FLINDERS BIOREGION
HIGH PRIORITY MARINE PARKS

Trouser Pt, Tas PWS

MARINE LIFE NETWORK

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Flinders BioregionPlan

What is the Boags Bioregion

The Flinders Bioregion encompasses the entire Furneaux Group in north east Tasmania.

Special natural features of the Flinders Bioregion

Tasmania's oceans are all special, but why is Flinders Bioregion different from other parts of Tasmania? Some of its key features are:

- diverse island archipelagos
- distinctive granite shores
- extensive sandy beaches
- more than 60 islands and numerous additional islets.

- Eastern shores are exposed, while other areas are relatively protected
- more than 50% of Tasmania's total seagrass habitat
- spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands.
- unusually high estuarine biodiversities and naturalness, containing nearly one third Tasmanian with critical or high conservation significance.
- Unique and pristine saline lagoon systems on Cape Barren Island.
- a wide range of tidal currents around and between islands.
- invertebrates are highly variable even between island groups
- calcarenite cave system on the Flinders Island south-west coast
- containing more than 20% of Tasmanian sites listed as internationally Important Bird Areas (IBAs), more than 250,000 pairs of Little Penguins, 7.5 million pairs of Short-tailed Shearwaters, and 60,000 pairs of White-faced Storm-Petrels, Vulnerable Fairy and White-fronted terns.
- supports 90% of the Tasmanian Australian Fur Seal breeding population

What Scientists have said about the natural values of the bioregion

Dr Karen Parsons – Nowhere else on earth report

"The Flinders Bioregion is named after Flinders Island and refers to Matthew Flinders, the navigator who made the remarkable discovery of a broad and island-dotted strait separating Tasmania from the land mass to the north. Outstanding features of this region include diverse island archipelagos with distinctive granite shores, a wide range of exposures and tidal currents, extensive sandy beaches, protected shallow habitats supporting vast seagrass beds, and unusually high estuarine biodiversities. This bioregion is dominated by the Furneaux Group, which includes more than 60 islands and numerous additional islets, but also includes the small Curtis and Hogan Island groups to the north-west. Eastern shores are exposed to strong swells from the Tasman Sea, while other areas are relatively protected but experience strong tidal currents due to constricted flows around and between islands16. Remarkable coastal features include the calcarenite cave system on the Flinders Island south-west coast, spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands, and the saline lagoon systems of Cape Barren Island.

The Furneaux Group contains extensive areas of protected habitat that are particularly significant for seagrass, with limited mapping data suggesting that these islands may contain more than 50% of Tasmania's total seagrass habitat. Reef plants and animals in this region contrast with those of other parts of Tasmania, while invertebrates are highly variable even between the various island groups. This bioregion is also remarkable for its estuarine biodiversity and naturalness, containing nearly one third of 48 Tasmanian estuaries categorised as having critical or high conservation significance. Cape Barren Island alone has a total of seven pristine estuaries, while the Furneaux Group, together with the north-east of mainland Tasmania, contains a range of estuarine species that are not found elsewhere in Tasmania.

The Flinders Bioregion has high conservation value for seabirds and shorebirds, containing more than 20% of Tasmanian sites listed as internationally Important Bird Areas (IBAs). These areas contain significant populations of resident shorebirds, including the Hooded Plover, Pied Oystercatcher, and Sooty Oystercatcher, while several sites at Flinders Island are of international significance for the migratory Sanderling, Curlew Sandpiper and Rednecked Stint.

The Furneaux Group is also a hotspot for seabirds such as terns, containing breeding habitat for four species including the Vulnerable Fairy and White-fronted terns36 and supports more than 250,000 pairs of Little Penguins, 7.5 million pairs of Short-tailed Shearwaters, and 60,000 pairs of White-faced Storm-Petrels. The Flinders Bioregion is the Tasmanian stronghold for the Australian Fur Seal and supports 90% of the Tasmanian breeding population, or 18% of the total population of this endemic south-east Australian species.

Bioregion Social and economic factors

The Flinders Bioregion covers the main islands of the Furneaux Group, Flinders Island (1376 km2), Cape Barren Island (445 km2) and Clarke Island (114 km2). Winds are predominantly westerly which can blow for several days at a time. The weather pattern is variable in late winter and spring and also experienced cold southerly winds. Sea breezes occur during the summer months. Consequently, coastal waters can be exposed to strong and variable winds, and high seas.

The geology of the islands is dominated by granite. About half of the islands are coastal sand dunes. These form a broad plain on the eastern side of Flinders Island and a narrow strip on the western coast, as well as on Cape Barren Island. Many coastal lagoons exist along the eastern coastline of Flinders Island and Cape Barren Island due to sand dunes blocking drainage to the coast. Only a small number of streams flow permanently.

On many of the smaller islands there is tussock grassland and coastal heathland similar to the larger islands. However, these islands can provide a refuge for species and plant communities which have been destroyed by fire, grazing and recreational activities in the past. Between 800 to 900 species of plants have been recorded in the Furneaux Islands, once again reflecting the diversity of physical conditions found throughout the islands. The islands have scientific significance in that they represent a boundary for some species - being the southernmost location for some species yet being the northernmost for others.

The Furneaux Islands are renowned for the diversity of wildlife and in particular bird habitats. Short-tailed Shearwater, known as "mutton-birds return from migration to the northern hemisphere every September in millions. The new chicks have traditionally been hunted by Aboriginal people each April. Many of the small islands that have been reserved for nature have been done so to protect -5- known mutton-bird rookeries, bird habitat, nesting sites for Cape Barren Geese and other sea bird species, seal colonies and areas for scientific research.[1]

[1] Source: marine farm plan

Economics

938 people lived on the islands in 2021, of which 149 identified as First Nations people. 86 people were employed in agriculture, forestry and fishing from 584 employed people. The unemployment rate is about 7% in 2016. Annual agricultural output is about $30 million.

The strong traditions of mutton birding in the Flinders Group have been the basis for a largely Aboriginal industry as well as an important focus for community culture.

"Any visitor cannot help but notice the unique lifestyle of island residents and how strongly their attitudes and values are related to the quality of the natural and cultural setting." (Marine farming plan)

Access to the islands is by air, some 360 km from Melbourne or 160 km from Launceston. The main airport is located to the north of Whitemark and there are a number of landing strips around the islands to service small planes. Ferry services to the islands connect Whitemark, Lady Baron and Cape Barren from Welshpool and Bridport. Connection between the islands can be undertaken by small, chartered plane services or chartered boat services. The principal settlements are Whitemark and Lady Barron. The facilities and services at Whitemark include the Council Chambers, school, hospital, Sports Club (golf course), bank, supermarket, food outlets, hardware and rural supplies, shops, craft, fuel, garage, library, post office, vehicle hire, Government offices, hotel, accommodation and port facilities. Lady Barron has port facilities, supermarket, post office, bank, fish processing, hotel, fuel, accommodation and the Flinders Island Aboriginal Association centre. A local store/shop is found at Killiecrankie and a store for the Cape Barren Island community exists at the settlement.

The Furneaux Island's marine areas are used for commercial fishing, recreational diving and fishing, tourism, marine farming and conservation uses. The Aboriginal community of the islands has strong traditions of coastal activities. There are also numerous "local" navigational routes used by professional fishermen, recreational fishers, the Aboriginal community and cruising yachts. Navigational aids are located on Flinders Island (including Holloway Point Navigational Light at the mouth of North East River), Little Green Island, Big Dog Island, Vansittart Island, Apple Orchard Point and Kangaroo Island

Recreational Fishing

"Recreational fishing occurs in many locations around the islands. Discussions with recreational fishers indicated areas that were more regularly used around Flinders, including:

1. North East River for flounder, salmon, trevally, prawning and flathead;
2. netting around Palana Bay;
3. flathead and shark fishing in the northern corner of Marshall Bay;

4. snapper, flathead and pike fishing around Prime Seal Island;

5. flathead, shark, barracouta, pike, snapper generally through the coastal area out of Whitemark from Settlement Point to Franklin Sound;

6. general fishing and squid fishing off both Whitemark and Lady Barron wharfs;

7. floundering off accessible shallow beach areas;

8. rock fishing along the coast;

9. surf rod fishing off the eastern beaches."

The north coast accounted for 20% of the overall Tasmanian recreational fishing effort, evenly distributed between the North West and combined Tamar-North East Coast regions (Lyle 2019). It is unlikely that Flinders Island recreational fishing is a significant proportion of the State catch.

Commercial Fishing

Extensive use is made of reefs along the western coastline from the Outer Sister Island to the Pasco Islands, around Settlement Point, Prime Seal Island, Badger Island, some isolated locations around the islands within Franklin Sound, and significant parts of Cape Barren Island, Clarke Island and the smaller islands. Fishing for wrasses occurs principally along the eastern coastline in selected reef locations and around the offshore islands. Garfishing takes place in shallow sandy bottom areas, particularly within Franklin Sound. Shark and flathead are caught in many locations around Cape Barren Island and the western side of Flinders Island and the outer islands. Abalone diving is a major fishery for the Furneaux Islands A closed area for the taking of abalone in the water between Little Green Island and Great Dog Island was established with the support of the Flinders Island abalone divers to allow for protection of a good nursery site.

The commercial rock lobster catch was 94 tonnes in 2021, a rapid decline from 253 tonnes in 2001. In 2022, the last crayfisherman based on Flinders Island (aged 80) retired. He stated that in its heyday, there were eight boats catching crayfish out of Killiecrankie Bay alone and about 15 elsewhere on the island.2 Jack was hopeful he'd be able to sell his licences but says the cost makes it almost impossible for a local family to buy-in. "Yeah, [it's] very expensive — very hard," he says. "It's the big fellas that can stay in the industry now."

Karl Krause is president of the Tasmania Rock Lobster Fishermen's Association said not many fishers own all their own quota anymore. "Investors and superannuation companies own quota and lease it back to us," he says.

There is a catch cap of 100 tonnes in the NE to replenish stocks.

Flinders Island does not appear to be a major abalone fishery. The Bass Strait Zone fishery is reliant on a relative few productive abalone Blocks, with less than 15%

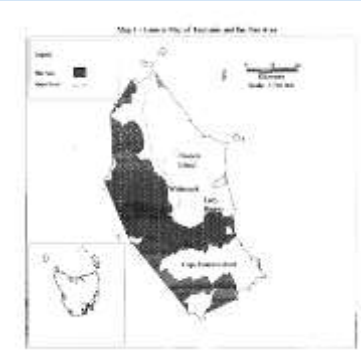
[2] Flinders Island's last crayfisher calls it a day, saying red tape has put an end to small operators - ABC News

of the reef area fished supporting 50% of the catch in most years, dominated by the Fleurieu Group in Western Bass strait.3

Marine farming

Marine Farming Development Plans establish zones for marine farming. There are currently 14 approved Plans, seven of which currently contain existing salmon farming operations.

There has been significant controversy in Tasmania over the areas likely to be subject to future development. Sites in easy, west and south west Flinders Island have been earmarked for future possible development



Current Protections for habitat in the Bioregion

There are no marine parks or marine conservation areas in either the Flinders Bioregion or the north of the State, other than the Kent Group in the middle of Bass Strait.

Some protection is given to foreshore areas in land based reserves. Where they are created to extend to low water mark they provide some protection for the inter-tidal zone.

There are some limited fisheries restrictions imposed on particular areas like no netting zones and shark refuge areas. There are size, catch, possession limits and seasonal closures for some target species. There are netting bans and some shark refuge areas that provide some protection to estuaries.

The calamari and squid fisheries are closed in Bass Strait during peak calamari spawning periods.

There is a permitting regime for certain larger development activities under specific legislation. Local government planning regimes do not generally extend out to sea and have not been given jurisdiction over activities like fish farming.

[3] Tasmanian-Abalone-Assessment-2022-compressed-1.pdf (utas.edu.au)

Threats

The general threats of significance to low lying or soft coastlines like estuaries and beaches are: [4]

- increased siltation resulting from land clearance and urban and rural runoff,
- increased nutrient loads resulting from marine farms, sewerage and agricultural use of fertilisers,
- foreshore development, dredging, habitats clearing and reclamation
- modification to water flow through dams and weirs,
- acidification of rivers and heavy metal pollution from mines,
- the spread of introduced pest species, and
- sea level rise and coastal erosion.
- Wildlife displacement, disruption of social and feeding behaviour e.g. Beach crowding, Pet impacts[5].
- Microplastics and litter (particularly damaging to seabirds).

On Harder coastlines like reef, or in the open sea,[6]

- climate change effects, ocean acidification, changes food supply, damage/changes to food availability e.g. plankton communities change, changing diseases, range extension, weather changes, extreme events,
- overfishing ,
- invasive (feral) species.
- Microplastics and litter (particularly damaging to seabirds).
- Wildlife interactions – eg. Boat strike on sea mammals.
- Disruption of behaviour e.g. seismic testing.
- pollutants., Excessive nutrients e.g. salmon farms, sewerage, stormwater.
- Silt from erosion,
- Habitat damage- dredging and bottom trawling.

Flinders Island is relatively remote with a small population. It is heavily modified for agriculture but its many offshore islands are in good condition. It is in the path of the EAC and is vulnerable to climate change impacts. Changing fisheries productivity are likely to reduce stocks of crayfish in particular, and overfishing is a current issue.

Why have marine parks

Marine Parks protect depleted, threatened, rare, endangered or endemic species and ecological communities and in particular to preserve habitats considered

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[4] Based upon, A Classification of Tasmanian Estuaries and Assessment of their Conservation Significance using Ecological and Physical Attributes, Population and Land UseG.J. Edgar1, N.S. Barrett2 and D.J. Graddon3, Ocean Rescue 2000

[5] Dr Eric Woehler, pers comms

[6] Based on media monitoring by Marine Life Magazine 2010 - 2020

critical for the survival of such species. Some species are sensitive, with complex habitat requirements, or are vulnerable to disturbance.

They can slow down the decline of degraded ecosystems and be a focus for efforts to restore habitats. A healthier more resilient habitat is more likely to survive new threats like invasive species and climate change.

They can protect economically significant habitats like fish nursery sites, as well as habitats, species and seascapes of importance to recreation and tourism.

They can protect geological, archaeological, historical sites, seascapes, cultural sites and cultural practices and manage these significant sites for future generations.

They can aid in the interpretation of marine and estuarine systems for the purposes of conservation, recreation and public education.

They provide places for research and provide reference sites for scientific studies, including sites for baseline fisheries monitoring and long-term environmental monitoring.

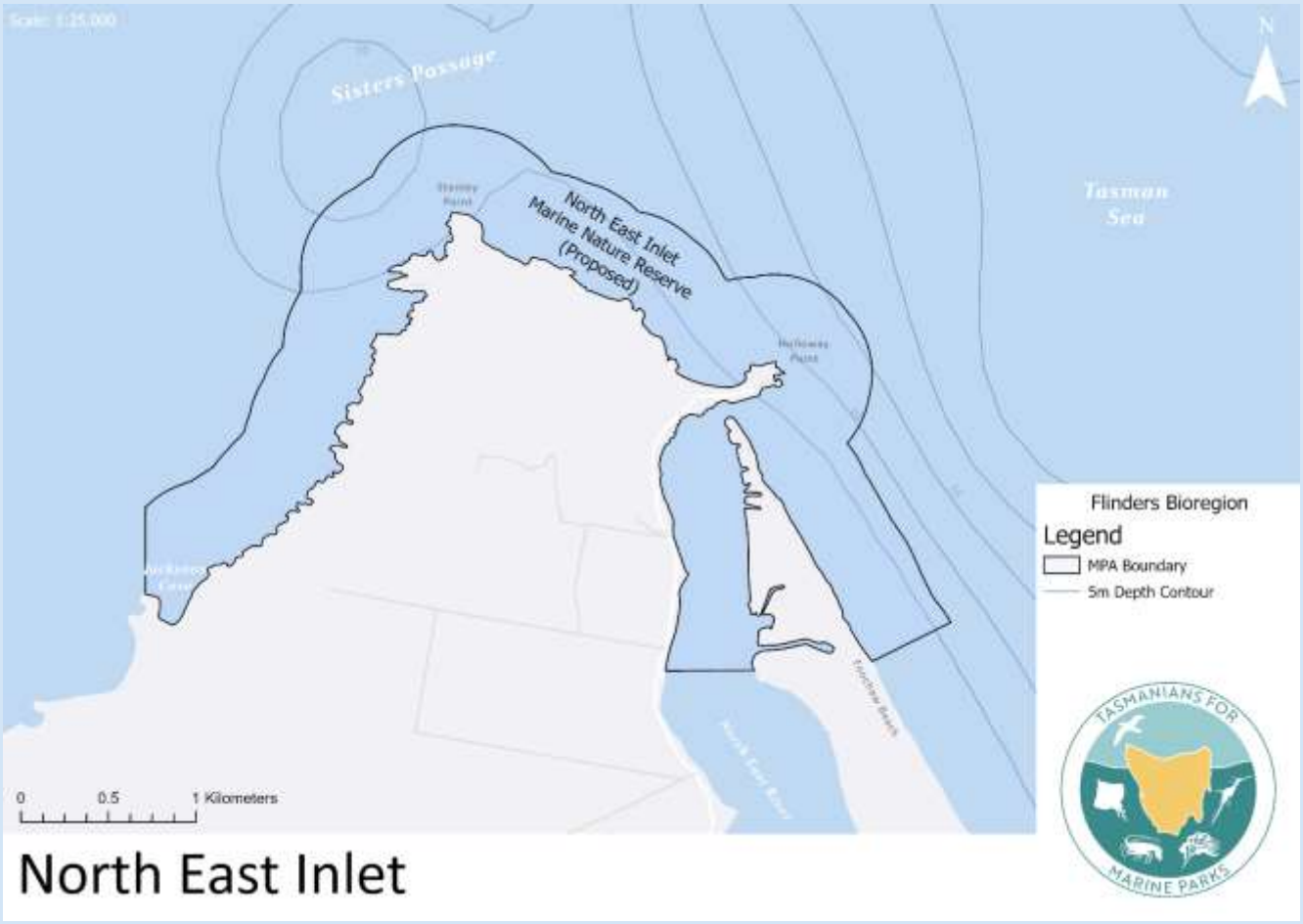
So where would we put any new marine parks?

Scientists have been talking about more marine parks for Tasmania for a long time. Not all of these areas are high priority sites for protection in a marine park.

Here are the details about those proposals:

Senator Wrasse, Photo: Nick Perkins

North East Inlet



Special Features of the Site

Dr Karen Parsons

"North East Inlet is located at the northern end of Flinders Island and is one of ten estuaries identified statewide as having critical conservation significance. This estuary possesses exceptional species richness, and provides habitat for a quantum level more invertebrate and fish species than all other Tasmanian estuaries apart from the almost comparably diverse Tamar Estuary. The estuarine fauna includes numerous invertebrate and fish species not recorded in other Tasmanian estuaries, as well as fish species not recorded at any other location around the state. While much of the Flinders Island coastline is important for shorebirds, the extensive east coast beaches between Pot Boil Point and North East Inlet are of particular significance and contain a disproportionately high number of resident shorebirds. Based on recent surveys, this stretch of coast holds 84% of the Hooded Plovers, 55% of Pied Oystercatchers and 77% of the Red-capped Plovers recorded around the Flinders Island coast. Given the large numbers of resident shorebirds, and additional suitable nesting habitat for small terns, this area is of highest conservation value to nesting shorebirds and small terns on Flinders Island.

Special features of the Flinders Bioregion contained in the site

diverse island archipelagos, more than 60 islands and numerous additional islets	
distinctive granite shores	
extensive sandy beaches	✓
Eastern shores are exposed, while other areas are relatively protected	✓
more than 50% of Tasmania's total seagrass habitat	✓
spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands	✓
unusually high estuarine biodiversities and naturalness, containing nearly one third Tasmanian with critical or high conservation significance.	✓
Unique and pristine saline lagoon systems on Cape Barren Island	
a wide range of tidal currents around and between islands.	✓
invertebrates are highly variable even between island groups	✓
calcarenite cave system on the Flinders Island south-west coast	
containing more than 20% of Tasmanian sites listed as internationally Important Bird Areas (IBAs), more than 250,000 pairs of Little Penguins, 7.5 million pairs of Short-tailed Shearwaters, and 60,000 pairs of White-faced Storm-Petrels, Vulnerable Fairy and White-fronted terns	✓
supports 90% of the Tasmanian Australian Fur Seal breeding population	

Known Threats

Nine major indirect threats to Tasmanian estuaries have been recognised:

(i) increased siltation resulting from land clearance and urban and rural runoff,

(ii) increased nutrient loads resulting from sewage and agricultural use of fertilisers,

(iii) urban effluent,

(iv) foreshore development and dredging,

(v) marine farms,

(vi) modification to water flow through dams and weirs,

(vii) acidification of rivers and heavy metal pollution from mines,

(viii) the spread of introduced pest species, and

(ix) long-term climate change.

While all of these factors can potentially disrupt ecosystem processes, the magnitude and spatial scale of these threats vary greatly.

The area is visited occasionally by locals who fish the entrance. Current fishing pressure is not likely to be very high.

Current protection

The calamari and squid fisheries are closed in Bass Strait during peak calamari spawning periods. There is a no netting zone in Mosquito Inlet, and a gill net ban in much of the proposed area.

Current human uses

Relatively undeveloped, sits adjacent to a hunting reserve.

Selection Criteria (from Tasmania's MPA Strategy)

Economic Interests	-Existing or potential contribution to economic value by virtue of its protection, eg. for recreation or tourism, or as a refuge or nursery area, or source of supply for economically important species. - Current or potential use for the extraction of, or exploration for resources - Current or potential use for the extraction of, or exploration for resources - Importance for shipping and/or trade. - Value due to its contribution to local or regional employment and economic development.	A moderately remote area occasionally visited by local boaters and fishermen.

Indigenous Interests	-Traditional usage and/or current economic value. Contains indigenous cultural values. Native title considerations	No significant adverse impact, subject to further consultation.
Social Interests	Existing or potential value to the local, national or international communities because of its heritage, cultural, traditional, aesthetic, educational, recreational, or economic values	Presently little used or recognised.
Scientific Interests	Existing or potential value for research and monitoring.	High
Practicality/Feasibility	Degree of insulation from external destructive influences Social and political acceptability, and a degree of community support Access for recreation, tourism, and education Lends itself to practical management (cost effectiveness, compliance etc.).	Moderately Remote. May be some concern from local fishers.
Vulnerability Assessment	Extent to which the site is vulnerable and susceptible to human induced changes and threatening processes.	Vulnerable
Replication	Provides a replication of ecosystems within a Marine Protected Area within the bioregion.	There are no MPAs in the bioregion

Design Comments

The site takes in the richest areas of invertebrates in the lower estuary as well as the bird-rich beaches. It also protects the rocky reef adjacent to the existing game reserve to provide an area with rich and varied habitats.

Recommended Protection

IUCN II National park

West Furneaux seagrass beds

Major seagrass beds on Flinders Is

Special Features of the Site

Dr Karen Parsons

"Mapping in the 1990s revealed exceptional seagrass beds along the western shores of Flinders Island that are impressive in areal magnitude, density and unusually large depth range. Vast beds, extending as far as 10 km offshore from the coast were detected, and are likely to be a major contributor to nutrients in eastern Bass Strait. While the dominant species, the Southern Strapweed, generally occurs to maximum depths of 15 m, beds have been recorded in depths of up to 20 m along the west coast of Flinders Island, reflecting the exceptional water clarity in this region. Even at this depth, the limit of surveying, seagrass reaches a high density suggesting that the beds extend into even deeper water. This area is only one of two locations in Tasmania where the related Fibrous Strapweed has been observed, and is highly unusual in being located 600 km to the east of the mainland Australian distributional limit of this species. The Furneaux Group supports very large beds of seagrass, particularly the Southern Strapweed (*Posidonia australis*)

Tern shakes off water after a dive, Photo: Jun Zhang

Special features of the Flinders Bioregion contained in the site

diverse island archipelagos, more than 60 islands and numerous additional islets	
distinctive granite shores	
extensive sandy beaches	✓
Eastern shores are exposed, while other areas are relatively protected	
more than 50% of Tasmania's total seagrass habitat	✓
spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands	
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(v) marine farms,

(vi) modification to water flow through dams and weirs,

(vii) acidification of rivers and heavy metal pollution from mines,

(viii) the spread of introduced pest species, and

(ix) long-term climate change.

Seagrass beds by their nature are vulnerable to nutrients and physical damage. The area is earmarked for marine farming.

Current protection

The calamari and squid fisheries are closed in Bass Strait during peak calamari spawning periods. There is a no netting zone in Mosquito Inlet, and a gill net ban in much of the proposed area.

Current human uses

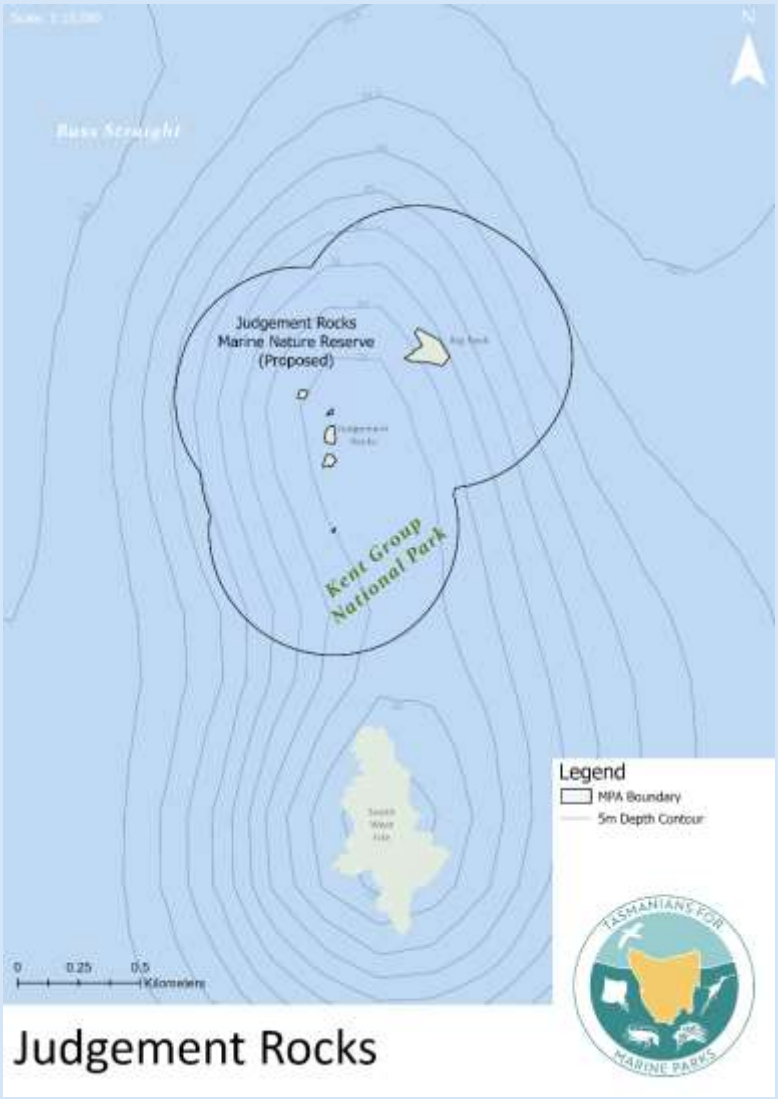
Economic Interests	-Existing or potential contribution to economic value by virtue of its protection, eg. for recreation or tourism, or as a refuge or nursery area, or source of supply for economically important species. - Current or potential use for the extraction of, or exploration for resources - Current or potential use for the extraction of, or exploration for resources - Importance for shipping and/or trade. - Value due to its contribution to local or regional employment and economic development.	An area of low impact on current users even if highly protected.
Indigenous Interests	-Traditional usage and/or current economic value. Contains indigenous cultural values. Native title considerations	No significant adverse impact, subject to further consultation. There is no intention to interfere with indigenous muttonbirding in the area.
Social Interests	Existing or potential value to the local, national or international communities because of its heritage, cultural, traditional, aesthetic, educational, recreational, or economic values	Presently little used or recognised. The Bioregion has half of the State's seagrass habitat
Scientific Interests	Existing or potential value for research and monitoring.	High
Practicality/Feasibility	Degree of insulation from external destructive influences	Moderately Remote

	Social and political acceptability, and a degree of community support Access for recreation, tourism, and education Lends itself to practical management (cost effectiveness, compliance etc.).	
Vulnerability Assessment	Extent to which the site is vulnerable and susceptible to human induced changes and threatening processes.	Vulnerable
Replication	Provides a replication of ecosystems within a Marine Protected Area within the bioregion.	values are unique

Recommended Protection

IUCN IV conservation area

Judgement Rocks



Special Features of the Site

Judgement Rocks are a remote and spectacular group of rocky islets located to the north west of the Furneaux Group. They are the most important site for the Australian Fur Seal in Tasmanian waters, supporting by far the largest breeding colony, with nearly 2,500 pups recorded in most recent annual counts. Nearly 60% of the Tasmanian population and 10% of the total population of this species occupy these small islets93. The main island referred to as Judgement Rock has impressive granite cliffs, caves and gulches and a broad rocky plateau that provides the habitat so desired by breeding seals, while the seals also haul-out onto three adjacent rock stacks36. In addition to its high population numbers, this site is especially significant because, unlike other Tasmanian colonies, it is secure from high seas when the pups are young and vulnerable. The choice of such a site is well justified, especially as Orcas (Killer Whales), a natural predator of seals, are known to peruse

the area. Judgement Rock, supporting the largest breeding population of the Australian Fur Seal (*Arctocephalus pusillus*) in Tasmania

Photo:Jun Zhang

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distinctive granite shores	✓
extensive sandy beaches	
Eastern shores are exposed, while other areas are relatively protected	
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spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands	
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supports 90% of the Tasmanian Australian Fur Seal breeding population	✓

Known Threats

On Harder coastlines like reef, or in the open sea,[7]

- climate change effects, ocean acidification, changes food supply, damage/changes to food availability e.g. plankton communities change, changing diseases, range extension, weather changes, extreme events,
- overfishing ,
- invasive (feral) species.
- Microplastics and litter (particularly damaging to seabirds).
- Wildlife interactions – eg. Boat strike on sea mammals.
- Disruption of behaviour e.g. seismic testing.
- pollutants., Excessive nutrients e.g. salmon farms, sewerage, stormwater.
- Silt from erosion,
- Habitat damage- dredging and bottom trawling.

The area is primarily a seal colony, potentially disturbed by nearby activity. Most seal colonies have been recommended in the past for no-fishing zones around them of at least 500 metres. This does not appear to have occurred anywhere in Tasmania.

Current protection

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[7] Based on media monitoring by Marine Life Magazine 2010 - 2020

Current human uses

Economic Interests	-Existing or potential contribution to economic value by virtue of its protection, eg. for recreation or tourism, or as a refuge or nursery area, or source of supply for economically important species. - Current or potential use for the extraction of, or exploration for resources - Current or potential use for the extraction of, or exploration for resources - Importance for shipping and/or trade. - Value due to its contribution to local or regional employment and economic development.	An area of low impact on current users even if highly protected.
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Social Interests	Existing or potential value to the local, national or international communities because of its heritage, cultural, traditional, aesthetic, educational, recreational, or economic values	Presently little used or recognised.
Scientific Interests	Existing or potential value for research and monitoring.	High
Practicality/Feasibility	Degree of insulation from external destructive influences Social and political acceptability, and a degree of community support Access for recreation, tourism, and education Lends itself to practical management (cost effectiveness, compliance etc.).	Remote

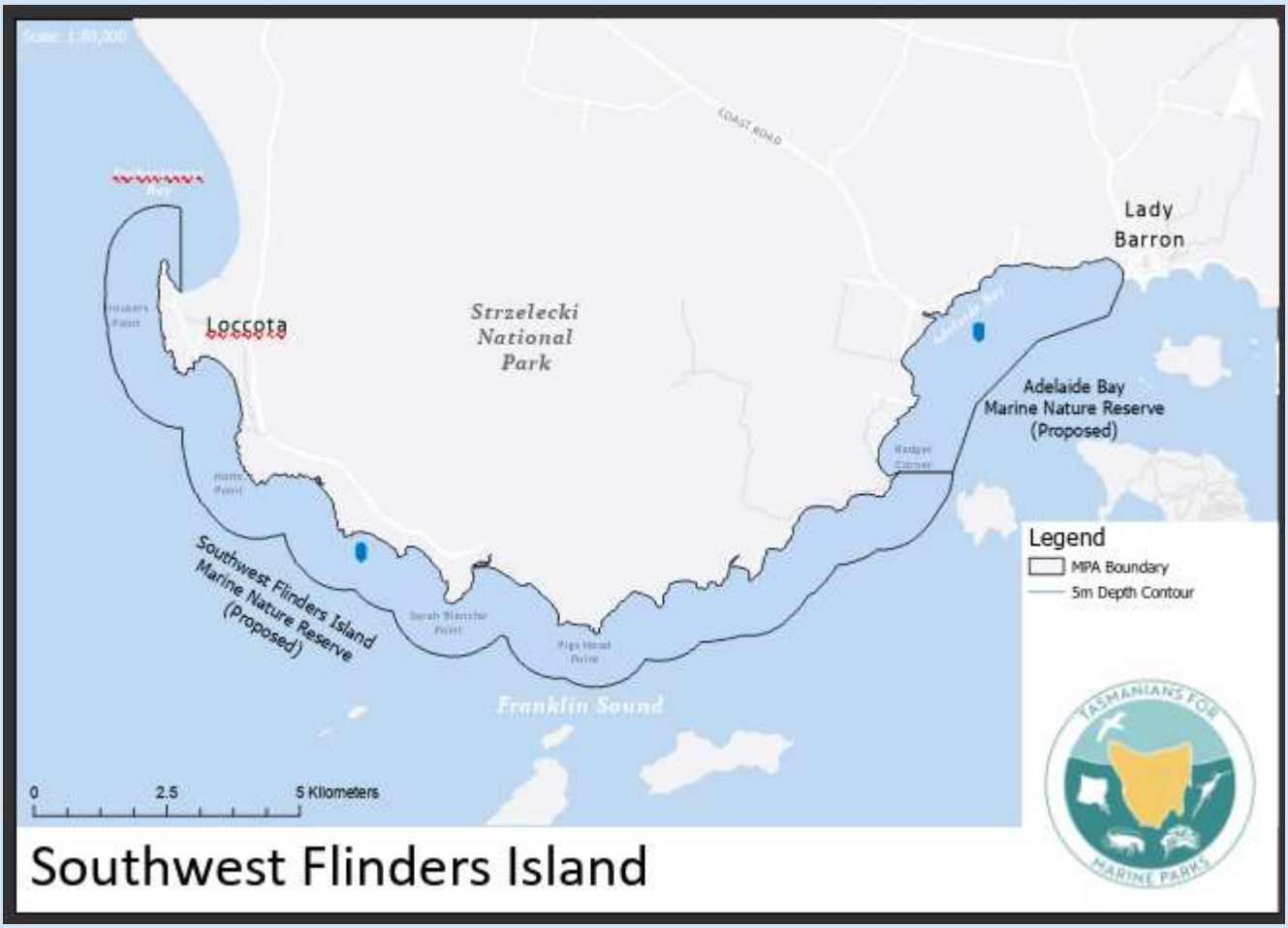
Vulnerability Assessment	Extent to which the site is vulnerable and susceptible to human induced changes and threatening processes.	Vulnerable
Replication	Provides a replication of ecosystems within a Marine Protected Area within the bioregion.	values are unique

Recommended Protection

IUCN II National Park

Strzelecki-

Franklin Sound Badger Corner–Trouser Point – Adelaide Bay



Special Features of the Site

Primary values being protected in Adelaide Bay are intertidal birds and plants including seagrass, to high water mark

Franklin Sound is the island-dotted area of water separating Flinders Island and Cape Barren Island. It has been identified as an Important Bird Area (IBA), supporting internationally significant populations of the Blackfaced Cormorant, White-faced Storm-Petrel, Short-tailed Shearwater and Sooty Oystercatcher. Underwater, the entrance to Franklin Sound is particularly interesting because it contains a huge diversity of habitats, including sand and reef habitats in both shallow and deep water, and extensive seagrass beds containing the Southern Strapweed and Sea Nymph. This area has a high recorded biodiversity and its location directly next to a National Park reflects complementary marine and terrestrial conservation values. The area of southwestern Flinders Island from Badger Corner to Trousers Point and extending for 1 km offshore is considered to be most representative of the high values of Franklin Sound.

To the south of the Furneaux Group lies Banks Strait, the south-eastern opening of Bass Strait into the Tasman Sea. The constriction of water flow through this entrance creates strong tidal currents as evidenced by deep scouring around the southern islands of the group. The channel separating Passage Point on Cape Barren Island from Passage Island provides an example of this, where currents race through and have scoured a deep channel. The habitat here in some ways parallels the deep channel entrance of the Tamar Estuary on the north coast, however the water here is much clearer, more influenced by the warm East Australian Current, and is fully marine with minimal freshwater or catchment inputs. It therefore represents a highly restricted habitat that is likely to support unusual biological communities, although its marine life remains largely a mystery at this stage.

Amphipods are one of the main food sources on rocky reef, Photo: Jun Zhang??

Special features of the Flinders Bioregion contained in the site

diverse island archipelagos, more than 60 islands and numerous additional islets	✓
distinctive granite shores	✓
extensive sandy beaches	✓
Eastern shores are exposed, while other areas are relatively protected	✓
more than 50% of Tasmania's total seagrass habitat	✓
spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands	
unusually high estuarine biodiversities and naturalness, containing nearly one third Tasmanian with critical or high conservation significance.	
Unique and pristine saline lagoon systems on Cape Barren Island	
a wide range of tidal currents around and between islands.	✓
invertebrates are highly variable even between island groups	✓
calcarenite cave system on the Flinders Island south-west coast	✓
containing more than 20% of Tasmanian sites listed as internationally Important Bird Areas (IBAs), more than 250,000 pairs of Little Penguins, 7.5 million pairs of Short-tailed Shearwaters, and 60,000 pairs of White-faced Storm-Petrels, Vulnerable Fairy and White-fronted terns	✓
supports 90% of the Tasmanian Australian Fur Seal breeding population	✓

Known Threats

The general threats of significance to low lying or soft coastlines like estuaries and beaches are: [8]

- increased siltation resulting from land clearance and urban and rural runoff,
- increased nutrient loads resulting from marine farms, sewerage and agricultural use of fertilisers,
- foreshore development, dredging, habitats clearing and reclamation
- modification to water flow through dams and weirs,
- acidification of rivers and heavy metal pollution from mines,
- the spread of introduced pest species, and
- sea level rise and coastal erosion.
- Wildlife displacement, disruption of social and feeding behaviour e.g. Beach crowding, Pet impacts[9].
- Microplastics and litter (particularly damaging to seabirds).

On Harder coastlines like reef, or in the open sea,[10]

- climate change effects, ocean acidification, changes food supply, damage/changes to food availability e.g. plankton communities change, changing diseases, range extension, weather changes, extreme events,
- overfishing ,
- invasive (feral) species.
- Microplastics and litter (particularly damaging to seabirds).
- Wildlife interactions – eg. Boat strike on sea mammals.
- Disruption of behaviour e.g. seismic testing.
- pollutants., Excessive nutrients e.g. salmon farms, sewerage, stormwater.
- Silt from erosion,
- Habitat damage- dredging and bottom trawling.

The area has diverse habitats, and although moderately remote, is potentially vulnerable to most of the threats on this list.

Current protection

The calamari and squid fisheries are closed in Bass Strait during peak calamari spawning periods. There is a no netting zone in Mosquito Inlet, and a gill net ban in much of the proposed area.

[8] Based upon, A Classification of Tasmanian Estuaries and Assessment of their Conservation Significance using Ecological and Physical Attributes, Population and Land UseG.J. Edgar1, N.S. Barrett2 and D.J. Graddon3, Ocean Rescue 2000

[9] Dr Eric Woehler, pers comms

[10] Based on media monitoring by Marine Life Magazine 2010 - 2020

Current human uses

Economic Interests	-Existing or potential contribution to economic value by virtue of its protection, eg. for recreation or tourism, or as a refuge or nursery area, or source of supply for economically important species. - Current or potential use for the extraction of, or exploration for resources - Current or potential use for the extraction of, or exploration for resources - Importance for shipping and/or trade. - Value due to its contribution to local or regional employment and economic development.	An area of low impact on current users even if highly protected.
Indigenous Interests	-Traditional usage and/or current economic value. Contains indigenous cultural values. Native title considerations	No significant adverse impact, subject to further consultation.
Social Interests	Existing or potential value to the local, national or international communities because of its heritage, cultural, traditional, aesthetic, educational, recreational, or economic values	Presently little used or recognised.
Scientific Interests	Existing or potential value for research and monitoring.	High
Practicality/Feasibility	Degree of insulation from external destructive influences Social and political acceptability, and a degree of community support Access for recreation, tourism, and education Lends itself to practical management (cost effectiveness, compliance etc.).	Accessible only from the island which gives it some local tourism potential. Adjacent o iconic mountain walk.

Vulnerability Assessment	Extent to which the site is vulnerable and susceptible to human induced changes and threatening processes.	Vulnerable
Replication	Provides a replication of ecosystems within a Marine Protected Area within the bioregion.	values are unique

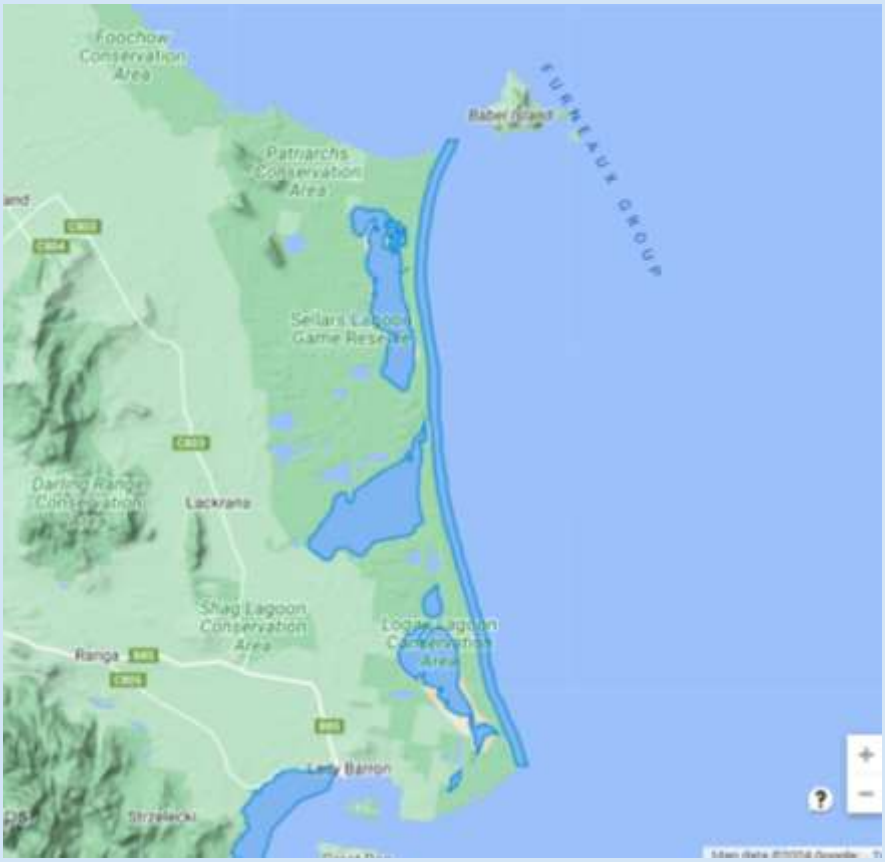
Design Comments

The area of southwestern Flinders Island from Badger Corner to Trousers Point and extending for 1 km offshore is considered to be most representative of the high values of Franklin Sound.

Recommended Protection

IUCN II national park for the Trouser Point/Badger Corner section, with IUCN IV marine conservation area for Adelaide Bay.

Cameron Inlet



Special Features of the Site

Dr Karen Parsons

Prof. Graham Edgar recommendation, Marine Reserves 1996 Bronte Workshop

Dr Woehler comments - Likely to be part of network of areas important to birdlife. SE Flinders Island (Sellars + Camerons + Logans) lagoons – Logans is a Ramsar listed site, so likely to support internationally significant values as birds move among lagoons with tide, weather, water levels etc.

Humpback, Dr Eric Woehler

Special features of the Flinders Bioregion contained in the site

diverse island archipelagos, more than 60 islands and numerous additional islets	
distinctive granite shores	
extensive sandy beaches	✓
Eastern shores are exposed, while other areas are relatively protected	✓
more than 50% of Tasmania's total seagrass habitat	
spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands	✓
unusually high estuarine biodiversities and naturalness, containing nearly one third Tasmanian with critical or high conservation significance.	✓
Unique and pristine saline lagoon systems on Cape Barren Island	
a wide range of tidal currents around and between islands.	✓
invertebrates are highly variable even between island groups	✓

calcarenite cave system on the Flinders Island south-west coast	
containing more than 20% of Tasmanian sites listed as internationally Important Bird Areas (IBAs), more than 250,000 pairs of Little Penguins, 7.5 million pairs of Short-tailed Shearwaters, and 60,000 pairs of White-faced Storm-Petrels, Vulnerable Fairy and White-fronted terns	✓
supports 90% of the Tasmanian Australian Fur Seal breeding population	

Known Threats

Nine major indirect threats to Tasmanian estuaries have been recognised:

(i) increased siltation resulting from land clearance and urban and rural runoff,

(ii) increased nutrient loads resulting from sewage and agricultural use of fertilisers,

(iii) urban effluent,

(iv) foreshore development and dredging,

(v) marine farms,

(vi) modification to water flow through dams and weirs,

(vii) acidification of rivers and heavy metal pollution from mines,

(viii) the spread of introduced pest species, and

(ix) long-term climate change.

While all of these factors can potentially disrupt ecosystem processes, the magnitude and spatial scale of these threats vary greatly.[11]

Current protection

The calamari and squid fisheries are closed in Bass Strait during peak calamari spawning periods. There is a no netting zone in Mosquito Inlet, and a gill net ban in much of the proposed area.

11 Edgar, GJ, Barrett, NS and Graddon, DJ 1999 A Classification of Tasmanian estuaries and assessment of their conservation significance using ecological and physical attributes, population and land use.

Current human uses

Economic Interests	-Existing or potential contribution to economic value by virtue of its protection, eg. for recreation or tourism, or as a refuge or nursery area, or source of supply for economically important species. - Current or potential use for the extraction of, or exploration for resources - Current or potential use for the extraction of, or exploration for resources - Importance for shipping and/or trade. - Value due to its contribution to local or regional employment and economic development.	An area of low impact on current users even if highly protected.
Indigenous Interests	-Traditional usage and/or current economic value. Contains indigenous cultural values. Native title considerations	No significant adverse impact, subject to further consultation. There is no intention to interfere with indigenous muttonbirding in the area.
Social Interests	Existing or potential value to the local, national or international communities because of its heritage, cultural, traditional, aesthetic, educational, recreational, or economic values	Presently little used or recognised.
Scientific Interests	Existing or potential value for research and monitoring.	High
Practicality/Feasibility	Degree of insulation from external destructive influences Social and political acceptability, and a degree of community support	Remote

	Access for recreation, tourism, and education Lends itself to practical management (cost effectiveness, compliance etc.).	
Vulnerability Assessment	Extent to which the site is vulnerable and susceptible to human induced changes and threatening processes.	Vulnerable
Replication	Provides a replication of ecosystems within a Marine Protected Area within the bioregion.	Bird values are unique

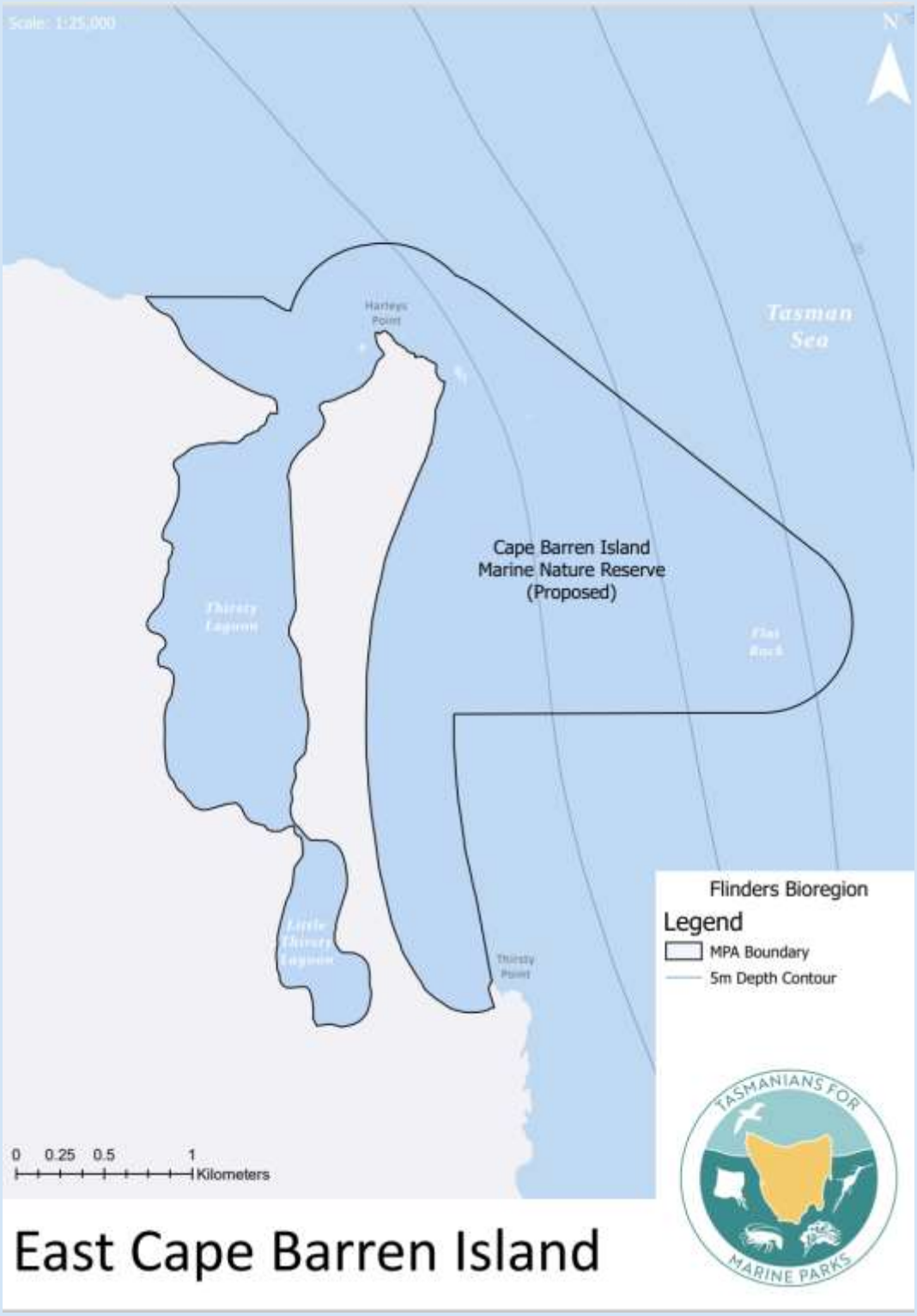
Design Comments

SE Flinders Island (Sellars + Camerons + Logans) lagoons – Logans supports a Ramsar listed site.

Recommended Protection

IUCN IV marine conservation area.

Cape Barren


Scale: 1:25,000
N
Harleys Point
Tasman Sea
Cape Barren Island
Marine Nature Reserve
(Proposed)
Thirsty Lagoon
Flat Rock
Little Thirsty Lagoon
Thirsty Point
Flinders Bioregion
Legend
MPA Boundary
5m Depth Contour
0 0.25 0.5 1
Kilometers
TASMANIANS FOR MARINE PARKS
East Cape Barren Island

Special Features of the Site

Dr Karen Parsons

Prof Edgar Comment - A total of 24 out of the 90 Tasmanian mainland estuary catchments were considered to be pristine. These catchments were nearly all in the south and west of the state and on Cape Barren Island. Thirsty Lagoon is a Class A estuary.

There is significant indigenous community interests in this area.

Black-Winged Stilt: Photo Eric Woehler

Special features of the Flinders Bioregion contained in the site

diverse island archipelagos, more than 60 islands and numerous additional islets	✓
distinctive granite shores	✓
extensive sandy beaches	✓
Eastern shores are exposed, while other areas are relatively protected	✓
more than 50% of Tasmania's total seagrass habitat	✓
spectacular parallel dune systems enclosing brackish lagoons along the east coast of the Furneaux Islands	✓
unusually high estuarine biodiversities and naturalness, containing nearly one third Tasmanian with critical or high conservation significance.	✓
Unique and pristine saline lagoon systems on Cape Barren Island	✓
a wide range of tidal currents around and between islands.	
invertebrates are highly variable even between island groups	✓
calcarenite cave system on the Flinders Island south-west coast	
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supports 90% of the Tasmanian Australian Fur Seal breeding population	

Known Threats

The general threats of significance to low lying or soft coastlines like estuaries and beaches are: [12]

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[12] Based upon, A Classification of Tasmanian Estuaries and Assessment of their Conservation Significance using Ecological and Physical Attributes, Population and Land UseG.J. Edgar1, N.S. Barrett2 and D.J. Graddon3, Ocean Rescue 2000

- increased nutrient loads resulting from marine farms, sewerage and agricultural use of fertilisers,
- foreshore development, dredging, habitats clearing and reclamation
- modification to water flow through dams and weirs,
- acidification of rivers and heavy metal pollution from mines,
- the spread of introduced pest species, and
- sea level rise and coastal erosion.
- Wildlife displacement, disruption of social and feeding behaviour e.g. Beach crowding, Pet impacts[13].
- Microplastics and litter (particularly damaging to seabirds).

Current protection

The calamari and squid fisheries are closed in Bass Strait during peak calamari spawning periods. There is a no netting zone in Mosquito Inlet, and a gill net ban in much of the proposed area.

Current human uses

Economic Interests	-Existing or potential contribution to economic value by virtue of its protection, eg. for recreation or tourism, or as a refuge or nursery area, or source of supply for economically important species. - Current or potential use for the extraction of, or exploration for resources - Current or potential use for the extraction of, or exploration for resources - Importance for shipping and/or trade. - Value due to its contribution to local or regional employment and economic development.	An area of low impact on current users even if highly protected.
Indigenous Interests	-Traditional usage and/or current economic value. Contains indigenous cultural values. Native title considerations	No significant adverse impact, subject to further consultation.

[13] Dr Eric Woehler, pers comms

Social Interests	Existing or potential value to the local, national or international communities because of its heritage, cultural, traditional, aesthetic, educational, recreational, or economic values	Presently little used or recognised.
Scientific Interests	Existing or potential value for research and monitoring.	High
Practicality/Feasibility	Degree of insulation from external destructive influences Social and political acceptability, and a degree of community support Access for recreation, tourism, and education Lends itself to practical management (cost effectiveness, compliance etc.).	Remote
Vulnerability Assessment	Extent to which the site is vulnerable and susceptible to human induced changes and threatening processes.	Vulnerable
Replication	Provides a replication of ecosystems within a Marine Protected Area within the bioregion.	Bird values are unique

Recommended Protection

IUCN IV marine conservation area.

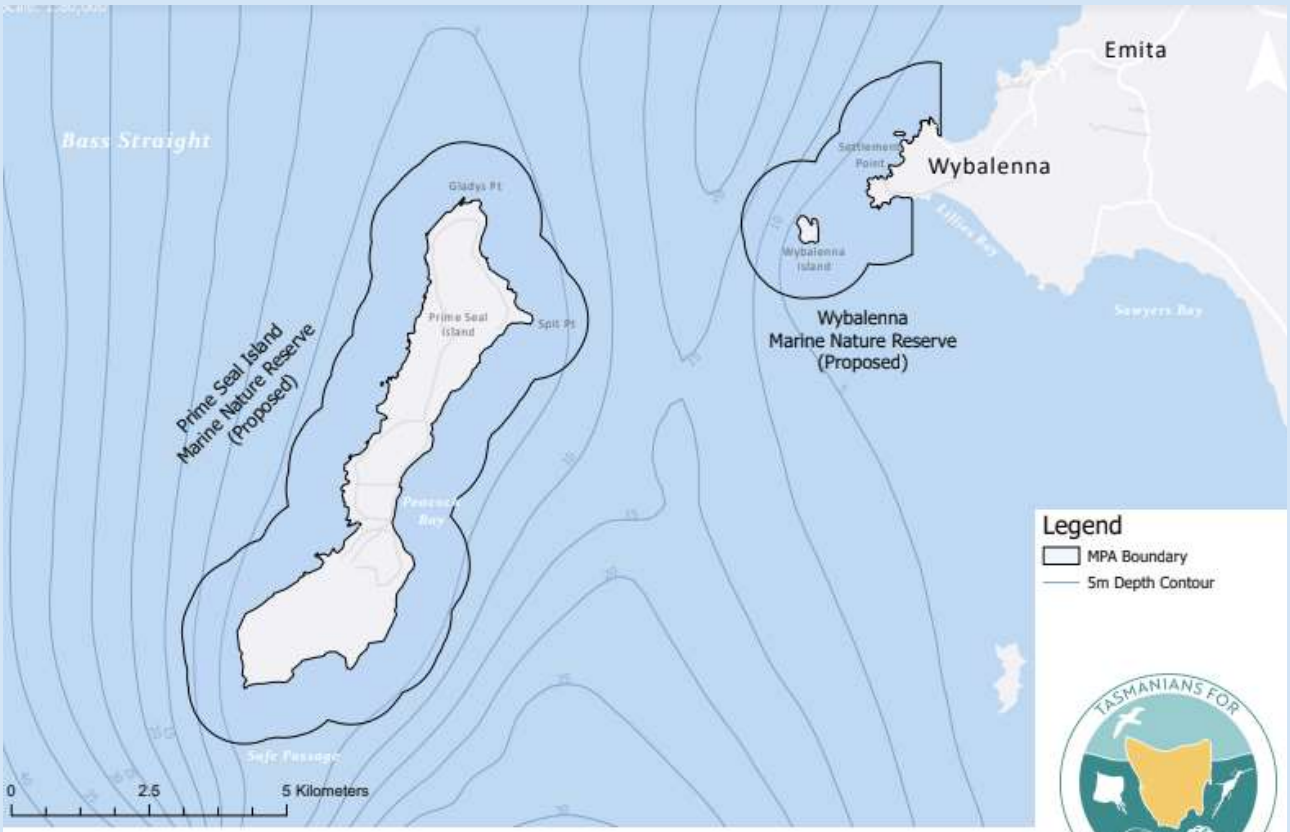
Identification Criteria (from Tasmania's MPA Strategy)

All of the above sites met the identification criteria, except one.

Criteria	Description of criteria
Comprehensiveness	-Adds to the coverage of the full range of ecosystems recognised at an appropriate scale within and across each bioregion. -Enhances the comprehensive nature of the Representative System of Marine Protected Areas in Tasmania.
Adequacy	The size of the area, its boundaries and location are adequate to ensure that its biological and ecological values can be protected and managed and the impact of activities can be minimised.
Representativeness	-Represents one or more ecosystems within an Interim Marine and Coastal Regionalisation of Australia bioregion. -Enhances the representative nature of the Representative System of Marine Protected Areas in Tasmania.
Ecological Importance	-Contributes to maintenance of essential ecological processes or life-support systems. -Contains habitat for rare or endangered species. - Preserves genetic diversity, ie. is diverse or abundant in species. -Contains areas on which other species or other systems are dependent, eg. contain nursery or juvenile areas or feeding, breeding or rest areas for migratory species. -Contains one or more areas which are a biologically functional, self-sustaining ecological unit. International or National Significance. -Is listed, or has the potential to be listed, on the World or National Heritage List or declared as Biosphere Reserve or subject to an international or national conservation agreement
Uniqueness	-Contains unique species, populations, communities or ecosystems. - Contains unique or unusual geographic features

Productivity	Do the species, populations, or communities of the area have a high natural productivity
Vulnerability Assessment	Contains ecosystems and/or communities vulnerable to natural processes.
Biogeographic Importance	Captures important biogeographical qualities.
Naturalness	Extent to which the area has been protected from, or not been subject to, human-induced change

Prime Seal Island and Wybalenna were raised in the Bronte workshops, but the nature of the natural values are not recorded and may relate largely to the adjacent seagrass beds. While these areas may make good national parks for their rocky reef and seagrass, the particular values of the area haven't been surveyed and can't be assessed at this time.



Western Flinders Island

Who are We?

Marine Life Network (MLN) are ordinary people who volunteer their time to help protect and promote the wonders of Tasmania's ocean environment. The aims of Marine Life Network are to educate and advocate.

We do anything useful for the marine environment, but our main campaign at present is a campaign called "Tasmanians for Marine Parks". This campaign is trying to create a system of comprehensive, adequate and representative marine parks for Tasmania.

An effort has been made to recruit a broad a cross-section of the community from along the political spectrum. MLN is non-partisan, welcoming to everyone, and is not an affiliate of existing political parties.