4 Cruise ship anchorages

4.1 General

In order to meet the growing demand for anchorage sites for visiting cruise vessels ten 'cruise ship anchorages' have been designated within the 'Whitsunday Planning Area' that are controlled by a joint permitting arrangement involving the Great Barrier Reef Marine Park Authority and Queensland Parks and Wildlife Service. Link to <u>Whitsundays Cruise ship</u> <u>anchorages</u>.

Cruise ships are required to carry a licensed pilot in the Whitsunday compulsory pilotage area. Anchorages are booked on a 'first come, first served' basis.

4.2 Pilotage

Great Barrier Reef Marine Park regulations introduced in October 2000 require all vessels over 70 metres LOA to engage a licensed pilot when transiting the <u>Whitsundays Plan of</u> <u>Management</u> (WPOM) compulsory pilotage area.

Furthermore, cruise ships seeking a permit to enter any of the gazetted anchorages and conduct tourist activities are obliged under the WPOM to engage a licensed pilot. The region is within the jurisdictional limits of Queensland Barrier Reef pilots' licenses issued by the Australian Maritime Safety Authority.

Pilotage services for cruise ships in the Whitsundays are provided <u>Auriga Pilots</u>. Preferably four to five days' notice is required.

4.3 Fitzalan anchorage

The information on Fitzalan Anchorage is reproduced from a document written by Captain J Ellyett — Regional Harbour Master (Mackay) and Captain John Foley (Australian Reef Pilots Pty Ltd) in 2009. The material contained in this document contributes to the safe and efficient management of shipping within Queensland waters. This does not absolve the master of responsibility for all aspects of the safe navigation and operation of the ship. This material is current at time of promulgation. Any detail shown in diagrammatic form is not to be used for navigational purposes.)

Fitzalan Anchorage lies close north of Hamilton Island in Queensland's Whitsunday Islands region. It is bounded by Whitsunday Island to the north and east, Hamilton Island to the south, and Henning Island to the west. First declared available for cruise ship traffic in early 2003, it is one of eight gazetted Whitsunday cruise ship anchorages. In the absence of any official name the area is referred to as Fitzalan Anchorage, the name Fitzalan taken from a nearby channel between Fitzalan Island and Hamilton Island; locally, the region is known as Hamilton Cove. Being almost landlocked, Fitzalan Anchorage is in consequence protected from strong winds, ocean seas and swells.

The recommended anchorage position is approximately 1.8 miles from the landing pontoon in Hamilton Island harbour. The harbour contains a marina with 135 berths, plus public landing pontoons. Cruise ships anchored in Fitzalan Anchorage are entitled to use their tenders to shuttle passengers to Hamilton Harbour.

Hamilton Island is described as a residential resort, with a range of accommodation styles, private residences, specialty shops, restaurants, banks, and a variety of tourist attractions on the island itself.

Patronage of Fitzalan Passage by local traffic mostly comprises tourist vessels in transit between Hamilton Island and other Whitsunday destinations. Hamilton Harbour is the base for many other Whitsunday region tourist attractions. The island has an airport with daily direct jet connections to major Australian cities.

Prior to the opening of Fitzalan Anchorage the most-used cruise ship anchorage in the area and traditional focus of Whitsunday cruise ship activities has been Cid Harbour, between Cid Island and Whitsunday Island. Cid Harbour is protected from the predominant southerly winds and has afforded a safe, calm environment in which to transfer passengers into local tourist craft engaged in Whitsunday activities. Northerly winds springing up in the late afternoons have, however, sometimes rendered the anchorage uncomfortable for passenger transfers and on rare occasions ships have been obliged to relocate to Turtle Bay, south of Whitsunday Island.

In 1998 other cruise ship anchorages — to the west of Hardy Reef (outer Barrier Reef), in Funnel Bay (near Airlie Beach), Hayman Island anchorage, Port Molle (west of Long Island), and two weather-alternate anchorages south of Whitsunday Island — were gazetted under the <u>Whitsundays Plan of Management</u> (WPOM).

Note: It is also, with permission from the Mackay Regional Harbour Master, possible to anchor in the main Whitsunday Passage, west of Henning Island, and to run ship's tenders from the anchorage to Hamilton Harbour. The ship must anchor no closer than 1500m (approximate 0.8 miles) from the nearest island or reef. This anchorage can be a useful stop-gap anchorage for ships bound for Hamilton Cove. If the tidal conditions at the entrance to Fitzalan Passage are unsuitable at the planned arrival time the ship can anchor temporarily off Henning Island and, weather permitting, conduct passenger transfer operations to Hamilton Harbour until able to move around into Hamilton Cove. Again, in reverse, it can be used if the tidal conditions at the planned departure time are unsuitable and the ship has to depart earlier than intended.

4.3.1 Environmental issues

Fitzalan Passage anchorage lies within the commonwealth Great Barrier Reef Marine Park and the Queensland Townsville/Whitsunday Marine Park; this is a world heritage listed area. The anchorage area is zoned 'Conservation Park Zone', within which cruise ships may neither transit nor anchor without a marine park permit issued jointly by the Great Barrier Reef Marine Park Authority and Queensland Parks and Wildlife Service.

Bookings are made on a first-come-first-served basis and can be made up to three years in advance.

The area that encompasses Fitzalan Anchorage is classified in the 'Whitsunday Plan of Management' as 'moderate recreational use', which is defined as:

'A natural setting that may have moderate levels of visitation, with appropriate moorings, and management facilities to manage impacts.'

The area around the northern tips of Hamilton and Dent Islands is classified 'developed', which is defined as:

'Immediately adjacent to urban areas and resorts; these areas are the access points to the area and a focus for intensive tourism and recreation.'

4.3.2 Application and voyage plan for Fitzalan Anchorage

'Great Barrier Reef Marine Park Authority recommends that a cruise ship operator's initial application for a Great Barrier Reef Marine Park Authority permit and booking for Fitzalan Anchorage should include a technical application for assessment and approval by the Mackay Regional Harbour Master. Great Barrier Reef Marine Park Authority further recommends that a detailed voyage plan, showing the vessel's entry, anchoring and departure intentions, be lodged with the Regional Harbour Master at least three days prior to the scheduled arrival, for assessment and approval.'

Whitsunday Cruise Ship Anchorage Risk Analysis Group discussed the need for the Regional Harbour Master to be given advance advice of an applicant cruise ship's relevant technical details, to ensure they meet the specific limitations and requirements. This includes the technical details of the vessel, that is LOA, tonnage, draft, manoeuvring and navigational equipment, intended date of visit and planned times of arrival and departure.

These documents can be lodged by the ship's master, owner/operator, or the ship's Australian port agent on their behalf. The details are assessed by the Regional Harbour Master, who will then approve or reject, make recommendations, or set conditions for the visit. (Form 1 - Fitzalan Anchorage - Application for technical assessment; Form 2 - Fitzalan Anchorage - Application to visit, and Form 3 - Fitzalan Anchorage Voyage Planat the end of this manual).

4.3.3 Maximum length of ship

'Great Barrier Reef Marine Park Authority recommends that the maximum length of ships entering Fitzalan Anchorage be provisionally set at around 200 metres WLL.'

Amendment: On 4 January 2007 the Executive of the Great Barrier Reef Marine Park Authority approved the removal of length restrictions at Fitzalan Anchorage. Length restrictions henceforth are at the jurisdiction of the Regional Harbour Master Mackay. The holders of Great Barrier Reef Marine Park Authority permits which still contain a 200 metres WLL length restriction can apply to Great Barrier Reef Marine Park Authority to have the condition removed.

4.3.4 Minimum manoeuvring equipment

'Great Barrier Reef Marine Park Authority recommends that cruise ships entering Fitzalan Anchorage be equipped with at least twin screws and a bow thruster.'

This was assessed as the minimum manoeuvring kit needed to enable the vessel to turn short round, if necessary, on arrival at or departure from the anchorage compound.

4.3.5 Navigation Information for Fitzalan Anchorage

The current hydrographic chart for the area is metric chart AUS254, 'Plans in Whitsundays', published by the Australian Hydrographic Service. The relevant plan is titled 'Fitzalan Passage Anchorage', and has a scale of 1:25,000, with depths shown in metres. The area is also shown on chart AUS253, 'Whitsunday Passage'.

Parts of the area bounded by Hamilton Island, Henning Island and Whitsunday Island (including the northern and southern banks) have been surveyed in detail by Queensland Transport's hydrographic surveys branch. Details can be obtained from the Regional Harbour Master.

The Whitsunday region is now covered by a 'Differential Global Positioning System' (DGPS) network. DGPS offers navigators an accuracy of +/- 10m.

The Australian Hydrographic Service has established its 'Electronic Navigation Chart' (ENC) vector database along the Queensland coast and including the Whitsunday region. This enables the operation of ECDIS (Electronic Chart Display and Information System).

4.3.6 Anchorage details

Not to be used for navigation

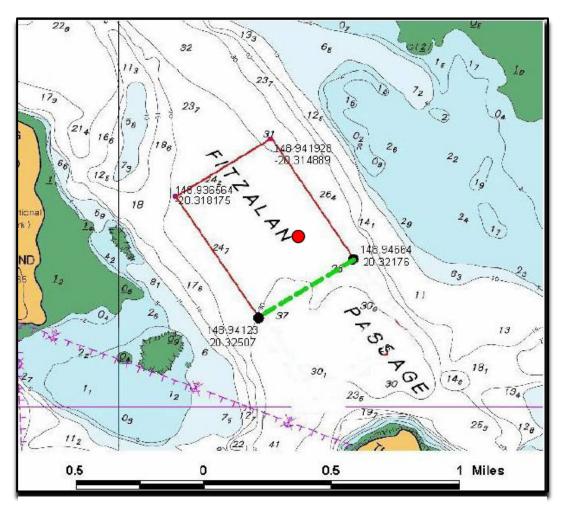


Figure 1 – Anchorage details

4.3.7 Navigation aids

The navaid network comprises:

Mark	Position:	Structure:	Charact eristic	Comments:
Reef Point beacon	20º 17·49'S 148º 54·76'E	Port hand beacon	FI.R. 2·5sec	Provides clearance from the rocks off Reef Point

Northern Bank buoy	20° 17·815' S 148° 54·985' E	Special mark buoy	FI.Y. 2·5sec	Marks the shallow areas on the Northern Bank.
Henning Bank buoy	20º 18·792'S 148º 56·057'E	Special mark buoy	FI.Y. 2·5sec	Marks the shoal area east of Henning Island.
Henning Entrance buoy	20º 18·422'S 148º 55·380'E	Special mark buoy	Q.Y	Marks the southern limit of Entrance Bank

Table 3 – Navigation aids

4.3.8 Geographic location

The anchorage compound (shown above) is bounded by the following coordinates:

- latitude 20° 18·893'S, longitude 148° 56·516'E
- latitude 20° 19.091'S, longitude 148° 56.194'E
- latitude 20° 19·504'S, longitude 148° 56·474'E
- latitude 20° 19·306'S, longitude 148° 56·798'E

The geographical centre of the compound is latitude 20°19'.2'S, longitude 148°56'.5'E.

(See recommended anchorage position, 4.3.10)

In the anchorage compound the depth varies from 21 to 37 metres. The depth in the nominal anchorage position is 27 metres. The seabed at the nominal anchor position comprises coral, coarse sand, broken shell, and rock.

4.3.9 Anchoring practices

Cruise ships may drop anchor anywhere within the confines of the compound provided the ship remains within these limits at all times. The compound is 0.5 miles across the NW/SE axis, and 0.36 miles across the NE/SW axis.

In calm conditions, cruise ships are tide-rode rather than wind-rode for most of the time. They settle heading roughly NNW on the flood tide and SSE on the ebb; the peak of the ebb tide is almost twice the strength of the peak of the flood. During the flood tide in prevailing E to SE winds the ship usually cants to the east. The tide rarely predominates; instead the ship lies on headings between about ENE and SE. This effect gives the ship a 'natural port side lee', which assists the safe transfer of passengers to tourist craft.

4.3.10 Recommended anchorage position

In practice, especially during SE winds, an anchorage position slightly SE of the centre of the anchorage compound is recommended. This recommended position is 20° $19 \cdot 26^{\circ}$ S, 148° $56 \cdot 66^{\circ}$ E (indicated by the red dot on the map above).

Although close to the eastern and southern edges of the anchoring compound, experience shows that the ship is extremely unlikely to swing more than one cable in those directions. During NW winds, which are rare, it might be more prudent to anchor in the geographical centre of the anchorage compound.

4.3.11 Swinging room

From the central anchorage position to the nearest peripheral danger the ship has a safe swinging radius of 667 metres (0.35'). This provides for a minimum clearance of 360 metres for a ship of 200 metres waterline length anchored to a minimum four shackles of cable as recommended by Maritime Safety Queensland and the Australian Maritime Safety Authority for the known depth at the anchorage.

During spring tides, especially during fresh winds, a minimum of six shackles of cable in the water is recommended. ('The World', on her inaugural visit anchored to five shackles in ESE winds of 15-20 knots and began to drag when the ebb tide stream peaked, about two hours after HW on a 3.5m tide. Paying out extra cable was sufficient to grip and the ship held firmly from then on.)

During very strong winds, prudence will suggest increasing the scope even more. In all cases, the peak of the ebb tide (about two hours after HW) should be monitored for signs of anchor drag.

The following table shows the safety margin for ships of various lengths, based on the ship anchoring to six shackles in the geographical centre of the anchorage compound.

Comparison of clear swinging	circles — Fitzalan Anchorage —	- anchoring to 6 shackles:
	J	

Ship's WLL (in metres)	100	150	200	250	300
LW depth at anchorage	27	27	27	27	27
Scope of cable (6 shackles)	164	164	164	164	164
Max radius of swing*	262	312	362	412	462
Safety clearance	667	667	667	667	667
Margin	405	355	305	255	205

* Basis: Radius of swing = square root of (length of chain squared - depth of water squared) + WLL

Table 4 – Fitzalan Anchorage swinging circles

- **Note 1:** Waterline length (WLL) is a more appropriate measure for this purpose than length overall (LOA). However, for assessment purposes, LOA is the accepted **ship-length method**.
- **Note 2:** During 'The World' visit in March 2003, an analysis of the geographical movement of the ship's GPS antenna (approx. 10 metres abaft the anchor hawse pipe) showed an overall variation of not more than 0.1 mile.
- **Note 3:** Passenger transfers: The decision to conduct passenger transfers is always the captain's, having regard for company safety procedures and policies, contemporary and expected weather conditions, and technical factors (tenders, platforms, and so on). To improve the lee for passenger transfer operations during slack water in strong winds, when the vessel is classically 'wind rode', it may be necessary to skew the ship off the wind with the engines (preferably the stern thruster).

4.3.12 Swinging limits

'Great Barrier Reef Marine Park Authority recommends that anchored cruise ships be required to remain within the geographical limits of the anchorage compound at all times, even during swinging to the change of tide." Any extension of that limit is to be determined by the Mackay Regional Harbour Master in the light of experience over a period of time, also taking into consideration the particular manoeuvring characteristics of the applicant vessel and the anticipated conditions during the planned visit.'

It was recognised that the master and pilot of the vessel should have the professional discretion to select an appropriate anchorage position within the compound, depending on the weather and tidal conditions at the time.

Given the environmental sensitivity of the region and the tidal regime, it was agreed to impose over-restrictive limits at least provisionally, until — or indeed if — statistical evidence in the light of experience suggests some relaxation. Any changes to the criteria would be at the discretion of the Regional Harbour Master.

4.3.13 Marshalling craft

A marshalling craft is required when using Henning Entrance, both for marshalling nearby traffic but also to alert people recreating on either Pelican Island or the northern beach of Henning Island that a cruise ship will be passing and may cause a wash up onto the beach. Experience indicates that for vessels entering Fitzalan via Reef Point Entrance the assistance of marshalling craft is unnecessary. If either the master or pilot considers a marshalling craft is necessary, one can be obtained by contacting Hamilton Island Marina. (9.5 Hamilton Island request form).

4.3.14 Tidal information and controlling depth

Tidal heights: There are no published daily tidal predictions for Hamilton Harbour or the Fitzalan Anchorage area as such; the 'standard port' in the area for calculating semidiurnal tidal planes is <u>Shute Harbour</u>. Hamilton Island has a listed ratio of 1.13 on Shute Harbour tides. The highest annual forecasted tide at Shute is 4.1 metres, giving a prediction of 4.6 metres at Hamilton.

Controlling depth: The least depth near the track for entering Fitzalan Passage is 9·9 metres, SE of Reef Point. It is not shown on the hydrographic chart, but can be seen on the field plan. Yellow buoys mark the northern and southern extremities of Northern Bank, which has shallower depths.

In practice, the entrance between Reef Point and the Northern Bank buoy is sufficiently broad to allow an entrance/exit without having to cross the 9.9 metre patch. The controlling depth provision merely adds an extra element of safety, should the ship drift over this patch.

Tidal streams: In early 2000 two tidal stream current meters were laid by the Australian Hydrographic Service in the area for a three-month analysis period. A summary of the findings show:

- direction of stream: flood 145° to 165°; ebb 300° to 340°
- strength of stream: flood maximum 1.2 knots; ebb maximum 2.46 knots
- time of max rate: flood average 1hr 50m after LW (see note 1)
- ebb average 1hr-55m after HW

Note 1: While the time of the maximum rate of the ebb stream after HW varies little, the morning flood tide streams peak at about 2 hours 5 minutes after LW and the evening flood tide streams peak at about 1 hour 30 minutes after LW.

Note 2: Data supplied by the Australian Hydrographic Service indicates that the ebb stream begins about 30 minutes before the time of HW and runs for 20 minutes after the time of LW.

4.3.15 Entry and departure track information

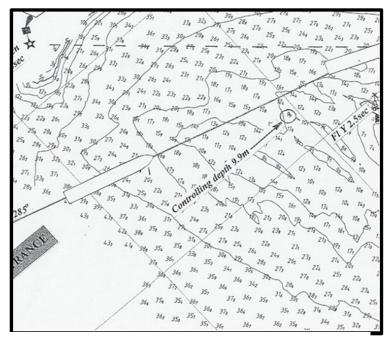


Figure 2 – Entry/departure track into Fitzalan Anchorage

There are two entry/departure tracks into Fitzalan Anchorage: Reef Point Entrance and Henning Entrance.

Reef Point Entrance: Directions from sea to the recommended anchorage position (see <u>4.3.10</u>).

From an entry point (20° 17.522'S, 148° 54.032'E) west of Reef Point, set course 105°(T) with Whitsunday Island right ahead; a prominent headland will be seen fine on each bow. This course just clips the edge of the 10 metre contour on Northern Bank. The least depth in the vicinity is the 9.9 metre patch just inside this contour. A special marker buoy (20° 17.815'S 148° 54.985'E Datum WGS 84) marks the shallower patches.

The next waypoint is $20^{\circ}-17 \cdot 799$ 'S, $148^{\circ} 55 \cdot 159$ 'E and next course $132^{\circ}(T)$ with the west edge of Fitzalan Island right ahead and Reef Point beacon right astern. Pass the headland on Whitsunday Island at 0.2 miles.

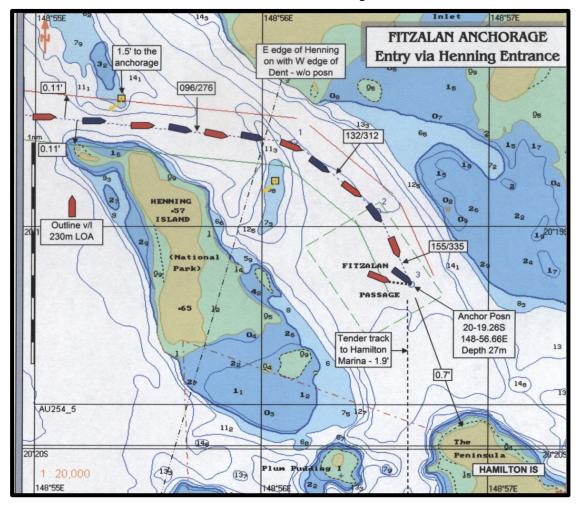
The next alter course waypoint is 20° 18·933'S, 148° 56·512'E, and next course 155° (T); the radio tower on Hamilton Island is right ahead. Continue on to the anchorage position at 20° 19·26'S, 148° 56·66'E, with the northern tip of Hamilton Island distant 0·7 miles.

Both entry and departure tracks have several very clear visible marks (peaks and islands in transit) to guide a vessel safely along the indicated courses. The outward tracks follow the reciprocal courses to the inward tracks.

The depth of water in the entrance channel from Reef Point to the anchorage area varies from a minimum 9.9 metres near the approach track SE of Reef Point, to a maximum 27 metres. Ships of extremely light draft can run directly across the northern bank, if tidal height allows.

The most difficult phase of the operation is likely to be on departure, if the ship is lying SSE to the ebb tide; the ship has to turn 'short round' before proceeding outwards. It may be necessary to close up towards Hamilton Island before turning, to make most use of the one-mile-long NNW/SSE clearance between Hamilton Island and Henning Bank. Note: 'Closing up' towards Hamilton Island to improve the swing area for departure is not a breach of the Marine Park regulations.

Henning Entrance: Henning Entrance passes between the northern coast of Henning Island and the southern extremity of Entrance Bank. It offers a straight track, at least 20 metres deep and 400 metres wide at its narrowest point.



Not to be used for navigation

Figure 3 – Fitzalan Anchorage – Henning Entrance

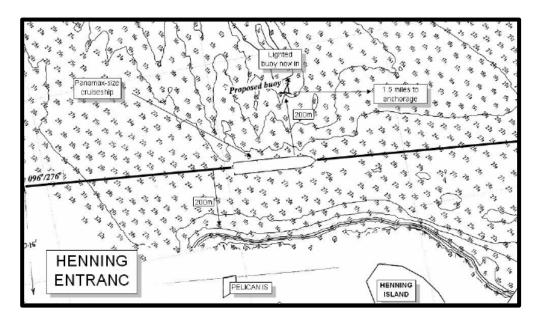


Figure 4 – Henning Entrance

Directions from sea to the recommended anchorage: From an entry point northwest of Henning Island (20°18·40'S, 148°54·011'E), set course 096°(T) with the 211 metre peak on Whitsunday Island right ahead. Beneath this peak is a sandy beach, the northern extremity of which, in line with a gap in the trees on the 211 metre peak, offers a natural set of leads.



Figure 5 – Henning Entrance – Head mark

The next waypoint is 20°18·624'S, 148°56·143'E and course 132° (T) with the west edge of Fitzalan Island right ahead and Reef Point beacon right astern.

The next alter course waypoint is $20^{\circ}18.915$ 'S, $148^{\circ}56.494$ 'E, and course 155° (T); the radio tower on Hamilton Island is right ahead. Continue on to the anchorage position at $20^{\circ}19.26$ 'S, $148^{\circ}56.66$ 'E, with the northern tip of Hamilton Island distant 0.7 miles.

Note 1: In practice, once through the gap the ship can begin a slow, one-mile radius turn around the Henning Bank buoy and into the anchorage. A good mark to begin this turn is when the southern end of Henning Island comes on with the northern end of Dent Island, both in line with a prominent peak in the distance.

Note 2: Local Queensland Parks and Wildlife officers advise there are no Queensland Parks and Wildlife Service issues other than the need to pass the island at a moderate speed.

Note 3: While there has been no official study of the tidal influences in Henning Entrance, local operators anecdotally confirm they are more benign than around Reef Point and this has been corroborated by experience to date.

Note 4: A small beach on the northern end of Henning is occasionally used for private recreational purposes. To alert private users of that beach that a cruise ship is passing and may cause a surge on the beach, Hamilton Island Marina personnel will provide a marshalling craft for this purpose when ships arrive and depart. This craft operates under the direction of the cruise ship's master/pilot (9.5 Hamilton Island request form).

4.3.16 Standby requirements

'Great Barrier Reef Marine Park Authority recommends that while a cruise ship is anchored in Fitzalan Anchorage: an active bridge watch with a qualified deck officer be maintained throughout; the main engines and bow thruster remain on standby; a senior deck officer, that is, either captain or staff-captain/chief officer, is in attendance on the bridge at the turn of the tide to monitor the swing of the vessel and ensure it remains within the confines of the anchorage area at all times.'

Whitsunday Cruise Ship Anchorage Risk Analysis Group considered that the position of the vessel should be continually monitored from the bridge while it is anchored in Fitzalan Anchorage. This is to ensure that it remains always within the confines of the marked anchorage area and to be alert to possible anchor drag.

During most stages of the tide, cruise ships will lay in line with the direction of tide, — either NNW or SSE. In this position they have the maximum clear room should they drag their anchors. The closest dangers are to the northeast and southwest of the anchorage position, and a cruise ship affected by wind can, at slack water, swing its stern in those directions. If the wind is strong enough it is potentially feasible that a cruise ship could drag towards those dangers; it is to eliminate all possibility of that happening that continuous position monitoring be in place on the bridge.

It was likewise considered prudent that a ship should have access to its engines and bow thruster at reasonably short notice, should the need arise. Even though standard cruise ship practice is to have the bridge constantly manned by a qualified ship's officer while at anchor, Whitsunday Cruise Ship Anchorage Risk Analysis Group considered that at slack water, when the ship turns to the changing tidal stream, the presence on the bridge of a senior officer — either captain or staff— captain/chief officer — is warranted.

Note: As an added measure of safety, from experience gained during 'The World' visit, it is recommended that the period of peak ebb tide (approximately two hours after HW) be also monitored by a senior officer, with an engineer standing by in the engine room ready for immediate action if necessary.

4.3.17 Chart and position-fixing requirements

'Great Barrier Reef Marine Park Authority recommends that cruise ships entering Fitzalan anchorage be equipped with Differential Global Position equipment and also an approved electronic chart system (preferably Electronic Chart Display and Information System — ECDIS)."

The Whitsunday region is now covered by a 'Differential Global Positioning System' (DGPS) network. DGPS offers an accuracy of +/- 10 metres.

The Australian Hydrographic Service (AHS) has extended its 'Electronic Navigation Chart' (ENC) vector database along the Queensland coast, including the Whitsunday region. In consequence the local DGPS network and ENC database enables the operation of ECDIS.

Whitsunday Cruise Ship Anchorage Risk Analysis Group considered it wise to take maximum advantage of the available technology to assist cruise ships entering and departing from Fitzalan Anchorage and while anchoring.

4.3.18 Limited period access

'Great Barrier Reef Marine Park Authority recommends that visits to Fitzalan Anchorage be provisionally restricted to daylight hours, including entry and departure procedures; the actual entry and departure time limits to be at the discretion of the Regional Harbour Master Mackay.'

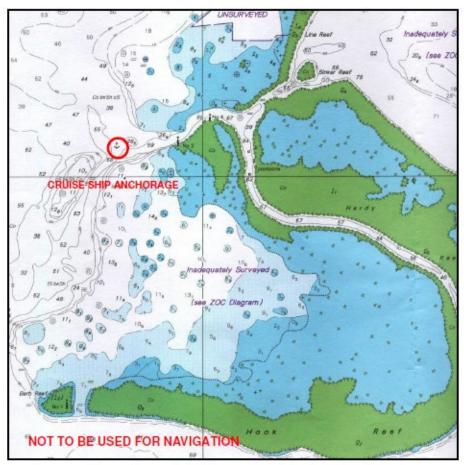
Note: Experience has shown that the available navigation aid network is adequate to support night-time operations, at the discretion of the Regional Harbour Master.

'Great Barrier Reef Marine Park Authority further recommends that, provisionally, cruise ships should enter and exit Fitzalan Anchorage only at slack water or when 'stemming the tide', the actual entry and departure tidal limits to be at the discretion of the Regional Harbour Master Mackay.

Experience in the first two seasons of cruise ship operations in Fitzalan indicates that in certain circumstances — at the discretion of the Regional Harbour Master — it is safe for ships to enter or depart at tidal stages other than at slack water or when stemming the tide.

Reference	Information	Remarks	
Anchorage position	The point within the Great Barrier Reef Marine Park at or about 19° 44.45′ S, 149° 08.40′ E, being approximately 1·10 nautical miles due west of the beacon depicted as No. 2 on hydrographic chart AUS254	See chartlet below	
Approach	From NW staying outside the 30 metre contour		
Depth	30-50 metres	Bottom broken coral, shells and sand	
Tides	Maximum rise and fall about 4·2 metres. Tidal streams ebb north and flood south	Strong eddies can be experienced in the anchorage area.	
Facilities	Fantasea moored pontoons Explorer 1 and Adventure 1		
Protection	Exposure for larger vessels from all directions		
Communications	Vessels to advise Hay Point VTS on VHF channel 10 when arriving or departing the anchorage	Hay Point VTS	
Zone/setting	Marine National Park Zone	Moderate use	
Table 5 – Hardy Reef anchorage information			

4.4 Hardy Reef anchorage



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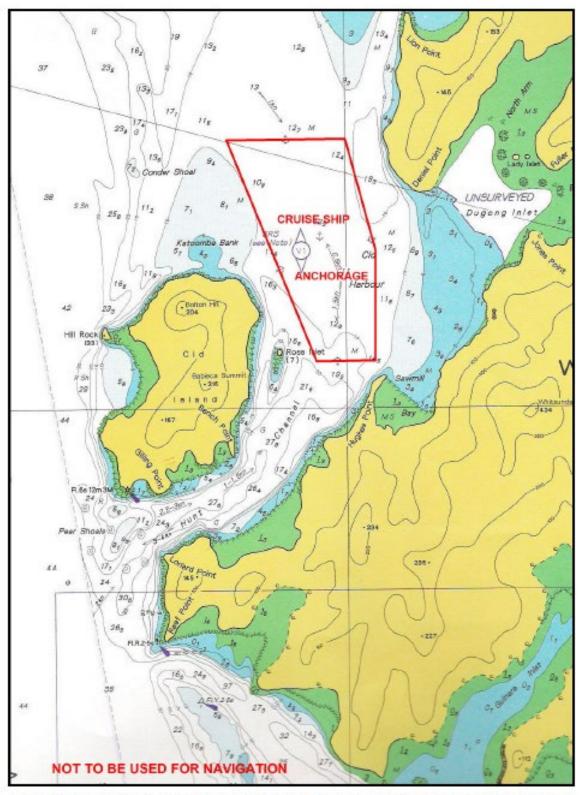
HARDY REEF

4.5 CID Harbour anchorage

Reference	Information	Remarks
Anchorage boundaries	The area of the Great Barrier Reef Marine Park bounded by a notional line beginning at 20° 14.30′ S, 148° 56.00′ E and running progressively: south-easterly along the geodesic to 20° 15.00′ S, 148° 56.20′ E south along the meridian to 20° 15.70′ S, 148° 56.20′ E west along the parallel to 20° 15.70′ S, 148° 55.80′ E north-easterly along the geodesic to 20° 14.30′ S, 148° 55.20′ E east along the parallel to the point of commencement	See chartlet below
Approach	From a position in Whitsunday Passage three nautical miles NW of Hill Rock align Daniel Point with the summit of Mt Robinson on a bearing of 105°T. Once clear of Condor Shoal (9 metres) turn south and steer	Recommended approach is from the north as the tidal streams in the

Reference	Information	Remarks
	for position 20° 14.9'S 149° 55.8'E and anchor as convenient	Hunt Channel (southern entrance) are strong and uncertain
Depth	10–15 metres	Bottom — mud
Tides	Maximum rise and fall about 4·2 metres. Tidal streams ebb north and flood south maximum 1·5 knots	
Facilities	None — passengers transferred to Hamilton Island	Vessel unable to use own tenders as distance to Hamilton Harbour >3 miles.
Protection	Protected from all directions except N to NW	
Communica tions	Vessels to advise Hay Point VTS on VHF channel 10 when arriving or departing the anchorage	Hay Point VTS
Zone/setting	Conservation Park Zone	N/A

Table 6 – Cid Harbour anchorage - information



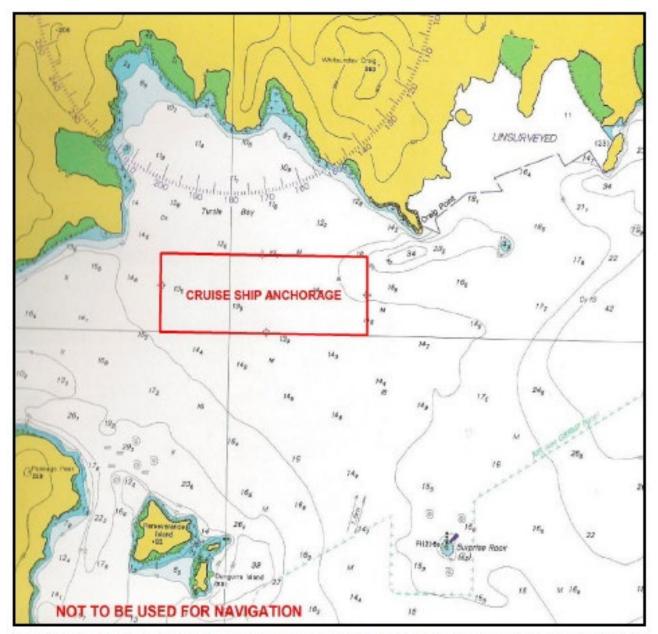
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CID HARBOUR

4.6 Turtle Bay anchorage

Reference	Information	Remarks
Anchorage boundaries	The area of the Great Barrier Reef Marine Park bounded by a notional line beginning at 20° 19.50′ S, 149° 01.00′ E and running progressively: south along the meridian to 20° 20.00′ S, 149° 01.00′ E west along the parallel to 20° 20.00′ S, 148° 59.50′ E north along the meridian to 20° 19.50′ S, 148° 59.50′ E east along the parallel to the point of commencement.	See chartlet below
Approach	Approach from S or SE in depths of 15–20 metres	On approach from south beware Surprise Rock which is marked by an isolated danger mark (lit)
Depth	About 15 metres	Bottom — sand and mud
Tides	Maximum rise and fall about 4·2 metres. Tidal streams ebb north and flood south maximum 1.5 knots.	Strong eddies in the vicinity of Surprise Rock
Facilities	None — passengers transferred to Hamilton Island	Vessel unable to use own tenders as distance to Hamilton Harbour >3 miles
Protection	Protected from all directions except east through south	
Communications	Vessels to advise Hay Point VTS on VHF channel 10 when arriving or departing the anchorage	Hay Point VTS
Zone/setting	Conservation Park Zone	N/A

Table 7 - Turtle Bay anchorage - information



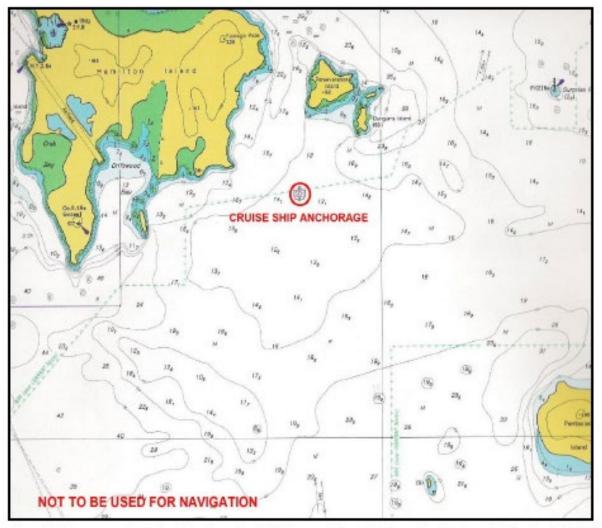
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TURTLE BAY

4.7 South East Hamilton anchorage

Reference	Information	Remarks
Anchorage position	The point within the Great Barrier Reef Marine Park at or about 20° 22.10´ S, 148° 59.25´ E	See chartlet below
Approach	Approach from S or E in depths of	On approach from east beware Surprise Rock which is marked by an isolated danger mark (lit) When approaching from south beware of:
Approach	15–20m	Cole Island and an un-named islet to WSW of Pentecost Island – dries 5 metres
		An 8.6 metre patch due west of Pentecost Island about 2.4 miles
Depth	About 12 metres.	Bottom — sand and mud
Tides	Maximum rise and fall about 4·2m. Tidal streams ebb north and flood south maximum 1.5 knots	Strong eddies in the vicinity of Surprise Rock
Facilities	None — passengers transferred to Hamilton Island	Vessel unable to use own tenders as distance to Hamilton Harbour >3NM
Protection	Protected from all directions except east through WSW	
Communications	Vessels to advise Hay Point VTS on VHF channel 10 when arriving or departing the anchorage	Hay Point VTS
Zone/setting	Conservation Park Zone	N/A

Table 8 – South East Hamilton anchorage - information



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SE HAMILTON

4.8 Recreational vessels — restricted areas and activities

If you are planning a boating trip to the Great Barrier Reef Marine Park, you will need to know where you can go and what you can do, as penalties apply if you do not follow zoning rules.

Zoning maps and an introductory guide explaining zoning and best environmental practice guidelines are available free of charge from bait and tackle shops, community access points, the Environmental Protection Agency and by contacting the <u>Great Barrier Reef Marine Park</u> <u>Authority</u>.

A recommended publication titled <u>'100 Magic miles of the Great Barrier Reef — The</u> <u>Whitsunday Islands'</u>(9th Edition 2012) by David Colfelt. It contains comprehensive information on resorts, diving, camping, boating, fishing, managing the marine park, anchorages, zones and the management plan.

4.9 Sewage pump-out facilities

Sewage pump out facilities have been established Abel Point Marina (Phone: +61 7 4946 2400), Mackay Marina and are in the process of being established at Port of Airlie Marina. Complete information on ship-sourced sewage management is available on the <u>MSQ</u> <u>website</u>.

4.10 Resorts

4.10.1 Hamilton Island

Hamilton Island is the largest and most developed resort in the Whitsundays hosting hotels, condominiums, residential development, retail outlets, a marina and an airport.

Reference	Information	Remarks
Access	Marked by port and starboard beacons, lit at night (Lighthouse on port breakwater is decorative). Leads in line 081°T	See section 5.6.3.7 re danger from aircraft and restricted area to the north and south of runway.
Depth	Approach >10 metres. Inner Harbour 2 to 4·5 metres	
Tides	Maximum rise and fall about 4.2 metres	Care is required for approaches from the north. See section 5.6.3.3 re Plum Pudding Island.
Facilities	Fuel, water, most repair facilities, shops, buses and taxis.	
Protection	From all directions for 25+ knots of wind	
Berths	180 berths, maximum length of vessel 47 metres	
Contact	H/M VHF channel 16/68 Telephone: +61 7 4946 8353 Email <i>:</i> <u>vacation@hamiltonisland.com.au</u>	
Zone/setting	Conservation Park Zone	Setting — developed.
Hamilton Island is served by three cruise ship anchorages Cid Harbour, Fitzalan Passage and Turtle Bay.		

Table 9 – Hamilton Island information

4.10.2 Hayman Island

The resort on Hayman Island lies on the south side of the island and is served by a manmade harbour a short distance from the resort to the SW.

Reference	Information		Remarks
Access	Marked by six port and st beacons, lit at night. Triar leads in line 340°T		
Depth	Approach >10 metres		Care is required for approaches from the south as there is extensive shoal water to the south of Hayman Island
Tides	Maximum rise and fall ab	out 4·2m	
Facilities	Resort, some fresh water	available	Restrictions on visitors
Protection	For all directions except south 25+ knots		
Berths	Small passenger jetty and berths for visiting boats and service craft		
Communications	VHF channel 16/06 Telephone: +61 7 4940 1882 Web: <u>www.hayman.com.au</u> e-mail: <u>drobinson@hayman.com.au</u>		
Zone/setting	Conservation Park Zone	Marine National Park Zone	
Hayman Island has a cruise ship anchorage.			

Table 10 – Hayman Island information

4.10.3 Daydream Island

Daydream Island resort is situated on the NE corner of the island. The resort is served by a small man made harbour.

Reference	Information	Remarks
Access	Marked by port and starboard beacons, lit at night	
Depth	Approach <10 metres	Approach harbour from seaward as reefs extend both sides of the harbour entrance.
Tides	Maximum rise and fall about 4·2 metres	Daydream Island subject to strong currents down both sides.
Facilities	Resort, some fresh water available	Restrictions on visitors
Protection	Little protection afforded	

Reference	Information	Remarks
Berths	A small jetty for service vessels	
Communications	VHF channel 17 Tel: +61 7 4948 8488 Web: <u>www.daydreamisland.com</u> e-mail: <u>operator@daydream.net.au</u>	
Zone/setting	Conservation Park Zone	Setting — developed

Table 11 – Daydream Island information

4.10.4 Hook Island

Hook Island Wilderness resort is situated on the western side of Hook Passage at the top end of Hook Island.

Reference	Information	Remarks
Access	By boat to the Wharf. There is no harbour	
Depth	Approach to wharf >10 metres	Approach wharf from seaward as reefs extend both sides of the wharf
Tides	Maximum rise and fall about 4·2 metres	The narrow neck of Hook Passage creates very strong currents and is not a good place to anchor
Facilities	Small resort with limited facilities and National Park	
Protection	Up to 15 knot winds from all directions	
Wharf	For service vessels only	
Communications	VHF Ch 16/74 Tel: +61 7 4946 5255 PO Box 1182, Airlie Beach Qld 4802 email: <u>info@hookislandresort.com.au</u> Web: <u>www.hookislandresort.com</u>	
Zone/setting	Habitat protection zone	Setting — developed

Table 12 – Hook Island information

4.10.5 Lindeman Island

Lindeman Island Resort is on the south side of Lindeman Island which lies to the east of the Whitsunday Passage. Strong tidal streams flow between Lindeman Island and Seaforth Island so care must be taken when approaching the dredged channel to access the public wharf. The resort is currently closed as at December 2013.

Reference	Information	Remarks
Access	By public jetty via a dredged channel marked by port and starboard hand beacons the seaward pair of which are lit at night	Access to the dredged channel is restricted
Depth	Approach to jetty six to10 metres	Approach channel from seaward as reefs extend both sides of the channel
Tides	Maximum rise and fall about 4·9 metres	Lindeman Island is surrounded by reefs and outlying islands — tidal flow can be very strong
Facilities	Resort and mainly national park	Day visitors permitted
Protection	Up to 15 knot winds from north to south through east	
Jetty	For use by service vessels only	
Communications	Nil comms	
Zone/setting	Conservation park zone	Setting — developed

Table 13 – Lindeman Island information

4.10.6 South Molle Island

South Molle Island Resort lies on Bauer Bay on the northern side of South Molle Island one of a number of islands in the Molle Group. The island is surrounded by reefs and has strong tidal rips and overfalls down its eastern side. With Unsafe Passage to the north (section 5.6.3.2) and Roma Point to the south (section 5.6.3.4) care is necessary when navigating around this group of islands.

Reference	Information	Remarks
Access	By public jetty that extends out over the reef	
Depth	Bauer Bay five-10m	Approach jetty from seaward as reefs extend both sides of the channel
Tides	Maximum rise and fall about 4.2m	Strong overfalls and rips — see note above
Facilities	Resort and National Park	Day visitors permitted

Reference	Information	Remarks
Protection	Up to 15-25 knot winds from east through south west via south	
Jetty	For use by service vessels only	
Communications	VHF Channel 16/74 Tel: +61 7 4946 9433 Email: <u>info@southmolleresort.com.au</u>	
Zone/setting	Conservation park zone	Setting — developed

Table 14 – South Molle Island information

4.10.7 Laguna Whitsundays

Laguna Whitsundays is a golfing resort served by a man made harbour known as Laguna Marina. The resort is approximately two kilometres from the marina. The approach channel and marina has not recently been dredged. The depths and clearances in the channel and marina maybe less than charted. Local advice should be obtained.

Reference	Information	Remarks
Access	Approach the marina on leads bearing 249.5°T through a dredged channel marked by port and starboard lit beacons	Sharp 90° turn required when abeam of harbour wall to port
Depth	Inside marina four metres. Dredged channel 3.2 metres (1999)	Channel subject to silting — caution required
Tides	Maximum rise and fall about 4.2 metres	Tides variable — contact marina for specific advice
Protection	Up to 25 knot winds from all directions	
Communications	Email: info@lagunawhitsundays.info Web: www.lagunawhitsundays.info	
Zone/setting	N/A	Setting — N/A

Table 15 – Laguna Whitsundays information

4.11 Reefs and reef pontoons

There are a number of outlying reefs in the Whitsunday region which, although outside the compulsory pilotage area, are included in the 'Whitsunday Planning Area' therefore Plan of Management provisions apply. Navigation in the vicinity of the reefs can be hazardous and the following points must be considered:

Reference	Information	Remarks
Access	The entrance is marked by a W Cardinal (# 2 Beacon) and a starboard hand mark (# 4 Beacon)	Enter the lagoon when the outflow of tide has ceased or at high water. Beware 'The Waterfall' at other times due

Reference	Information	Remarks
	which should be left to starboard. Proceed to the Waterfall gap	to very strong water movement through the gap
Depth	Inside lagoon five to nine metres	Coral clearly visible — beware amphibious aircraft landing in lagoon
Tides	Maximum rise and fall about 4·2 metres	
Facilities	'Reef pontoons and a helicopter landing pontoon are moored at Hardy Reef and provide a range of tourist activities	
Protection	Up to 15 knot winds from all directions	
Zone/setting	Marine National Park Zone	Setting — high use
Hardy Reef has a cruise ship anchorage — see section 4.4		

Table 16 – Reef and reef pontoons

- extremely strong tidal flows from two to eight knots can be experienced in amongst the reefs and care should be taken when passing through narrow passages as 'waterfall' effects can be experienced causing short steep waves up to four metres in height
- wind against tide conditions can be particularly hazardous when winds exceed 15 to 20 knots
- the reef areas should be avoided except in calm weather, in daylight with good visibility; although some beacons exist they are not lit
- approach the reefs at low water so they are visible and avoid arriving when the sun is low on the horizon as it can inhibit visibility.

4.11.1 Hardy Reef

Hardy Reef lies approximately 39 nautical miles from the mainland in position 19° 45' S 149° 14'E. Hardy Reef surrounds a lagoon and the whole area is designated a marine national park subject to the established zoning controls.

4.11.2 Bait Reef

Bait Reef lies to westward of Hardy Reef in position 19° 48'S 149° 04'E. It is characterised by a series of 'bommies' known as the Stepping Stones on the western side of the reef.

Reference	Information	Remarks
Access	Through 'The Entrance' or between the bommies of the Stepping Stones in clear visibility	'The entrance' is marked by a starboard hand beacon which is not always present
Depth	Inside Stepping Stones six to 11 metres	
Tides	Maximum rise and fall about 4.2m	
Facilities	None	
Protection	Up to 15 knot winds from NE through E to SE	
Zone/setting	Marine National Park Zone	Setting — moderate use

Table 17 – Bait Reef information

4.11.3 Knuckle Reef

Knuckle Reef lies outside the Whitsunday pilotage area and the 'Whitsunday Planning Area' in position 19° 30'S 149° 18'E.

4.11.4 Disclaimer

Reference	Information	Remarks
Access	Through 'The Entrance' or between the bommies of the Stepping Stones in clear visibility	The entrance is marked by a starboard hand beacon which is not always present
Depth	Inside Stepping Stones six to 11 metres	
Tides	Maximum rise and fall about 4.2 metres	
Facilities	Pontoons at the reef include Knuckle Reef Pontoon and a helipad	
Protection	Up to 15 knot winds from NE through E to SE	
Zone/setting	Marine National Park Zone	Setting — moderate use

Table 18 – Disclaimer

The information contained in items 4.11.1 to 4.11.3 inclusive are for general information only and must not be relied upon for navigation. Mariners are advised to seek latest information from respective resorts for infrastructure and waterways including latest navigational charts for navigation.