, particularly in small vessels. Of the incidents where the weather conditions are known, approximately 78% occurred on days with clear visibility and fine weather. However weather conditions do not always reflect water conditions and approximately 41% of the incidents where water conditions are known were described as choppy, rough, very rough or in strong current.

4.4.9 Bar crossings

There is one bar crossing in the region which is at the entrance to Brisbane Water between Little Box Head and Ettalong. In the past five years there have been no reported bar crossing incidents. This is partially due to the specific wave angle or wind direction required to cause navigation difficulties, however it is also reflective of State-wide statistics which demonstrate improved safety awareness and compliance around crossing bars, particularly in relation to compulsory lifejacket wear.

4.5 Key findings

Boaters in the Hawkesbury River, Pittwater and Brisbane Water region generally have a high level of satisfaction with current boating safety. However, analysis of complaints, infringements and incidents data suggests that, as busy waterways with multiple types of users, Roads and Maritime must continue to actively manage safety on the waterways through its compliance activities and education campaigns.

It is also clear that there are areas of dissatisfaction where improvements to the boating experience can be made. Improving the general behaviour of waterway users is a common theme across the different stakeholder groups. Concerns were particularly raised about some larger vessels creating excessive wash with lack of consideration for other waterway users, and about PWC users not complying with speed and distance off regulations.

This region services a large variety of waterway users from large motor cruisers and sailing vessels to kayaks, stand up paddle boards (SUPs) and swimmers. It was identified, through analysis and stakeholder consultation, that whilst many operators of motorised craft do not observe appropriate distance off to non-powered waterway users, users of non-powered vessels on the Region's waterways often lack knowledge in regards to on-water regulations and protocols. As a result, on occasions non-powered craft travel in the centre of busy navigation channels instead of on the less congested fringes of these channels.

The Hawkesbury River is very long waterway; however it only has limited formal access facilities at Brooklyn, Wisemans Ferry and Windsor. Between Wisemans Ferry and Windsor there are a large number of private access facilities with considerable levels of towing activity occurring in this area during peak seasons resulting in on-water conflict. The Nepean River has only a limited area where facilities can be developed to provide access to the river, between Weir Reserve, north of Victoria Bridge, to the start of the gorges at Regentville. As a result, waterway usage on both rivers is congested causing conflict between different user groups. On the Nepean River there are some regulations in place to manage this demand, however, on both waterways, improvements such as strategic placement of access facilities could minimise on-water conflict.

In addition, it was noted that the popularity of sporting groups such as Dragon Boating has increased by a considerable portion since 2000. Stakeholder workshops with sporting bodies such as Rowing NSW, Dragon Boating NSW and Sailing NSW, have indicated a willingness to

work together to investigate the feasibility of a shared facility. Further investigating this strategy may ease the on-water conflict in the region particularly in the Nepean River.

Conflict between different waterway user groups is also seen at beach areas, particularly within areas such as Pittwater, Broken Bay and Brisbane Water. These areas are extensively used for swimming and other non-powered activities. However, the beaches are also popular due to their protected nature, the proximity to moorings and the presence of some informal boat ramp facilities and as such, conflicts between the different users occur.

Whilst, generally, navigation aids and signage in the region were considered to be satisfactory, the boating experience could be enhanced through their improvement. This would particularly enhance boating in the narrow channels and entrances to Brisbane Water where shifting sand banks and siltation are an ongoing issue. Signage regarding wash and speed restrictions are also sometimes unclear due to the extensive distances from navigation channels to land.



5. Access

Key findings

- There are a relatively large number of waterway access points in the Hawkesbury River, Pittwater and Brisbane Water region. Despite this, there is a significant strain on capacity even amongst relatively new and well-managed facilities.
- Capacity of car and trailer parking does not meet demand at most access points. Car parking also restricts access to moorings, especially in Pittwater.
- More can be done to improve the condition of much of the region's boating infrastructure, especially at the large number of wharves and jetties.
- There are a large number of residents in the region with waterway access only. These waterway commuters are heavily reliant on congested access infrastructure. This can impact upon the availability of infrastructure for recreational boaters.
- The Hawkesbury River covers a great distance and would benefit from the provision of strategically located access infrastructure to meet demand, spread waterway usage and cater for emergency response.
- There is a need to support the upgrade of rowing facilities with a view to sharing access with other passive boating uses including paddle craft.
- The Nepean River has relatively limited waterway access for the large growing population and the range of different waterway user groups it services.

Actions

- c. Work with councils and other partners to improve the condition of key access facilities across the region to meet current and future demand**
- d. Work with councils and other partners to increase capacity and capability at existing access facilities with a particular focus on boat ramps**
- e. Work with councils and other partners to increase car parking for recreational boating access to moorings and jetties, especially in Pittwater, and increase car and trailer parking at boat ramps region-wide**
- f. Continue support for the Rescuing Our Waterways dredging program**
- g. Identify strategic locations for access development across the region specifically in Pittwater and the Upper Hawkesbury**

5.1 Overview of existing access facilities

Vessel access to the waterways of the Hawkesbury River, Pittwater, Brisbane Water region is available through several avenues including boat ramps, private and commercial moorings, marina berths, and club or private landing facilities. Trailerable vessels can be launched and retrieved at public boat ramps, some of which have public facilities available such as trailer parking, fish cleaning tables and toilets. Public wharves and jetties are also located on the region's waterways and provide alternate access to vessels that are on the water. Formal and informal dinghy storage facilities exist and are used to access moored vessels. Some waterfront landowners also gain direct access to the waterway through private landing facilities. There is also informal access for smaller vessels (such as canoes and kayaks) from a number of public reserves and beaches.

Some of the ramps visited are in below average condition and lack amenities and associated facilities.

Boat ramps

There are approximately 45 formalised boat ramps.

- Location:
 - 21 in Brisbane Water;
 - 16 in the Hawkesbury River including all tributaries;
 - three in Pittwater;
 - three in Narrabeen Lagoon;
 - two in coastal areas.
- Material:
 - 28 are concrete or bitumen ramps;
 - three are composed of gravel or sand; and
 - the remaining 14 are unknown.
- Ownership:
 - 37 of the boat ramps are owned and maintained by councils

Public jetties, wharves and pontoons

Further analysis of the region's infrastructure found that there are 117 public access points including wharves, jetties, pontoons and landings.

- Location:
 - 46 in Brisbane Water;
 - 40 in the Hawkesbury River including all tributaries;
 - 29 in Pittwater; and
 - two in Broken Bay.

Courtesy moorings

Current courtesy moorings include:

- Two in the Broad Water;
- One at Davistown in Cockle Channel;
- Two in Hardys Bay;
- One at Ettalong Beach;

- Four in Refuge Bay;
- Two in America Bay;
- Four in Deep Bay, Berowra Creek;
- One in Half Moon Bay, Berowra Creek;
- Two in Joe Crafts Bay, Berowra Creek;
- One at Wisemans Ferry;
- One at Bathurst Reach; and
- Two at Windsor.

A number of access facilities also exist at private clubs and commercial marinas including boat ramps, jetties, wharves and pontoons, trailer parking and visitor berths and moorings.

Figure 6 – Example access facilities within the region



Careel Bay Wharf Pontoon, Pittwater



Church Point Boat Tie-up, Pittwater



Rowland Reserve wharf



Kangaroo Point Pontoon

5.1.1 Better Boating Program grants

Through the Better Boating Program and additional special grants funding Roads and Maritime has provided 73 grants totalling over \$5.7 million for 69 projects in the Hawkesbury River, Pittwater, Brisbane Water region between 2005 and 2014. A selection of these can be seen in Figure 7 with all projects listed in Table 1 below. It is important to note that the total cost of the projects is not depicted in this table. For total cost of the projects refer to <http://www.rms.nsw.gov.au/projects/key-build-program/better-boating-program/index.html> .

Table 1 – List of grants provided to Hawkesbury River, Pittwater, Brisbane Water region through the BBP Projects

Recipient	Project	Final Grant
Brisbane Water Marine Watch	Signage – 50 sites around Brisbane Water for Marine Watch	\$5,980
Camden Council	Recreational Boating Feasibility Study, Camden	\$20,000*
Cameron Brae P/L	Berowra Waters Marina Sewage Pump Out Facility	\$36,940

Recipient	Project	Final Grant
D albora Marinas	Akuna Bay Marina Pump Out Upgrade - Hawkesbury River	\$18,340
Gosford City Council	Bar Point Wharf Upgrade	\$113,000
Gosford City Council	Brisbane Water Dinghy Storage	\$39,727
Gosford City Council	Brisbane Water Public Wharves and Boat Ramps Usage Study	\$16,859
Gosford City Council	Couche Park Wharf Reconstruction, Brisbane Waters (Additional Funding)	\$55,294
Gosford City Council	Deerrubbin Reserve Boat Ramp and Pontoon, Hawkesbury River (Additional Funding)	\$45,225
Gosford City Council	Deerubbin Reserve Boat Ramp Carpark Upgrade, Mooney Mooney	\$100,000
Gosford City Council	Deerubbin Reserve Boat Ramp Carpark Upgrade, Mooney Mooney (Additional Funding)	\$150,000
Gosford City Council	Dinghy Storage at Captain Cook Memorial Reserve (Green Point), Brisbane Water	\$13,527
Gosford City Council	Gosford Boat Ramp and Wharf Upgrade at Masons Parade, Gosford (Brisbane Water)	\$165,368
Gosford City Council	Ettalng Beach New Public Ferry Wharf (Investigation)	\$29,370*
Gosford City Council	Jirramba Wharf Upgrade, Saratoga	\$115,000
Gosford City Council	Koolewong Dinghy Storage, Brisbane Water	\$9,947
Gosford City Council	Koolewong Reserve Boat Ramps - Wharf Upgrades (Design)	\$17,475
Gosford City Council	Lintern Street – Ramp Upgrade	\$80,000
Gosford City Council	Lions Park Boat Ramp Pontoon, Woy Woy (Brisbane Water)	\$87,104
Gosford City Council	Pretty Beach Boat Ramp Upgrade, Brisbane Waters (Additional Funding)	\$100,000
Gosford City Council	Pretty Beach Boat Ramp Upgrade, Brisbane Waters (Additional Funds)	\$25,000
Gosford City Council	Terrigal Haven Water Access Infrastructure Upgrade - Stage 1	\$30,000*
Gosford City Council	Woy Woy Town Centre Wharf - User Study Design	\$22,490
Gosford Sailing Club	Public Sewage Pump out	\$45,000
Hawkesbury City Council	Governor Phillip Reserve Boat Ramp Jetty, Windsor	\$178,000*
Hawkesbury City Council	Hanna Park Jetty Refurbishment, North Richmond	\$22,500*
Hawkesbury City Council	Holmes Drive Reserve Boat Ramp Upgrade, Cumberland Reach	\$50,000*
Hawkesbury City Council	Windsor Public Wharf Replacement	\$200,000
Hawkesbury City Council	Windsor Public Wharf Replacement (Additional Funding)	\$163,000
Hornsby Shire Council	Bar Island Jetty Reconstruction, Berowra Creek	\$30,000
Hornsby Shire Council	Bar Island Jetty Reconstruction, Berowra Creek (Additional Funding)	\$37,596
Hornsby Shire Council	Berowra Waters Boat Ramp Pontoon Extension	\$15,000
Hornsby Shire Council	Berowra Waters Western Pontoon Replacement	\$28,028
Hornsby Shire Council	Dangar Island Pontoon Berthing Facility Stage 2 (Construction)	\$145,000*
Hornsby Shire Council	Dangar Island Pontoon and Berthing Facility Stage 1 (Investigation Design)	\$51,661*
Hornsby Shire Council	Kangaroo Point, Pontoon and Ramp - Hawkesbury River	\$139,307
Hornsby Shire Council	McKell Park Pontoon Replacement, Brooklyn (Hawkesbury River)	\$41,091

Recipient	Project	Final Grant
Hornsby Shire Council	Parsley Bay Boat Ramp and Pontoon Upgrade, Brooklyn	\$150,000*
Hornsby Shire Council	Replacement of Western Pontoon at Parsley Bay, Brooklyn	\$40,664
Hornsby Shire Council	Wisemans Ferry Public Wharf Embankment Repair	\$16,063
Kuring-Gai Motor Yacht Club	Pump out Facility and Tanker Bay, Cottage Point	\$10,000
NPWS	Apple Tree Bay Pontoon Replacement	\$46,500
NPWS	Bobbin Head, Cowan Creek pontoon	\$65,000
Penrith City Council	Nepean River Boating Access Improvements - Tench Reserve, Penrith	\$82,000*
Pittwater Council	Bothams Beach Reserve Dinghy Storage (Stages 1 - 2), Church Point	\$16,023
Pittwater Council	Bothams Beach Reserve Dinghy Storage, Church Point (Stage 3)	\$38,091
Pittwater Council	Careel Bay Foreshore - Master Plan Boat Tie Up (Stage 1)	\$8,258
Pittwater Council	Careel Bay Foreshore Upgrade (Stage 1)	\$143,448*
Pittwater Council	Careel Bay Wharf - New Pontoon (Pittwater)	\$21,280
Pittwater Council	Careel Bay Wharf Sewage Pump out Facility, Careel Bay (Pittwater)	\$100,000
Pittwater Council	Church Point Boat Tie-up Facility, Church Point (Pittwater)	\$100,000
Pittwater Council	Church Point Reserve Watercraft Storage, Church Point	\$13,500
Pittwater Council	Clareville Beach Reserve Kayak/Canoe Storage, Clareville	\$5,000
Pittwater Council	Currawong Reserve Dinghy Storage Facility, Palm Beach (Pittwater)	\$6,000
Pittwater Council	Dark Gully Park Dinghy Storage Facility, Palm Beach (Pittwater)	\$6,000
Pittwater Council	Dinghy Storage at Old Wharf Reserve, Clareville	\$22,210
Pittwater Council	Dinghy Storage at Sandy Beach Reserve - Pittwater	\$3,584
Pittwater Council	Kayak Storage at Paradise Beach, Pittwater	\$2,521
Pittwater Council	Palm Beach Ferry Wharf Upgrade, Pittwater	\$1,470,630*
Pittwater Council	Pontoon and Gangway Installation with Disabled Access at Tennis Wharf, Scotland Island	\$84,541
Pittwater Council	Rowland Reserve - Seawall Upgrade	\$55,486
Pittwater Council	Rowland Reserve Wharf Upgrade (for Sailability)	\$79,500
Pittwater Council	Salt Pan Cove Access, Newport	\$27,754
Pittwater Council	Sand Point Boat Ramp Study - Woorak Road, Palm Beach	\$10,774
Pittwater Council	Sand Point Boat Ramp Upgrade, Palm Beach	\$21,450
Pittwater Council	Woorak Reserve Car/trailer Parking Upgrade, Palm Beach (Stage 1)	\$190,582
Pittwater Council	Woorak Reserve Car/trailer Parking Upgrade, Palm Beach (Stage 2)	\$122,995
Rowell Marine Group	Public Pontoon and Sewage Pump Out Facility at Newport Wharf (Pittwater)	\$138,122
Royal Motor Yacht Club Broken Bay	RMYC Broken Bay Sewage Pump Out Facility, Newport	\$24,000
Warringah Council	Cottage Point Public Wharf	\$6,560
Warringah Council	Middle Creek Reserve Upgrade, Oxford Falls	\$127,333
Warringah Council	Narrabeen Lagoon Dinghy Kayak Storage, Narrabeen	\$7,500*
Warringah Council	Upgrade of Boat Ramp, Fishermans Beach	\$120,000

Recipient	Project	Final Grant
	TOTAL	\$5,791,956

* denotes Active projects as of 11/11/2014

Figure 7 – Completed BBP projects examples within the region



Bobbin Head Pontoon



Clareville Beach Dinghy Storage, Pittwater



Couche Park Wharf & Pontoon, Brisbane Water



Pretty Beach Boat Ramp, Brisbane Water



Tench Reserve Boat Ramp, Penrith



Patonga Boat Ramp

5.2 Key findings

There are a relatively large number of waterway access points in the Hawkesbury River, Pittwater and Brisbane Water region.

This region has more jetties and wharves than there are boat ramps. This is likely due to the relatively large percentage of vessels over 6 m that are registered (both recreational and commercial) within the region that require access to wharves and jetties for 'pick up and drop off' of passengers and supplies. It is also due to the significant number of residents with waterway access only who require wharf and jetty access for commuting purposes.

Despite the large number of wharves and jetties, there is still a strain on their capacity with the competing demand for these facilities from both recreational boaters and commuters vessels.

Access to the waterway for trailered vessels at boat ramps is also strained with a significant proportion of the region's boat ramps only able to accommodate a limited number of users due to:

- constraints in car and trailer parking;

- limited width of ramp;
- depth of ramp; and/or
- limited pontoon or jetty access.

The demand for many of these ramps is at capacity, if not already exceeded. In addition to the limited capacity, the condition of the boat ramps was identified to further restrict usage. This is seen to be a region wide issue although it is particularly prevalent in the Brisbane Water area.

This region has limited opportunities for creating additional public access points given the demand for waterfront property in Pittwater and Brisbane Water along with the large proportion of National Park. As such, locations for the development and expansion of car and trailer parking facilities to service boat ramps, wharves and jetties and mooring areas are scarce. Given these constraints it is vital that the existing boating access facilities are closely reviewed with the view to further optimise and upgrade.

The Hawkesbury River covers an extensive distance and has limited existing public facilities between the major hubs at Windsor and Brooklyn, which are over 100 km apart by water. Access facilities at both Brooklyn and Windsor have been identified as having insufficient capacity to meet the current demand during peak seasons. Wisemans Ferry currently provides public access facilities to service the river between these two hubs. However, this facility is in poor condition and does not provide appropriate infrastructure to support current demand. Upgrading this facility and enhancing access points between Wisemans Ferry and Windsor may assist in spreading demand across the Hawkesbury River.

The Nepean River has relatively limited waterway access for the large and growing population and the range of different waterway user groups it services. The river has a rich history of rowing, however it has recently become a popular waterway for other recreational boating including other sporting groups, PWC use, towing activities and kayaking. Access infrastructure has not yet adapted and needs to be incorporated into a holistic waterway user management strategy for the Nepean River.



6. Storage

Key findings

- The growth in boat storage capacity across the region will need to keep pace with the forecast growth in vessel numbers.
- Identifying opportunities for additional dry storage facilities is a priority for the region.
- Increasing long-term off-street boat trailer parking capacity was identified as a priority.
- Long waiting lists for private moorings in popular areas are limiting access and storage for boaters.
- Navigation is restricted in a number of popular bays due to the current arrangement of moorings.
- There is a need for dinghy and passive craft storage across the region.
- There is a need to update dinghy management policies in Pittwater to meet increasing demand.

Actions

- h. Establish a boat storage strategy for Pittwater and work with councils and other partners to help deliver projects that support strategic growth in boat storage capacity in Brisbane Water and the Hawkesbury River**
- i. Optimise configurations of existing mooring fields to improve access and navigation in the region and enable future growth as required**
- j. Provide dinghy storage for areas with high concentrations of moorings and passive craft storage in areas with high demand. Work with Pittwater Council to update existing dinghy management policies.**
- k. Work with Councils to improve long-term off-street trailer parking capacity**

6.1 Existing storage

6.1.1 Overview of existing storage types

Storage for vessels is generally provided on-land for smaller vessels (< 6 m), e.g. trailerable power or sail, and on-water for larger vessels (> 6 m); however larger vessels can also be stored on-land, for example at dry-storage facilities, for vessels up to approximately 10 m.

The main types of on-water storage for the Hawkesbury River, Pittwater, and Brisbane Water region are principally administered as follows:

- Private moorings;
- Commercial moorings;
- Commercial marina berths;
- Commuter berths; and
- Domestic berths, moorings and other associated storage.

On-water storage can be at private or commercial facilities. On-water storage at commercial marinas, yacht / sailing clubs, or boating facilities, is provided at berths (floating or fixed), moorings (swing, fore and aft or other) and where space permits on-land such as a hard-stand or dry-stack. For example, the Royal Prince Alfred Yacht Club has space for up to 72 vessels on its hardstand area and d'Albora Marina at Akuna Bay has 169 dry storage spaces in addition to its 219 wet berths.

Storage at private facilities can be adjacent to private property and include domestic jetties, slipways, boatsheds, and berths or fore and aft moorings or through private swing moorings. Private swing moorings usually also require access to the water with a tender/dinghy and this vessel requires its own form of storage on-land. Additionally in this region there is a canal estate at St Hubert's Island with private vessel storage spaces.

Vessels less than 6 m in length are generally stored on trailers on private property or sometimes on public roads.

Figure 8 – Examples of commercial marina berths, yacht clubs, private moorings and fore and aft moorings





Figure 9 – Examples of marinas in Brooklyn and Berowra, including hire and drive storage



6.1.2 Overview of existing storage volume

It is estimated there are at least 8,500 storage spaces on-water or at associated land facilities in the region. Additionally there are around 300 dry storage spaces in the region, including the 169 space dry stack at Akuna Bay and 72 hardstand spaces at the Royal Prince Alfred Yacht Club. Of the vessels stored / spaces on-water, approximately 4,000 of these are at private moorings and 1,500 at commercial moorings. These are administered by Roads and Maritime. Approximately 50% of the total number of commercial moorings are associated with marinas, clubs or related boating facilities.

As with other regions, there are numerous wetland leases administered under licence with NSW Trade and Investment (Crown Lands), some of which are included in the total storage spaces quoted above. However, it is difficult to quantify numbers and the use is usually exclusive to the property owner and they cannot be sub-leased or licensed.

As noted in Section 3.1, a large proportion of registered recreational vessels in NSW are in this region and the proportion over 6 m vessels grew considerably from 1999 to 2009, resulting in a high demand for on-water storage.

Whilst numbers provided for each category are in many cases approximate, they can be generally grouped as follows and include:

Pittwater, Cowan Creek, Broken Bay and Narrabeen Lagoon

There are several marinas, large sailing and yacht clubs and other boating facilities including:

- Bayview Anchorage – <60 berths and 13 moorings;
- Careel Bay Marina – 96 Moorings;
- d'Albora Akuna Bay – 219 wet berth and 169 spaces in the dry stack facility;
- Empire Marina Bobbin Head – 200 berths and 10 moorings;
- Gibson Marina – < 50 including for smaller vessels <70 moorings;
- Rowell Marine (Heron Cove Marina) – <15 berths and moorings;
- Holmeport Marinas – 56 berths along with an additional two for police and fuel for a total of 240 vessels;
- Ku-ring-gai Motor Yacht Club – <10 pontoon berths for members, 84 moorings at Cottage Point for members, 14 club moorings in America and Refuge Bay and two in The Basin;
- Newport Anchorage Marina – <65 berths;
- Princes Street Marina – 70 berths;
- The Quays Marina Pittwater – 95 berths, 70 moorings and four hardstand spaces;
- Royal Motor Yacht Club Broken Bay – 220 berths and 49 moorings;
- Royal Prince Alfred Yacht Club – > 300 including several commuter vessel berths, 18 moorings, < 72 on hardstand as well as storage for centreboard dinghies and 12 additional moorings in Pittwater area for use by members;
- Sirsi Marina Pittwater – <40 berths; and
- Colin Beashel Marine – 25 moorings.

Sailing and other clubs in Pittwater

With a large proportion of sailing vessels on private moorings in Pittwater, there are numerous sailing and other clubs including, Avalon Sailing Club, Narrabeen Lakes Sailing Club, Palm Beach Sailing Club, Sailability at Pittwater Sailing Club, Broken Bay Game Fishing Club.

As with smaller clubs in other waterways, most of the clubs in the region offer members access to storage for smaller vessels. Generally these vessels are stored on-water or land-based, in an open hardstand area, or inside stacks in smaller sheds. This plan has not included all numbers at these sites in its overview, however generally sailing clubs and associated facilities can often store from small numbers to in excess of 60 sailing (beach-launch) craft. Those vessels stored on land are usually not required to be registered and so do not appear in those total numbers.

Hawkesbury and Nepean Rivers

There are several marinas, clubs and other boating facilities including:

- Berowra Waters Marina – West Marina – 79 Berths; Cruise craft (East Marina) – 29 Berths, 16 Moorings; Boatshed – 32 Commuter Berths;
- Brooklyn Marina – <45 berths and small number of commuter vessel berths;
- Brooklyn on Hawkesbury – < 8 berths used exclusively for holiday residents;
- Dolphin Boatshed Brooklyn – <32 berths, charter vessel berthing, <20 moorings;
- Fenwicks Marina Brooklyn – 58 berths, 12 trailer storage spaces and 2 moorings;
- Hawkesbury River Marina – <40 berths including commuter berths;

- Long Island Marina and Wharf St Marina (combined site) – < 110 berths and 70 moorings;
- Mooney Mooney Workers Club – <10 berths including commuter vessels;
- Sandbrook Inlet Marina – 88 berths, 24 moorings; and
- Hawkesbury River Houseboats <10 including for hire and drive and commuter vessels.

Brisbane Water

There are several marinas, large sailing and yacht clubs and other boating facilities including:

- Andersons Marina Boatshed – <20 berths, and some boat hire and drive berths;
- Empire Bay Marina Central Coast – 8 berths and 19 moorings;
- Killcare Marina Central Coast – <25 berths and small number of commuter spaces;
- Booker Bay Marina – <18 berths and small number of commuter spaces and moorings;
- Machans Marina – <24 berths and moorings; and
- Gosford Sailing Club – <30 berths, 29 moorings and small number of hardstand spaces.

Sailing and other clubs in the Hawkesbury, Nepean and Brisbane Water

There are a number of sailing and other clubs in this area of the region including Hawkesbury River Yacht Club, Hornsby PCYC Sailing Club, Sailability Gosford, Saratoga Sailing Club, Penrith Rowing Club, Nepean Rowing Club and numerous water-skiing clubs. Most of these clubs have their own storage and access facilities.

St Hubert's Island

There are approximately 46 pontoons in the canals, with a small number of these operating under existing use and seeking to formalise approval.

Private and commercial moorings and domestic licences

There are approximately 4,000 private and 1,500 commercial moorings including those listed for marinas, clubs and boating facilities. Additionally there are a large number of domestic licences with jetties, mooring piles, slipways or boatsheds in the waterways such as those at Booker Bay, Woy Woy and Empire Bay. The total number of these is difficult to quantify, however as noted above, they are for the exclusive usage of the licensee. Additionally, the existence of a licence does not necessarily mean there is a vessel present.

Commuter berths and other storage for residents

Several private mooring areas are restricted to residents of locations that are only accessible by water; these include Dangar Island, Wobbly Beach and Cogra Bay.

Additionally it was observed that numerous sites, for example at Church Point, Hawkesbury River, numerous marinas and boatsheds provide storage for commuter vessels.

6.2 Key findings

The Hawkesbury River, Pittwater, Brisbane Water region includes some of the more popular waterways in NSW, in part due to its proximity to Sydney and the highly urbanised surrounding suburbs. It has over 41,000 vessels registered in the region, a large number of visitor vessels throughout the year and accommodates smaller crafts that do not require registration. As noted previously, this region also has one of the highest proportions of vessels over 6 m in the State. As noted in Section 3.1.4, there is a continuing growth trend in vessel ownership of 2.9%

annually across NSW. Accommodating the region's boat storage needs as vessel registrations and the size of vessels grow will require a balanced combination of additional on-water and dry storage options. Non-powered boating activities are also increasing in popularity in the region. While numbers are not easily identifiable since these vessels do not require registration, anecdotal evidence suggests that the popularity of these craft is growing at an even higher rate than that identified for registered vessels. Storage options for these vessels will therefore also need to be considered in this region.

Whilst open runabouts and cabin runabouts are still the predominant vessel type, sail vessels constitute a considerable portion of the total. This is evident in yacht clubs such as Royal Prince Alfred Yacht Club and Royal Motor Yacht Club in Broken Bay. These clubs have in excess of 500 berths between them. Compared to other regions, the region has a high proportion (over 50%) of private moorings licenced to hold sail craft, compared with other regions. In Pittwater this rises to over 60% of the private moorings. This is significant and demonstrates a significant presence of sail craft in the region

The demand for additional on-water and on-land boat storage in this region is demonstrated by the long waiting lists for private mooring licences and commercial sites in a number of bays, the high occupancy rates, waiting lists for dinghy storage and the prevalence of boat trailers being parked on residential streets in the region.

In 2013, the MMC developed the Sydney Harbour Boat Storage Strategy which examined the existing capacity and forecast demand for boat storage in Sydney Harbour. The Strategy seeks to identify the best way to accommodate growth by planning for the mix of storage facilities best suited to meet the characteristics of vessels and usage in the region. Adopting similar principles in the Hawkesbury River, Pittwater and Brisbane Water region will help achieve a common understanding of future boat storage requirements across all stakeholder groups.

Failing to plan for boat storage growth not only impacts on the experience of boaters in the region but also risks generating negative impacts for the community more broadly. As with other regions, dry storage, private moorings and other on-water storage including commercial marinas, need to be part of an overall approach for managing boat storage in the region. For example, there may be opportunities where Government funding can assist in establishing public marina facilities that could increase storage capacity while reducing the size of mooring fields.

Four key issues have been identified that would benefit from a more strategic approach to boat storage:

Demand for private moorings and on-water storage berths

A number of areas in the region have a significant waiting list in comparison to the total moorings. Some of the areas identified in Pittwater include:

- Horseshoe Cove;
- Winji Jimmi;
- Winnererremy Bay;
- America and Refuge Bays;
- Bayview Creek; and
- McCarrs Creek.

For example at Winnererremy Bay there are 26 listed on a waiting list for 17 moorings with the last mooring issued in November 2013. Similarly for Horseshoe Cove, the Roads and Maritime

website notes the last mooring was issued in 2008 and “15 years plus possible size restriction” for one of 36 moorings which are predominantly sail craft.

Waiting list data reflects the feedback received from stakeholders and supports the demand for more on-water storage in the region such as private moorings and marina berths.

At the same time, navigation and access is often made difficult in and around some bays with high mooring numbers particularly at peak times. Examples of such bays and areas include Bayview, McCarr’s Creek, Salt Pan Cove and Careel Bay all with over 200 moorings. Other locations such as Parsley Bay, Brooklyn, Berowra, Refuge Cove, Scotland Island, Gosford, Koolewong, Hardy’s Bay and Saratoga all have over 100 moorings. Clareville was noted to having over 600 moorings. Some of these bays are also in close proximity to yachting/sailing clubs and are also adjacent to designated sailboat racing areas.

While there is a clear demand for additional private mooring licences, any further increase to mooring numbers would further impact on navigation and access in and around these congested mooring areas. A balanced approach is therefore required that optimises existing mooring configurations and identifies areas where future growth could be accommodated with minimal impact. Importantly, stakeholders also noted the need to provide more on-water storage such as marinas. This is the preferred type of storage for many boaters, especially amongst the ageing population due to ease of access. This is evident as many of the marinas in the region, especially in Pittwater, Cowan Creek and Brooklyn have waiting lists and high occupancy rates.

In March 2014, MMC released the Moorings Review Issues Paper which highlighted the potential for increasing mooring capacity through policy and regulatory changes and by using alternate moorings systems such as fore and aft or multi-point moorings. It is noted that alternate mooring systems are not suitable in all areas and may be subject to planning requirements.

Further consultation will take place in 2015 on policy and regulatory reforms arising from the Moorings Review. Funding has been set aside to support the implementation of these reforms as well as more direct measures to help reduce the number of “mooring minders” and reduce mooring waiting lists in popular areas.

Further information about the Moorings Review is available at:

<http://www.transport.nsw.gov.au/engagement/moorings-review-issues-paper>.

Dry Storage

Currently, there is a dry storage facility at Akuna Bay (169 spaces) and some hardstand storage at Newport (72 spaces) and minimal facilities in other areas.

Additional dry storage facilities could assist in meeting current and future growth for all vessels particularly those between 6 -12 m depending on hull type. It will also assist in addressing the challenges associated with boat trailers being parked on residential streets (further discussed below) as well as complementing on-water storage in this region (which is the preferred type of storage for vessels over 10 m).

Dinghy and non-powered craft storage

Similar to other urbanised regions, a considerable majority of private mooring licence holders in this region are from suburbs adjacent to the waterways or in close proximity. Dinghies and other non-powered craft owned by foreshore residents are mostly stored on private land having exclusive access to waterways; this was observed at a number of foreshore residences. However for the other dinghies and non-powered craft, there was evidence of informal dinghy storage in several areas such as Careel Bay, along the foreshores of Palm Beach (suburb), Cowan Creek, Clareville Beach, Newport and Gosford.

Issues were identified regarding the lack of storage for growing numbers of other non-powered craft such as paddle craft in Pittwater, sailing dinghy storage in Gosford, rowing and dragon boats across some parts of the region. Conversely, some stakeholders noted that the provision of formalised dinghy storage modifies the character of the region and there should be some places where less formal storage methods is allowed to continue.

This region would benefit from dinghy storage systems in the areas with higher mooring density as well as for other non-powered craft in appropriate locations as it would also help to improve the boating experience in the region. However, feedback was received regarding the additional cost of dinghy storage on the boaters being a constraint on recreational boating.

Since 2004 Roads and Maritime has awarded 10 grants to Pittwater Council for dinghy storage projects, however the region would benefit from increased provision of such storage racks.

Long-term trailer parking

Boat trailer parking on residential streets has been identified as a key issue in a number of suburbs including around Mona Vale, Terrigal, Davistown, Saratoga, Mooney Mooney, Church Point, and Palm Beach and generally around Pittwater. These are areas where trailers are being left parked on a long-term basis and also where there is limited short-term parking for trailers at boat ramps. Stakeholders also highlighted the fact that in new residential areas such as Penrith where new blocks are relatively smaller, there is little opportunity to store boats on private land.

In 2013, MMC released a report from a Boat Trailer Working Group established to investigate options to better manage long-term boat trailer parking. The report (<http://www.transport.nsw.gov.au/publications-reports/boat-trailer-working-group-report>) highlights a number of opportunities to reduce the incidence of long-term boat trailer parking on residential streets. Following consideration of public feedback on the options identified in a package of new measures was announced by the Minister for Roads and Freight on 18 November 2014 including:

- \$5 million to be made available to work with councils and other organisations to help establish dedicated off-street boat trailer parking facilities;
- Introducing legislative amendments to allow councils to take impoundment action against boat trailers that are left in the same spot on local roads for more than three months;
- Authorising councils to issue fines for unregistered trailers parked on local roads; and
- Giving councils the flexibility to decide whether to issue parking permits to boat trailers owned by local residents as part of local parking permit schemes.

Figure 10 – Examples of storage issues and opportunities identified during regional site visits



Dinghy storage on Pittwater &



Alternative mooring system



Akuna Bay dry stack



7. Other issues

Key findings

- There are substantial numbers of residents in the community who do not have direct land access and rely on water-based transport (commuter vessels and commuter ferries) to commute to the mainland.
- There are conflicting uses between recreational boaters and commuters.

Actions

- I. **Work with councils, industry and the community to develop a strategy to better manage the interactions between recreational and commuter transport users in the region.**

7.1 Commuter transport issues

In consulting with stakeholders and the general public on the development of the Regional Boating Plan a number of other issues were identified that do not fit neatly into the categories of safety, access or storage. The interaction between recreational vessels and commuters was identified as the most prominent of these issues in the Hawkesbury River, Pittwater, and Brisbane Water region.

7.2 Key findings

As noted earlier, there are complex layers of on-water interaction in the Hawkesbury River, Pittwater, and Brisbane Water region. Residents who are either 'water-locked' on islands (off-shore / water only access residents) or in locations such as Berowra Waters, can only access the mainland by use of commuter vessels or commuter ferries or water taxis. Other residents such as those in the Central Coast also use commuter ferries for a more direct route to Pittwater for employment and accessing schools.

Examples of issues that arise from the interactions between these different user groups include:

- At Berowra there are over 300 properties with water only access, however there is insufficient land space for parking, both on the west side and on the east side;
- At a number of areas including at Church Point, Elvina Bay, Brooklyn, Palm Beach and Berowra Waters, commuter vessels use public pontoons for berthing and commuter cars are being left in spaces intended for use by recreational boaters on a daily basis;

- Loss of on-water storage capacity to commuters at numerous commercial sites with smaller berths being provided for commuter vessels such as at Bayview, Church Point, Newport, Brooklyn and Pittwater; and
- In relation to commuters using services such as ferries from the Central Coast to Pittwater, at Palm Beach in particular, anecdotal feedback highlighted many non-Pittwater residents leave cars parked in streets across the region at ferry wharves on a semi-permanent basis (mainly overnight and on weekends).

Figure 11 – Examples of commuter vessels in Pittwater





8. Feedback on Consultation Draft

8.1 Feedback Summary

Feedback received from Councils, other stakeholders and members of the public was generally supportive of the Key Findings and Actions identified in the Consultation Draft.

8.1.1 Safety

Feedback received on safety issues was consistent with the Key Findings identified in the consultation draft, including the view that some larger vessels are generating excessive wash that is a hazard to other waterway users. Specific suggestions received include extending the existing “no wash” zone in Pittwater and investigating the need for a “no wash” zone near The Rip Bridge at Blackwall. The need for safety standards for facilities catering for the berthing of commuter vessels was also raised, noting that these facilities can be busier than commercial marinas. These suggestions will be considered by Roads and Maritime.

Comments received at the Public Information Sessions at Ettalong and Windsor supported the need to refresh navigation aids where required, including reviewing the placement of channel markers which some people believe have shifted over the years. The need for better management of conflicts between powered and non-powered vessels in the upper Hawkesbury was highlighted.

8.1.2 Access

Councils offered strong support for partnering with the NSW Government to improve boating infrastructure across the Region. Councils’ views on the priority projects in their respective LGAs have helped inform the list of Priority Regional Projects identified in Chapter 9. Feedback from the general public included suggestions for improvements at a number of specific sites as well as more general comments including: increasing the number of public facilities in Pittwater that provide better access to moored vessels; providing more public access sites along with pumpout facilities in the upper Hawkesbury River and providing more courtesy moorings in Brisbane Water.

Some submissions also requested support for dredging projects at specific locations including at Pretty Beach, Brooklyn, the Upper Hawkesbury River and Crystal Bay. Dredging projects are outside of the scope of the NSW Boating Now program but Roads and Maritime has provided funding support to the Rescuing Our Waterways dredging program run by the Crown Lands Division of NSW Trade and Investment for priority navigation dredging projects. Since the

Consultation Draft was released, \$450,000 was allocated to Gosford Council for dredging works in Brisbane Water under Stage 2 of the Rescuing our Waterways Program.

Councils and National Parks and Wildlife Services (NPWS) also requested funding support to help upgrade the large number of ferry wharves across the region, in particular in the Gosford and Pittwater LGAs.

8.1.3 Storage

Most of the feedback received on storage issues related to Pittwater and the impact of the large fields of swing moorings cluttering bays and restricting navigation. Mooring minders were also raised as an issue of concern. Feedback from some residents living around Pittwater was also critical about the increasing number of boats being stored on trailers in local streets.



9. Delivery Program

9.1 Summary

Table 3 provides a summary of how the actions identified in the Regional Boating Plan will be delivered across the three categories of safety, access and storage. A progress report on the Delivery Program will be published annually.

9.2 NSW Boating Now Funding

\$5.28 million in NSW Boating Now funding has been allocated to support delivery of the following 18 infrastructure projects identified as being a priority for delivery over the next three years.

The total Regional allocation is based on estimated projects costs and the proposed financial contributions from Council and other delivery partners for individual projects. The total Regional allocation may be subject to variation following further negotiations with delivery partners to confirm project scope, design, timeframes, funding contributions and the most efficient project delivery method.

The projects are included as part of *NSW Boating Statement* which includes a total funding commitment of over \$33 million to support the delivery of Priority Regional Projects across NSW. The *NSW Boating Statement* can be downloaded at www.transport.nsw.gov.au/mmc. It includes the full list of Priority Regional Projects for each Region and details on how the Priority Regional Projects were identified.

The *NSW Boating Statement* includes a summary of the categories of funding to be made available over the five years of the NSW Boating Now program, including at least \$10 million to be made available in 2017/18 and 2018/19 to support the delivery of a second round of infrastructure projects. Other funding categories include:

- \$10 million to support the delivery of Major Projects that provide benefits to boaters in more than one region including:
 - & Measures to address concerns about the impact of boating on riverbanks
 - & Boat storage strategies and pilot projects
 - & Establishing slipway facilities in strategic locations
 - & Measures to reduce the number of “mooring minders”.
- \$5 million to support the delivery of dedicated off-street boat trailer parking facilities

- \$5 million to be assist with emergency repairs to boating infrastructure, particularly after flood or storm events.

Table 2 – Priority Regional Projects

1. Investigate upgrade to boat ramps, install pontoons and improve parking at Brisbane Water Drive, Koolewong
2. Upgrade boat ramp and improve access at Terrigal Haven
3. Install dinghy storage at key locations throughout the Gosford LGA
4. Non-powered vessel launching facility at Macquarie Park, Windsor
5. Review boat ramp parking and access improvements at Governor Phillip Park, Windsor
6. Investigate boating access improvements for non-powered vessels at Colo Park, Colo
7. Expand existing commuter vessels facility at Church Point
8. Investigate improved commuter vessel facility at Dangar Island
9. Upgrade existing boat ramps, increase parking and install pontoons at Rowland Reserve, Bayview
10. Upgrade Bayview Wharf and install pontoon for boat tie-ups, Bayview
11. Install dinghy storage at Paradise Beach, Clareville
12. Upgrade boat ramp and parking at Wisemans Ferry Boat Ramp
13. Install pontoon at Wisemans Ferry Public Wharf
14. Support development of Master Plan for Brooklyn waterfront
15. Investigate options for improving boating infrastructure in Parsley Bay
16. Install dinghy storage at Parsley Bay
17. Upgrade boat ramp, parking and improve access at Tench Reserve, Penrith
18. Support development of concept designs for additional access points to Nepean River

Table 3 – Implementation of Boating Safety, Access and Storage Actions

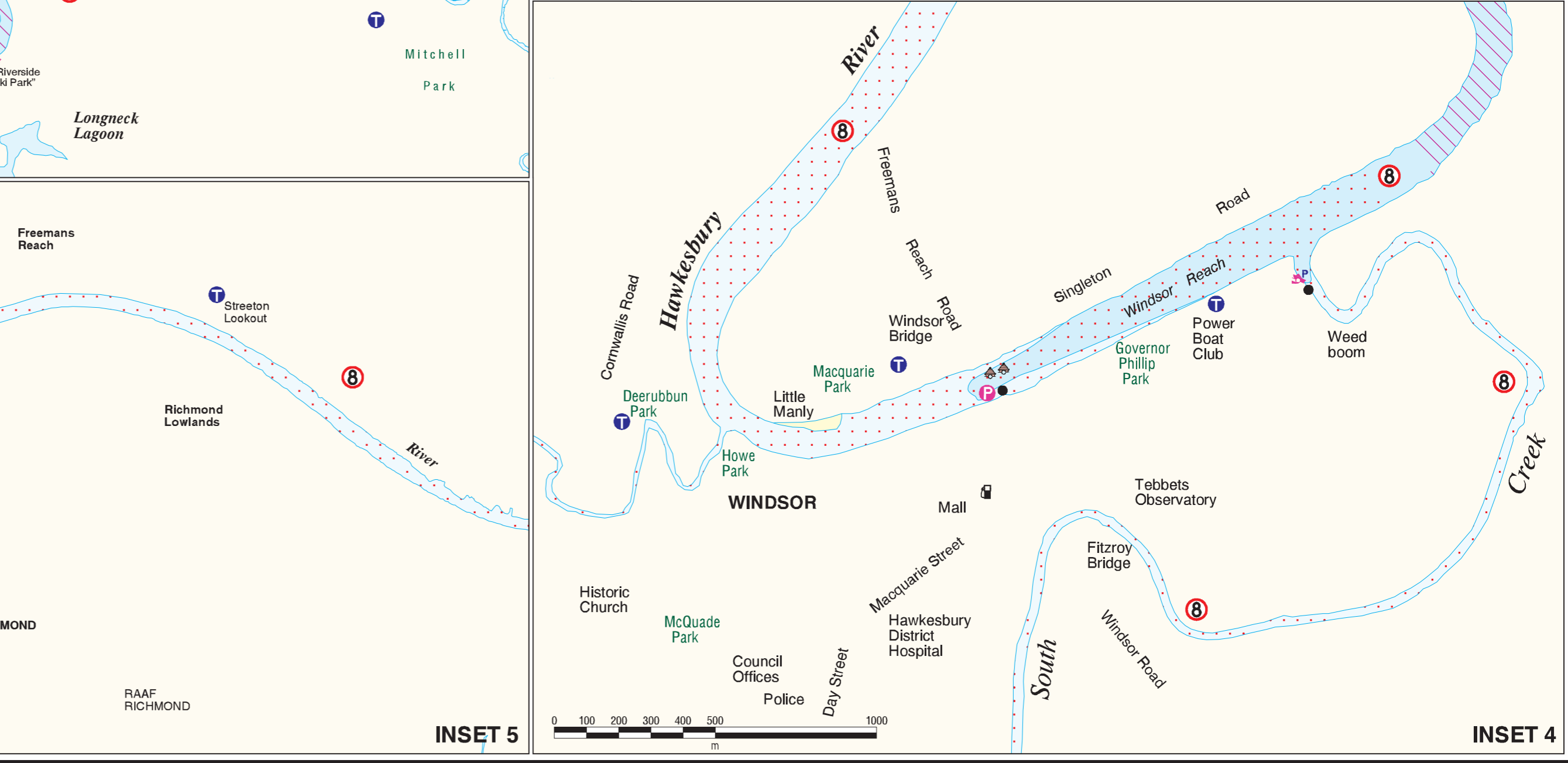
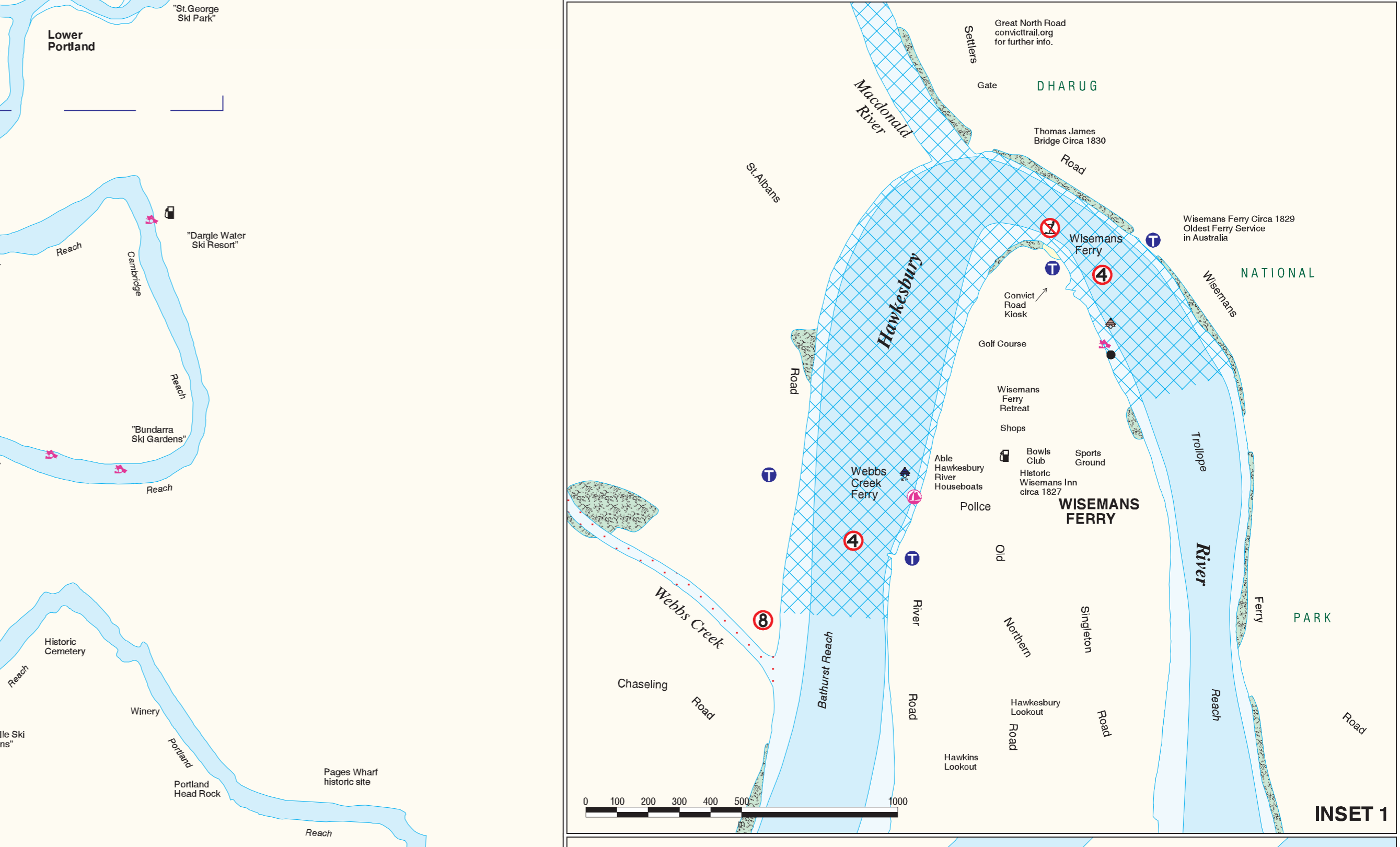
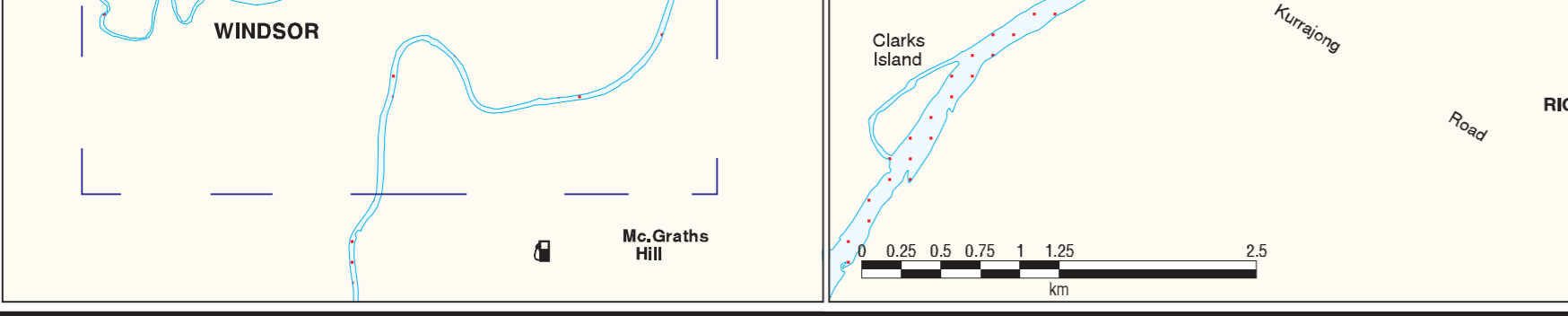
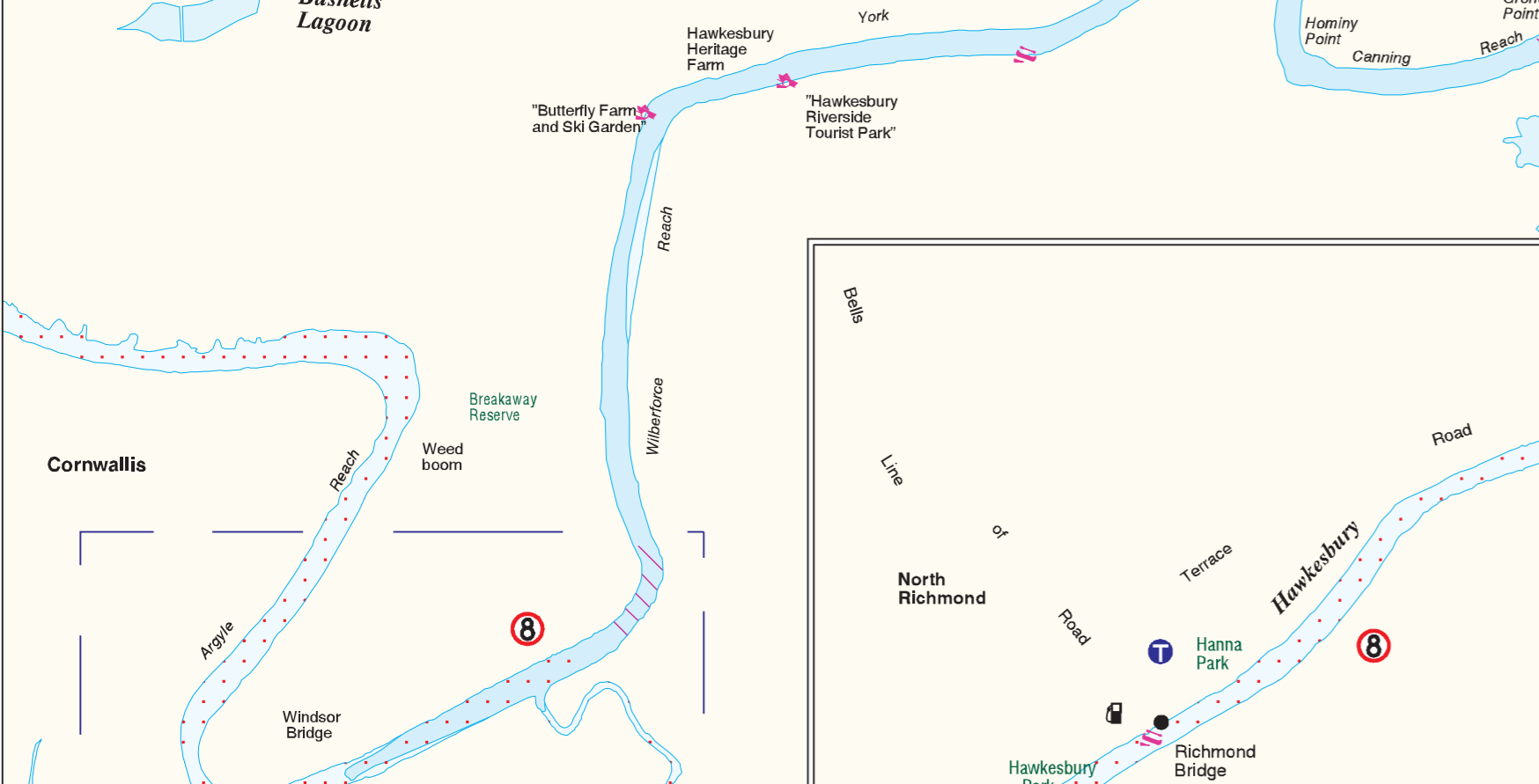
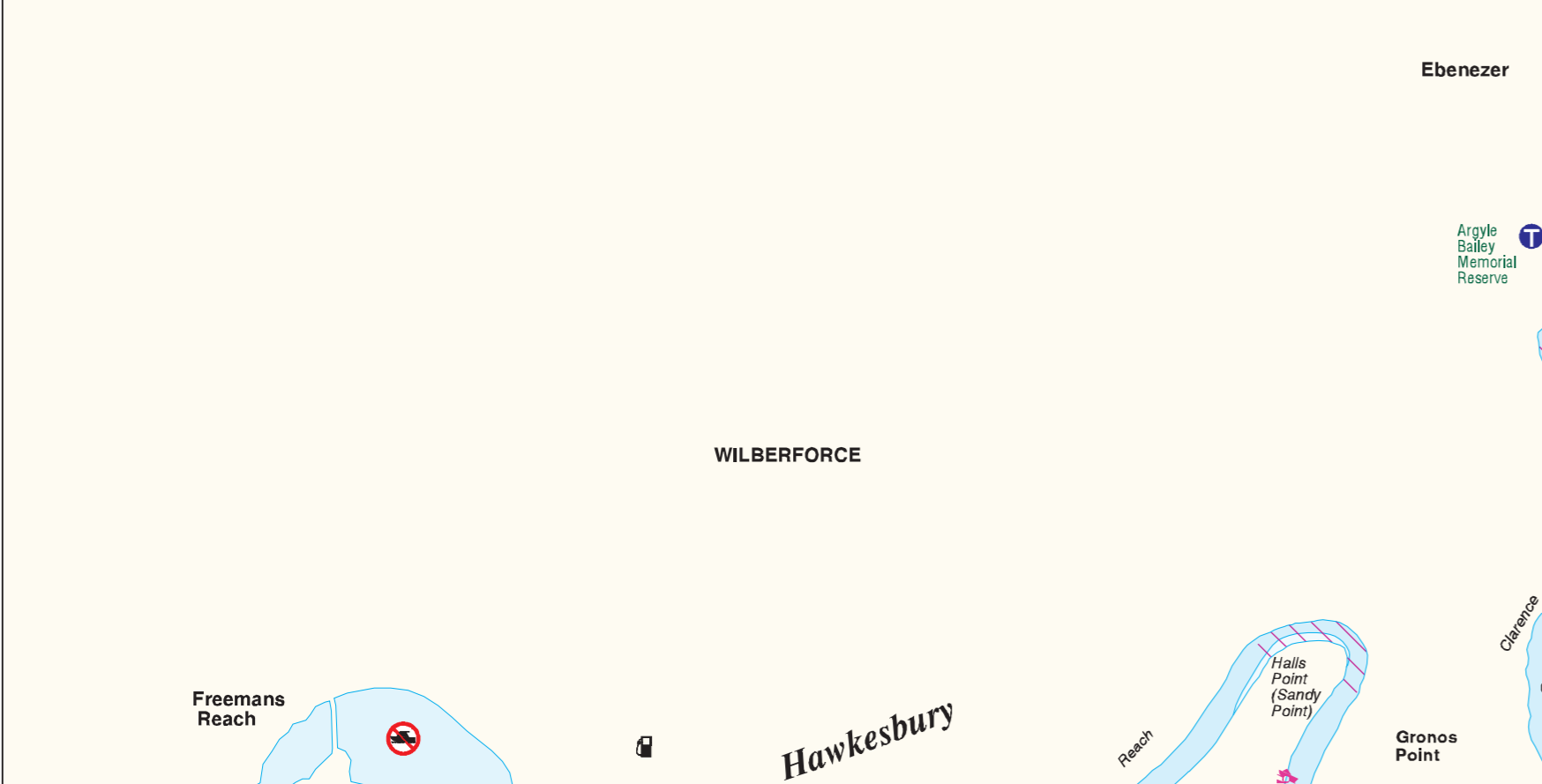
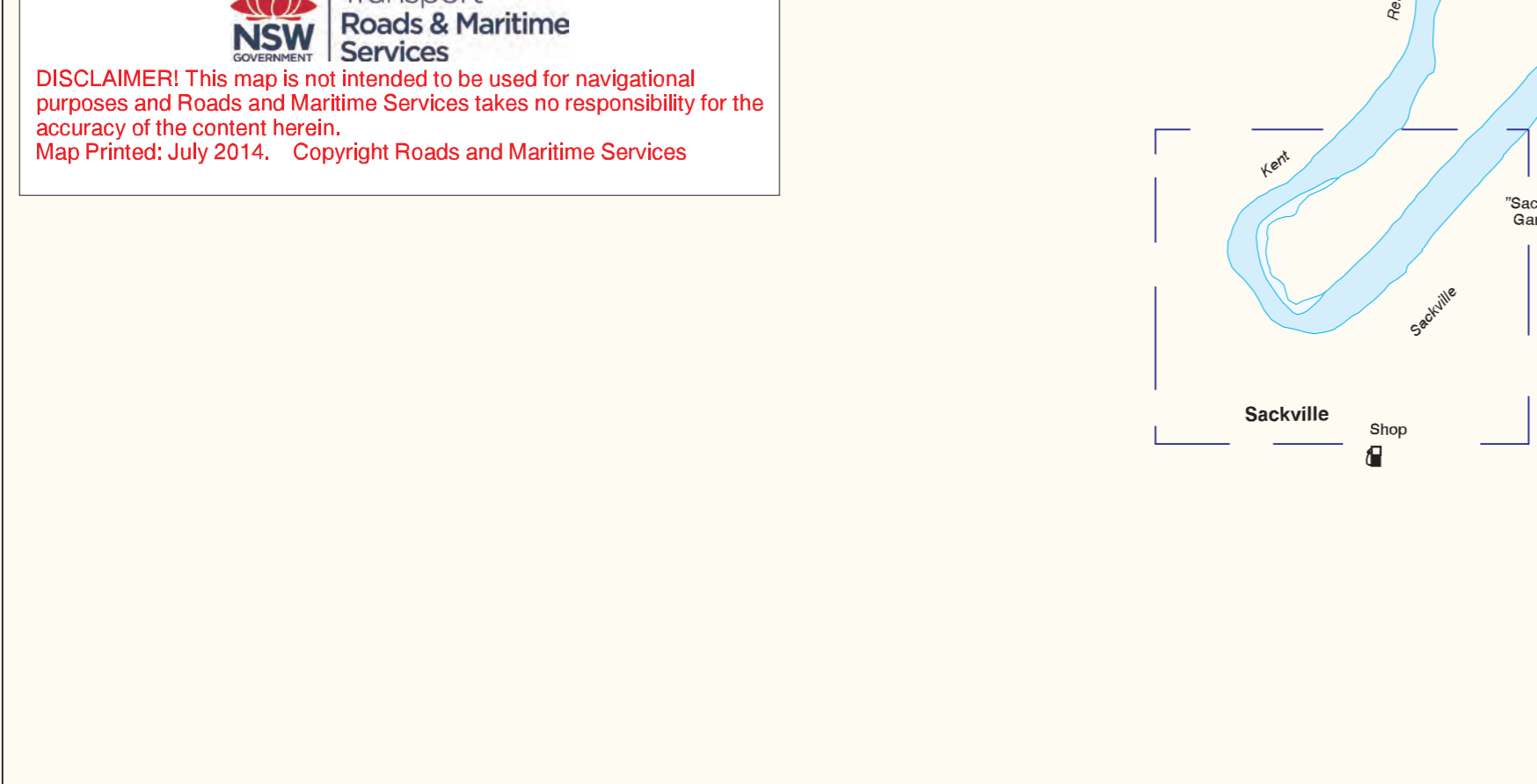
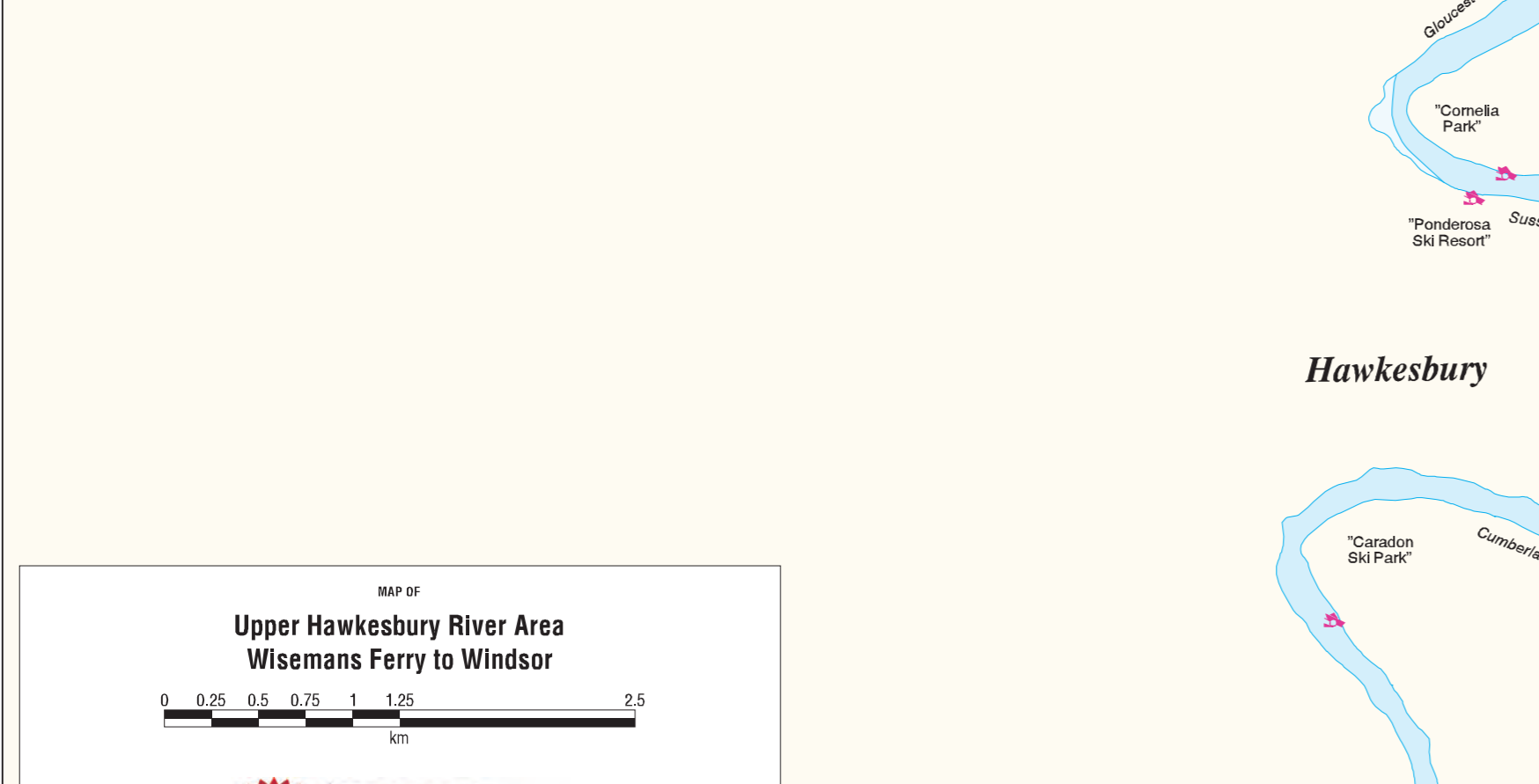
	Action	Delivery
Safety	Review strategies to improve user behaviour across the region	Roads and Maritime will work with MMC to review the current approach to addressing the user behaviour issues identified for this region. This will include : <ul style="list-style-type: none"> • education and compliance • reviewing other strategies to minimise conflict between different waterway users • explore opportunities to address the impacts of vessel wake on other waterways users
	Review the placement and planning of navigations aids and signage to improve navigation	Roads and Maritime will review and upgrade existing navigation aids and signage across the region.
Access	Work with councils and other partners to improve the condition of key access facilities across the region to meet current and future demand	<p>\$5.08 million in NSW Boating Now funds have been allocated to support the delivery of the 18 Priority Regional Projects listed in Table 2.</p> <p>While not included as Priority Regional Projects, MMC and Roads and Maritime will work with relevant councils and NPWS to explore opportunities to upgrade wharves in the region with a particular focus on the wharves used to provide public transport ferry services under contract with Transport for NSW.</p>
	Work with councils and other partners to increase capacity and capability at existing access facilities with a particular focus on boat ramps	
	Work with councils to increase car parking for recreational boating access to moorings and jetties, especially in Pittwater, and increase car and trailer parking at boat ramps region-wide	

	<p>Identify strategic locations for access development across the region specifically in Pittwater and the Upper Hawkesbury</p>	<p>Funding has been allocated to upgrade boat ramp and parking at Wisemans Ferry Boat Ramp (Project 14).</p>
	<p>Continue support for the Rescuing Our Waterways dredging program</p>	<p>MMC and Roads and Maritime will continue to support the Rescuing Our Waterways dredging program and will work with Crown Lands on a longer term strategy for navigation dredging in NSW.</p> <p>Since the Consultation Draft was released, Rescuing Our Waterways round 2 funding has been allocated for dredging at Gosford (\$450,000).</p>
<p>Storage</p>	<p>Establish a boat storage strategy for Pittwater and work with councils and other partners to help deliver projects that support strategic growth in boat storage capacity in Brisbane Water and the Hawkesbury River</p>	<p>Funding will be made available from NSW Boating Now Major Projects allocation to work with Pittwater Council to develop a Pittwater Boat Storage Strategy following community consultation and consideration of demand and capacity issues. Development of the Strategy will include investigation of a pilot project involving alternate on-water storage options including finger wharves or public marinas in suitable locations.</p>
	<p>Optimise configurations of existing mooring fields to improve access and navigation in the region and enable future growth as required</p>	<p>Funding will be made available from NSW Boating Now Major Projects allocation to trial alternate mooring systems at a number of pilot sites across the state. The Pittwater Boat Strategy will consider whether there are opportunities to pilot alternate mooring systems in Pittwater.</p> <p>Major Projects funding has also been set aside to support the implementation of measures to reduce the number of “mooring minders” across NSW waterways to help reduce waiting lists in popular areas.</p>
	<p>Provide dinghy storage for areas with high concentrations of moorings and passive craft storage in areas with high demand. Work with Pittwater Council to update existing dinghy management policies.</p>	<p>Funding has been allocated towards dinghy storage facilities at Gosford (Project 4), Paradise Beach, Clareville (Project 11) and Parsley Bay (Project 16).</p> <p>Management of dinghy storage in Pittwater will be considered as part of the development of a Pittwater Boat Storage Strategy.</p>

	<p>Work with Councils to improve long-term trailer parking capacity</p>	<p>The MMC has announced a \$5 million package to address long term trailer parking in metropolitan areas of NSW.</p> <p>As part of this announcement, registrations of interest have been called for to provide and operate off street storage solutions for boat trailers. The MMC will continue to pursue options arising from this process.</p>
<p>Other Issues</p>	<p>Work with councils, industry and the community to develop a strategy to better manage the interactions between recreational and commuter transport users in the region.</p>	<p>Funding has been allocated to expand existing commuter vessels facility at Church Point (Project 7) and support development of Master Plan for Brooklyn waterfront (Project 14) and investigation of improvements at Dangar Island (Project 8).</p>

Appendices

Appendix A - Maps

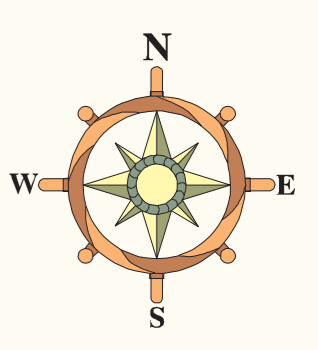


MAP OF
**Upper Hawkesbury River Area
Wisemans Ferry to Windsor**

0 0.25 0.5 0.75 1 1.25 2.5 km

NSW Transport
**Roads & Maritime
Services**

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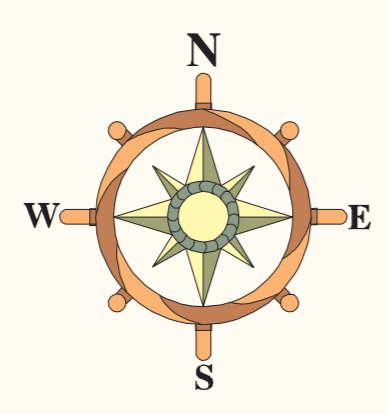


MAP OF
Nepean River - Penrith Area

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Transport Roads & Maritime Services

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INSET 2

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m

Main Western Railway
Glenbrook Gorge
Portal Lookout
The Narrows

INSET 3

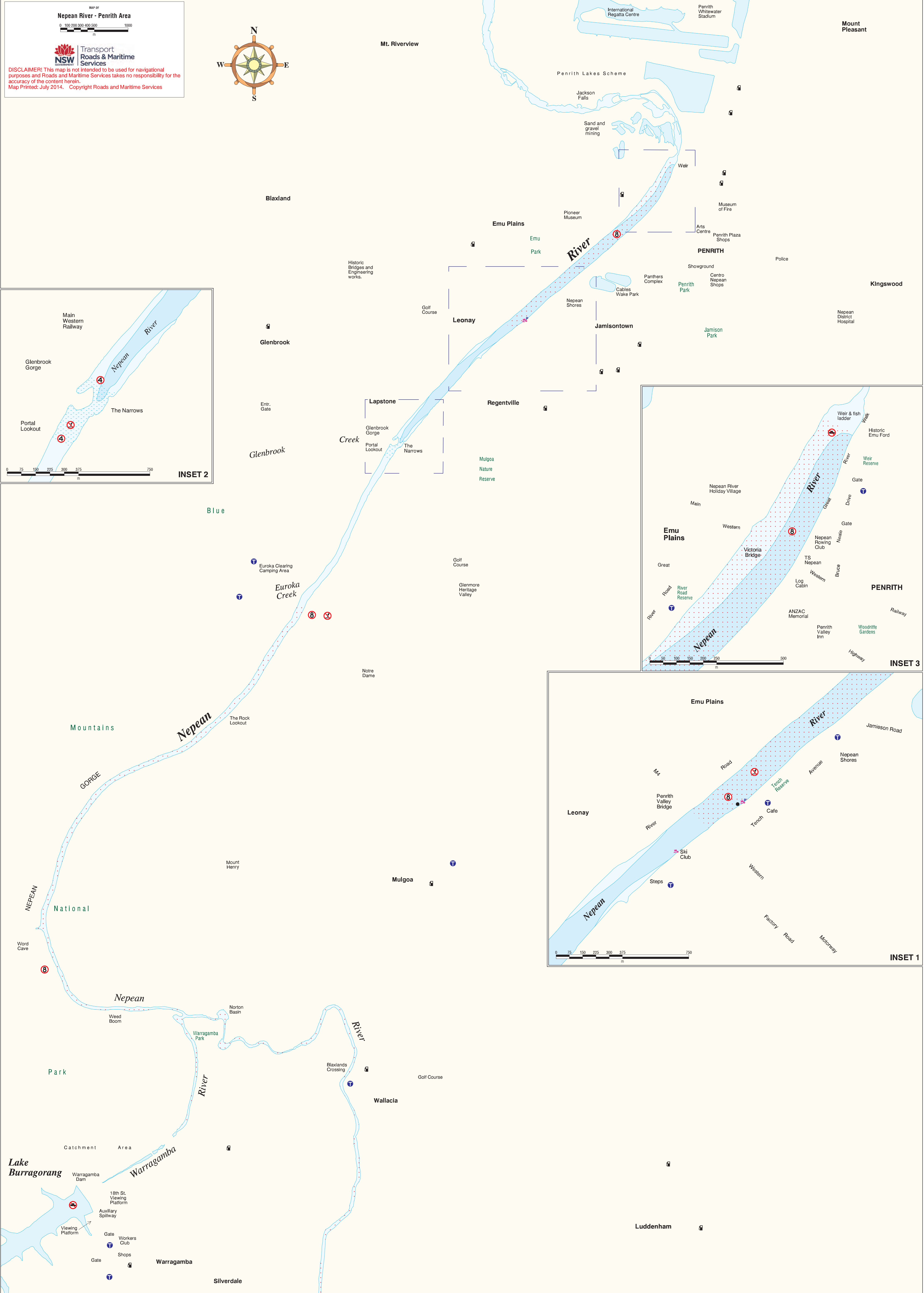
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Nepean River Holiday Village
Main
Western
Great
River Road Reserve
River
Victoria Bridge
Nepean Rowing Club
TS Nepean
Log Cabin
ANZAC Memorial
Penrith Valley Inn
Woodriffs Gardens
Railway
Highway

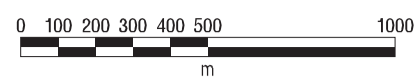
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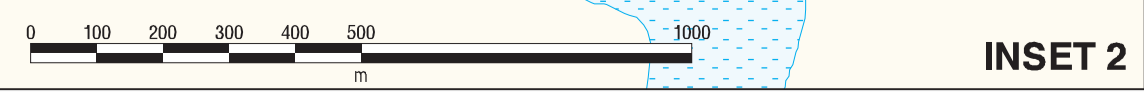
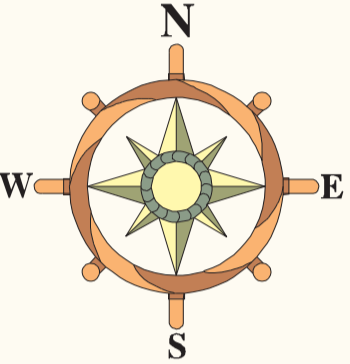
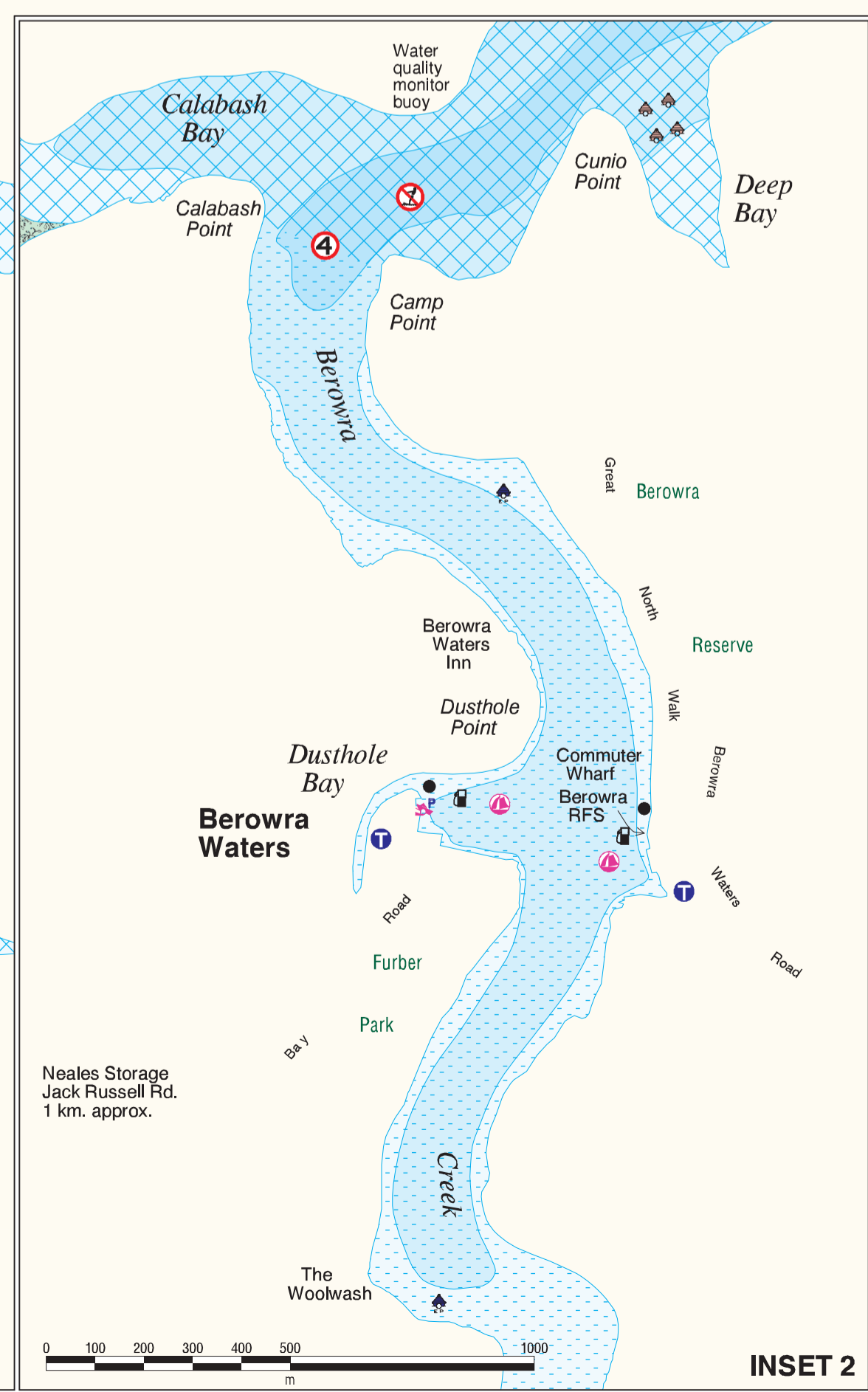
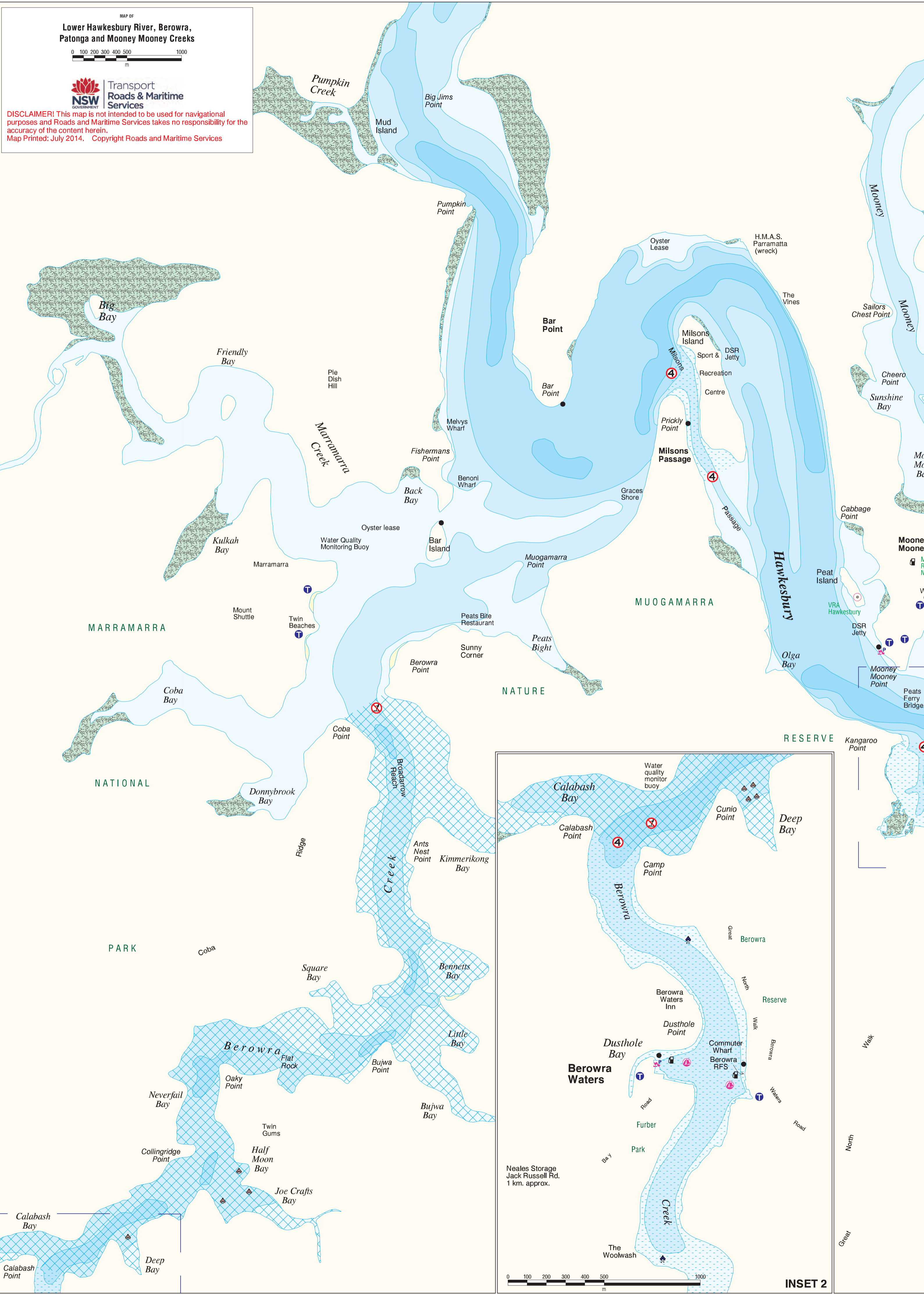
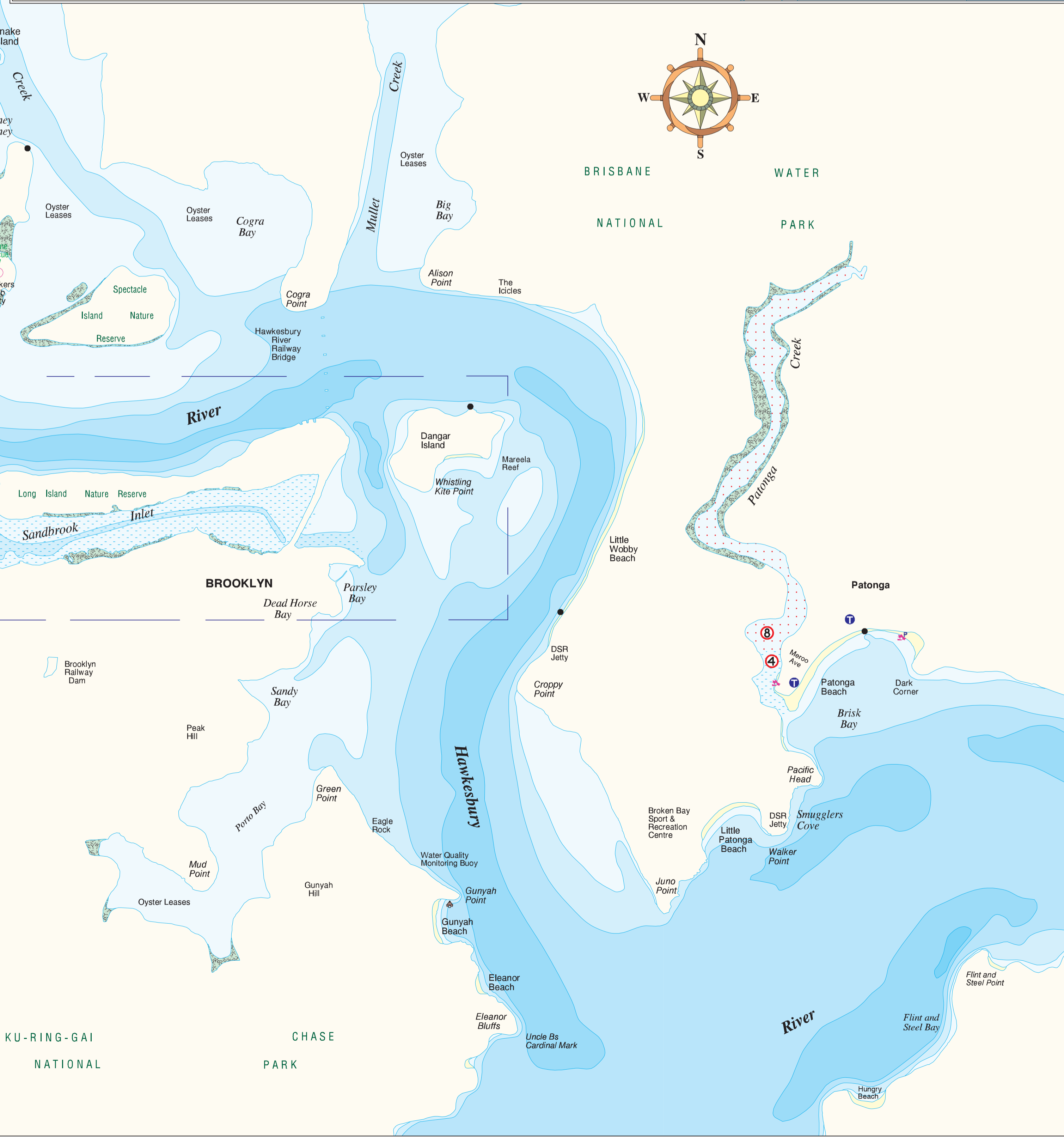
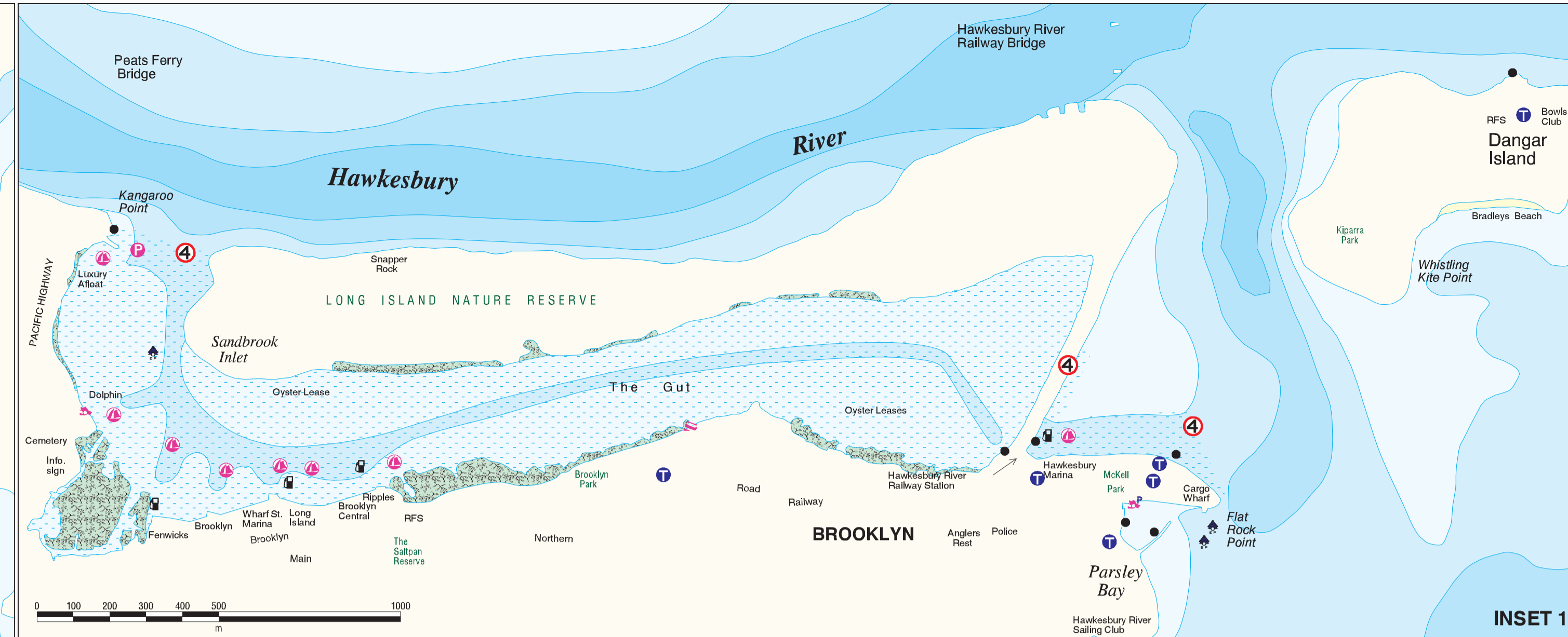
Emu Plains
Leonay
Penrith Valley Bridge
Ski Club
Steps
Western
Factory Road
Motorway
Tench
Cafe
Tench Reserve
Avenue
Nepean Shores
Jamieson Road



MAP OF Lower Hawkesbury River, Berowra, Patonga and Mooney Mooney Creeks



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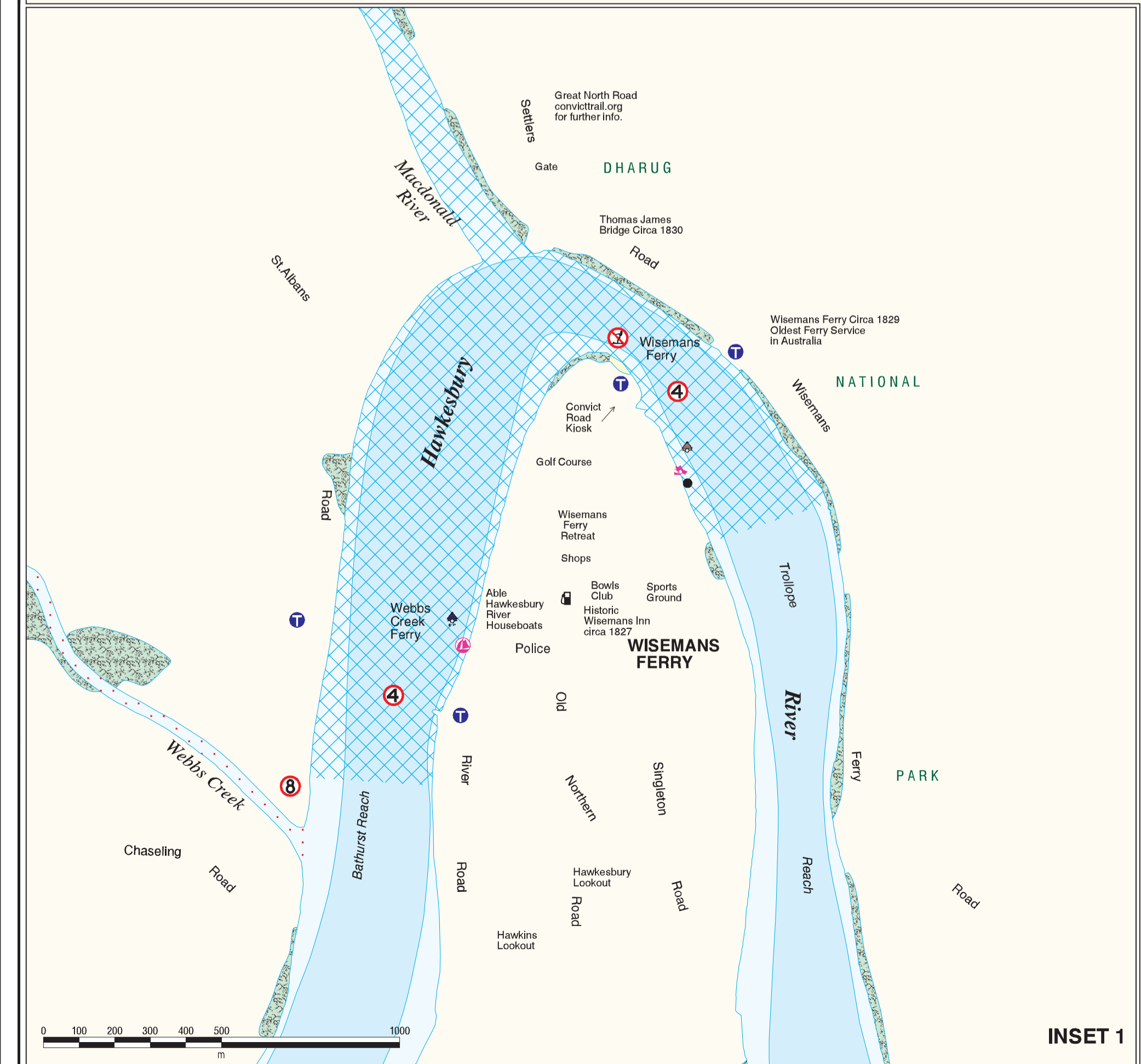
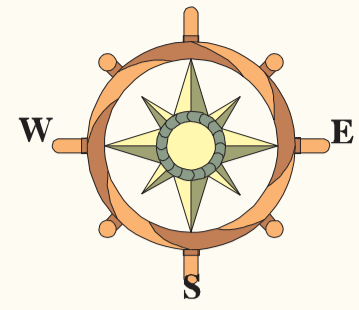


MAP OF
Mid Hawkesbury River - Spencer to Wisemans Ferry

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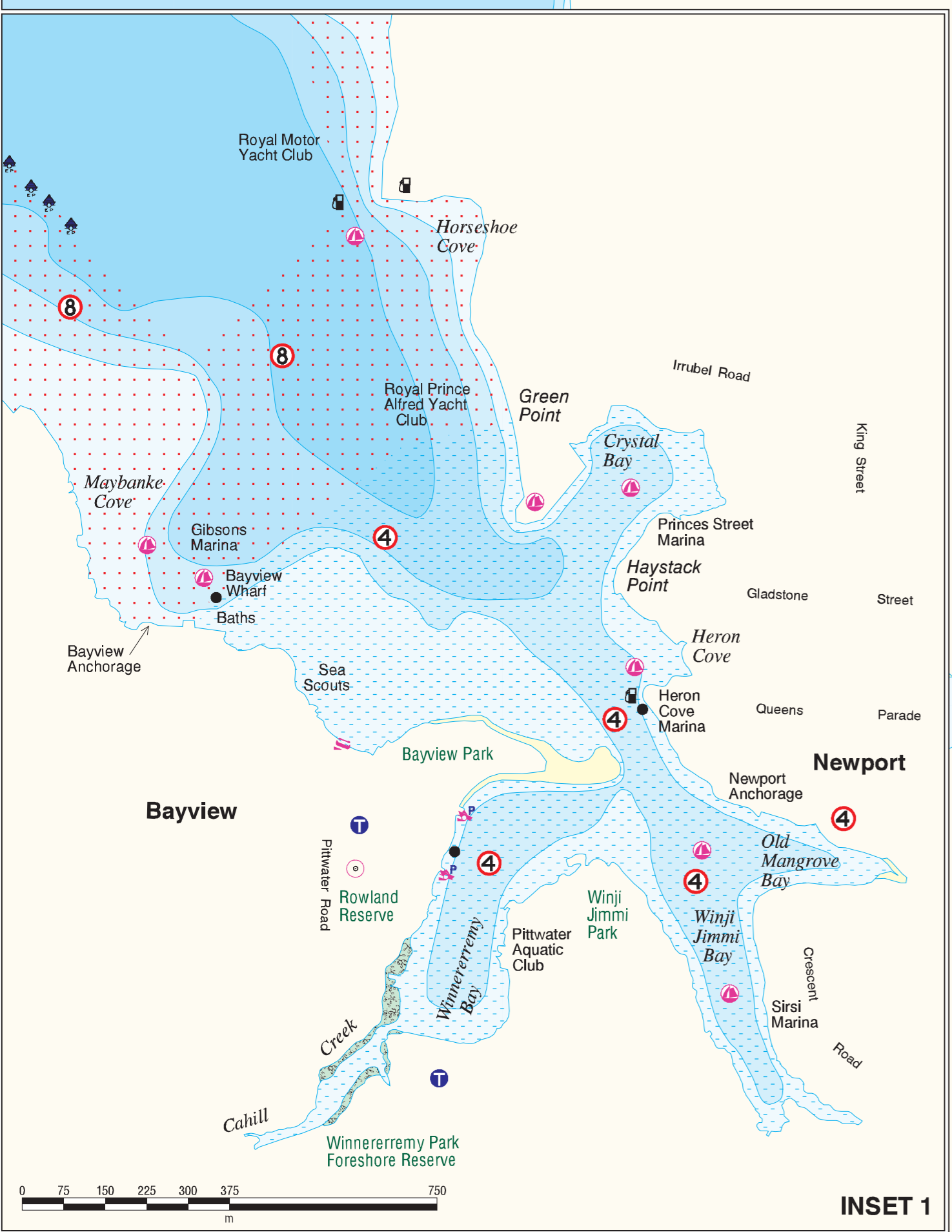
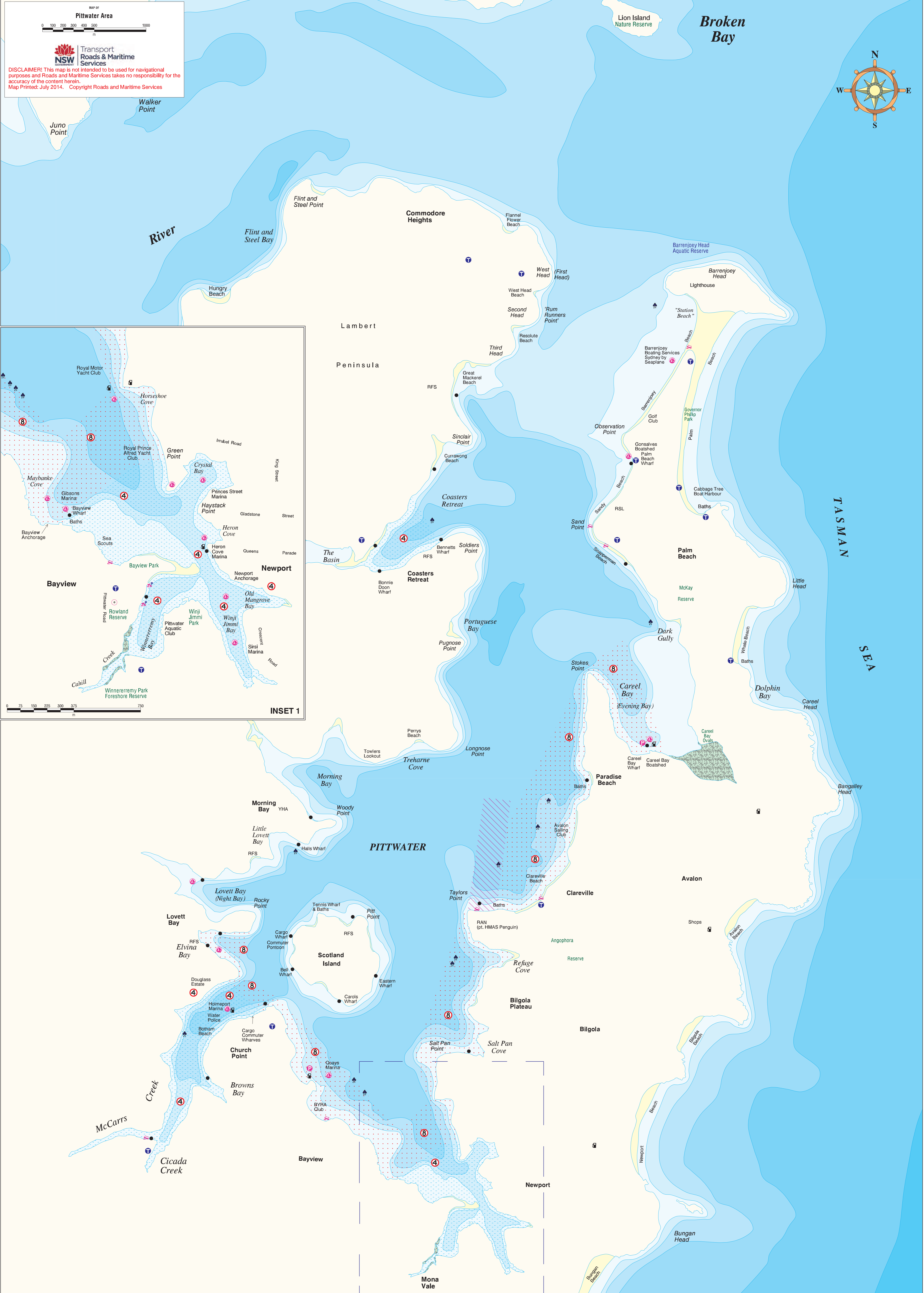
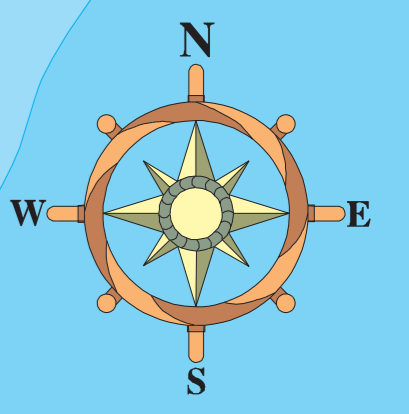
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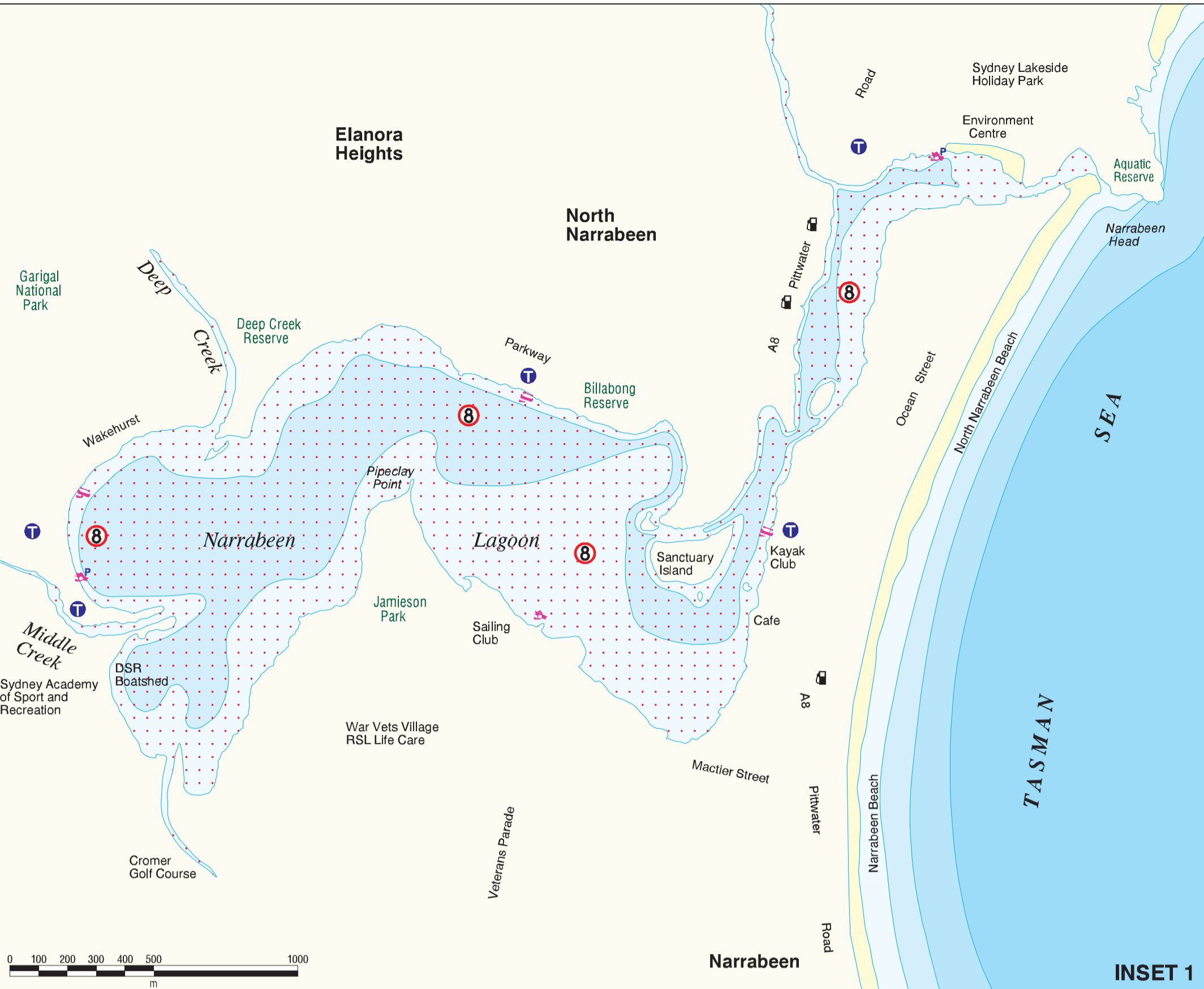
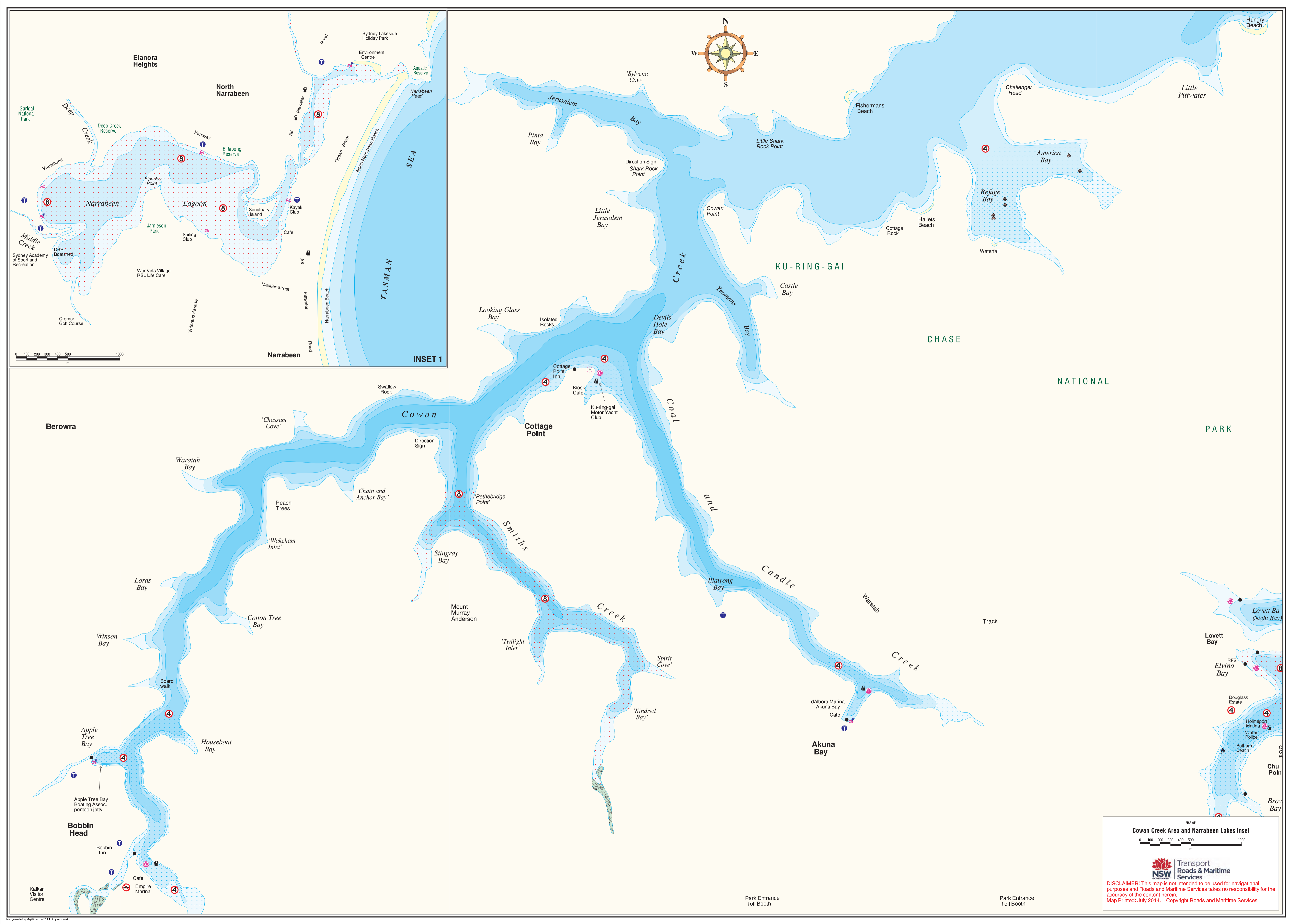


MAP OF Pittwater Area

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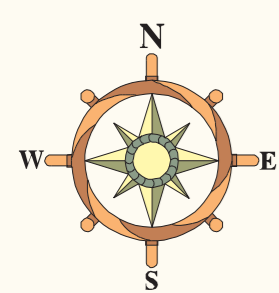
MAP OF
Cowan Creek Area and Narrabeen Lakes Inset

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NSW GOVERNMENT
Transport Roads & Maritime Services

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