



Public Buoy Moorings

A study to consider the establishment of Public Buoy Moorings in South Australian Coastal Waters

By Oropesa Holdings Pty Ltd

for

The South Australian Government
Department for Infrastructure and Transport,
Marine Services Directorate,
Road and Marine Services Division.

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1. Executive Summary

Buoy Moorings are an important component of maritime infrastructure. They provide a cost effective, environmentally friendly, secure berth for vessels of all types, and in differing locations. There are Buoy Moorings in place in all coastal waters of Australia, including South Australia.

This study has examined the buoy mooring systems in operation by 5 Australian states to support understand the feasibility of developing of a public buoy mooring scheme in South Australia.

The states reviewed have had buoy moorings in place throughout their waters for many years and without exception have well established processes, procedures and practices overseen by state government entities empowered to regulate through relevant legislation. The legislative instruments used to enable buoy moorings to operate in these states have been reviewed for relevance and potential application in a South Australian context.

The South Australia Government does not currently have the ability to govern a buoy mooring system of any type (private, public or commercial) due to an absence of legislative instruments that enable it to appropriately regulate such a system.

It is Oropesa's view that a Public Buoy Mooring System cannot be established by the South Australian Government in State Waters¹ without the authority to install, regulate, and operate such a system. Legislative powers through amendment or creation of Act, Regulation or By-law will be required to enable the Government to establish Buoy Mooring governance.

The value of government provided Buoy Moorings is acknowledged and the potential timeframes required to establish the legislative instruments needed to deliver Buoy Mooring management is recognized.

Oropesa recommends the South Australian Government consider utilising existing legislation (Harbors and Navigation Regs Part 12 - Boat Havens, or The Crown Land Act) to establish areas (Boat Havens), where it or an appointed entity (in the case of a Crown Lease) can apply due and diligent control over a Pilot Project for Public Buoy Moorings.

2. Introduction

With no Public Buoy Moorings available in South Australian Waters, recreational boaters undertake passage to sheltered waters where they must anchor their vessels or secure to an established private or Club mooring.

Buoy Moorings provide greater security for a vessel and deliver reduced impact to the seabed than anchoring, making this type of infrastructure an improvement in Public Safety and Environmental Protection over anchoring a vessel.

¹ Except for within a Boat Haven IAW the Harbors and Navigation Regs 2023 (Mar 2024) Part 12 – Boat Havens, sect 154



Public Buoy Mooring Schemes are in place in other States (Western Australia, Victoria, Tasmania, New South Wales, Queensland and Tasmania) and have been in operation for many years.

The South Australian Government, Department for Infrastructure and Transport (DIT) has agreed to investigate the feasibility of establishing a Public Buoy Mooring Scheme in South Australian Waters.

In March 2024 the DIT initiated a Feasibility Study to assess the suitability of a South Australian Public Buoy Mooring Scheme from a Marine Safety, Environmental and Legislative perspective.

This study has undertaken two desktop investigations in its methodology, first examining buoy mooring schemes in other states, followed by an in-depth enquiry of the South Australian perspective.

The outcomes of these works and Oropesa's recommendations for moving forward are provided herein.

3. Investigation 1 – Public Buoy Moorings in Other States

3.1. Western Australia

3.1.1. Overview

The Western Australian Public Mooring Buoy scheme is managed by three independent entities all enabled by specific legislation. Public Mooring Buoys are a component of each Department's overall Buoy Mooring management system.

In the WA Department of Transport (DoT), a team within the Maritime Licensing Division have responsibility for Moorings, including Public Moorings throughout 5 geographically defined Mooring Control Areas (MCA). Within the MCA's the DoT has Public and Emergency Buoy Moorings and permits Private and Commercial Buoy moorings too be established. The DoT manages commercial moorings in State waters that are outside of MCAs, or other controlled areas.

The MCA's have a high density of moorings, and some have reached saturation, where there is no more room for buoy moorings to be established. To maximise Buoy Mooring use the DoT has created a Shared Use Mooring System (SUMS)

Shared Use Mooring System – Across Department of Biodiversity Conservation and Attractions (DBCA) and DoT areas the SUMS enables registered vessels to utilise private moorings, whose permit holders have agreed to and entered this system, when these moorings are vacant. The private mooring permit holder retains priority use of the mooring, and the SUMS participant must vacate the mooring if the Registered Owner requires the use of the mooring at any time.

The Private Mooring Owner is provided discount licensing fees to compensate for any wear and damage to the mooring because of use by other parties to the SUMS. This system permits SUMS participants to access all moorings appropriate to the size of their vessel with moorings identified by vessel length and for vessels up to 16m in length. Vessels larger than 16m can only access moorings with a defined loa attached to the mooring².

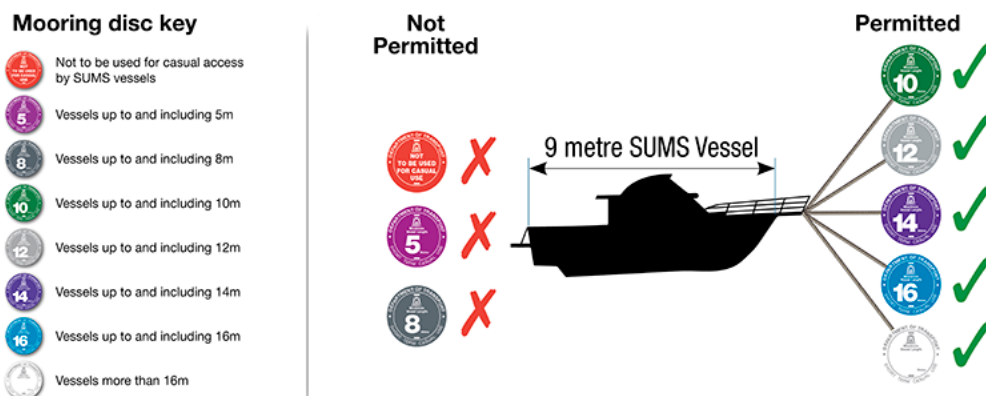


Figure 1. SUMS Mooring Disks.

The WA Department of Biodiversity Conservation and Attractions (DBCA) operates all moorings within State Marine Parts or Reserves. These include Commercial, Private,

² SUMS - https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_SharedUseMooringAuthorisationConditions.pdf

Courtesy (Public), Emergency and Rental Moorings. The DBCA delegates the operation of moorings within specific areas to local Authorities such as the Rottnest Island Authority and Swan River Trust.

At Rottnest Island where there is a high density of moorings, the Island Authority operates Moorings that include private and short-term rental moorings. The Island also has a Shared Use Mooring System which allows boat owners to become Authorised users who can use empty moorings around the Island.



Figure 2. Buoy Moorings in Thompson Bay, Rottnest Island, WA.

Port authorities regulate moorings within their boundaries and outside of any MCAs. Port Authorities do not provide Public Buoy Moorings.

Incorporated bodies such as commercial marinas, Yacht, Sailing, Fishing, and Cruising Clubs enter seabed leases with the WA Government for areas where they can establish infrastructure including pylon pens and buoy moorings for the benefit of their members or customers.

Regardless of the location, each relevant authority has independent processes for the establishment and management of buoy moorings in Western Australia. While there is consistency of requirements across the different systems they are not interrelated. There are links between the agencies and all parties utilise a DoT list of approved contractors for the design, installation, inspection and maintenance of moorings across all areas.

All moorings must be inspected ever two years and where required maintained to ensure they can support their intended function.

3.1.2. Navigational Safety

In assessing the Navigational Safety of a proposed mooring the relevant Authority in WA considers not just the location of the mooring, but also those factors which will ensure a vessel on the mooring remains secure – and that it does not break free where it will present a navigation hazard to other vessels.

In determining the safety of a mooring, the authorities examine:

- Proximity to normal vessel movements – clear of channels or regular thoroughfares
- Field density of existing moorings
- Swing circle of the intended vessel on a proposed mooring
- The exposure of the mooring location to sea and weather conditions
- The type of vessel the mooring is designed to accommodate
- The seabed and holding ground in relation to the proposed anchoring system
- Moorings must be designed by an approved contractor or if undertaken by a private owner then evidence of appropriate design and installation is provided.

3.1.3. Legal Risk, Liability and Insurance

Use of Public/Courtesy/Emergency moorings established by an Authority is undertaken at the risk of the user. The Authorities responsible for public moorings in Western Australia do not accept liability for the use or misuse of moorings provided by them.

Moorings are required to be installed by a contractor approved by the DoT, or in the case of a self-installed mooring the owner must provide documentation that the design and installation are appropriate for the intended vessel.

All vessels on moorings within areas under the control of the DBCA require vessels to be insured before approval is given to establish the mooring.

The assets and Departments of WA Government are insured by the Insurance Commission of Western Australia which provides protection for injury, property and legal liability.

3.1.4. Environment

There is agreement among the Authorities in Western Australia that fixed moorings are a mitigation against seabed disturbance compared with vessel anchoring. Designs, including CSIRO 'enviro mooring', are required in environmentally sensitive areas.

If that there are environmental or other sensitivities at a location no anchor zones are established. Navigational safety is a higher priority for no anchor zones.

No single buoy mooring anchor system can meet the diversity of seabeds across the state. Single and multi-leg anchor systems are employed where conditions permit, and rock-drilled anchors are utilised in areas with hard seabeds that do not support conventional anchoring systems or where the scour from a chain anchoring system would damage the seabed.

3.1.5. Legislative Compliance

Western Australian legislation has several Acts and Regulations that empower the respective Authorities to establish and regulate Moorings including Public Buoy Moorings.

Within these instruments, offences are listed which compel users to behave in line with the requirements of the regulations and enable the authorities to enforce compliance through action against breaches of the regulations.

These Acts and Regulations include:

- Aquatic Resources Management Act 2016 (12 Dec 2023)
- Biodiversity and Conservation Act 2016 (4 Nov 2023)
- Biodiversity and Conservation Regulations 2018 (4 Nov 2023)
- Conservation and Land Management Act 1984 (14 May 2024)
- Conservation and Land Management Regulations 2002 (15 Nov 2023)
- Environmental Protection and Biodiversity and Conservation Act 1999 (Cth) (Dec 2023), via WA Assessment Bilateral Agreement
- Jetties Act 1926 (1 Aug 2021)
- Jetties Regulations 1940 (1 May 2024)
- Marine and Harbours Act 1981 (21 Dec 2023)
- Mooring Regulations 1998 (1 May 2024)
- Navigable Waters Regulations 1958 (2 May 2024)
- Port Authorities Act 1999 (14 May 2024)
- Port Authorities Regulations 2001 (3 Dec 2022) Shipping and Pilotage Act 1967 (27 Feb 2019)
- Shipping and Pilotage (Mooring Control Areas) Regulations 1983 (1 May 2024)
- Western Australian Marine Act 1982 (2 May 2024)

3.1.6. Administration and Financing

The Authorities have staff with dedicated roles for the management of moorings across each entity. Processing mooring applications is undertaken within broader licensing roles as there are no departments with staff dedicated to only moorings functions. WA has an efficient on-line application and payment process through its web portal.

Monitoring and enforcement of mooring use is undertaken by Marine Compliance Officers or DBCA Rangers as part of their wider duties.

Each department is funded through budget allocations from State revenue.

Authorities collect mooring fees from license holders annually, and rental income in the case of DBCA (or its agents), and the proceeds from these funds support collective revenue consolidated into State Government's income.

3.1.7. Operation of Public Buoy Mooring Scheme

Public Buoy Moorings (Courtesy Moorings) are operated on a ‘first come, first served’ basis with restrictions on the number of hours a vessel can occupy the mooring. There is an honesty policy employed with no ability to undertake indirect monitoring of the mooring use.

Each Courtesy/Public Mooring is designed for a vessel up to a limited length overall as indicated on the mooring buoy. Courtesy mooring Buoys are Red.



Figure 3. WA DoT Courtesy Mooring.

Emergency Moorings are White with commercial and recreational/commercial mooring buoys coloured yellow.



Figure 4. WA DoT Emergency Mooring.

Private and Commercial moorings are identified by a yellow mooring buoy marked with the registration of the vessel designated to the buoy.



Figure 5. WA DoT Recreational/Commercial mooring with red disk.

Shared Use Mooring System (SUMS) buoys are recreational moorings (yellow buoys) that have a coloured disk attached to them to indicate the maximum vessel length that can secure to the mooring. All moorings, commercial and recreational, that do not participate in the SUMS must display a Red Disk indicating they are not to be used by SUMS participants.

Only DBCA offers moorings for rent within areas under its control. Access to these moorings is through third-party providers (Rottnest Island Authority and Swan River Trust) that operate within the relevant locations. The Department provides a list of local agents who will advise of the availability of rental moorings, the application process and the fees required. Part of this process is the requirement for a mooring renter/user to provide evidence of insurance for the vessel in question.



Figure 5. WA DBCA mooring at Ngari Capes Marine Park.

Compliance monitoring and enforcement with the regulated requirements of the different mooring schemes is undertaken by Compliance Officers (in the case of the DoT) and Rangers (for DBCA). Monitoring and compliance duties are undertaken as additional functions of the Compliance Officers and Ranger's principal roles, and they are authorised by the relevant legislative instruments (Acts and Regulations).

Moorings must be maintained, and inspection reports are required every two years or within 28 days of a request by the Authority. License fees for Moorings within MCAs are payable annually with an initial application fee required for new moorings or to register on the waitlist for areas that do not have room for additional moorings³. Moorings at Rottnest Island have a different fee structure as detailed by the DBCA⁴.

In WA, authorities recommend the use of the Deckee mobile device application to identify moorings in various locations. The app will provide information on the type of mooring, its conditions of use and vessel size.

3.1.8. Physical and MetOcean Factors

Western Australia has an expansive coastline with significant areas of exposed waters with no natural shelter. In establishing moorings for any purpose, the Authorities

³ Mooring Fees: <https://www.transport.wa.gov.au/marine/swing-mooring-licences.asp>

⁴ Rottnest Island Mooring Fees: <https://www.ria.wa.gov.au/boating/licensed-moorings-permits/how-to-get-a-mooring-licence>

consider the prevailing conditions of sea, swell and wind when determining the best location.

For Public Buoy Moorings the Authorities take into consideration that when establishing a mooring for public use, there is an expectation that the location will be generally safe from heavy conditions in normal use, and that by establishing the mooring they are encouraging the Public to operate to and at this location.

3.1.9. Lessons learned

Across the WA Departments, there is a common desire to have a mooring monitoring and compliance team who do not have ancillary duties beyond mooring management.

The DoT utilises Public Moorings for the temporary holding of derelict or abandoned vessels and expressed that an improvement for the management of these issues could include a dedicated area or facilities that would not occupy or limit public access to the moorings they currently use.

3.2. Queensland

3.2.1. Overview

Moorings throughout Queensland are established under the authority of Maritime Safety Queensland through substantive legislation. Relevant government agencies, including the Great Barrier Reef Marine Park Authority, Queensland Parks and Wildlife Service and the Gold Coast Water Ways Authority, manage moorings in specific precincts. Public Moorings are only managed by these agencies and not by MSQ directly.

With Tourism as a significant economic driver on the Queensland coast, significant systems have been established to cater for public access moorings within high visitation areas. These moorings are established through the authority of MSQ legislation and administered by local government agencies.

Regarding Public Moorings, the relevant government agency in each area is the Mooring Authority (mooring license) holder and is responsible for the design, installation, maintenance, management and cost of each mooring under its control.

Where private moorings are established the same conditions, responsibilities and process is followed. Different classes of mooring Authorities require different approval conditions and support different activities. A buoy mooring Authority is issued as a license subject to application, assessment, payment of fees and approval.

MSQ classify moorings into three categories by area:

- Category 1 buoy mooring areas are managed and controlled by third-party agencies who are responsible for collecting all fees and setting conditions of use related to the moorings.
- Category 2 buoy moorings are in areas considered by MSQ to be of a higher risk to marine safety and where the control of navigation is a significant concern due to environmental or navigation issues.

- Category 3 buoy moorings are those located in all other areas of the state unless upgraded to a higher category by MSQ.

Within the three area categories, MSQ separates buoy moorings into two types:

- Restricted buoy moorings are for recreational vessel use of a single nominated vessel.
- Unrestricted buoy moorings are for commercial use and may have several vessels accessing the mooring (only one at a time) for the business of the applicant.

A Club may hold mooring buoy authority for moorings intended for use by its members and subject to its control and operation

MSQ holds enforcement moorings across the state which it uses for its purposes including temporary securing abandoned, impounded or derelict vessels.

Great Barrier Reef Marine Park Authority (GBRMPA): The Authority in conjunction with the Queensland Parks and Wildlife Service has established an extensive network of Public Moorings throughout the Great Barrier Reef Marine Park to support public access, promote tourism and reduce the impact of anchoring within the Marine Park.

Queensland Parks and Wildlife Service (QPWS): The Service holds the Buoy Mooring Authority (issued by MSQ) for moorings within the Great Barrier Reef Marine Park and other Queensland Park areas, and is responsible for the operation, maintenance and control of these. These moorings are designed for specific size vessels, have limiting weather (wind) conditions, and specific time frames for their use – all this information is available on the mooring buoy and explained through the GBRMPA/QPWS website.

If a mooring is to be established within Port Authority, Great Barrier Reef Marine Park Authority, Queensland Parks and Wildlife Service or local government jurisdiction, the applicant must provide satisfactory evidence that all other relevant agencies have agreed to the establishment of the mooring - for example, a letter either supporting the establishment of the mooring and/or advising of no objections to the establishment of a mooring.

Port Authority – any Buoy Mooring Authority application (for private, club or commercial purposes) must show in the application to MSQ that the establishment of the mooring has the support of the relevant Port Authority.

3.2.2. Navigational Safety

MSQ will assess the proposed location of any mooring for navigational safety. This assessment is based on the mooring being in a category 2 area where vessel traffic or proximity to sensitive marine areas is relevant.

Restricted Buoy Moorings must be yellow and marked with the MSQ-issued authority numbers. Unrestricted Buoy Moorings must be pink and marked with the MSQ-issued Authority numbers.



Figure 6. MSQ Restricted Buoy Mooring

3.2.3. Legal Risk, Liability and Insurance

QPWS / GBRMPA public moorings are used at the risk of the user. Private moorings under the same management must maintain “the appropriate level of public indemnity insurance as identified in the permission”⁵.

Use of public moorings is at the user’s risk and the government does not provide insurance or indemnification of any misadventure while the public mooring is in use.

Vessels on Restricted (private) moorings must be registered in the State of Queensland.

The Queensland Government Insurance Fund (QGIF) provides self-insurance for all state government agencies and their assets. QGIF requires government agencies to take all reasonable precautions to prevent loss, damage or liability occurring and comply with all standards and statutory requirements in respect of safety of persons and property.

3.2.4. Environment

The sensitivity of the extensive coral reefs, islands, mangroves and estuarine areas along the Queensland coast have environmental considerations at the forefront of its buoy mooring schemes.

It is a Commonwealth requirement that an environmental review of seabed disturbance be undertaken prior to establishing a buoy mooring within a national park area.

Much of the Queensland coast has areas of significant boating activity and the potential for damage to the seabed through anchoring is considered a major threat to the health of reef systems. To address this the relevant authorities have established several public access buoy moorings in areas of high visitation and where considered

⁵ Queensland Government, Policy – Moorings in the Great Barrier Reef, Dec 2014

appropriate it has approved the installation of Restricted (private) and Unrestricted (commercial) moorings to reduce the need for anchoring.

The Parks Authorities employ a strategy of no anchoring zones in combination with buoy moorings to protect the seabed from anchor damage. No anchor zones are marked by white pyramid buoy floats.



Figure 7. GBRMPA/QPWS no anchor buoy and no anchor boundary

3.2.5. Legislative Compliance

Queensland's marine infrastructure and activities are comprehensively regulated by a suite of legislation with application specifically to buoy moorings and broadly to the activities of boating and vessel operations within coastal waters.

The establishment, management and administration of buoy moorings are comprehensively governed by these instruments:

Maritime Safety Queensland (MSQ) is empowered by the following legislation which has relevance to moorings and vessel operations:

- Coastal Protection and Land Management Act 1995 (26 Apr 2024)
- Coastal Protection and Land Management Regs 2017 (1 Sept 2023)
- Maritime Safety Queensland Act 2002 (10 May 2024)
- Transport Infrastructure Act 1994 (19 Feb 2024)
- Transport Operations (Marine Pollution) Act 1995 (12 Sept 2019)
- Transport Operations (Marine Safety) Act 1994 (1 Mar 2023)
- Transport Operations (Marine Safety) Regs 2016 (1 Feb 2024)
- Transport Infrastructure (Public Marine Facilities) Regs 2023 (1 Feb 2024)
- Transport Infrastructure (Waterways Management) Regs 2012 (1 Sept 2023)

Great Barrier Reef Marine Park Authority (GBRMPA) is covered by Commonwealth legislation:

- Great Barrier Reef Marine Park Act 1975 (5 Sept 2017)
- Great Barrier Reef Marine Park Regulations 2019 (5 Apr 2024)

- Great Barrier Reef Marine Park Zoning Plan 2003 (May 2004)
- Cairns Area Plan of Management 1998 (18 Dec 2008)
- Hinchinbrook Plan of Management 2004 (15 Apr 2004)
- Whitsundays Plan of Management 1998 (1 Jan 2018)
- Marine Tourism Contingency Plan for the Great Barrier Reef Marine Park (2023-24, updated)
- Environmental Impact Management: Permission System (policy) (4 Oct 2017)
- Environmental Protection and Biodiversity Regulations 2000 (16 Apr 2024)

Queensland Parks and Wildlife Service (QPWS) is governed by the following legislation:

- Coastal Protection and Land Management Act 1995 (26 Apr 2024)
- Coastal Protection and Land Management Regs 2017 (1 Sept 2023)
- Environmental Protection and Biodiversity and Conservation Act 1999 (Cth) (Dec 2023), via QLD Assessment Bilateral Agreement
- Environmental Protection Act 1994 (1 Feb 2024)
- Environmental Protection Regs 2019 (25 Aug 2023)
- Environmental Protection (Water and Wetland Biodiversity) Policy 2019 (20 Oct 2023)
- Marine Parks Act 2004 (1 Mar 2023)
- Marine Parks (Declaration) Regs 2006 (1 Sept 2019)
- Marine Parks (Great Barrier Reef Coast) Zoning Plan 2004 (1 Jan 2021)
- Marine Parks (Great Sandy) Zoning Plan 2017 (1 Jan 2021)
- Marine Parks (Morton Bay) Zoning Plan 2019 (1 Sept 2021)
- Marine Parks (Morton Bay) Zoning Plan 2019 (1 Sept 2021)
- Marine Parks Regulations 2017 (1 Sept 2023)
- Nature Conservation (Protected Areas Management) Regs 2017 (22 Mar 2024)
- Nature Conservation (Protected Areas) Regs 1994 (29 Mar 2024)

Gold Coast Waterways Authority is enabled by the:

- Gold Coast Waterways Authority Act 2012 (1 Feb 2024)
- Gold Coast Waterways Authority Regs 2022 (7 Oct 2022)

Queensland Port Authorities are corporatised entities which principally operate under the provisions of the:

- Government Owned Corporations Act 1993 (1 Mar 2023)
- Government Owned Corporations Regs 2014 (17 Dec 2018)
- Transport Infrastructure Act 1994 (19 Feb 2024)

- Transport Infrastructure (Ports) Regs 2016 (25 Feb 2022)
- Transport Infrastructure (Public Marine Facilities) Regs 2023 (1 Feb 2024)
- Transport Infrastructure (Waterways Management) Regs 2012 (1 Sept 2023)
- Transport Operations (Marine Safety) Act 1994 (1 Mar 2023)
- Transport Operations (Marine Safety) Regs 2016 (1 Feb 2024)

3.2.6. Administration and Financing

Public Buoy Moorings are established by the relevant Authorities through diligent processes that ensure the buoy moorings are fit for purpose for the location and intended use.

Applications for new private moorings require the Mooring Authority Holder (Licensee) to provide significant details on the location, design, materials swing room, seabed type, purpose of the mooring, intended duration the mooring will be in situ, and the intentions for decommissioning.

Application for an Unrestricted Buoy Mooring Authority (License) requires the maximum length of the largest vessel intending to use the mooring.

Where a private (Restricted) Buoy Mooring Authority is sought the vessel to use the mooring must be registered in Queensland and its details provided.

An application fee is levied and differs for each type of mooring authority applied for as do ongoing annual fees.

For restricted (private) buoy moorings, the vessel must be on the mooring for a minimum of 60% (219 days) of the year.

MSQ does not fund Public Buoy Moorings but does have emergency moorings established within regions. These are used for contingency requirements and for holding detained vessels.

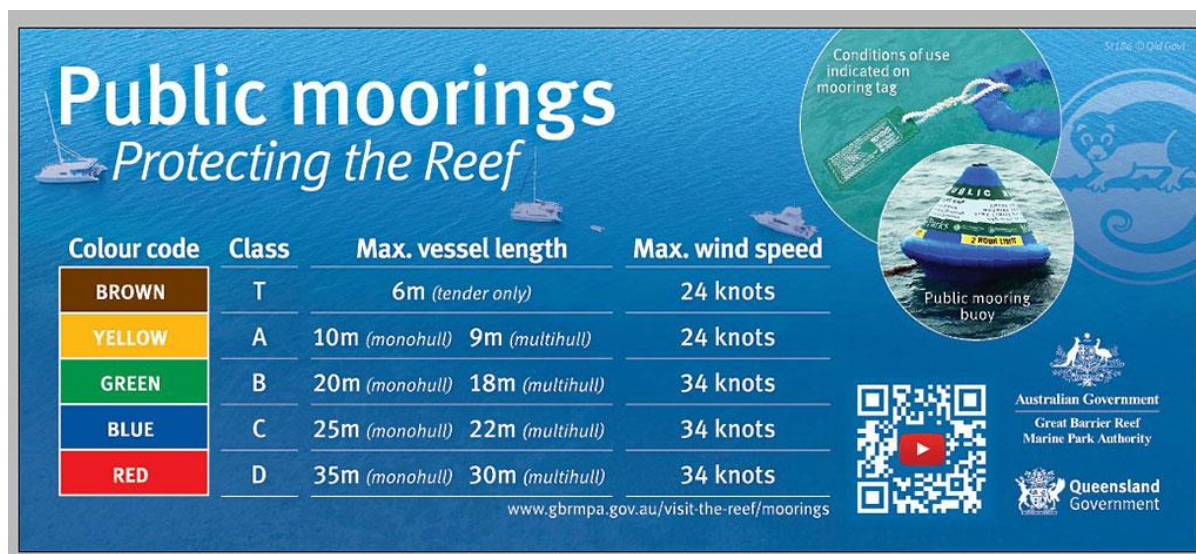
Administration of mooring applications is undertaken by MSQ staff as a component of general recreational vessel licensing. The operation of the mooring scheme overall is undertaken by regional MSQ staff, QPWS staff and GBRMP staff as a component of general duties.

Public Buoy Moorings are funded through government department budget allocations. The income from Restricted and Unrestricted mooring fees is returned to the government as consolidated revenue.

3.2.7. Operation of Public Buoy Mooring Scheme

In Queensland, while MSQ is the Mooring Authority, it does not provide Public Buoy Moorings. This service is undertaken by the Queensland Parks and Wildlife Service in areas under its control and by the Great Barrier Reef Marine Parks Authority inside the GBRMP.

In the GBRMP and Queensland Park areas, Courtesy or Public buoy moorings are accessed on a first come first served basis. These moorings are blue with a band indicating the size of vessel that can secure to the mooring.



Public moorings
Protecting the Reef

Colour code	Class	Max. vessel length	Max. wind speed
BROWN	T	6m (tender only)	24 knots
YELLOW	A	10m (monohull) 9m (multihull)	24 knots
GREEN	B	20m (monohull) 18m (multihull)	34 knots
BLUE	C	25m (monohull) 22m (multihull)	34 knots
RED	D	35m (monohull) 30m (multihull)	34 knots

Conditions of use indicated on mooring tag

Public mooring buoy

www.gbrmpa.gov.au/visit-the-reef/moorings

Australian Government
Great Barrier Reef Marine Park Authority

Queensland Government

Figure 8. Queensland Public Buoy Moorings with vessel size limits.

A mooring Tag will be attached to the buoy indicating the duration a vessel can remain at the mooring. This time will vary between locations to ensure equitable use of the mooring. Any vessel securing to a public mooring after 15:00 may remain overnight regardless of the time limit indicated.



Figure 9. Queensland Public Buoy Mooring Tag with a time limit

The mooring tag will also have information on the weather operating limits for the buoy mooring.



MOORING ADVICE FOR USERS

Vessel masters are responsible for the safety of their vessel while using this mooring. Be aware of changing weather conditions, your vessel draught and mooring swing. Report any mooring damage to 1300 130 372. (Quote the mooring ID number).

LIMITS OF USE OF THIS MOORING

- Wind up to **24** knots
- Monohull up to **10** metres
- Catamaran up to **9** metres
- Shortening of the mooring rope is not permitted.
- Attach the mooring on the Bow of the vessel.
- Do not manoeuvre under power while attached to the mooring.

2 HOUR LIMIT APPLIES

Marine Parks

Australian Government
Great Barrier Reef Marine Park Authority

Figure 10. Queensland Public Buoy Mooring Tag with limits of use.

Public mooring use and compliance is monitored by Park Rangers where possible, however is reliant on the good behaviours of the boating public.

The Parks Authority undertake regular inspection and maintenance of the Public Buoy Moorings and regular replacement of equipment to ensure the protection of the environment and safety of the public.

3.2.8. Physical and MetOcean Factors

Within the Marine Park Areas moorings are required to be designed by a certified registered professional engineer and installed by government-approved contractors.

In approving a mooring, the Authority will consider the prevailing weather conditions and intended operating limits for the mooring including its intended vessel capacity.

The density of existing mooring, traffic flow and proximity to areas of high visitation are all considered when approving the application for a mooring to be installed.

3.2.9. Lessons learned

There are a great number of legislative instruments that have application to the management of moorings in Queensland State waters.

Because of the many different acts, regulations, plans and policies, it can be difficult to navigate the various requirements of government in implementing due and diligent management of moorings regardless of their type or nature.

If reform were to be considered a consolidated buoy mooring Act with associated regulations that could meet the requirements of the marine parks would provide a more efficient form in which to manage moorings in Queensland waters.

3.3. New South Wales

3.3.1. Overview

New South Wales has extensive coastal and inland waterways that are highly patronized by the recreational boating community.

The density of mooring buoys in Sydney Harbour is the highest for any capital city waterway in Australia.

Moorings are managed by Transport for NSW in all navigable waters outside national parks. The NSW National Parks Authority provides oversight for limited areas within national parks.

Regardless of location moorings are categorised as Private, Public or Courtesy, Commercial or Emergency.

With over 21,000 buoy moorings under its governance, Transport for NSW has a team of individuals working to manage the buoy mooring functions across the State from Tweed Heads in the north to Quarantine Bay in the south and inland from Tamworth to Mildura with regional offices managing the remote locations.

NSW has an interactive web-based tool that permits easy identification of Courtesy and Emergency Moorings as well as providing information on the availability of Private moorings by specific location. With limited space and high demand, many areas are at saturation with moorings and applicants for a mooring are commonly required to join a waitlist for access to a mooring or may be offered an alternative location. The

cost of a marina pen in NSW can be substantial and private moorings offer a much cheaper option with understandably high demand.

Only registered vessels may access moorings in NSW.



Figure 11. Buoy moorings in Athol Bay, Sydney Harbour.

3.3.2. Navigational Safety

When an application for a mooring license is received the applicant must indicate the location, they are seeking a mooring but cannot determine the precise coordinates unless the area has sufficient space to permit a new mooring to be established.

The location of a new mooring will be subject to a review of navigational safety that will consider:

- Access to and from shore
- Current mooring density
- Marine traffic routes and traffic density
- Holding ground

3.3.3. Legal Risk, Liability and Insurance

The NSW Government self-insures the infrastructure it has established, including Public/Courtesy and Emergency moorings through Insurance for NSW.

Insurance for NSW is part of icare (Insurance and Care NSW). It manages several government funds and statutory insurance schemes, which collectively support and protect the NSW public service in the course of their operations.

For Private moorings, it is not a requirement but a recommendation that the vessel on the mooring be insured. A vessel on a private mooring must hold a valid NSW registration.

3.3.4. Environment

Transport for NSW conducts a Review of Environmental Factors (REF) before granting a mooring license and approving the installation of a buoy mooring – this is required for all moorings and across all locations in NSW.

A REF examines and assesses factors such as the proposed location, type and size of the vessel, any proposed commercial use, and the sensitivity of the environment to ensure it is appropriate and that any impacts are avoided or mitigated accordingly.

Some areas are not suitable for buoy moorings due to a range of factors including:

- Access to and from shore
- Identification of constraints during the REF process, i.e. sensitive habitat
- Areas administered by other departments e.g. National Parks.

In NSW Park areas application for a mooring will be assessed through the Fisheries and Marine Protected Areas Application process. In addition, where a marine park is within estuarine waters subject to local council authority, a development application may be required, subject to the local council regulations. A marine parks and fisheries permit will be required before seeking local council approvals.

Transport for New South Wales is working with the CSIRO to trial a new design of mooring in NSW waters. These moorings minimise contact with the seabed through the use of an elastic tether to connect the buoy to the clump weight removing traditional anchor chains that can scour and damage the seabed. 12 moorings of this type have been deployed across NSW (Port Stephens, Jervis Bay and Sydney Harbour). This trial commenced in June of 2023 and will be completed in July of 2025.

The future use of this type of mooring will be deliberated once the findings of the trial are presented.

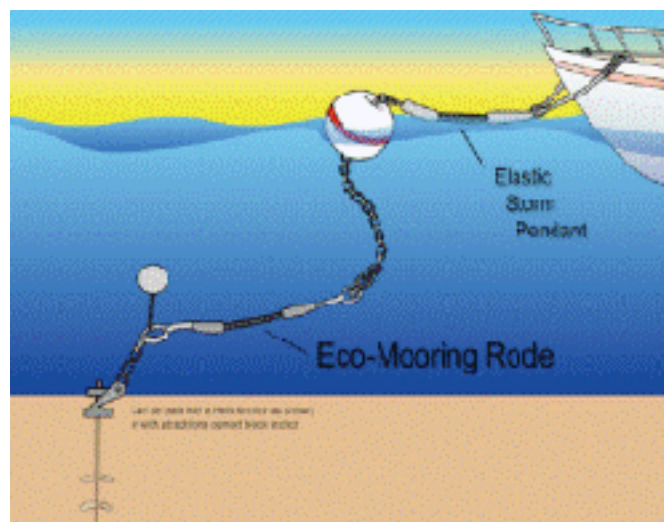


Figure 12. NSW Environmentally friendly Buoy mooring.

3.3.5. Legislative Compliance

NSW legislation provides Authority and Governance of Buoy Moorings through the following legislative instruments:

Transport for NSW:

- Environmental Planning and Assessment Act 1979 (Jan 20204)
- Environmental Protection and Biodiversity and Conservation Act 1999 (Cth) (Dec 2023), via NSW Assessment Bilateral Agreement
- Marine Safety Act 1998 (July 2023)
- Marine Safety Regulations 2016 (Mar 2024)
- Ports and Maritime Administration Act 1995 (Jan 2021)
- Ports and Maritime Administration Regulation 2021 (Oct 2023)

NSW Parks Authority:

- National Parks and Wildlife Act 1974 (Oct 2023)
- National Parks and Wildlife Regulation 2019 (Jan 2023)
- Marine Estate Management Act 2014 (Dec 2020)
- Marine Estate Management (Management Rules) Regulations 1999 (Sept 2021)

Within these acts and regulations, there are specific sections that have application to the management of buoy moorings for each respective Authority.

3.3.6. Administration and Financing

Moorings are well administered in NSW with extensive investment in web-based tools to support public access and understanding of mooring locations, availability (private moorings), activities and applications/renewal processes.

Transport for NSW(TfNSW) has a comprehensive website with a simple application process for approval of moorings. This system permits the applicant to readily identify areas where there are moorings available and others where they would be required to enter a waitlist.

Moorings must be maintained and kept in good condition. An annual inspection report must be provided with the renewal application. The inspection may be carried out by the license holder, however, TfNSW recommends the services of a professional mooring contractor. Private Moorings must be maintained every 12 months and evidence of such needs to be provided on request by the Department.

Private and Commercial mooring fees are paid annually.

Private mooring fees are based on the vessel length and the location. There are three rates for private mooring fees based on location being:

- High-rate area (East Sydney Harbour)
- Medium-rate area (Rest of Sydney & Pittwater)
- Low-rate area (Rest of State).

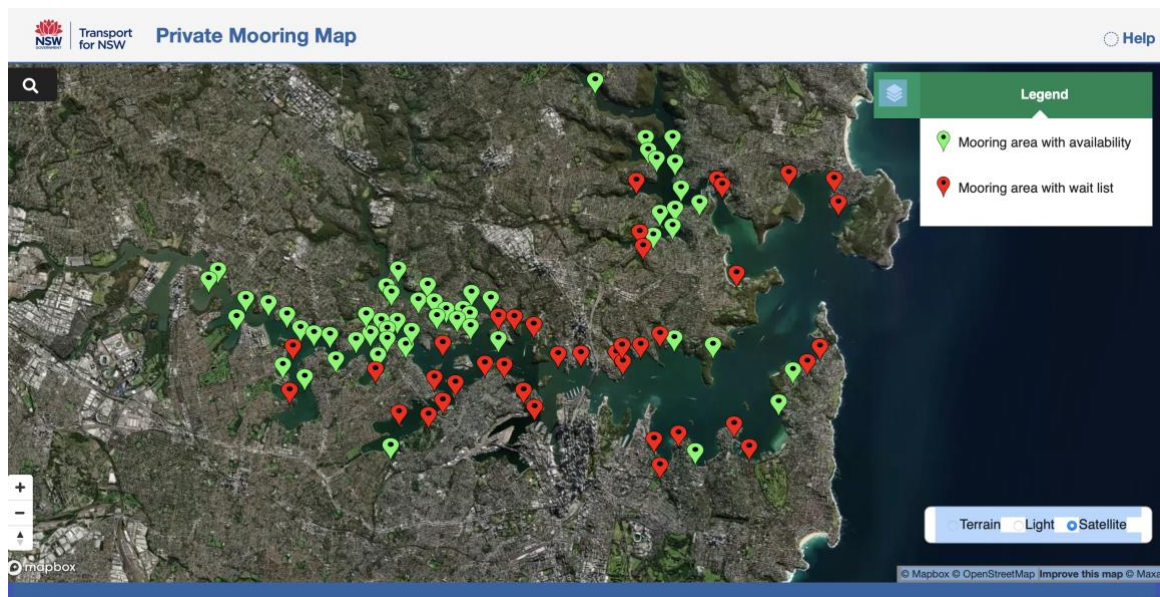


Figure 11. NSW Private Mooring availability – Sydney Harbour

Commercial mooring fees are determined by where they fit in one of seven categories, and by where they are located, in either a high, medium or low-rate area. The categories are:

- Marinas
- Boat dealers / Repairers
- Large Commercial Vessels
- Small Commercial Vessels
- Boating Club Members / Guests
- Ski / Caravan Park
- Tourism or Hospitality

Commercial moorings are separated into maritime business or club moorings in the application process. Clubs that are incorporated bodies can apply for individual mooring licenses to establish moorings for exclusive use by their members.

The Mooring Schemes for Transport for NSW and NSW Parks are funded through departmental budget allocations from the NSW Government.

The income received through annual fees for private and commercial moorings is returned to the consolidated government revenue.

3.3.7. Operation of Public Buoy Mooring Scheme

Public Moorings are accessed on a 'first-come, first-served' basis and vessels can remain moored for up to 24 hours. NSW Transport Boating Safety Officers monitor the use of these moorings to ensure compliance with the requirements. The Boating Safety Officers report any deficient private or commercial moorings and monitor vessels at buoy mooring as part of their overall duties.

For Public Buoy Moorings, the conditions of use are that the moored vessel cannot be greater than a maximum displacement of 20 tonnes, the vessel must be manned at all times, and cannot remain on the mooring beyond 24 hours.

TfNSW maintains these moorings through a professional mooring services contractor to ensure they remain fit for purpose. Public Buoy Moorings must be certified by a competent entity – professional mooring service contractor.

Public Buoy Moorings positions can be identified through the web portal and individually by their pink buoy float and Emergency moorings by a blue float.



Figure 13. NSW Courtesy Buoy Mooring (Pink) and emergency Buoy Mooring (Blue).

Public moorings can be located through the Transport for NSW web tool that provides the location and operating limits of the individual courtesy mooring.

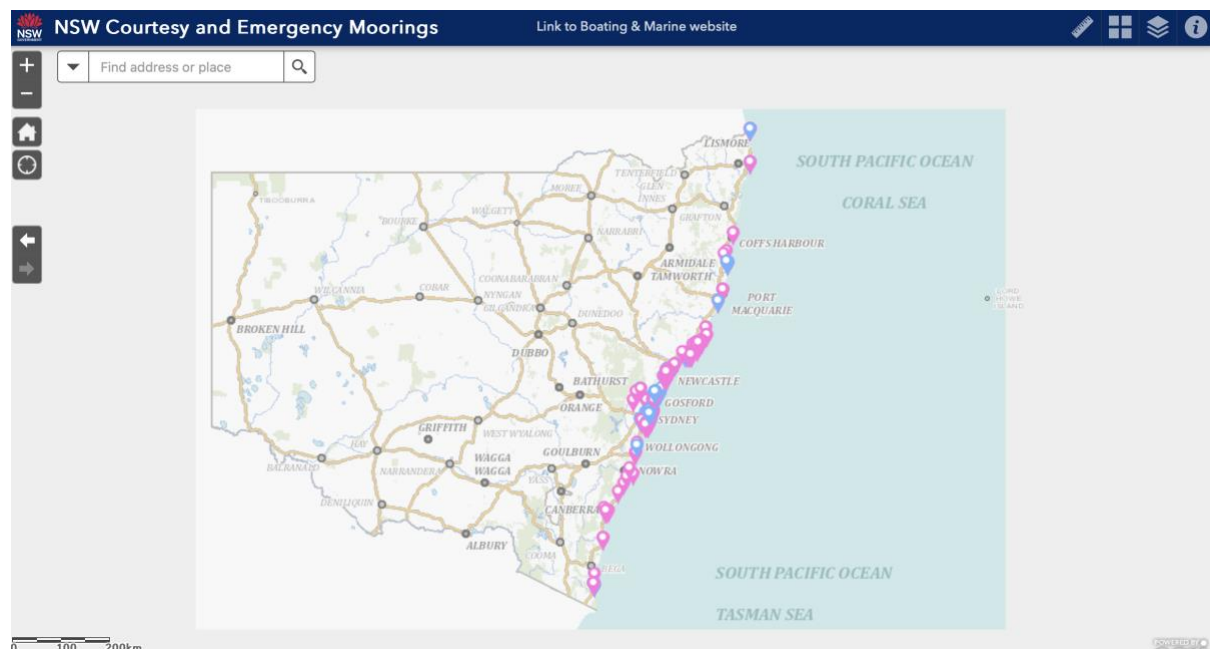


Figure 14. NSW Courtesy Buoy Mooring locations

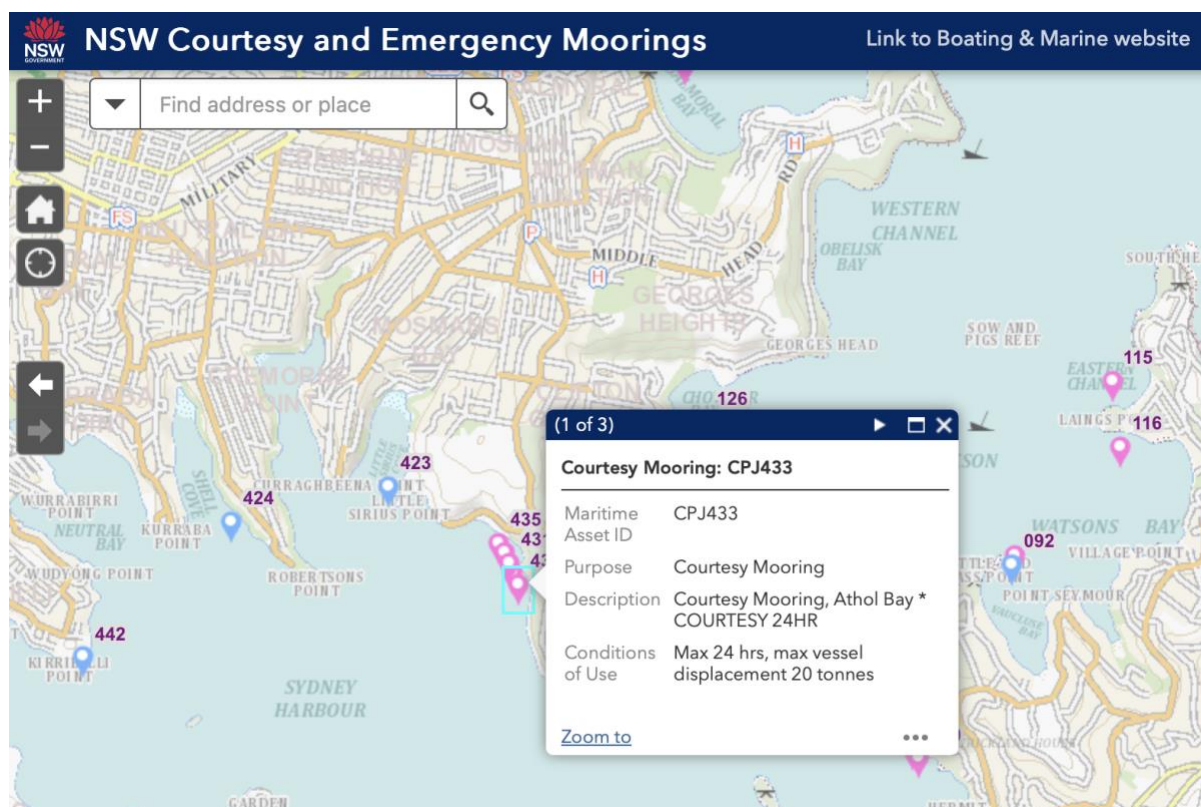


Figure 15. NSW Courtesy Buoy Mooring details

3.3.8. Physical and MetOcean Factors

In NSW the design of a mooring system is at the discretion of the license holder however the Department recommends the use of a commercial contractor to ensure a competent entity has undertaken the required investigation when designing, installing and maintaining the mooring. Where the license holder does not use a professional mooring contractor, they will be required to provide evidence of the mooring design being suitable for the intended vessel in the application process.

As part of the application process, TfNSW will conduct a Review of Environmental Factors (REF). This process will consider the seabed, metocean, currents, substrate, mooring components, and the details of the vessel intended for the mooring. This applies to new moorings and the transfer of existing moorings to the new vessel owner, or when a new vessel is to be placed on the mooring with the same owner.

Mooring sites are subject to a range of factors in assessing their suitability, including the safety of navigation, the environment, and the amenity of the area and exposure to weather. Additional approvals/permits from other agencies may also be required to grant a mooring license. Some mooring sites may not be permitted to proceed based on these factors. Existing moorings may also need to be relocated or removed based on ongoing consideration of these factors when a buoy mooring license is renewed.

3.3.9. Lessons learned

The current mooring scheme processes and practices are working to the satisfaction of TfNSW.

3.4. Tasmania

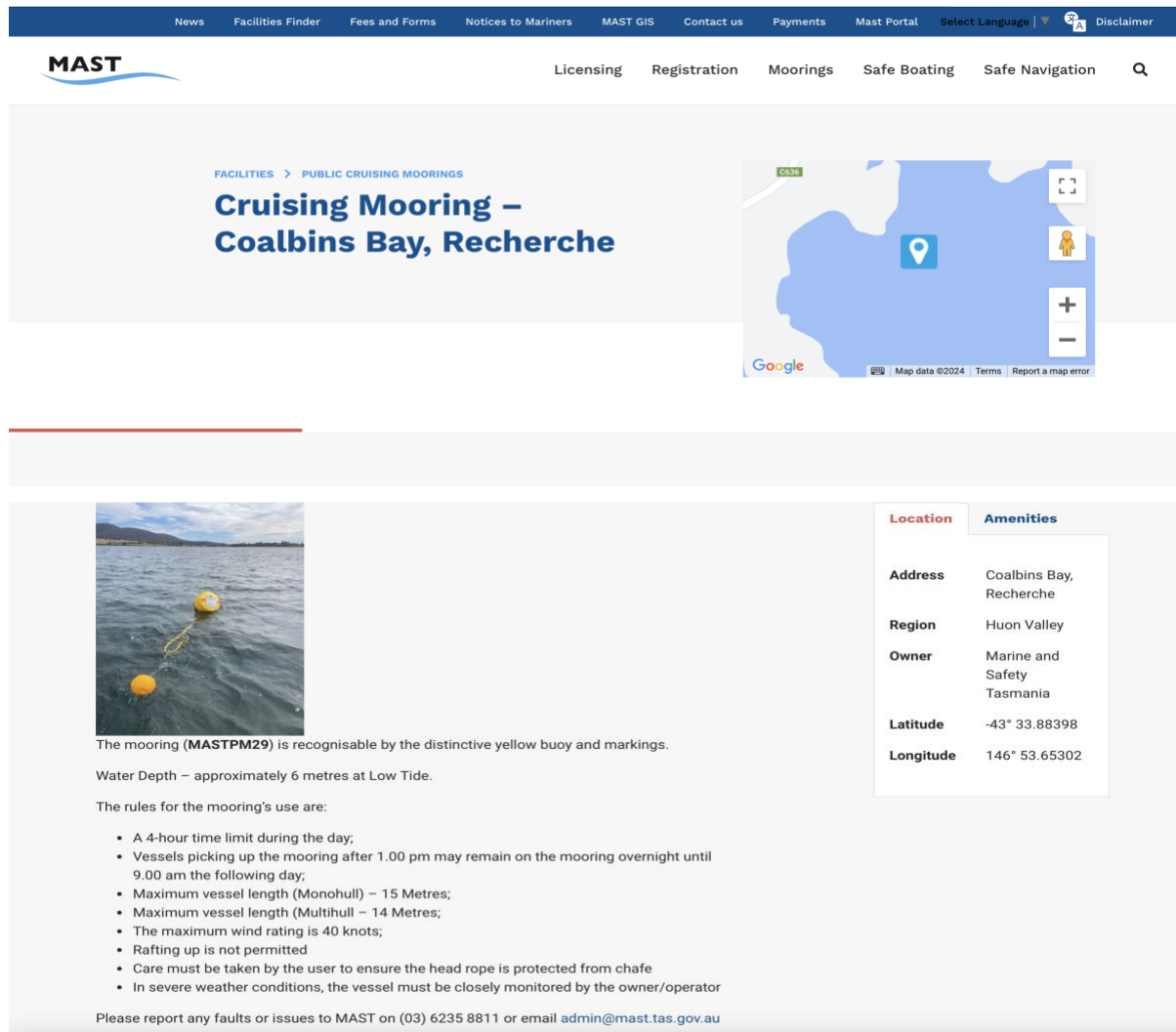
3.4.1. Overview

Maritime and Safety Tasmania (MAST) is the sole regulator of moorings in State waters. The Department is supported by specific legislation regulating the establishment, operation and management of all types of buoy moorings across coastal and inland navigable waters.

The State Parks Authority is a stakeholder in the buoy management process and their endorsement is sought for any application in Park waters, however, it is MAST who is the approving authority. On successful application, a Mooring Permit will be issued, and the buoy mooring will enter the MAST Database.

The process for establishing a mooring is well documented and easy to follow through MAST's online system for identifying private and public mooring locations, and the availability of private mooring availability by location.

Mast has an interactive portal for identifying private moorings, but public moorings are not placed on this system. A standalone MAST webpage has information on public mooring.



MAST

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Licensing Registration Moorings Safe Boating Safe Navigation

FACILITIES > PUBLIC CRUISING MOORINGS

Cruising Mooring – Coalbins Bay, Recherche

Location

Address Coalbins Bay, Recherche

Region Huon Valley

Owner Marine and Safety Tasmania

Latitude -43° 33.88398

Longitude 146° 53.65302

Amenities

The mooring (MASTPM29) is recognisable by the distinctive yellow buoy and markings.

Water Depth – approximately 6 metres at Low Tide.

The rules for the mooring's use are:

- A 4-hour time limit during the day;
- Vessels picking up the mooring after 1.00 pm may remain on the mooring overnight until 9.00 am the following day;
- Maximum vessel length (Monohull) – 15 Metres;
- Maximum vessel length (Multihull) – 14 Metres;
- The maximum wind rating is 40 knots;
- Rafting up is not permitted
- Care must be taken by the user to ensure the head rope is protected from chafe
- In severe weather conditions, the vessel must be closely monitored by the owner/operator

Please report any faults or issues to MAST on (03) 6235 8811 or email admin@mast.tas.gov.au

Figure 16. MAST Webpage - Public mooring buoy: Coalbins Bay, Recherche

3.4.2. Navigational Safety

In assessing a mooring application MAST will consider:

- Mooring field density
- Swing circle of the new mooring and interaction with other vessels
- Proximity to local vessel traffic
- Exposure of the location to weather
- Access and egress to/from the mooring

3.4.3. Legal Risk, Liability and Insurance

Access to public moorings in Tasmania is at the user's risk and MAST accepts no liability for incidents that occur using these assets.

It is an offence to operate an unregistered vessel with an engine fitted (even if not in use) in Tasmania. It is a requirement on application and at annual renewal for the vessel intended for the mooring to be registered at the time of issue and on annual renewal. It is not an offence to have an unregistered vessel on a mooring.

There is no requirement for a vessel to be insured in Tasmania.

All Tasmanian Government Departments and their assets are self-insured by the Tasmanian Risk Management Fund. Marine hull and travel insurance are insured through the private sector: the former due to cost efficiencies, the latter in order to benefit from a worldwide emergency assistance scheme. All other categories of risk are self-insured.

3.4.4. Environment

Environmental impact is considered during the mooring application process for Private/Commercial and Public moorings.

For environmental reasons vessel maintenance, except minor, or as approved by MAST, cannot be undertaken at a mooring.

CSIRO Enviro-Friendly moorings are not in use in Tasmania, although the Department is aware of trials in NSW.

There is no difference in the application, inspection and maintenance policies applied to commercial, private or public moorings.

3.4.5. Legislative Compliance

Tasmania has relatively few legislative instruments with application to Buoy Moorings when compared to the other states. These are:

- Marine and Safety Authority Act 1997 (1 July 2019)
- Marine and Safety (Moorings) By-laws 2020.

Having a single standalone legislative instrument (Mooring By-laws) for the regulation of Moorings is viewed as an efficient mechanism for the good governance of this area for MAST.

There are a range of offences under the By-Laws that compel mooring permit holders and mooring users to comply with the requirements of these instructions.

Buoy mooring condition monitoring is undertaken through a MAST bi-annual mooring Audit for compliance with the condition and maintenance aspects of the legislation. During these processes, MAST staff do observe and report other behaviors or non-compliance and the public also reports infringements (e.g. unauthorized use of a mooring). Generally, behavioral compliance with the Bi-Laws is dependent on the good will of the boating community and who also provide monitoring and reporting of breaches of the requirements.

Response and enforcement actions are only undertaken by the Tasmanian Water Police.

3.4.6. Administration and Financing

Moorings are administered centrally by MAST with a small Staff (1FTE). The application process for the relatively small number of moorings in Tasmania is well supported by a comprehensive online portal.

Additional personnel are engaged to undertake the bi-annual audit of MAST moorings.

MAST does not have any in-field personnel with mooring duties, but some enforcement functions are undertaken on its behalf by the Tasmanian Police – Water Police Division.

The MAST Mooring scheme is funded by State Government budget allocation, and this is supported through the revenue garnered by annual recreational vessel registration and annual mooring licensing fees.

3.4.7. Operation of Public Buoy Mooring Scheme

MAST has 28 Public moorings distributed throughout state waters and offshore at King, Flinders, Prime Seal, and Maria, Islands.

Public moorings are accessed on a 'first-come, first-served basis'. During the day, a 4-hour stay limit applies, but vessels securing after 13:00 may remain until 09:00 the following day. The moorings are designed to hold a single 15-meter monohull (14m Catamaran) in up to 40 knots of wind.

Public mooring locations are provided by coordinates as well as through a web portal map and are identifiable by a yellow or orange float buoy.

Only MAST approved contractors are engaged to undertake maintenance on public moorings.



Figure 17. MAST Public mooring buoys

3.4.8. Physical and MetOcean Factors

The majority of MAST public moorings are in protected waters however, those in the Furneaux Island Group are open to significant weather. Given the remote nature of these islands, it is unlikely they will be used by other than experienced boat users/sailors.

All MAST public moorings must be designed by a naval architect and must account for the seabed nature, wave and current climate and be designed to hold a 15m vessel in up to 40knots.

MAST recommends all private mooring permit holders use the services of a MAST-approved contractor for the design and installation of a mooring, but this is not mandated.

Moorings must be maintained, and evidence of maintenance provided to MAST on request or when the mooring is Audited. A 100% audit of the 4,500 registered mooring takes place every two years. Moorings must be lifted for inspection of the ground tackle every two years. Discussion was had on how rock anchor systems could be inspected, but to date, there are none employed in Tasmania.

Private moorings are marked by a float of “a conspicuous colour”⁶. They are distinguishable from public mooring buoys in that a private mooring buoy must have the mooring permit holder’s identification number marked on the buoy.

The By-Laws are prescriptive in the nature of mooring tackle that can be used for moorings in Tasmania, regarding mooring cable length not exceeding three times the depth at high water on spring tides for the location.

There are no limits to the duration people can occupy (liveaboard) a private mooring in Tasmanian waters.

⁶ Government of Tasmania, Marine and Safety By-Laws, Part 3 para 17. (a) (i).



Figure 18. MAST approved private mooring buoys

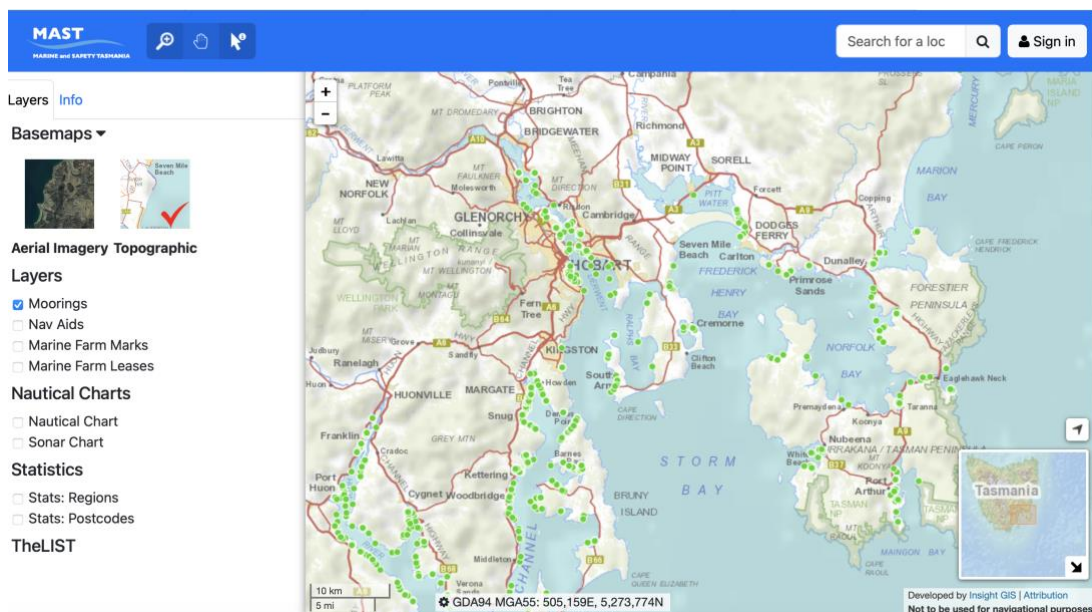


Figure 19. MAST Webpage approved private mooring buoy locations – screenshot for Storm Bay

3.4.9. Lessons learned

In Tasmania, it is a requirement that vessels on moorings are maintained in good condition, but it is not mandated that they are registered. This can create challenges if a vessel falls into disrepair in holding the owner to make good, any claim of “not in good condition” by MAST.

To address concerns relating to vessel condition, having legislation to ensure a higher, but reasonable, degree of assurance on the condition of vessels placed on all moorings would improve the governance of buoy moorings and vessels on them in Tasmania.

3.5. Victoria

3.5.1. Overview

The *Shipwreck Coast* of Victoria faces the Southern Ocean and Bass Strait with little shelter for vessels to take refuge in. Further to the east, Port Phillip, Western Port, Corner Inlet and the Gippsland Lakes provide waters suitable for recreational vessels and are well visited throughout these areas.

Safe Transport Victoria (STV) is the State Regulatory Authority for recreational vessels. Mooring management has been delegated to two statutory bodies, Parks Victoria (PV), and the Gippsland Lakes Ports (GLP).

These two independent government bodies have legislative powers to establish, administer and regulate all buoy moorings within their geographical areas of responsibility.

The distribution of moorings across Victoria is predominately throughout areas where population centers and benign waterways are coincidental.

Parks Victoria (PV) manages the extensive mooring population in Port Philip, Westernport, Geelong and coastal areas to the west.

Gippsland Lakes Ports (GLP) covers one of the largest bodies of inland waterways in Australia with an extensive number of interconnected waterways, inlets and lakes. GLP governs moorings across five local Ports and four Waterway:

- Local Port of Anderson Inlet
- Local Port of Corner Inlet and Port Albert
- Local Port of Gippsland Lakes
- Local Port of Mallacoota Inlet
- Local Port of Snowy River (Marlo)
- Lake Tyers
- Shallow Inlet
- Tamboon Inlet (Cann River)
- Sydenham Inlet (Bemm River)

A 'first-come, first-served' form of access is used by both entities for access to Public Moorings.

In the management of moorings across these areas PV and GLP work with Transport Safety Victoria, Victorian Water Police, and authorities and organisations such as local Shires, Catchment Management Authorities and State Government via the Department of Transport and Planning, Department of Energy, Environment and Climate Action, Environment Protection Authority, the Commonwealth Department of Climate Change, Energy, the Environment and Water.

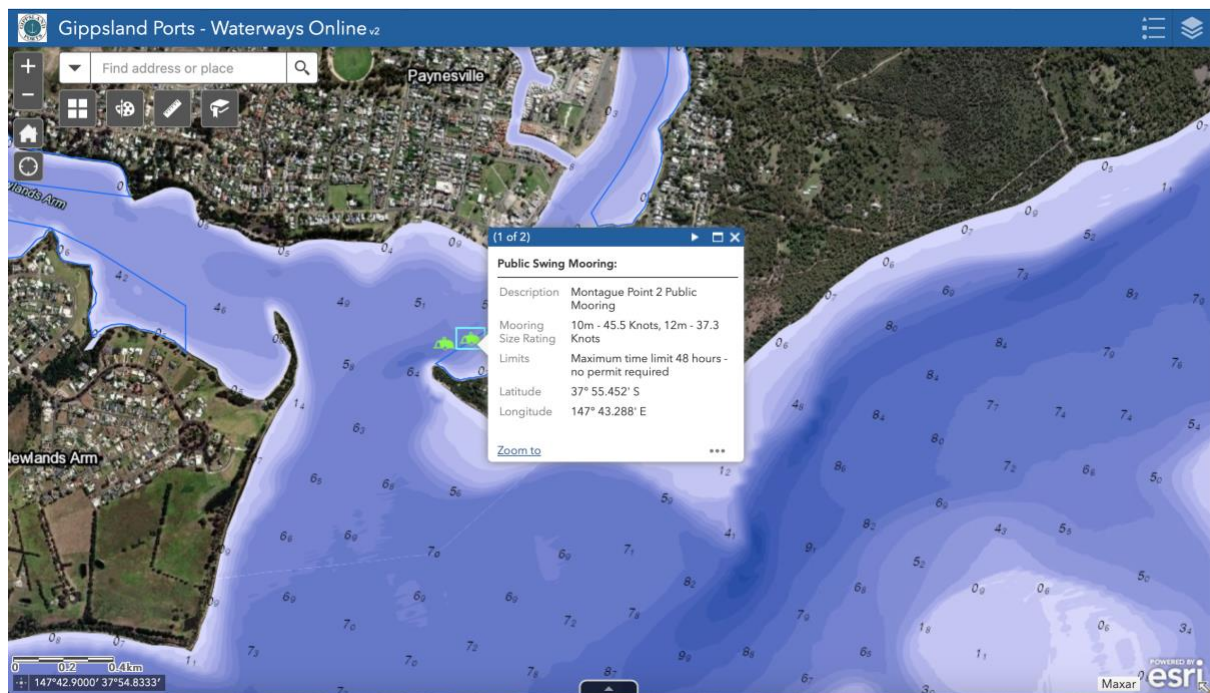


Figure 20. GLP Webpage public mooring buoy locations and information – screenshot for Montague Point #2 Public Mooring.

Parks Victoria has established Set Aside areas for the installation of Annual Moorings (Private/Commercial Moorings) in Port Phillip and Westernport.

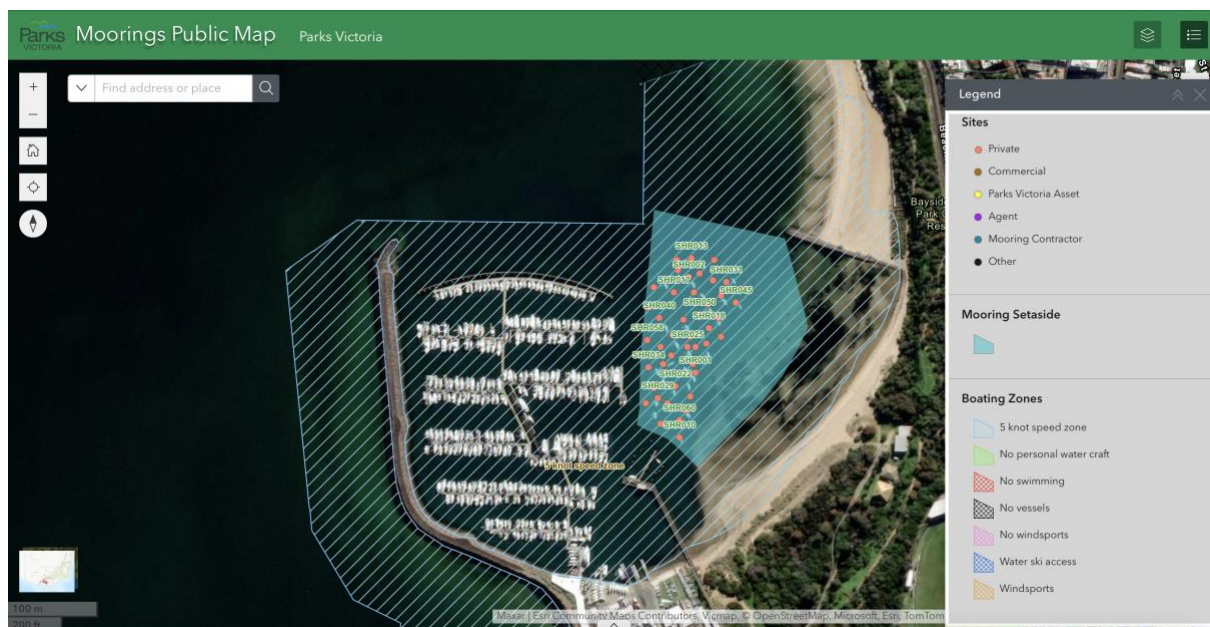


Figure 21. PV Webpage showing Bayside Beach mooring Setaside and private moorings.

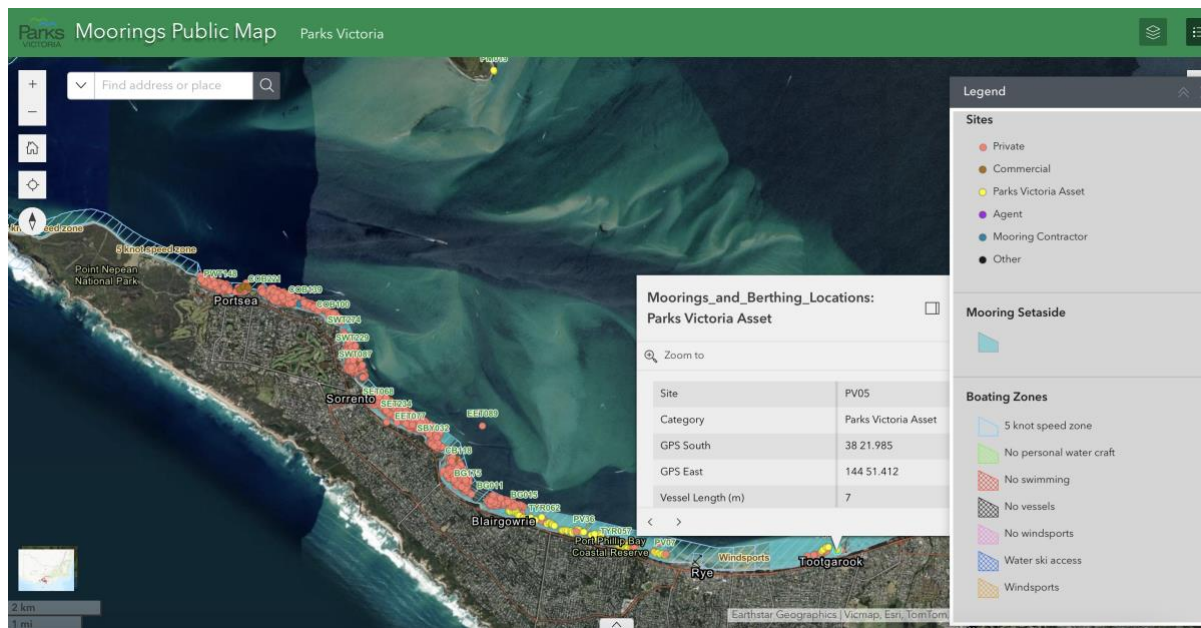


Figure 22. PV Webpage showing Portsea – Sorrento area with PV Seasonal mooring detail.

3.5.2. Navigational Safety

In establishing new moorings navigational safety is a key consideration for PV and GLP. Moorings must:

- Located in a relatively sheltered position
- Cannot exceed mooring field density that inhibits safe access
- Cannot have a swing circle that impedes other vessel mooring or vessel movements.
- Must be clear of common passage of local vessel traffic
- Be identifiable by a distinctive buoy with the permit holder's permit number attached.

3.5.3. Legal Risk, Liability and Insurance

Public moorings are used at the vessel owners' risk and the assets are insured by the Victorian Government through the Victorian Managed Insurance Authority.

GLP requires private mooring applicants to show valid vessel insurance when applying for an initial mooring permit or on annual renewal.

Parks Victoria does not warrant that the buoy mooring site is suitable for the vessel and is not liable in any way for any loss damage or liability suffered by the holder of the permit concerning the Vessel, or because of any action taken by Parks Victoria to ensure the safe and efficient operation of the local port.

3.5.4. Environment

GLP uses environmentally friendly public buoy mooring equipment to minimise the impact on the seabed and disturbance of seagrass. It does not mandate the use of these systems for private or commercial moorings.

When assessing an application for a private or commercial mooring PV and GLP examine the environmental sensitivities of the proposed mooring location and the density of existing moorings. If mooring density is deemed to be at saturation applicants will be offered a waitlist position to seek an existing mooring not being renewed. This minimises over-visitation and the associated environmental impact on the local area.

GLP do not permit fuel transfer, or maintenance, except minor repairs or as authorised on application, on any mooring.

PV encourages the use of Enviro-moorings where possible and is working with stakeholders to advance the use of these systems. PV has found issues with combining these moorings in a mooring field with traditional moorings due to different swing patterns and interactions between vessels.

Recently PV installed 45 environmentally friendly moorings in a mooring field (Mornington Peninsular Seasonal moorings) as an initiative for a mooring field that required re-alignment. The 45 moorings all employ screw pin ground tackle and elasticized risers to minimise interaction with the seabed. With all moorings similar, this worked with common characteristics of the Enviro-moorings.

3.5.5. Legislative Compliance

Governance and management of moorings across Victoria is enabled by the following legislative instruments.

- Port Management Act 1995 (22 Nov 2023)
- Port Management (Port of Melbourne Safety and Property) Regulations 2020 (18 Oct 2020)
- Port Management (Local Ports) Regulations 2015
- Crown Land (Reserves) Act 1978 (06 Sept 2023)

All moorings and berths are administrated under the Port Management (Local Ports) Regulations 2015 (sec 17).

Parks Victoria and Gippsland Lakes Ports have Authorised Officers who can enforce regulatory requirements and issue infringement notices concerning moorings. These powers extend to being able to remove vessels from public moorings if in breach of the use requirements⁷ (e.g. oversize or overstay).

It is an offence under the Regulations⁸ to install or use an unauthorised mooring. This offence carries a fine of 10 penalty units (approximately \$1,550.00).

3.5.6. Administration and Financing

Public moorings are administered and managed as integral components of the overall management of both responsible Victorian departments.

PV has 7 FTE supporting its mooring and Port Services department.

⁷ Victorian Government, Port Management Act 1995, Sect 88T, 88U, 88V and c Sect 45, 46, 47.

⁸ Victorian Government, Port Management (Local Ports) Regulations 2015, Part 3, Div 2, Sect 29.

Application and annual mooring fees provide revenue for the State Government which in turn supports budget allocations to both PV and GLP. GLP as a government-owned entity consolidates this income and redistributes it as required across cost needs.

With approximately 1000 berths and moorings throughout its area of responsibility, GLP is required to manage demand for new infrastructure alongside the governance and operational compliance across its waterways.

Private mooring permit holders have an extensive list of conditions and indemnifications and GLP can take a lien over authorised vessels (including any onboard chattels) and any mooring tackle, for costs owed to it - including costs associated with the recovery of cost from the permit holder.

PV requires annual (private/commercial) moorings to be designed and installed by an authorised mooring contractor and it maintains a comprehensive list of commercial providers on its website. These moorings are only available for vessels up to 15m in length. Moorings for commercial vessels must include valid survey and insurance documentation and the commercial entity's details. Mooring permits do not represent saleable assets but may be transferred between parties if no waitlist is in effect at the buoy location and with the approval (on application) of PV.

In a mooring area where a waitlist is in effect application can be made to PV to register interest in taking up an existing mooring when one becomes available.

All annual (private) buoy moorings must use a PV-authorised and supplied Standard Identification Buoy. These buoys will be supplied on application and payment of the required fee, to the permit holders nominated authorised mooring contractor for installation.

There are 3 different designs available as Standard Identification Buoys, shown left to right:

- ☐ Standard identification buoy only
- ☐ Standard identification buoy with 1 metre riser pole and stainless-steel handle
- ☐ Standardised float (only available for moorings with an approved exemption in a mandated Standard Identification Buoy area)

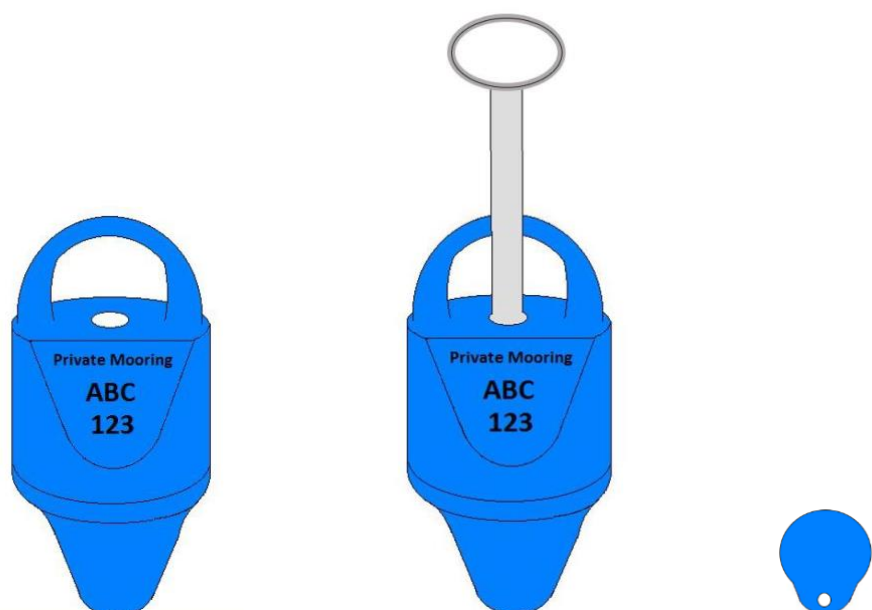


Figure 23. PV Standard Identification Mooring Buoys.

Buoy Mooring Fees are payable every 12 months, and the buoy mooring must be inspected by an authorised mooring contractor within the same period. The authorised mooring contractor will submit an inspection report to PV stating that the mooring meets specifications and is in a safe and serviceable condition.

3.5.7. Operation of Public Buoy Mooring Scheme

Parks Victoria has 17 'destination moorings' available across Port Phillip in six locations.



Figure 24. PV Port Phillip Destination Mooring locations.

These moorings are available on a 'first-come, first-served basis'. The mooring buoys have a QR code on the buoy which allows a vessel to upload information to PV when it has secured to the public mooring.

Unfortunately, in operation, this innovative facility is rarely used and there is no compulsion to require users to employ it. The QR code permits the user to select the location of the buoy from a list, and enter arrival date, vessel (size and registration) and person details including contact information.



Figure 25. PV destination mooring – note QR code.

All the Destination moorings are of an envoi-friendly design.

PV has staff on the water who monitor these moorings and has a process should they believe a vessel has overstayed the time limit (48 hours). Destination moorings at Mud Island are only for daylight use. The destination (public) moorings differ in the size of vessel they can accommodate.

On Mornington Peninsular between Tyrone and Blairgowrie, PV has installed 44 Seasonal moorings available for booking between November and April. These moorings can only be accessed with prior booking and are available from November through April – subject to variation. These moorings are only suitable for shallow-draught recreational boats up to 7m in length and are in very shallow water.



Figure 26. PV seasonal mooring at Mornington Peninsular.

There are 29 Public Swing Moorings across the Ports managed by GLP. These moorings have been placed at locations that provide attractive destinations for waterway users and offer shelter in a variety of weather conditions.

GLP has a Web-based management platform that provides information on moorings (of all types) and a GIS system that locates Public Moorings with details on the access and limits on the mooring use. The Web-based system will only identify moorings when a close scale of observation is used.



Figure 27. GLP public mooring.

All public moorings in Victoria are designed, installed, inspected and maintained by Authorised Mooring Contractors.

3.5.8. Physical and MetOcean Factors

Moorings are established across Victoria in a variety of locations and some of these are only suitable for seasonal access due to metocean factors. Where the typical weather conditions represent elevated levels of risk Parks Victoria (PV) will only permit access to destination buoys during November through to April.

PV insists that moorings are designed, installed, inspected and maintained by authorised mooring contractors. The contractors consider the location, vessel details and seasonal weather when establishing a new mooring or certifying an existing mooring suitability for a different vessel.

PV ensures that public access moorings are designed for vessels of limited length and are only of an environmentally friendly type.

3.5.9. Lessons learned

PV and GLP are currently undertaking a review of their mooring schemes and were limited in their ability to provide comments at the time of this investigation.

3.6. Comparative assessment

3.7. How are the State buoy mooring systems different?

Across the five States there exist significant differences in structure, manner and methods employed in mooring systems and with Public Buoy Mooring schemes.

Two dominant factors produce these variations around the coast:

- Legislative Instruments and,
- Departments with responsibility.

3.7.1. Legislative instruments

In states where Legislation is focused on particular aspects, or areas of focus, the Governance of buoy moorings is dominated by Legislation that empowers a particular body for a specific role, or across a defined area.

In Queensland, the Great Barrier Reef World Heritage Marine Park has management undertaken by the Commonwealth – Great Barrier Reef Marine Park Authority (GBRMAP) – so empowered by specific legislation⁹. This contrasts with the management of the Shark Bay and Ningaloo World Heritage Marine Parks in Western Australia, which are managed by the State Government¹⁰ under its legislation¹¹.

Legislation that empowers geographical areas to be managed by local or specific bodies limits the statewide coordination and uniform governance of moorings as is seen in Western Australia, Victoria, New South Wales and Queensland.

As a general observation the greater the number of legislative instruments with application to the governance of moorings, the greater the number of departments involved and the more complex the overall management of moorings becomes in that State.

A legacy of time is that the legislation of the States (and Cth) has evolved driven by several factors including:

- Population growth
- Coastal Development
- Environmental awareness, concern and protections, and
- Recreational boating community aspirations.

⁹ Commonwealth of Australia, Great Barrier Reef Marine Park Act, 1975 (Mar 2024)

¹⁰ Western Australian Government, Department of Biodiversity Conservation and Attractions.

¹¹ Western Australian Government, Biodiversity Conservation Act 2016 (Nov 2016) and Biodiversity Conservation Regulations 2018 (Nov 2018).

3.7.2. Departments with Responsibility

The States vary greatly in geographical area, coastline nature, weather, and recreational boating populations. The number of separate State Government entities with roles related to moorings is not a factor of population or coastline length, but rather the legislated separation of responsibilities for different areas or functions.

Where legislation does not result in a need for separation of mooring management due to responsibilities being apportioned to specific areas or functions, the number of Government Departments is reduced and there are efficiencies of scale and commonality in requirements for the management of moorings.

3.7.3. Mooring Design and Requirements

Each State has broadly similar, but generally different requirements for the design of moorings, including public moorings. All States must be compliant with the need to ensure mooring buoys are distinguishable from navigation marks (including buoyage) and there are different requirements for ground tackle, risers, and floats.

Only Victoria compels private mooring permit holders to engage the services of a government-authorised mooring contractor in the design, installation, inspection and maintenance of moorings. All other States recommend, but do not insist, that professional commercial operators undertake these functions.

Traditional buoy moorings employ clump weights or anchors often connected with chain to secure the riser to the seabed. The design of the ground tackle is a vital part of ensuring the mooring is suitable for its intended use/vessel. The design will need to be considerate of the seabed type, metocean conditions, current and vessel in use. Where chains have scope to move, or are a component of the riser, they inevitably scour the seabed often damaging Sealife.

Environmentally friendly moorings have minimal or no contact with the seabed aside from the ground tackle. This minimises interaction with and impact on the seabed.

Most States encourage the use of environmentally friendly moorings and as awareness and concern for the marine environment increases so too does the pressure to compel the use of these systems.

The type colour, size and shape of mooring buoys is different between states and within some states due to management by different entities. Only in Victoria has Parks Victoria established a standardised form of private/commercial mooring buoy ensuring commonality across all moorings.

3.8. How are they the Same?

3.8.1. Legislation

The single largest commonality between the States is that the establishment, operation and governance of moorings, including Public Buoy Moorings, is uniformly empowered by specific legislation in each State.

There are different models for this across the States, however, no State has any moorings governed without an Act, Regulation or By-law.

3.8.2. Web Based Systems

Web-based management tools are common throughout Government and Industry. The State Departments with buoy mooring responsibilities employ IT systems with utility for managing applications, providing information and enabling financial transactions concerning mooring management and licensing.

Interactive web-based Geographic Information Systems (GIS) provide public mooring information and are employed across most jurisdictions (NSW, Vic, Tas, Qld).

There are different systems in use across the States and vary in degree of utility, common information and usability. In WA where GIS is not enabled to locate public or private moorings, information on the type and conditions of use is found directly on the buoy – as detailed or indicated by the coloured disk.

3.8.3. First-Come, First-Served

Apart from seasonal moorings in Victoria, all public moorings are accessed on a first-come, first-served basis.

There is no mechanism for determining if a mooring is free before arrival, or when the mooring will become vacant based on the time the occupant is due to leave.

3.8.4. Monitoring

All states are reliant on the honesty of the user for compliance with the operating requirements of Public Moorings. The ability to monitor adherence to these requirements is contingent on having Staff on the water to observe behaviours or the input provided by members of the public.

The initiative of a QR code for Destination Moorings (Public Moorings) undertaken in Victoria has the potential to provide live information on mooring use but would require specific software and a compulsion to log in by Regulation, Rule or Conditions of use with penalties for failing to comply.

3.8.5. Ability to compel behaviour

All States can enforce compliance with the conditions of use for moorings (Public, Private and Commercial) through offences created under the legislation that governs buoy moorings.

The creation of offences and the desire to avoid penalties compels users to behave in a particular manner, supporting governance in line with the policy and ambitions of the Government and the broader community.

3.8.6. Penalties for non-compliance

The ability to enforce rules and regulations is common across all States reviewed. The effectiveness of enforcement is a direct outcome of the detection of an offence and is reliant on monitoring of mooring use.

In some States, the Department responsible for moorings has Authorised Officers in-field where monitoring and enforcement are part of the Officer's roles, and in other States, this function has been delegated (in part or in whole) to State Police or Marine Safety Officers.

Offences without the ability to enforce penalties, erode the benefit of compulsion and the point of regulation.

3.8.7. Risk and Insurance

Public Moorings are utilised at the user's risk in all jurisdictions examined. This is detailed in the conditions of use and the boating community informed through the Relevant Authority's website and through recreational boating plans, policies and guidelines.

All States self-insure through State Insurance bodies for asset protection, and for legal liability including "*vicarious liability*"¹² in the provision of Public Buoy Moorings and for the processes and practices that govern all moorings.

The State insurance bodies require relevant departments to undertake due and diligent practice and process in the conduct of delivering service or infrastructure to protect the public and Government from risk. Common to all States reviewed are thorough and comprehensive processes for the establishment, regulation (including offences to compel compliance) and operation of buoy moorings.

In some states, there was an assumption of due and diligent practice and process being undertaken by the relevant department, and in others, the Insurance entity sought evidence supporting this through established processes, regulations, rules and appropriate governance.

3.8.8. Administration and Financing

There were no States where the management of Public Buoy Moorings were undertaken as a stand-alone function of an independent division/section within a government department or entity. All states had the overall administration and management of Buoy Moorings delegated to Authorised Officers within a larger Departments/Entities.

In some states, the function of administering moorings was combined with overall recreational vessel licensing or marine roles (WA, QLD -MSQ) and in others this task was combined with other on-water functions such as the management of jetties, wharves, navigation aids etc. (Tas, Vic, NSW).

¹² Vicarious liability, or imputed liability, is a legal rule that holds a person or entity responsible for actions committed by others or by their employees. Typically, it applies to those who are in control of people who cause harm to victims.

All States have funding for Public Buoy Mooring provided through Government budget allocation and as a component of cost requirements so needed to achieve the functional outcomes of the relevant Department.

Across all States the income received by the relevant Authority through licensing/permit fees for Recreational Vessels, Private/Public Moorings and infringements was returned to the State as consolidated revenue and not used to directly fund Public Buoy Mooring Schemes.

3.8.1. Public Buoy Mooring Design

In all States only government-appointed mooring contractors undertake the design, installation, inspection and maintenance of public moorings.

In Tasmania Public Buoy Moorings must be certified/designed by a Naval Architect.

Most States (WA, QLD, VIC, NSW) are encouraging the use of Environmentally friendly buoy mooring design. Tasmania has regulations relating to the ground tackle of buoy mooring and will review these requirements once the NSW trial of Enviro-friendly moorings has provided conclusive outcomes.

4. Investigation 2 – South Australian perspective

4.1. Overview

South Australia has a well-established recreational boating community that utilises the many protected bays, offshore islands, inland waters and open coastline across the State.

Having a well-regulated system for all types of buoy moorings would be in line with the Objects of the Act¹³, Coast Protection Board Policy objectives, the South Australian Boating Facilities Strategic Plan¹⁴ and the Regulations¹⁵.

Being the only State without government-furnished Public Buoy Moorings it is at odds with the rest of the country's support to the recreational boating community.

Public Buoy Moorings provide:

- Utility, encouraging recreational vessels to access a location,
- Protect the environment by removing the need for anchoring,
- Improve safety through the greater holding capacity of the buoy mooring ground tackle over an anchor, and,
- Promote tourism through the opportunity for vessels to take up temporary residence on a structure of known capacity and condition.

"The Department for Infrastructure and Transport (DIT) is responsible for the design, delivery and maintenance of State infrastructure used to deliver essential and important services to the community, and for managing and developing transport networks and the service delivery that supports them within South Australia."¹⁶

The DIT does not work in isolation but coordinates the delivery of its services with other State Departments and Local Governments as required.

Concerning mooring-related matters, DIT is empowered through the following legislative instruments:

- Harbors and Navigation Act 1993 (Jan 2024)
- Harbors and Navigation Regulations 2023 (Mar 2024)
- Protection of Marine Waters (Prevention of Pollution from Ships) Act 1987 (Nov 2023)

¹³ South Australian Government, Harbors and Navigation Act 1993 (Jan 2024), Part 1, Sect 3, (e) and (f).

¹⁴ South Australian Government, Dept of Planning Transport and Infrastructure, *Boating Facilities Strategic Plan*, https://www.dit.sa.gov.au/_data/assets/pdf_file/0005/327956/SA_Boating_Facilities_Strategic_Plan.pdf accessed 8 June 2024, 13:21AWST.

¹⁵ South Australian Government, Harbors and Navigation Regs 2023 (Mar 2024), South Australian Government Environmental Protection Regs 2023 (Apr 2024),

¹⁶ South Australian Government, Department for Infrastructure and Transport, <https://www.sa.gov.au/topics/about-sa/government/departments/infrastructure-transport#:~:text=The%20Department%20for%20Infrastructure%20and.supports%20them%20within%20South%20Australia.> 12 June 2024 10:35AWST.

Within the Road and Marine Services Division, the DIT has a section responsible for the delivery and management of Marine Assets and another for Maritime Safety & Compliance.

Protected marine areas in South Australia are administered by the Department for Environment and Water (DEW). There are 19 Marine Parks and 83 marine sanctuaries in South Australian State Waters. DEW is empowered to undertake these roles through the following legislative instruments:

- Environmental Protection Act 1993 (Mar 2024)
- Environmental Protection Regulations 2023 (April 2024)
- Marine Parks Zoning Act 2007 (Jan 2024)
- Marine Parks Zoning Regulations 2012 (Mar 2013)
- Environmental Protection and Biodiversity and Conservation Act 1999 (Cth) (Dec 2023), via SA Assessment Bilateral Agreement

The State Government self-insures its assets through the South Australian Financing Authority (SAFA). When SAFA insures the assets and activities of a SA Government Department it assumes that the relevant Department:

- Holds legislated powers to establish the asset,
- Has a due and diligent process for establishing the asset,
- Is compliant with all relevant regulations, rules and policies related to the asset and its functions.

4.2. Buoy Moorings in South Australia

DIT undertakes assessment of private/commercial mooring applications and issues mooring assessments. This is undertaken by the Department's Marine Safety and Compliance Section in line with the ministers' requirements under the Harbors and Navigation Act. It should be noted that this assessment is not an approval.

From a legislative perspective the Objects of the Act¹⁷ include:

- “(e) To provide for the safe navigation of vessels in South Australian waters,
- (f) to provide for the safe use of South Australian waters for recreational and other aquatic activities.”

The establishment of buoy moorings is considered within the remit of these objects.

Buoy Moorings in South Australia are not subject to regulation or governance through any specific legislative instruments, rules, regulations or By-Laws, except for a mooring within a Boat Haven¹⁸.

There are several buoy moorings across the extensive waters of South Australia. Many buoy moorings were established before the current DIT Mooring assessment

¹⁷ South Australian Government, Harbors and Navigation Act 1993(Jan 2024), Part 1, Sect 3, (e) and (f).

¹⁸ South Australian Government, Harbors and Navigation Regulations 2023 (Mar 2024), Part 12.

process was established. Consequently, there is a mix of moorings that have been assessed and are known to the DIT, and those that have not.

The DIT assesses a proposed new mooring, through the application by a person or entity who applies for such. Within this assessment, only the location of the buoy mooring concerning Navigational Safety is considered.

It must be noted that this assessment is not an approval by the Department for the applicant to install the buoy mooring. The DIT does not hold legislative power to grant approval to install a buoy mooring, or deny an applicant from doing so – except if the installation would represent a Hazard to Navigation. Given this is the case, there is nothing preventing a member of the public, or commercial entity from establishing a Buoy Mooring in South Australian State Waters (outside of a Boat Haven or Marine Sanctuary Zone) in a place that it does not represent a Hazard to Navigation.

Except for within a Marine Park Sanctuary Zone¹⁹, or a Boat Haven²⁰, there is no requirement under SA legislation for approval to install a buoy mooring within South Australian State Waters. There are no rules, regulations or by-laws that provide governance of buoy moorings or vessels attached to them in South Australia, except for within a Marine Park Sanctuary or a Boat Haven.

Where the proposed mooring location is within the Sanctuary Zone of a Marine Park, a Marine Park Permit must be obtained through the National Parks and Wildlife Service of South Australia / Department for Environment and Water (DEW).

The DEW holds legislative powers to approve/decline an application for a Permit²¹ to establish a mooring within a declared sanctuary zone²². The Marine Park (Zoning) Regulations (MP(Z)Regs), Ch 8 Sanctuary zone part (g) states:

(g) A person must not establish a mooring in the zone.

This rule does not apply to the establishment of a mooring—

- (i) by a port operator; or
- (ii) in accordance with a statutory authorisation under the *Harbors and Navigation Act 1993*.

Figure 28. SA Gov Marine Parks (Zoning) Regs 2012, Ch 8, part (g).

A review of the Harbors and Navigation Act 1993 does not identify the authorisation referred within the MP(Z) Regs.

The current process of obtaining a Marine Park Permit for the installation of a mooring is not viable. The DIT assessment process cannot continue without an approved Marine Park Permit being uploaded to DIT. However, the NPWS/DEW states that the proposed mooring location must be assessed by DIT “to determine safety of

¹⁹ South Australian Government, Marine Parks Act 2007 (Jan 2024), Div 4 – Permits.

²⁰ South Australian Government, Harbors and Navigation Regs 2023 (Mar 2024,) Part 12 - Boat Havens, Sect 154.

²¹ South Australian Government, Marine Parks Act 2007 (Jan 2024), Div 4 – Permits.

²² South Australian Government, Marine Parks (Zoning) Regulations 2012 (Marr 2013), Ch 8 Sanctuary Zone.

navigational, obstruction of navigation, and potential for polluting waters or a lease or license is required.”²³

In its buoy mooring assessment process DIT do not assess the mooring for potential for polluting waters, or consideration of a lease or license.

This notwithstanding, the DIT requires a DEW Marine Park Permit for the assessment to progress, and DEW directs that the DIT assessment be completed in support of the Marine Park Permit.

SA.GOV.AU

Apply for a buoy mooring assessment

Before you begin

Is your proposed location for the mooring within a sanctuary or marine park? *

☒ Yes

☐ No

Have you a marine park permit? *

☐ Yes

☒ No

✖ Not eligible

You need a [marine park permit](#) to complete this form.

Next

Figure 29. SA DIT Mooring Assessment screenshot of DIT web page.

²³ South Australian Government, National Parks and Wildlife Service South Australia, Marine Park Permits, Installation of moorings <https://cdn.environment.sa.gov.au/marineparks/docs/marine-parks-establishing-moorings-permit-fact.pdf> , accessed 21 June 10:30AWST.

How do I get a permit?

To establish a mooring you will need to contact the Department of Planning, Transport and Infrastructure (DPTI) to determine the suitability of location in regards to the safety of navigation, obstruction of navigation and potential for polluting waters or of a lease or licence is required. Further information is available on this website: www.sa.gov.au/topics/boating-and-marine/Moorings-marinas-and-boat-havens/what-is-a-mooring

Once you have checked with DPTI, and your proposed mooring site is in a marine park sanctuary zone, you will need to apply for a marine parks permit. Your application will be assessed using the following general criteria:

- the necessity for the mooring to be located within a sanctuary zone
- the potential impact on local habitats or features
- type of mooring
- protection of the conservation values of the sanctuary zone.

marked on the buoy and maintained so as to be legible at all times.

What are my responsibilities?

The installation, on-going maintenance, security and removal of the mooring will be your responsibility. Moorings may be subject to inspections and you will be liable for maintaining the mooring to the required standards as described on your permit.

Every permit will be issued with conditions. It is your responsibility to ensure that these conditions are met. Breaches of any conditions may result in cancellation of the permit and removal of the mooring at the permit holder's expense.

More information

If you have a question, contact:

E: DEW.MarineParksPermits@sa.gov.au

www.environment.sa.gov.au



Figure 30. SA DEW Marine Park Permit for establishing moorings²⁴

In assessing a buoy mooring the DIT process requires:

- The identity of the applicant and contact details
- The details of the vessel that will use the mooring – including registration, and
- The location of the proposed mooring

The process does not require evidence that the mooring is appropriately designed for the vessel or details of the mooring construction. In providing the assessment to an applicant the DIT advises the following:

- The assessment is limited to the location of the mooring, not the suitability of the mooring to the vessel
- Recommends the applicant engage an engineer or professional advice on the type of mooring system so it is suitable for the intended purpose in all weather and sea states.
- The mooring system is maintained, and the vessel is adequately secured to it.
- That the applicant is liable for any accident related to this mooring including any person or their property.
- All moorings and moored vessels must display the appropriate lights and shapes in accordance with COLREGS requirements.

²⁴ South Australian Government Department for Environment and Water, <https://cdn.environment.sa.gov.au/marineparks/docs/marine-parks-establishing-moorings-permit-fact.pdf> accessed 21 June 2024, 11:00 AWST.

- Recommends the applicant check if the position of the mooring adversely affects the seabed or seagrass, or any potential breach of the Environmental Protection Act 1993.

4.3. Registered Vessels

In South Australia all recreational vessels fitted with an engine are required to be registered while operating in South Australian waters—even if the engine is not being used at the time²⁵.

The Act defines a vessel as:

vessel means—

- a craft for use, or that is capable of being used, in navigation by water, however propelled or moved (including an air cushion vehicle, a barge, a lighter, a submersible, a ferry in chains and a wing in ground effect craft); and
- a surf board, wind surf board, personal watercraft, water skis or other similar device on which a person rides through water; or
- a structure that is designed to float in water and is used for commercial, industrial or scientific purposes; and
- any other thing declared by the regulations to be included in the ambit of this definition,

but does not include a craft or other thing declared by the regulations not to be included in the ambit of this definition;

Figure 31. SA Harbors and Navigation Act 1993 (Jan 2024) Part 1, Sect 4 – Interpretation.

There is no requirement under legislation for a vessel to be registered if it is on a buoy mooring and does not have an engine fitted. Contributors to this study reported a proliferation of houseboats on inland waterways without engines and fixed to buoy moorings. These vessels are reported to be in questionable condition and may represent a hazard to navigation and the environment if they sink. Without regulation of buoy moorings, no offence is being committed, even if the vessel sinks.

An unregistered vessel (MV Sir Wallace Bruce) attached to a non-assessed mooring sank in American River, Kangaroo Island on the 1st of August 2023. This vessel had previously taken on water but being unregistered and with no ability to compel the vessel to be kept in a seaworthy condition on its mooring, the Government was powerless to intervene to prevent this event.

The vessel then presented a navigation hazard, and the DIT was able to take measures to remove the wreck under the Act²⁶. The cost of the wreck removal, the risk to people and the environment could have been avoided with appropriate governance of buoy moorings and vessels attached to them.

²⁵ South Australian Government, Department for Infrastructure and Transport, Marine Safety https://marinesafety.sa.gov.au/_data/assets/pdf_file/0016/1108006/1-Licensing-and-Registration.pdf accessed 21 June 12:30 AWST.

²⁶ South Australian Government, Harbors and Navigation Act 1993 (Jan 24), Part 2, Division 2 – Clearance of wrecks



Figure 32. 7 News Adelaide, 4 Aug 2023²⁷

²⁷ 7 News Adelaide, 4 Aug. 2023, <https://www.facebook.com/watch/?v=165996606511884> accessed 18 June 2023, 09:25 AWST.

5. Proposed Public Buoy Moorings

5.1. Overview

Oropesa has reviewed the locations for Public Buoy Moorings as proposed by the SABFAC Funding Submission²⁸ and as detailed in the Scope of Work.

The submission calls for Public Buoy Moorings to be established at the following locations:

Site	Moorings #	Lat	Long
Kingscote	1	35° 39.16' S	137 ° 38.93' E
	2	35 ° 39.02' S	137 ° 38.91' E
American River	1	35 ° 47.47' S	137 ° 46.49' E
	2	Location not given	
	3	Location not given	
Bay of Shoals	1	35 ° 38.16' S	137 ° 37.40' E
	2	35 ° 38.14' S	137 ° 37.38' E
	3	35 ° 38.16' S	137 ° 37.43' E
Emu Bay	1	35 ° 35.44' S	137 ° 30.65' E
	2	35 ° 35.49' S	137 ° 30.85' E
West Cape Bay	1	35 ° 14.66' S	136 ° 49.65' E
	2	35 ° 14.66' S	136 ° 49.74' E

5.2. Physical and MetOcean Factors

The South Australian Coast is commonly influenced by strong weather and resultant sea produced from its proximity to the high energy systems that frequent the Southern Ocean.

Site selection for Public Buoy moorings must consider shelter from sea and swell as a high priority. Of the locations proposed, only West Cape Bay does not meet this requirement.

It is acknowledged that in easterly conditions West Cape Bay is in a sheltered offshore position, however the location is considered high risk if winds and sea are from south through west to north-west.

5.3. Seabed

There is insufficient information in the submission to determine the suitability of the seabed at the proposed locations to support the mooring system design as proposed.

²⁸ South Australian Boating Facilities Advisory Committee, South Australian Public Buoy Moorings Project – SABFAC Funding Submission Aug 2023.

The ground tackle of the mooring system will need to be designed to ensure the design vessel (16m loa, 20-tonne displacement) can remain on the mooring in conditions of wind and sea/swell up to predetermined limits.

5.1. Locations

5.1.1. Kingscote

The Kingscote buoy mooring locations are well clear of the sanctuary zone (SZ-8)²⁹ but within the habitat protection zone. The use of environmentally friendly buoy moorings in this zone is recommended in this area.

The bathymetry and natural protection of Kingscote indicate good potential for buoy moorings in the positions nominated.



Figure 33. Kingscote proposed mooring locations.

5.1.2. American River

The location proposed is assessed a too close to the eastern shoaling bank of the river. A position further north (35°47'22.09"S, 137°46'29.78"E) is in deeper water and clear of other moorings.

The proposed public buoy mooring location is clear of the sanctuary zone (SZ-9)³⁰.

²⁹ South Australian Government, DEW, Marine Parks Project, <https://cdn.environment.sa.gov.au/marineparks/docs/encounter-management-plan-maps-with-coordinates-2020.pdf> accessed 10 June 11:51AWST.

³⁰ South Australian Government, DEW, Marine Parks Project, <https://cdn.environment.sa.gov.au/marineparks/docs/encounter-management-plan-maps-with-coordinates-2020.pdf> accessed 10 June 11:51AWST.



Figure 34. American River proposed mooring locations.

5.1.3. Bay of Shoals

The area is well sheltered and has sufficient bathymetry to support good mooring. Proposed buoy mooring #1 is close to an existing buoy mooring and a location to the NW of proposed buoy mooring #2 would be more appropriate.

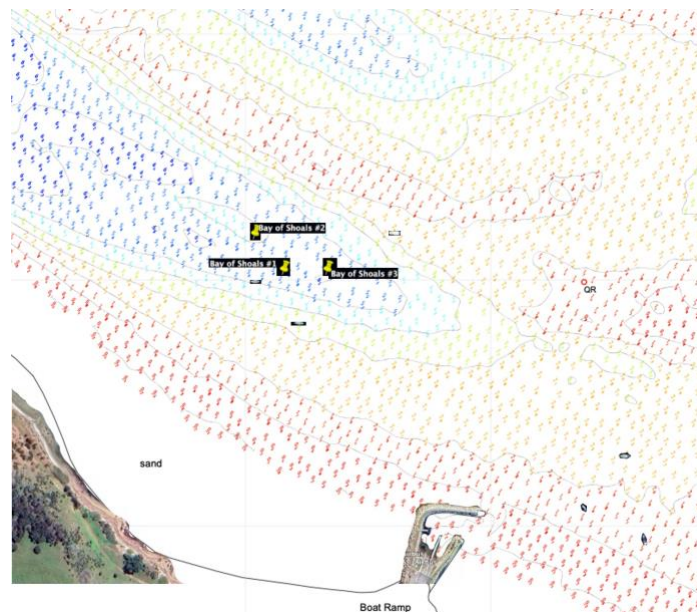


Figure 35. Bay of Shoals proposed mooring locations.

5.1.4. West Cape Bay

West Cape Bay is open to sea and swell conditions from the west and the proposed buoy locations appear to be on a rocky bottom.

Placing a Public Buoy Mooring in this location will encourage vessels to navigate close to the reef shoreline and take up the mooring in an exposed location. For reasons of safety West Cape Bay is not recommended for a Public Buoy Mooring.



Figure 36. West Cape Bay proposed mooring locations.

5.2. Legal Risk, Liability and Insurance

In establishing Public Mooring Buoys, the Government must do so in a manner that is insurable. For this to be achievable, the Government needs to:

- Hold the legislative authority to establish/approve moorings in South Australian waters.
- Have regulatory powers to enable it to govern the safe operation of moorings,
- Undertake a due and diligent process in the design, installation and operation of the Buoy Moorings,
- Have a system of management that ensure moorings remain safe to operate (i.e. maintenance, inspection) in South Australian waters.

Without legislated powers, the Government cannot legally install or approve the installation, or regulate the functional operation of any buoy moorings in South Australian waters.

5.3. Mooring Design

A mooring for public use must be designed, constructed, installed and maintained to the highest possible level.

All jurisdictions require engineering design for public moorings with MAST using the services of a Naval Architect for the design of its Public Moorings.

Moorings that minimise the impact on the seabed are preferred over traditional moorings. The Submission proposed design is environmentally friendly but would require certification to ensure it is appropriate for the intended locations.

5.4. Administration and Financing

The DIT does not currently have the allocated resources for the ongoing operation of a Public Mooring Scheme.

The Submission³¹ does not consider the resources required to administer, manage and control the Public Buoy Mooring Scheme.

In all other jurisdictions, the administration and management of Public Buoy Mooring Schemes is undertaken as a component of the management of all mooring and often other related tasks and functions of the relevant authority.

While this could be possible it would require a review of the functional outcomes the DIT, to ensure it can provide the services required to enable a Public Buoy Mooring Scheme.

The costs associated with establishing and maintaining an on-line GIS system for public moorings are not considered in the Submission²³ but are considered important to the good administration of any Buoy Mooring, including a Public Buoy Mooring, system.

5.5. Operation of Public Buoy Mooring Scheme

In operating a Public Buoy Mooring Scheme the DIT must be empowered to act to regulate the conditions of use and to compel users to comply with its requirements.

This is commonly achieved through conditions of use, regulations and by-laws specific to the subject in question. The DIT is unable to operate a Public Buoy Mooring, or any Buoy Mooring scheme as there are no legislative instruments that provide the authority for it to do so.

A proposed list of conditions for access and use of Public Buoy Moorings is provided in the Submission²³ (5.1 – Operation). The proposed conditions are in line with those of other jurisdictions, however, without the authority to compel user's compliance with these conditions, the DIT cannot enforce any of these.

A compulsion to adhere to Government directions is normally achieved through the creation of offences with penalties for non-compliance/breach of conditions. Without a legislative instrument to empower the conditions of use, there can be no offence. No offence = no compulsion for compliance.

5.6. Navigation Aids V Buoy Moorings

During this investigation stakeholders questioned if the legislation relating to Navigational Aids could support the establishment of Public Buoy Moorings.

The Act³² details the ability of the minister to establish and control Navigational Aids, and the consequences for interfering or mooring to a navigational aid.

These sections of the Act are specific to Navigational aids and cannot be applied to Buoy Moorings.

³¹ South Australian Boating Facilities Advisory Committee, South Australian Public Buoy Moorings Project – SABFAC Funding Submission Aug 2023.

³² South Australian Government, Harbors and Navigation Act 1993(Jan 2024), Part 4, Div 1 – Navigational aids.

The legislation applicable to Navigational aids cannot be employed to support the installation of Public Buoy Moorings.

6. Recommendations

In considering the implications of establishing a Public Buoy Moorings Scheme, Oropesa provides the following recommendations, with clarification of these further below:

- Under existing South Australian Government Legislation **Oropesa finds it is not feasible** to establish a Government Public Buoy Mooring Scheme as proposed in the SABFAC submission.
- **Oropesa recommends** further consideration by the Government to establish a Public Buoy Mooring Pilot Project under limited conditions described at para 6.6.

6.1. Legislation

The South Australian Government does not have the legislative instruments required to enable it to establish, administer and regulate buoy moorings in State Waters beyond Boat Havens and Marine Sanctuaries.

The Government cannot establish infrastructure that it cannot regulate. This relates to Public, Private, Commercial and Emergency Buoy Moorings.

Having Regulations or By-Laws that enable the Minister to govern moorings in South Australian waters is in line with the objects of the Act³³.

Oropesa recommends the South Australian Government establishes legislation to address this.

It is possible to achieve this through:

- Amendment of the South Australian Harbors and Navigation Regulations, or
- Creation of a stand-alone legislative instrument such as “South Australia Moorings By-Laws”.

Oropesa recommends the Legislation/Regulation/By-Law should achieve the following:

- Empower the minister to approve the installation of a buoy mooring at any location in South Australian State waters, including inland waterways.
- Empower the minister to establish fees for the application of a buoy mooring approval and its annual renewal.
- Empower the minister to establish specific types of buoy moorings (i.e. Private, Commercial, Public, Emergency).
- Empower the minister to create rules relating to each type of buoy mooring.

³³ South Australian Government, Harbors and Navigation Act 1993(Jan 2024), Part 1, Sect 3, (e) and (f).

- Create a register of all buoy moorings approved by the minister in South Australian State waters.
- Create an offence to install or use an unregistered buoy mooring.
- Create an offence to secure an unregistered vessel to a registered buoy mooring – this should apply to any vessel as defined in the Act³⁴.
- Create an offence to secure a vessel to a registered buoy mooring without the approval of the buoy mooring authority/permit/license holder.
- Create an offence to interfere with a registered buoy mooring.
- Create an offence for any user of Public Buoy Moorings who breaches the conditions of use (to be defined by the Department)
- Require approved buoy moorings to undergo periodic (annual) maintenance and inspection to only be undertaken by an approved mooring services contractor and for the approved contractor to provide a condition report to the Department.
- Require proposed buoy moorings to be designed and installed by an approved mooring services contractor.
- Require approved buoy moorings to be fitted with a prescribed buoy mooring float. The manner of buoy moorings utilised in Victoria is recommended (see para 3.5.6).
- Require approved buoy mooring permit holders to provide evidence of maintenance and an inspection report on demand of the Department or renewal of the buoy mooring authority/permit/license.

6.2. Buoy Mooring Operation

Oropesa recommends responsibility and authority for the operation of the Buoy Mooring Scheme reside with a single Government Department.

The appropriate department in South Australia is the Department for Infrastructure and Transport.

South Australia can establish national best practices in the operation of its Buoy Mooring Scheme through the lessons learned by other State buoy mooring systems.

At the forefront of the concerns of other jurisdictions was enabling legislation. This is discussed above and is a key component to creating a pragmatic, efficient and effective mooring system.

The Department for Infrastructure and Transport will require sufficient resources to deliver these services including:

- Human Resources – for administration, management, monitoring and enforcement duties in relation to buoy moorings.

³⁴ South Australian Government, Harbors and Navigation Act 1993(Jan 2024), Part 1, Section 4 – interpretation, Vessel.

- IT services to deliver the administration functions associated with the management of buoy moorings as well as enabling the Department to provide information relating to buoy moorings in South Australian State Waters.
- Funding for Public and Emergency Buoy moorings to be designed, constructed, installed and maintained by an approved mooring services contractor.

The use of web-based mapping systems is a common resource in other states not currently employed by DIT.

The selection of a system that can combine with or be used by commercial chart plotters will enhance navigational safety and information for the boating community.

In selecting a GIS for Buoy Moorings **Oropesa recommends** selecting a system that can:

- Identify buoy moorings by type (Private, Commercial, Public, Emergency) on a single page/screen,
- Provide detailed information on each mooring (e.g. conditions/limits of use, owner, vessel registered to).
- Enable multiple layers of information to be displayed (e.g. navigational aids, boat ramps, jetties, fuel facilities, hospitals, bathymetry, roads, rail lines, helicopter landing sites).
- Be enabled with live monitoring of Public Buoy Moorings to show through QR code access if the buoy is occupied, by what vessel and when it will become vacant.

6.3. Types of Buoy Moorings

Oropesa recommends the DIT, when so enabled by legislation, establish moorings for Private, Commercial, Public and Emergency use.

Public and Emergency moorings will need to be designed, constructed, installed and maintained to the highest possible level given their use by the public and the potential liability the Department will carry as the owner of these assets. These moorings should be designed by a Naval Architect.

Oropesa recommends where practical, the use of environmentally friendly mooring systems for all Buoy Moorings.

6.4. Incorporated/Commercial Entities

Oropesa recommends that future legislation includes provisions for categories of Commercial Buoy Mooring Authorities/permits/licenses.

Where incorporated/commercial entities are providing a buoy mooring for use by multiple users, the level of buoy mooring design, construction, installation, maintenance and inspection will need to be higher than that required for a private mooring.

Incorporated/commercial entities should be required:

- To hold public indemnity, and third-party insurance for the use of the buoy mooring

- Require vessels using the buoy mooring to have property and third-party insurance
- Have the buoy mooring designed and certified by a competent entity for the largest vessel intended to secure to the buoy mooring.
- Have installation, inspection (with reporting to the Department) and maintenance undertaken annually and only by a certified professional mooring contractor.

Oropesa recommends the category of Commercial Buoy Mooring include:

- Marinas.
- Boat dealers / Repairers.
- Large Commercial Vessels.
- Small Commercial Vessels.
- Boating Clubs
- Ski / Caravan Park.
- Tourism or Hospitality.

6.5. Shared Use Mooring System (SUMS)

In Western Australia, a Shared Use Mooring System (SUMS) provides maximum utilisation of buoy moorings in areas where space is limited and Public Buoy Moorings may not be available, or unoccupied.

This system is described at para 3.1.1 and provides discounted annual mooring fees for buoy permit holders and additional revenue for the department through owners that subscribe to this system.

Oropesa recommends the DIT consider the inclusion of the SUMS in any South Australian Mooring System.

6.6. Public Buoy Mooring Pilot Project

The existing legislation does not permit the DIT to install buoy moorings in the proposed locations.

The only locations where a buoy mooring could be legally established are:

- In a Boat Haven³⁵, or
- Within a Crown Lease over a water area with specific terms and conditions related to the Lease Agreement.

For a Public Buoy Mooring Pilot Project to be feasible:

- The Department could create a Boat Haven under the Regulations over the areas where the SABFAC has proposed to establish the buoy moorings, or,

³⁵ South Australian Government, Harbors and Navigation Regs 2023 (Mar 2024), Part 12 Boat Havens.

- A Government-funded entity could take a Crown Lease over the same locations.

This would be a matter for DIT consideration but would enable the Department to undertake governance of the location in the event a Boat Haven is declared, or for the leaseholder to exercise its rights under the terms of a Crown Lease over the same area.

Oropesa recommends the DIT consider declaring a Boat Haven over limited areas where the Public Buoy Mooring Pilot Project will take place.

Oropesa recommends the DIT and SABFAC consider issuing a Crown Lease over limited areas where the Public Buoy Mooring Pilot Project will take place. The Minister for Lands may grant leases to unalienated Crown Land³⁶ and set the terms and conditions appropriate to the requirements.

This consideration would require the identification of an appropriate Government entity to become the Leaseholder.

³⁶ South Australian Government, Crown Lands Act 2009, Part 3, Div 5 - Leases

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