

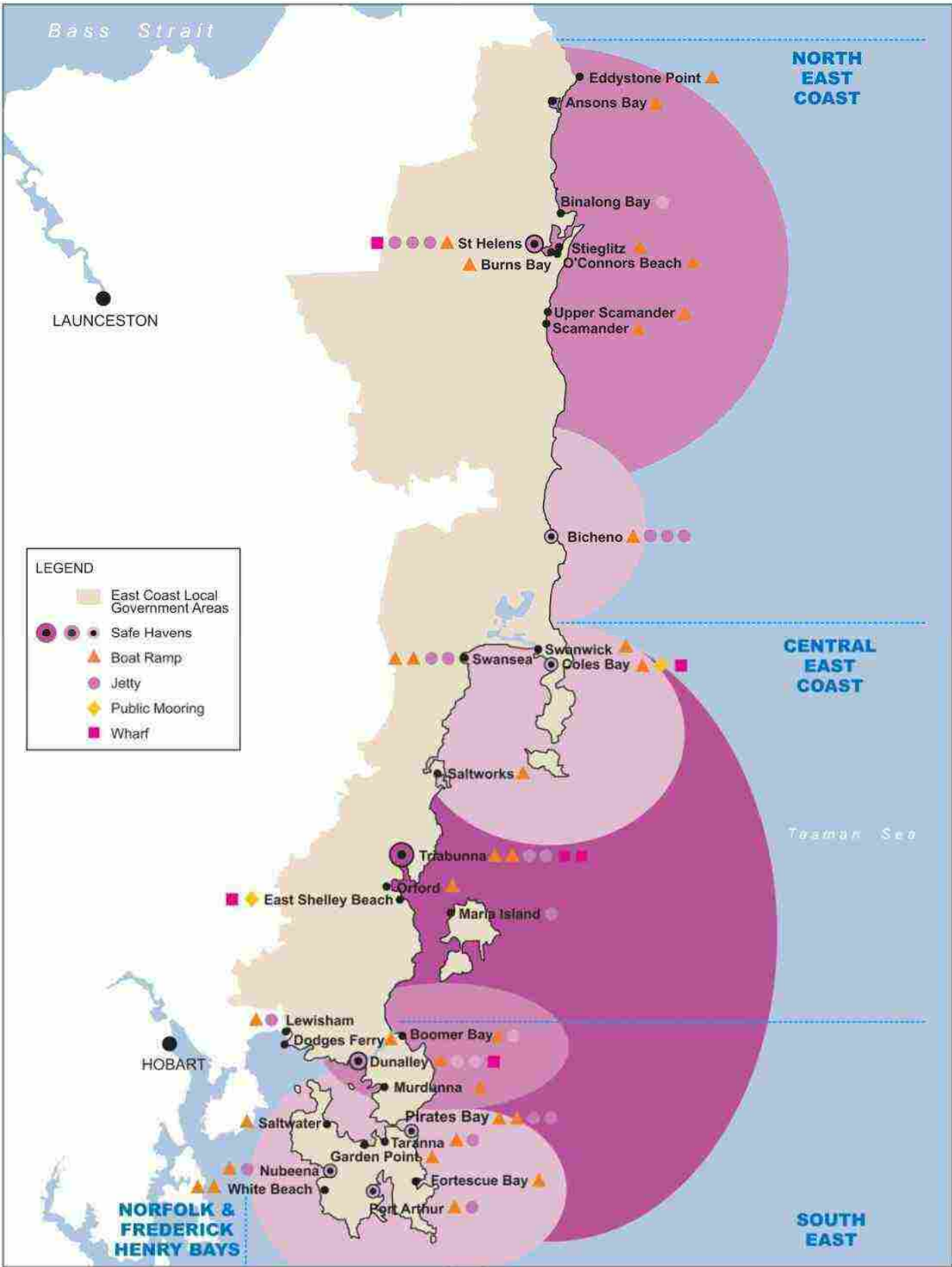


Marine and Safety Tasmania

East Coast Marine Infrastructure Strategy

14 March 2013

Map 1 East Coast region



Summary

Why Do We Need a 'Marine Infrastructure Strategy'?

The East Coast of Tasmania is an extensive and beautiful coastline comprising white sandy beaches, peninsulas, safe harbours, fishing ports, shelter from prevailing westerlies and small coastal villages. It is recognised as one of Australia's best coastlines and regularly attracts national and international visitors.

Boating is an important recreational and commercial activity on the east coast of Tasmania and, as such, the region contains many boat ramps, jetties and other infrastructure that supports maritime activities.

Investment in public marine infrastructure makes an important regional contribution towards the fishing, aquaculture and tourism industries. Developing the potential of these industries will provide an opportunity for the creation of marine precincts where activities such as maintenance and storage services and employment opportunities can be clustered.

Boating along the coast is also an important recreational pastime for many Tasmanians. Investment in marine facilities will assist in accessibility to many destinations, recreational activities, coastal lifestyle, as well as an economic driver in its own right.

The state government through Marine and Safety Tasmania (MaST) invests significant funds in the development of marine infrastructure across Tasmania and has been working cooperatively with local government over a number of years.

In addition to the public infrastructure across the region there is a growing interest from the private sector for investment and development opportunities. Marina developments in particular have been proposed for a number of east coast locations. It is important that new marinas are financially viable and sustainable against threats from sea level rise and coastal processes (such as sedimentation, shoreline recession).

This Strategy aims to deliver a regional approach to provision of and investment in a practical, economic, and efficient network of marine infrastructure and supporting land facilities to address the identified needs of recreational and commercial users. This includes identification of a priority programme over the next 10 years from 2012 to 2022 for the upgrade of existing infrastructure and for proposed new infrastructure, including land based facilities; and priority opportunities for major new private sector investment.

GHD Pty Ltd has been commissioned by Department of Economic Development and the Sorell, Tasman, Glamorgan Spring Bay, Break O'Day Councils and Marine and Safety Tasmania to prepare this 'East Coast Marine Infrastructure Strategy'. The Strategy will play a key role in leveraging off the East Coast's and Tasmania's natural maritime advantages.

Community Consultation

Community consultation was an important component of the project to ensure that all community views and needs were considered. A range of activities for stakeholders and the community were undertaken to identify views and visions on infrastructure needs, including:

- Current marine infrastructure and surrounding areas usage;
- Capacity and appropriateness of location;
- Identification of other factors which impact on the use of the infrastructure and surrounding areas;
- Views on any changes to current locations or alternative locations which would be more suitable to meet demand into the future; and
- Any impediments or challenges which need to be considered.

This included an online survey (103 respondents) which was considered in conjunction with the findings from targeted stakeholder meetings/discussions (over 50 participants), and technical and steering committee workshops.

Broad themes arising from the consultation included:

- The biggest driver of demand for facilities was the type of boats, with a trend towards bigger trailer boats (>6 metres).
- The most important motivators for use of a marine infrastructure were proximity to home or boating destination. Ease of access was also cited as an important factor when choosing a particular marine facility.
- A majority of survey respondents supported additional facilities with the coastline from Bicheno to Orford identified as the highest priority area. The area from Southern Beaches to Dunalley also received a reasonable level of support for additional maintenance facilities.
- Respondents indicated their strongest preference for additional jetties, marinas and parking, with the next level of support for additional toilets and boat maintenance services.
- A preference for a potential marina and marine precinct at Triabunna, to be supported by a network of 'safe havens' along the East Coast to provide for protection from the prevailing weather conditions.

Policy Framework, Strategic Directions & Implementation Plan

A vision has been developed for marine infrastructure within the East Coast region, which responds to the feedback received from the community, councils and other stakeholders.

To develop an effective network of marine infrastructure that provides for the short and long term needs of both recreational and commercial users by siting to respond to coastal vulnerability and sea level rise, maximising the effective use of existing infrastructure, supporting land based facilities and realising identified opportunities for major new private sector investment.

The vision is supported by eight strategic directions. These ensure marine infrastructure is developed in a strategic manner consistent with broader settlement and other strategies, are sustainable against threats from sea level rise and coastal processes (such as sedimentation, shoreline recession) to threats, and coastal vulnerability from sea level rise and coastal processes vulnerability from sea level rise and coastal processes.

Each strategic direction is then delivered through actions. These have been prioritised in consultation with the project Steering Committee based on a multi criteria analysis, including consideration of enhancement of boating safety and

enjoyment; public benefit; contribution towards the strategic priorities of the region; and site suitability. The top priorities for the region, as summarised in Table 1, are identified to directly assist in catering for the projected demand, the identified needs, and public benefit for facilities in the East Coast region. Priority Actions towards these Strategic Directions are identified by subregion in Section 1 of this report.

The Strategy is to be implemented through involvement of local and State government. Many of the projects on public infrastructure may qualify for funding assistance under MAST's Recreational Boating Fund (RBF) and regional development funding opportunities.

Table 1 Strategic Directions

Strategic Direction
1. Promote a sustainable and effective hierarchy of sheltered ports along the Coast for non-trailer boats with a focus on reliable and safe haven locations at Triabunna (primary) and Coles Bay, Orford, Dunalley, Port Arthur and Nubeena (secondary).
2. Triabunna to be the primary marine precinct complemented by St Helens in the north and Dunalley in the south. Public or private marina development is encouraged in these locations as well as clustering of maritime activities.
3. Coles Bay, Darlington at Maria Island, Pirates Bay, Port Arthur and Nubeena to provide a support role to Triabunna with casual berthing or public moorings to provide a safe haven if the weather turns.
4. Dunalley to be supported as an important link and stopover port between Hobart and the East Coast offering sheltered waters and a mooring option to reduce the length of the trip if weather or time constraints dictate.
5. Ensure that existing facilities are developed to full potential before any new public facilities are pursued at nearby locations.
6. Continue the maintenance and upgrade regime for existing facilities to provide for a good level of boating safety and access.
7. Encourage holistic development of infrastructure with due consideration to coastal vulnerability, sea level rise, connections to existing urban areas and infrastructure and integrating with shore based facilities such as trailer parking and toilets.
8. Future developments to wharves and jetties to be designed to accommodate a diversity of users.

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1. Marine Infrastructure Strategy

This Strategy outlines a regional approach to provision of and investment in a practical, economic, and efficient network of marine infrastructure and supporting land facilities to address the identified needs of recreational and commercial users. This includes identification of a priority programme for the upgrade of existing infrastructure and for proposed new infrastructure, including land based facilities; and priority opportunities for major new private sector investment.

The Strategy outlines specific needs/recommendations in response to regional boating characteristics, key findings from the demand analysis, consultation, and strategic directions.

The Strategy is to be read in conjunction with the 'Background' section of the report.

1.1 Regional

The following marine facility needs apply across the region.

Table 2 Regional Recommendations

Regional Recommendations	
Location of Facilities	
<ul style="list-style-type: none">• Triabunna to be the primary marine precinct complemented by St Helens in the north and Dunalley in the south. Public or private marina development is encouraged in these locations.• Other locations such as Coles Bay, Darlington at Maria Island, Pirates Bay, Port Arthur and Nubeena to provide a support role with casual berthing or public moorings to provide a safe haven if the weather turns.• Marinas may be considered in locations other than St Helens, Triabunna or Dunalley subject to local and environmental considerations although the public benefit is likely to be less if outside Triabunna, St Helens or Dunalley.• Dunalley to be noted as an important link and stopover port between Hobart and the East Coast offering sheltered waters and mooring option to reduce the length of the trip if weather or time constraints dictate.• Ensure that existing facilities are developed to full potential before any new public facilities are pursued at nearby locations.	
Process	
<ul style="list-style-type: none">• Encourage holistic development of infrastructure with due consideration to shore based facilities such as trailer parking and toilets.• Implementation to be a joint process with early consultation between stakeholders and where possible avoid duplication in assessment approvals.	

Cruising Boats

- More infrastructure to be established for cruising boats including dedicated short stay facilities providing for overnight berths, or public moorings.
- Councils to incorporate where possible facilities for garbage disposal, fuel, and information about other services (such as shops and existing public toilets, recreation areas etc.) or attractions at key locations of Dunalley, Port Arthur, Nubeena, Pirates Bay, Orford, Triabunna, Coles Bay, Swansea, Bicheno and St Helens.
- Establish a safer cruising route with new public moorings in selected locations close to towns such as Dunalley, Nubeena, Orford, Triabunna and Coles Bay where possible. Avoid moorings in pristine locations such as Wineglass Bay, Schouten Passage, Fortescue Bay or Maria Island (other than Darlington).

1.2 North East Coast: Eddystone Point to Wineglass Bay

The North East sub region (Table 3) needs as identified below predominately relate to trailer boating, game fishing, and tourism demand as well as supporting St Helens as a marine precinct/hub and safe haven location.

No recreational cruising opportunities are identified as this area of the coast is exposed. Once outside Georges Bay it is a long passage in the open sea of 50+ Nm (8 or so hours at normal cruising speed) to the next sheltered anchorage or port. Yachts usually pass St Helens on an ocean passage north or south and would generally only stop for repairs or supplies if really necessary.

The St Helens barway is a significant constraint to deeper draft vessels. Several reports have been prepared in relation to issues associated with improvements to the St Helens Barway however there are no cost effective solutions. A technical report on options to improve barway access and a Social and Environmental impact assessment can be found at:

<http://www.mast.tas.gov.au/publications>

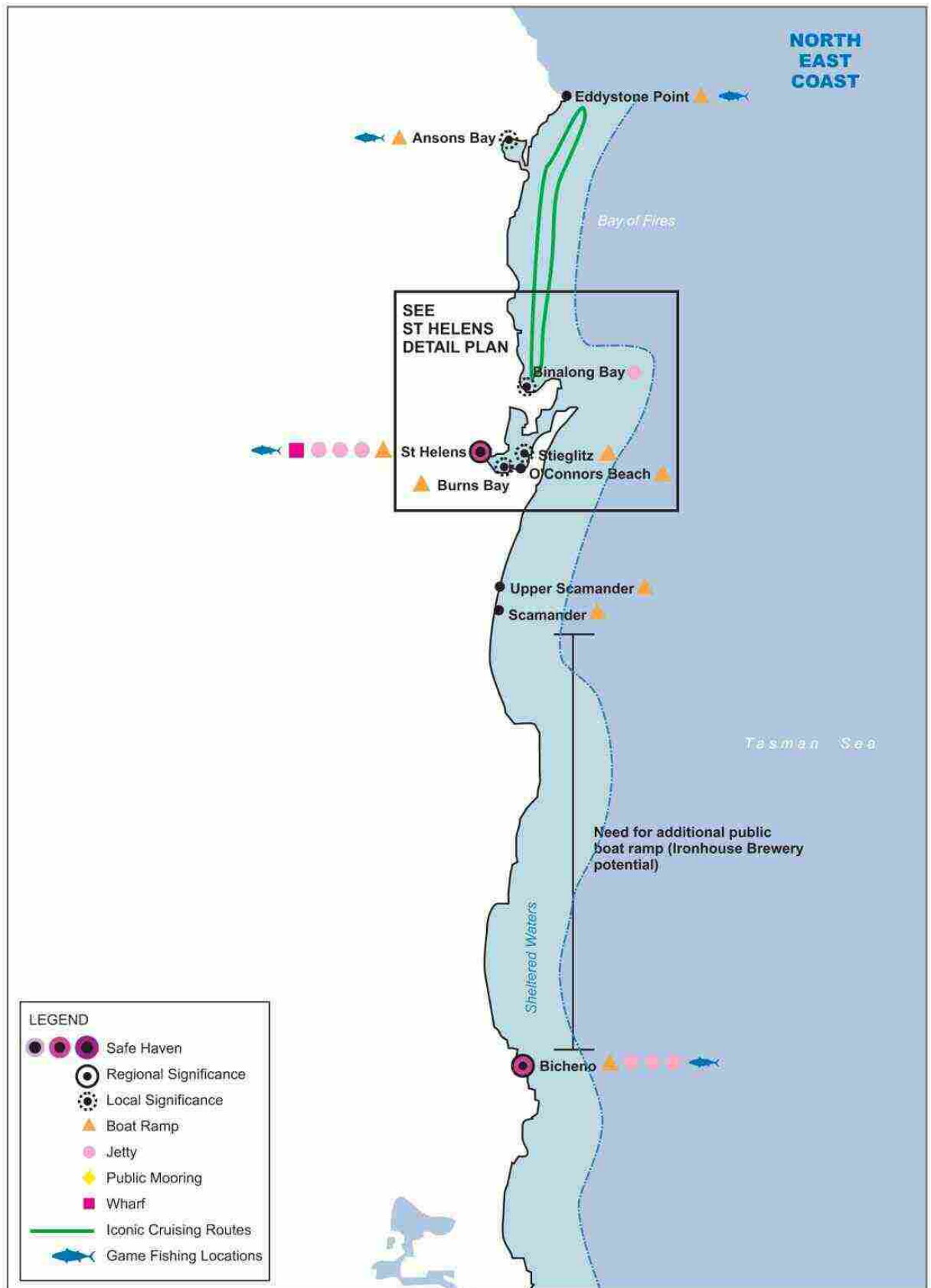
Table 3 North East Coast recommendations

Facility	Recommendation	Rationale
St Helens Wharf	St Helens Wharf replacement with possible inclusion of floating marina berths to increase berthing capacity for charter boats or shallower draft recreational boats.	St Helens wharf and marina comprises the commercial, recreational, tourist and maritime focus for the town. The St Helens barway and channel entrance are a constraint to deeper draft vessels.
	Optimise parking arrangements through dedicated trailer parking.	Opportunity to foster the image as game fishing capital through provision of quality marine facilities particularly at St Helens
Burns Bay Boat Ramp	Improve parking arrangements and provide waiting facility in consultation with Parks and Wildlife Service, Councils, fishing clubs and MAST	Open ocean outside the St Helens barway offers nationally recognised game fishing for 9 months of the year. Due to popularity, the parking

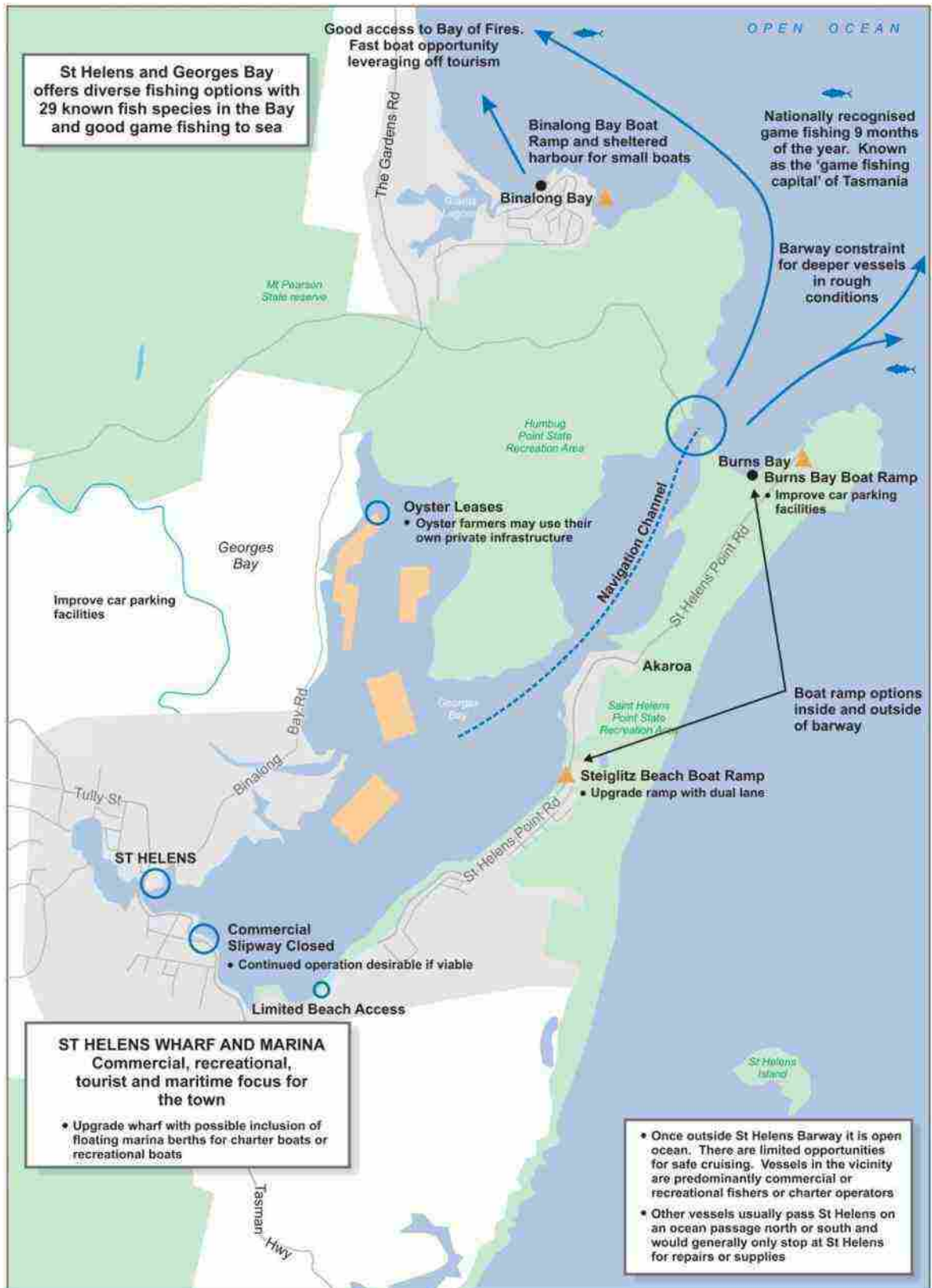
Facility	Recommendation	Rationale
		overflow is impacting on the recreational reserve.
Binalong Bay Boat Ramp/Jetty	Improve parking and access arrangements in consultation with Parks and Wildlife Services	Existing reported trailer parking congestion during peak periods. Tourism opportunity to leverage off International image and Bay of Fires brand.
Stieglitz Boat Ramp	Investigate options to improve accessibility at low tide and improve all weather access with shelter from N and NE winds. Consideration to be given to a further lane on the ramp.	Georges Bay also offers sheltered family friendly boating, with diverse fishing options with 29 known fish species in the bay.
Scamander - Bicheno	Additional public ramp (investigate Ironhouse Brewery as option subject to adequate access)	Only notable gap in the even distribution of public boat facilities along the East Coast.
Bicheno Boat Ramp, Jetty & landing	Extend walkway to increase berthing capacity. Master plan for the redevelopment of a marine/tourism precinct around the Gulch	Opportunity to leverage off planned golf club/residential and to provide a focus for tourism and fishing including professional and recreational fishing, diving and departure point for penguin tours.

Other facilities within the North East Region not included within Table 3 such as Ansons Bay Boat Ramp, Eddystone Launch Area and O'Connor's Beach Ramp have already been upgraded and no further works are anticipated in the short to medium term.

Map 2 North East Subregion: Eddystone Point to Wineglass Bay



Map 3 St Helens Detail



1.3 Central East Coast: Wineglass Bay to Dunalley

The Central East Coast subregion (Table 4) needs as identified below relate to the creation of safe harbour locations along this stretch of the coast given the exposed waters as well as supporting Triabunna as the primary marine precinct and safe haven location within the region. Triabunna is regionally important due to strategic advantages of:

- sheltered port and deep water;
- proximity to airport (just over an hour);
- central location with Coles Bay/ Swansea and Schouten Island to the north, and Maria Island, Dunalley and Tasman Peninsula to the South; and
- existing marine industries including a marina, slipway, maintenance, accessibility to flat land, Esplanade as well as tourism, fishing, and recreation facilities.

The creation of a marine precinct can also assist in the 'rebranding' of Triabunna, and attraction as something more than a service town. This has begun with Council's works around the Esplanade. Planned works for Maria Island by the Parks and Wildlife Service including rebuilding of the Jetty and investigations of ecotourism development also align.

To support the regional function of Triabunna, a network of supporting sites such as Coles Bay, Maria Island, and Dunalley are identified. These need some new casual berthing or public mooring facilities to provide improved safe harbour options.

Other key needs relate to the provision of additional marina berths, particularly at Triabunna to cater for multi user needs including commercial fishing boats, large recreational boats as well as tourism services particularly to Maria Island and Freycinet National Park.

There is also a need to identify a long-term plan to maintain access to the Prosser River. The river mouth is subject to change and shallowing. This causes the entrance to become silted resulting in little or no access at all at low tide.

Figure 1 Prosser River Mouth



Table 4 Central East Coast recommendations

Facility	Recommendation	Rationale
Coles Bay	<p>Improve safe harbour protection and capacity through:</p> <ul style="list-style-type: none"> Breakwater modifications by extending the length or adding a return leg to decrease the effect of diffracted waves impacting on the berthing area. Boat ramp modifications by installing an impermeable wall to stop wave diffraction impacting on the boat ramps. Optimise berthing capacity at Coles Bay wharf by all or part of the wharf being fitted with marina floating fingers so that vessels berth perpendicular to the wharf.¹ Traffic management plan to cater for increased capacity from Stage 2 boat ramp works which include express lane, new walkway & removal of timber piers) <p>Ensure facilities are adequate to cater for the cruise ships.</p>	<ul style="list-style-type: none"> Coles Bay, although currently being upgraded, has capacity to build on its tourism and recreation values through kayaking, fishing charter, tours, and cruising. Coles Bay also has significance in terms of accessing a safe haven. This is currently impacted on by the swell. Options considered for Coles Bay for example include improved protection from the wave diffraction off the existing jetty The stage 2 boat ramp improvements will increase the capacity of that ramp, but associated parking issues will need to be considered to accommodate the increased demand. Cruise ships are a niche but important market.
Swansea	<p>Investigate options to provide an all tide launching facility for 6 metre plus boats at the Swansea boat ramp through Council's feasibility investigations into marina option or long jetty.</p>	<p>To support desired growth of Swansea as a key tourism and historic hub by providing for additional waterfront linkages and infrastructure.</p>

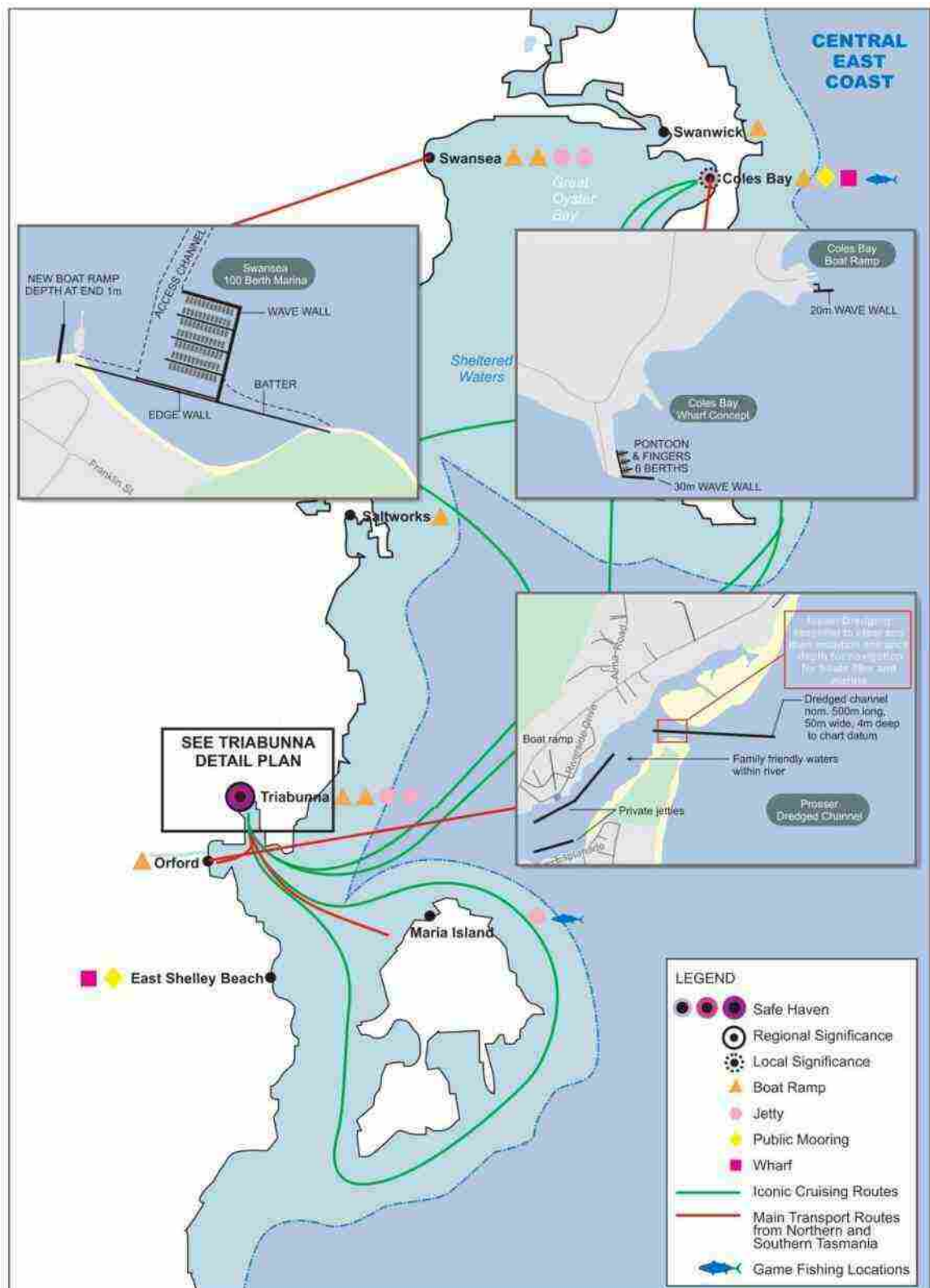
¹ Options to increase the berthing capacity and protection for boats utilising the wharf and boat ramp were considered at the workshop. These are illustrated in Appendix E.

Facility	Recommendation	Rationale
Triabunna	<ul style="list-style-type: none"> Encourage a variety of marina development options to provide for the major sheltered port on the East Coast, including additional investigations to select preferred options for further sites and determine any significant constraints (such as nature of rock etc.). Undertake a holistic marine precinct master plan which includes consideration of commercial fishing, tourism, Maria Island Ferry connection and recreation needs, the Spring Bay Boat Club and boat ramp and trailer parking location. Option for canoe launching and child friendly, calm water activities up stream of Vicary Street Bridge. 	<ul style="list-style-type: none"> Triabunna is the best location for all weather shelter and deep water port Existing marine hub with existing industries including a marina, slipway, maintenance, accessibility to flat land and to the Esplanade as well as tourism, fishing, and recreation facilities. Central location with Coles Bay/ Swansea and Schouten Island to the north, and Maria Island, Dunalley and Tasman Peninsula to the South The creation of a marine precinct can assist in the 'rebranding' of Triabunna, and attraction as something more than a service town.
Maria Island	<ul style="list-style-type: none"> Support planned Darlington Jetty upgrade to increase berthing capacity to accommodate both ferry and recreational boats. Support planned ecotourism feasibility investigation 	Significant boating destination within National Park which is currently underutilised.
Saltworks	<ul style="list-style-type: none"> Formalise parking arrangements and toilet infrastructure provision in this area. 	A popular and alternate launching area to Orford and Swansea offering quick access to Schouten and Ile Des Phoques.
Orford	<ul style="list-style-type: none"> Further recommendations of investigations of dredging being funded by Council to provide for a long term solution to Prosser River including to maintain access for larger boats at existing jetties as well as potential for additional public berthing options. Additional canoe/kayak pontoons to provide for family friendly boating options within the River with potential to operate out of local café/business strip. 	Orford provides sheltered water to complement Triabunna and there is also potential to build on the streetscape and recreational works along the foreshore. It is currently constrained by ongoing issues with silting of the river mouth. The 'family friendly' focus of Orford could be built upon through provision of kayaking or canoeing pontoon access within the Prosser.
Dunalley	<ul style="list-style-type: none"> Replace the jetty. 	Dunalley is an important conduit and stepping stone from Hobart to the East Coast offering sheltered waters and a stopover option to reduce the length of the trip if weather or time constraints dictate

Other facilities in the Central East Coast Region not included within Table 4 are not anticipated for further work in the short to medium term.

Map 4 Central Coast – Wineglass Bay to Dunalley

Refer also to Triabunna Detail Plan Map 6



1.4 South East Coast: Denison Canal, Tasman Island to Nubeena

The South East Coast subregion (Table 5) needs are similar to those in the North East with a focus on commercial and recreational fishing by trailer boats and commercial fishing vessels and game fishing. It is also a 'gateway' to the remainder of the East Coast and requires safe haven locations to offer protection from the exposed waters around the Tasman Peninsula or the remainder of the East Coast for those using Denison Canal. There are opportunities to leverage off existing ecotourism ventures to Tasman Island, popularity of the Port Arthur Historic Site, and the planned Three Capes walk.

Table 5 South East Coast recommendations

Facility Area	Recommendation	Rationale
Pirates Bay	Implement Stage 2 Pirates Bay car parking plan to address parking and safety issues. Master plan including relocation of tuna club, structural assessment of boat sheds to ensure that all users are able to contribute the development of a regionally significant facility and safe haven.	Pirates Bay is a strategically important location for game fishing, recreational boating, commercial fishing, as well as tourism operations to Tasman Island. It also offers relative shelter on the Peninsula. Although recently upgraded, it still regularly exceeds capacity, particularly in relation to car parking during weekends in peak game fishing season. There is also capacity to further build on its tourism and recreational values.
Nubeena Jetty/Ramp	Upgrade ramp and improve landing accessibility at low tide. Investigate potential as a safe haven/gateway from the south to the East Coast.	The Denison Canal is not suitable for all boats in all weather. Other safe harbours are therefore required along this stretch of coastline. Nubeena is an alternative sheltered stepping stone location from Hobart. Port Arthur and to a lesser degree, Pirates Bay offer sheltered locations on the Peninsula itself.
White Beach (southern)	Parking to be improved (currently limited and informal in coastal reserve).	Maintain good standard of land based facilities and minimise impact on environmental values.
Port Arthur (caravan park access road) Garden Point	Upgraded ramp and jetty and investigate transfer of responsibility from Port Arthur Historic Site	Port Arthur offers good shelter on the Peninsula with quick access to Tasman Island and Cape Roaul. This boat ramp also relieves any pressure to use the facilities within the main historic site, which leads to conflict with the operations of the site. Port Arthur should also be promoted as an alternative access when the Pirates Bay ramp is congested.

Facility Area	Recommendation	Rationale
Port Arthur Historic Site	Increase capability to accommodate cruise ships by furthering the concept designs for the site	Port Arthur is important as a recreational and tourism location, and has around nine cruise ship visitations per annum to the historic site. These are currently ferried in smaller craft to the site itself. There is potential to build on this visitation through improved facilities at the site, and to remove incompatibility between people using the jetty at the site for recreational purposes
Boomer Bay	<p>Implement traffic management plan to optimise the residential amenity, traffic safety, and improved parking arrangements particularly during peak periods and provide toilet.</p> <p>Consider feasibility of an alternative ramp location to Boomer Bay close to the slipway, wharf and Waterfront Café.</p>	<p>Boomer Bay also provides an important boat ramp facility, given the constraints of Dunalley boat ramp including location, grade, and fast tidal waters in the channel. As such, Boomer Bay regularly exceeds parking capacity and has no toilet facilities.</p> <p>If sufficient land is available, a new boat ramp in the vicinity of the slipway, wharf and café would focus activity and may provide a further land based commercial opportunity for the town while also addressing the existing shortfall in trailer parking and shore based facilities at Boomer Bay.</p>
Denison Canal	Support the popularity of the Denison Canal and function as short cut to the Central East Coast through provision of improved 'stop over' facilities such as public moorings or casual berthing at the Wharf.	The Denison Canal at Dunalley is an important boating route within this region providing a short cut to the central and northern East Coast regions. For example 460 pleasure boats and 82 commercial passed through canal over the three month peak period from December 2011 to February 2012.

Other facilities in the South East Coast Region not included within Table 5 are not anticipated for further work in the short to medium term.

Figure 2 Denison Canal



Figure 3 Pirates Bay Boat Sheds & Tuna Club



Figure 4 Port Arthur Jetty



1.5 Norfolk Bay & Frederick Henry Bay

The South East Coast subregion (Table 6) needs are based on provision of recreational fishing and trailer boat facilities. Given the proximity to Greater Hobart area and sheltered waters within the Bays there is scope to build on reputation of the Southern Beaches as a family friendly boating destination. This can most immediately be achieved through ensuring that all facilities have adequate parking and toilet facilities.

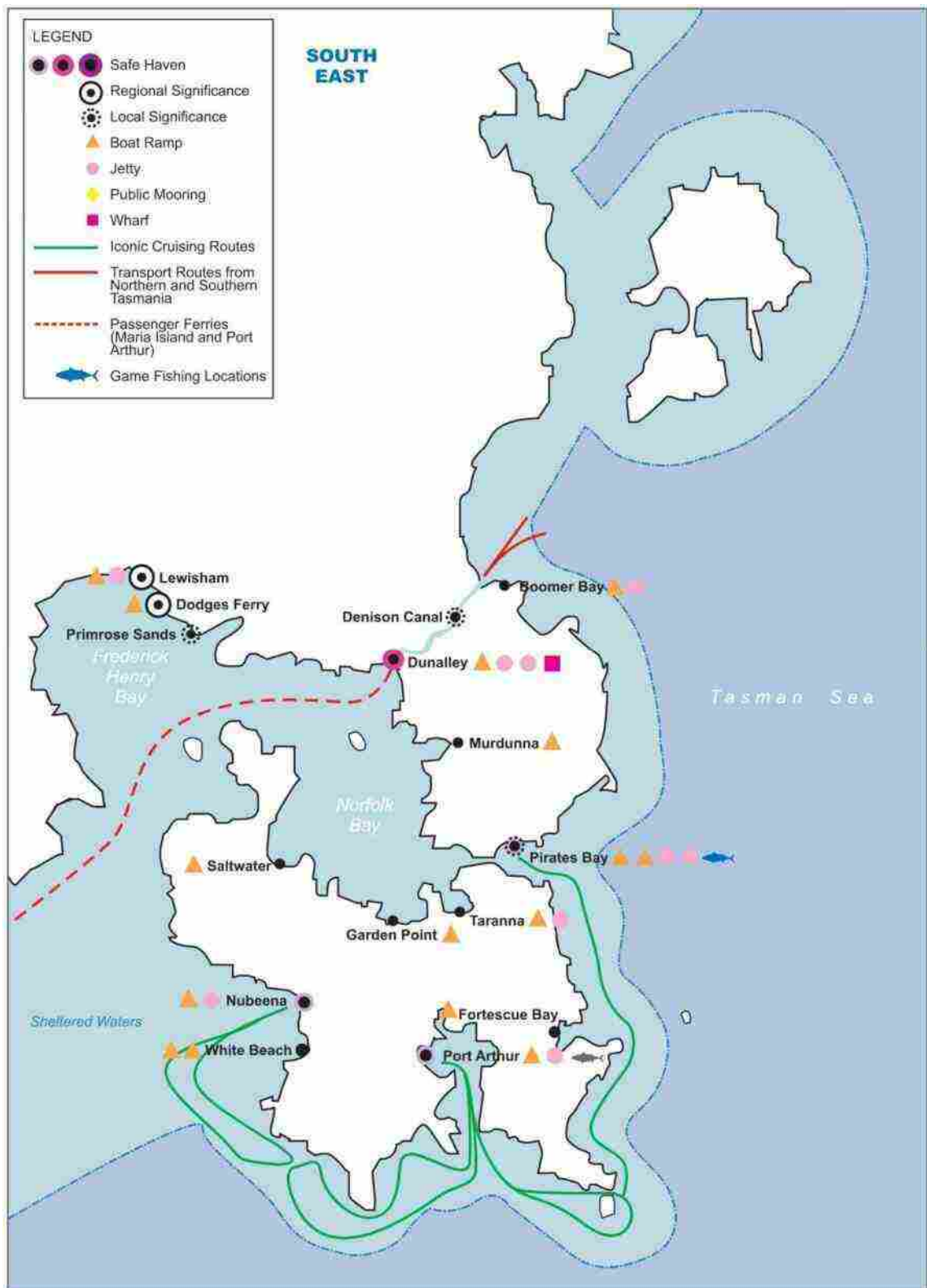
The area is currently underutilised and therefore the existing facilities are adequate, however demand may increase over the longer term, through increased development if the area becomes serviced with reticulated sewer and/or a more permanent population is established.

Table 6 Norfolk Bay & Frederick Henry Bay recommendations

Facility Area	Recommendation	Rationale
Dodges Ferry	Establish additional berthing spaces.	Dodges Ferry is the desired boating ramp facility hub for the region with good parking, traffic management, toilets, beach and park facilities as well as shops and co-location of coastal lifeguard.
Lewisham	Maintain the existing facilities to support recreational fishing and improve where opportunities to support other family friendly boating activities such as kayaking and canoeing.	The ramp is in good condition and the jetty needs replacing, but is of value only to locals for fishing. Previous boat hire from the shed adjacent to the ramp suggests potential for additional boating activities.
Primrose Sands	Support the provision of overflow parking area in vicinity of the ramp. Provide for new toilets. Provide for break water protection from winds.	The improvements of additional land based ancillary facilities will support the role as a key facility for visitors from Greater Hobart.

Other facilities in the Norfolk Bay and Fredrick Henry Bay Region not included within Table 6 are not anticipated for further work in the short to medium term.

Map 5 South East: Dunalley, Tasman Island, to Nubeena & Norfolk & Fredrick Henry Bays



1.6 Marina and other Private Sector Needs

In addition to public marine infrastructure there has been interest in private sector investment in additional marine facilities across the region. Marina developments in particular have been proposed for a number of East Coast locations (such as Swansea, Coles Bay and Triabunna). This is consistent with a trend around Tasmania over the last decade where demand for marina berths has driven the construction of approximately 1000 new berths since the year 2000 with at least a further 250 berths planned (see Table 7).

The number of new berths has been greatest around the urban populations of Launceston and Hobart. However there has also been growth around popular cruising areas of the D'Entrecasteaux Channel (Kettering) and Huon River (Kermadec).

Other than modest marina works at St Helens and Triabunna, the East Coast marina proposals have not been realised to date. However the attraction of the high quality waterways of the East Coast, statewide growth in marina berths, forecast growth in vessels over 6 metres, a waiting list for the Triabunna marina and the survey responses as part of this project where 30 % of respondents saw a demand for new marina facilities, suggest that there is merit in further marina development in the region.

Table 7 Approximate Change in Marina Numbers Tasmania 2000-2012

	2000	2012
Tamar Yacht Club		92
St Helens	30	60
Launceston Seaport	0	130
Triabunna(incl Spring Bay Boat Club)	30	40
Royal Yacht Club of Tasmania (River Derwent)	110	196
Derwent Sailing Squadron (River Derwent)	130	130*
Bellerive Yacht Club (River Derwent)	170	170**
Motor Yacht Club (River Derwent)	0	150
Lutana	10	10***
Prince of Wales Bay (River Derwent)	0	160

	2000	2012
Kettering	100	280
Kermandie (Port Huon)	0	80
Kings Pier	0	67
	580	1565

* Plan for 248 berths

** Plan for 260 berths

*** Plan for 56 berths

1.6.1 Marina Berths on the East Coast

The establishment of a hierarchy of sheltered ports along the Coast for non-trailer boats with a focus on reliable and safe haven locations is central to this Strategy. Marinas should be based around these locations.

As indicated above, the East Coast currently has two small marinas at Triabunna and St Helens. It is considered that a greater number of marina berths in the area will improve the region's boating profile and amenity. They will assist to develop a safe haven network and foster the concept of a marine cluster with associated leverage opportunities for supporting economic activities such as boat maintenance, charter, food and beverage.

1.6.2 Marina Viability

Factors affecting the long term viability and business case for marina developments include:

- Proximity to urban populations and/or recreational waterways
- The cost of construction and particularly the provision of wave attenuation.
- Cost of ongoing maintenance including dredging
- Depth of water
- Environmental considerations
- Connections with shore based activities and uses such as club houses, restaurants, retail or maintenance facilities.

The table on the following pages provides an overview of the advantages and disadvantages of existing towns and locations to accommodate a marina. Triabunna is considered to be the best location.

Table 8 Advantages and disadvantages of locations for marina suitability

	Advantages	Disadvantages
St Helens	<ul style="list-style-type: none"> • Identified as a District Centre under the Northern Regional Land Use Strategy. • Existing profile as a marine town and fishing port and the concept of a marina is less likely to attract community opposition. • Sheltered once inside the Barway • Population centre of the Northern East Coast • Opportunity to contribute to the existing waterfront focus of the town • Opportunity to connect with existing commercial and marine industries. • Existing service infrastructure • Could be accommodated without significant adverse visual impact. 	<ul style="list-style-type: none"> • Barway constrains all weather access and limits the size/draft of boats that could reliably access the marina. • St Helens is remote to the best cruising grounds on the coast.
Bicheno		<ul style="list-style-type: none"> • Exposed location
Coles Bay	<ul style="list-style-type: none"> • Close to high quality cruising grounds 	<ul style="list-style-type: none"> • Exposed to southerly and westerly wind and sea. • Visually sensitive location • Previous RMPAT refusal • A history of some community opposition • Social and environmental impacts
Swansea		<ul style="list-style-type: none"> • Exposed to southerly winds and sea. • Shallow and shifting sands • High visual impact • Social and environmental impacts • Limited flat land available for complementary shore based

	Advantages	Disadvantages
		<p>uses. Likely to require reclamation.</p> <ul style="list-style-type: none"> Lack of sheltered cruising anchorages nearby.
Triabunna	<ul style="list-style-type: none"> Identified as a District Centre under the Southern Regional Land Use Strategy. Existing profile as a marine town and fishing port and the concept of a marina is less likely to attract community opposition. All weather access and shelter Central location on the coast with good access to Schouten to the north, Maria Island, Dunalley and the Tasman Peninsula to the South. Population centre Opportunity to contribute to the existing waterfront focus of the town Opportunity to connect with existing commercial and marine industries. Existing service infrastructure Could be accommodated without significant adverse visual impact. General community acceptance of marinas as a benefit to the town. Several marina locations identified. 	<ul style="list-style-type: none"> Marina locations central to the town are shallow and would require some rock excavation or dredging.
Orford (Prosser River)	<ul style="list-style-type: none"> Sheltered location once inside the barway Would assist to focus the town around the esplanade. 	<ul style="list-style-type: none"> Could not be accommodated unless there was a long term resolution to the barway. Community opinion untested. Limited land available for shore based uses.
Dunalley	<ul style="list-style-type: none"> Provides an option for boats to head east or west depending on the weather conditions 	<ul style="list-style-type: none"> Limited access via Marion Bay Narrows in strong NE conditions.

	Advantages	Disadvantages
	<ul style="list-style-type: none"> Existing profile as a marine town and fishing port and the concept of a marina is less likely to attract community opposition. Service infrastructure available in some locations Close to Hobart urban population. 	<ul style="list-style-type: none"> Use by larger or deeper draft vessels limited by depth
Pirates Bay		<ul style="list-style-type: none"> Exposed to swells Visually sensitive location Lack of available land for shore based uses Remote to sheltered cruising anchorages Community opinion untested.
Port Arthur		<ul style="list-style-type: none"> Exposed to ocean swells. Visually sensitive location Remote to sheltered cruising anchorages. Community opinion untested.
Nubeena	<ul style="list-style-type: none"> Sheltered all weather port Existing profile as a marine town and fishing port and the concept of a marina is less likely to attract community opposition. Service infrastructure available in some locations 	<ul style="list-style-type: none"> Remote to sheltered cruising anchorages
Norfolk Bay (various possibilities – Taranna, Murdunna)	<ul style="list-style-type: none"> Options for relatively sheltered marina sites close to sheltered anchorages 	<ul style="list-style-type: none"> Remote from larger towns, retail/commercial operations and infrastructure Community opinion untested.

Triabunna

A number of sites have been identified for a potential marina in the Triabunna/Spring Bay area. It is noted that these are largely consistent with the key recommendations of the Triabunna/Orford Structure Plan. Those sites adjacent to the town centre will provide maximum public benefit in terms of walkability, proximity to support facilities, a waterfront focus for the town and would benefit from existing infrastructure such as road access, water and sewer. Marinas remote to the town, but still within Spring Bay, would also provide the benefit of increasing marine activity in Triabunna and should not be discounted. However the more remote locations, particularly if they include shore based retail/commercial facilities could dilute the town and provide a reduced public benefit. The more remote marina sites should therefore be of a more industrial/ maintenance nature and be evaluated with regard to impacts on the retail and commercial operations within the town as well as environmental and climate change impacts. Any shore based uses on the low lying land such as the Seaport site on the Tasman Highway south of the bridge, refer Map 6, page 22 would need to be carefully evaluated in regard to vulnerability to sea level rise and storm surge.

A significant uncertainty to development of a marina within the inner Triabunna Harbour area is the cost of excavations required to achieve sufficient water depth. It is recommended that specific geotechnical investigations targeted from local knowledge of ground conditions be undertaken to provide a factual basis for the development of a marine master plan for Triabunna.

The Triabunna Woodchip Mill wharf is also a potential long term redevelopment option for marina or other tourism venture following its recent purchase in 2011. The wharf is currently owned by Tasports and leased to the owners of the mill. Tasports has indicated that they would consider divesting the asset as part of any redevelopment.

Swansea

There has also been interest in the establishment of a marina or long jetty at Swansea. The site is not as suitable as other locations along the Coast (such as Triabunna) due to the shallow water, shifting sands, and generally exposed location. There are also potential visual, social and environmental constraints.

Dunalley

A need has been identified for a holder location for those boats travelling from Hobart up the East Coast. It is a long trip and subject to weather conditions. It is considered that Dunalley is well located for a marina being close to the urban population of Hobart and approximately half way between Hobart and the East Coast. Dunalley also provides flexibility for boaters to head east or west depending on the weather to mitigate the impact of adverse conditions. The main disadvantages of Dunalley are that access from Marion Bay is not possible in heavy north easterly conditions and that the shallow water prevents access for deeper draft vessels.

Coles Bay

Coles Bay is close to the high quality cruising grounds around Schouten Island and Winglass Bay and has been identified as a location that would need additional marine infrastructure if it is to provide a safe haven role. An appropriately designed breakwater and marina could provide the necessary shelter. However a previous

Coles Bay marina proposal faced significant public opposition and was ultimately refused by the Resource Management and Planning Appeal Tribunal. Any future marina proposal would therefore need to specifically demonstrate an acceptable environmental, visual and social impact.

GHD's Maritime Engineer examined a number of sites on the Central East Coast for a stakeholder workshop in February 2012. Technical notes from this workshop are included as Appendix E to this report. It is noted that Glamorgan Spring Bay Council has commissioned a detailed feasibility for marinas at Triabunna, Swansea and Coles Bay and investigation of improving the Prosser River barway. This investigation should progress or eliminate the options.

Map 6 Triabunna Marina Options

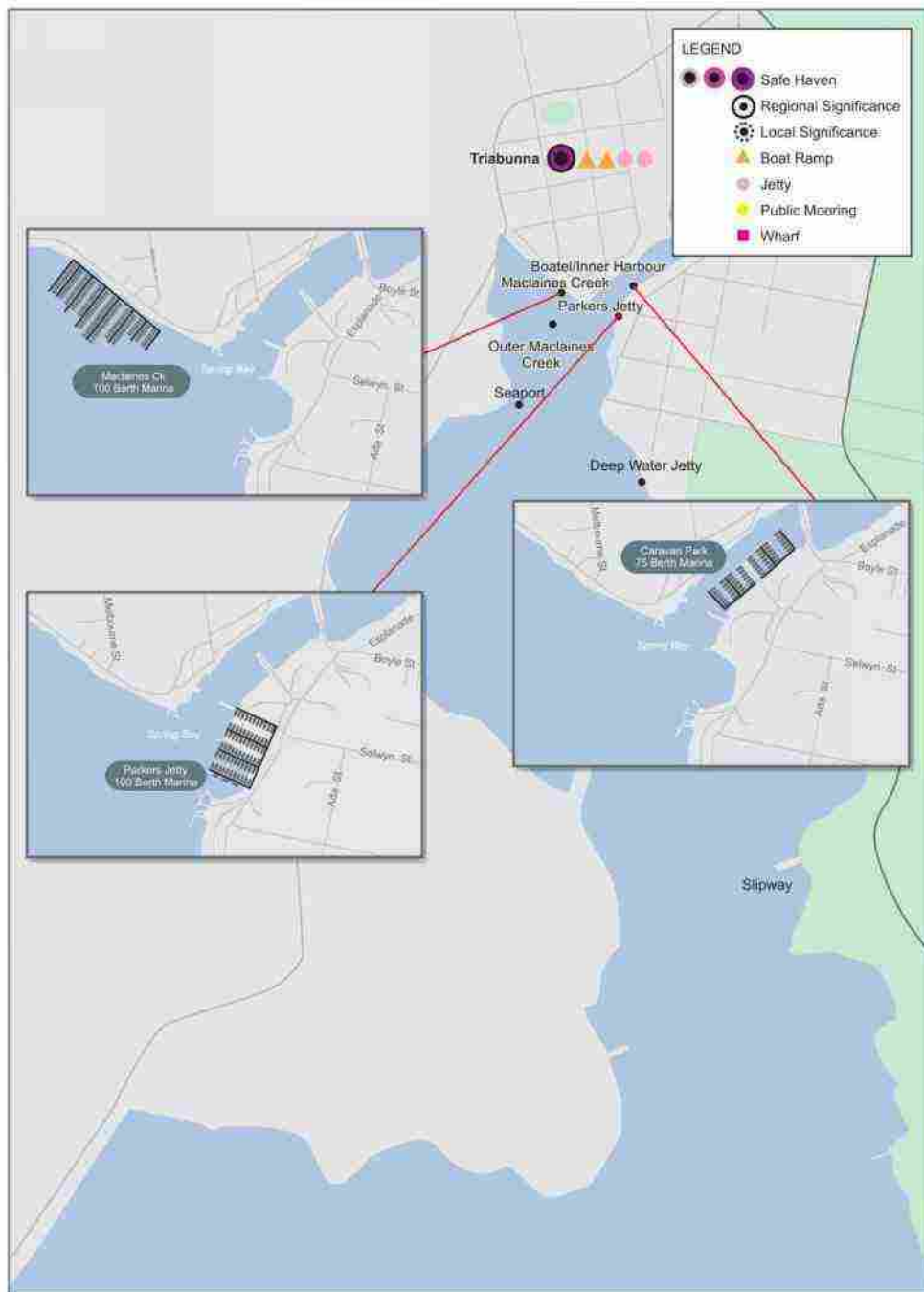


Figure 5 Triabunna Boat Ramp within the current Marina



1.6.3 Boat Storage

Due to the seasonal nature of visitation to the East Coast there is potential for secure boat parking or storage. The move to dry stack facilities is an example of increasing trend in boat storage facilities in other Australian states.

There are a few dedicated facilities within the region, and a number of caravan parks also perform this function. There are however no dry stacking facilities within the region. The survey feedback indicated however that most boaters store their boat at home. Indeed the average lot size in most Tasmanian settlements means that there is sufficient area for residents or shack owners to build a shed to store the boat.

1.6.4 Support Facilities

Any new marina viability will be dependant on supporting infrastructure. As such any marina development also represents potential for other marine facilities (e.g. dry stack, or sewage pump-out and fuel) as well as complementary onshore commercial activities such as retail, marine industry services, and commercial tenancies. Key to the facilitation of these investment opportunities is determining economic, engineering, and environmental viability, as well as identifying the likely demand for and local attitudes towards these types of facilities.

The region is also increasingly popular for recreational activities including cruising, day tripping, and as an alternate to road transport. This provides an opportunity for the provision of attractive destinations, short stay facilities, information guides and services. The development of short stay overnight facilities associated with destination nodes such as Coles Bay has the potential to add to the tourism appeal and vibrancy of the region. For example, a clear impediment to visitors arriving by boat at present is the lack of clear information in relation to location of fuel, distance to shops, information about use of the wharf, etc.

Table 9 Key Findings

Opportunities	Recommendation
Marina	Establish additional berthing spaces at key safe haven and marine precincts at Triabunna, Coles Bay and investigate options to improve Swansea accessibility subject to the feasibility assessment by Glamorgan Spring Bay Council.
Storage	Current on site storage is likely to be suitable and no opportunities were identified.
Support Facilities	<p>Further the recommendations of the Council's feasibility study in terms of the support facilities required to support the viability of any marina development within the region.</p> <p>Local tourism potential could be greatly improved by providing for additional support facilities (e.g. tourist information) at existing marine infrastructure sites.</p>

2. Implementation

2.1 Responsibility

It is recommended that the Strategy Steering Committee group continue with a focus on guiding implementation of the Strategy based on the attached action plan which identifies for each site the:

- Priority (1, 2 or 3) as identified by Steering Committee (Section 7);
- Recommendation works;
- Responsible Agency(s) for implementation of the works within the priority timeframes; and
- Funding options.

2.2 Funding Options

Options available to fund the development of new maritime infrastructure in Tasmania exist at a state, federal and local government levels. A mix of public / private funding may also provide another model for the delivery particularly of major new initiatives. Those existing options available include:

- MAST

There are two avenues of funding through MAST. The Recreational Boating Fund has been in existence since 1998. This fund is derived from recreational boating registrations. MAST can allocate anything from \$1,000 – \$150,000 through the RBF. MAST invites the boating public and facility owners to apply for the upgrading of their favourite facility and applications are considered annually. MAST encourages owners to co-fund the upgrade and regional public meetings are held to discuss the allocations. The process is transparent and the MAST Board allocate the funds taking into consideration public feedback and staff recommendations. The fund started with \$200,000 per annum in 1998 and now in excess of \$950,000 is available each year.

The renewal of motor boat licences every three years also provides revenue for the upgrading of infrastructure and services involved with recreational boating. This revenue stream started in 2003 and MAST gave a commitment to the boating public and a number of public meetings that revenue derived would be put back into recreational boating. Funding from this source generally is for larger projects that cannot be funded alone by the RBF. An example is the Burns Bay Boat ramp, Coles Bay and Pirates Bay recent upgrades.

Since its inception MAST has spent in excess of 9 million dollars on recreational boating infrastructure.

- Local Government

Local governments are important to the implementation and success of the outcomes of the strategy as they are involved as facility owners, managers or key stakeholder. However, the costs to establish new facilities are becoming increasingly prohibitively expensive and the majority of new local government projects relate to enhancements at existing facilities. Local governments are able to fund and develop new recreational boating facilities and may seek State and Federal funding support. They may also draw on rate revenues or establish partnership or funding contributions from private developers.

- State Government

The State Infrastructure Fund, consistent with the 2005 Public Jetty Strategy submission, provides funding via MAST for the jetties and wharves upgrades. This is generally only adequate to maintain existing jetties and wharves and some facility replacements. There are other funding sources that may be available, particularly for larger projects such as the Glamorgan Spring Bay Major Marine Feasibility investigations.

2.3 Planning Schemes

Tasmanian is going through a suite of planning reforms and it is understood through consultation with the regional planning project officers that marine facilities that are specifically accommodated within the existing planning schemes will be transferred into the new schemes.

As there are no ports identified as regionally significant under the regional land use strategies the Port and Marine Zone under Planning Directive 1 would not apply. It is therefore recommended that a majority of facilities located outside of township boundaries and in the coastal zone will be zoned Environmental Management and would be generally very restrictive to development but this will be overridden by a Coastal and Marine Development Code which will accommodate common minor coastal works such as boat ramps and jetties.

The planning schemes will also include a Coastal Vulnerability Code in which sea level rise and storm surge issues will be considered.

Developments incorporating land based facilities with a marina are likely to require a planning scheme amendment if they are located outside of a commercial zone.

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Table 10 Priority Recommendations

Priority	Theme/Issue	Recommendations/Action	Location	Responsibility	Potential Funding
Priority 1	Marine Precinct & Safe Harbour & Quality of Facilities	Wharf replacement with possible additional berths Master plan to promote safe haven and marine precinct Traffic plan to optimise parking arrangements	St Helens Marine Precinct	Break O'Day Council/MAST	State Infrastructure Fund (wharf) Local Government/State Government/MAST
	Quality of Facilities	Formalise parking and new wait facilities	Burns Bay Boat Ramp	Break O'Day Council/Parks & Wildlife/MAST	MAST & Local Government
	Additional Facilities	New Boat Ramp	Scamander – Bicheno	MAST	MAST
	Regional Marine Precinct, Safe Harbour & New Marina	Feasibility of marina options Master Plan to create marina precinct	Triabunna	Glamorgan Spring Bay Council	Funding Allocated (feasibility) State Government/Federal Government/Regional Development Australia
	Tourism opportunities & Multi user facilities	Jetty Upgrade & Ecotourism feasibility study	Maria Island	Parks & Wildlife Service	Funding Allocated 2012/13
	Accessibility & family friendly facilities	Feasibility investigations to maintain access to Prosser River Additional canoe/kayak pontoons within the River	Orford	Glamorgan Spring Bay Council	Funding Allocated (feasibility) MAST (additional facilities)
	Safe Harbour & Tourism expansion opportunity	Implement stage 2 car parking plan Master plan for foreshore	Pirates Bay	Parks & Wildlife Service & Tasman Council & MAST & Tuna Club	State Government & Regional Development Australia
	Capacity of Facilities	Implement traffic management plan to improve parking	Boomer Bay	Sorell Council	MAST/Sorell Council

Priority	Theme/Issue	Recommendations/Action	Location	Responsibility	Potential Funding
	Safety	Jetty replacement	Dunalley	MAST	State Infrastructure Fund
	Safety, Quality & Capacity of Facilities Tourism Opportunities	Additional Berths at jetty	Coles Bay ramp, wharf, mooring	MAST/Parks & Wildlife Service	Funding allocated (boat ramp upgrades; marina berth feasibility)
	Accessibility & Tourism opportunities	Investigate feasibility of marina or long jetty	Swansea	Glamorgan Spring Bay Council	Funding Allocated (feasibility)
Priority 2	Quality of Facilities	Additional parking or traffic plan and waiting facility	Binalong Bay Boat Ramp/Jetty	Parks & Wildlife Service/MAST	RBF/Local Government
	Quality of Facilities	Formalise Parking & New Toilet	Saltworks	Glamorgan Spring Bay Council	RBF/Local Government
	Quality of Facilities	Parking formalised	White Beach (southern)	Tasman Council	MAST/Local Government
	Quality of Facilities	Upgrade ramp & jetty & transfer of ownership	Port Arthur (Garden Point)	Port Arthur Historic Site/Tourism Tasmania	MAST/ Port Arthur Historic Site
	Capacity of Facilities	Further concept plans to increase capability to accommodate visiting cruise ships	Port Arthur Historic Site	Port Arthur Historic Site/Tourism Tasmania	State Government/Federal Government
	Safety & Tourism Opportunities	App and other marketing to promote the cruising route and conditions along East Coast	All regions (safe haven concept)	Steering Committee	State Government

Priority	Theme/Issue	Recommendations/Action	Location	Responsibility	Potential Funding
Priority 3	Accessibility & Capacity of Facilities	Investigate options to improve accessibility at low tide Additional boat lane	Stieglitz Boat Ramp	Break O'Day Council	MAST
	Capacity of Facilities & Tourism opportunities	Extend walkway to increase berthing capacity	Bicheno boat Ramp, Jetty & landing	Glamorgan Spring Bay Council	RBF (walkway) & Local & State Government
	Accessibility & Safe Haven	Upgrade Boat Ramp Investigate as potential safe haven location from south to East Coast	Nubeena jetty/Ramp	Tasman Council	RBF (boat Ramp) State government (safe haven)
	Capacity of Facilities	Additional berthing spaces	Dodges Ferry	Sorell Council	MAST
	Quality of Facilities	Maintain ramp Jetty Replacement	Lewisham	Sorell Council	MAST & Council (Toilet) State Infrastructure Fund (Jetty)
	Quality of Facilities	Over flow Car Parking & new toilets Additional protection	Primrose Sands	Sorell Council	Funding allocated 2011/2012: MAST (car parking) and Council (car parking and toilets).

3. Background

The objectives of the project brief are to:

- Allow for the strategic development of marine infrastructure in a manner that is consistent with broader land use and coastal management and development strategies and plans;
- Prepare a Strategy such that marine infrastructure is developed catering for both commercial and recreational vessels;
- Facilitate the development of appropriate land based facilities such as carparks, toilets, kiosks and picnic areas that supports marine infrastructure;
- Identify private sector investment opportunities in marina or other such developments; and
- Undertake adequate consultation with user groups, community organisations and the public in the area such that community views and needs are considered in the strategy.

This Strategy aims to deliver a regional approach to provision of and investment in a practical, economic, and efficient network of marine infrastructure and supporting land facilities to address the identified needs of recreational and commercial users. This includes identification of a priority programme over the next 10 years from 2012 to 2022 for the upgrade of existing infrastructure and for proposed new infrastructure, including land based facilities; and priority opportunities for major new private sector investment.

Marine infrastructure for the purposes of this study comprises boat facilities (ramps, jetties, marinas, wharves and moorings) and associated infrastructure such as pontoons, walkways and car and trailer parking available for public use.

3.1 The Region

The East Coast region as shown in Map 1 is defined as the coastal areas of Break O'Day, Glamorgan Spring Bay, Tasman and Sorell municipalities extending from Eddystone Point, down the East Coast, around Tasman Peninsula to Lewisham. The region consists of four subregions, which are based on geographical considerations as well as their differing boating characteristics including:

- North East: aside from the commercial fishing fleet, trailer boats dominate boating activity with a particular focus on large trailer boats associated with game fishing opportunities. The marine focus is at and around St Helens although there is also a smaller fishing fleet that works out of Bicheno. Facilities are predominately used by locals and visitors from Northern Tasmania;
- Central East: including iconic cruising destinations in the sheltered waters around Freycinet Peninsula and Maria Island. There is a fishing fleet from Triabunna, tourism operations from Coles Bay, Triabunna and Maria Island. Facilities are predominately used equally from northern and southern regions of Tasmania as well as locals;
- South East/Tasman Peninsula: exposed to ocean swells, the area is most popular for trailer boat use with key activities including recreational and charter game fishing from Pirates Bay. In recent years the fast cruises from Pirates Bay

to Tasman Island and Port Arthur have developed the national and international eco tourism profile of the Peninsula, Commercial fishers operate in and out of Dunalley, Nubeena and Port Arthur. Dunalley also provides a sheltered and shorter link between Hobart and the East Coast; and

- Fredrick Henry and Norfolk Bays: predominately trailer boat and cruising as a family friendly boating destination within reasonably sheltered waters. Boating is a popular activity of residents of the Southern Beaches. The area is also conveniently located and attracts boaters from Greater Hobart.

Figure 6 Activities



3.2 Strategy Parameters

The following factors were beyond the scope of this Strategy:

- Assessment of facilities outside of the region (although the strategic relevance of the region within the state wide context is acknowledged and is an important factor in determination of demand and needs);
- Assessment of private marine infrastructure (e.g. private jetties, private boat ramps, private moorings and private aquaculture facilities);
- Assessment of informal marine facilities (e.g. beach launching); and
- Assessment of barways and slipways and the operation of Denison Canal, which have previously been investigated.

3.3 Method

The Strategy is based on the following three key phases as illustrated in Figure 7:

- Phase 1 – Scope Definition: Involving collection and review of the existing data on public boating as relevant to the East Coast region;
- Phase 2 – Demand Forecasting: Involving the assessment of the demand for commercial and recreational boating facilities and opportunities for private investment facilities such as marinas along the East Coast; and
- Phase 3 – Identification of Needs and Priorities: Using the outcomes from Phases 1 and 2 to determine the public boating facility needs and prioritising these needs based on multi criteria analysis and marine planning principles.

3.4 Report Structure

The report is structured as follows:

The Strategy

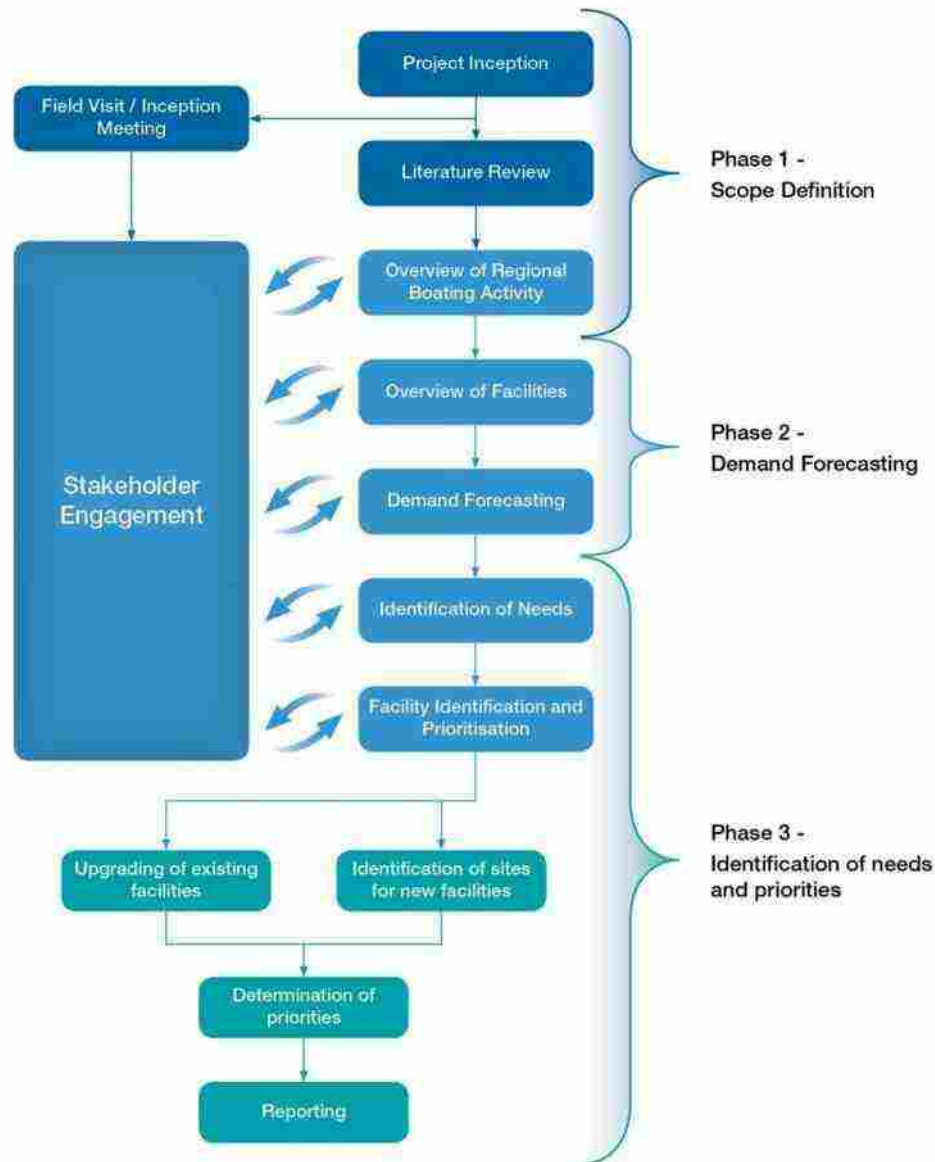
- *Strategic Recommendations* – identification of marine infrastructure needs by sub region and other opportunities; and
- *Implementation* – identification of funding opportunities and strategies to *facilitate* the implementation of recommendations.

Background Report

- *Overview of the region* – considers the region's natural advantages, boating facilities and boating activities;
- *Existing Facilities* – identification of the existing boating facilities, activities, characteristics and strategic directions within the region;
- *Facility Demand* – identifies trends relevant to the current and projected demand for marine facilities in the area and considers the region's popularity, recreational boating trends and commercial boating activities; and
- *Determination of Priorities* – recommendations for investment both now and over the next 10 years to 2022.

In addition the report should be read in conjunction with the following background reports: Facility Inventory (Appendix A); Multi-Criteria Assessment (Appendix B); Consultation Report (Appendix C); Climate Change Assessment (Appendix D); and GHD's Maritime Engineer's Technical Workshop Notes (Appendix E).

Figure 7 Method



3.5 Barways

There are a number of barways on the East Coast including St Helens. Due to the nature of shifting sands and the power of the sea there are no simple or inexpensive methods to solve problems with barways. This report takes a broader view of infrastructure priorities. Detailed consideration of barways is beyond the scope of this study. Technical reports on the St Helens Barway can be found at www.mast.tas.gov.au/publications.

4. Overview: the region

This section provides an overview of the natural advantages, existing marine infrastructure; and boating activities of the region. It considers the existing situation and identifies key characteristics to address as part of the recommendations.

Table 11 Snapshot

East Coast Marine Characteristics	
Coastline	1,265 km ²
Population	26,841 (5.3 % of the State's total population) ³
Marine Facilities	34 Boat Ramps, 13 Jetties, 6 Wharves/Landings, & 2 Public Moorings ⁴
Boating Activities	Commercial Fishing, Recreational, Tourism, Aquaculture
Recreational Boating Participation	30% State's boaters (15,033) ⁵
Recreational Fishing Participation	35% of the State's total fishing effort (fisher days) & 32% of State's fishers ⁶
Estimated Commercial Fishing Value	25% of the State's tonnes of product valued at approx. \$67.5 million ⁷
Tourism Activities	Cruises, Fishing Charters, Canoe/Sea Kayaking, Sail/Yachting, and Scuba Diving ⁸
Estimated Economic Value of Recreational Boating Industry	Between \$20 to 90 million per annum ⁹

² Vision East, p.13

³ Australian Bureau of Statistics (ABS) 2011 reported a population of 26,841 residents living in the four local government areas that make up the East Coast region divided by state 2011 reported population 510,500

⁴ MAST database, 2012

⁵ Calculated using total recreational boat licences 50,113 (2010 MAST database) note also state wide participation of 10%

⁶ Lyle, JM and Tracey, SR and Stark, KE and Wotherspoon, S, '2007-08 survey of recreational fishing in Tasmania', TAFI Report, TAFI, Hobart (2009)

⁷ Based on TSIC reporting of approximately 27,200 tonnes of product valued in excess of AUD \$270 million annually

⁸ 2011 Tasmanian Visitor Survey'. www.tourismtasmania.com.au/research/tvs

⁹ Calculated based on previous 30%+ of State's boating in this area (MAST database) and industry State wide estimated economic value of recreational boating industry of between \$90 and \$300 million per annum (MAST REF)

4.1 Natural Advantages

Key to a regional strategy is a sound understanding of the region's natural advantages in a state, national and global context. Tasmania's island qualities and surrounding marine environment are a significant asset that can be used for the social and economic prosperity of the State.

The East Coast is arguably the pick of Tasmania's coastline offering shelter from prevailing westerlies and world class fishing, tourism and cruising opportunities. Specifically, it offers:

- Varied and dramatic coastline including granite outcrops, white sandy beaches, and dolerite escarpments much of which is protected within a network of national parks, Ramsar wetlands, reserves and conservation areas;
- Excellent recreational fishing along the entire East Coast;
- Proximity to game fishing along the coast with a particular focus from St Helens and the Tasman Peninsula;
- World class tourism and cruising destinations of Tasman Island and Peninsula, Maria Island, Schouten Island, Freycinet National Park, and the Bay of Fires;
- Range of commercial fishing catches (scallops, scale fish, crayfish and abalone); and
- Proximity to major urban centres of Hobart and Launceston.

4.2 Future Directions for the Region

An important part of identifying the appropriateness of additional marine infrastructure and priorities for delivery is an understanding of the strategic framework. This section identifies the key future directions within existing policy documentation that will be considered and where possible furthered as part of the identification of future needs and priorities.

4.2.1 Southern and Northern Directions

At a broader statewide regional level the Northern regional Land Use Planning Framework (Break O'Day municipal area); and Southern Tasmania Regional Land Use Strategy (Glamorgan Spring Bay, Sorell and Tasman municipal areas) provide land use policies to manage and facilitate change, growth and development within these regions.

The regional strategies are relevant to the extent that they provide high level guidance and broader direction on new planning scheme reforms. The overarching approaches of both strategies are to confirm a clear hierarchy of settlements to which various settlement types and associated land uses contribute to the ongoing viability of each region's productivity, liveability and sustainability.

The following heirachy is established under the two regional strategies for the East Coast towns.

Table 12 Regional Land Use Strategy Settlement Hierarchy

	North	South
District Centre	St Helens	Triabunna
Township		Bicheno Swansea Dunalley Nubeena
Rural Village	Scamander	Port Arthur Coles Bay

The regional strategies do not identify marine facilities such as the major ports on the East Coast that are of regional significance. As such, most marine facilities are local-level issues, and therefore local and sub-regional planning is best to provide direction on them. Vision East and the local policies are therefore most relevant to this Strategy.

4.2.2 Vision East

The East Coast Land Use Framework - Vision East 2030 provides a land use framework for managing and facilitating growth within the region. Vision East identifies the most important factors shaping the development of the region as:

- The quality of the environment and potential climate change impacts;
- Natural and heritage resource opportunities and constraints;
- Changes in population structure;
- Economic, employment and industry trends;
- The provision of infrastructure services; and
- The involvement of the local communities.

The overarching vision for the East Coast is:

‘To enhance the community and economic potential of the East Coast, maintain its natural and cultural heritage assets and values as a living environment, and establish a hierarchy of service centres with appropriate transport linkages to the region and between the settlements.’

Local vision statements have also been developed for the individual municipalities that form the region for Break O’Day:

‘Promote St Helens as one of the sub-regional service centres and improve tourist accessibility whilst maintaining a sense of seclusion to protect the iconic coastal landscapes.’

for Glamorgan-Spring Bay:

‘Increase diverse employment opportunities by encouraging appropriate development of key towns, whilst protecting residential amenity, unique environmental features and significant tourism assets’.

for the portion of Sorell within the region is:

'Provide a diverse residential lifestyle catering to permanent residents and commuter with a tourist service function on route to the Tasman Peninsula'.

and for the Tasman municipality:

'Provide a diverse residential lifestyle that complements the important heritage, tourist and rural assets of the Peninsula'.

The vision relevant to marine infrastructure is:

- *'Ensure the existing harbours and marine infrastructure continues to operate effectively and contribute positively to the amenity of the local and broader community;*
- *Facilitate and encourage the establishment of public marine facilities;*
- *Provision for marina berths for larger recreational and commercial vessels; and*
- *Continuing demand for higher standard boat ramps with landing facilities such as walkways and pontoons'.*

The Strategic directions identified to achieve this vision are:

- *'Include both protection for and controls on boat harbours in the planning scheme to ensure their continued successful operation without adversely affecting local amenity;*
- *Prepare port master plans for boat harbours to ensure all users are able to contribute to the future operation and development of public marine facilities;*
- *Include provisions in the planning scheme which facilitate the establishment and operation of public boating facilities in appropriate locations; and*
- *Prepare an East Coast recreational boating strategy to guide the upgrade and development of boating infrastructure'.*

4.2.3 Local Strategies

The following local strategies are also applicable to this region:

- Nubeena/White Beach Structure Plan, 2011,
- Triabunna/Orford Structure Plan, 2011, and
- Bicheno Structure Plan, 2011.

It is noted that the Triabunna/Orford Structure Plan identifies a number of important waterfront locations and recommendations include:

- A feasibility study of the seaport development adjacent to the Tasman Highway between Barton Avenue and Triabunna,
- A waterfront tourism area along the Esplanade
- Potential small boat recreational waters north of the bridge, and
- Potential for industrial tourism at the Sping Bay Seafoods site.

There are also tourism strategies for Triabunna, Maria Island and the Tasman Peninsula that contain strategies relevant to marine infrastructure.

The development opportunities identified for Triabunna are:

- *'To strengthen linkages with Maria Island ferry service including through enhancing the ferry precinct within Triabunna to build the town's tourism positing as the mainland departure and arrival point to Maria Island (combined with a review of the facilities and tourism operation on Maria Island);*
- *For the port area to evolve further as a focus for the town in terms of visual amenity and physical access and connection with the rest of the town;*
- *Deep water port access'*

The development opportunities identified for Bicheno are:

- *'Maintain boating focus for the waterfront through implementing strategies to manage recreational boating*
- *Enhance The Gulch area as a focus for tourism and fishing, including professional and recreational fishing, diving and departure point for penguin tours. Appropriate rezoning will be required to respond to declining demand for industrial land (ie. Commercial fishing operations) at The Gulch, with potential for rezoning to accommodate tourism focused activities such as a restaurant/café'*

The development opportunities identified for Nubeena/White Beach are:

- *'To provide recreational facilities to match existing and future needs; and*
- *To promote fishing as a major tourist attraction during off peak periods'*

5. Existing Boating Facilities & Activities

The East Coast of Tasmania provides a range of marine infrastructure facilities, catering to recreational, commercial and tourism users. Public facilities are generally evenly and well distributed across the region (Map 1 & Table 13) and include:

- Safe harbour at Triabunna with other coastal towns providing various levels of shelter and accessibility at St Helens, Bicheno, Coles Bay, Swansea, Orford, Dunalley, Port Arthur, and Nubeena;
- Boat ramps in most coastal settlements;
- Local wharves at St Helens, Bicheno, Triabunna and Dunalley;
- Denison Canal at Dunalley (reducing travelling times by some 30 Nm or an average of 5 hours and predominately a more sheltered passage between Hobart and the East Coast); and
- Jetties at Binalong Bay, St Helens, Bicheno, Coles Bay, Swansea, Maria Island, Triabunna, Nubeena, Pirates Bay, Port Arthur, Taranna, Dunalley and Lewisham.

There are also two ferry services operating between Triabunna and Maria Island and between Port Arthur historic site and the Isle of the Dead. These predominately cater for tourists. Other tourism boat services depart from locations such as Pirates Bay, Coles Bay, Bicheno and St Helens.

Table 13 Public Boating Facilities by Local Government Area

LGA	Boat Ramps	Jetties	Wharves	Moorings	Total
Break O'Day	10	3	1	0	14
GSBC	9	5	2	2	18
Sorell	5	2	1	0	8
Tasman	10	3	2	0	15
TOTAL	34	13	6	2	55

5.1.1 Boat Ramps

The majority of facilities within the region are boat ramps (34 of the 55). These are located in most coastal settlements and evenly distributed across the region. The only exception is the stretch of coast between Scamander and Bicheno. There is however a private boat ramp at Ironhouse Brewery that can be used for a fee.

Boat ramps are required to launch trailer boats, which comprise the majority of boats registered in Tasmania.¹⁰ Trailer boats are predominately used for

¹⁰ MAST database

recreational fishing purposes.¹¹ The key multi-user ramps (those used for recreation as well as commercial purposes) are located at St Helens, Bicheno, Coles Bay, Triabunna, Port Arthur, Boomer Bay and Pirates Bay.

An updated 2012 inventory of ramps is attached at Appendix A. This confirms that:

- Most boat ramps that are appropriately located are designed to current Australian Standards and many include associated infrastructure such as walkway or pontoon access (Figure 8);
- There are limited further works identified to improve ramp accessibility within the region;
- Ramps that are deficient are usually a result of locational circumstances and natural influences such as shifting sands, shallow water or exposed locations. In most of those situations the circumstances cannot be rectified. There is however scope in some instances to improve both the efficiency and capacity of these ramps; and
- The majority of ramps do not have sufficient associated car parking or toilets (Figure 9).

The findings of the inventory review have been validated through the consultation process where stakeholders and survey participants have generally indicated a high level of satisfaction with MAST facilities and their facilitation of improvements to marine facilities.

The key issue arising from the lack of adequate trailer parking is the overflow to on-street parking and adjacent reserves, which often impacts on local residents, businesses and the Parks and Wildlife Service (where it involves degradation of public reserves).

Figure 8 Example of Multi Lane Boat Ramp, Burns Bay



¹¹ MAST Recreational Boating Survey Results 2010, fishing is the number one use for most (almost 80%) of boat owners.

Figure 9 Parking Constraints Adjacent to Primrose Sands Boat Ramp



5.1.2 Jetties and Wharves

There are 19 public jetties and wharves, the locations and role of which are identified in Table 14.

Table 14 Jetties & Wharves

Facility	Role
St Helens	St Helens is the only port on the upper East Coast. It is located within the sheltered waters of Georges Bay, but access is restricted by the barway entrance.
Bicheno	The importance of Bicheno as a fishing port has declined with a steady reduction in the number of vessels using the landing, but opportunity for tourism/charter related activities.
Coles Bay	Coles Bay jetty is used by a small number of commercial fishing vessels, tour operators and recreational boaters.
Triabunna	This is the only all weather port on the East Coast and an important facility for commercial fishers, charter boat operators, recreational boaters and the Maria Island ferry operations.
Dunalley	Dunalley's importance as a fishing port has diminished with a declining number of vessels. It is also used by recreational vessels.
Eaglehawk Neck	Important facility for both commercial fishers and charter operators. Affected by swell in easterly weather (as evidenced by secondary landing at

Facility	Role
	Stewarts Bay built by Tasman Island Charters).
Port Arthur	Highest landing by volume of any port on the Tasman Peninsula and also important all weather location.
Nubeena	The jetty has experienced decline in number of berthing vessels and landings by volume of catch is the least of any port on the Tasman Peninsula.

Jetties and wharves are important marine infrastructure for¹²:

- Loading and unloading for a short period to transfer fish catch, passengers, crew, stores, fuel, water, rubbish and equipment to and from a vessel. In these loading areas (identified by yellow markings) vessels are not to be left unattended and are required to move as soon as the transfers are complete. These services are used by recreational and commercial vessel operators;
- Berthing provision – facilities are used to berth vessels when not in use and for maintenance and repair work. Berthing services are predominantly used by commercial vessels and in particular commercial fishing vessels; and
- Public amenity – facilities are used by the general public for a variety of recreational activities that are not connected with vessel operations. These uses include fishing from a jetty, walking and sightseeing.

Jetties and wharves are predominately used by commercial boats, however in recent years, competition and tighter regulation has seen a sustained reduction in the number of fishing boats operating in the region. In contrast, recreational demand on existing boating facilities is increasing. The recently developed Triabunna wharf catering for both recreational, commercial fishing and tourism vessels reflects this trend. Figure 10

Wharf and Jetty upgrades are funded through Treasury allocation. This has generally been sufficient to fund ongoing repairs to facilities, but not major rebuilding of structures that have reached the end of their useful life. There are therefore a number of wharves and jetties within the region that could be improved, but this is an expensive exercise.

Facilities requiring replacement are identified through the MAST structural audits. St Helens Wharf is the most immediate facility requiring replacement. MAST recommends its closure and rebuilding by 2016 at an estimated cost of \$2,000,000. Other jetties recommended by MAST for replacement between 2016 to 2021 and associated cost are identified in Table 15.

¹² MAST, 2012

Table 15 MAST Facilities for Replacement 2016 to 2021

Facility	Budget Required ¹³
Dunalley Jetty	\$ 1,000,000
Port Arthur Jetty	\$ 500,000
Lewisham Jetty	\$ 150,000

Figure 10 Triabunna Wharf



Figure 11 Dunalley Jetty & Slip yards



¹³ Budget Estimates are based on 2011 construction rates.

5.1.3 Public Moorings

There are only two public moorings within the region one at Coles Bay and the other West Shelly at Orford (Figure 12). This is a relatively small number of moorings given the popularity of the region for cruising. These are complemented by a large number of private moorings, which are predominately used on a seasonal basis by shack owners.

To ensure fair and equitable use of public moorings there is a 4 hour time limit during the day. Vessels picking up the mooring on or after 5.00 pm may remain on the mooring overnight and are not required to vacate until 9.00 am the following day.

Figure 12 Public Mooring



5.2 Boating Activities

A range of boating activities occur within the region including recreational and commercial fishing, aquaculture, yachting and cruising, kayaking and canoeing and tourist operators and charters. This variety of activities is validation of the natural advantages of the East Coast as a boating destination. The use of marine facilities by different activities is considered below.

5.2.1 Fishing & Aquaculture

Fishing and aquaculture are key regional industries and include wild fisheries, fish farming, and processing of fish, shellfish and crustaceans. Significant marine operations are located at Spring Bay, Nubeena, the Little Swanport Estuary, Blackmans Bay, Georges Bay and the Upper Esk. The importance of these industries to the State is illustrated in Table 16.

Of particular note is the Tasmanian abalone industry, which is the largest wild abalone fishery in the world, providing around 25 per cent of the annual global

harvest.¹⁴ It contributes significantly to the State's economy with a value in 2010/2011 of \$97 million.¹⁵ The East Coast of Tasmania provides for 8% of total State abalone catch with many abalone divers using public boat ramps.¹⁶

The East Coast is also important in terms of rock lobster and giant crab, scale fish, and aquaculture (Table 16). Commercial fishing vessels utilise public jetties and wharves for the unloading and loading as well as for 'home ports'. The aquaculture and fish farm industries, in contrast, generally rely on their own private facilities.

Table 16 Quantity & Value of Seafood Industry¹⁷

Catch	State (tonne) ¹⁸	East Coast (tonne)	Contribution (%)
Abalone	5,252	450	8.6
Rock lobster/giant crab	2,688	542	20.2
General scale fish	4,098	2,732	66.7

5.2.2 Recreation

A major attraction of living and visiting the East Coast is the sheltered coastal areas, which are well connected to good fishing areas, iconic cruising destinations and provide an excellent boating environment.

In terms of recreational fishing, the East Coast is particularly significant for flathead, black bream, tuna, Gould's squid, southern calamari, flounder, rock lobster and abalone.¹⁹ Easy access to good fishing locations is provided by launching trailer boats from boat ramps along the Coast.

The central East Coast between Wineglass Bay and Dunalley provide almost pristine cruising waters with white sandy beaches, turquoise water and myriad of secluded bays with shelter from prevailing westerly winds. The regional also offers the Fredrick Henry and Norfolk Bay area as an alternative cruising ground convenient to Hobart for those wanting a change or a little more challenging than the D'Entreacastreaux Channel.

The spectacular coastline and sheltered waters are also excellent for kayaking and canoeing activities. Tourism charter operators are based in Coles Bay and Port Arthur and boat hire is available at many locations such as Swansea and Orford. Kayaking in general is increasing in popularity as a family friendly activity, particularly in sheltered locations.

5.2.3 Tourism

The East Coast plays a key role in Tasmania's tourism economy and is marketed by the State Government as an integrated tourism destination.²⁰ Tourism activities

¹⁴ <http://www.dpipwe.tas.gov.au>

¹⁵ Hugh Griffiths, Department of Primary Industries, Parks, Water and Environment

¹⁶ See Section 3 for use by facility location

¹⁷ State Data from Hugh Griffiths, Department of Primary Industries, Parks, Water and Environment & East Coast extrapolated from Dpipwe catch data 2009/2010 for selected East Coast ports as provided by MAST

¹⁸ Catch is for 2 years (2009 and 2010 calendar year)

¹⁹ TAFI (2009)

²⁰ Vision East

are focused on the region's main natural and heritage attractions, including the Bay of Fires, Freycinet Peninsula, Maria Island and the Tasman Peninsula and Port Arthur. Marine based tourism experiences offered on the East Coast include fishing, snorkelling, scuba diving, sailing, yachting, charter and eco adventure.

Other important niche markets include cruise ships to Coles Bay and Port Arthur and cruising yachts. Events-based tourism is also popular, with events such as the St Helens Game Fishing Classic, the Triabunna Seafest and the Tuna Club of Tasmania's biannual Australian Tuna Fishing Championships attracting many visitors to the region.

5.3 Coastal Vulnerability & Marine Infrastructure

It is important that due regard is given to hazard risk, particularly in relation to shoreline recession, deposition and sea level rise, when decisions are made about new or continuing investment in marine facilities.

The vulnerability of maritime infrastructure to climate variability and projected climate change can greatly differ from site to site depending on the exposure of the site to weather. Relevant conditions include wind and wave climates and the topography and geomorphologic nature of the site, in addition to the design criteria and design life of the infrastructure.

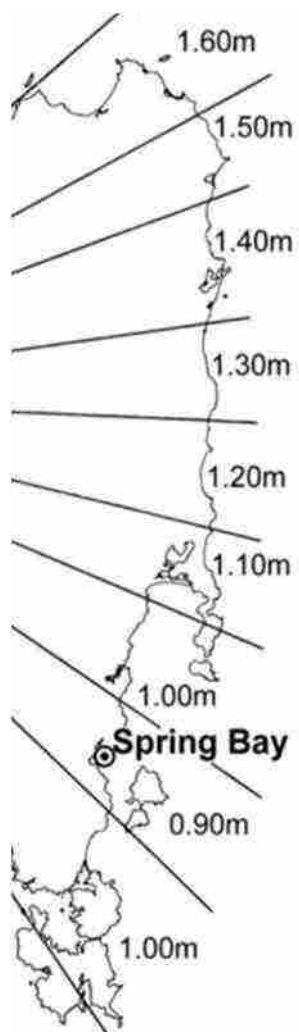
Coastal processes which pose varying risk to maritime infrastructure include large ocean swells, tidal inundation, storm surge inundation wave runup and overtopping of structures, sand drift, and stormwater flows. Furthermore, the variability of the risk posed by storm erosion and long term shoreline recession of unconsolidated shorelines (sandy, muddy or colluvial) and sea cliff shorelines prone to collapse is a key issue that should be considered as part of any assessment on coastal vulnerability for maritime infrastructure.

Existing facilities on the East Coast are generally sited in the right locations that provide maximum local shelter from the effects of the wind and sea. The marine structures are generally also designed accordingly and withstand storm events. However there are examples such as beach accesses, that are constantly exposed to shifting sands where it is not possible to maintain an adequate boat launching depth, or instances where storm surge has caused damage such as the Stewarts Bay pontoon for Tasman Island Cruises or damage to the Coles Bay Jetty.

Comment on the key risks to marine infrastructure from the coastal processes likely to be impacted by climate change for the East Coast Region and examples of the physical risks to marine infrastructure arising from those coastal processes is contained in Appendix D.

Any new or significant upgrade to existing marine facilities should be planned and prioritised with careful regard to a hazard risk assessment of the impacts of climate change and coastal processes, particularly in relation to shoreline recession, deposition and sea level rise.

Figure 13 Predicted approximate 2 year return period storm surge heights above predicted tide for East Coast of Tasmania for 2004



5.4 Key Regional Boating Characteristics

The key characteristics and existing influences on public marine infrastructure are summarised below in Table 17. These findings are considered below in the formulation of recommendations (Sections 7 and 7).

Table 17 Key Findings

Key Findings
<ul style="list-style-type: none">• The East Coast is arguably the pick of Tasmania's coastline offering shelter from prevailing westerlies and world class fishing, tourism and cruising.
<ul style="list-style-type: none">• Existing boat ramps are generally of a good standard, in good condition, and appropriately located
<ul style="list-style-type: none">• Existing facilities are evenly distributed across the region
<ul style="list-style-type: none">• Efficiency and capacity of existing boat ramp facilities could be improved, particularly for multi-user ramps and those key to abalone industry
<ul style="list-style-type: none">• The majority of ramps do not have sufficient associated car parking or toilets particularly at peak periods.
<ul style="list-style-type: none">• Parking options are constrained by the amount of public land and environmental values
<ul style="list-style-type: none">• Wharves and jetties are used by commercial, recreational and tourism users with a predicted increase in the latter groups.
<ul style="list-style-type: none">• Recreational boating registration and license fees go towards maintenance and upgrades to recreational boating facilities.
<ul style="list-style-type: none">• There are few public moorings in comparison to other marine infrastructure.
<ul style="list-style-type: none">• The vulnerability of maritime infrastructure to climate variability and projected climate change can greatly differ from site to site. Construction or redevelopment of maritime infrastructure should consider vulnerability.

6. Demand Analysis

This section identifies trends relevant to the current and projected demand for marine facilities in the region based on the region's popularity, boat registrations, population predictions, commercial fleet and catch size, and tourism numbers. It is intended to determine the likely demand for additional facilities in the region over the next 10 years.

6.1 Recreational Boating Demand

6.1.1 Boat Registration

Recreational boating has experienced significant growth over the past twenty years. Boat ownership is the most significant recreational boat demand driver for marine infrastructure.

As boaters within the region come from locations state wide (i.e. not predominately residents from within the region) MAST state wide boat registration data provides the most useful quantification of demand:

At 30 June 2012 there were some 28,833 registered recreational boats in Tasmania. This represents a substantial increase in the number of registered boats over the 12 years since 1998 (13,179 registered boats).

Factors that may be attributable to the growth in boat registration include a higher level of registration compliance, an increase in disposable income, increased number of retirees, and some population increase. The recent boat registration numbers however indicate a slowing or plateauing of boat ownership levels. The 2010 net increase for example was only 2.2 % compared to a high of 18 % in 2000.

MAST 's recreational boating survey data is also a useful indicator of demand as this captures the popularity of different boating regions across the State. From this the East Coast accounts from approximately 30 % of all recreational boat users. Factors that contribute to the popularity are complex. The trends over time indicate that there is unlikely to be any significant change in the future demand.

6.1.2 Population & Demographics

The total estimated residential population of all four municipalities forming the region is approximately 5.3 % (26,841 as of 2011) of the State's population (510,500). The municipality of Sorell has the largest proportion of the region's population with 13,407 residents; followed by Break O'Day with 6,514; Glamorgan/Spring Bay with 4,189; and Tasman with 2,413 residents.

Population projections in Vision East (which exclude Sorell township and rural areas) indicate that the population of the region is expected to increase between 8.96 % (low growth); 26.85 % (medium growth scenario) and 41.39 % (high growth) by 2030. The areas identified as 'future growth areas' (excluding Sorell) to accommodate the predicted population growth and demand for additional housing are the settlements of St Helens, Swansea and Triabunna.

The above figures relate to permanent residents. However, East Coast communities also experience significant seasonal population increases during the summer months with coastal towns such as Swansea, Orford, Triabunna, Coles

Bay, Bicheno, and St Helens experiencing an influx of visitors and seasonal residents during late December to early January.

The seasonal variations in population influence the demand for marine infrastructure with the most popular boating periods during summer weekends and holidays (almost 80 %).²¹

The population profile differs from the general Tasmanian profile with more older and less younger people than the State average. This may contribute to the large increase in the winter use of boats at both weekends and during the week.

6.1.3 Recreational Boating Characteristics

The composition of the boating fleet is relevant to determining the type of facilities required. This information is captured on a state basis in the MAST recreational boating surveys, the key findings of which were:

- In 2010 the most popular boat type were motor boats under 6 metres in length (77 %) followed by motor boats greater than 6 metres in length (12 %), yachts greater than 6 metres (8 %) and PWC (jetskis) (2 %);
- In terms of trends since the 2002 survey, there has been a reduction in the number of boats under 6 metres and an increase in boats over 6 metres;
- The main increase is boats in the 6 to 7 metre range attributed to an increased popularity of game fishing;
- On average most people would use their boats for day trips, and a majority for two to four hours;
- The main reason identified for boating is fishing (almost 80%) followed by cruising and water sports; and
- The majority of boat owners keep their boats at home with only 1% of boats kept in storage.

The above findings are consistent with those trends for the region identified through feedback from stakeholders as part of the consultation program for the Strategy.

The prevalence of boat storage at home/shack and trend towards larger boats is confirmed by observations of the increasing size of sheds, particularly in areas such as St Helens. It will be interesting if boat storage preference change into the future as has been seen on the mainland and overseas with speciality built storage centres. It is noted however that lower residential and urban densities in Tasmania mean that most trailer boat owners can accommodate boats at home or at their shacks for minimal expense and more conveniently than an offsite facility and that these considerations are likely to lessen demand for offsite storage.

For those too big for trailers, moorings or marinas are the only option. MAST's database indicates that private mooring numbers have substantially increased since 1998 to approximately 4134 statewide in 2010. Moorings on the East Coast are generally used only part time in peak summer periods. There is also an increased demand for marina berths at Triabunna and St Helens. There are currently 24 people on the waiting list for the Triabunna marina.²²

²¹ MAST 2010 recreation boating survey

²² Glamorgan Spring Bay records, 2012

6.2 Commercial Boating Trends

DPIPWE collates catch data for commercial fishing vessels. The results for the periods 2001/02 and 2009/10 are summarized in Table 18. From this data it appears that the number of vessels is static or in decline at most locations. Only Pirates Bay and Triabunna had a notable increase in vessels.

Based on total catch landed, Triabunna, St Helens, Port Arthur and Boomer Bay, provide important unloading facilities for the commercial fishing industry. It is noted that both the number of vessels and catch has declined for St Helens and Bicheno. It is also noted however that variations between total catch and vessel numbers can be significantly impacted by fishing regulations such as the season and catch quotas. A variation from year to year therefore does not necessarily reflect a trend.

Table 18 East Coast Catch Data Comparison (DPIWE database)

Port	2009/2010 No. of Vessels	Total Catch Landed	2001/2002 No. of Vessels	Total Catch Landed
Bicheno	Ramp: 22	93 tonne	Ramp: 32	32 tonne
	Jetty 13	95 tonne	Jetty: 28	135 tonne
Boomer Bay	Ramp: 21	123 tonne	Ramp: 30	30 tonne
Dunalley	Jetty : 14	43 tonne	Jetty: 17	8 tonne
Pirates Bay	Ramp: 13	54 tonne	Ramp: 3	N/A
	Jetty : 6	2 tonne*	Jetty: Not avail	
Port Arthur	Ramp: 34	125 tonne	Ramp: 31	52 tonne
	Jetty : 11	32 tonne	Jetty: 12	14 tonne
St Helens	Ramp: 9	141 tonne	Ramp: 13	242 tonne
	Jetty : 39		Jetty: 62	
Triabunna	Ramp: 21	105 tonne	Ramp: 15	292 tonne
	Jetty : 37	192 tonne**	Jetty: 33	
Swansea	Ramp: 1	0.9 tonne	Ramp: Nil	Nil
	Jetty : N/A	Nil	Jetty: Nil	Nil
* error as numerous cray vessels are based here				
**Plus 2520 tonne from Seafish Tasmania private wharf				

6.3 Tourism Trends

The Tasmanian Visitor Survey provides a profile of the characteristics, travel behaviour, and expenditure of international and domestic visitors to Tasmania.²³ From January 2011 to December 2011 the survey reported a total number of 862,400 visitors aged 14 years and older had visited the State. This was a 4.6 %

²³ 'Tasmanian Visitor Survey'. www.tourismtasmania.com.au/research/tvs

reduction from January 2010 to December 2010 where 904,000 visitors were reported.

Table 19 outlines the reported number of visitors to places along the East Coast.²⁴ Each area shows a decrease in visitation numbers. Port Arthur/Tasman Peninsula had the largest decrease of -14.8 %, followed by Orford with a -12.7 % decrease. St Helens had the lowest decline in tourist numbers with -9.1 %.

Table 19 Visitors to the East Coast Destinations

Place	Jan 2010 – Dec 2010	Jan 2011- Dec 2011	Increase/ Decrease
Port Arthur/ Tasman Peninsula	225,700	192,200	-14.8 %
Orford	113,200	98,900	-12.7%
Swansea	191,600	170,600	-11.0%
Coles Bay	165,700	150,600	-09.1%
Bicheno	177,900	160,300	-09.9%
St Helens	161,800	142,900	-11.7%
Other East Coast	101,500	89,200	-12.1%
Total East Coast	297,100	268,500	-09.6%

²⁴ 'Table 1d Places Visited on This Trip'. Total Visitors Aged 14 Years and Over.
<http://webreporter.asteroid.com.au/webreporter/treports/>

Table 20 outlines the reported number of visitors who took part in a particular marine based activity while visiting Tasmania.²⁵ Each activity experienced a reduction, with the most substantial reduction in trout fishing (-18.4 %) and scuba diving/snorkelling (-16 %). Yachting and sailing experienced a minimal decline of 0.3 %.

In addition to tourism statistics, key planned developments that may impact on marine facilities demand through increased visitation numbers, include:

- Boating sections of the Three Capes Walking Track (Figure 14);
- Bicheno links golf course and residential subdivision development (construction anticipated to commence 2012/13);
- Solis golf course and residential development (approximately 400 dwellings);
- Jetty upgrade at Maria Island planned for 2012/13; and
- Ecotourism investigations out for tender at Maria Island.

²⁵ 'Table 1 Activities Undertaken in Tasmania'. Visitors Aged 14 Years and Over.
<http://webreporter.asteroid.com.au/webreporter/ttreports/>

Table 20 Visitor Participation in Marine Activities (State wide)

Activity	Jan 2010 – Dec 2010	Jan 2011- Dec 2011	Increase/ Decrease
Sail/ Yacht	14,700	14,700	-00.3 %
Canoe/ Sea Kayak	21,000	20,100	-04.2%
Fish for Trout	21,900	17,800	-18.4%
Fish - other	32,800	32,500	-1.0%
Scuba Dive/ Snorkelling	5,000	4,200	-16.0%
Cruises - river or coastal	216,400	189,700	-12.3%

Figure 14 Proposed Route of Three Capes Track

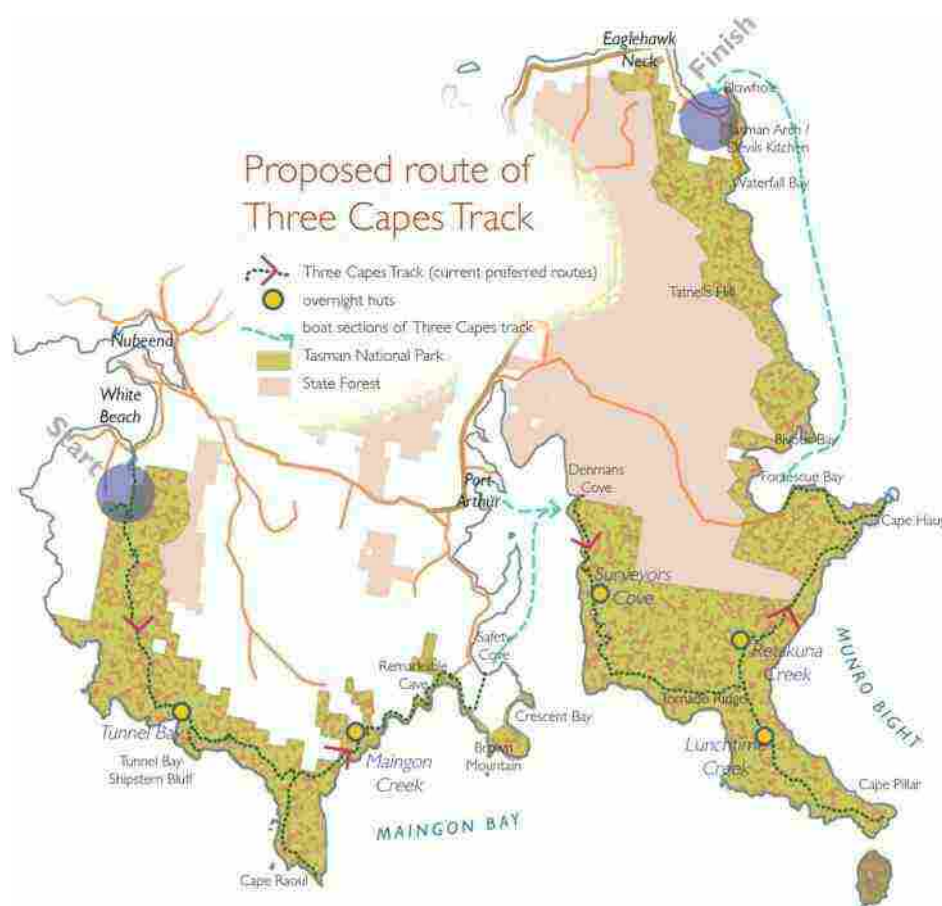


Table 21 Key Boating Demand Drivers

Demand Drivers
Boating numbers and population growth are unlikely to result in significant demand for additional facilities over the next 10 years.
Boating characteristics are the biggest driver of marine infrastructure within the region. Most significant is the increase in the number of bigger trailer boats (>6 metres)
The fishing industry is a key economic driver within the region, but vessel numbers are static or in decline at most locations.
The tourism industry is a key economic driver, but a key challenge is decreasing numbers of visitors to the region, as well as decreases in participation in boating and water based activities.
Most popular marine based tourism activities are cruises followed by fishing, and kayaking/canoeing.

7. Determination of Priorities

The purpose of this Strategy is to identify priorities for the provision of new public marine infrastructure or upgrade of existing facilities to cater for current and future demand. This process is detailed in this Section. The agreed priorities are included in the implementation plan in Section 2

7.1 Identification of Potential Sites

The process of identification of the sites for prioritisation involved:

7.1.1 Demand Analysis Outcomes (Section 5)

As detailed in Section 6, the biggest demand driver for new or upgrades to existing boating facilities within the region is the composition of the boating fleet within Tasmania. The most significant trend is the increase in boats between 6-7 metres. A priority to meet the identified demand is to facilitate better ramps particularly at locations with deeper water and with good access to game fishing as well as bigger trailer parking areas.

7.1.2 Boat Ramp Inventory (Appendix A)

This project included an update of MAST 2005 boat ramp audit. The 2012 inventory (Appendix A) is based on site visits in consultation with MAST, and contains an assessment of each ramp according to:

- Facility Grading (all weather, all tide, all boat access);
- Adequacy of parking;
- Safety and ease of land access;
- Safety and ease of water access (all tides);
- Land based support facilities (proximity to toilets, town services, fuel, etc);
- Popularity; and
- Environmental sensitivity of surrounding area (proximity to nature reserves & seagrass & NRM foreshore natural values rating).

The inventory also identifies further works recommendations based on MAST maintenance programme and planned further works through the Recreational Boating Fund. It is noted that MAST's consultation with boaters regarding RBF clearly indicated that they would prefer improved marine facilities to be prioritised over land based works such as improved parking or toilets.

7.1.3 Technical Workshop (Appendix E)

In recognition of the significant marina potential of Triabunna and a concentration of opportunities on the central East Coast a workshop was held at Glamorgan Spring Bay Council as part of this study. The workshop focused on marine infrastructure issues at Coles Bay, Swansea, Triabunna and the Prosser River. Minutes of this workshop and the technical notes provided by GHD's Principal Maritime Engineer are in Appendix E.

7.2 Stakeholder Consultation (Appendix C)

To assist in the process of identification of priorities for the provision of marine boating facilities in the region, the information collected through the consultation process was collated into key themes and outcomes. The feedback included that obtained from 103 respondents on the community survey, and over 50 participants through workshops and information provided by face-to-face meetings, and targeted stakeholder discussions.

The following emerged as key themes and issues in terms of identification of sites and priorities (as illustrated in the graph extracts from the community survey) are:

- There is clear support for additional facilities, and in particular marina, jetty , parking, toilet and boat maintenance services;
- Glamorgan Spring Bay was clearly the most popular location for both existing marine facilities and for additional facilities considered necessary;
- There is support for a marine focus for Triabunna; and
- Options for a marina in the central East Coast area should be explored.

Figure 15 Need for new facilities

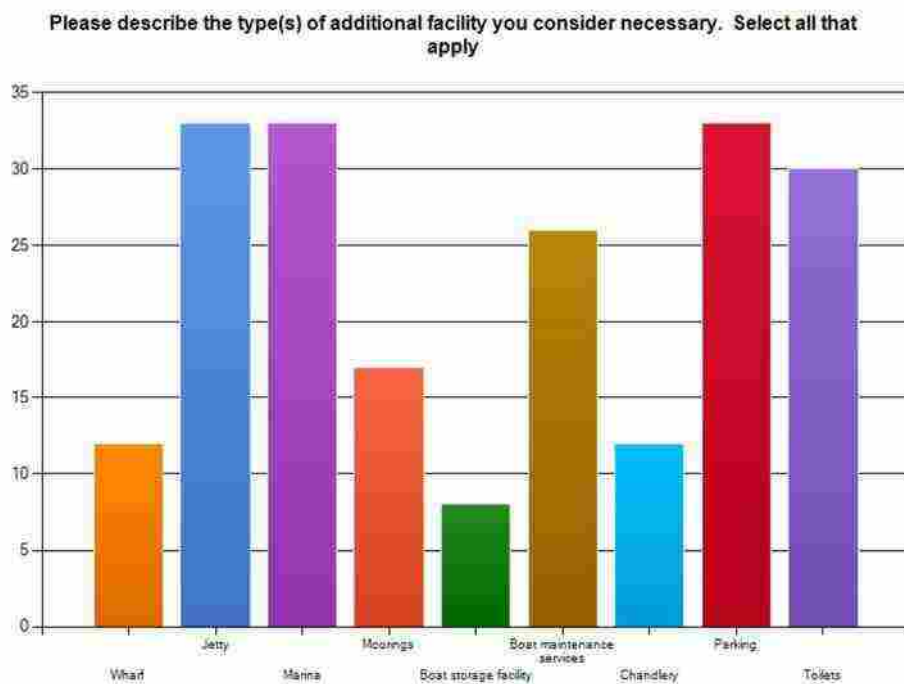
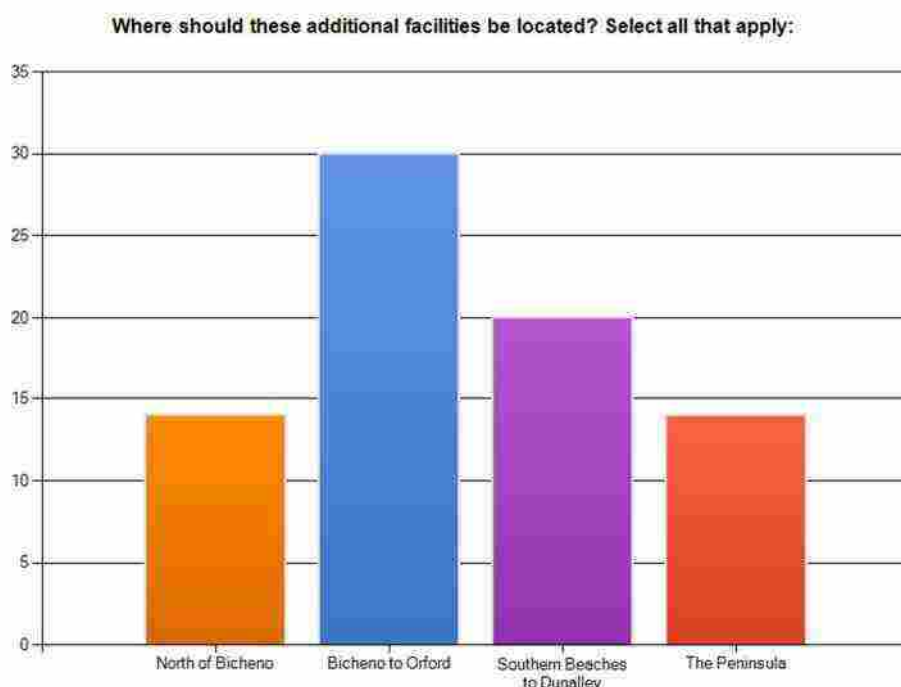


Figure 16 Location of new facilities



7.3 Prioritisation of Identified Sites

The process for prioritisation of identified sites for new or upgraded marine infrastructure involved:

7.3.1 Multi Criteria Analysis (Appendix B)

To assess the relative importance to the region of the existing marine infrastructure sites a multi criteria analysis was used. This analysis allowed the consideration of a variety of environmental, physical, locational and land use criteria at the same time. The criteria used to rank each facility on basis of:

- Commercial Fishing Activity;
- Recreational Boating Activity;
- Tourism Value Facility;
- Grading/Accessibility;
- Asset Condition;
- Locational advantages; and
- Environmental Value.

Each criterion was then ranked from 1 (low/no benefit) to 5 (high/significant benefit) in consultation with the Steering Committee. The following facilities scored an average ranking of greater than 4 and were highlighted as facilities of regional significance:

- Triabunna, St Helens, Coles Bay, Port Arthur, Pirates Bay, and Bicheno

A regionally significant site means those sites that have importance beyond the immediate area. This will be due to combination of factors such as locational advantages (usually safe haven port), use by multiple boaters; economic

contribution to marine industries, and/or site suitability for new or upgraded facilities.

The following sites scored an average ranking of between 3 and 4 and were highlighted as facilities of local significance:

- Swansea, Nubeena, Saltworks, Ansons Bay, Binalong Bay and Burns Bay.

A locally significant site means those sites that are important to the local area due to popularity, use by a variety of boat users and/or suitability as a location for marine infrastructure.

7.3.2 Marine Planning Principles

All identified sites were also reviewed having regard to marine planning principles such as:

- Enhancement of boating safety and enjoyment;
- Associated public benefit;
- Contribution towards the strategic priorities of the region (Section 6);
- Contribution towards economic development opportunities;
- Contribution to the region's natural advantages (Section 4);
- Coastal hazards (Appendix D);
- Contribution to the region's economic competitiveness (Section 4); and
- Contribution to liveable communities (Section 6).

7.3.3 Recommendations

The prioritisation of sites is based on the potential of a site to cater for demand, identified needs in the region and/or further the strategic directions for the region. Priority 1 sites, for example, are generally those which have the most potential to cater for demand, are of high importance to stakeholders and are in most cases the least constrained. The identified sites are divided into three priorities by the Steering Committee:

- Priority 1: immediate work;
- Priority 2: next 5 years; and
- Priority 3: 5 to 10 years.

The identified priorities were further reviewed in terms of significance against the marine planning principles. The outcome of this process is a list of recommendations incorporating both existing facilities and identification of opportunities for the provision of new sites. These priorities are shown together with an implementation programme in Section 2.

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Southern Regional Land Use Project, Damien Mackey

Northern Regional Land Use Project, Ben Atkins

TasPorts, John Johnson

Port Arthur Historic Site, Steven Large

Maria Island Ferry, John Cole Cook

Tasman Island Journeys, Rob Pennicott

Glamorgan Spring Bay Council Chamber of Commerce, Chris Dillion

Denison Canal Superintendent, Neil Houston

Spring Bay Boat Club, John Hall

Triabunna Slipway (SeaFish Tas), Lea Snow

Wineglass Bay Cruises, Duncan & Irene Sinclair

Iron House Brewery, Lisieux Afeaki

Triabunna Marina Boatel Consortium, Michael Kent

Bay of Fires Dives, Peter Paulsen

Spring Bay Seafoods, Phillip Lamb

St Helens Game Fishing Club, Angela Matthews

Game Fishing Club of Northern Tasmania, Sheryl Turner

Southern Game Fish Club, Peter Neilson

Freycinet Adventures, Alison and Simon Stubbs

Oyster Bay Oysters, Colin and Hayden Dyke

The Tuna Club of Tasmania, Robin Banks/ Martin Hayley

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Appendix A


Facility Inventory



Facility Name		Ansons Bay	
Facility Type		Boat Ramp	
Location		Acacia Drive, Ansons Bay	
Municipality		Break O'Day	
Facility Owner		Break O'Day Council	
Priority Rating	(%)		
Assets & Services			
Ramp Lanes	1		
Parking Spaces	8		Limited
Toilets	no		40km
Walkway/Pontoons	Yes (timber)		All tides
Ramp	Concrete Surface		
Approach	Sealed (bitumen)		
Recent Works < 5 years	Timber walkway		
Key Factors	Score	Comment	
Facility Grading	2		
Adequacy of Parking	1	Limited	
Safety and ease of land access	2		
Safety and ease of water access	2	Restricted at low tide Weather restrictions: NE	
Land based support facilities	2	40km	
Use	2		
Current Environment Impacts	2	Ansons Bay Conservation Area	
Site Photograph 2012			
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
None			



Facility Name		Binalong Bay		
Facility Type		Boat Ramp		
Location		Binalong Bay Road		
Grid Reference		609551.964	5432544.444	
Municipality		Break O'Day		
Facility Owner		MAST		
Priority Rating	(%)	7		
Assets & Services				
Ramp Lanes	2			
Parking Spaces	Limited			
Toilets	Yes	Walking Distance		
Walkway/Pontoons	Yes	All tides		
Ramp	Concrete Surface	Good water depth at Toe Nil undermining		
Approach	Sealed			
Recent Works < 5 years		Rebuilt landing stage; ramp grade redo (2012)		
Key Factors	Score	Comment		
Facility Grading	3	A		
Adequacy of Parking	1	Limited		
Safety and ease of land access	1	Poor		
Safety and ease of water access	3			
Land based support facilities	3	Near to town centre		
Use	3			
Current Environment Impacts	3	High (Foreshore Natural Value NRM North)		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years		Cost Estimate
Improve access and parking		Next 5 years		\$


Facility Name		The Gardens	
Facility Type		Boat Ramp	
Location		Off Garden Road, Bay of Fires	
Grid Reference		N/A	
Municipality		Break O'Day	
Facility Owner		Unknown (PWS?)	
Priority Rating	(%)	6	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Limited		
Toilets	No		
Walkway/Pontoons	No		
Ramp	Concrete Surface	Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Resurfaced ramp and extended its length		
Key Factors	Score	Comment	
Facility Grading	2	C	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	2		
Current Environment Impacts		High (Foreshore Natural Value NRM North)	
Site Photograph 2005			
		INSERT AERIAL	
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
None			



Facility Name		Burns Bay		
Facility Type		Boat Ramp		
Location		St Helens Point Road		
Grid Reference		612800.465	5429453.924	
Municipality		Break O'Day		
Facility Owner		Crown Land		
Priority Rating	(%)	5		
Assets & Services				
Ramp Lanes	2			
Parking Spaces	Limited			
Toilets	Yes	Walking Distance		
Walkway/Pontoons	Yes			
Ramp	Concrete Surface	Nil undermining		
Approach	Concrete			
Recent Works < 5 years	Resurfaced ramp and extended walkway to improve low tide accessibility			
Key Factors	Score	Comment		
Facility Grading	3	A		
Adequacy of Parking	1	Poor/exceeds capacity during tournaments		
Safety and ease of land access	2	Poor		
Safety and ease of water access	3			
Land based support facilities	1			
Use	3			
Current Environment Impacts	3	St Helens Conservation Area High (Foreshore Natural Value NRM North)		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Improve access and parking/Provide waiting facility		Next 5 years		



Facility Name		Upper Scamander River Boat	
Facility Type		Boat Ramp	
Location		Upper Scamander Road	
Grid Reference		604242.098 5409242.916	
Municipality		Break O'Day	
Facility Owner		Council	
Priority Rating	(%)	0	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Limited		
Toilets	No		
Walkway/Pontoons	Yes	Timber	
Ramp	Fleximat	No visible drop off Nil undermining	
Approach	Gravel		
Recent Works < 5 years	None		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	3		
Current Environment Impacts	1	Moderate (Foreshore Natural Value NRM North)	
Site Photograph 2005			
		INSERT AERIAL	
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
None			

Facility Name		Scamander River	
Facility Type		Boat Ramp	
Location		Off Tasman Highway	
Grid Reference		605212.722	5409140.911
Municipality		Break O'Day	
Facility Owner		Council	
Priority Rating	(%)	8	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Gravel	adequate	
Toilets	No		
Walkway/Pontoons	Yes	Timber	
Ramp	Concrete	Wheel stop at end of ramp Nil undermining	
Approach	Gravel		
Recent Works < 5 years	None		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	1	Due to inaccessibility of river mouth	
Current Environment Impacts	1	Moderate (Foreshore Natural Value NRM North	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years	Cost Estimate
None			



Facility Name		O'Connors Beach	
Facility Type		Boat Ramp	
Location		St Helens Point Road	
Grid Reference		606608.879	5422815.86
Municipality		Break O'Day	
Facility Owner		Council	
Priority Rating	(%)	8	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Limited		
Toilets	No		
Walkway/Pontoons	No		
Ramp	Concrete	Wheel stop at end of ramp Nil undermining	
Approach	Gravel		
Recent Works < 5 years	Resurfaced ramp		
Key Factors	Score	Comment	
Facility Grading	1	D	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	2		
Land based support facilities	1		
Use	2	Close to stieglitz	
Current Environment Impacts	1		
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
None			

Facility Name		Eddystone Point	
Facility Type		Boat Ramp	
Location		Eddystone Point Road	
Grid Reference		613060.992	5461278.492
Municipality		Break O'Day	
Facility Owner		Parks Wildlife	
Priority Rating	(%)	4	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Limited without veg clearance		
Toilets	No		
Walkway/Pontoons	No		
Ramp	Fleximat	Sand build up at end of ramp Nil undermining	
Approach	Gravel		
Recent Works < 5 years	Extend flexmat at tow of ramp		
Key Factors	Score	Comment	
Facility Grading	2	C	
Adequacy of Parking	2	limited	
Safety and ease of land access	2		
Safety and ease of water access	2	No walkway	
Land based support facilities	1		
Use	2		
Current Environment Impacts	3	National Park	
Site Photograph 2005			
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
None or walkway if warrants			



Facility Name		Stieglitz	
Facility Type		Boat Ramp	
Location		St helens Point Road	
Grid Reference		608874.608	5424538.923
Municipality		Break O'Day	
Facility Owner		Council	
Priority Rating	(%)	3	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	adequate		
Toilets	Yes		
Walkway/Pontoons	YEs		
Ramp	concrete	No drop off visible at end of ramp Nil undermining	
Approach	Gravel		
Recent Works < 5 years	walkway		
Key Factors	Score	Comment	
Facility Grading	2	C	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	3		
Current Environment Impacts	3	Sea grass c1990 (Rees, 1993) Very high (Foreshore Natural Value NRM North	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years	Cost Estimate
Extension of boat ramp			

Facility Name		ST Helens Wharf	
Facility Type		Boat Ramp	
Location		Georges Bay Espanade	
Grid Reference		604438.454	5424105.109
Municipality		Break O'Day	
Facility Owner		Council	
Priority Rating	(%)	3	
Assets & Services			
Ramp Lanes	3		
Parking Spaces	Sealed	adequate	
Toilets	Yes		
Walkway/Pontoons	YEs		
Ramp	concrete		
Approach	sealed		
Recent Works < 5 years	Concrete overlay and extension to 3 lanes		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	2	adequate	
Safety and ease of land access	3		
Safety and ease of water access	2	Only one lane useable at low tide	
Land based support facilities	3		
Use	3		
Current Environment Impacts	1		
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
			\$



Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Bicheno Boat Ramp	
Facility Type		Boat Ramp	
Location		The Gulch	
Grid Reference		East 608675.013 North 5363136.68	
Municipality		Glamorgan Spring Bay	
Facility Owner		Council (land DPIW)	
Priority Rating	(%)	4	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	11-20	More required	
Toilets	Yes	Walking Distance	
Walkway/Pontoons	Yes	Fibreglass mesh/ Accessible all tides; only benefit from one side for berthing	
Ramp	Concrete Surface	No drop off visible at Toe Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Replaced southern walkway		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	1	Limited	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	3	Adjacent slipway (for sale) < 1000m to town centre	
Use	3		
Current Environment Impacts	3	Governor Island Marine Nature Reserve 100m Extreme heavy industry_500m (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Extend walkway to increase berthing capacity		Next 5 years	



Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Coles Bay Boat Ramp (Muirs Beach)	
Facility Type		Boat Ramp	
Location		The Esplanade	
Grid Reference		N/A	
Municipality		Glamorgan Spring Bay	
Facility Owner		Council (land DPIW)	
Priority Rating	(%)	6	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Limited		
Toilets	Yes		
Walkway/Pontoons	Yes	concrete	
Ramp	Concrete Surface	Build up of sand Nil undermining	
Approach	Sealed		
Recent Works		Concreted over existing ramp	
Key Factors	Score	Comment	
Facility Grading	1	D	
Adequacy of Parking	1	Limited	
Safety and ease of land access	2	Directly adjacent to road	
Safety and ease of water access	2	Walkway only accessible at low tide	
Land based support facilities	3	Adjacent to commercial strip	
Use	2	Kayaking on beach	
Current Environment Impacts	1	Slight ((foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years	Cost Estimate
Improve traffic management on roadway		➤ 5 years	



Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Coles Bay	
Facility Type		Boat Ramp	
Location		Garnet Avenue	
Grid Reference		606631.664	5335163.263
Municipality		Glamorgan Spring Bay	
Facility Owner		Council	
Priority Rating	(%)	2	
Assets & Services			
Ramp Lanes	4		
Parking Spaces	Sealed/No Line Markings	More required	
Toilets	Yes		
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	Good water depth at Toe Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Replaced landing stages on northern sides		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	1	Limited	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	3	Adjacent to local shop	
Use	3		
Current Environment Impacts	3	Adjacent Freycinet National Park Seagrass beds c1990 (Rees, 1993)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years	Cost Estimate
Stage 2 works – express lane/new walkway/removal of timber piers		2012	\$approved



Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Swanwick	
Facility Type		Boat Ramp	
Location		Off Swanick Road	
Grid Reference		602314.396	5338643.001
Municipality		Glamorgan Spring Bay	
Facility Owner		Swanwick Community Association	
Priority Rating	(%)	3	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Limited		
Toilets	No	Walking Distance	
Walkway/Pontoons	Yes (timber)	Accessible all tides	
Ramp	Concrete Surface		
Approach	Gravel		
Recent Works < 5 years	Ramp extended and resurfaced		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	1	Limited/No area for expansion	
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	2		
Current Environment Impacts	3	Moulting Lagoon Ramsar Site	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate



Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Swansea (Jubilee Beach)	
Facility Type		Boat Ramp	
Location		Jetty Road	
Grid Reference		588971.392	5335815.471
Municipality		Glamorgan Spring Bay	
Facility Owner		Council	
Priority Rating	(%)	1	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Sealed (25 approx)	Exceeds capacity at peak periods/room for extension	
Toilets	Yes	Walking Distance	
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	Large sand build up Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Walkway replaced/jetty replaced		
Key Factors	Score	Comment	
Facility Grading	2	Sand will continually build up	
Adequacy of Parking	3		
Safety and ease of land access	3		
Safety and ease of water access	2	Not accessible at low tide	
Land based support facilities	3	Adjacent to town centre	
Use	3		
Current Environment Impacts	2	High (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Regular removal of sand			



Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Swansea (Gordon Stree)	
Facility Type		Boat Ramp	
Location		Gordon Street	
Grid Reference		East 608675.013	North 5363136.68
Municipality		Glamorgan Spring Bay	
Facility Owner		Council	
Priority Rating	(%)	7	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Informal		
Toilets	No		
Walkway/Pontoons	Yes (concrete)		
Ramp	Concrete Surface	Sand build up at toe Nil undermining	
Approach	gravel		
Recent Works < 5 years	Resurfaced toe of ramp		
Key Factors	Score	Comment	
Facility Grading	1	D	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	1	Only accessible at high tide with no swell	
Land based support facilities	2	Southern end of Swansea	
Use	1		
Current Environment Impacts	3	Extreme sewage outfall (foreshore pollution pressure NRM South) Seagrass beds c1990 (Rees, 1993)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate


Existing Boating Facilities January 2012 – East Coast Region

Facility Name		Saltworks	
Facility Type		Boat Ramp	
Location		Saltworks road	
Grid Reference		581877.152	5315142.342
Municipality		Glamorgan Spring Bay	
Facility Owner		Council	
Priority Rating	(%)	4	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Yes	good	
Toilets	No		
Walkway/Pontoons	Yes	timber	
Ramp	Concrete Surface	No drop off visible at Toe Nil undermining	
Approach	gravel		
Recent Works < 5 years	Ramp and walkway reconstructed		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	2		
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	3		
Current Environment Impacts	2	Marine Farm leases High stormwater/rural runoff 500m (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
New Toilets		Next 5 years	



Existing Boating Facilities January 2012 – East Coast Region



Facility Name		Triabunna	
Facility Type		Boat Ramp	
Location		Charles Street	
Grid Reference		575013.175	5292959.555
Municipality		Glamorgan Spring Bay	
Facility Owner		Council	
Priority Rating	(%)		
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Sealed/Lines ?		
Toilets	Yes		
Walkway/Pontoons	Yes	Fibreglass mesh/ Accessible all tides;	
Ramp	Concrete Surface	No drop off visible at Toe Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Timber fendering to concrete retaining wall		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	3		
Safety and ease of land access	3		
Safety and ease of water access	3		
Land based support facilities	3	Adjacent to slipway& Within town centre	
Use	3		
Current Environment Impacts	2	Extreme stormwater/heavy industry ((foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years	Cost Estimate
Consider relocation as part of Triabunna marina		Next 5 years	



Existing Boating Facilities January 2012 – East Coast Region



Facility Name		Triabunna (Barton Avenue)	
Facility Type		Boat Ramp	
Location		Barton Avenue	
Grid Reference		N/A	
Municipality		Glamorgan Spring Bay	
Facility Owner		Crown	
Priority Rating	(%)	0	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	INformal	Adequate	
Toilets	No		
Walkway/Pontoons	No		
Ramp	Concrete Surface (Part)	gravel Toe Nil undermining	
Approach	Gravel		
Recent Works < 5 years	Nil – low use		
Key Factors	Score	Comment	
Facility Grading	1	D	
Adequacy of Parking	2	adequate	
Safety and ease of land access	2		
Safety and ease of water access	2		
Land based support facilities	1		
Use	1		
Current Environment Impacts	1	Slight (foreshore pollution pressure NRM South)	
Site Photograph			
		INSERT AERIAL	
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Nil			


Existing Boating Facilities January 2012 – East Coast Region


Facility Name		Prosser River	
Facility Type		Boat Ramp	
Location		Riverside Drive, Orford	
Grid Reference		571594.631	5287892.874
Municipality		Glamorgan Spring Bay	
Facility Owner		Council	
Priority Rating	(%)	1	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Adequate		
Toilets	No		
Walkway/Pontoons	Yes		
Ramp	Concrete		
Approach	Sealed		
Recent Works < 5 years	Overlay existing launch site with dual lane concrete ramp and construct a landing stage		
Key Factors	Score	Comment	
Facility Grading	2	B/C	
Adequacy of Parking	2		
Safety and ease of land access	2		
Safety and ease of water access	1	Limited to 4WD at low tide	
Land based support facilities	1		
Use	3		
Current Environment Impacts	1	Moderate (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate



Facility Name		Dodges Ferry	
Facility Type		Boat Ramp	
Location		Tiger Head Road	
Grid Reference		549949.02	5254726.566
Municipality		Sorell	
Facility Owner		Council	
Priority Rating	(%)	2	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Sealed/Line markings	Good	
Toilets	Yes	Adjacent boat park	
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	drop off with large hole Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Reconstructed ramp and walkway on southern side of ramp		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	3	excellent	
Safety and ease of land access	3		
Safety and ease of water access	2	Shallow bay limits water depth at low tide	
Land based support facilities	3	Park/coast guard/local shop	
Use	3		
Current Environment Impacts	1	Slight (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Additional lane & increase berthing space		> 5 years	



Facility Name		Lewisham		
Facility Type		Boat Ramp		
Location		Scenic Drive		
Grid Reference		549382.736	5257720.347	
Municipality		Sorell		
Facility Owner		Council		
Priority Rating	(%)			1
Assets & Services				
Ramp Lanes	2			
Parking Spaces	Gravel/informal	adequate		
Toilets	No			
Walkway/Pontoons	Yes			
Ramp	Concrete Surface	Deep water off toe Nil undermining		
Approach	Gravel			
Recent Works < 5 years	New ramp and walkway/drainage			
Key Factors	Score	Comment		
Facility Grading	3	A		
Adequacy of Parking	3	adequate		
Safety and ease of land access	3	Turning area		
Safety and ease of water access	3	All tides access		
Land based support facilities	1			
Use	3			
Current Environment Impacts	1	Slight (foreshore pollution pressure NRM South)		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Regular maintenance of rock groyne Commercial op with boat shed?		ongoing		



Facility Name		Primrose Sands	
Facility Type		Boat Ramp	
Location		Linden Road	
Grid Reference		N/A	
Municipality		Sorell	
Facility Owner		Council	
Priority Rating	(%)	3	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Limited	No parking signs	
Toilets	No		
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	Sand over toe Nil undermining	
Approach	Gravel		
Recent Works < 5 years	Remedial works to groyone/fenders outside of jetty piles/new car parking area (current)/improved traffic control (current)		
Key Factors	Score	Comment	
Facility Grading	2	B	
Adequacy of Parking	1	limited	
Safety and ease of land access	1	Intersection needs improving/signed moved	
Safety and ease of water access	2	Shallow bay so limited water depth at low tide	
Land based support facilities	1		
Use	3		
Current Environment Impacts	1	None (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
New Toilet & additional overflow parking		ongoing	



Facility Name		Dunalley	
Facility Type		Boat Ramp	
Location		Adjacent to Fish Market	
Grid Reference		N/A	
Municipality		Sorell	
Facility Owner		Council	
Priority Rating	(%)	?	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	On street		
Toilets	No		
Walkway/Pontoons	Jetty		
Ramp	Concrete Surface		
Approach	Sealed		
Recent Works < 5 years			
Key Factors	Score	Comment	
Facility Grading	1	Steep grade	
Adequacy of Parking	1	Limited	
Safety and ease of land access	2	Directly off road	
Safety and ease of water access	2	Within canal	
Land based support facilities	2	In Dunalley	
Use	2		
Current Environment Impacts	3	High stormwater & aquaculture_500m (foreshore pollution pressure NRM South)	
Site Photograph			
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Ladder/Algae cleaning/grade		Ongoing	



Facility Name		Boomer Bay	
Facility Type		Boat Ramp	
Location		Boomer Jetty Road	
Grid Reference		N/A	
Municipality		Sorell	
Facility Owner		MAST	
Priority Rating	(%)	4	
Assets & Services			
Ramp Lanes	2		
Parking Spaces	Sealed/No line markings	inadequate	
Toilets	No		
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	Kerb on toe to stop trailer wheels Nil undermining	
Approach	Sealed		
Recent Works < 5 years	Ramp and jetty reconstructed		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	1	Needs line markings	
Safety and ease of land access	2	Traffic management required	
Safety and ease of water access	3		
Land based support facilities	1		
Use	3		
Current Environment Impacts	2	Marine farm lease Sea Grass Beds c1990 (rees, 1993)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Improved traffic management & new toilet		Next 5 years	&90,000



Facility Name		Murdunna	
Facility Type		Boat Ramp	
Location		Sommers Bay Road	
Grid Reference		569637.783	5244657.848
Municipality		Tasman	
Facility Owner		Council (land DPIW)	
Priority Rating	(%)	2	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Informal/Inadequate	Requires Seal, Markings and closed drain	
Toilets	No	Arthur Highway	
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	300mm drop off requires fill Nil undermining	
Approach	Gravel		
Recent Works < 5 years	Walkway/pontoon adjacent tot boat ramp and timber kerbs down edge of ramp		
Key Factors	Score	Comment	
Facility Grading	2	C	
Adequacy of Parking	1	Upgrade required	
Safety and ease of land access	2		
Safety and ease of water access	2		
Land based support facilities	1		
Use	2		
Current Environment Impacts	2	Seagrass Beds c1990 (Rees (1993) Rural runoff_500m (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years	Cost Estimate
Formalised Car Park & new toilets		Immediate	



Facility Name		Taranna	
Facility Type		Boat Ramp	
Location		Off Arthur Highway, Taranna	
Grid Reference		570235.386 5234803.261	
Municipality		Tasman	
Facility Owner		Council	
Priority Rating	(%)	1	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	Defined informal parking area		
Toilets	No	Arthur Highway	
Walkway/Pontoons	Yes	Accessible all tides	
Ramp	Concrete Surface	Nil undermining	
Approach	Gravel		
Recent Works < 5 years	Ladder/Groyne rebuilt because collapsed/Parking area defined		
Key Factors	Score	Comment	
Facility Grading	3	A	
Adequacy of Parking	2		
Safety and ease of land access	2		
Safety and ease of water access	3		
Land based support facilities	1		
Use	2		
Current Environment Impacts	2	Marine Farm Lease < 500m Seagrass Beds c1990 (Rees 1993)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate

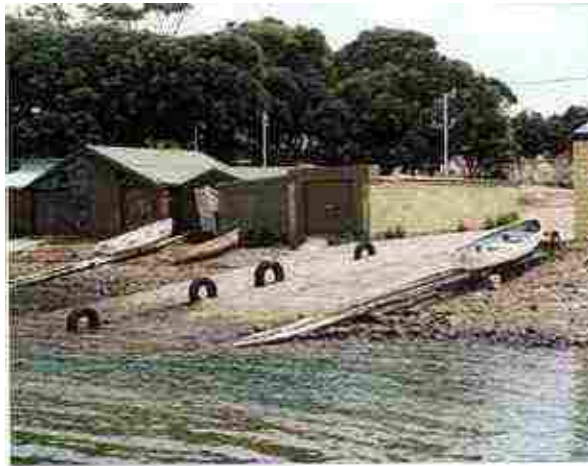

Facility Name		Garden Point		
Facility Type		Boat Ramp		
Location		Garden Point Road		
Grid Reference		569679.289	5224225.781	
Municipality		Tasman		
Facility Owner		Council		
Priority Rating	(%)			8
Assets & Services				
Ramp Lanes	2			
Parking Spaces	Sealed	Good		
Toilets	No			
Walkway/Pontoons	Yes			
Ramp	Concrete Surface	Nil undermining		
Approach	Sealed			
Recent works < 5 years	Concrete overlay ramp and extend toe of ramp and provide lower landing on end of existing walkway			
Key Factors	Score	Comment		
Facility Condition	2	B/C		
Adequacy of Parking	3			
Safety and ease of land access	3			
Safety and ease of water access	2			
Land based support facilities	2	Next to caravan park		
Use	3	Includes abalone boats		
Current Environment Impacts	2	State Reserve		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Encourage use as alternative launching area to Pirates bay as underutilised		Next 5 years		



Facility Name		White Beach - North		
Facility Type		Boat Ramp		
Location		Apex Pt Road, White Beach		
Grid Reference		559463.877	5226529.892	
Municipality		Tasman		
Facility Owner		Council		
Priority Rating	(%)	7		
Assets & Services				
Ramp Lanes	2			
Parking Spaces	Sealed			
Toilets	No	White Beach Road		
Walkway/Pontoons	Yes	Fibreglass mesh/ Accessible all tides; only benefit from one side for berthing		
Ramp	Concrete Surface	Adequate water depth at toe of ramp, but water is shallow behind ramp Nil undermining		
Approach	Sealed			
Recent Works	Replaced walkway and add an additional lane on western side of existing ramp			
Key Factors	Score	Comment		
Facility Grading	3	A		
Adequacy of Parking	2			
Safety and ease of land access	2			
Safety and ease of water access	3			
Land based support facilities	1			
Use	3			
Current Environment Impacts	2	No pollution sources_500m (foreshore pollution pressure NRM South) Seagrass Beds c1990 (Rees (1993))		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Fix Pot Holes on access		Immediate		

Facility Name		White Beach - South		
Facility Type		Boat Ramp		
Location		White Beach Road		
Grid Reference		558575.818	5225141.397	
Municipality		Tasman		
Facility Owner		Council (land DPIW)		
Priority Rating	(%)	4		
Assets & Services				
Ramp Lanes	1			
Parking Spaces	Limited			
Toilets	No	White Beach Road		
Walkway/Pontoons	Yes			
Ramp	Concrete Surface	Nil undermining		
Approach	Gravel			
Recent Works < 5 years	Extended ramp into deeper water and reconstructed walkway			
Key Factors	Score	Comment		
Facility Grading	2	C		
Adequacy of Parking	1	Limited		
Safety and ease of land access	2			
Safety and ease of water access	2			
Land based support facilities	1			
Use	3	Additional subdivision increasing use		
Current Environment Impacts	2	No pollution sources_500m (foreshore pollution pressure NRM South) Seagrass Beds c1990 (Rees (1993))		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Formalise Car Park & Fix potholes		Immediate		

Facility Name		Saltwater River		
Facility Type		Boat Ramp		
Location		Saltwater River Road		
Grid Reference		558022.485	5239014.325	
Municipality		Tasman		
Facility Owner		Council		
Priority Rating	(%)	1		
Assets & Services				
Ramp Lanes	1			
Parking Spaces	Limited			
Toilets	No	White Beach Road		
Walkway/Pontoons	Yes			
Ramp	Concrete Surface	Nil undermining		
Approach	Gravel			
Recent Works < 5 years	Extend ramp with steeper grade 4-5m into water			
Key Factors	Score	Comment		
Facility Grading	2	C/D		
Adequacy of Parking	1	Limited		
Safety and ease of land access	2			
Safety and ease of water access	1	Limited to mid to high tide		
Land based support facilities	1			
Use	2			
Current Environment Impacts	1	No pollution sources_500m (foreshore pollution pressure NRM South)		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Walkway		Next 5 years		\$55600 (2005)

Facility Name		Pirates Bay		
Facility Type		Boat Ramp		
Location		Blowhole Road		
Grid Reference		576990.053	5234790.651	
Municipality		Tasman		
Facility Owner		MAST (PWS Parking)		
Priority Rating	(%)	High		
Assets & Services				
Ramp Lanes	2			
Parking Spaces		See PWS traffic mgmt plan		
Toilets	Yes			
Walkway/Pontoons	Yes			
Ramp	Concrete Surface	Nil undermining		
Approach	Sealed			
Recent Works < 5 years	Overlay and extend ramp/ built a larger landing stage adjacent to the ramp/adjacent jetty replaced to increase berthing space			
Key Factors	Score	Comment		
Facility Grading	3	A		
Adequacy of Parking	2	Good but regularly exceeds capacity		
Safety and ease of land access	2	Bottleneck getting in and out/Tuna fishing weigh in		
Safety and ease of water access	2	Very busy		
Land based support facilities	2	Small shop		
Use	3	Charter/recreation/game fishing/commercial		
Current Environment Impacts	3	Nature Recreation Area High pollution pressure - storm water, rural runoff _500m (foreshore pollution pressure NRM South)		
Site Photograph 2005		2012		
				
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)		Cost Estimate
Stage 2 parking, additional lanes,		Next 5 years		See PWS plan

Facility Name		Pirates Bay (Tuna Club)	
Facility Type		Boat Ramp	
Location		Blowhole Road	
Grid Reference		576990.053	5234790.651
Municipality		Tasman	
Facility Owner		PWS	
Priority Rating	(%)	5	
Assets & Services			
Ramp Lanes	1		
Parking Spaces		See PWS traffic mgmt plan	
Toilets	Yes	Clubhouse	
Walkway/Pontoons	No		
Ramp	Concrete Surface	Nil undermining	
Approach	Sealed		
Recent Works < 5 years		None	
Key Factors	Score	Comment	
Facility Grading	2	B	
Adequacy of Parking	2	Good but regularly exceeds capacity	
Safety and ease of land access	2	Bottleneck getting in and out/Tuna fishing weigh in	
Safety and ease of water access	2	Very busy	
Land based support facilities	2	Club house	
Use	2	Club only	
Current Environment Impacts	3	Nature Recreation Area High pollution pressure - storm water, rural runoff_500m (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate
Consider role as part of overall master plan for area including location of clubrooms and boat sheds		Next 5 years	

Facility Name		Fortescue Bay	
Facility Type		Boat Ramp	
Location		Coronation/Fortescue Bay Roads	
Grid Reference		578555.499	5222808.539
Municipality		Tasman	
Facility Owner		PWS	
Priority Rating	(%)	0	
Assets & Services			
Ramp Lanes	1		
Parking Spaces	10-12 gravel		
Toilets	Yes		
Walkway/Pontoons	Yes		
Ramp	Concrete Surface	Nil undermining	
Approach	Gravel		
Recent Works < 5 years	None		
Key Factors	Score	Comment	
Facility Grading	2	B	
Adequacy of Parking	3		
Safety and ease of land access	2	Forestry road in	
Safety and ease of water access	2	Subject to swell	
Land based support facilities	1		
Use	2		
Current Environment Impacts	1	Forest Reserve No pressures (foreshore pollution pressure NRM South)	
Site Photograph 2005		2012	
			
Preliminary Recommendations		Timeframe (Immediate; Next 5 years; > 5 years)	Cost Estimate

Appendix B

Multi-Criteria Assessment

Assessment of Facilities
Basis of Ranking

Ranking	Commercial Fishing Activity	Recreational Boating Activity	Tourism Value	Facility Grading/Accessibility	Asset Condition	Locational advantages	Environmental Value
1	No benefits	Little visitation	No contribution	Ramp does not permit the safe launching or retrieval of any sized boat at any stage of the tide or any weather conditions.	Ineffective/inoperable	In adequate parking & No services/isolated	RAMSAR Wetland/National Park
2	Local Benefits	Local Visitation only	Some contribution to local community	Ability is limited to launching and retrieving small boats to 5m at some stages of the tides & some weather conditions without necessarily having support facilities.	Poor condition or Poses Safety Risk (requires work < 5 years)	In adequate parking & Limited services/isolated	Reserve/Conservation Area
3	Regional benefits	Good visitation, little visitation in winter	Contribution to regional tourism	Ramp having capacity to launch and retrieve at some stages of the tide & some weather conditions, all sized boats but not necessarily having support facilities	Able to last another 5 - 10 year	Adequate Parking & Limited services	adjacent to reserved area
4	State benefits	High visitation, busy in summer months	High contribution with interstate focus	Ramp having capacity to launch and retrieve, at all tides & all weather conditions but with some degree of difficulty, all sizes of trailered boats but not necessarily having support facilities.	Good condition (ie a few years old)	Inadequate parking, but within walking distance to services including shops, fuel, parks, potentially other facilities like slipways, coast guard	beach
5	Significant benefits with international export focus	Significant visitation, crowded in summer months and used all year round	Significant contribution with international focus and used all year round	Ramp with capacity to launch and retrieve, at all tides & all weather conditions and with a minimum degree of difficulty, all sizes of trailered boats. Also having adequate parking space and a walkway/pontoon	Excellent condition (as new).	Adequate parking & within walking distance to full services including shops, fuel, parks, potentially other facilities like slipways, coast guard	Not within reserve and within existing settlement

Appendix C

Consultation Report



CLIENTS | PEOPLE | PERFORMANCE

Marine and Safety Tasmania

Report for Consultation Report

East Coast Marine
Infrastructure Strategy

May 2012



This ("Report"):

- 1. has been prepared by GHD Pty Ltd ("GHD") as part of the East Coast Marine Infrastructure Strategy for Marine and Safety Tasmania ("MAST");*
- 2. may only be used and relied on by MAST, and by delivering agencies (Sorell, Tasman, Glamorgan Spring Bay Council, Break O'day Councils, facility owners and managers, and Department of Economic Development);*
- 3. must not be copied to, used by, or relied on by any person without the prior written consent of GHD;*
- 4. may only be used for the purpose detailed in Section 1 of the East Coast Marine Infrastructure Strategy (and must not be used for any other purpose).*

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Subject to the paragraphs in this section of the Report, the opinions, conclusions and any recommendations in this Report are based on conditions encountered and information reviewed at the time of preparation and may be relied on 3 months, after which time, GHD expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with those opinions, conclusions and any recommendations.



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Appendices

A	Sample
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1. Consultation Report

Stakeholder engagement was an integral component across all phases of the project. During the four month duration of the project, a range of activities for stakeholders and the community were undertaken. This included a survey, targeted stakeholder meetings/discussions, and technical and steering committee workshops. Feedback from this consultation process informed the inventory, needs assessment, and prioritisation of sites, providing a qualitative and structured assessment from the perspective of key and other stakeholders, as well as the community.

1.1 Purpose

Consultation was undertaken in various forms throughout the project. Responses and input from stakeholders were used to inform the development of an inventory/needs/demand analysis assessment, gap analysis and prioritisation of sites and future development. The engagement program enabled these assessments to be more robust, and to provide a qualitative and structured assessment from a number of perspectives.

Issues for consideration during the consultation process included:

- Current marine infrastructure and surrounding areas usage;
- Capacity and appropriateness of location;
- Identification of other factors which impact on the use of the infrastructure and surrounding areas;
- Views on any changes to current locations or alternative locations which would be more suitable to meet demand into the future; and
- Any impediments or challenges which need to be considered.

1.2 Methodology

Based on feedback from Council staff a targeted stakeholder engagement approach was undertaken, including face-to-face meetings and discussions with a range of stakeholders. This approach was selected over traditional methods of consultation to avoid issues associated with 'over consulting' with East Coast communities, while also providing a flexible approach to target users who do not live on the East Coast.

An online survey was undertaken and provided an effective way to engage with recreational boaters, facility users and the broader community. The survey was promoted through:

- MAST's existing networks including the Boatwise publication;
- Local Council publications; and
- Windscreen drop at the March long weekend game fishing event at St Helens.

The survey was structured to seek input from facility users, recreational boaters and the local communities and sought feedback on a range of topics relating to the current and future use of marine facilities and economic development opportunities relating to marine infrastructure in the region.



2. Consultation Activities

Table 1 outlines the consultation activities undertaken as part of the Strategy. A Stakeholder list is attached in Appendix A.

Table 1 Consultation Activities

Method	Participation
Surveys	The public was invited to provide feedback on recreational boating facilities by participating in an online survey. The survey was structured to provide open ended questions so a range of information could be provided from various stakeholder viewpoints.
Workshops	Workshops involving the Steering Committee and key stakeholders from Councils and government agencies were held throughout the life of the project. The workshops provided opportunities for key stakeholders to review strategy development and provide localised knowledge.
Face-to-face meetings	Face-to-face meetings were held with key stakeholders including Tasmanian Seafood Industry Council, Tasmanian Recreational Fishing, Tourism Tasmania, Parks, MAST, Councils, TasPorts, and Rob Pennicott.
Targeted discussions	Key East Coast business operators, clubs and organisations were contacted. Feedback was sought on the use of marine facilities, issues and identification of future demand and opportunities in the region.

2.1 Survey Results

The survey was available online from 9 March to 16 April to capture the peak March long weekend and Easter Periods. The survey received a total of 103 responses. The online survey sought feedback on a range of specific topics including:

- Boat ownership;
- Type of boat;
- Boat Storage;
- Use of marine facilities (i.e. type, location);
- Maintenance;
- Opportunities for additional marine facilities; and
- General feedback.

Key results from survey included:

- The majority of survey respondents owned trailer boats;
- Most respondents used their boat for recreational purposes;



- ▶ The majority of respondents utilise boat ramps;
- ▶ The local government area of Glamorgan Spring Bay was clearly the most popular location for existing marine facilities;
- ▶ The vast majority of respondents supported additional facilities on the East Coast;
- ▶ Respondents indicated their strongest preference for additional jetties, marinas and parking; and
- ▶ Respondents selected Bicheno to Orford as the highest priority area for the location of additional marine facilities.

A breakdown of the survey data can be found at Appendix B.

2.2 Key Issues and Themes

The following section outlines key issues, opportunities and economic benefits identified through the stakeholder engagement process. It includes feedback captured by the targeted discussions, face-to-face meetings and online survey. For the purpose of information at the local level the feedback has been categorised into four key locations, including:

- ▶ North East Coast – Eddystone Point to Wineglass Bay
- ▶ Central East Coast – Wineglass Bay to Dunalley
- ▶ South East Coast – Dunalley – Tasman Island- Nubeena
- ▶ Norfolk Bay & Fredrick Henry Bay

Table 2 includes key themes and issues by area as identified during the stakeholder engagement process.

Table 2 Local Themes and Issues

North East Coast – Eddystone Point to Wineglass Bay

-
- ▶ Consider a dual lane boat ramp at Stieglitz;
 - ▶ Look at options for creating sea access between Scamander and Falmouth;
 - ▶ Resolve Aboriginal heritage issues associated with car park at the Burns Bay boat ramp;
 - ▶ Provide general maintenance for One Tree Point boat ramp; and
 - ▶ Work with the community to resolve safety concerns at the St Helens barway.



Central East Coast – Wineglass Bay to Dunalley

- Resolve issues associated with parking at Gulch;
 - Provide additional depth at the Gulch boat ramp to minimise risk of damage to larger boats
 - Positive feedback was provided on upgrade to Little Swanport jetty;
 - Review capacity of toilet facilities for users at Little Swanport jetty;
 - Look at issues with Prosser River barway and ongoing access for river users;
 - Support was expressed for a new marine focus for Triabunna;
 - Concerns expressed regarding declining visitor numbers;
 - Explore the feasibility of marina options at Triabunna, Coles Bay, Oyster Cove and Swansea;
 - Improve access at Maria Island for commercial and recreational boats;
 - Explore potential for access to Maria Island from Shelley Beach;
 - Triabunna is considered to be the safest all weather port on the East Coast;
 - Consider providing an all tide launching facility at Swansea;
 - Maintain the quality of facilities at Coles Bay;
 - there is understanding that Coles Bay is growing in importance for larger recreational boats; and
 - Need to create increased provision for cruising yachts in the area.
-

South East Coast – Dunalley – Tasman Island- Nubeena

- Highlighted emerging tourism opportunities in the area (i.e. game fishing, cruise ships);
- Tuna game fishing has increased in popularity;
- Port Arthur Historic Site is experiencing a decline in overall visitor numbers;
- Support expressed for Port Arthur Historic Site in upgrading facilities to cater for increasing cruise ship visits;
- Support development of a second dual boat ramp at Pirates Bay;
- Continue to work with the Parks and Wildlife Service to resolve issues with pedestrian safety and capacity at the Pirates Bay car-park;
- Encourage the development of public camping facilities or accommodation that provides boat storage near Pirates Bay;
- Address issues associated with conflict between pedestrians and people launching boats at White Beach; and
- Explore the need for additional marine facilities at Dunalley.



Norfolk Bay & Fredrick Henry Bay

- Investigate options for facilitating access to the East Coast through Fredrick Henry Bay instead of through Dunalley;
 - Identified a lack of anchor area at Midway Point;
 - Suggested some Crown Lease and Licence arrangements may limit private investment;
 - Potential to develop safe haven infrastructure at Southern Beaches;
 - Address issues with parking at Boomer Bay;
 - Lewisham jetty requires upgrading;
 - Address issues associated with conflict between pedestrians and people launching boats at Dodges Ferry; and
 - Investigate options for a deep water boat ramp at Dodges Ferry.
-

Regionally Significant Issues

- Stakeholders are generally happy with services provided by MAST;
- MAST facilities are considered to be generally well maintained;
- Holistic consideration of new infrastructure is considered critical to reduce duplication of infrastructure and services;
- Key land managers (including Parks and MAST) need to work collaboratively on infrastructure projects;
- Consider budgeting 12 months before funds are needed to improve success of infrastructure projects;
- Concern was expressed regarding declining visitor numbers in the region and its impact on the viability of future developments;
- There are seasonal pressures on marine facilities;
- Economic pressures are considered to be impacting upon boating activities;
- Commitment to consistent maintenance of existing local boats ramps to ensure safety and accessibility;
- Resolve issues with car and trailer parking near popular jetties and ramps;
- Resolve issues with public facilities (i.e. toilets) not meeting demand of marine facility users and contributing to unhealthy waters near aquaculture businesses;
- Validate interest in public mooring facilities along East Coast. These are considered more desirable in areas where supporting facilities (i.e. maintenance, fuel) are available;
- Explore options for a marina in the Central East Coast area;
- Provide supporting infrastructure to enhance boating 'safe havens' along East Coast;
- Increase provisions for cruising yachts along East Coast;
- Support emerging tourism opportunities in the region; and
- Support public camping facilities or accommodation that has provisions for boat storage and parking.



3. Summary Recommendations

The following outlines key recommendations. These recommendations were developed from the feedback received through the stakeholder engagement component of this project.

Table 3 includes the recommendations of this consultation report.

Table 3 Recommendations

- ▶ Need for holistic consideration in the development of any new marine infrastructure projects;
- ▶ Continue commitment to consistent maintenance of all MAST owned marine facilities;
- ▶ Address issues with car-parking near popular jetties;
- ▶ Explore options for locating public moorings along the East Coast. These are considered more desirable if located in areas where supporting facilities (i.e. maintenance, fuel) are available;
- ▶ Explore options for a marina in Central East Coast area;
- ▶ Provide supporting infrastructure to enhance boating 'safe havens' along East Coast;
- ▶ Support emerging tourism opportunities in the region;
- ▶ Support marine focus for Triabunna, as part of rebranding opportunity; and
- ▶ Commitment to continuing Pirates Bay redevelopment.



Appendix A

Stakeholder List



East Coast Marine Infrastructure Strategy- Stakeholder List

Tasmanian Seafood Industry Council (TSIC)	Neil Stump
TARFish	Mark Nikolai
Tourism Tasmania	Aletta McDonald
Parks	Chris Price/ Ashley Rushton
Southern Regional Land Use Project	Damien Mackey
Northern Regional Land Use Project	Ben Atkins
Tasman Island Journeys	Rob Pennicott
Triabunna WoodChip Mill	Graeme Wood
Sorell Council	Steven Hodge
GSB Chamber of Commerce	Chris Dillion
	John Young
Spring Bay Boat Club	John Hall
Triabunna Slipway (SeaFish Tas)	Lea Snow
Wineglass Bay Cruises	Duncan & Irene Sinclair
Denison Canal Superintendent	Neil Houston
Iron House Brewery	Lisieux Afeaki
Triabunna Marina Boatel Consortium	Michael Kent
Zulu Fishing Charterz	Angela Matthews
Bicheno Dive Centre	
Bay of Fires Dives	Peter Paulsen
	Rob Higgins
Volunteer Coast Guard	
Marine Culture	Peter Kosmeyer
Lewisham Motor Yacht Club	
Midway Point Yacht Club	
Spring Bay Seafoods	Phillip Lamb
St Helens Game Fishing Club	Angela Matthews
Game Fishing Club of Northern Tasmania	Sheryl Turner
Southern Game Fish Club	Peter Neilson
Freycinet Adventures	Alison and Simon Stubbs
Oyster Bay Oysters	Colin and Hayden Dyke
Kingborough Boating Club	Jacinta Cooper
Maria Island Ferry	John Cole Cook
	Tony Ibbott
Port Arthur Historic Site	Steven Large
Federal Hotels (including Freycinet Lodge and Saffire Resort)	
The Tuna Club of Tasmania	Robin Banks/ Martin Hayley
TasPorts	John Johnson



Professional Charters

Rocky Carosi



Appendix B

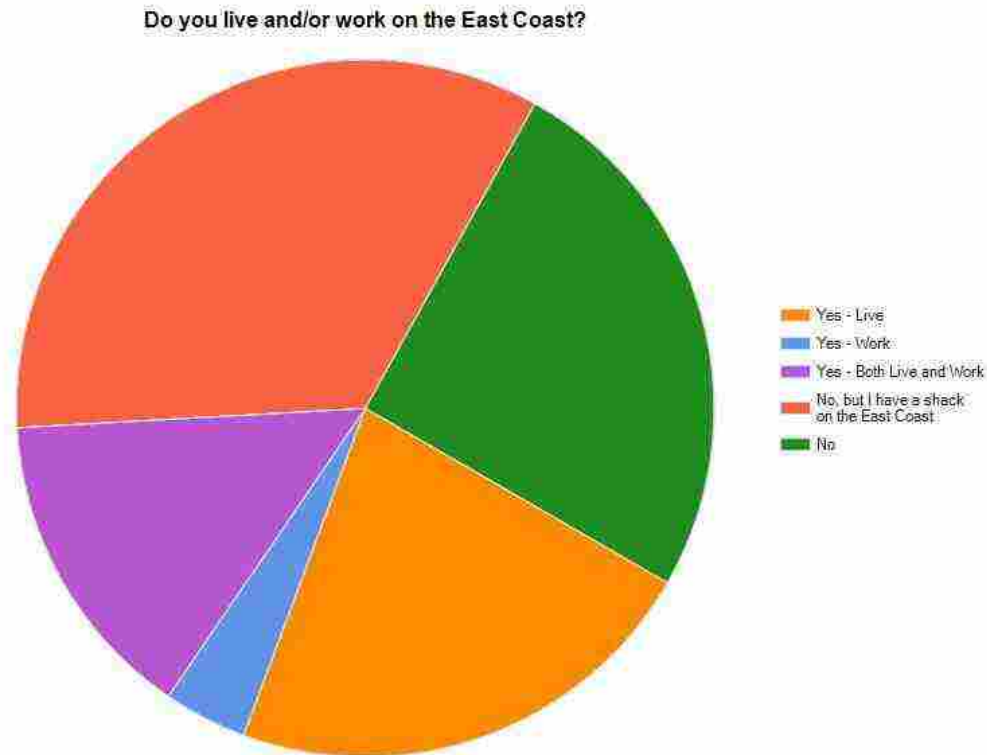
Survey Data



East Coast Marine Facilities Survey – Results

Q1 Do you live and/or work on the East Coast?

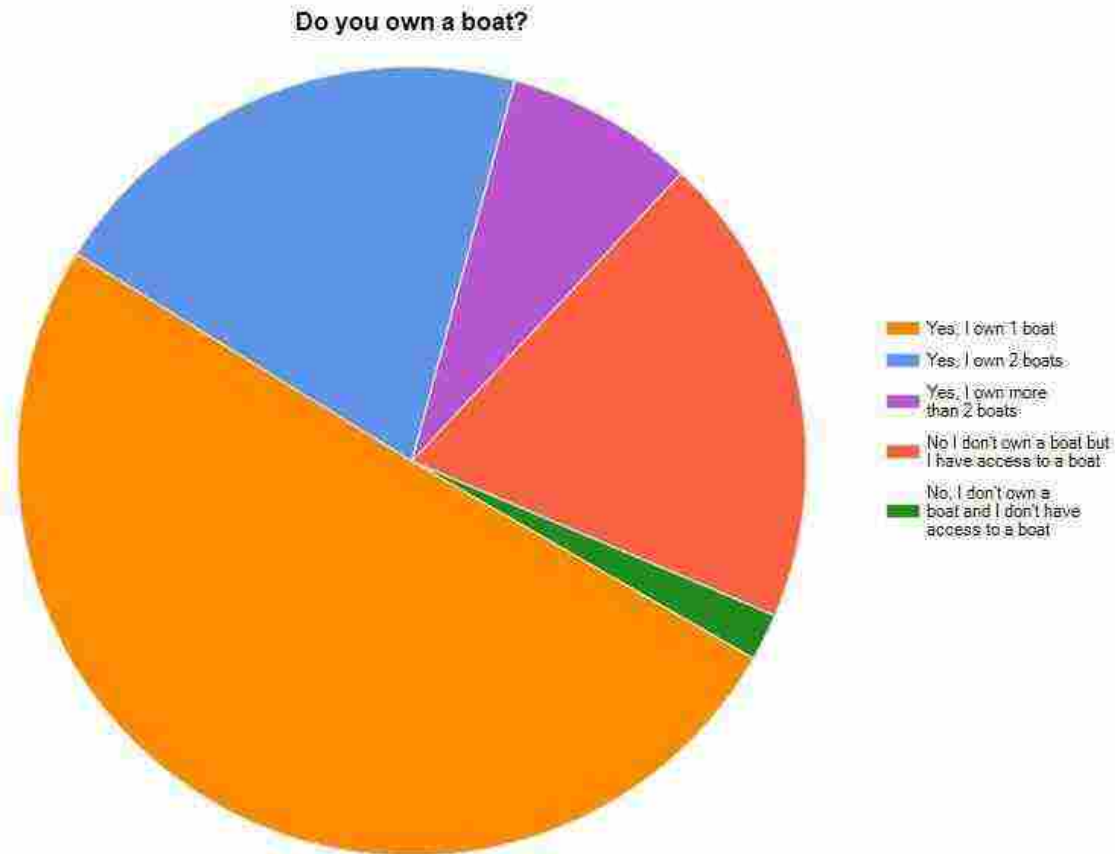
The largest proportion of respondents owned a shack on the East Coast. A large percentage of participants didn't live on the East Coast. When read in concert with other responses one can deduce that a number of people travel from outside the Region to use East Coast Marine facilities.





Q2 Do you own a boat?

Over half the respondents owned a boat and a significant percentage either owned 2 boats or had access to a boat.

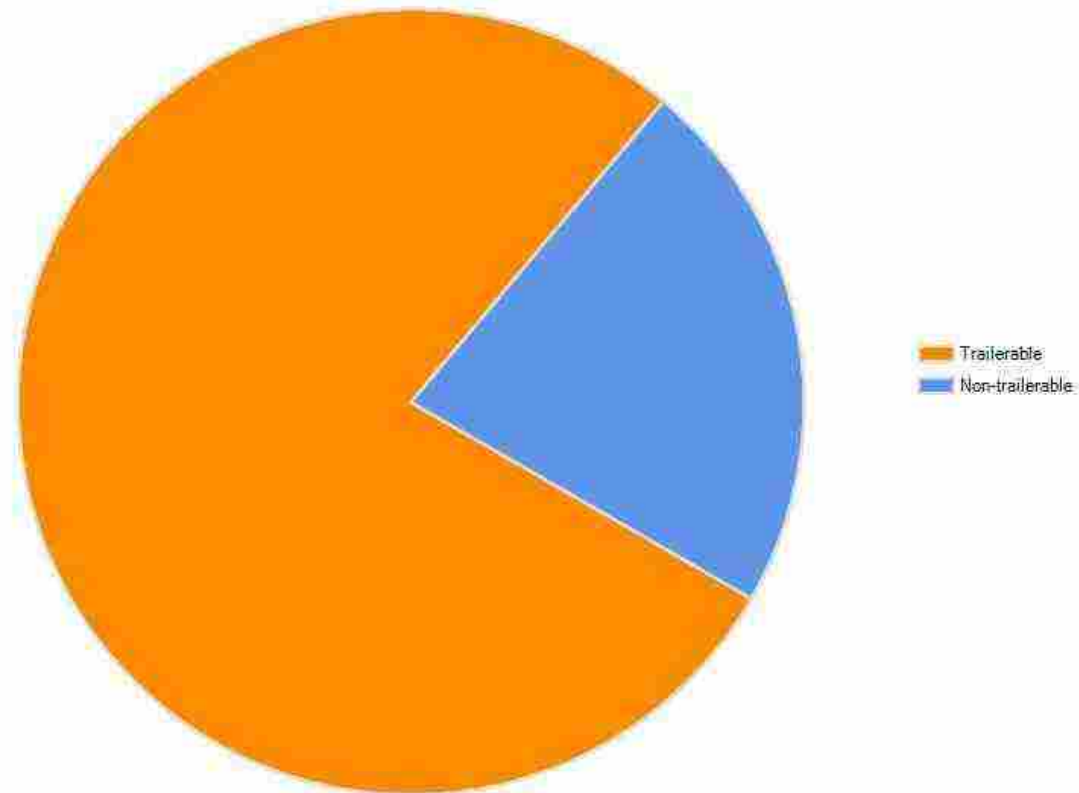




Q3 Is the boat you most often use trailerable or non-trailerable?

The majority of survey respondents own trailerable boats.

Is the boat you most often use trailerable or non-trailerable?

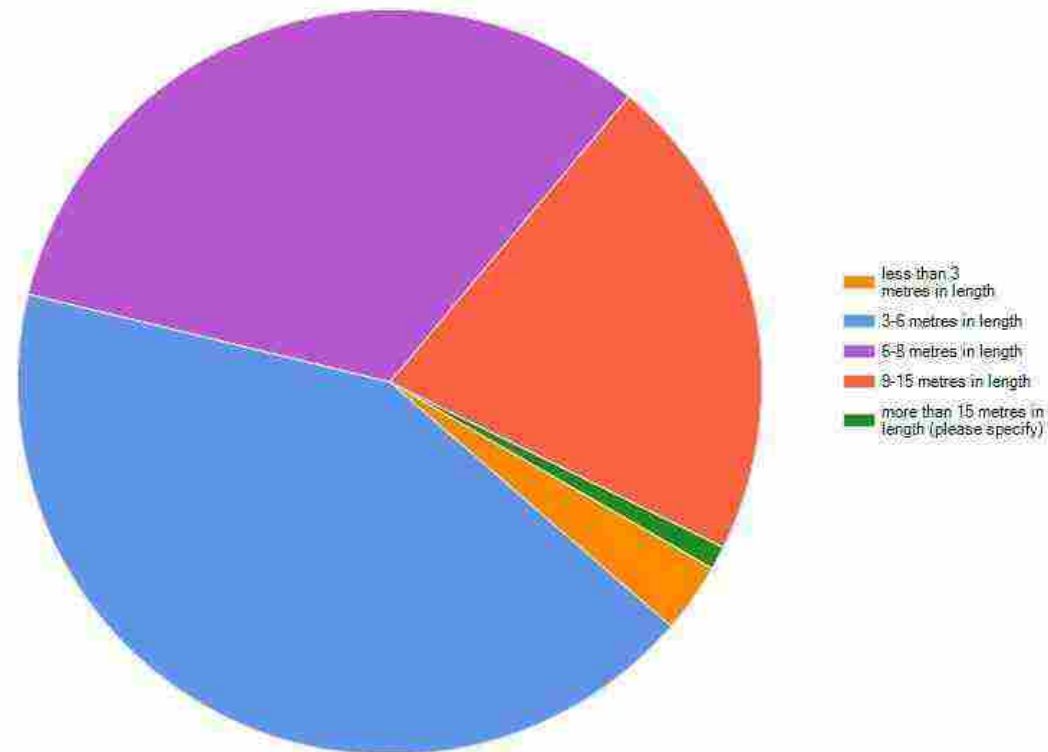




Q4 Describe the specification of the boat you most often use

The highest percentage of respondents owned a boat between 3-6 metres in length. The second most popular specification was boats between 6-8 metres in length followed by 9-15 metres. Very few participants owned boats under 3 metres in length or over 15 metres (*need to get length detail from the survey).

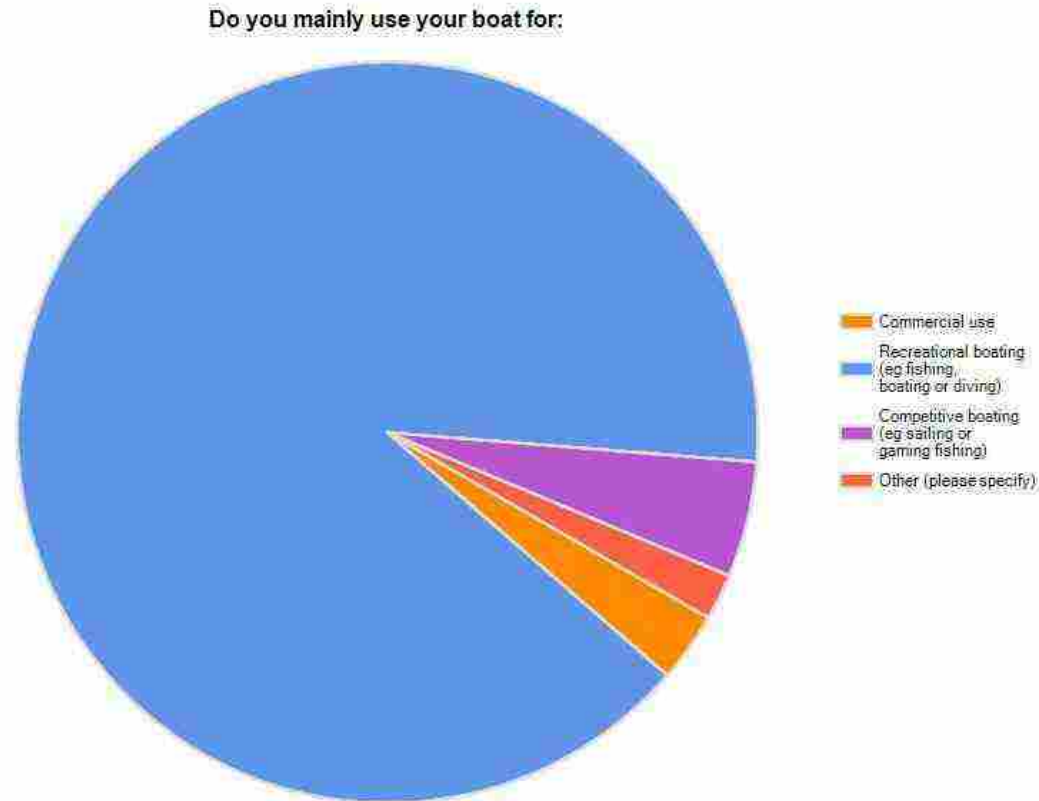
Describe the specifications of the boat you most often use:





Q5 Do you mainly use your boat for:

Most respondents used their boat for recreational purposes. A small percentage of respondents were competitive boaters, and very few respondents used their boat for commercial use.



Other uses identified:

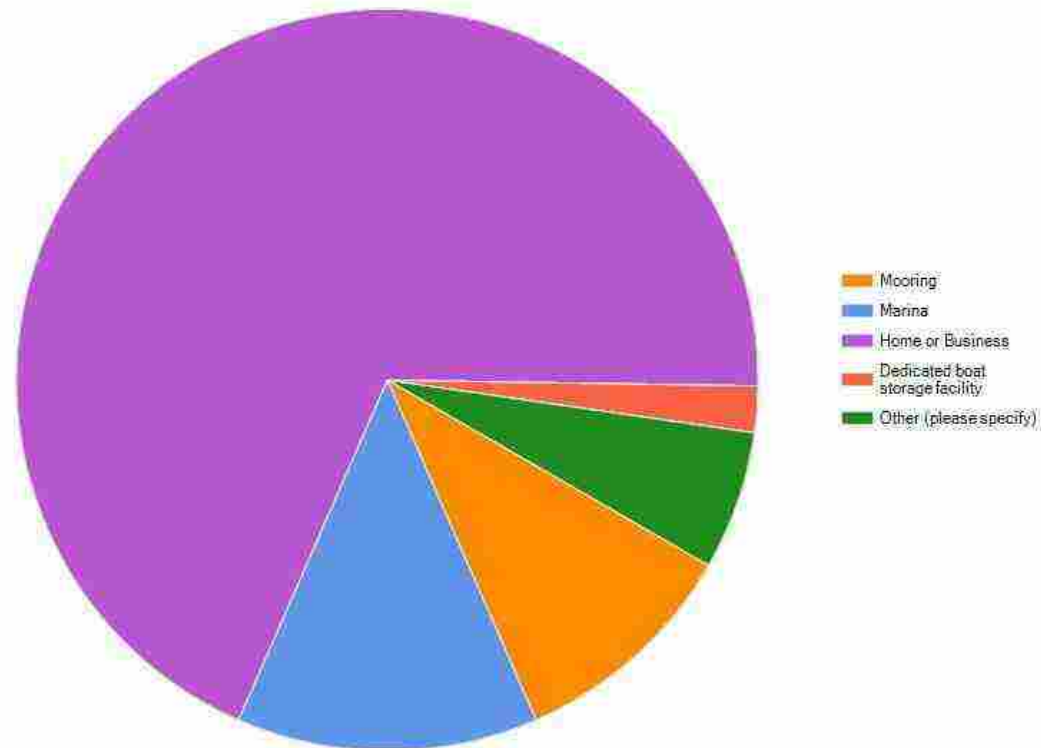
- Marine Rescue



Q6 Where do you store the boat you use most often?

The majority of survey respondents store their boat either at home or at their place of business. A modest number used a marina or a mooring to store their boat. Very few respondents used a dedicated storage facility.

Where do you store the boat you use most often:



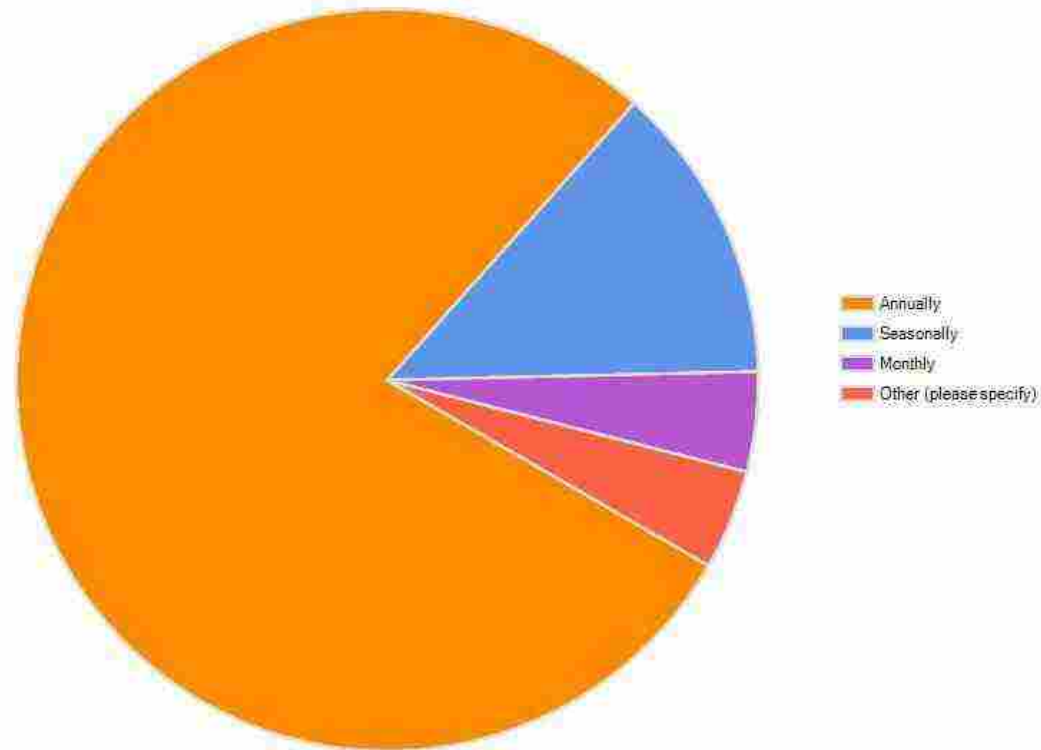
Other
• Shack



Q7 How long do you usually store your boat at this facility?

Most respondents stored their boats at the same facility year round, with a modest number using the facility for seasonal storage.

How long do you usually store your boat at this facility?



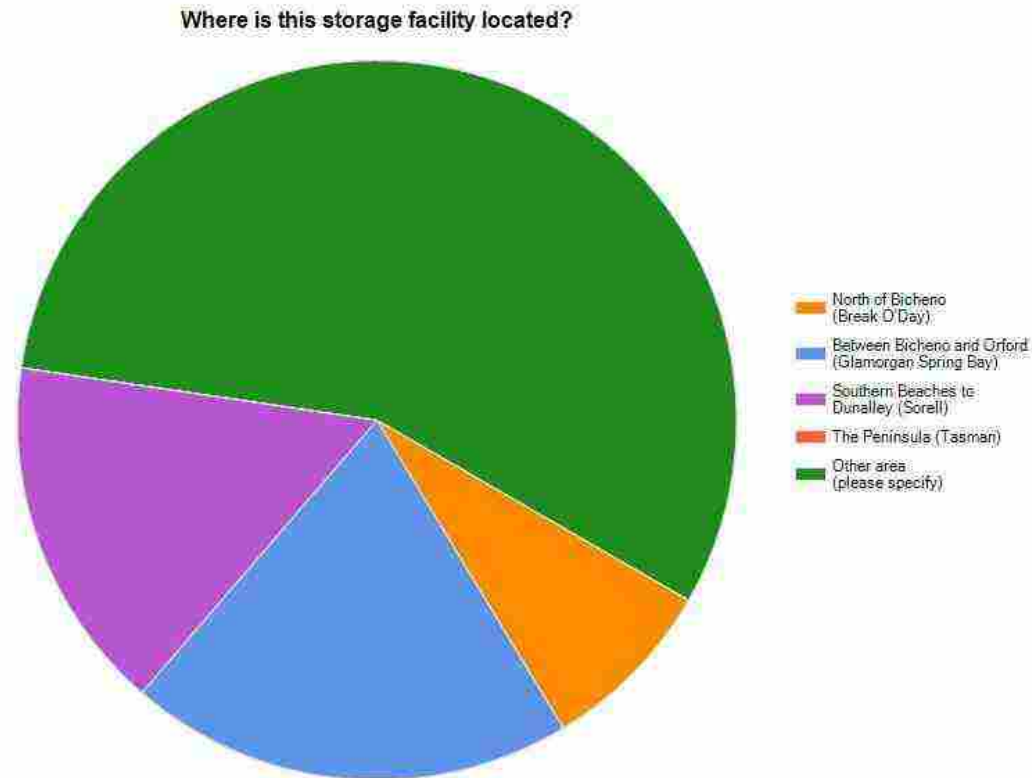
Other

• Permanently?



Q8 Where is this facility located?

Of the East coast facilities used for boat storage Glamorgan Spring Bay and Sorell were the most popular. A large percentage of respondents store their boats in locations outside the East Coast. The most popular locations were Hobart, Tamar region and Kettering.



Other

- Hobart (including the Royal Yacht Club); Kettering; and Tamar.

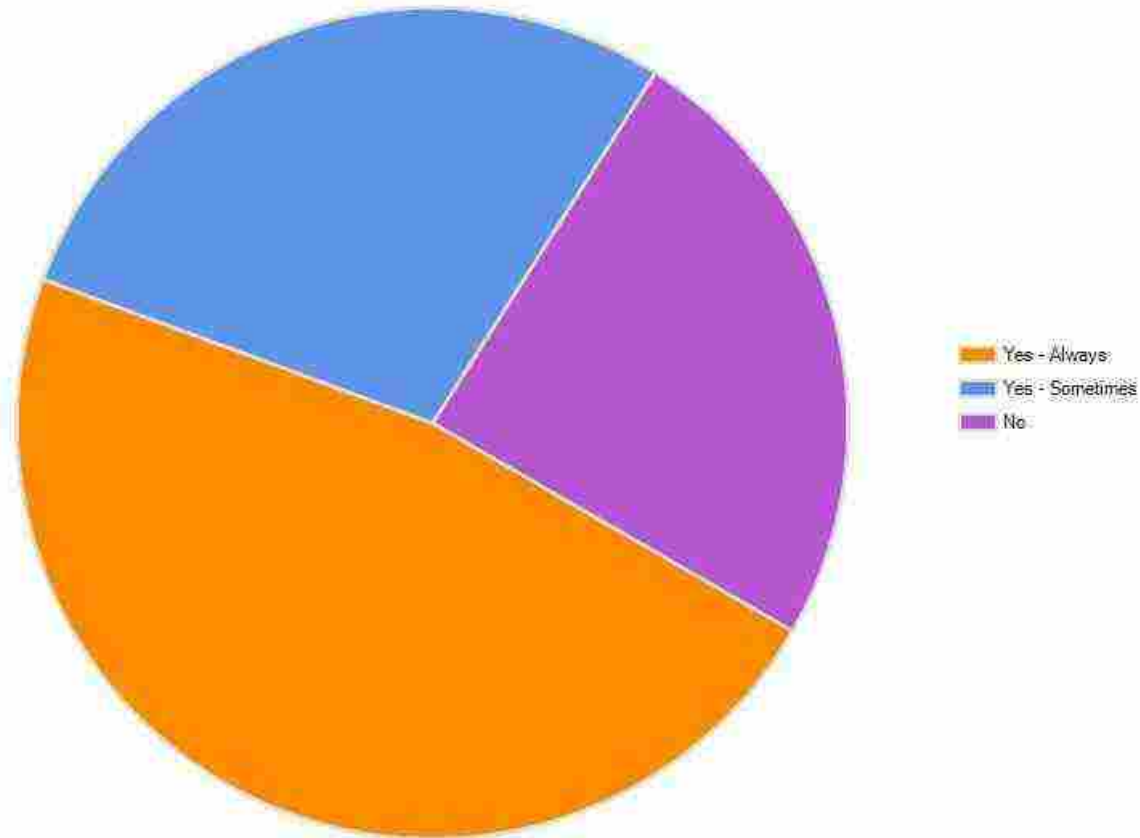


Q9 Do you have your boat commercially maintained?

Almost half the respondents always have their boats commercially maintained, the remaining respondents were split between sometimes having their boat commercially maintained and not having their boats commercially maintained.



Do you have your boat commercially maintained?

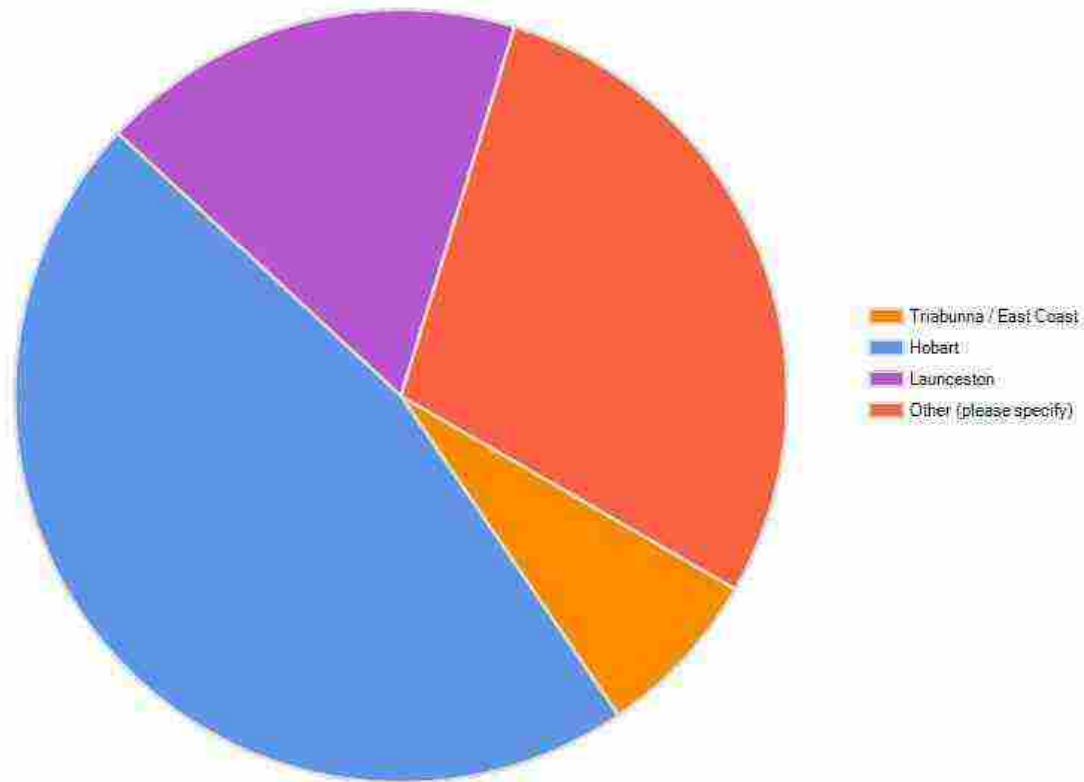


Q10 Where do you access these maintenance services?

Of the participants who have their boats commercially maintained (either always or sometimes) the largest percentage access these services in Hobart. Only a small percentage of respondents access these services on the East Coast.



Where do you access these maintenance services?



Other

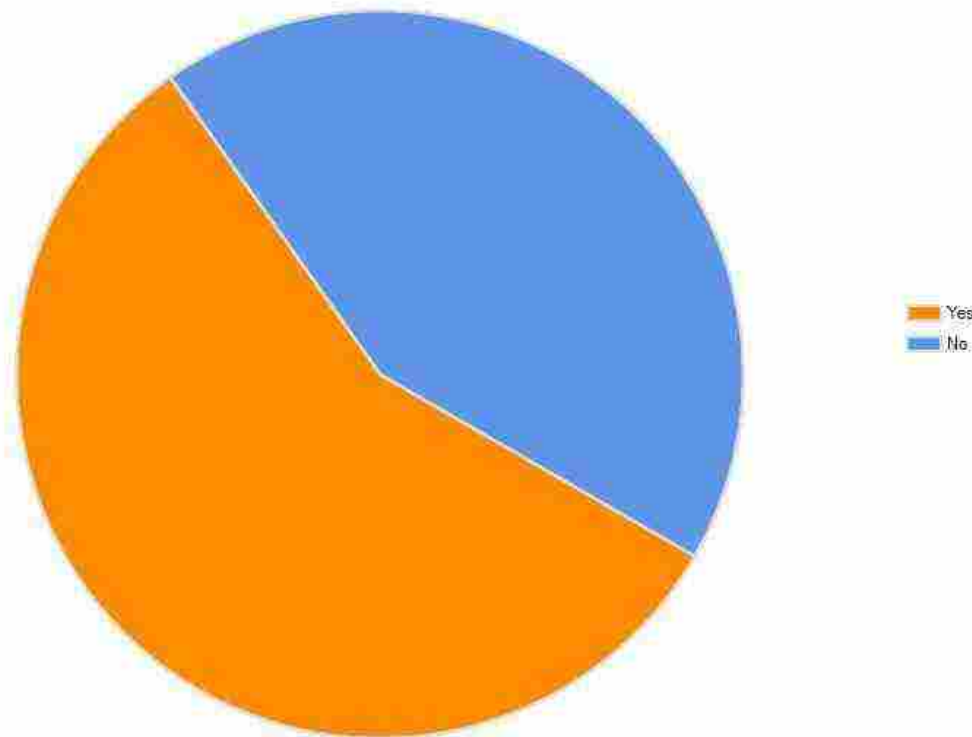
- Burnie; Huonville; and Mobile Services

Q11 Would you be interested in having your boat maintained on the East Coast if additional facilities were available?



Respondents expressed a slight preference to having their boats maintained on the East Coast if additional facilities were available.

Would you be interested in having your boat maintained on the East Coast if additional facilities were available?

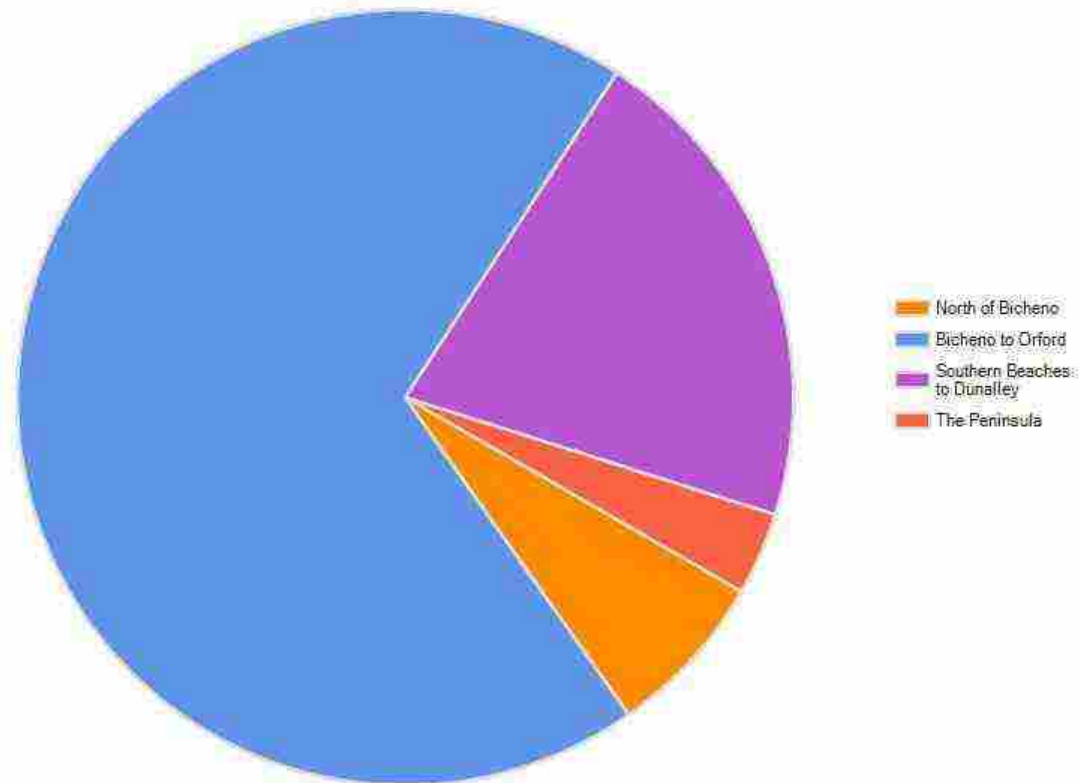


Q12 Where should this/these additional maintenance facilities be located?



Respondents expressed a strong preference for additional maintenance facilities to be located in the Bicheno to Orford area. The area from Southern Beaches to Dunalley also received a reasonable level of support for additional maintenance facilities. Little interest was expressed for additional facilities to be available north of Bicheno or in the Peninsula area.

Where should this/these additional maintenance facility be located?

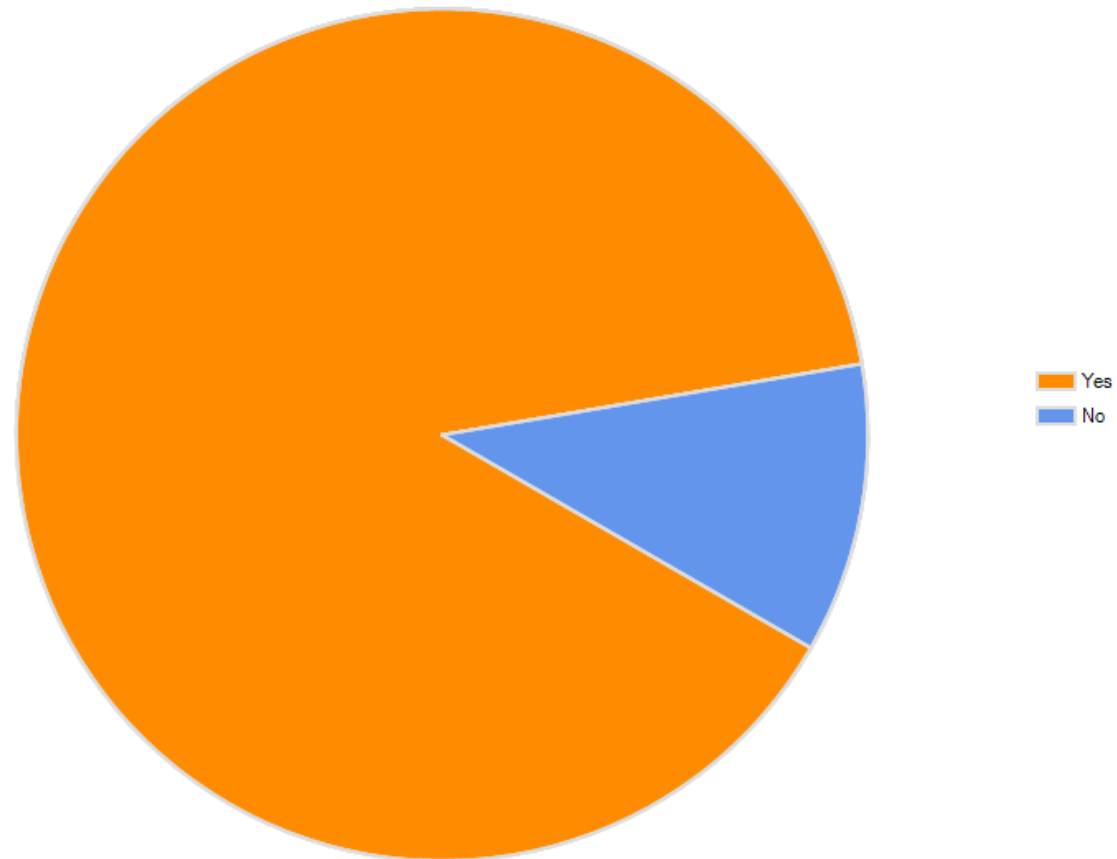




Q13 Do you access public marine facilities?

The majority of respondents access public marine facilities.

Do you access public marine facilities? (such as marinas or jetties)

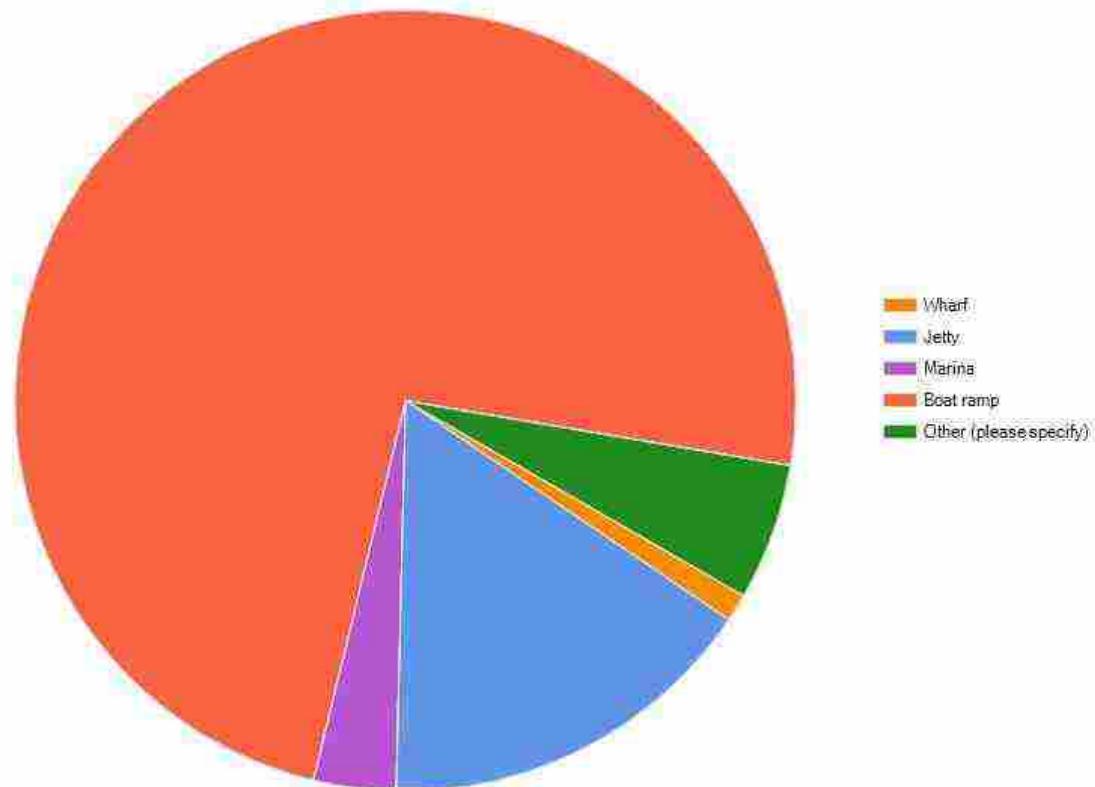




Q14 Which type of marine facilities do you usually use?

The majority of respondents utilise boat ramps. A smaller amount of respondents access jetties with very few respondents accessing wharves or marinas.

Which type of marine facilities do you usually use?



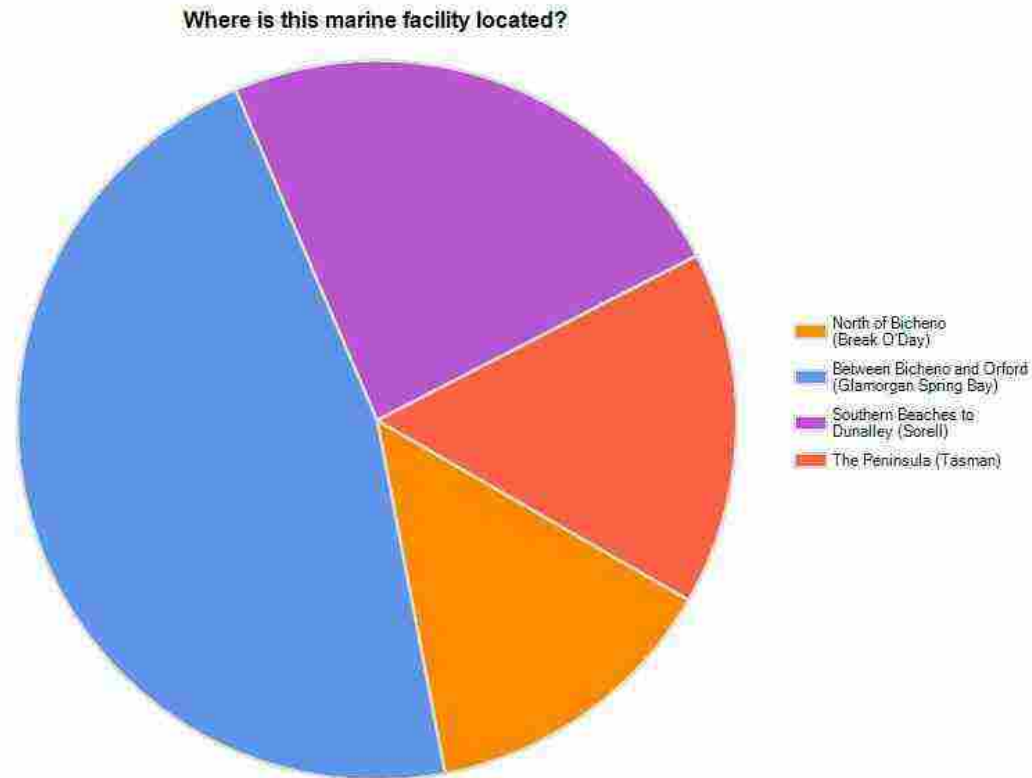
Other

- All of the above; Anchor; and Mooring.



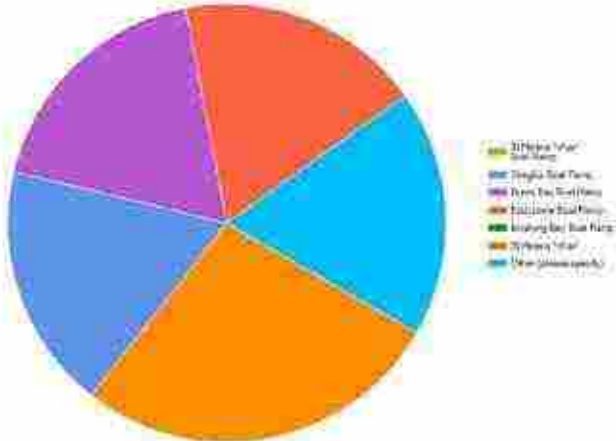
Q15 Where is this marine facility located?

The local government area of Glamorgan Spring Bay was clearly the most popular location of marine facilities. Sorell was the second most popular area, Tasman third and Break O'Day was fourth.



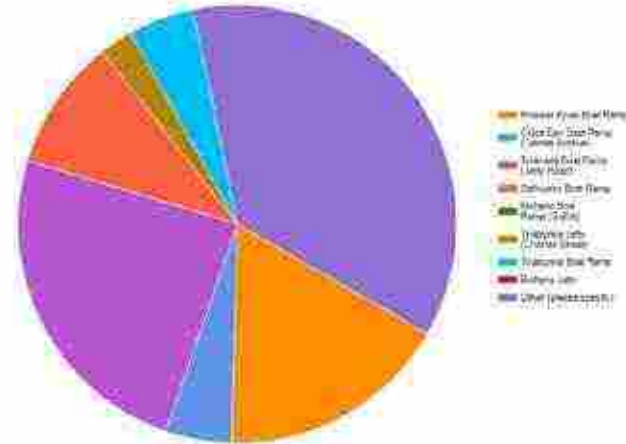
North of Bicheno

Please select the facility you use most often:



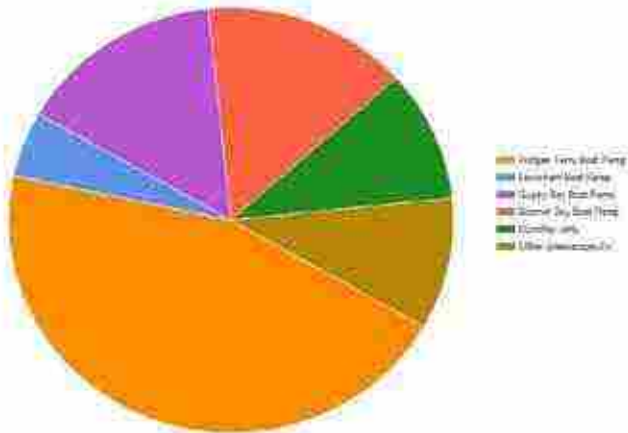
Between Bicheno and Orford

Please select the facility you use most often:



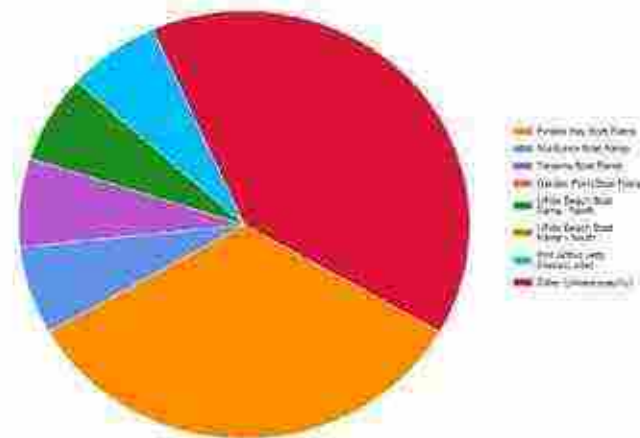
Southern Beaches to Dunalley

Please select the facility you use most often:



The Peninsula

Please select the facility you use most often:





Of those respondents who selected 'North of Bicheno' as the location of the marine facilities they usually use 27.3% of respondents used St Helen's Wharf Boast Ramp, 18.2% Stieglitz Boat Ramp, 18.2% Burns Bay Boat Ramp and 18.2% Eddystone Boat Ramp. 18.2 % of respondents specified other facilities used in the area, including:

- Ansons Bay Boat Ramp.

Of those respondents who selected 'Between Bicheno and Orford' as the location of the marine facilities they usually use, 24.4% of respondents used Swansea Boat Ramp (Jetty Road), 17.1% Prosser River Boat Ramp, 9.8% Saltworks Boat Ramp, 4.9% Coles Bay boat Ramp (Garnet Avenue), 4.9% Triabunna Boat Ramp and 2.4% Triabunna Jetty (Charles Street). 36.6 % of respondents specified other facilities used in the area, including:

- Swansea Jubilee Beach;
- Swanwick;
- Tree Point Triabunna; and
- Shelley Beach.

Of those respondents who selected 'Southern Beaches to Dunalley' as the location of the marine facilities they usually use, 45% of respondents used Dodges Ferry Boat Ramp, 15% Gypsy Bay Boat Ramp, 15% Boomer Bay Boat Ramp and 10% Dunalley Jetty. 10% of respondents specified other facilities used in the area, but these were not included in study area.

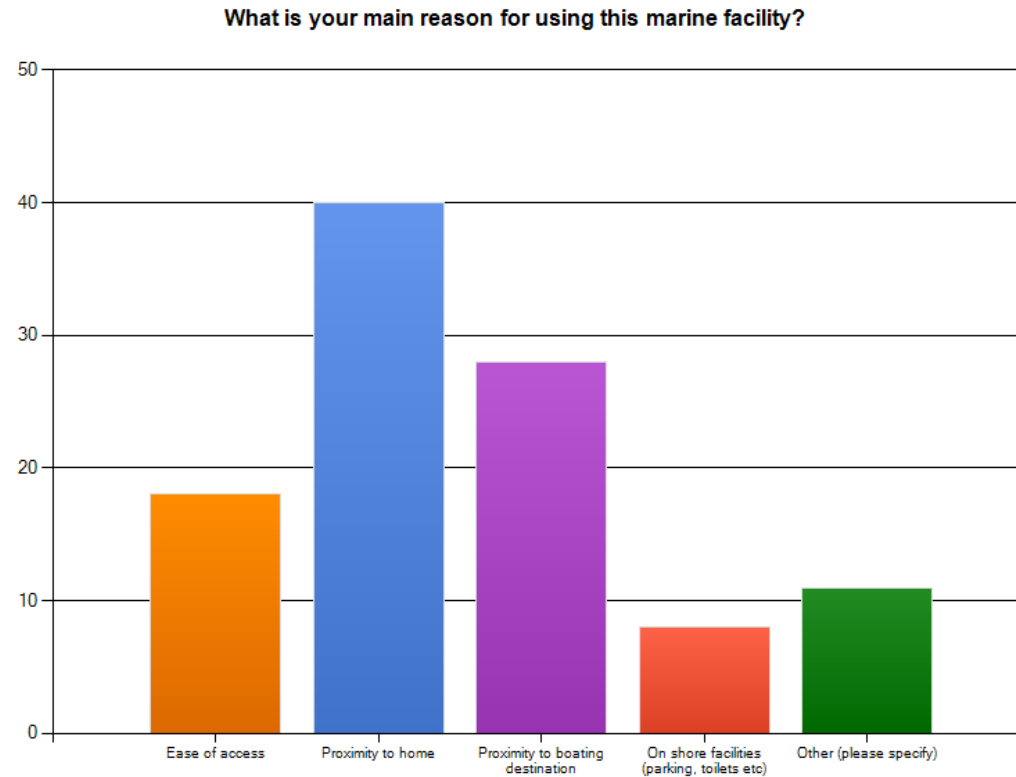
Of those respondents who selected 'The Peninsula' as the location of the marine facilities they usually use, 33.3% of respondents used Pirates Bay Boat Ramp, 6.7% Murdunna Boat Ramp, 6.7% Taranna Boat Ramp, 6.7% White Beach Boat Ramp-North and 6.7% Port Arthur Jetty (Historic Site). 10% of respondents specified other facilities used in the area, including:

- Port Arthur Caravan Park; and
- Nubeena.



Q16. What is your main reason for using this marine facility?

Most respondents cited proximity to home or boating destination as their main reason for choosing a particular facility. Ease of access was also cited as an important factor when choosing a particular marine facility.

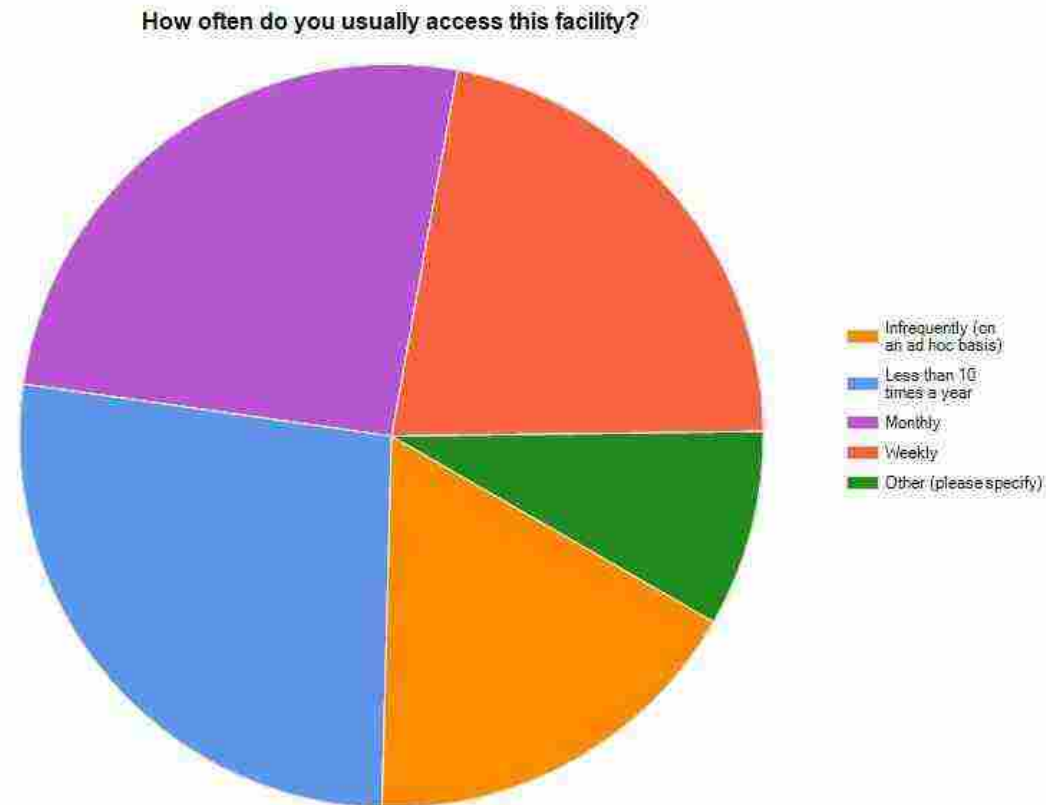


Other
· Safety



Q17. How often do you usually access this facility?

Monthly, weekly and less than 10 times per year all had reasonable representation.



Other

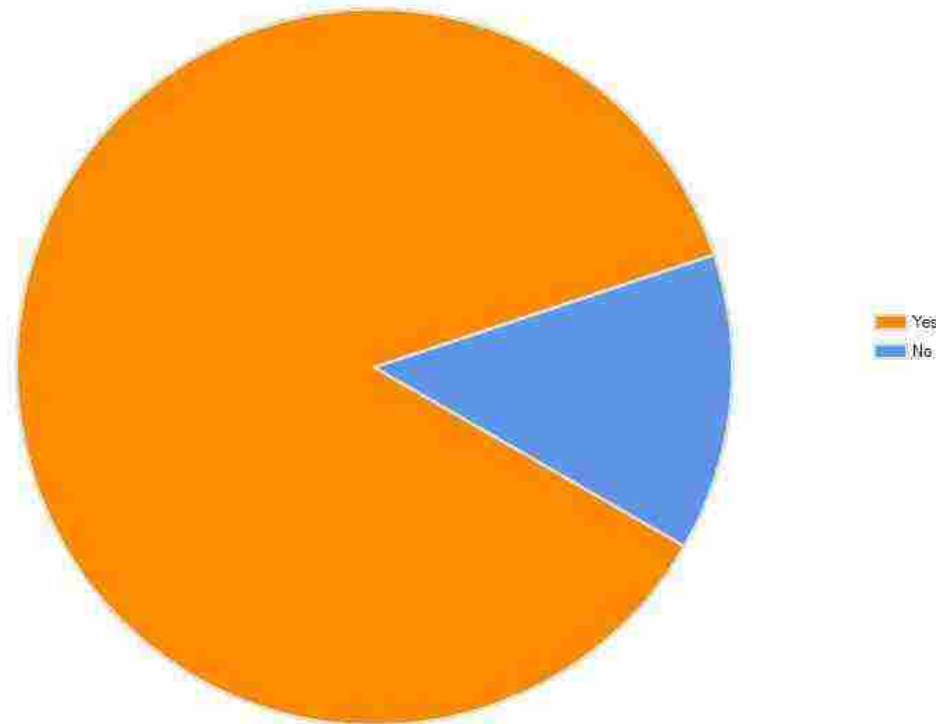
- Summer; and Holidays.



Q18. Do you see a need for additional marine facilities along the East Coast?

The vast majority of respondents supported additional facilities on the East Coast.

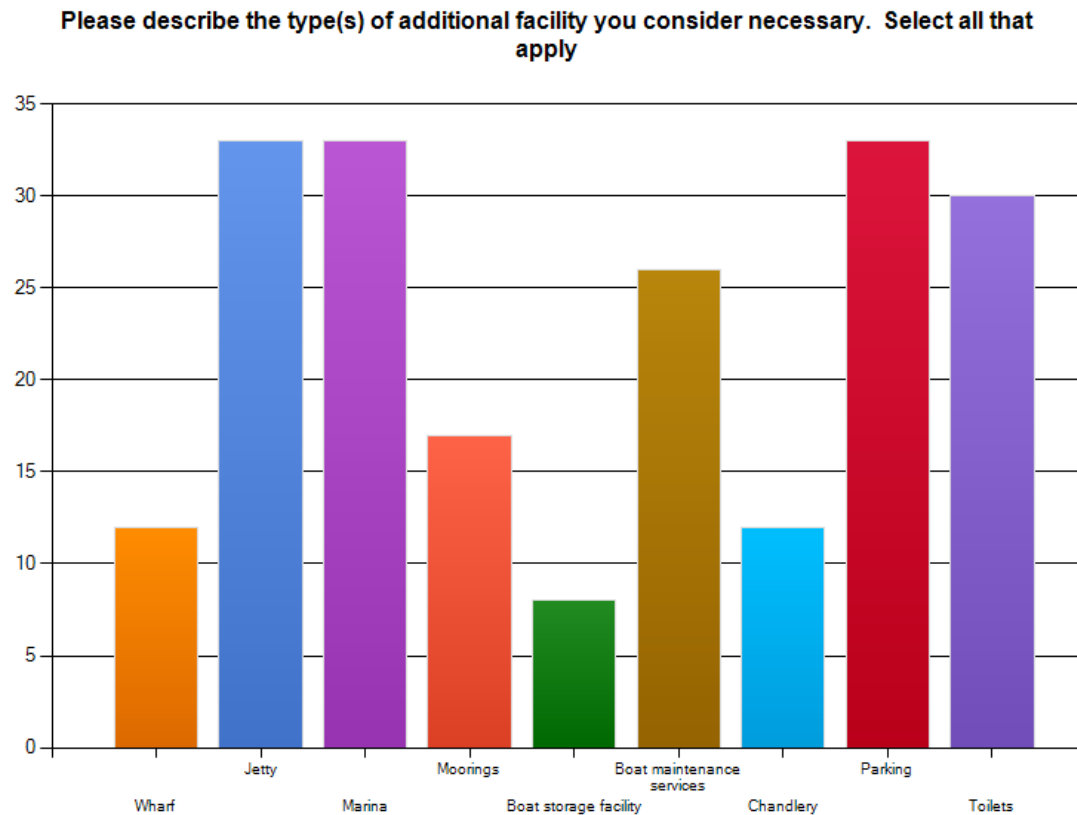
Do you see a need for additional marine facilities along the East Coast?





Q19. Please describe the type(s) of facilities you consider necessary.

Respondents indicated their strongest preference for additional jetties, marinas and parking, with the next level of support for additional toilets and boat maintenance services. Limited support was expressed for a boat storage facility.

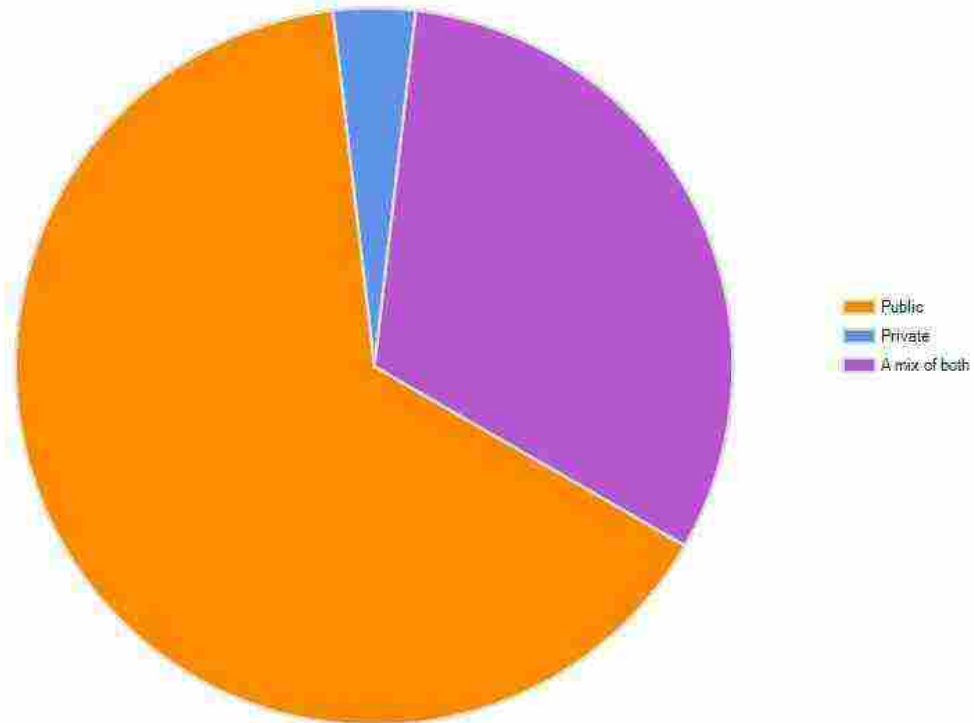




Q20. Should these facilities be public or privately owned?

Strongest support was received for public ownership. Moderate support was expressed for a mix of private and public ownership with limited support expressed for private ownership.

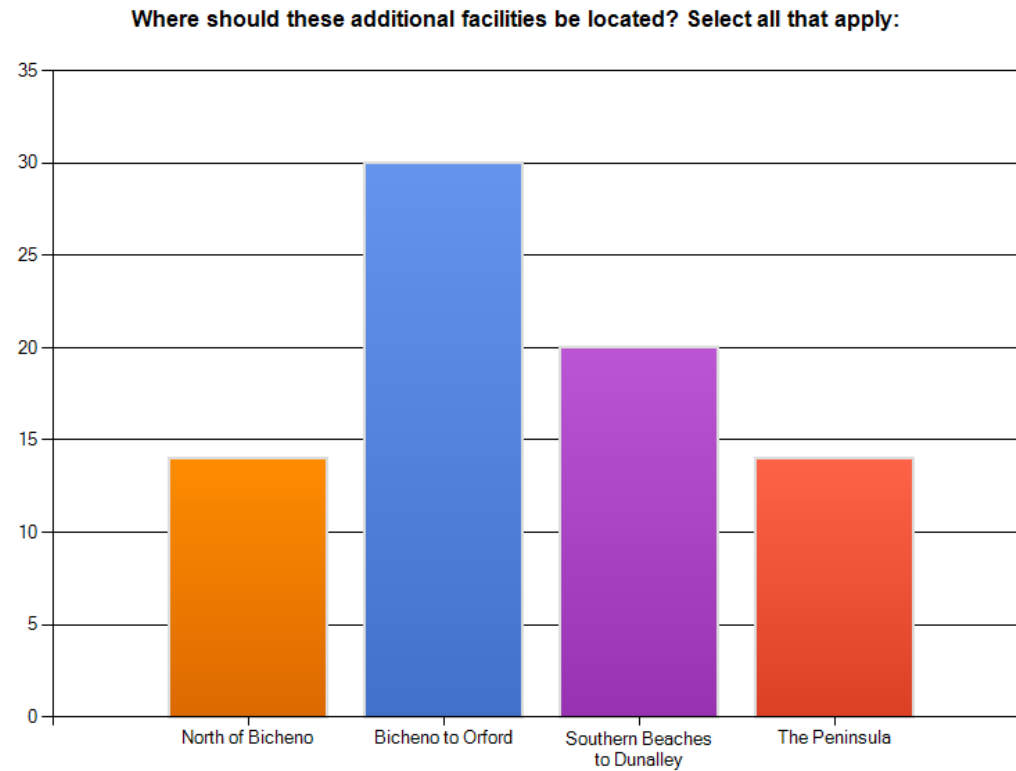
Should these facilities be public or privately owned?





Q21. Where should these additional facilities be located?

In order of priority respondents selected Bicheno to Orford as the highest priority, followed by Southern Beaches to Dunalley. The Peninsula and North of Bicheno were selected in equal third, with less than half the support expressed for the Bicheno to Orford area.

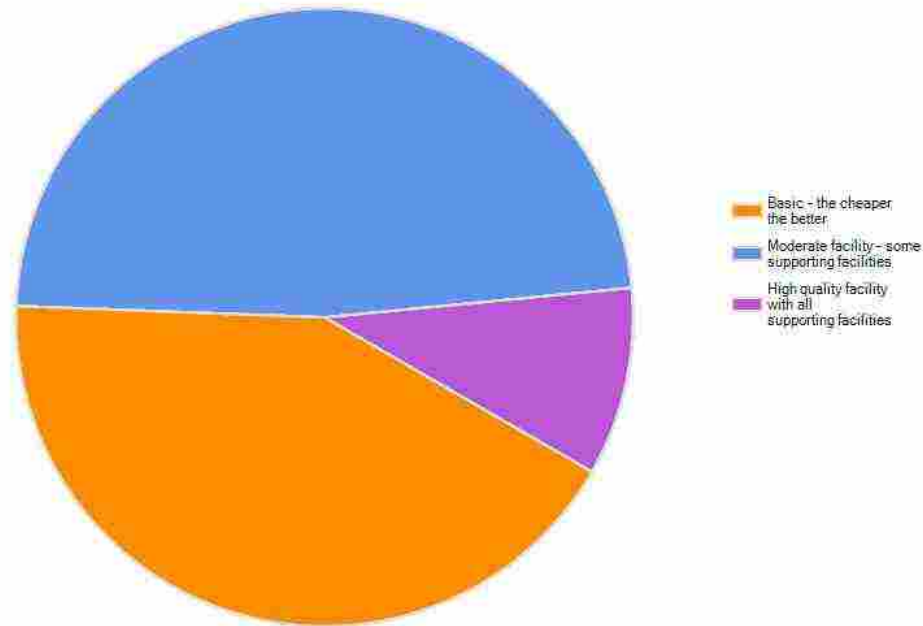




Q22. To berth a 40ft boat in a basic marina with limited supporting facilities currently costs around \$4000 a year, a marina with supporting services costs around \$7500 per annum. Please select a type of marina you would be interested in from the list below.

The highest level of support was for a moderate facility with some supporting facilities, respondents' second preference was for a basic facility with some support expressed for a high quality facility with all supporting facilities.

To berth a 40ft boat in a basic marina with limited supporting facilities currently costs around \$4000 per year, a marina with supporting services costs around \$7500 per annum. Please select a type of Marina you would be interested in from the list below.





Q27. Are you interested in being informed of progress on the East Coast Marine Infrastructure Strategy?

79.1% of survey respondents selected 'yes' and provided their email address.



Q28. Additional Comments

- Generally very high standard, maybe a bit of improvement on some of the more remote ramps such as Petal Point or Musselroe.
- An all tide launching facility is desperately required for Swansea.
- The boat ramp at Swansea needs urgent attention and improvements made.
- We need an all-weather launching facility at Swansea for 6 meter plus boats not only for recreational fishers but for safety reasons. Coles Bay, Bicheno & Saltworks is too far for all, especially emergency. A person would not survive in our waters for much more than an hour due to hyperthermia and it would take emergency services much longer than this for a rescue operation near Swansea. If the tide or weather was unsuitable to launch suitable vessel for a sea rescue.
- Swansea badly needs a deep water ramp and Gordon Street is ideal but for some reason MAST and Glamorgan Spring Bay Council won't pull their heads out of the sand and have open discussions about it. At any meeting that I have attended their minds are made up before they arrive. Slowly but surely boaters are moving away from Swansea but council is too blind to see this. I hope for the benefit of Swansea businesses that this changes in the near future.
- Orford River mouth needs some attention to ensure a permanent opening all year round in the same place.
- Prosser River requires a long term solution to improving the entrance for all boats. Continual repairs are costly and time consuming. An improved access to the river will create less stress on other sites like Triabunna when the Prosser River is at low tide.
- The Prosser River is the area of my interest, as I have a jetty there and regularly access the existing ramp and river, but as a member of the local Chamber of Commerce I believe that the Prosser River is the heart of our community. At present we have two first class eateries on the river with the prospect of more as the adjacent properties along the river to Gore St are zoned commercial. The development of this area is dependent on the barway being maintained in a permanent, safe navigable depth. Through my involvement with maintaining the channel markers, assisting both visiting and local boaters with safe passage, I can confidently say that the river mouth/barway crossing is of paramount importance to further development. The amount of river traffic utilising the existing facilities is huge over the holiday periods and this has the added benefit of relieving pressure on the only other safe ramp at Triabunna. When the barway at Orford becomes unreliable boaters from the Orford area head to Triabunna which has led to some angst with commercial boaters because of overcrowding. I have said for some time I believe that a study into retaining walls or some type of groins to give a permanency to the position of the river mouth is needed. I'm also aware that there is already an existing view that groins don't work however I believe the time is right to revisit the issue. I do concede that groins may not stop silting of the barway opening and still require maintenance but will provide a



permanent position that will eliminate the need for endless planning approvals and conflict with conservation groups every time the river mouth moves on its continued drift north. For all the considerations given to these groups concerns in relation to previous works on the barway they were of little consequence as four weeks after the works a massive easterly swell completely covered the area taking vegetation and nesting birds out to sea.

- I am currently on the waiting list of a possible new marina at Triabunna. This is where additional facilities should be constructed.
- As well as boat facilities a low cost camping & caravan facility publicly owned should be accessible, as most of the private facilities are too expensive for tourism & boating.
- Further development required in the southern beaches area - strong growth occurring.
- There could be more ramps around the western side of Dunalley as the ramp at the wharf is too steep and subject to the fast tidal waters in the channel.
- Interested in increased public mooring facilities East Coast.
- There is a desperate need for at least one jetty at Dodges Ferry to be extended to deep water, to enable larger craft to tie up and be reprovisioned with fuel & water. A public potable water supply on or adjacent, pay? or public toilets/showers with a blackwater dump point: ramp or steps from N end of Dodges boat ramp to beach, to allow launch of smaller craft, kayaks etc off the beach, not the powerboat ramp: extend both dodges ramp jetty and Lewisham jetties to deep water, with attached floating pontoons for temporary tie-up while retrieving vehicle/trailer: Hammerhead at Lewisham could be extended to deepwater with pontoon at the DW end.
- In oyster growing areas, adequate toilet facilities MUST be provided where there is marine access to help minimise food safety issues associated with faecal contamination of oyster growing areas.
- Need to extend the study to other parts of the State.
- Toilet facilities are sparse everywhere. They should be considered along with all applications for improvements to boat ramps etc.
- There are no provisions for cruising yachts down the East Coast despite this being a very popular area. There needs to be a safe marina where yachts can shelter in bad weather. There are no facilities for garbage disposal, diesel supply and groceries, except for Triabunna and this is difficult as the Wharf is primarily for the fishing fleet. The Coles bay, Schouten Island area has great potential as a cruising destination but safe facilities need to be provided to avoid costly and potentially life threatening groundings of craft such as have occurred recently.



- The facilities at Swansea need to be improved for ease of access for the number of boats. Gordon St Ramp should be upgraded because of deeper water. This could be achieved with the installation of a small break wall to protect against the following sea.
- We had to vote in the last Federal election and Triabunna was our nearest place to vote. We sailed into Triabunna needing to tie up for 2 hours. The reception we received was next to disgusting both in attitude and language from locals. We moored outside and used our dinghy to reach shore, even with a small dinghy there was nowhere secure to leave it while we went to vote. Not impressed and we will not be back.
- I find the infrastructure facilities sufficient at this point in time.
- There is no deep water jetty apart from Lewisham in the whole of Fredrick Henry Bay. A deep water jetty needs to be established off the spit out from Dodges Ferry Boat ramp. This will assist services like Marine Rescue, Police and the greater boating public
- A marina at Coles Bay is essential to providing a modern commercial facility. There is significant potential and the lack of such a facility impacts significantly on both the growth and potential of the region.
- Triabunna is a good little town to visit and replenish supplies for cruising boats but the marine facilities at Triabunna are not good for visiting boats. There is virtually no room to tie up at the town wharf and it is difficult to manoeuvre once in there. It would be good to improve the situation for visiting cruising boats if possible. This may mean further dredging to allow for a mooring basin closer to the town or a visitors wharf that is easier to access. 2. Public moorings - I would not like to see public moorings placed in pristine locations even if such locations are popular anchorages. So please do not put public moorings into such places as Wineglass Bay, Schouten Passage, Maria Island or Norfolk Bay. If we are to have public moorings I would prefer that they be located in areas that are related to facilities on shore or are already crowded with private moorings. For example, Triabunna and East Shelley Beach, Dunalley. Other locations if necessary could be Coles Bay, Bicheno and Swansea.
- Please just have a look at the Swan River and the bar way at Dolphin Sands/Swannick. There are a lot of tourists visiting the area and enjoying the water. I have rescued around 6 boats from the bar way in the last 12 months.
- I would like to see more upgrades (Jubilee is shallow) & a bit more parking if possible. Use this facility 6-8 times per year as it is close to where we stay and is safe for the children also. Relatively close to Coles Bay for a day trip and fishing further down. Would love to see a good ramp and jetty at West Shelley beach (closer to Maria Island) more so for family trips even though



Prosser river ramp is ok (bit further from Maria & a bit tricky with low tides - family feel unsure at times) and the parking can sometimes be a problem.

- Speed limit markers where appropriate.
- The majority of private moorings are unused at any time, e.g. Louisville, Dennes Point, preventing visiting boats gaining reasonable access.
- The boat ramp at Swansea is unsafe due to shifting sand and lack of depth of water at lower tides, do we have to wait until someone gets seriously hurt to have something done.
- You should have had a question which facilities yachties use - e.g. Coles Bay, Triabunna, St Helens and associated issues. The east coast is a great cruising ground, public facilities need to be developed. Will have many more yachts on the coast particularly from interstate. I am sure we could generate developer's interest in these facilities. No doubt the cost of them would be of significance for the government under their projects of significance. Maybe you should also be doing workshops/focus groups with the various yacht clubs (if not already). Even though we are competitive, we also do deliveries for yacht races and quite often have to plough through bad weather due to not being able to seek proper shelter. We also like to cruise.
- A dual lane ramp at Stieglitz is necessary. Also, dig out the access channel. This ramp is becoming busier & would be well utilized. Often there are 40 plus trailers here and users' fish, ski etc from here. A ramp on western side of the new landing stage would provide all weather access. In northerly & easterly conditions this ramp becomes quite hazardous to users.
- Need two way access to and from Prosser River boat ramp and more signage regarding ramp etiquette.
- The availability of fuel anywhere on the East Coast is a major concern for me.
- I have submitted to Mast in the past for upgrade of one tree point ramp with no success. It would take some load off Triabunna town ramps, saves boat fuel, and there is adequate parking. The ramp is too shallow (vehicle has to be backed into the water), and there is no dry access to board the boat.
- The lack of parking and toilets at Boomer Bay boat ramp. The lack of toilets at Port Arthur boat ramp.
- Sea access boat ramp between Scamander and Falmouth is long overdue as all residents and tourist have to travel to either St Helens or Bicheno to launch their boat. It's really a disgrace given that this area is a very popular area for tourist as well as full time residents. Please do something about this matter to finally enrich the lives of many hundreds of residents and promote the area with all anglers. Thank you.



- The Gordon St boat ramp at Swansea was not included in the Q11 list. As tourism is one of the major economic drivers on the East Coast full marina/jetty facilities is becoming an imperative for the future growth of this industry. An example of the regional benefits of such projects is the Busselton Jetty in WA.
- The highest need on my list is upgraded parking at the Boomer Bay Boat Ramp. As a local who uses this facility weekly and in Summer times Daily, This is a high priority. There is a high number of people coming from other areas to gain access to the great fishing spots out of Marion Bay. This is great however it creates tension at the boat ramp when there is no parking available from about 6am onwards and the users are having to park out on Bay Road. We have a 7mtr Tri Cat which takes a bit of space with the large trailer, we arrive at the boat ramp on peak days at 5am to ensure we are able to park safely. Our Cruiser and Large Trailer are unsafe to park on the side of the road so we utilise the parking to the Left as you first enter the site. Park out under the trees and as far back as we can, to allow others ample parking spots. Unfortunately this logic does not occur to some other users and these places can be taken by irregular parking and arrogant parking. On days when hubby takes the boat out and I go down later for a look this parking areas are a shambles. I would like to see someone who is going to make decisions about this space to come and take a look on beautiful boating weekends, Long Weekends, Easter and Christmas as this is when it is a disaster. A suggestion may be to reclaim the shallow land off the Right of the existing upgraded boat ramp (which is great Thank you MAST, all we need to do now is teach the buggers to back into one lane, and pack their boat before they enter the ramp itself) Without asking for too much a public toilet would be great. I am sick of asking my kids to turn away whilst other users jump of their boats and pee anywhere they like! The locals that live there must be livid. Their bushes would stink. They must also be sick of people parking on their lawns. Thanks for taking the time to read all this and to do this survey.
- Upgrade of One Tree Point ramp is desirable.
- There is a need for a marina facility in the northern part of Great Oyster for shelter and refuelling. Schouten Passage is twice the distance from Triabunna as Swansea. Swansea also serves a significant number of trailer boats from the North and North-West of the State. A marine in Swansea would serve both keelboats and trailer boats if a new all tide launching ramp was included in the marina design.
- There needs to be more parking at boat ramps.
- Very pleased with the new jetty at Stieglitz Beach, however, Georges Bay can get very choppy very quickly. There needs to be rubber (or similar) protection around the piers, as I have seen boats damaged while owners get trailers.
- Highest priority is attention to the Prosser river barway.



- The rates and Crown licence fees extracted from jetty owners in the Prosser is an unknown but probably huge figure (Mine alone approx. \$1500 p/a) Some of this must be used to keep the mouth open all year--or values of jetties will fall and revenue with it--it is a protected river providing ideal mooring and jetty locations but will be useless unless mouth is kept open.
- Gordon St Swansea ramp to launch at low tide unable to use esplanade ramp with boats greater than 4.5 metres.
- The recent work upgrading ramps & jetties is excellent and has led to increased demand. This has led to a massive shortfall of parking for trailer boats. This may not be a MAST "problem" as such it is a government issue as it causes problems for boaters, tourists and local residents (all whom provide \$'s to feed State coffers).
- Definitely need marina facility at Coles Bay, better parking at Coles Bay and Swanwick??. Channel training wall at mouth of Swan River and mooring/marina facilities at Swanwick?? would take the pressure off Coles Bay Jetty.
- Boat ramp at Blizzards Landing needs some urgent attention .Can only be used at high water.
- Poor facilities.
- As an individual I am very concerned with an existing boat access across White Beach which is a danger to beach users. I have written to Council with no success and have now written to Minister Wightman outlining my concerns.
- The launching ramps at the Prosser River and Triabunna are both excellent ramps.
- Existing infrastructure at Coles Bay provides excellent access to the surrounding attractions provided there is less than 10kts of wind from E or NE. Any more than that and the jetty is unusable for our yacht. There are strategically placed rocks that make getting off the jetty problematic and those winds combined with surge around the end of the break wall grind the boat to death! We had 10 fenders out one day and still couldn't keep the boat off the jetty.
- Access from Prosser River is problematic, should be dredged regularly given the number of users.
- Gypsy Bay boat ramp requires more upgrading - it is becoming more and more popular. A breakwater would make a massive difference (it to stop wind) when launching and retrieving.
- A marine precinct located in the southern beaches area would allow the boating public and those currently housed in the Derwent River a safe anchorage and staging on the way to the east coast. Access to the very underutilised Frederick Henry and Norfolk bays, both of which provide very safe boating. The proximity to Hobart by road would allow boats to lay up overnight, or be stored on a permanent basis, as well as providing business opportunities, wealth creation and employment within the communities. It also would reduce the road traffic of vehicles towing larger vessel to already overcrowded boat ramps. It can only be a plus for the boating public and should be given serious consideration.



GHD

2 Salamanca Square Hobart 7000
GPO Box 667 Hobart 7001
T: 03 6210 0600 F: 03 6210 0601 E: hbamail@ghd.com

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Appendix D

Climate Change Assessment



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Marine and Safety Tasmania

Report for Coastal Vulnerability
and Climate Change
Considerations for Maritime
Infrastructure
East Coast Region

May 2012



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1. Climate Change Considerations for Maritime Infrastructure

Climate change impacts that should be considered when undertaking an assessment on the vulnerability of the impacts to maritime infrastructure include sea level rise, tidal and storm surge inundation, the direct impact on structures from wind and wave climates, storm erosion and shoreline recession of unconsolidated shorelines, cliff instability, sand drift and stormwater and natural runoff flow paths near maritime infrastructure.

The climate change interaction matrices contained in the NCCOE (2004) offer a framework for consideration of climate change impacts when planning any coastal infrastructure. An example matrix is shown in Table 1 and discussion on climate change considerations affecting maritime infrastructure follows.

Table 1 Potential climate change interaction matrix (adapted from NCCOE, 2004)

<i>For a change in the Key Variable 'K'; the likely effect on the Secondary Variable 'S' is described in the matrix</i>	Mean Sea Level K1	Ocean Currents & Temperature K2	Wind Climate K3	Wave Climate K4	Rainfall & Runoff K5	Air Temperature K6
Local Sea Level S1	Major effect in estuaries and tidal rivers Greater risk of storm surge inundation	Possible minor changes in seasonal variability of water level	Possible minor changes in seasonal variability of water level	Wave setup on exposed beaches could increase	Possible flood interaction	Minor effect
Local Winds S3	No effect	Minor effect	Major direct effect	No effect	No effect	Minor sea breeze effects
Local Waves S4	Major effect in shallow water regions	Minor effect in deepwater environments	Direct effect on locally generated waves	Major direct effect	Possible wave blocking during floods	No effect
Effects on Structures S5	Major direct effect	Minor effect	Major direct effect	Major direct effect	Major effect depending on situation	No effect
Coastal Flooding S7	Major direct effect on exposure, drainage, runoff	No effect	Major direct effect via intensity and frequency of severe storms	Direct effect via wave setup at exposed sites	Direct effect via changes in rainfall intensity and frequency	No effect
Beach Response S8	Major effect on recession with sea level rise or beach realignment	Minor effect	Possible changes to aeolian transport processes	Effects of wave directional energy changes	Possible effects of estuary discharges	Possible vegetation changes; sea breeze effects
Foreshore Stability S9	Changes to wave penetration possible	Minor effect	Dune shape and vegetation	Direct effects on scarp erosion, runup and overtopping	Elevated phreatic levels; pore pressure changes; vegetation	Vegetation changes; weathering



<i>For a change in the Key Variable 'K'; the likely effect on the Secondary Variable 'S' is described in the matrix</i>						
	Mean Sea Level K1	Ocean Currents & Temperature K2	Wind Climate K3	Wave Climate K4	Rainfall & Runoff K5	Air Temperature K6
Sediment Transport S10	Reduction in motive energy; breaker depth; wave refraction changes	May affect long term sediment supply	Longshore wind generated currents Effect on dune mobility and direction	Wave directional energy changes; magnitude and duration of storms	May affect sources/sinks of littoral drift	Seabreeze effects; vegetation

1.1 Sea Level Rise and Inundation

Global sea level rise values from IPCC (2007) are applicable to Tasmania and have been defined in NCCOE (2004) for Australian engineering purposes as stated in the table below:

Table 2 Sea Level Rise for Engineering Purposes

Sea Level Scenario	2050	2100
Adopted "Mid" scenario	0.2 m	0.5 m
Adopted "High" scenario	0.3 m	0.9 m

Sea level rise by itself will increase tidal and storm surge inundation by the same magnitude. This will be experienced as the frequency of high water events above a particular level will likely increase. The figure below adopted from Sharples (2010) first pass assessment of coastal vulnerability to sea level rise and climate change shows the 0.01% exceedance probability storm surge level (approximately 2 year average recurrence interval) for 2004 derived from analysis of Tasmanian tide gauge records. An appropriate value for sea level rise considering the design life of the structure should be added to those values for any proposed redevelopment or new construction.

For example, when determining the design still water level for any proposed maritime infrastructure with a design life of 40 years at Spring Bay. Adopting a high scenario, a sea level rise value of 0.3m should be considered above the highest astronomical tide, then allow for 0.9m storm surge (from Figure 1) (if design event to withstand is a 2 year ARI event) not including increased design floor level to account for wave setup, runoff and overtopping.

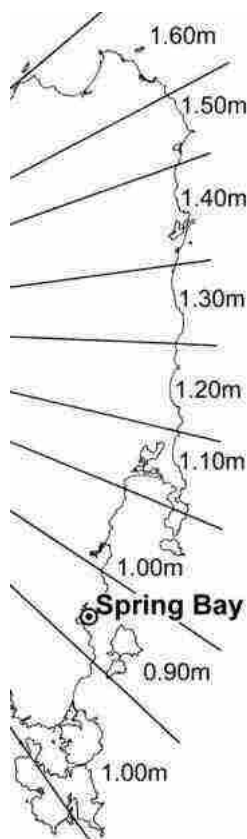


Figure 1 Predicted approximate 2 year return period storm surge heights above predicted tide for East Coast of Tasmania for 2004

1.2 Wind and Wave Climate and Storm Intensity

The climate change impact on wind and wave climate studied by CSIRO (McInnes et al 2007) has shown that different climate models for the NSW south coast has produced opposing results for wind and wave climate changes. For design purposes, GHD recommends a nominal 10% increase in storm wind strengths and wave heights for 2100 compared to presently expected design values.

IPCC (2007) projects that storm intensities may increase and this may further increase storm surge inundation levels, design waves at the structure and wave effects including runup and overtopping. If storm winds increase then structure overtopping by wind waves may increase to a degree also. For maritime infrastructure in protected locations this effect may be negligible.

1.3 Storm Erosion and Shoreline Recession

Unconsolidated shorelines such as sandy beaches and dunes, muddy and colluvial estuaries, and eroding sea cliffs are susceptible to storm erosion and long term shoreline recession (a slowly receding shoreline). Shoreline recession may only be noticeable in between storm erosion events where the recovery of the shoreline is limited and does not fully recover to the previous position before further storm erosion events.



Storm erosion volumes on unconsolidated shorelines may be expected to be larger in the future as the shoreline profile adjusts to higher sea levels. If wind and wave climates increase in magnitude then storm erosion volumes can expect to increase also.

Long term shoreline recession of unconsolidated shorelines is almost certain to increase as sea levels rise assuming the dominant wind and wave directions remain similar to current conditions. A change in dominant wind or wave directions may cause an even greater rate of recession or in some cases even accretion as the shoreline alignment adjusts to the new direction.

A detailed site assessment should be made when planning any maritime infrastructure to be located on unconsolidated or erodible shorelines incorporating historical data and appropriate coastal processes modelling for projected climate change conditions.

1.4 Stormwater Outlets and Natural Surface Runoff Flow

Maritime infrastructure should be located a sufficient distance away from stormwater outlets and natural surface runoff flow paths due to the capacity for landward and foundation erosion of structures. If this is not possible, mitigating measures should be installed to direct flow away from foundations of structures.

Extreme rainfall events have the greatest potential for such erosion and the projected increase in the frequency and intensity of such events places greater importance on this design consideration for maritime infrastructure (White et al 2010).

2. Potential Climate Change Risk for Maritime Infrastructure

Section 1 discussed the coastal processes that are likely to be affected by climate change that should be considered when planning maritime infrastructure and general planning considerations. This section gives an example of the physical risks to typical maritime infrastructure arising from those coastal processes through the matrix presented in Table 3.

Table 3 Potential climate change risk for maritime infrastructure in protected locations

Infrastructure type	Nominal design life	Physical Risk to Maritime Infrastructure ¹			
		Tidal and storm surge inundation	Wave runup and overtopping	Shoreline recession (if structures located on erosion potential land)	Stormwater outlet and natural runoff flow
Wharves	50-100 years	Typically low risk dependant on deck level. Impact on vessel and human safety	Moderate to high risk dependant on deck level. Impact on vessel and human safety	Low to moderate. Potential to be increased if non protected shoreline adjacent to structure	Typically low but potentially high risk of backfill or foundation scour if outlets inappropriately located or aligned
Piers and Jetties	10-50 years	Typically low risk dependant on deck level static structures and pile height for floating deck structures.	Moderate to high risk dependant on deck level. Impact on vessel and human safety	Extension to shore connection of structure may be required	Typically low but potentially moderate risk of near shore foundation scour if outlets inappropriately located or aligned
Seawalls, revetments	5-50 years	Low to moderate risk dependant on crest level. Greater failure potential	Moderate to high risk dependant on crest level. Impact on pedestrian and vehicle safety. Greater failure potential during overtopping	Typically low risk as design purpose is to mitigate recession. Potential to be increased if shoreline adjacent to structure is at risk.	Low to moderate risk of backfill or foundation scour if outlets inappropriately located or aligned
Boat Ramps	25-50 years	Typically low risk dependant elevation of top of ramp	Typically low risk dependant elevation of top of ramp	Low to moderate. Potential to be increased if non protected shoreline adjacent to structure	Low to moderate risk of backfill or foundation scour if outlets inappropriately located or aligned
Boat Sheds	5-50 years	Potential high risk dependant on floor level	Potential high risk dependant on floor level	Potential high risk of undermining of sheds	Typically low but potentially high risk of backfill or foundation scour if outlets inappropriately located or aligned

¹ Risk levels are indicative only and do not replace the need for detailed site assessments to accurately define the level of risk at any particular site.



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GHD

2 Salamanca Square Hobart 7000
GPO Box 667 Hobart 7001
T: 03 6210 0600 F: 03 6210 0601 E: hbamail@ghd.com

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Appendix E

Technical Notes from GHD Maritime Engineer

Tasmania

East coast marina assessment

Preliminary Comments

Peter Hopkins of MAST kindly showed Alice Johnson and Ray Tyshing of GHD the various sites on 6th February as follows:

- The Prosser River at Orford
- Coles Bay - wharf and boat ramps
- Triabunna - Deepwater Jetty, Parkers Jetty, Informal Caravan Park area, Seaport Development site and Louiseville Site
- Swansea - main boat ramp and Gordon St ramp

The following briefly discusses some engineering and other aspects of each site as information for the workshop on 8 February 2012.

Indicative engineering cost estimates are provided - these are only to provide guidance for the discussion and are based on limited site information, and frequently with many assumptions eg required dimensions and geotechnical information. As such the cost estimates are not to be used for any other purpose.

1. Prosser River, Orford

Assumed development scenario

- A marina for nominally 100 berths is to be created in the river away from the river mouth.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

Pros

- Ample room in the river for a marina
- Water depths assumed to be satisfactory in the marina vicinity
- Siltation in the marina assumed to be very minor

Cons

- Existing jetties in the river may need to be acquired
- There are large shoals at the river mouth that will need to be cleared to promote sediment transport north and enable an entrance channel to be cut and maintained
- There appears to be insufficient tidal flows to maintain a channel.

Dredge assessment

Based on 1993 sketch in Steane and Foster 1993 report (the latest "survey")

Need channel approx 500m long,

Assume channel 50m wide and assume existing depth is 1m and need to deepen by 3m to provide required 4m depth at low tide. The 50m width comprises the required 30m plus 10m each side to silt up or slump.

Minimum volume to dredge = $500 \times 50 \times 3 = 75,000 \text{ m}^3$

Plus batters, say 5:1 grade, = $500 \times 3 \times 15 \times .5 \times 2(\text{sides}) = 22,500 \text{ m}^3$

Cost = $97,500 \times \$11 = \$1,072,500$ plus mob/demob @ \$50,000 = \$1,122,500 capex

Assume annual maintenance @ 20,000 m³, cost = \$270,000 using above approximate rates. This assumes this quantum is enough to keep the channel open for another year.

Plus approvals, monitoring, project management etc, and costs to spread sand on the beach.

Dredging will also simulate natural sand movements past the entrance if a cutter suction dredger and pipeline discharge to Raspins beach is used.

Summation

- Dredging is essential to clear and then maintain the entrance depth for navigation if a marina is to be considered.
- Estimated dredge only costs of the order of \$1.1m initially, and \$270,000 pa thereafter.

Risks

- The assumed geometry is insufficient to maintain a navigation channel at least 30m wide.
- The assumed rates for Tasmania are insufficient as no suitable dredge exists in the state
- Severe weather may cause the need for additional maintenance dredging
- A dredge may not be available when required

2. Swansea

Assumed Development Scenario A

- A marina for nominally 100 berths is to be created just east of the main town ramp by reclamation and dredging (balancing cut and fills), and a new ramp created just north of the existing boat ramp.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

The new ramp would be parallel and adjacent to the existing ramp and would need to extend out to approximately the inshore end of the outer timber jetty structure. The gaps below the aluminium jetty segments would need to be made impermeable to stop sand moving along the beach and onto the new ramp, and the beach which will form on the eastern side will need to be trimmed by dredging on a regular basis. (probably every few years)

Pros

- Marina could be constructed by dredging to create sufficient water depths and the spoil used to reclaim land
- A new boat ramp could be created
- The marina will stop littoral transport of sand towards the new ramp

Cons

- The bay is gradually silting and becoming shallower and hence the marina and ramp will have limited life unless the bay silting ceases. There is no evidence to suggest the long term trend will change.
- The marina may well be opposed by residents on multiple grounds eg views, traffic, noise, etc
- Need for initial and ongoing maintenance dredging
- Sand will tend to accumulate against the eastern side of the marina wave wall

Dredge assessment

Without plans or scale drawings it is assumed the marina area to be dredged is approximately along the shore and 100m perpendicular to the shore. The assumed existing depth is 0.5m at low water, so another 3.5m depth is to be dredged

Minimum volume to dredge = $150 \times 100 \times 3.5 = 52,500 \text{ m}^3$

Capex marina basin cost = \$627,500 allowing mob/demob @\$50,000

Assume channel to deep water. This length is unknown but assume similar channel dimensions to the Prosser River channel ie capex cost \$1,000,000 (incl batters)

Assume annual maintenance @ 15,000 m³ (allowing for quieter conditions at Swansea), cost = \$215,000 using above rates. This assumes this quantum is enough to keep the access channel and edge of dredged marina basin open for another year.

Dredge cost estimate = \$1,627,500 plus \$215,000 pa

Plus approvals, monitoring, project management etc, and costs to spread sand on the beach.

Wave wall

A wave wall around the east (150 LM) and northern side (100 Lm) of the marina will be required to stop waves from the east, and stop the intrusion of sand.

Allow construction in rock, assume typical \$5000/Lm, cost = \$750,000

Boat Ramp

Typical costs for a 2 lane ramp are \$400,000

Marina land edge wall

Allow \$4000/Lm for precast and piled wall for 100LM, cost = \$400,000

Summation

- Dredging is essential to create the marina basin and access channel to deep water.
- Estimated dredge only costs of the order of \$1.63m initially, and \$215,000 pa thereafter
- A wave wall around the marina is required at cost \$750,000
- The ramp cost is \$400,000
- The marina edge wall is \$400,000
- Costs for the reclamation and pavement is not included

Risks

- The channel length to deep water may exceed 500 Lm assumed.
- The assumed rates for Tasmania are insufficient as no suitable dredge exists in the state
- Severe weather may cause the need for additional maintenance dredging
- The bay siltation may increase dredging costs
- The bay siltation may reduce water quality in the marina basin
- The boat ramp may still silt if sediment bypasses the impermeable jetty structure

Swansea

Assumed Development Scenario B

The Gordon Street boat ramp protective groyne is upgraded somehow to attenuate the surge caused by the oceanic swell .

Pros

If successful it will reduce surge on the ramp.

Cons

The groyne would need to be very long to attenuate the surge.

Summation

- It is not practically feasible to attenuate surge as occurs at Gordon Street boat ramp.

3. Coles Bay

Assumed development scenario A - Breakwater Modification

- The breakwater is to be modified by extending the length or adding a return leg to decrease the effect of diffracted waves impacting on the berthing area. Then all or part of the wharf could be fitted with marina floating fingers so that vessels berthed perpendicular to the wharf. More vessels could then simultaneously use the wharf.

Pros

- The modification would allow better use of the wharf
- The modification would make it easier to berth vessels as they will berth into the predominant wind rather than across it
- The floating marina fingers would improve operational safety as the pontoons move up and down with the tide and hence make it easier to access vessels and vice versa

Cons

- There is additional expense and maintenance

Approximate cost estimate

For discussion purposes only, it is assumed the return would need to be 30m long and extend from the seabed at an assumed 4m depth to approx 2m above chart datum. This would need to be verified.

Allow 500 CHS piles @ 3m crs ie 11 off @ \$10,000 ea supplied and driven, say \$110,000

Precast concrete panels, allow \$12,500 per panel supply and install, allow \$125,000

Plus mob/demob of pile driver, crane etc and fixings , say \$100,000

Cost approx \$335,000 excl project management, design, approvals.

It is assumed the wharf geotechnical information would be sufficient for the wall design.

Add costs for pontoons and fingers and stern piles

Assume a small platform off the wharf face supporting a single gangway leading to a pontoon 26m long, then 3 pontoon fingers (ea 12m x 1.2m) to provide 6 perpendicular berths allowing 5m berth width per vessel. With the gangway, this would consume approximately 40 Lm of wharf face.

Approximate cost \$200,000

Summation

- The return would protect the wharf from diffracted waves "wrapping" around the end of the breakwater.
- Costs based on providing wave wall and 6 perpendicular berths approximately \$450,000

Risks

- The assumed geometry is insufficient to maintain a navigation channel at least 30m wide.
- The assumed rates for Tasmania are insufficient as no suitable dredge exists in the state
- Severe weather may cause the need for additional maintenance dredging
- A dredge may not be available when required

3. Coles Bay

Assumed development scenario B - Boat Ramp area modification

- The boat ramp is to be modified by installing an impermeable wall to stop wave diffraction impacting on the boat ramps. MAST has verbally advised that surge is not an issue.

Pros

- The modification would allow better use of the ramps
- The modification would make it easier to launch and retrieve vessels without the oblique wave impact
- The modification would allow the use of floating marina pontoons instead of fixed jetties.

Cons

- There is additional expense and maintenance

Approximate cost estimate

For discussion purposes only, it is assumed the return would need to be 20m long and extend from the seabed at an assumed 3m average depth to approx 2m above chart datum. This would need to be verified.

Allow 406 CHS piles @ 3m crs ie 11 off @ \$8000 ea supplied and driven, say \$88,000

Precast concrete panels, allow \$12,500 per panel supply and install, allow \$125,000

Plus mob/demob of pile driver, crane etc and fixings , assume this is accounted for with the breakwater work

Cost approx \$213,000 excl project management, design, approvals.

It is assumed the wharf geotechnical information would be sufficient for the wall design.

Add costs for pontoons and gangways, assume 2 @ 8m x 2m, cost = \$80,000

The wave wall suggested could be further developed as follows:

- Add fendering and allow small vessels to temporarily berth against the wall;
- Add a walkway on the top

Summation

- The return would protect the boat ramps from diffracted waves "wrapping" around the end of the breakwater.
- Indicative costs \$213,000 for a skirt type return, and \$80,000 for pontoons

Risks

- The reef extends northwards and pile installation requires pre-drilling which will add costs.

Triabunna

Assumed development scenario A - Deepwater Jetty Site. This site is approximately 1km south of the harbour, on the eastern shore

- A marina for nominally 100 berths is to be created.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

Pros

- Ample water space for a marina
- Water depths assumed to be satisfactory in the marina vicinity
- Siltation in the marina assumed to be very minor

Cons

- No available nearby land for marina associated development
- Site subject to waves from the south, will probably require a southern floating wave attenuator or breakwater.
- A short channel will need to be dredged to deep water

Summation

- It is understood that this site is no longer under consideration.

Triabunna

Assumed development scenario B - Parkers Jetty Area. This site is just south of the informal caravan park on the east side of the estuary

- A marina for nominally 100 berths is to be created in the river away from the river mouth.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

Pros

- Ample room for a marina
- Site protected from waves and no wave attenuation or breakwater required
- Siltation in the proposed marina assumed to be minor

Cons

- Site will require dredging
- Site probably underlain by rock as adjacent area is underlain by rock
- Distance from town centre greater than masterplan option
- The channel into Triabunna from the ocean is shallow at only 1.1m deep in parts (ref AUS 175) and would also need to be dredged to cater for 3m draft yachts.
-

Excavation assessment

There is insufficient information to assess the amount of excavation required. The "best guess" scenario is for hard rock dredging of up to 55,000 m³ like that at the adjacent masterplan area with little over burden of soft sediments.

Assuming typical hard rock excavation using a 100t excavator working off land or temporary access tracks, and assumed production at 50 m³ per hour, the cost is \$200,000 for machine and operator. Disposal of 143,000 t of rock is assumed at \$20/t and cost \$2,860,000.

These costs may be reduced if

- Part of the site can be excavated to 2m CD for power boats, and the rest to 4m CD for yachts.
- Subsequent investigations reveal less rock than assumed

Dredging

Dredging of the channel from Spring Bay to Triabunna is required. The volume is approximately 70,000 m³ based on a 1000m long channel, 30m wide and 4m deep. Estimated dredging cost is \$0.8m

Summation

To cater for power boats and yachts the estimated dredging costs are \$2.86m for rock, and \$0.8m for assumed sediment dredging.

- Rock excavation and disposal is essential to create the marina basin and is estimated to cost approximately \$3m.

Risks

- The quantity of rock exceeds the 55,000 m³ allowed for
- The rock cannot practically be removed by excavator

Triabunna

Assumed development scenario C - Caravan Park Area. This site is opposite the town centre on the eastern shore

- A marina to fill the 2 areas opposite the wharf could be developed for approximately 75 berths (assuming 15m vessels), the exact number will depend on the vessel sizes.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

Pros

- Room for a 75 berth marina
- Site protected from waves and no wave attenuation or breakwater required
- Siltation in the proposed marina assumed to be minor
- Least distance from town centre

Cons

- Insufficient space for a 100 berth marina, unless some of the informal caravan park site was made available. (approx 15m)
- Site will require rock excavation

Excavation assessment

The excavation assessment is similar to the Parkers Jetty area ie

Assuming typical hard rock excavation using a 100t excavator working off land or temporary access tracks, and assumed production at 50 m³ per hour, the cost is \$200,000 for machine and operator. Disposal of 143,000 t of rock is assumed at \$20/t and cost \$2,860,000.

It is assumed that the old road abutment would be removed.

These costs may be reduced if

- Part of the site can be excavated to 2m CD for power boats, and the rest to 4m CD for yachts. For example the basin nearest the road bridge could be the shallower basin to save excavation costs and save on deepening the approach channel to this basin.
- Subsequent investigations reveal less rock than assumed

Summation

- Rock excavation and disposal is essential to create the marina basin and is estimated to cost approximately \$3m.

Risks

- The quantity of rock exceeds the 55,000 m³ allowed for
- The rock cannot practically be removed by excavator

Triabunna

Assumed development scenario D - Seaport Development. This site is south of the town on the western shore and approximately opposite the Deepwater Jetty

- A marina to fill the 2 areas opposite the wharf could be developed for approximately 100 berths.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

Pros

- Room for a 100 berth marina
- Site protected from waves and no wave attenuation or breakwater required
- Siltation in the proposed marina assumed to be minor

Cons

- Large amount of dredging to cut a channel 650m to deep water, and also the marina basin.
- Distance from Triabunna

Dredging assessment

It is assumed that the dredging would be in soft sediments only.

The access channel volume is 100,000 m³ and cost approximately \$1,200,00.

The marina excavation volume is 60,000 m³ assuming a 150m x 100 marina basin like that sketched for Swansea, and cost \$660,000

These costs may be reduced if

- Part of the marina basin can be excavated to 2m CD for power boats, and the rest to 4m CD for yachts.

Note : If sediments are harder costs may be several times more than anticipated.

Summation

- Dredging costs are estimated at \$1.86m assuming soft materials.

Risks

- The material is harder than assumed and costs are several times more than anticipated.

Triabunna

Assumed development scenario E - Louisville Site. This site is south of the town on the western shore and approximately half way to Orford.

- A marina to fill the 2 areas opposite the wharf could be developed for approximately 100 berths.
- The marina is to cater for power boats and yachts and have a design depth of 4m. This allows for yachts of maximum draft approximately 3m. This equates to cruiser or cruiser racer yachts of approximately 15 to 18m length.

Pros

- Room for a 100 berth marina
- Naturally deep water and no dredging required
- Siltation in the proposed marina assumed to be very minor

Cons

- Site will require wave protection.
- Minimal land
- Distance from Triabunna
- Proximity to residential dwellings

Wave Protection

It is understood that the water depth is of the order of 10m and hence a piled wave screen will be required, or possibly a wave attenuator. Assuming the latter, and a 150 x 100 marina footprint like that sketched for Swansea, the wave attenuator cost is \$3m

Summation

- The site may be suited to marina development if suitable land is available for onshore support and commercial activities.
- The cost of wave protection is approximately \$3m

Risks

- The site is also subject to swell and a heavy fixed skirt breakwater is required at higher cost.

GHD

2 Salamanca Square Hobart 7000

GPO Box 667 Hobart 7001

T: 03 6210 0600 F: 03 6210 0601 E: hbamail@ghd.com

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