

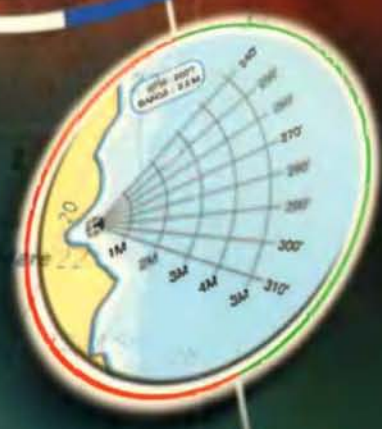


Navigation

EXERCISES

• CHRIS SLADE •

WATER TRACK • LATITUDE • WAYPOINT • NORTH • STARBOARD • MAGNETIC • BEARING • TIDAL STREAM • GRAVITATION • VARIATION • GPS FIX • COMPASSES



PRACTISE YOUR NAVIGATION AND SEAMANSHIP SKILLS

RYA Navigation Exercises

Second edition 2008

By Chris Slade

Illustrator: Sarah Selman

2008



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■ Foreword



Each year thousands of yachtsmen and powerboaters learn navigation and seamanship by attending RYA courses. The shorebased courses cover a wide variety of subjects which are easier taught ashore before going afloat and putting them into practice.

These navigation exercises have been written for students on RYA Day Skipper and Coastal Skipper/Yachtmaster courses who would like to hone their skills as they work through the course. They are also a useful reminder to experienced yachtsmen of the knowledge required to skipper a yacht safely. If you can answer these questions you have reached the level of the theory part of the Yachtmaster Offshore examination.

Navigational techniques change and the RYA syllabus is modified regularly to keep our training up to date and relevant in all the countries where the courses are available. To reflect this, the RYA introduced new fictitious charts in 2006 which have been used in these exercises. Sharp eyed navigators will recognise parts of southern England juxtaposed with Scapa Flow and areas off New Zealand, as well as a certain amount of creativity and awful puns courtesy of the Hydrographic Office. The Isle of Flotta becomes Synka and so on.

New tide tables and a tidal stream atlas were compiled predicting what would happen if this combination of land and sea actually existed, and extracts of these can be found at the back of the book.

The author of these exercises is also the compiler of the RYA assessment papers so you can be certain that they represent the RYA standard.

James Stevens FRIN

RYA Training Manager and Chief Examiner

Introduction

These RYA Navigation Exercises have been designed and written to help improve your seamanship and navigation skills, and to complement the RYA Dayskipper and Coastal Skipper/Yachtmaster Offshore shorebased courses.

The questions become progressively harder, going from Dayskipper through to Yachtmaster Offshore level, as you work through each chapter.

Everything you need to answer the questions will be found at the back of the book, including two RYA Training Charts. No other charts, pilot books or almanacs are necessary.

However, if you would like more background reading, we recommend the RYA Navigation Handbook.

We hope you enjoy these exercises.

Chris Slade

The RYA Practice Navigation Charts 3 and 4 included with this book have been designed for practice use only. They cannot be used for navigation.

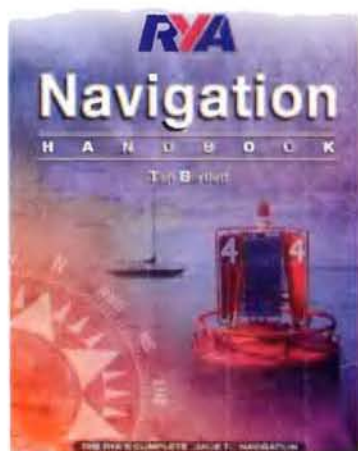


Equipment needed

Course plotter (Breton, Portland, Douglas protractor, parallel rule etc).
Dividers (large), 2B pencils, soft eraser.

Abbreviations

M: Nautical Miles; m: Metres; (T): True; V: Variation; (M): Magnetic; D: Deviation; (C): Compass



RYA Navigation Handbook

Written by respected author and navigation expert, Tim Bartlett, the RYA Navigation Handbook is highly recommended for anyone who wants to navigate safely and confidently. Suitable for both Dayskipper and Yachtmaster students.

RYA order ref: G6

Order hotline: 0845 345 0372

or from the RYA webshop: www.rya.org.uk/shop

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EXTRACTS

122

Extracts from the RYA Training Almanac are printed at the back of this book to enable you to answer all the questions.

Quick guide to time zones

Northern Territories

UT: Universal Time

This is the Northern Territories standard time and the time shown in the Extracts.

Example: On 1st January at Victoria the first low water of the day is 0510 UT.

DST: Daylight Saving Time

This is the Northern Territories standard time plus one hour

Example: On 1st April at Port Fraser the first high water of the day is 0249 DST (0149 UT + 1hr DST = 0249).

Southern Peninsula

Time Zone -0100 hour (Zone -0100 = 1hr ahead of UT)

This is the Southern Peninsula standard time and the time shown in the Extracts.

Example: On 1st March at Colville the first low water of the day is 0733 Zone -0100.

SPDST: Southern Peninsula Daylight Saving Time

This is the Southern Peninsula standard time plus one hour (Zone -0100 plus 1hr DST).

Example: On 1st September at Port Fitzroy the first high water of the day is 0743 SPDST (0643 + 1hr DST = 0743).

Exercises

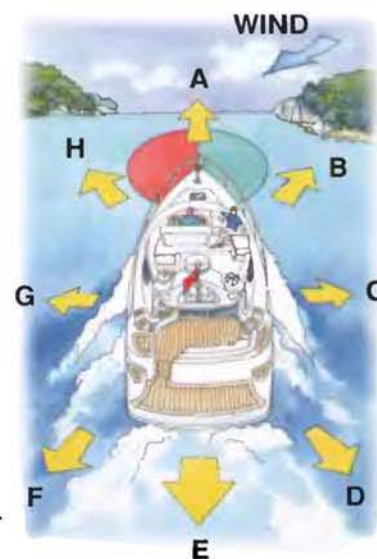


Seamanship & Environment

QUESTION 1.1

a) Match the following nautical terms to the illustration.

- i) Port quarter
- ii) Starboard bow
- iii) Ahead
- iv) Port beam
- v) Starboard quarter
- vi) Astern
- vii) Port bow
- viii) Starboard beam



b) To which side of the vessel (port or starboard) would the term leeward apply?

QUESTION 1.2

a) Under what circumstances would you instruct your crew to wear:

- i) Lifejackets?
- ii) Harness?

b) Which of the following are suitable to attach a safety line?

- i) Jackstays ☐
- ii) Sheets ☐
- iii) D rings ☐
- iv) Guardrails ☐



c) When going on deck is it advisable for a crewmember to clip onto the windward or leeward side of a yacht? Give the reason.

.....

.....

.....

.....

.....

.....

.....

.....



Seamanship & Environment

QUESTION 1.3

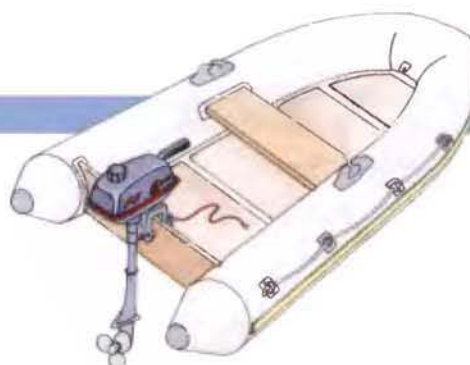
- a) List three items of equipment that should be carried onboard a tender.

.....

- b) What advice would you give with regard to loading a tender?

.....

- c) Is it advisable to wear a lifejacket when using a tender?



QUESTION 1.4

- a) Match the following knots to the illustrations.

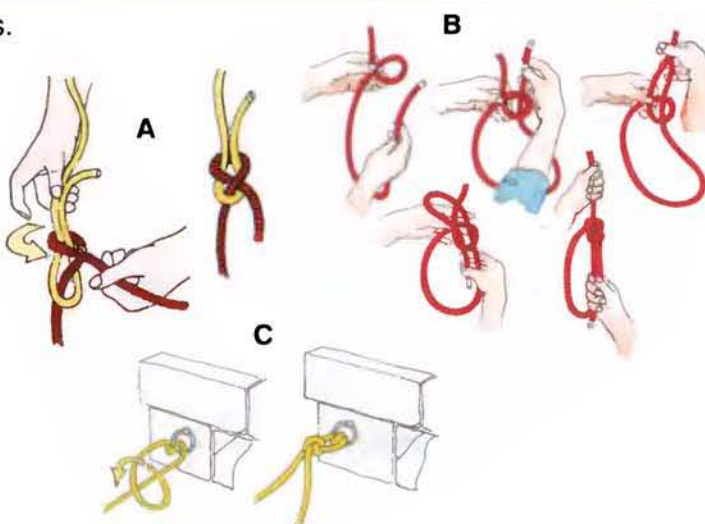
i) Round turn and two half hitches

ii) Bowline

iii) Sheet bend

- b) Which of these knots can be untied while under load?

.....



QUESTION 1.5

The two vessels are anchored under calm conditions in a depth of three metres.



- a) What is the minimum recommended length of chain needed for vessel A?
- b) What is the minimum recommended length of chain and warp for vessel B?
- c) What type of rope should be used for an anchor warp?

Seamanship & Environment

QUESTION 1.6

Match the following anchors to the pictures; give a brief description of their characteristics.

a) CQR or Plough.....

.....

b) Bruce

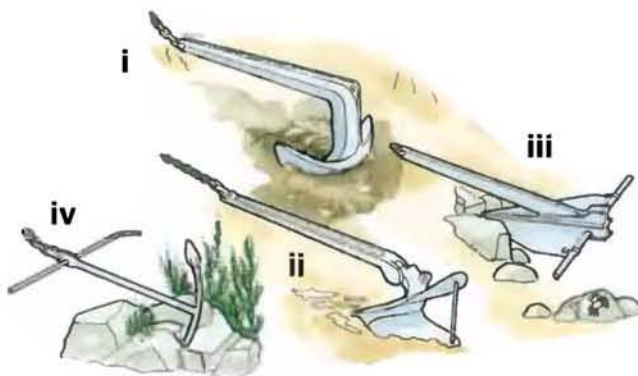
.....

c) Danforth

.....

d) Fishermans.....

.....



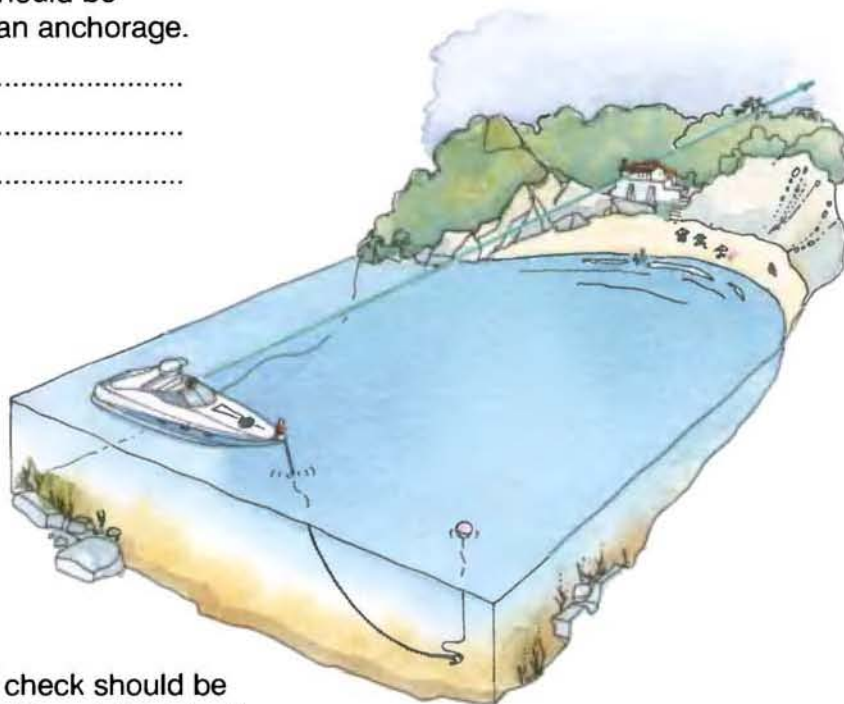
QUESTION 1.7

a) Suggest three factors that should be considered when selecting an anchorage.

.....

.....

.....



b) Once anchored what visual check should be made to ensure that the boat is not dragging?

.....

.....

c) What problem may be encountered if a deep keeled yacht is anchored in the vicinity of a shallow draught motor cruiser?

.....

.....

Seamanship & Environment

QUESTION 1.8

- a) What precautions should be taken in order to protect the environment with regard to antifouling paint?

.....

.....

.....

.....

- b) Give three suggestions of how to manage garbage while at sea.

.....

.....

.....

- c) Why is it considered to be good practice to isolate the area below the engine from the other areas of the bilge?

.....

.....



Charts, Publications & Symbols

Use RYA Training Charts 3, 4 and Extracts

QUESTION 2.1

Complete the following sentences:

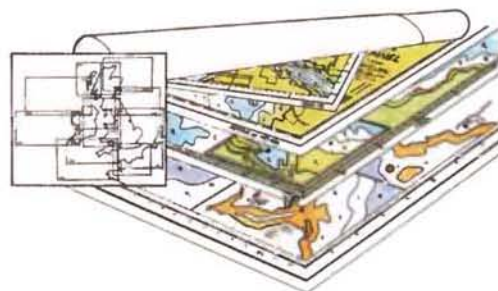
- Parallels of.....run around the world north and south of the Equator.
- Meridians ofrun from pole to pole dividing the world into segments.



QUESTION 2.2

Nautical charts are commonly divided into degrees, minutes and decimals.

- How many minutes are there to a degree?
.....
- How many minutes of latitude are there to a nautical mile?
.....
- How far is a cable?
.....



QUESTION 2.3

When selecting charts it's important to choose the correct scale for the intended task. Which of these scales, 1:100 000, 1:50 000, 1:25 000, would be suitable for the following?

- Planning a passage from Port Fraser to Port Fitzroy.
- Piloting out of Port Fraser.
- Piloting into Port Fitzroy.

QUESTION 2.4

In addition to carrying paper charts, many skippers use electronic chart plotters.

- Which type of electronic chart, Raster or Vector, enables a navigator to interrogate charted features such as buoys for additional information?
.....
- How are electronic charts typically updated?
.....



Charts, Publications & Symbols

QUESTION 2.5

Give three examples of the information you would expect to find in a nautical almanac.

1.
2.
3.



QUESTION 2.6

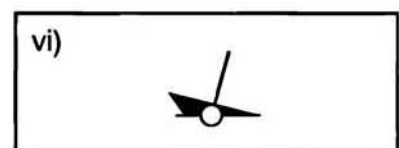
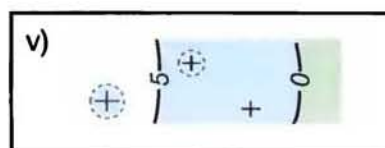
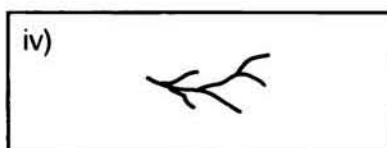
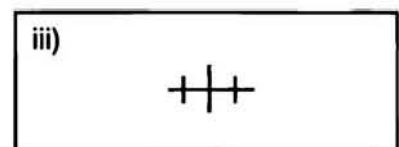
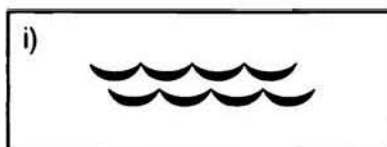
How are the following measured on RYA Training Charts 3 & 4?

- a) Charted depths.....
- b) Charted drying heights.....
- c) Vertical clearance.
- d) Heights of lighthouse lights.

QUESTION 2.7

Match the following descriptions to the chart symbols.

- a) Wreck, depth unknown, no danger to navigation.....
- b) Wreck showing any part at level of chart datum.....
- c) Kelp.....
- d) Rock awash at level of chart datum.
- e) Yacht harbour, marina.
- f) Overfalls, tide rips and races.



Charts, Publications & Symbols

QUESTION 2.8

What charted features are to be found at the following positions?
Use RYA Training Chart 3.

- a) $46^{\circ}29'.37\text{N}$ $006^{\circ}13'.75\text{W}$
- b) $46^{\circ}27'.90\text{N}$ $006^{\circ}15'.46\text{W}$
- c) $46^{\circ}23'.50\text{N}$ $006^{\circ}11'.52\text{W}$
- d) $46^{\circ}23'.33\text{N}$ $006^{\circ}23'.43\text{W}$
- e) $46^{\circ}20'.94\text{N}$ $006^{\circ}04'.57\text{W}$
- f) $46^{\circ}06'.30\text{N}$ $005^{\circ}38'.20\text{W}$

QUESTION 2.9

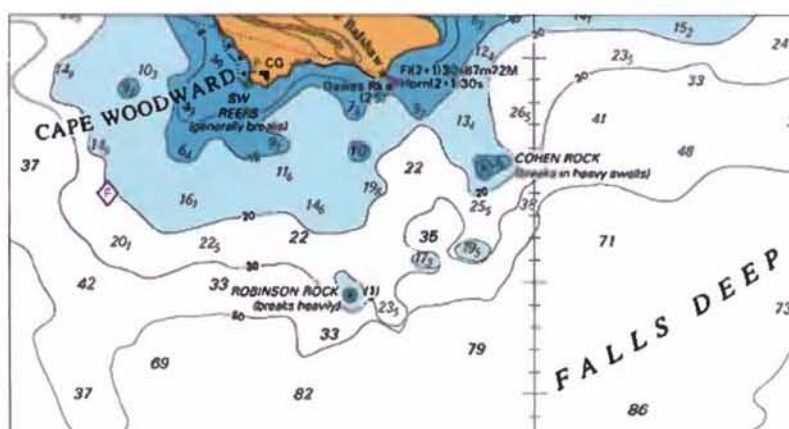
What are the TRUE bearings and distances from Holm Point Lt Ho $46^{\circ}18'.78\text{N}$ $005^{\circ}49'.62\text{W}$ to the following navigation marks? Use RYA Training Charts 3 and 4F.

- a) N Louisa NCM $46^{\circ}19'.76\text{N}$ $006^{\circ}04'.63\text{W}$
- b) Outer Fraser SWM $46^{\circ}20'.13\text{N}$ $005^{\circ}59'.25\text{W}$
- c) Hill Shoal SCM $46^{\circ}20'.44\text{N}$ $005^{\circ}55'.04\text{W}$
- d) Back Shoal IDM $46^{\circ}21'.35\text{N}$ $005^{\circ}51'.18\text{W}$
- e) BB3 SHM $46^{\circ}20'.42\text{N}$ $005^{\circ}44'.22\text{W}$
- f) MacArthur LANBY $46^{\circ}18'.97\text{N}$ $005^{\circ}45'.56\text{W}$
- g) FC6 PHM $46^{\circ}15'.72\text{N}$ $005^{\circ}44'.63\text{W}$
- h) East Pow ECM $46^{\circ}16'.88\text{N}$ $005^{\circ}48'.58\text{W}$
- i) W Groats WCM $46^{\circ}13'.68\text{N}$ $005^{\circ}52'.78\text{W}$

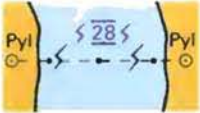
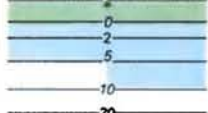
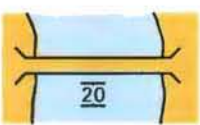
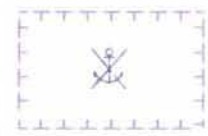
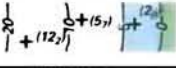
QUESTION 2.10

Which of the two dangerous rocks (Robinson or Cohen) lying off Cape Woodward ($46^{\circ}08'.80\text{N}$ $006^{\circ}03'.60\text{W}$) would you expect to be visible at chart datum?

.....



Charts, Publications & Symbols

	Power transmission line with pylons and safe overhead clearance		Church		Drying contour LW line, Chart Datum Below 5m blue ribbon or differing blue tints may be shown
	Vertical clearance above Highest Astronomical Tide		Monument (including column, pillar, obelisk, statue)		Anchoring prohibited
	Harbourmaster's office		Chimney		Marine Farm
	Custom office		Wind motor Windfarm		Wreck, depth unknown, danger to navigation
	Health Office, Quarantine		Tanks		Wreck, depth unknown, no danger to navigation
	Post office		Recommended anchorage		Wreck, depth obtained by sounding
	Yacht Harbour, Marina		Rescue station, lifeboat station, rocket station		Wreck, swept by wire to the depth shown
	Radio reporting point		Fishing harbour		Submarine cable
	Direction of buoyage		Fishing prohibited		Buried pipeline
	Mooring buoy		Perch, stake - port and starboard hand		Overfalls, tide rips and races
	Wreck showing any part at level of chart datum		Pilot boarding		Limit of safety zone around offshore installation
	Quarry or mine		Emergency RDF station		Major light
	Rock which covers and uncovers, height above Chart Datum		Marsh		Dangerous underwater rock of unknown depth
	Rock awash at level of Chart Datum		Kelp		Dangerous underwater rock of known depth
	Visitors' Berth		Crane		Caravan site
	Fuel station (Petrol, Diesel)		Inn and Restaurant		Camping site
	Public slipway		Public toilets		Public telephone
	Water tap		Public car park		Bird sanctuary
	Public landing, steps, ladder		Laundrette		Coastguard Station
			Yacht Club, Sailing Club		Radar Transponder Beacon with Morse identification and Radar band

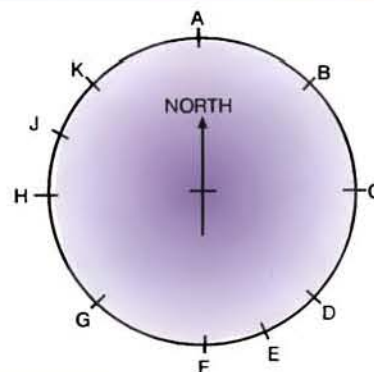
Compass & Position Fixing

Use RYA Training Chart 3 and Extracts

QUESTION 3.1

Match the following bearings to the illustration.

- | | |
|-----------------|------------------|
| i) 045° | v) 000° |
| ii) 225° | vi) 180° |
| iii) 315° | vii) 135° |
| iv) 270° | viii) 090° |



QUESTION 3.2

When plotting, it's important to allow for the variation between true and magnetic north.

a) How is variation displayed on the RYA Training Charts?

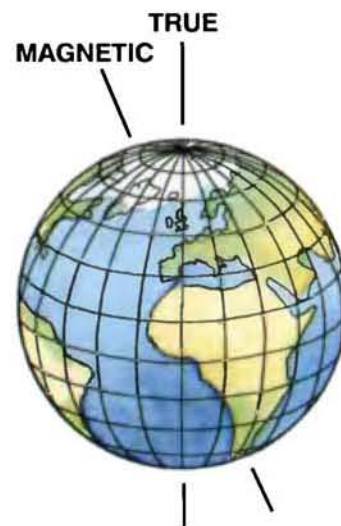
.....

b) What was the magnetic variation in Beaufort Bay for the year 2005?

.....

c) What is the annual change in variation within Beaufort Bay?

.....



QUESTION 3.3

Convert the following TRUE bearings to MAGNETIC.

- | | |
|--------------------------------|--------------------------------|
| a) 020°(T) variation 5°W | b) 130°(T) variation 3°E |
| c) 185°(T) variation 7°W | d) 000°(T) variation 6°E |

QUESTION 3.4

Convert the following MAGNETIC bearings to TRUE.

- | | |
|--------------------------------|--------------------------------|
| a) 090°(M) variation 8°E | b) 150°(M) variation 2°W |
| c) 225°(M) variation 5°E | d) 005°(M) variation 6°W |

Compass & Position Fixing

QUESTION 3.5

What instructions would you give to a beginner taking a 3-point fix with a hand-bearing compass?

.....

.....

.....

.....

.....

.....

.....



QUESTION 3.6

Match the descriptions below to the chartwork symbols.

- a) Fix
- b) Water track
- c) Dead reckoning
- d) Waypoint
- e) Ground track
- f) Estimated position
- g) Tidal set and drift

i)		v)	
ii)		vi)	
iii)		vii)	
iv)			

QUESTION 3.7

At 2000 UT (log 25.2M) the following bearings were taken from a vessel in the vicinity of West Point Ledge. Use RYA Training Chart 3. Variation 7°W.

Point Victoria Lt Ho 030°(M)

West Point Lt Ho 142°(M)

Alpha Juliet Delta Platform 274°(M)

- a) Plot the fix, give the latitude and longitude.
- b) Assuming the vessel was travelling north, which of the bearings should have been taken last?
.....
.....

Compass & Position Fixing

QUESTION 3.8

At 2330 UT (log 11.6M) the following bearings were hurriedly taken from a vessel in Beaufort Bay. Use RYA Training Chart 3. Variation 7°W.

Louisa Rks Lt Ho 251°(M)

Hill Shoal SCM 195°(M)

Back Shoal IDM 111°(M)

- a) Plot the bearings and comment on the accuracy of the fix.

.....

- b) Where would it be prudent to assume the vessel's position lay?

.....

- c) How could depth be used to decide if the vessel was standing into danger?

.....

QUESTION 3.9

At 1100 DST (log 22.4M) the skipper of a vessel off Misery Point fixes position. RYA Training Chart 3. Variation 7°W.

Misery Point Lt Ho 039°(M)

Lawrence LANBY Racon (L) Radar range 4.8M

Depth 50m contour line

Plot the fix, give latitude and longitude.

.....

QUESTION 3.10

Why would it be unwise to rely on compass readings while in position approximately two miles north of Dymond Reef?

.....

Compass & Position Fixing

QUESTION 3.11

- a) Give two possible causes of compass deviation.

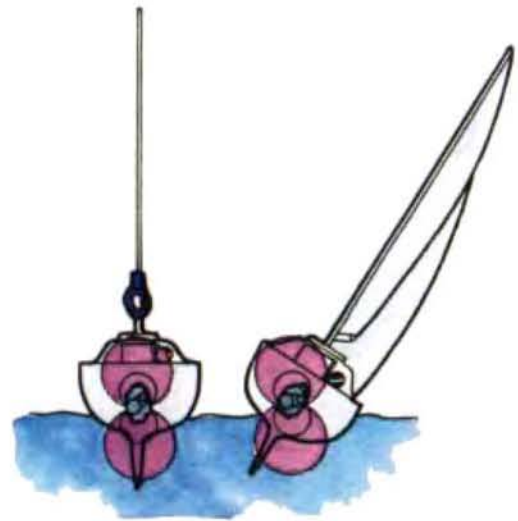
.....

- b) When is it advisable to check a compass for deviation? Give two examples.

.....

- c) What is heeling error?

.....



QUESTION 3.12

- a) What type of compass is commonly fitted to provide heading information for equipment such as auto-pilots and radar?

.....

- b) Is this type of compass affected by deviation?

.....

QUESTION 3.13

At slack water a helmsman is steering through the Cow and Calf channel (Port Slade) keeping the beacon and flagstaff in transit.

If the steering compass reads $085^{\circ}(\text{C})$ what is the deviation on this heading?

**Use RYA Training Chart 3.
 Variation 7°W .**

.....



QUESTION 4.1

a) What do the Rules (Collision Regulations) say about keeping a look-out?

.....

b) Where should the crew of a sailing vessel expect to encounter blind spots when keeping a look-out?

.....

c) What do the Rules say about the 'right of way' of vessels at sea?

.....

**QUESTION 4.2**

List five factors that should be considered when determining a safe speed.

1.

2.

3.

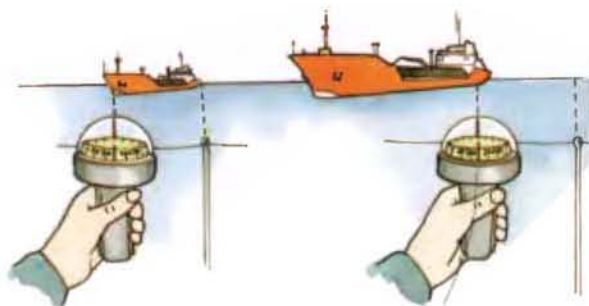
4.

5.

QUESTION 4.3

How can you tell if a risk of collision exists when in sight of an approaching vessel?

.....

**QUESTION 4.4**

You are in a situation where a risk of collision exists and you are required by the Rules to give way to the other vessel.

a) At what stage should you take avoiding action?

.....

b) At night, how can you help to ensure the action you take is immediately obvious to the crew of the other vessel?

.....

QUESTION 4.5

What are the meanings of the following day shapes?

a) 

c) 

e) 

g) 

b) 



d) 



f) 

QUESTION 4.6

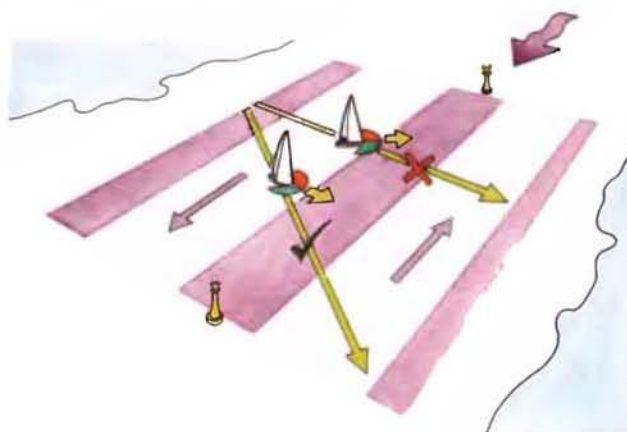
You are the skipper of a sailing vessel underway in restricted visibility when you hear the fog signal of an unseen power driven vessel on your bow. What must you do?

.....

QUESTION 4.7

When crossing a Traffic Separation Scheme, should your heading or ground track be at right angles to the traffic flow?

.....



QUESTION 4.8

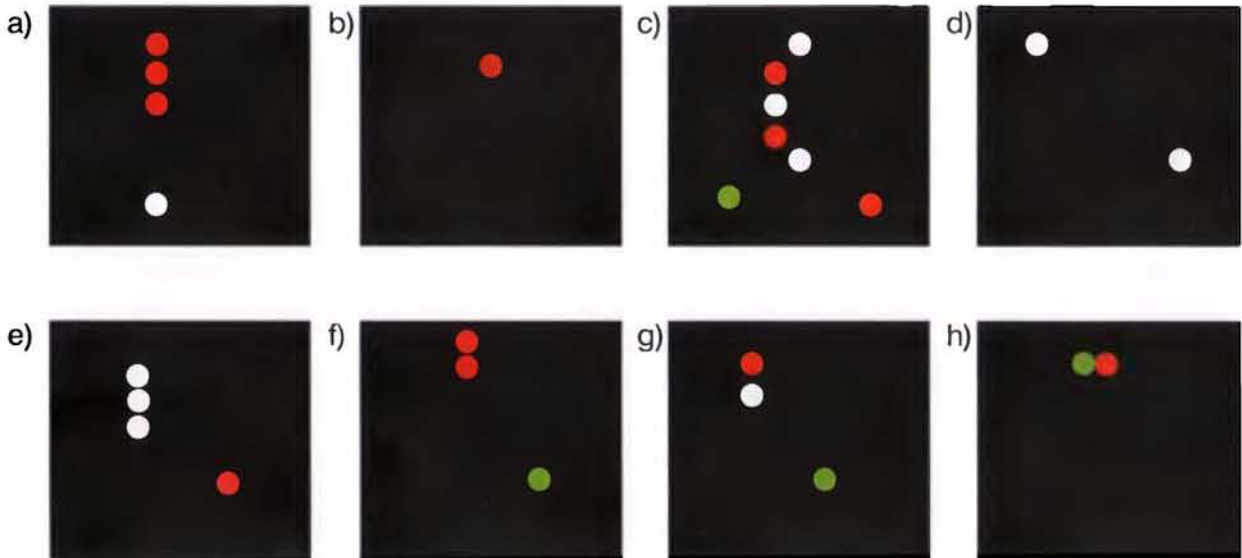
You see a vessel displaying a blue and white swallow-tailed flag. What does it signify and what action should you take?

.....



QUESTION 4.9

What type of vessel is indicated by the following groups of lights? Where possible give length, whether underway/making way and aspect i.e. port, starboard, from ahead or astern.



- a)
- b)
- c)
- d)
- e)
- f)
- g)
- h)

QUESTION 4.10

Place the following vessels in the order of priority given to them by the IRPCS.

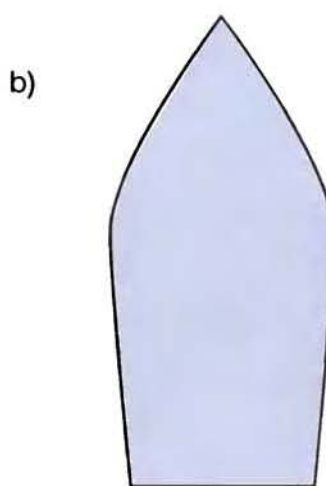
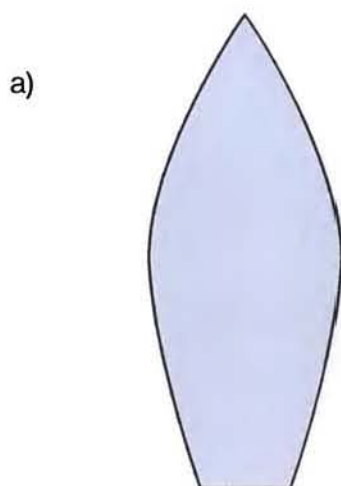
- a) Power-driven vessel b) Sailing vessel
c) Vessel constrained by draught d) Fishing vessel

1st 2nd
3rd 4th

QUESTION 4.11

On the plan views of the vessels below, sketch the navigation lights showing the arcs of visibility for:

- A vessel under sail less than 20m in length displaying a tricolour light.
- A power-driven vessel less than 20m in length displaying bicolour, steaming and stern lights.



QUESTION 4.12

At dusk, the skipper of a sailing yacht switches on the masthead tricolour, steaming light, side lights and stern light to make the yacht as visible as possible.

Is this permitted by the Rules?

.....

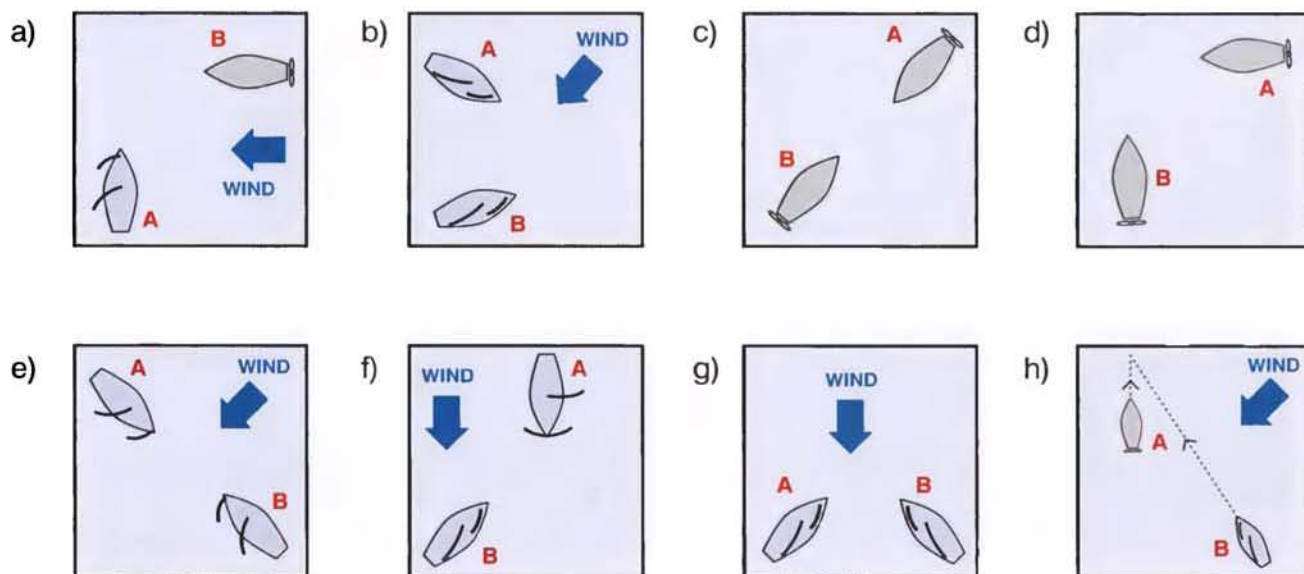
.....

.....



QUESTION 4.13

In the following situations a risk of collision exists. Which is the give-way vessel and what action should be taken?



- a)
- b)
- c)
- d)
- e)
- f)
- g)
- h)

QUESTION 4.14

What are the meanings of the following sound signals?

- a) —●● b) ● c) ——— d) ●● e) ●●●●● f) Bell for 5 seconds g) ———●● h) —

- a)
 b)
 c)
 d)
 e)
 f)
 g)
 h)

QUESTION 4.15

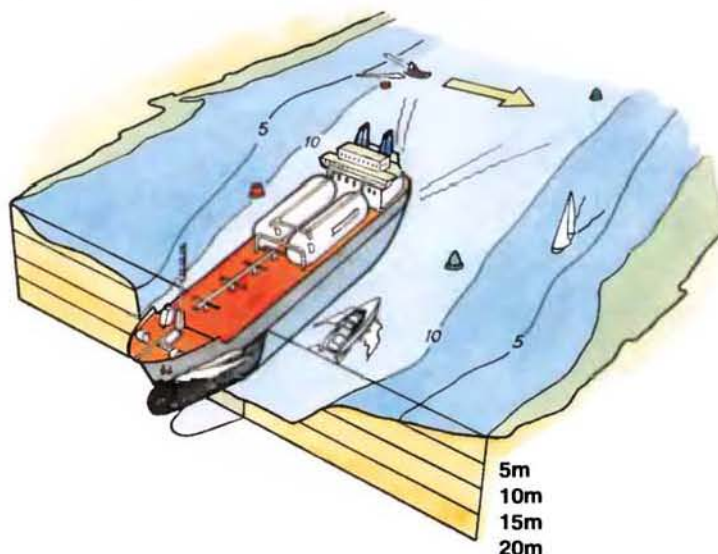
Give four situations when a sailing vessel on starboard tack would be the give-way vessel.

- 1)
 2)
 3)
 4)

QUESTION 4.16

Which is likely to be preferable when navigating in the vicinity of a major shipping channel?
 (Tick Box)

- a) For small craft to navigate inside the channel alongside the ships.
 b) For small craft to navigate outside the channel where there is sufficient water to do so safely.



QUESTION 5.1

What should a new crewmember (sailing for the first time) be advised about the following?

- a) Clothing.
- b) Preventing seasickness.....

QUESTION 5.2

- a) Give a brief description of the features you would consider desirable in a modern lifejacket.

.....

.....

.....

.....

- b) Is it advisable for a small child to use a lifejacket designed for an adult?

.....

**QUESTION 5.3**

- a) List three causes of fire onboard.

.....

.....

.....

- b) What types of fire extinguisher are commonly available for Small Craft?

.....

- c) Where should fire extinguishers be located?

.....

.....

- d) How should an engine room fire be fought?

.....

**QUESTION 5.4**

- a) How should gas bottles be stowed onboard?

.....

- b) What should be done in the event of a gas leak?

.....

QUESTION 5.5

What type of flare (pyrotechnic) would you use in the following situations?

a) Signalling distress when offshore, out of sight of other vessels.

.....

b) Warning another vessel of a risk of collision.

.....

c) Pinpointing position within sight of a rescuer.

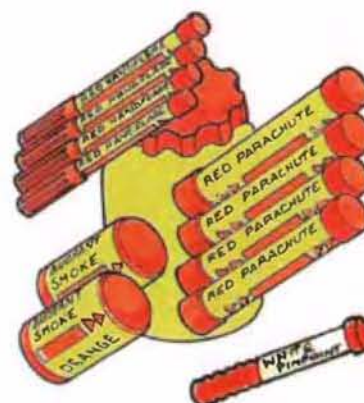
.....

d) Indicating position to a helicopter during daytime.

.....

e) Searching for a MOB at night.

.....



QUESTION 5.6

You are onboard the motor vessel *Incendie*, which is fitted with a DSC VHF radio (MMSI 233123456). When in position four miles east of Cape Balshaw you discover an engine fire which is uncontrollable. While the other two members of the crew prepare to launch the liferaft, you have time to send a distress alert and message.

a) Write down the voice message you would send.

.....

b) What are the benefits of having a VHF radio incorporating DSC?

.....

c) What term should be used when sending an urgency message rather than a distress call?

.....



QUESTION 5.7

In the event of having to take to the liferaft, what procedures should be followed:

- a) Before launching? Give three.
1.
 2.
 3.
- b) On boarding? Give three.
1.
 2.
 3.
- c) On the arrival of rescuers? Give three.
1.
 2.
 3.

QUESTION 5.8

What information would you include when briefing the crew of a Small Craft waiting for the arrival of a SAR helicopter?

.....

.....

.....

.....

.....

.....

.....

.....

.....

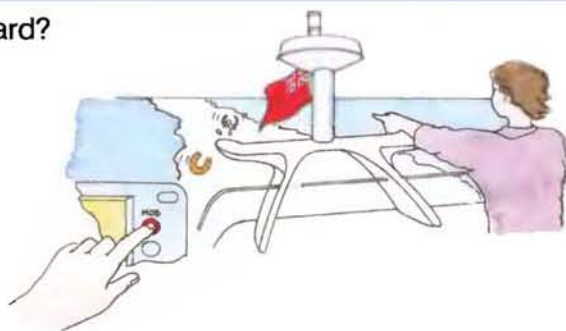
.....

**QUESTION 5.9**

What should you do on seeing someone fall overboard?

Give three actions.

1.
2.
3.



QUESTION 5.10

- a) What is meant by the term 'angle of vanishing stability' (AVS)?
.....
- b) Which of the following types of vessel is likely to have a greater AVS?
- i) A beamy, light displacement vessel with a high volume hull and shallow draught.
 - ii) A narrow, heavy displacement vessel with a low volume hull and deep draught.
- c) Why is it important to avoid being caught beam on to large breaking waves?
.....
.....



QUESTION 5.11

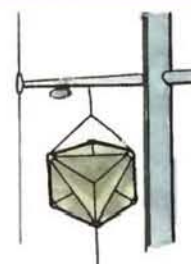
List six internationally recognised distress signals other than transmitting a MAYDAY or using flares.

1.
2.
3.
4.
5.
6.

QUESTION 5.12

What is the requirement with regard to fitting radar reflectors on Small Craft?

.....
.....
.....



QUESTION 5.13

What information is included in the Coastguard's maritime safety information broadcasts?

.....
.....
.....

Buoyage & Lights

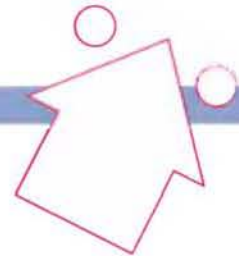


Buoyage & Lights

Use RYA Training Charts 3, 4 and Extracts

QUESTION 6.1

What is the meaning of this chart symbol?

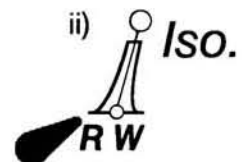


QUESTION 6.2

a) Which of these chart symbols indicates the lit buoy?



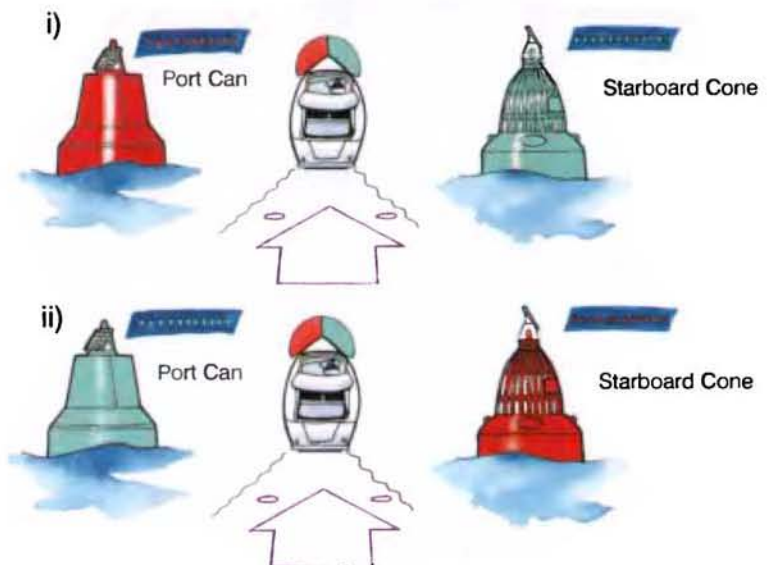
b) What is the significance of the letters beneath the buoys?



QUESTION 6.3

a) Which illustration indicates the IALA Maritime Buoyage System Region A?

b) Which group of islands on RYA Training Chart 3 is in an IALA Maritime Buoyage System Region B?



QUESTION 6.4

What type of buoy/beacon is to be found in the following positions? Use RYA Training Chart 4F.

a) N Potta	46°16' .18N	005°59' .30W	
b) No 1 buoy off Huckle Head	46°11' .47N	005°54' .40W	
c) Synka Fairway	46°10' .60N	005°53' .35W	
d) W Groats	46°13' .69N	005°52' .80W	
e) Rods Skerry Beacon	46°13' .41N	005°52' .86W	
f) Mutton	46°15' .97N	005°48' .76W	
g) Range Head	46°15' .47N	005°52' .08W	
h) Parvin	46°13' .25N	005°49' .75W	

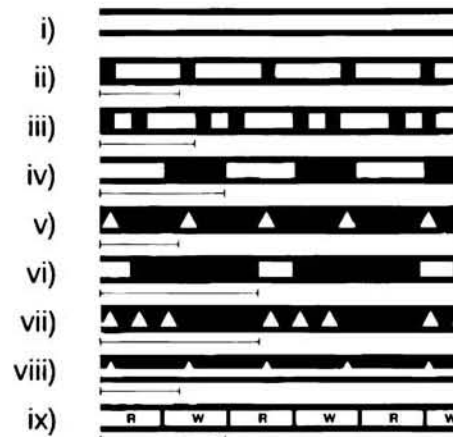
Buoyage & Lights

Use RYA Training Charts 3, 4 and Extracts

QUESTION 6.5

Match the following light characteristics to the illustrations.

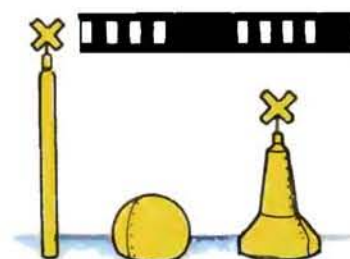
- a) Isophase
- b) Fixed
- c) Single flashing
- d) Single occulting
- e) Long flashing
- f) Alternating
- g) Group flashing
- h) Fixed and flashing
- i) Group occulting



QUESTION 6.6

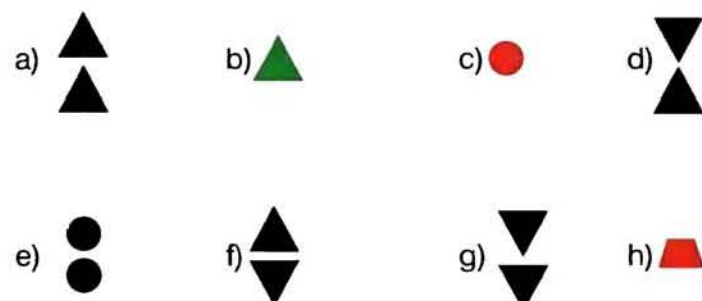
Which of the following would normally be marked by a yellow special mark? (Tick box)

- a) Submerged rock.....
- b) Water-ski area.....
- c) Traffic separation scheme
- d) Drying wreck.....
- e) Racing mark
- f) Oceanographic buoy



QUESTION 6.7

Match the topmarks to the light characteristics.



- i) Fl.R.2.5s
- ii) VQ(6)+LFl.10s
- iii) VQ(3)5s.....
- iv) Fl(2)5s.....
- v) Q(9)15s.....
- vi) L.Fl.10s
- vii) Q.G
- viii) VQ.....

Buoyage & Lights

QUESTION 6.8

Christopher Point Lt Ho on Slade Island has the following characteristics
Fl(4)WRG.15s87m25-18M.

- a) Give an explanation of the abbreviation.
.....
.....
- b) How would the light appear from the following positions?
- i) Three miles west of Cape Gannett.
.....
- ii) In the passage between Richards Rock and S. Helens Island.
.....
- iii) In the approaches to the buoyed channel off Linards Point.
.....
- iv) In the passage between Alex Island and Shepherds Island.
.....

QUESTION 6.9

What is the purpose of the buoy coloured red-green-red in position $45^{\circ}42' .20N$ $006^{\circ}08' .81W$ in the approaches to Edenfield? Use RYA Training Chart 3.

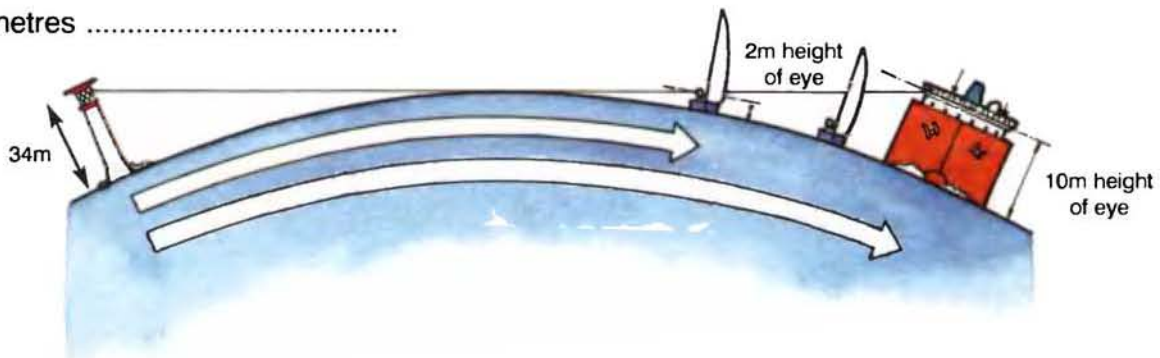
.....

QUESTION 6.10

What is the rising/dipping distance of the light on Misery Point $46^{\circ}07' .05N$ $005^{\circ}38' .32W$ at MHWS for a height of eye of; a) two metres, b) ten metres.

Use the rising/dipping distance table in the Extracts and RYA Training Chart 3.

- a) two metres
b) ten metres



Tidal Streams

Use RYA Training Charts 3, 4 and Extracts. All times as shown

QUESTION 7.1

Under which of the following conditions would you expect to encounter the roughest seas?

- a) Wind blowing with the direction of the tidal stream. ☐
- b) Wind blowing against the direction of the tidal stream. ☐



QUESTION 7.2

What is the meaning of the term 'tidal gate'?

.....

.....

.....

.....

QUESTION 7.3

The members of a sub-aqua club are planning a diving trip near Victoria in early August. As they would prefer to dive closer to neap tides rather than springs, should they choose the first or second weekend of the month?

.....

QUESTION 7.4

A navigator is planning a passage from Port Fitzroy to Victoria. Which of the following is likely to prove most convenient for obtaining an overview of the tidal streams for the passage? (*Tick box*)

- a) Tidal diamonds. ☒
- b) Tidal stream atlas. ☐

QUESTION 7.5

Use tidal diamond  on RYA Training Chart 3 to find the direction and rate of the tidal stream off Cape Woodward:

- a) At HW Victoria, springs.
- b) Two hours before HW Victoria, neaps.
- c) Four hours after HW Victoria, mid-range.

Tidal Streams

QUESTION 7.6

Use tidal diamond  on RYA Training Chart 4 to find the direction and rate of the tidal stream in Haire Sound:

- a) On Tuesday 26th February at 1230 UT.
.....
- b) On Wednesday 3rd July at 1444 DST.
.....
- c) On Sunday 24th November at 1135 UT.....
.....

QUESTION 7.7

Use the tidal stream atlas in the Extracts to answer the following.

- a) At what time in the afternoon of Friday 12th July does the tidal stream become favourable for a yacht travelling north from Victoria?
.....
- b) When would you expect the flood tide to be at its strongest in  Race on the morning of Tuesday 28th May?
.....
- c) What's the earliest time on the afternoon of Tuesday 13th August that the inshore tidal stream becomes favourable for a vessel on passage from S. Kilda Marina to Colville?
.....

QUESTION 7.8

Use the tidal diamonds on RYA Training Chart 3 to find the direction and rate of the tidal stream at the following positions. **Use the Computation of Rates Graph where necessary.**

- a) West Point Ledge on Thursday 3rd January.  1631 – 1731 UT
.....
.....
- b) Off Misery Point on Monday 6th May.  1438 – 1538 DST
.....
.....
- c) Off Fitzroy Bay on Tuesday 19th March.  1248 – 1348 Zone -0100
.....
.....
- d) West of Dymond Reef on Monday 7th October.  1003 – 1103 SPDST
.....
.....

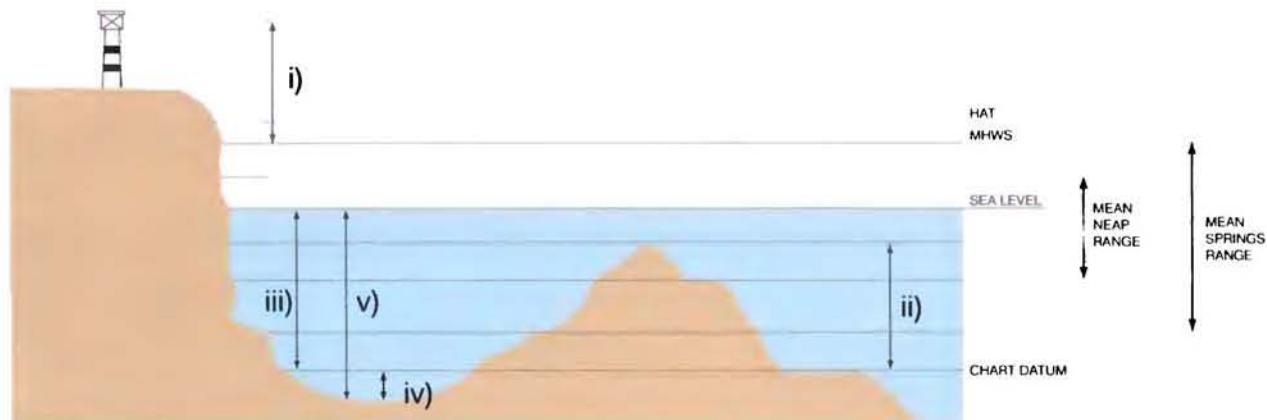
Tidal Heights

Use RYA Training Charts 3, 4 and Extracts. All times as shown

QUESTION 8.1

Which letters refer to the following?

- a) Charted depth b) Drying height c) Depth of water
d) Height of tide e) Charted height (elevation)



QUESTION 8.2

Which of the following indicates the approach of spring tides?

- a) A full moon..... ☐
b) A half moon. ☐
c) A new moon..... ☐

QUESTION 8.3

Which of the following would be most likely to cause a lower than predicted tidal height? (Tick box)

- a) High barometric pressure..... ☐
b) Strong, prolonged winds blowing into an estuary..... ☐
c) Low barometric pressure..... ☐

QUESTION 8.4

What depth of water will there be at the following places when the height of tide is 3.5m?
Use RYA Training Chart 4.

- a) In Suzy Bay Marina 46°14' .94N 006°01' .00W

.....

- b) The approach channel to Emsbourne Marina 46°27' .55N 005°46' .94W

.....

Tidal Heights

QUESTION 8.5

Use the tidal levels table in the Extracts and RYA Training Chart 3 to answer the following.

- a) Othery Rock (off Victoria) has a charted drying height of 1.0m.
Would it be covered or uncovered at MLWS?

Use data for Victoria.

.....
.....

- b) How high above the water would the light at Point Victoria be at MLWN?

Use data for Victoria.

.....
.....
.....

- c) What clearance would a motor cruiser with an air draught of 4.6m have as it passed under the rail bridge crossing Farlow River at MLWN?

Use data for Farlow.

.....
.....
.....

- d) A skipper is preparing to anchor at Sweetwater at MHWN. If the boat draws 1.2m, in what depth should the vessel be anchored to ensure a clearance below the keel of 2.0m at MLWN?

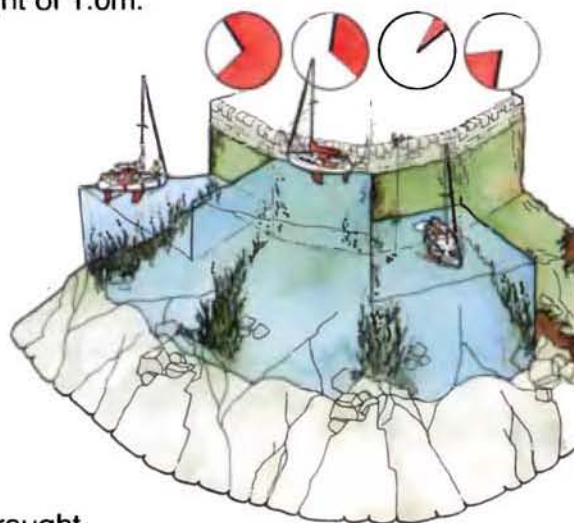
Use data for Sweetwater.

.....
.....
.....

- e) A vessel drawing 1.5m is alongside at Sandquay in a depth of 6.5m at MHWS. What clearance will there be under the keel at MLWS?

Use data for Sandquay.

.....
.....
.....



Tidal Heights

Use RYA Training Charts 3, 4 and Extracts. All times as shown

QUESTION 8.6

- a) What are the times and heights of HW and LW in the afternoon / evening of Thursday 31st January at Port Fraser? Is it a mean spring, mean neap or midrange tide?

Time		Height	
HW	LW	HW	LW
.....			

- b) What are the times and heights of HW and LW on the morning of Saturday 20th April at Namley Harbour? Is it a mean spring, mean neap or midrange tide?

Time		Height	
HW	LW	HW	LW
.....			

- c) What are the times and heights of HW and LW on the morning of Thursday 19th February at Colville? Is it a mean spring, mean neap or midrange tide?

Time		Height	
HW	LW	HW	LW
.....			

- d) What are the times and heights of HW and LW in the afternoon / evening of Saturday 5th October at Port Fitzroy? Is it a mean spring, mean neap or midrange tide?

Time		Height	
HW	LW	HW	LW
.....			

QUESTION 8.7

- a) What is the height of tide at Victoria at 1650 UT on Monday 18th February?

Time		Height	
HW	LW	HW	LW
.....			

Height of tide

- b) What is the height of tide at Port Fraser at 1240 DST on Monday 8th April?

Time		Height	
HW	LW	HW	LW
.....			

Height of tide

- c) What is the height of tide at Hamilton Sound at 0730 Zone -0100 on Saturday 2nd November?

Time		Height	
LW	HW	LW	HW
.....			

Height of tide

Tidal Heights

- d) What is the height of tide at Colville at 1230 SPDST on Sunday 11th August?

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
Height of tide				

QUESTION 8.8

At 1510 DST on Thursday 11th April the crew of a yacht, draught 1.6m, pick up a mooring in Namley Harbour.

- a) What is the height of tide at 1510 DST ?

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
Height of tide				

- b) How far will the tide fall between 1510 DST and the next LW?

.....

- c) If the depth of water at the mooring is 5.0m at 1510 DST, what clearance will there be under the keel at the next LW?

.....

.....

QUESTION 8.9

At 1635 SPDST on Tuesday 14th May the skipper of a vessel, draught 1.6m, is preparing to anchor in Hamilton Sound.

- a) What is the height of tide at 1635 SPDST?

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
Height of tide				

- b) How far will the tide fall between 1635 SPDST and the next LW?

.....

- c) In what depth should the vessel be anchored at 1635 SPDST to ensure a clearance of 1.0m below the keel at the next LW?

.....

.....

Tidal Heights

Use RYA Training Charts 3,4 and Extracts. All times as shown.

QUESTION 8.10

Apply the secondary port differences to the following standard port tidal information. Where required add an hour for Daylight Saving Time.

		Time		Height	
		HW	LW	HW	LW
a) January					
Namley Harbour	UT	1200	1800	4.0	0.4
Port Rampton differences		_____	_____	_____	_____
		_____	_____	_____	_____
DST?		_____	_____		
Port Rampton		_____	_____		
b) April					
		HW	LW	HW	LW
Port Fraser	UT	0600	1100	3.4m	1.1m
Endal Marina differences		_____	_____	_____	_____
		_____	_____	_____	_____
DST?		_____	_____		
Endal Marina		_____	_____		
c) July					
		HW	LW	HW	LW
Namley Harbour	UT	0900	1500	3.7m	0.75m
Farlow differences		_____	_____	_____	_____
		_____	_____	_____	_____
DST?		_____	_____		
Farlow		_____	_____		
d) November					
		HW	LW	HW	LW
Port Fraser	UT	1600	2200	3.6m	0.9m
Parvin Sound differences		_____	_____	_____	_____
		_____	_____	_____	_____
DST?		_____	_____		
Parvin Sound		_____	_____		

Tidal Heights

QUESTION 8.11

Give the times and heights of HW and LW at the following places.

a) Rozelle Cove on the morning of Saturday 19th January.

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____

b) Jackson Bay in the afternoon / evening of Sunday 30th June.

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____

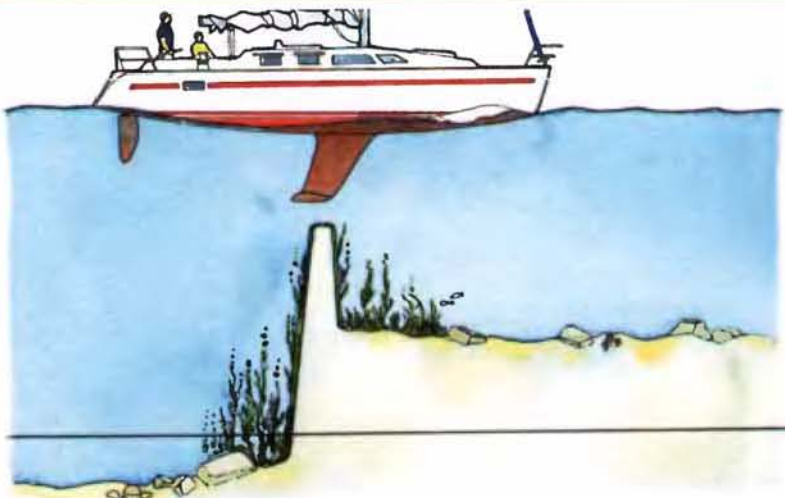
c) Port Slade on the morning of Thursday 2nd May.

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____

Tidal Heights

Use RYA Training Charts 3, 4 and Extracts. All times as shown.

QUESTION 8.12



On the morning of Tuesday 30th April the skipper of a yacht, draught 2.0m, is approaching Endal Bay, bound for Endal Marina.

a) What is the height of tide at 1100 DST?

	Time			Height	
	HW	LW	LW	HW	LW
.....	_____	_____	_____	_____	_____
.....	_____	_____	_____	_____	_____
.....	_____	_____	_____	_____	_____
.....	_____	_____	_____	_____	_____
.....	_____	_____	_____	_____	_____

Height of tide.....

b) What clearance below the keel will the yacht have as it crosses the marina's sill at 1100 DST?

.....

.....

.....

.....

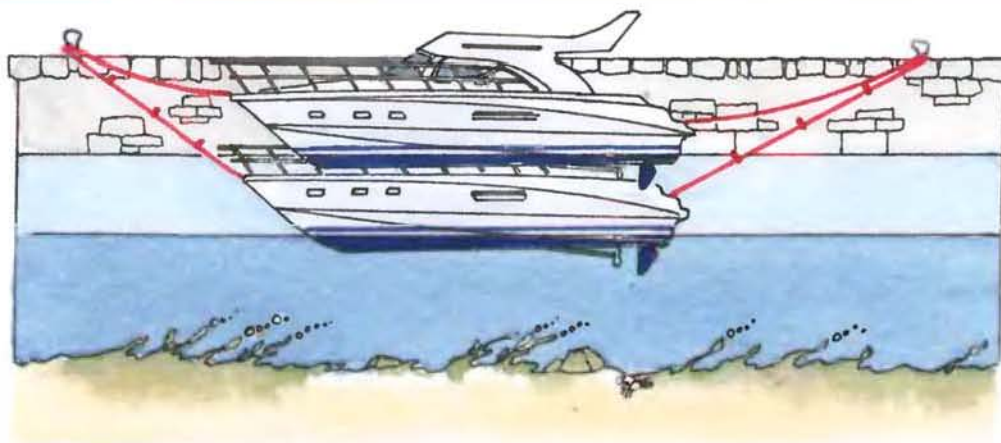
.....

c) By what time that afternoon will she need to re-cross the sill to have the same clearance when leaving?

.....

Tidal Heights

QUESTION 8.13



At 1235 SPDST on Friday 21st June a motor cruiser, draught 1.3m, ties up alongside at Old Dawson (Dawson Harbour).

a) What is the height of tide at 1235 SPDST?

	Time		Height	
	HW	LW	HW	LW
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____
.....	_____	_____	_____	_____

Height of tide

b) How far will the tide fall between 1235 SPDST and the next LW?

.....

c) If the depth of water alongside is 5.8m at 1235 SPDST, what clearances will there be under the keel at the next LW?

.....

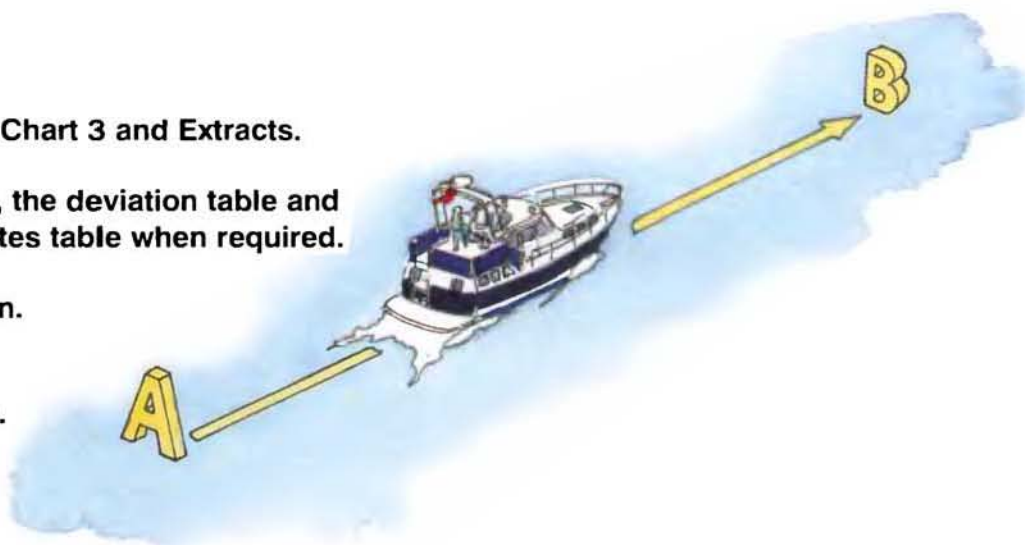
Chartwork Position

Use RYA Training Chart 3 and Extracts.

Use variation 7°W , the deviation table and computation of rates table when required.

All times as shown.

Depths given are reduced to datum.



QUESTION 9.1

At 0900 UT (log 0.0M) a vessel departing Namley Harbour was at The Bar Beacon FI(2)R.10s2M. If a heading of $260^{\circ}(\text{M})$ was maintained while the vessel proceeded towards Port Fraser what was its DR position at 1000 UT (log 6.0M)? Give latitude and longitude.

DR position at 1000 UT

QUESTION 9.2

Using the log extract below, plot the DR positions of this vessel as it proceeds from Dallaglio Bay to Whale Bay Marina. Give the latitude and longitude of the 1530 DR.

Time	Log	Co $^{\circ}(\text{M})$	Wind	Leeway	Depth	Notes
1430 UT	0.0	330	SE4	nil	7m	Departing Dallaglio Bay GPS position $46^{\circ}14'.80\text{N } 005^{\circ}36'.70\text{W}$
1458 UT	3.3	330	SE4	nil	23m	Off Woodman Pt alter course to $005^{\circ}(\text{M})$
1514 UT	5.1	005	SE4	nil	23m	Cleared Jinks Bluff alter course to $060^{\circ}(\text{M})$
1530 UT	7.4	060	SE4	nil	8m	Approaching Whale Bay Marina channel

DR position at 1530

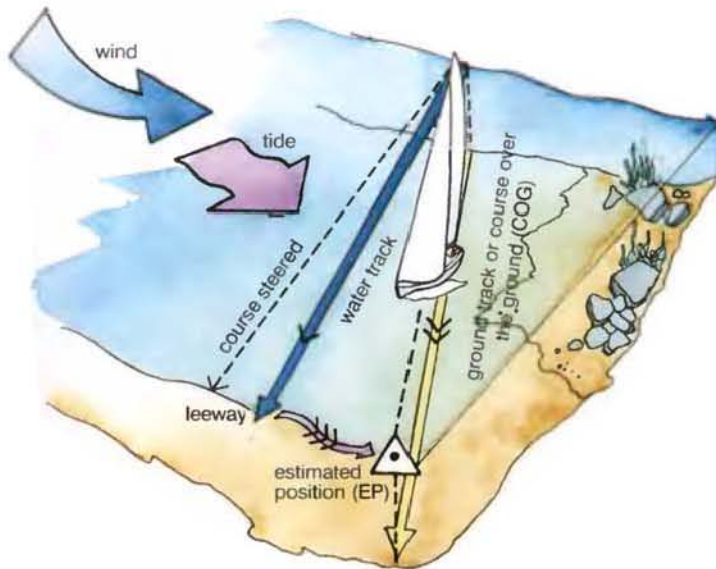
QUESTION 9.3

Using the log extract below, plot the EP of this vessel at 1700 UT. Give latitude and longitude.

Time	Log	Co $^{\circ}(\text{M})$	Wind	Leeway	Depth	Notes
1600 UT	0.0	300	SE3	nil	0.7m	Departing Bramhope Creek Position, at the seaward port lateral buoy $46^{\circ}23'.35\text{N } 006^{\circ}13'.40\text{W}$
1700 UT	5.0	300	SE3	nil	94m	EP tidal stream 1600 – 1700 UT $355^{\circ}(\text{T})$ 1.6kn

EP at 1700 UT

Chartwork Position



RYA Training Chart 3 and Extracts.

Use variation 7°W, the deviation table and computation of rates table when required.

All times as shown.

Depths given are reduced to datum.

QUESTION 9.4

- a) Using the log extract below, plot the estimated position of this vessel at 1735 UT. Give latitude and longitude.

Date	Time	Log	Co°(M)	Wind	Leeway	Depth	Notes
Friday 8th March	1635 UT	0.0	235	NE4	00°	20m	Departing Victoria northern entrance, 46°26' .10N 006°13' .00W
	1712 UT	4.8	235	NE4	00°	51m	West Point Ledge PHM abeam to port.
	1735 UT	7.9	235	NE4	00°	130m	EP using tidal diamond B for tidal set and drift information.

EP at 1735 UT

- b) Approximately how close to West Point Ledge port lateral buoy did the vessel pass?

.....

QUESTION 9.5

- a) Using the log extract below, plot the estimated position of this vessel at 1445 SPDST. Give latitude and longitude.

Date	Time	Log	Co°(M)	Wind	Leeway	Depth	Notes
Friday 24th May	1345 SPDST	22.7	150	S5	10°	30m	Position: 255°(T) from Token Rocks Lt Ho range 4.85M.
	1445 SPDST	30.2	150	S5	10°	33m	EP using tidal diamond M for tidal set and drift information

EP at 1445 SPDST

- b) What was the vessel's COG and SOG between 1345 and 1445 SPDST?

.....

Chartwork Position

Use RYA Training Chart 3 and Extracts. Use variation 7°W, the deviation table and computation of rates table when required. All times as shown. Depths given are reduced to datum.

QUESTION 9.6

- a) Using the log extract below, plot the estimated position of this yacht at 1820 SPDST. Give latitude and longitude.

Date	Time	Log	Co°(C)	Wind	Leeway	Depth	Notes
Thursday 4th July	1720 SPDST	15.4	000	W4	5°	33m	East of Slade Island. GPS: 45°51'.50N 005°43'.00W
	1820 SPDST	22.2	000	W4	5°	89m	EP using tidal diamond K for tidal set and drift information

EP at 1820 SPDST

- b) What was the vessel's COG and SOG between 1720 – 1820 SPDST?

.....

QUESTION 9.7

- a) Using the log extract below, plot the estimated position of this yacht at 0625 DST. Give latitude and longitude.

Date	Time	Log	Co°(C)	Wind	Leeway	Depth	Notes
Wednesday 24th April	0525 DST	44.6	235	S4	5°	50m	Tacking off Point Victoria 46°27'.60N 006°16'.80W
	0541 DST	46.0	235	S4	5°	82m	Alpha Juliet Delta platform ahead
	0625 DST	50.4	235	S4	5°	140m	EP using the tidal stream atlas for tidal set and drift information.

EP at 0625 DST

- b) Did the yacht remain outside the area to be avoided surrounding Alpha Juliet Delta platform?

.....

QUESTION 9.8

- a) Using the log extract below, plot the estimated position of this motor cruiser at 0835 UT. Give latitude and longitude.

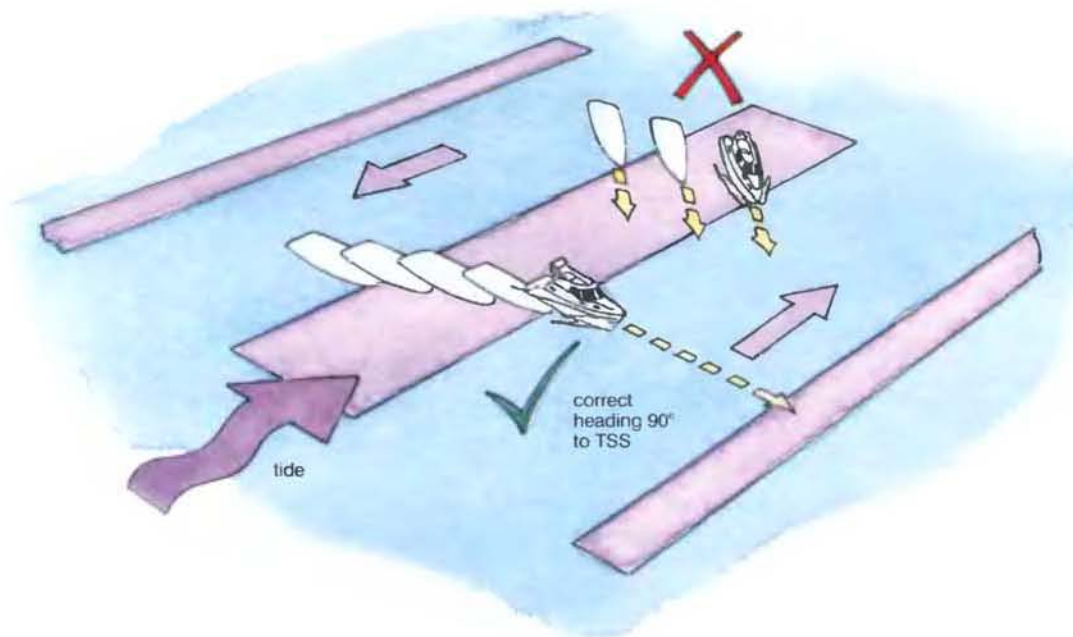
Date	Time	Log	Co°(C)	Wind	Leeway	Depth	Notes
Thursday 5th December	0805 UT	16.2	045	NW4	5°	194m	Plot position with reference to a WPT at the centre of the compass rose west of Cape Woodward: 080°(T) range 3.8M.
	0835 UT	23.2	045	NW4	5°	41m	EP using tidal diamond E for tidal set and drift information.

EP at 0835 UT

- b) What was the vessel's COG and SOG between 0805 and 0905 UT?

.....

Chartwork Position



QUESTION 9.9

At 1520 DST on Sunday 26th May a motor cruiser bound for the Southern Peninsula is about to enter the Traffic Separation Scheme south of Misery Pt $46^{\circ}01' .97N$ $005^{\circ}36' .93W$. In order to cross the traffic flow at right angles the helmsman is asked to hold a course of $205^{\circ}(C)$, maintaining a boat speed of 12.0kn.

Use the tidal stream atlas for tidal set and drift information.

- a) Draw a projected EP to estimate where the vessel will exit the TSS.
Give latitude and longitude.

- b) What are the estimated COG and SOG?

- c) How long will it take for the vessel to cross the TSS?

QUESTION 9.10

- a) Using the log extract below, plot the estimated position of this motor cruiser at 1550 SPDST.
Give latitude and longitude.

Date	Time	Log	Co $^{\circ}(C)$	Wind	Leeway	Depth	Notes
Monday 19th August	1520 SPDST	52.8	110	ESE3	0.0 $^{\circ}$	73m	North of Slade Island $45^{\circ}57' .60N$ $005^{\circ}49' .20W$
	1550 SPDST	60.8	110	ESE3	0.0 $^{\circ}$	91m	EP using tidal diamond K for tidal set and drift information.

EP at 1550 SPDST

- b) Why has the skipper of this motor cruiser chosen to make the passage against wind and tide?

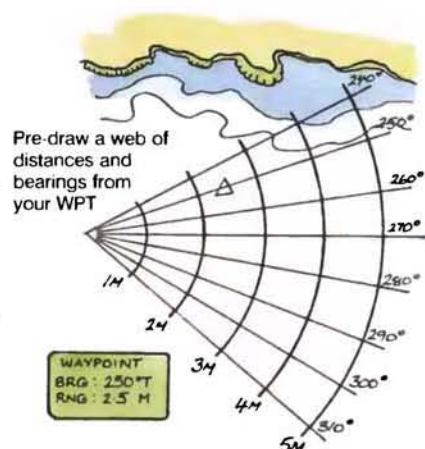
Chartwork Position

Use RYA Training Chart 3 and Extracts. Use variation 7°W , the deviation table and computation of rates table when required. All times as shown. Depths given are reduced to datum.

QUESTION 9.11

At 2045 a yacht, south of S. Helens Island, is tacking into a westerly breeze. As night falls the skipper draws a web from a waypoint in position $45^{\circ}47'.90\text{N}$ $005^{\circ}44'.01\text{W}$ to help navigation.

- Draw the waypoint web between $245^{\circ}(\text{T})$ and $280^{\circ}(\text{T})$
- At 2110 the GPS displays the range and bearing to the waypoint as $275^{\circ}(\text{T})$ 4.5M.
Where is the yacht relative to Whaler Rock?
.....
- Which depth contour would the yacht be approaching at 2125 when the display reads $255^{\circ}(\text{T})$ 3.5M?
.....
- At 2135 a crew member notices that the south cardinal beacon off Jenna Island and Beauty Pont Lt Ho are in transit. Is the yacht still within the web?
.....



Chartwork Position

QUESTION 9.12

At midnight (log 87.6) the mate of a yacht bound for Fiddler's Race fixes position.

Linards Point Lt	339°(M)
South Cardinal Beacon off Jenna Island	102°(M)
Beauty Point Lt	199°(M)

Plot the fix, give latitude and longitude.

.....

QUESTION 9.13

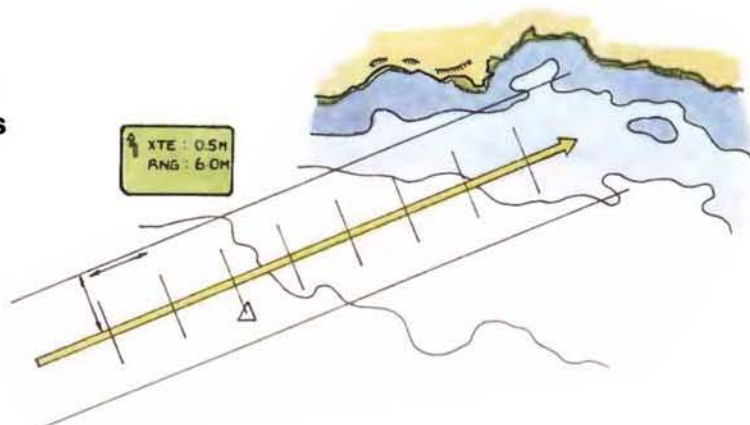
After plotting the fix from question 9.12 the skipper draws a XTE ladder between the fix and a waypoint at $45^{\circ}43'.60N$ $005^{\circ}41'.00W$ to enable the yacht's position to be quickly plotted as it passes through the race.

- Plot the XTE ladder.
- After twenty minutes the mate notes the GPS displaying a XTE of 0.2M to port and a distance to waypoint of 3.0M. What obstruction is off the vessel's port bow?

.....

- If the skipper had wanted to check the XTE ladder with a back bearing, which of the following would have been most useful? (*Tick Box*)

- Beauty Point Lt
- The South Cardinal Beacon off Jenna Island
- Linards Point Lt



Course to Steer

Use RYA Training Chart 3 and Extracts. Use variation 7°W , the deviation table and computation of rates table when required. All times as shown. Depths given are reduced to datum.

QUESTION 10.1

At midday (log 0.0M) a vessel departing Namley Harbour is at the Bar Beacon Fl(2) R.10s2M.

- What is the distance to the racing buoy 'Yacht T' in position $46^{\circ}21' .64\text{N}$ $005^{\circ}39' .28\text{W}$?
.....
- What is the magnetic course to steer, at slack water, to the buoy?
.....
- At a boat speed of 6.0kn approximately how long will it take for the vessel to reach the buoy?
.....

QUESTION 10.2

Using the same departure and destination positions as in question 10.1 above, answer the following questions for a vessel departing the Bar Beacon at 1300 (log 0.0M) when the set and drift of the tide is $150^{\circ}(\text{T})$ 1.6kn.

- What is the magnetic course to steer to the buoy at boat speed of 6.0kn?
.....
- Approximately how long will it take for the vessel to reach the buoy?
.....
- When the buoy is sighted will it be dead ahead, on the port or on starboard bow?
.....

QUESTION 10.3

- At 1520 DST (log 42.0M) on Thursday 4th July the skipper of a vessel bound for Bramhope Creek fixes position:

Point Victoria Lt Ho	$061^{\circ}(\text{M})$
Chaplin Peak	$097^{\circ}(\text{M})$
West Point Lt Ho	$135^{\circ}(\text{M})$

 Plot the fix, give the latitude and longitude.
- What time is HW Victoria? Is it springs or neaps?
- What is the tidal set and drift between 1520 DST and 1620 DST? Use diamond B.
.....
- What is the magnetic course to steer from the fix to the seaward starboard lateral buoy at the entrance to Bramhope Creek, $46^{\circ}23' .17\text{N}$ $006^{\circ}13' .54\text{W}$? Boat speed 5.0kn.
.....
- Approximately how long will it take for the vessel to reach the buoy?
.....
- When the buoy is sighted will it be dead ahead, on the port or on the starboard bow?
.....

Course to Steer

QUESTION 10.4

At 0855 SPDST (log 24.5M) on Tuesday 28th May a vessel bound for S. Kilda is in position $45^{\circ}53'.93N$ $005^{\circ}55'.06W$.

- a) What is the compass course to steer to a waypoint at $45^{\circ}48'.96N$ $006^{\circ}00'.23W$?

.....

- b) How long will it take to reach the waypoint?

.....

Boat speed 7.0kn. Use diamond  for tidal set and drift information.

QUESTION 10.5

At 1330 UT (log 52.4M) on Monday 7th January the skipper of a yacht SW of West Point Ledge fixes position.

Alpha Juliet Delta 1 Platform $324^{\circ}(M)$

West Point Lt Ho $075^{\circ}(M)$

Depth 100m contour

- a) Plot the fix, give latitude and longitude.

.....

- b) What is the compass course to steer to a waypoint in Stubbington Bay $46^{\circ}18'.18N$ $006^{\circ}11'.21W$?

.....

- c) What is the ETA at the waypoint?

.....

- d) Will the yacht pass outside the safety zone around the ODAS buoy FI(5)Y.20s?

.....

Boat speed 5.0kn. Use diamond  for tidal set and drift information. Leeway 10° due to a north-easterly breeze.

QUESTION 10.6

At 1320 (log 42.8M) Zone -0100 on Monday 18th February a motor cruiser is exiting the Three Sisters Passage $45^{\circ}50'.00N$ $005^{\circ}43'.80W$.

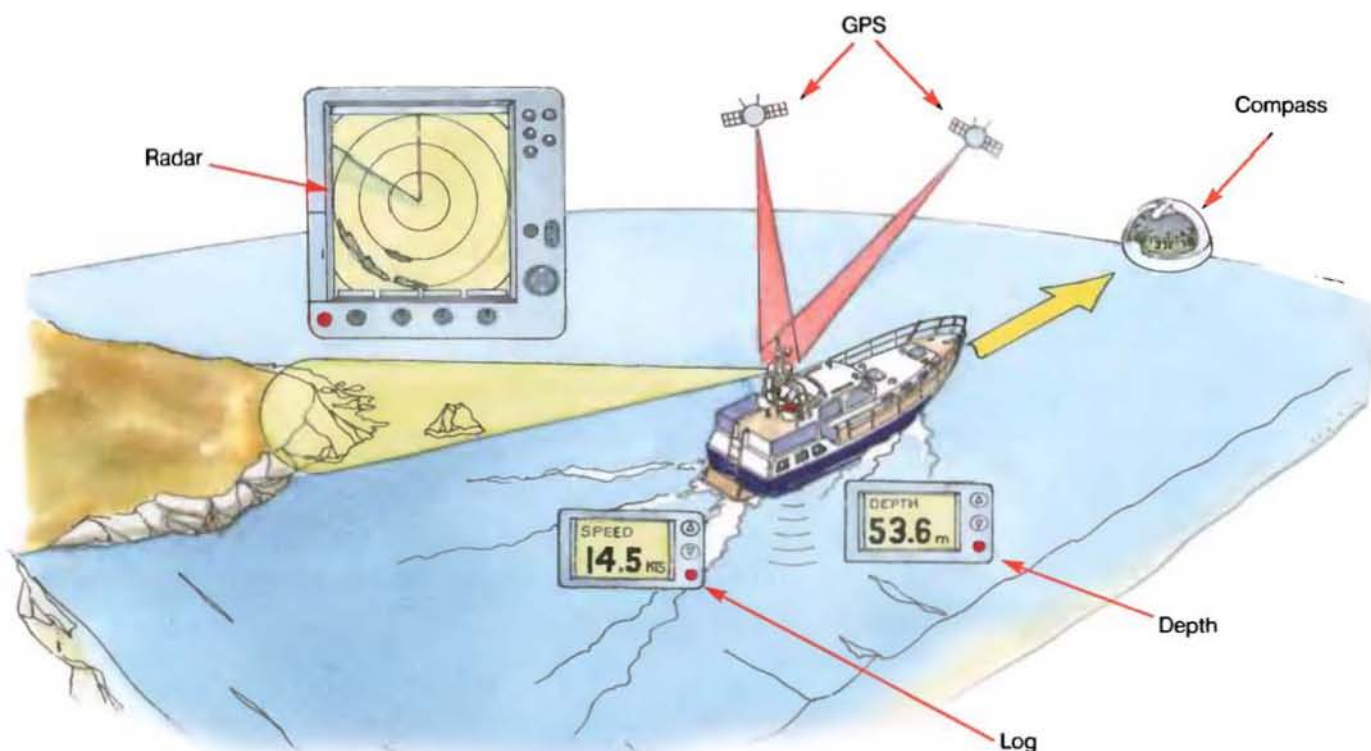
- a) What is the compass course to steer to a waypoint in Beauty Bay $45^{\circ}46'.21N$ $005^{\circ}45'.84W$?

.....

- b) What is the ETA at the waypoint?

Boat speed 12 kn. Use the tidal stream atlas for tidal set and drift information.

Instrumentation



QUESTION 11.1

Why might an echo sounder fail to give reliable depth readings when in the vicinity of the wash from a large vessel such as a ferry?

.....

.....

.....

.....

.....



QUESTION 11.2

a) Which of the following would you expect a basic through-hull log to supply?

- i) Speed through the water. ☐
- ii) Speed over the ground. ☐
- iii) Both. ☐



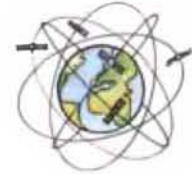
b) Which is potentially more dangerous: a log which over-reads or one that under-reads?
Give reasons.

.....

.....

QUESTION 11.3

The Global Positioning System (GPS) is a very reliable navigation aid. However, an experienced navigator knows that the marine environment and electronics don't always mix well.



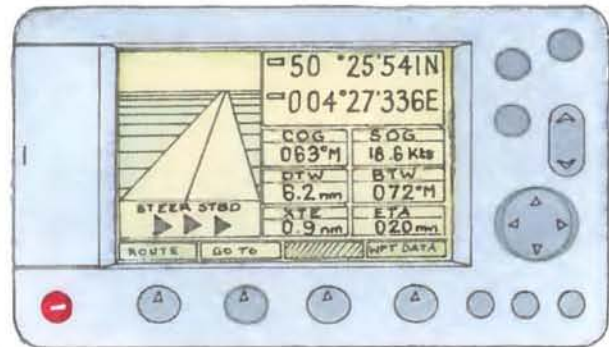
What advice would you give a newcomer to navigation with regard to best practice?

List four.

QUESTION 11.4

What do the following abbreviations commonly displayed on GPS screens stand for?

- a) COG
- b) SOG
- c) DTW
- d) BTW
- e) XTE
- f) ETA



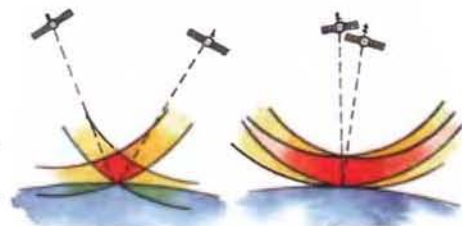
QUESTION 11.5

The display on your GPS receiver shows an HDOP of 1.4, a few minutes later this increases to 3.2.

- a) To what does the HDOP number refer?

.....

- b) Which is the more favourable number?



QUESTION 11.6

Which of the following is a preferable position to site a GPS aerial? (Tick box)

- a) Inside a cockpit locker to avoid it getting wet ☐
- b) High up, on the top of a mast ☐
- c) Low down, clear of obstructions ☐

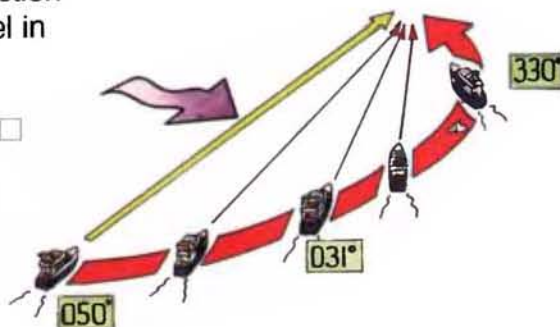


Instrumentation

QUESTION 11.7

Which of the following would be the safest course of action when crossing a channel such as the Neptune Channel in strong cross tide?

- a) Following a changing GPS bearing to a waypoint. ☐
- b) Working out a course to steer allowing for the tidal stream and monitoring the course using XTE. ☐



QUESTION 11.8

What precautionary checks should be made before relying on a GPS route for navigation?

.....

.....

.....

QUESTION 11.9

What sort of electronic chart plotter is likely to be most suitable for installation on board an open boat such as a RIB? (Tick Box)

- a) A dedicated chart plotter with built in GPS receiver. ☐
- b) A laptop with chart-plotting software connected to a GPS receiver. ☐



QUESTION 11.10

Why is it inadvisable to navigate using an electronic chart that has been magnified beyond the scale to which it was originally produced?

.....

.....

.....

.....

QUESTION 11.11

To which type of electronic chart, Raster or Vector, do the following apply?

a) The chart can be interrogated to reveal extra information about a selected feature.

.....

b) The chart is an electronic copy of its paper equivalent.

.....

c) Information on the chart is grouped in layers, which can be selected or de-selected.

.....

d) The level of detail on the chart changes when zooming in or out.

.....

QUESTION 11.12

a) What is the significance of a radar target which remains on a steady bearing while progressing towards the centre of the screen?

.....

.....

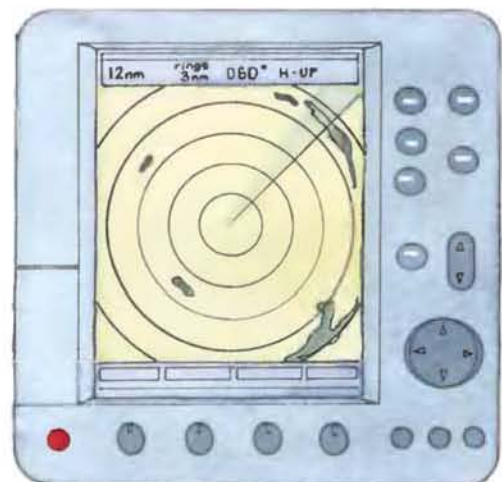
.....

b) How would the signal from a SART be displayed on a radar screen?

.....

.....

.....



Pilotage



QUESTION 12.1

When following a pilotage plan, where should the skipper be?

- a) Below deck at the chart table in order to work out the plan as the vessel proceeds. ☐
- b) On deck with pre-planned pilot notes and a basic pilotage sketch to hand. ☐

QUESTION 12.2

A RIB is approaching a harbour where leading lights have been installed to aid pilotage. Which diagram indicates:

- a) The RIB is on course?
- b) The RIB is too far to port?

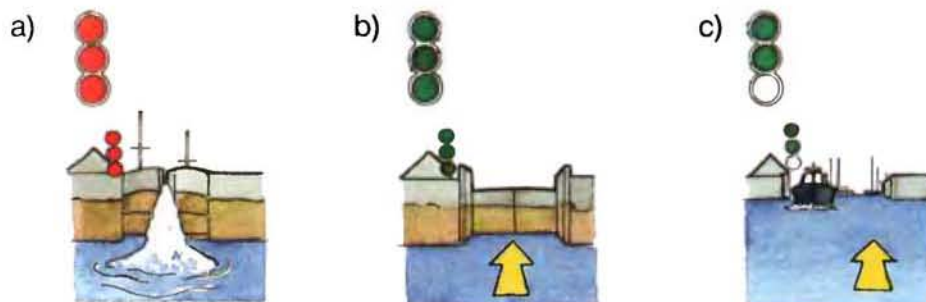


QUESTION 12.3

The crew of a vessel approaching a marina lock have been asked by the skipper to look out for the International Port Traffic Signals at the entrance.

What are the meanings of the following lights?

- a) Three vertical red lights.....
- b) Three vertical green lights
- c) Two vertical green lights above a white light



QUESTION 12.4

Use the pilotage notes for Victoria to answer the following questions.

- a) When approaching Victoria from the south, why are vessels advised to stay to seaward of the PHM off West Point?

.....

- b) Which entrance must small craft use when entering the harbour?

.....

- c) What obstructions are likely to be in the water around Emmits Rocks?

.....

- d) How do the skippers of local craft ensure they remain in safe water when approaching the harbour?

.....

QUESTION 12.5

A 12 metre yacht heading north is in position $46^{\circ}13'.00N$ $005^{\circ}53'.10W$ when the crew notice a large ship >150m approaching from the south.

What action must the yacht skipper take?

.....

QUESTION 12.6

- a) What visual pilotage aid is available to a vessel bound for Dawson Harbour as it passes through the Flanker Channel?

.....

- b) How could the church tower at Old Dawson and the flagstaff on Instow Island be used to show when the vessel should turn west towards the entrance?

.....

- c) Is it possible to use the church tower at Old Dawson and the flagstaff on Instow Island at night?

.....

- d) Why might the contour lines in the vicinity of Dawson Harbour

QUESTION 12.7

At 1840 DST on Friday 3rd May the crew of a motor cruiser ½ mile west of Holcombe Head are preparing to enter Walton Bay for an overnight stay.

Prepare a pilotage plan to the anchorage in Walton Bay, include the following.

a) The height of tide at 1840 DST.

.....

b) Hazards / dangers to be avoided.

.....

.....

c) Available clearing bearings / leading bearings / transits.

.....

.....

d) The predicted depth of water at the anchorage at 1900 DST.

.....

.....

e) The predicted depth of water at the anchorage at LW.

.....

.....

f) Areas to avoid anchoring in.

.....

g) Availability of alongside berthing.

.....

.....

h) Facilities.

.....

.....

QUESTION 13.1

Match the following wind speeds to the descriptions.

- i) 1 – 3kn ii) 4 – 6kn iii) 7 – 10kn iv) 11 – 16kn
v) 17 – 21kn vi) 22 – 27kn vii) 28 – 33kn viii) 34 – 40kn

- a) **Light breeze**, small wavelets
Sail – full mainsail and large genoa
Power – fast planing conditions
.....
- b) **Fresh breeze**, moderate waves, many white crests
Sail – reef mainsail and reduce headsail
Power – reduce speed to prevent slamming when going to windward.
.....
- c) **Strong breeze**, large waves, white foam crests
Sail – reef mainsail and reduce headsail
Power – displacement speed
.....
- d) **Near gale**, sea heaps up, spray, breaking waves, foam blows in streaks.
Sail – deep reefed mainsail, small jib
Power – displacement speed
.....



QUESTION 13.2

Which of the following changes in barometric pressure would you expect to indicate strong winds? (Tick box)

- a) Rise of 8mb in the past 3 hours ☐
- b) Fall of 3mb in the past 3 hours ☐
- c) Fall of 8mb in the past 3 hours ☐

QUESTION 13.3

Under which of the following weather conditions would it be unwise to seek shelter at Sweetwater (on the Southern Peninsula) around the time of low water? Give reasons.

- a) Westerly wind 25kn ☐
- b) Southeasterly wind 30kn ☐
- c) Northerly wind 20kn ☐

Reasons.....

QUESTION 13.4

The skipper of a vessel sheltering in Beauty Bay hears the following new gale warning for the Southern Peninsula. 'Wind; southwesterly F6, veering northerly and increasing gale F8 soon'.

- a) How long will it be before the wind veers and increases to gale force?

.....

- b) Will Beauty Bay be a safe anchorage once the wind has veered?

.....

QUESTION 13.5

At midnight the crew of a vessel off Victoria is contemplating a passage along the coast in a freshening breeze.

- a) At what time and on which VHF channel can they expect the next weather forecast from the Coastguard?

.....

- b) Give 3 other sources of weather information available to a crew in harbour.

.....

.....

.....

QUESTION 13.6

A yacht is running before a brisk easterly wind at the edge of a shallow depression in the Northern Hemisphere.

According to Buys Ballot's Law where is the low situated; north, south, east or west of the vessel?

.....



Meteorology

QUESTION 13.7

Under what conditions are the following most likely to occur?

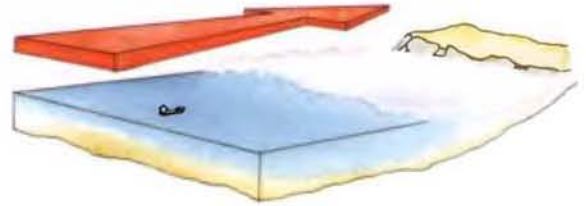
a) Land (radiation) fog.

.....

.....

.....

.....



b) Sea (advection) fog.

.....

.....

.....

.....



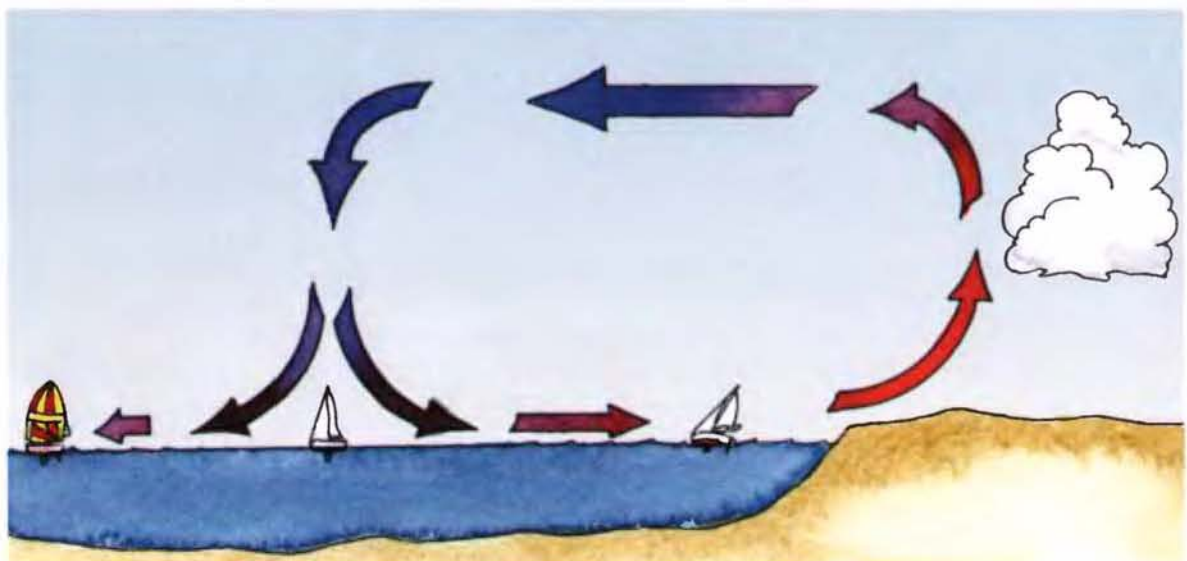
QUESTION 13.8

Under what conditions would you expect a sea breeze to develop?

.....

.....

.....



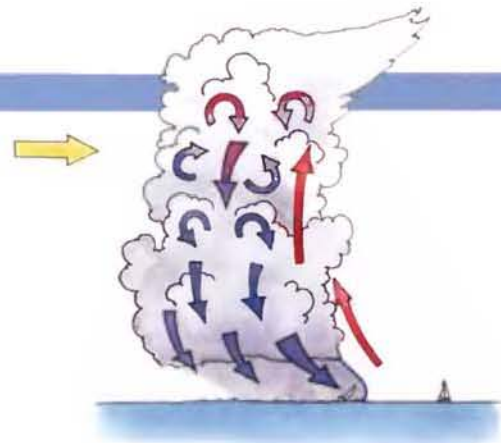
QUESTION 13.9

- a) Within a frontal depression, where would you be most likely to encounter towering cumulonimbus clouds?

.....

- b) What wind conditions would you expect beneath this kind of cloud?

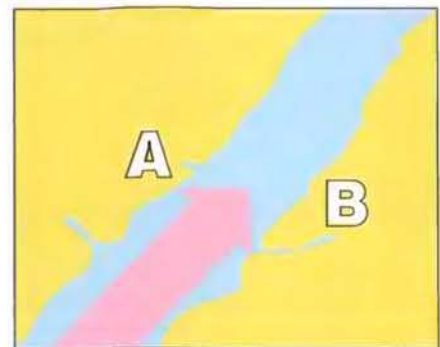
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QUESTION 13.10

With regard to coastal convergence and divergence, along which shore would you expect to find the strongest breeze, A or B?

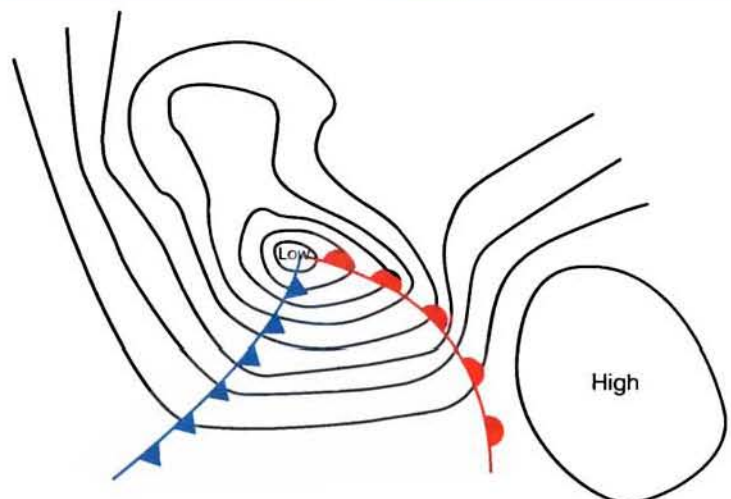
.....



QUESTION 13.11

Mark the following weather features on this Northern Hemisphere met map.

- a) Fair, settled weather, light and variable wind.
 b) Heavy rain, moderate visibility, southerly wind.
 c) Drizzle, poor visibility, southwesterly wind.
 d) Squally showers, good visibility away from showers, northwesterly wind.



QUESTION 13.12

What indicates where the strongest winds are within a weather map?

.....

Passage Planning

Use RYA Training Chart 3 and Extracts.

Use variation 7°W , the deviation table and computation of rates table when required.

Passage planning does not always result in definitive answers. Sometimes there is more than one sensible option.

All times as shown.



QUESTION 14.1

The SOLAS V regulations require that passage plans are made and that a number of important factors are taken into account before departure.

Give a brief summary of what should be included in a passage plan with regard to the following.

- a) Weather
-
- b) Tides
-
- c) The vessel
-
- d) The crew
-
- e) Navigational dangers
-
- f) Contingency plans
-
- g) Contacts ashore
-
-

QUESTION 14.2

What regulations must foreign vessels arriving in the Neptune Islands conform to?

.....

.....

.....

.....

Passage Planning

QUESTION 14.3

The skipper of a yacht based at Farlow wants to take some friends for a weekend sail across the channel to the Southern Peninsula. The new crew are looking forward to making the passage and spending a night at anchor.

With regard to the weekend's weather forecast of westerly winds force 4, should the skipper sail to Jackson Bay or Beauty Bay?

.....

.....

.....

.....

.....

.....



QUESTION 14.4

On Tuesday 28th May the crew of a motor vessel two miles west of S. Anthony's Head hear a VHF message from a vessel in position $46^{\circ}13'.80N$ $006^{\circ}16'.30W$ requesting a tow.

On arrival at the stricken vessel at 0900 DST a line is passed and they start towing the boat towards port. If the maximum speed achievable while towing is 6.0kn, which harbour should they make for: Victoria or Dunbarton?

Use the tidal stream atlas to help you make your decision.

.....

QUESTION 14.5

The trainee mate of a boat based at S. Kilda Marina has been asked to prepare a waypoint route for a passage from S. Kilda Bay to Sand Bay on Slade Island.

When checking the route on the chart the skipper finds a mistake has been made.

a) Plot the waypoints to discover the error.

WPT 01: $45^{\circ}48'.10N$ $006^{\circ}02'.00W$

WPT 02: $45^{\circ}53'.20N$ $005^{\circ}46'.80W$

b) Suggest an alternative route that will enable the passage to be made safely.

.....

.....

Passage Planning

QUESTION 14.6

At 1320 SPDST on Tuesday 20th August a planing hull motor cruiser bound for Hamilton is rounding Cape Donne. In which of the following winds would the vessel be most likely to achieve its 25kn capability during this passage?

- a) Northerly 20kn
- b) Southerly 20kn

Give reasons.



QUESTION 14.7

At 1500 Zone-0100 on Tuesday 26th February a yacht in position $45^{\circ}41'.50N$ $005^{\circ}40'.0W$ is on the final leg of a windward passage to Port Fitzroy.

Which tack should the yacht be on as it sails towards Fitzroy Bay in the westerly breeze?

The yacht sails 040° off the wind at 6.0kn. Use diamond $\diamond$ for tidal set and drift information.

.....

Passage Planning

QUESTION 14.8

The skipper of a semi-displacement motor cruiser, draught 1.0m, boat speed 15kn, would like to make a passage from Colville to Hamilton on the evening of Thursday 4th July. The weather forecast promises a fine evening with a southerly breeze (F4) and good visibility.

Prepare the passage plan, which should include the following.

a) Distance

b) Departure time Colville
(in order to enjoy a smooth passage)

c) ETA Hamilton Sound.....

d) Tidal gates and hazards

e) Alternative ports and shelters on route

f) Waypoints



QUESTION 14.9

On the morning of Saturday 31st August the crew of a yacht, draught 1.6m, air draught 15.0m, are in Bramhope Creek preparing to depart for Port Rampton. The weather forecast promises a brisk sail with a northerly breeze (F4), giving a boat speed of 7.0kn.

Prepare a passage plan, which should include the following.

a) Distance

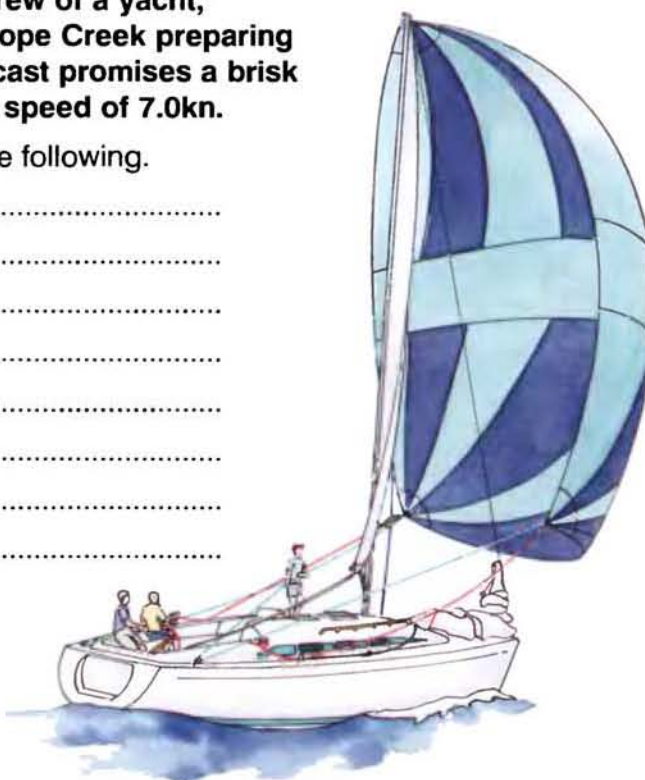
b) Departure time Bramhope Creek

c) ETA Port Rampton

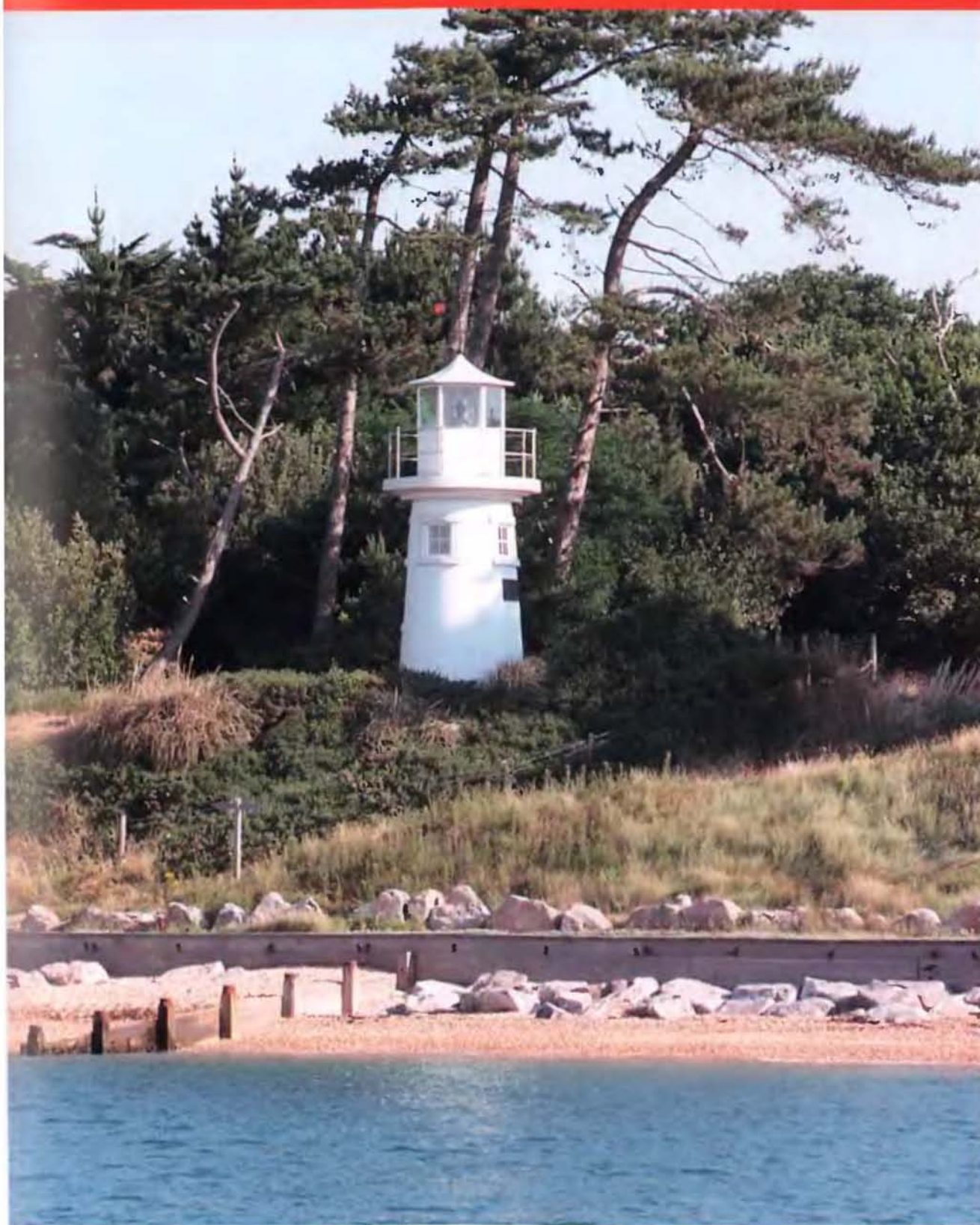
d) Tidal gates and hazards

e) Alternative ports and shelters on route

f) Waypoints



Answers

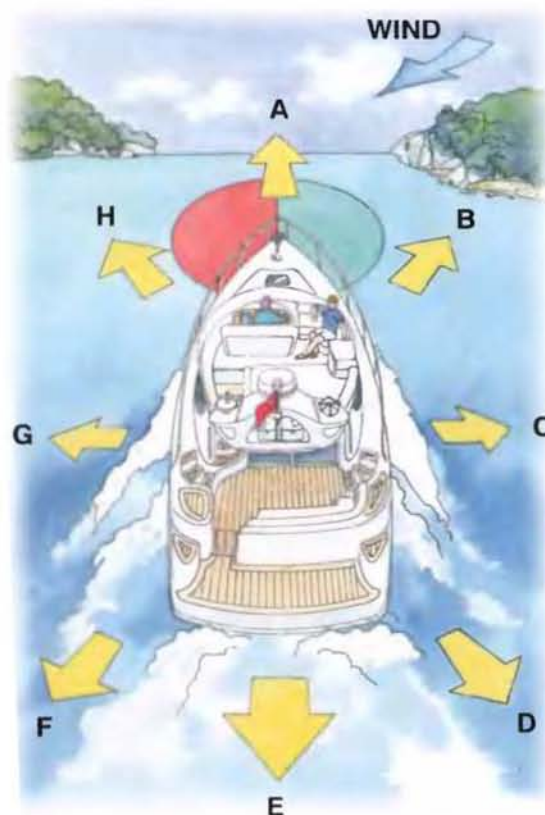


Seamanship & Environment

ANSWER 1.1

- a) i) Port quarter.....F
 ii) Starboard bowB
 iii) AheadA
 iv) Port beamG
 v) Starboard quarterD
 vi) AsternE
 vii) Port bowH
 viii) Starboard beamC

b) Port



ANSWER 1.2

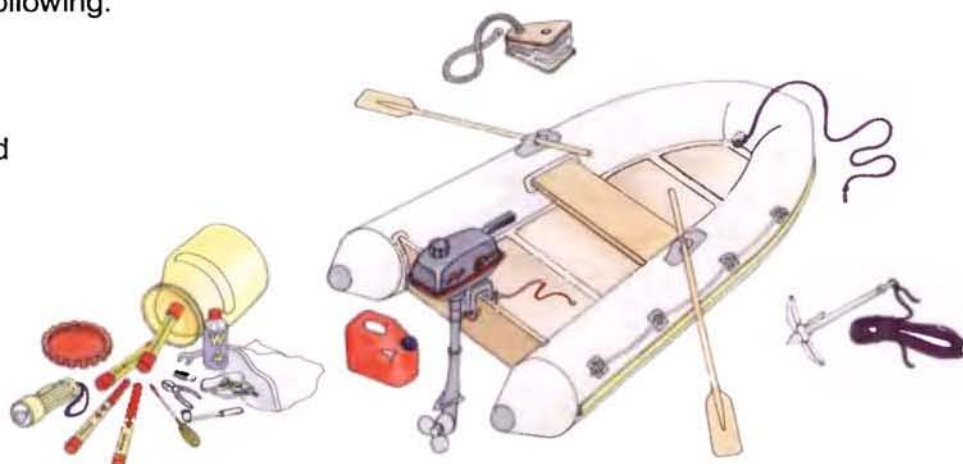
- a) i) When there is any possibility of having to abandon the vessel i.e. Fog, Collision, Heavy weather etc. At all times for non-swimmers and children. In the tender. When they would prefer to.
- ii) Dependent upon the experience of the crew, but in general: In rough seas. At night. When alone on watch. When recovering a MOB. When they would prefer to.
- b) i) Jackstays.
 ii) D rings.
- c) Windward. A crewmember who is clipped onto the windward side is more likely to fall inboard rather than overboard in the event of a stumble.

Seamanship & Environment

ANSWER 1.3

a) Any three from the following:

- Oars
- Bailer
- Kill cord for outboard
- Pump
- Spare fuel
- Folding anchor
- Tools
- Flares
- Torch
- Spare spark plug
- Hand held VHF



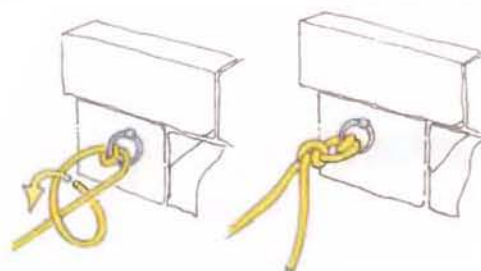
b) Do not overload the tender.
Make two trips if necessary.
Spread the load evenly.



c) Yes.

ANSWER 1.4

- a) i) Round turn and two half hitchesC
 ii) Bowline.....B
 iii) Sheet bend.....A



Round turn and two half hitches

b) C. Round turn and two half hitches.

ANSWER 1.5

- a) 12 metres.
 b) 18 metres.
 c) Nylon. A strong material that also has some elasticity, which helps prevent snubbing.

Seamanship & Environment

ANSWER 1.6

- | | |
|------------------|---|
| a) CQR or Plough | ii) Good holding to weight ratio, can be difficult to stow, moving parts can capsize. |
| b) Bruce | i) Good holding to weight ratio, can be difficult to stow. |
| c) Danforth | iii) Good holding to weight ratio, stows flat, can be difficult to break out of mud. |
| d) Fishermans | iv) Good for rocky and weedy sea-beds, poor holding in sand and mud. |

ANSWER 1.7

- a) Any three from the following.

Shelter	Is the anchorage sheltered under the prevailing conditions and will it remain so should conditions change?
Holding	What is the nature of the seabed, is it likely the anchor will dig in satisfactorily?
Obstructions	Is the sea bed clear of obstructions that might foul the anchor?
Dangers	Are there any charted dangers such as isolated rocks or wrecks in the vicinity with which the boat might collide?
Depth	Is there sufficient depth of water, both on arrival and during the time the vessel is to remain anchored?
Space	Is there sufficient space within the anchorage to allow for the vessel's swinging circle?
Prohibited areas	Is anchoring allowed; clear of power cables, pipelines, oyster beds etc.

- b) Once it appears the anchor is holding, a bearing or transit of fixed objects should be observed; ideally off the vessel's beam. If the bearing remains constant or the transit remains aligned it can be assumed that the anchor is secure.

Periodically checking the bearing or transit would be prudent.

- c) A deep keeled yacht is likely to be influenced to a greater extent by tidal stream or current than a shallow draught motor cruiser, which may be aligned to the wind. If the vessels are swinging differently to the elements they might collide if their swinging circles overlap.

Seamanship & Environment

ANSWER 1.8

- a) Keep toxic or damaging chemicals, such as paints, out of the marine environment.
Do not use TBT based antifouling paint; dispose of hazardous waste correctly.
Choose an antifouling that is effective, while having the least possible toxicity.
When cleaning off old antifouling, wear protective clothing, gloves, facemask and goggles.
Prevent dust and scrapings from entering the sea or being dispersed by the wind.
- b) Any three from the following:
Remove excess packaging before stowing
Where possible, repack into the boat's permanent containers
Keep a supply of strong rubbish bags on board
Allocate an area for the stowage of garbage
Rinse used packaging to prevent smells
Separate waste that can be recycled
Train crew to follow good onboard garbage management
Put **NO** garbage into the sea
- c) Isolating the area below the engine from other areas of the bilge helps to keep any oil leaks or spillages from contaminating bilge water.

Charts, Publications & Symbols

ANSWER 2.1

- a) Latitude.
- b) Longitude.

ANSWER 2.2

- a) 60
- b) 1
- c) 0.1 of a nautical mile (approximately 185 metres).

ANSWER 2.3

- a) Planning a passage from Port Fraser to Port Fitzroy.1:100 000
- b) Piloting out of Port Fraser.1: 25 000
- c) Piloting into Port Fitzroy.....1: 50 000

ANSWER 2.4

- a) Vector.
- b) Electronic charts are typically updated via a manufacturer's CD ROM, over the Internet or by exchanging an old chart cartridge with a new one.

ANSWER 2.5

Any three from the following: Tidal height predictions. Tidal stream information. Passage planning and pilotage information. Sources of weather information. Distress and life saving signals. Light characteristics. International port traffic signals. Admiralty chart symbols. Rising / dipping distance table. Speed x distance table.

ANSWER 2.6

- a) Charted depths are measured in metres below chart datum, which is approximately the level of the lowest astronomical tide.
- b) Charted drying heights (underlined) are measured in metres above chart datum.
- c) Vertical clearance is measured in metres above highest astronomical tide.
- d) Heights of lighthouse lights are measured in metres above mean high water springs.

Charts, Publications & Symbols

ANSWER 2.7

- a) Wreck, depth unknown, no danger to navigation.iii)
- b) Wreck showing any part at level of chart datum.vi)
- c) Kelp.....iv)
- d) Rock awash at level of chart datum.v)
- e) Yacht harbour, Marina.ii)
- f) Overfalls, tide rips and races.i)

ANSWER 2.8

- a) Wreck, depth unknown, danger to navigation.
- b) Wreck showing any part at level of chart datum.
- c) Recommended anchorage.
- d) Offshore platform (Alpha Juliet Delta gas rig).
- e) Anchoring prohibited.
- f) Overfalls, tide rips and races.

ANSWER 2.9

- | | |
|------------|-------|
| a) 275°(T) | 10.5M |
| b) 282°(T) | 6.8M |
| c) 294°(T) | 4.1M |
| d) 337°(T) | 2.8M |
| e) 066°(T) | 4.1M |
| f) 086°(T) | 2.8M |
| g) 131°(T) | 4.6M |
| h) 159°(T) | 2.1M |
| i) 203°(T) | 5.6M |

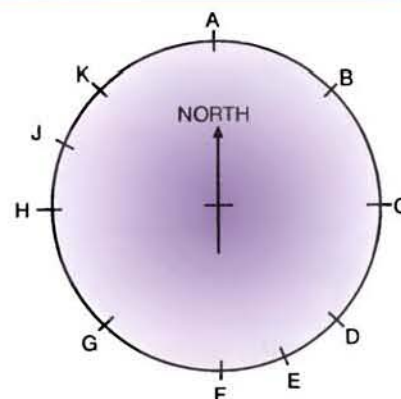
ANSWER 2.10

Robinson Rock. A rock that covers and uncovers to a height of 1.0m above Chart Datum.

Compass & Position Fixing

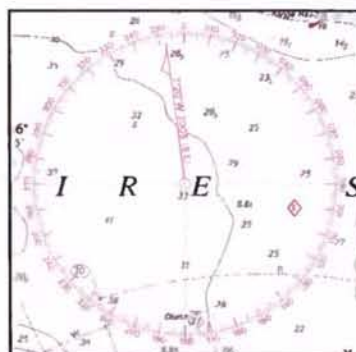
ANSWER 3.1

- | | |
|--------|---------|
| i) B | v) A |
| ii) G | vi) F |
| iii) K | vii) D |
| iv) H | viii) C |



ANSWER 3.2

- a) Variation is displayed at a number of compass roses placed strategically around the charts. It is also to be found under the plan titles.
- b) $7^{\circ} 20' W$
- c) $8^{\circ} E$



ANSWER 3.3

- a) $025^{\circ}(M)$ b) $127^{\circ}(M)$ c) $192^{\circ}(M)$ d) $354^{\circ}(M)$

ANSWER 3.4

- a) $098^{\circ}(T)$ b) $148^{\circ}(T)$ c) $230^{\circ}(T)$ d) $359^{\circ}(T)$

ANSWER 3.5

Pre-plan, check the chosen features are on the chart.

Use near objects with a good angle of cut.

Fixed objects are better than buoys.

Keep away from ferrous metal and wiring when taking the bearings.

Counteract the motion of the vessel with the body and allow the compass card to settle.

Keep the compass horizontal.

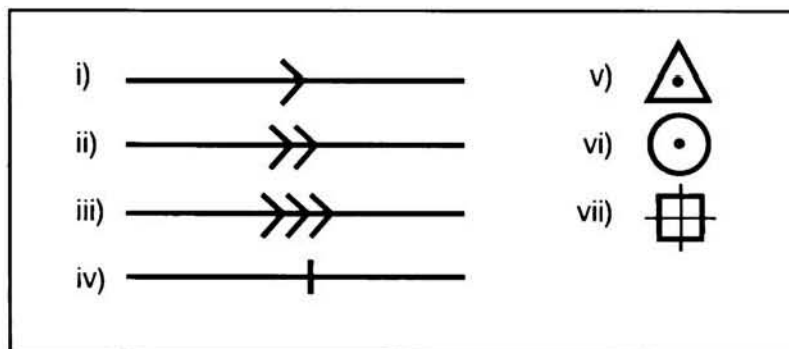
Take the bearing on the beam last as it will change the quickest.

Remember to record the time and log reading and check the depth.

Compass & Position Fixing

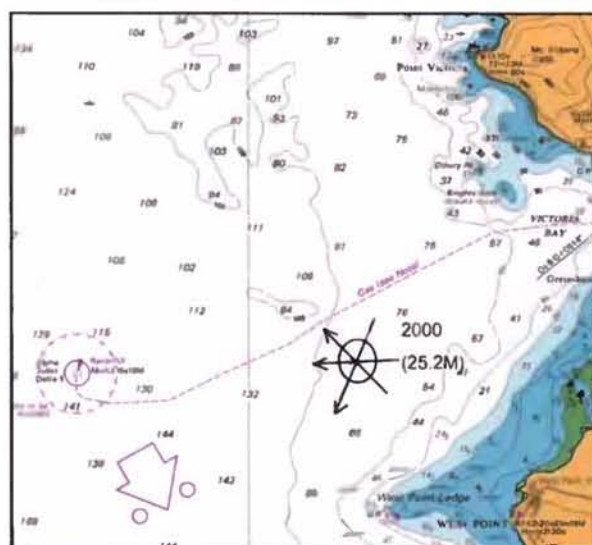
ANSWER 3.6

- a) vi)
- b) i)
- c) iv)
- d) vii)
- e) ii)
- f) v)
- g) iii)



ANSWER 3.7

- a) $46^{\circ}23'.50N$ $006^{\circ}17'.90W$
- b) The bearing on Alpha Juliet Delta Platform. Because it is on the vessel's beam its bearing would be changing the quickest.



ANSWER 3.8

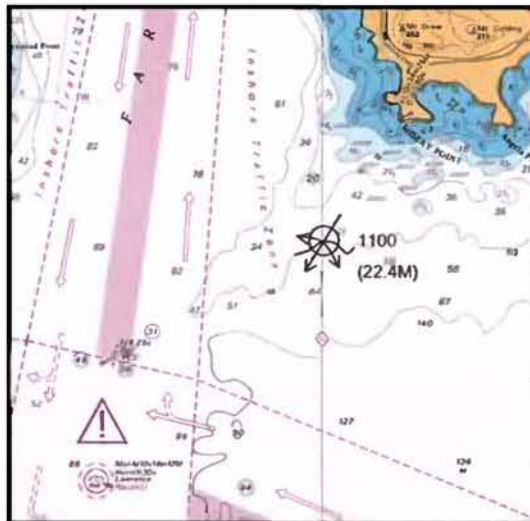
- a) The hurriedly taken bearings have resulted in a fairly large cocked hat, reducing the accuracy of the fix.
- b) It would be prudent to assume the vessel was close to the unlit Kay Island and its off lying rocks.
- c) The depth contour lines surrounding Kay Island could be used to confirm if the vessel was standing into danger.



Compass & Position Fixing

ANSWER 3.9

46°05'.20N 005°40'.0W



ANSWER 3.10

Compass readings taken in this vicinity may be unreliable due to local magnetic anomalies.

ANSWER 3.11

- Ferrous metal and magnetic fields will affect the compass, for example: engines, instruments, speakers, mobile phones etc.
- Any two from the following.
When joining an unfamiliar boat.
After new equipment, which may generate magnetic fields, has been installed onboard.
If a new compass has been fitted.
- Any item which is directly above or below the compass will be moved to one side as the boat heels. Due to its change in position relative to the compass, something that has a magnetic influence will affect the compass differently when the boat is heeled to when it is upright.

ANSWER 3.12

- Fluxgate (electronic) compass.
- Yes, but normally fitted with auto-correction device.

ANSWER 3.13

Transit	070°(T)
Variation	+ 007° W
	077°(M)
Compass reads	085°(C)
Deviation	008°W

IRPCS

**ANSWER 4.1**

- a) Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions.
- b) On a sailing vessel there are two main areas where a crew is likely to encounter blind spots. On the lee bow behind sails and to windward in strong winds when spray and rain sting the eyes.
- c) The rules do not apportion right of way to vessels.
Although vessels will alter course and speed as required by the rules, everyone at sea has an equal responsibility to avoid collision.

ANSWER 4.2

Visibility.

Traffic density.

The manoeuvrability of the vessel.

At night, the presence of background lights from the shore.

State of wind, sea and current.

Navigational hazards.

Draught in relation to the depth of water.

ANSWER 4.3

Take compass bearings of the approaching vessel. If the bearings do not show an appreciable change and the range is closing, a risk of collision exists.

ANSWER 4.4

- a) Early, in ample time.
- b) Alter course to show the other vessel a different aspect i.e. a different colour side light.

ANSWER 4.5

- a) Vessel constrained by draught.
- b) Vessel restricted in ability to manoeuvre.
- c) Vessel at anchor.
- d) Vessel aground.
- e) Vessel motor sailing.
- f) Vessel engaged in fishing / trawling.
- g) Vessel not under command.

ANSWER 4.6

Reduce speed to a minimum to keep steerage way, sound fog signal and if necessary stop. Navigate with caution until the risk of collision is over.

ANSWER 4.7

Heading (to comply with rule 10). This is the quickest passage across the lane and shows the aspect of the vessel at right angles to the traffic flow.

ANSWER 4.8

Vessel engaged in diving operations. Keep well clear at slow speed.

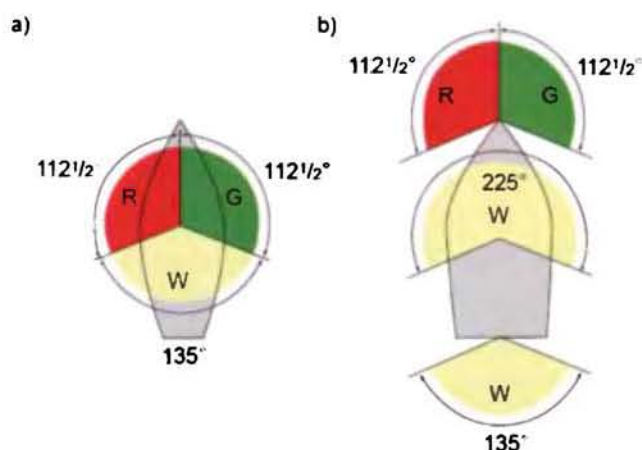
ANSWER 4.9

- a) A power-driven vessel, constrained by draught, stern aspect, underway, length unknown.
- b) Sailing vessel, underway, port aspect, length unknown.
- c) Power-driven vessel, probably greater than 50m in length, restricted in ability to manoeuvre, seen from ahead, underway.
- d) Vessel at anchor, probably greater than 50m in length, port aspect.
- e) Power-driven vessel, less than 50m in length, towing, length of tow greater than 200m, port aspect, underway.
- f) Vessel not under command, starboard aspect, making way.
- g) Vessel engaged in fishing, starboard aspect, making way, length unknown.
- h) Sailing vessel, less than 20m in length, seen from ahead, underway.

ANSWER 4.10

- c) 1st d) 2nd b) 3rd a) 4th

ANSWER 4.11



ANSWER 4.12

No. This combination of lights could lead to the yacht being confused with a vessel engaged in fishing (port side) or trawling (starboard side).

ANSWER 4.13

- a) Motorboat B turns to port to pass astern of yacht A making the appropriate sound signal or slows down or stops.
- b) A (the windward vessel) gives way. Bears away to pass astern of B or tacks.
- c) A and B each sound one short blast and both turn to starboard.
- d) B turns to starboard to pass astern of A making the appropriate sound signal or slows down or stops.
- e) A, on port tack gives way. Bear away to starboard.
- f) B, on port tack, gives way. (If in doubt the close-hauled port tack yacht gives way).
- g) A, on port tack, gives way. Bears away to pass astern of B or tacks.
- h) Overtaking vessel B keeps clear of A.

ANSWER 4.14

- a) Vessels: Restricted in ability to manoeuvre, Not under command, Constrained by draught, Towing, Pushing, Fishing, Trawling and Sailing in restricted visibility.
- b) Turning to starboard.
- c) Power-driven vessel underway but stopped in the water in restricted visibility.
- d) Turning to port.
- e) I do not understand your intentions and do not believe you are taking sufficient action to avoid a collision.
- f) Vessel less than 100m in length at anchor in restricted visibility.
- g) I intend to overtake you on your port side.
- h) Power driven vessel making way in restricted visibility. Vessel approaching a blind bend.

ANSWER 4.15

When she is the windward boat to another sailing vessel on starboard tack.

When overtaking another vessel.

In a situation with: a vessel not under command, a vessel restricted in her ability to manoeuvre, a vessel constrained by draught, a vessel engaged in fishing or trawling and a vessel towing.

Note: In addition, she should not impede ships in a traffic lane or in a narrow channel.

ANSWER 4.16

- b) For small craft to navigate outside the channel where there is sufficient water to do so safely.

Safety



ANSWER 5.1

- a) A new crewmember should be advised to bring a selection of warm layers.
Thermal underwear, gloves, socks, woolly hats etc, to be worn under a waterproof jacket, trousers and sea boots.
They will also need to be prepared for sunny conditions with a sun hat, sunglasses, loose shirt, light trousers, non slip deck shoes and sunscreen.
- b) To help prevent seasickness they should be warned to avoid alcohol and fatty foods before sailing. They should be encouraged to drink plenty of water while onboard to prevent dehydration and to eat regularly.
Being kept fully occupied helping to run the boat often prevents the onset of queasiness.

ANSWER 5.2

- a) An automatically inflating lifejacket with integral harness and crutch straps is a good idea. A person in the water is likely to find a lifejacket fitted with a face screen, whistle, reflective tape and a light very desirable.
- b) No. In order to function properly a lifejacket must fit the wearer.
If a lifejacket is too big or loose it will not provide the required support.

ANSWER 5.3

- a) Faulty wiring. Gas build up in the bilges. Cooking. Solvents and paints stored below. Smoking. Engine overheating.
- b) Dry powder (don't use on flammable liquids).
AFFF (foam) (good for flammable liquids).
CO₂ / Halocarbon (good for enclosed spaces such as engine compartments).
Fire blanket (for smothering flames).
- c) Manually operated fire extinguishers should be to hand near the exits of each accommodation area.
An automatic CO₂ / Halocarbon extinguisher in the engine space.
A fire blanket, in the vicinity of the galley.
- d) In the event of an engine room fire, it's vital not to introduce fresh air into the engine space. Ideally the fire should be fought by an automatic extinguisher fitted close to the engine or by an extinguisher which can be activated remotely from outside the engine compartment.
If an automatic fire extinguisher or remote firing system isn't viable, a small covered hole through which a fire extinguisher can be fired may be an acceptable alternative.

ANSWER 5.4

- a) Gas bottles should be securely stowed in a sealed locker that drains overboard.
- b) Turn the gas off at the bottle, prevent naked flame, do not switch on/off any electrical appliances. Open the hatches and turn the vessel downwind to vent fresh air through the boat.

ANSWER 5.5

- a) Red parachute rockets
- b) White hand held flares
- c) Red hand held flares
- d) Orange smoke.
- e) White parachute rockets.

ANSWER 5.6

- a) MAYDAY x 3.

This is MV Incendie x 3.

MAYDAY MV Incendie.

MMSI 233123456

My position is 090°(T) from Cape Balshaw 4 miles.

We have an uncontrollable engine fire.

Require immediate assistance.

Three persons on board.

Abandoning to liferaft.

Over.

- b) A radio incorporating DSC enables a distress alert to be sent at the press of a button; it can also be connected to the GPS to transmit position. The distress alert will automatically be repeated until acknowledged.
- c) PAN PAN

ANSWER 5.7

- a) Put on warm clothing.

Put on a lifejacket.

Send a distress alert.

Fetch the grab bag and emergency water.

If time allows, take anti-seasickness tablets and gather extra equipment such as food and flares.

Check the liferaft is secured to the vessel by its painter.

- b) Board the raft from the yacht (stay dry).

Do a head count.

Cut the painter.

Paddle away from the vessel.

Stream the drogue.

Close the door.

If not already done, take anti-seasickness tablets.

Maintain the raft / check inventory / allocate tasks (lookout, bailers etc).

- c) Signal your location.

Where possible speak to the rescuers by hand held VHF to let them know the condition of the survivors.

If rescued by a lifeboat, haul in the drogue to avoid it becoming entangled with propellers.

If rescued by a ship ensure their planned method of recovery is suitable.

ANSWER 5.8

They should be ready to receive instructions via the VHF from the helicopter crew.

It's important that the crewmember manning the radio listens carefully as it will be too noisy to hear anything when the helicopter is overhead.

The helmsman will have to steer a very steady course, usually with the wind 30° on the port bow.

A "hi-line" (weighted line) will be sent down first, let the line earth before touching it to avoid a shock from static electricity, then gather in the line.

One of the helicopter crew will be lowered down on a wire, use the hi-line to pull him in, avoid the incoming line from becoming tangled.

ANSWER 5.9

Shout "man overboard"!
Press the MOB button on the GPS.
Throw a lifebelt and danbuoy to them.
Watch them continuously.
Point to them.
Call for assistance.
Carry out your recovery plan.

ANSWER 5.10

- a) The angle of heel at which a vessel continues to invert rather than returning upright.
- b) ii). A narrow, heavy displacement vessel with a low volume hull and deep draught.
- c) When caught beam on, a breaking wave the same height, or greater than, the beam of the vessel is sufficient to cause it to invert.

ANSWER 5.11

Signals transmitted by an Emergency Position Indicating Radio Beacon (EPIRB).
Signals transmitted by a Search and Rescue Transponder (SART).
A gun or other explosive signal fired at intervals of about a minute.
Continuously sounding any fog signalling apparatus.
Signalling Morse Code SOS (••• – – – •••).
Flying code flags N.C.
Flying a square flag above or below a ball shape.
Flames on the vessel.
Slowly and repeatedly raising and lowering outstretched arms.

ANSWER 5.12

A radar reflector should be fitted on all vessels, if practicable.
It should be as large as possible and fitted as high as possible to maximise its effectiveness.

ANSWER 5.13

Gale and strong wind warnings, local weather forecast and parts of the shipping forecast.
Navigational warnings, gunfacts and subfacts (messages about military firing and submarine activity in the area).

Buoyage & Lights

ANSWER 6.1

The symbol shows the direction of buoyage where not obvious.

ANSWER 6.2

- a) Buoy ii).
- b) The letters indicate the buoy's colour, in this case Red and White.

ANSWER 6.3

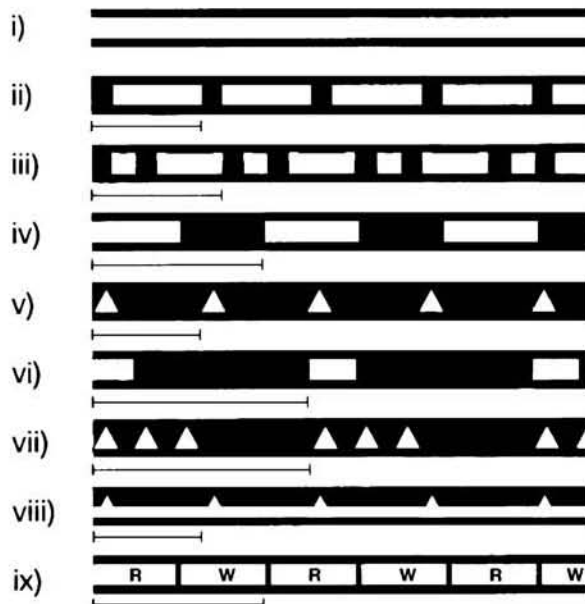
- a) Illustration i).
- b) The Neptune Islands.

ANSWER 6.4

- a) North Cardinal buoy
- b) Starboard lateral buoy
- c) Safe Water buoy
- d) West Cardinal buoy
- e) Isolated Danger Mark
- f) East Cardinal buoy
- g) South Cardinal buoy
- h) Port lateral buoy

ANSWER 6.5

- a) iv) Isophase
- b) i) Fixed
- c) v) Single flashing
- d) ii) Single occulting
- e) vi) Long flashing
- f) ix) Alternating
- g) vii) Group flashing
- h) viii) Fixed and flashing
- i) iii) Group occulting



Buoyage & Lights

ANSWER 6.6

- b) Water-ski area
- c) Traffic separation scheme
- e) Racing mark
- f) Oceanographic buoy

ANSWER 6.7

- a) viii)
- b) vii)
- c) vi)
- d) v)
- e) iv)
- f) iii)
- g) ii)
- h) i)

ANSWER 6.8

- a) Fl(4)WRG.15s87m25-18M

The light flashes 4 times every 15 seconds. It has white, red and green sectors and is 87 metres high (above mean high water springs). The white sector has a nominal range of 25 nautical miles and the coloured sectors 18 nautical miles.

- b) i) White
- ii) Red
- iii) Obscured
- iv) Green

ANSWER 6.9

Preferred Channel Mark, it indicates the preferred channel is to starboard.

ANSWER 6.10

- a) 15.0M
- b) 18.7M

Tidal Streams

ANSWER 7.1

- b) Wind blowing against the direction of the tidal stream.

ANSWER 7.2

The term 'tidal gate' usually refers to a period of time when it's advisable to pass through an area of fast flowing or turbulent water. Such areas are often to be found around headlands and in narrow passages.

ANSWER 7.3

The first weekend.

ANSWER 7.4

- b) Tidal stream atlas.

ANSWER 7.5

- a) 096°(T) 2.2kn.
b) 100°(T) 1.8kn.
c) 276°(T) 2.7kn.

ANSWER 7.6

- | | | |
|--------------------------|--------------------------------|------------------------|
| a) Tuesday 26th February | HW Victoria 0930 UT | Range 4.9m (Springs) |
| HW + 3 | 192°(T) 1.8kn | |
| b) Wednesday 3rd July | HW Victoria 1644 UT (1744 DST) | Range 2.4m (Neaps) |
| HW - 3 | 071°(T) 1.0kn | |
| c) Sunday 24th November | HW Victoria 1235 UT | Range 3.7m (Mid-range) |
| HW - 1 | 068°(T) 1.3kn | |

Tidal Streams

ANSWER 7.7

- a) Friday 12th July HW Victoria 1135 UT (1235 DST)
 HW + $\frac{1}{2}$ 1205 UT (1305 DST)
- b) Tuesday 28th May HW Victoria 1125 UT (1225 DST)
 HW – 1 0955 – 1055 UT (1055 – 1155 DST)
- c) Tuesday 13th August HW Victoria 1335 UT (1435 DST)
 HW – 1 $\frac{1}{2}$ 1205 UT (1305 DST)

ANSWER 7.8

- a) Thursday 3rd January HW Victoria 1301 UT Range 4.9m
 HW + 4 1631 – 1731 UT 342°(T) 3.9kn
- b) Monday 6th May HW Victoria 1908 UT (2008 DST) Range 2.4m
 HW – 5 1338 – 1438 UT (1438 – 1538 DST) 268°(T) 0.7kn
- c) Tuesday 19th March HW Victoria 1318 UT (1418 Zone -0100) Range 3.8m
 HW – 1 1148 – 1248 UT (1248 – 1348 Zone -0100) 176°(T) 3.0sp 1.6np (Int 2.4kn)
- d) Monday 7th October HW Victoria 1033 UT (1233 SPDST) Range 5.9m
 HW – 2 0803 – 0903 UT (1003 – 1103 SPDST) 179°(T) 2.6sp 1.4np (Ext 3.1kn)

Tidal Heights

ANSWER 8.1

- a) Charted depthiv)
- b) Drying heightii)
- c) Depth of waterv)
- d) Height of tideiii)
- e) Charted heighti)

ANSWER 8.2

- a) A full moon.
- c) A new moon.

ANSWER 8.3

- a) High barometric pressure.

ANSWER 8.4

- a) Charted depth 3.0m + height of tide 3.5m = 6.5m
- b) Height of tide 3.5m – charted drying height 0.5m = 3.0m

ANSWER 8.5

a) Othery Rock	1.0m	d) MHWN Sweetwater	4.8m
MLWS Victoria	– 0.7m	MLWN Sweetwater	– 1.6m
Uncovered	0.3m	Fall of tide	3.2m
		Draught	1.2m
b) MHWS Victoria	5.6m	Clearance	+ 2.0m
MLWN Victoria	– 2.0m	Depth to anchor	6.4m
Fall of tide	3.6m		
Charted height of light house	+ 72.0m	e) MHWS Sandquay	5.2m
Height of light at MLWN	75.6m	MLWS Sandquay	– 0.7m
		Fall of tide	4.5m
c) HAT Farlow	5.4m		
MLWN Farlow	– 1.8m	Depth of water at MHWS	6.5m
Fall of tide	3.6m	Fall of tide	– 4.5m
Charted height of bridge	+ 4.0m	Depth at MLWS	2.0m
Height of bridge at MLWN	7.6m	Draught	– 1.5m
Air draught	– 4.6m	Clearance	0.5m
Clearance	3.0m		

Tidal Heights

ANSWER 8.6

a)	Port Fraser	Thursday	31st January	UT	Time		Height		Range 3.8m mean spring
					HW	LW	HW	LW	
					1330	1925	4.4m	0.6m	
b)	Namley Harbour	Saturday	20th April	DST	Time		Height		Range 2.3m mean neap
					HW	LW	HW	LW	
					0521	1059	3.4m	1.1m	
c)	Colville	Thursday	19th February	Zone -0100	Time		Height		Range 3.4m midrange
					HW	LW	HW	LW	
					0336	1012	4.4m	1.0m	
d)	Port Fitzroy	Saturday	5th October	SPDST	Time		Height		Range 5.9m mean spring
					HW	LW	HW	LW	
					1251	1929	6.3m	0.4m	

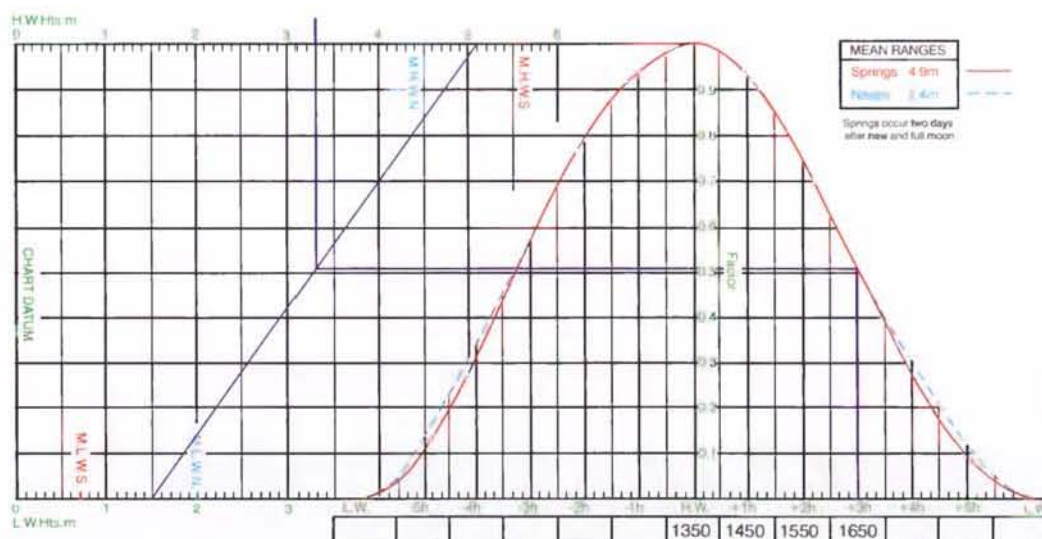


Tidal Heights

ANSWER 8.7

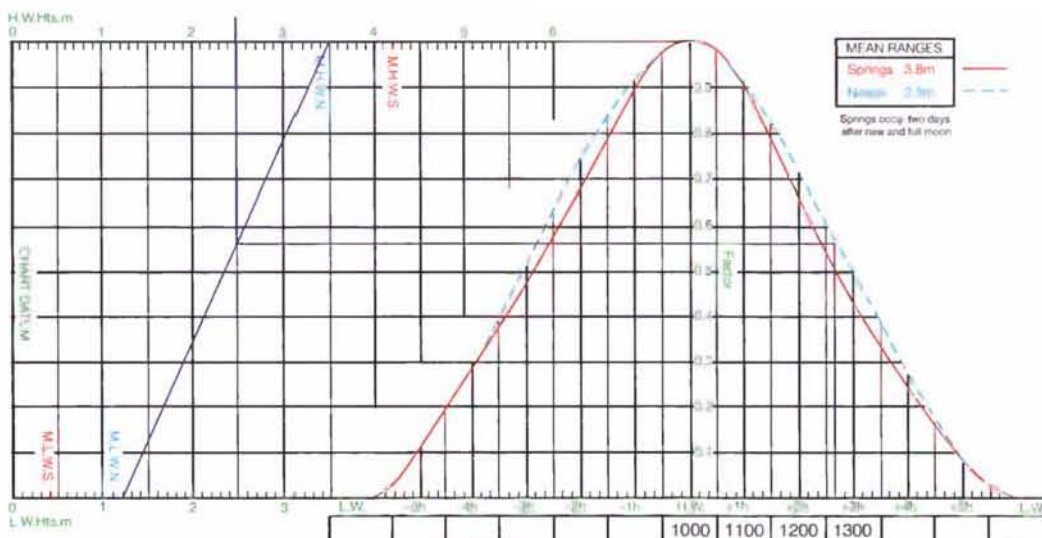
		Time		Height		
		HW	LW	HW	LW	
a) Victoria						
Monday						
18th February	UT	1350	----	5.1m	1.5m	Range 3.6m

Height of tide at 1650 UT 3.3m



		Time		Height		
		HW	LW	HW	LW	
b) Port Fraser						
Monday						
8th April	DST	1000	----	3.5m	1.2m	Range 2.3m

Height to tide at 1240 DST 2.5m

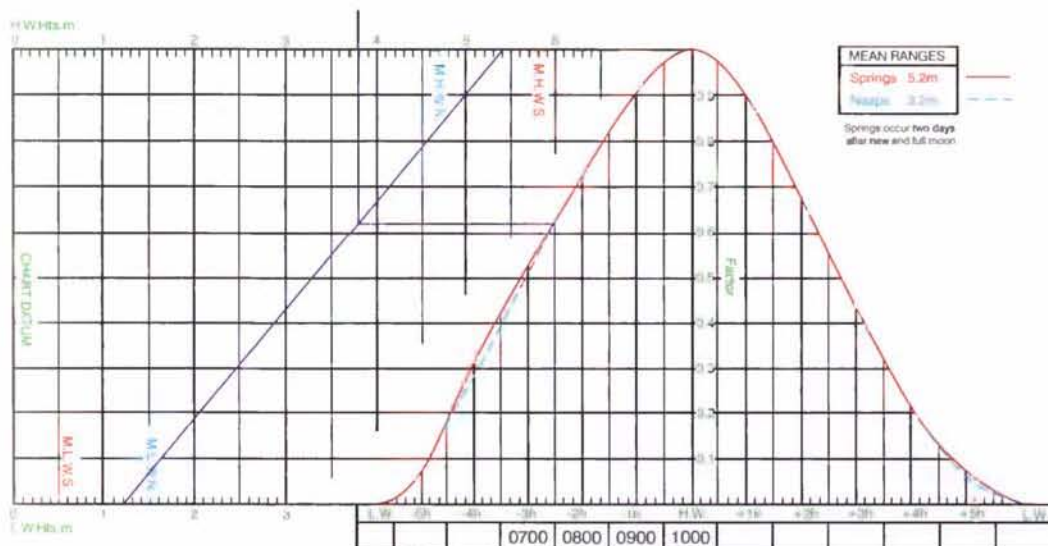


Tidal Heights

c) **Hamilton Sound**
Saturday
2nd November Zone -0100

Time		Height		Range
LW	HW	LW	HW	
----	1000	1.2m	5.4m	4.2m

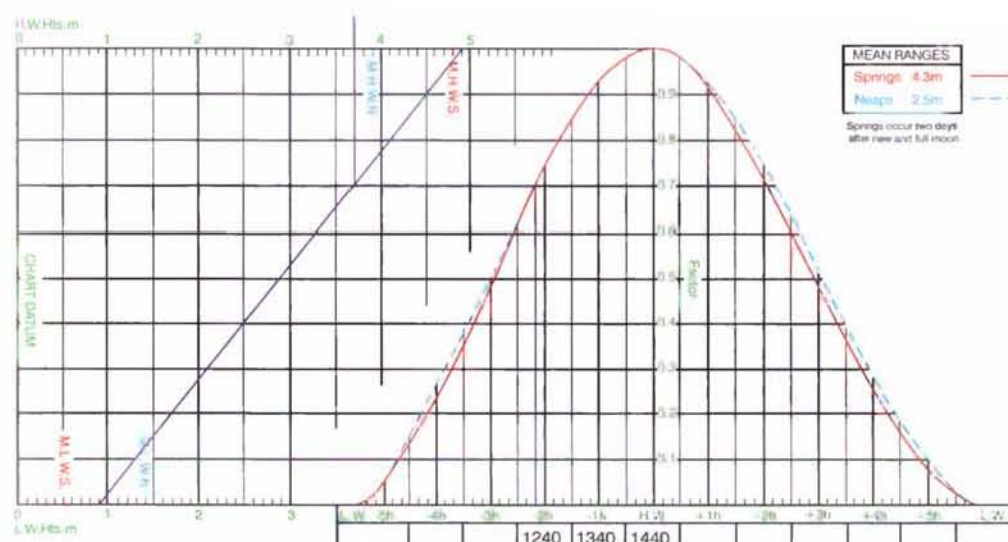
Height of tide at 0730 Zone -0100 3.8m



d) **Colville**
Sunday
11th August SPDST

Time		Height		Range
LW	HW	LW	HW	
----	1440	0.9m	4.9m	4.0m

Height of tide at 1230 SPDST 3.7m



Tidal Heights

ANSWER 8.8

Namley Harbour
Thursday
11th April

DST

Time

HW
 1220

LW

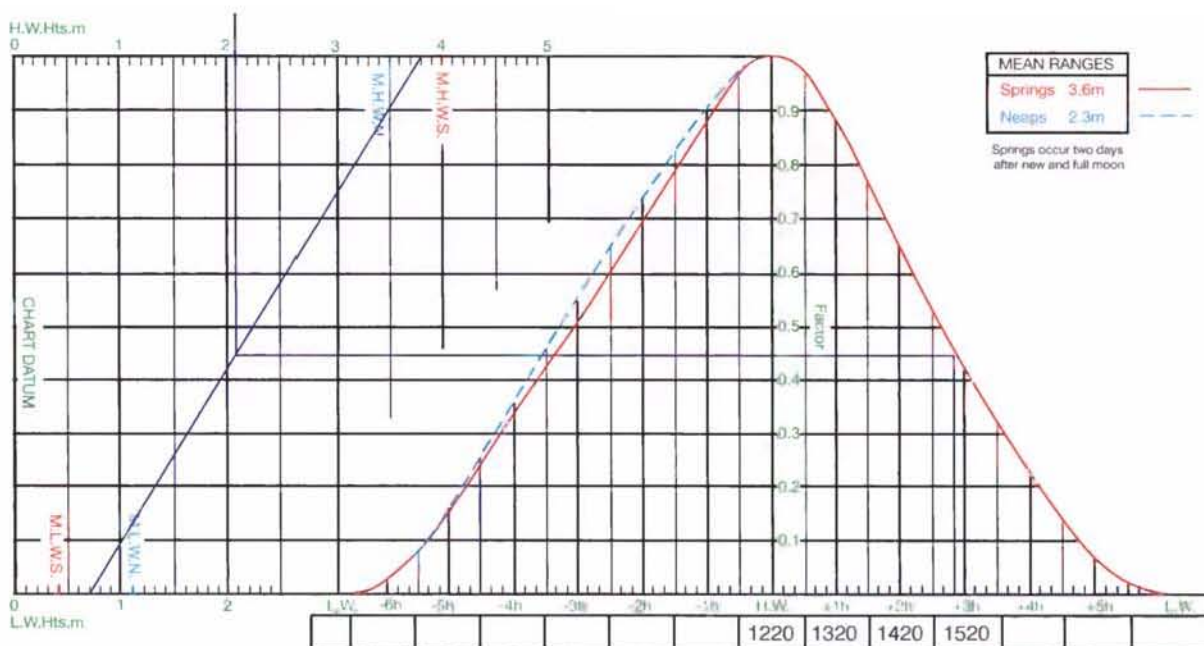
Height

HW
 3.8m

LW
 0.7m

Range 3.1m

- a) Height to tide at 1510 DST 2.1m
- b) Fall of tide $2.1\text{m} - 0.7\text{m}$ 1.4m
- c) Depth at 1510 DST 5.0m
 Fall of tide - 1.4m
 Depth at LW 3.6m
 Draught - 1.6m
 Clearance 2.0m

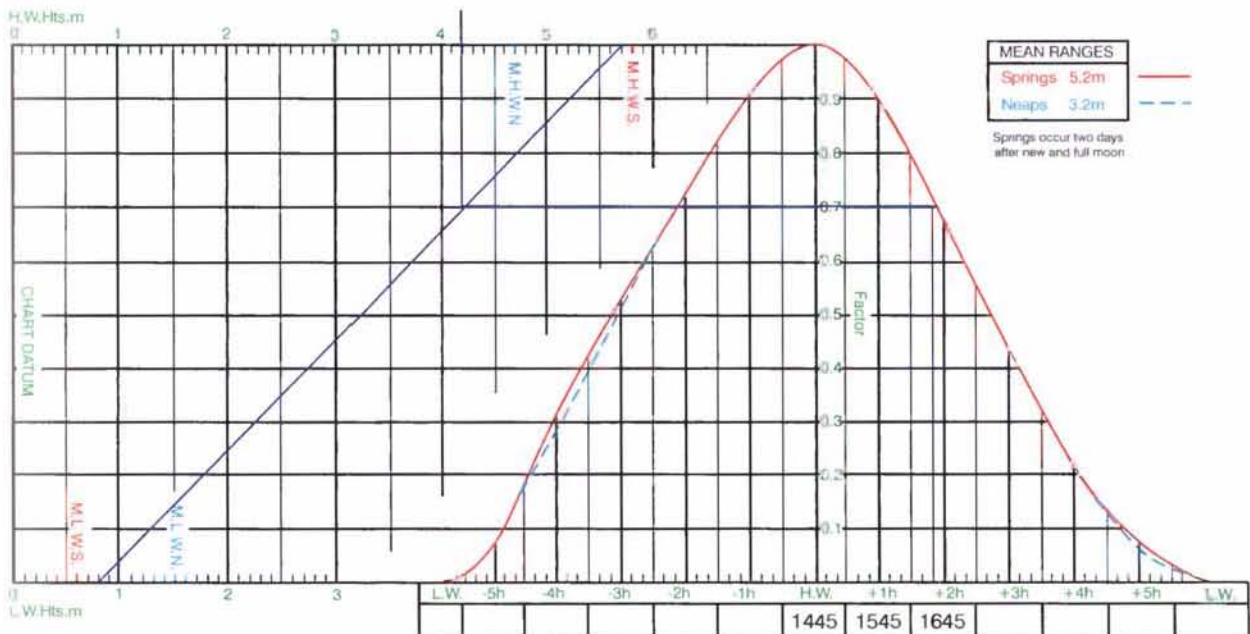


Tidal Heights

ANSWER 8.9

Hamilton Sound		Time		Height		
Tuesday		HW	LW	HW	LW	
14th May	SPDST	1445	—	5.7m	0.8m	Range 4.9m

- a) Height to tide at 1635 SPDST 4.2m
- b) Fall of tide $4.2\text{m} - 0.8\text{m}$ 3.4m
- c) Fall of tide 3.4m
 Draught 1.6m
 Clearance + 1.0m
 Depth to anchor 6.0m



Tidal Heights

ANSWER 8.10

a) January

	Time		Height	
	HW	LW	HW	LW
Namley Harbour UT	1200	1800	4.0m	0.4m
Port Rampton differences	- 0035	- 0010	+ 0.5m	+ 0.2m
	<u>1125</u>	<u>1750</u>	<u>4.5m</u>	<u>0.6m</u>
DST?	N/A	N/A		
Port Rampton	<u>1125</u>	<u>1750</u>		

b) April

	Time		Height	
	HW	LW	HW	LW
Port Fraser UT	0600	1100	3.4m	1.1m
Endal Marina differences	- 0017	- 0012	+ 0.1m	+ 0.4m
	<u>0543</u>	<u>1048</u>	<u>3.5m</u>	<u>1.5m</u>
DST?	+ 0100	+ 0100		
Endal Marina	<u>0643</u>	<u>1148</u>		

c) July

	Time		Height	
	HW	LW	HW	LW
Namley Harbour UT	0900	1500	3.7m	0.75m
Farlow differences	- 0029	- 0015	+ 0.5m	+ 0.45m
	<u>0831</u>	<u>1445</u>	<u>4.2m</u>	<u>1.2m</u>
DST?	+ 0100	+ 0100		
Farlow	<u>0931</u>	<u>1545</u>		

d) November

	Time		Height	
	HW	LW	HW	LW
Port Fraser UT	1600	2200	3.6m	0.9m
Parvin Sound differences	- 0032	- 0024	0.0m	+ 0.5m
	<u>1528</u>	<u>2136</u>	<u>3.6m</u>	<u>1.4m</u>
DST?	N/A	N/A		
Parvin Sound	<u>1528</u>	<u>2136</u>		

Tidal Heights

ANSWER 8.11

		Time		Height	
		HW	LW	HW	LW
a) Saturday					
19th January					
Port Fraser	UT	0243	0904	3.8m	0.7m
Rozelle Cove differences		- 0029	- 0021	0.0m	+ 0.3m
Rozelle Cove	UT	<u>0214</u>	<u>0843</u>	<u>3.8m</u>	<u>1.0m</u>

		Time		Height	
		HW	LW	HW	LW
b) Sunday					
30th June					
Colville	Zone -0100	1530	2202	4.3m	0.9m
Jackson Bay differences		- 0040	- 0020	+ 0.3m	+ 0.2m
		<u>1450</u>	<u>2142</u>	<u>4.6m</u>	<u>1.1m</u>
		+ 0100	+ 0100		
Jackson Bay	SPDST	<u>1550</u>	<u>2242</u>		

		Time		Height	
		HW	LW	HW	LW
c) Thursday					
2nd May					
Colville	Zone -0100	0320	0925	4.5m	0.9m
Port Slade differences		- 0041	- 0026	+ 1.4m	- 0.1m
		<u>0239</u>	<u>0859</u>	<u>5.9m</u>	<u>0.8m</u>
		+ 0100	+ 0100		
Port Slade	SPDST	<u>0339</u>	<u>0959</u>		

Tidal Heights

ANSWER 8.12

Tuesday
30th April

Port Fraser UT

Endal Marina differences

Endal Marina DST

Time	
HW	LW
1354	—
— 0034	
1320	
+ 0100	
1420	

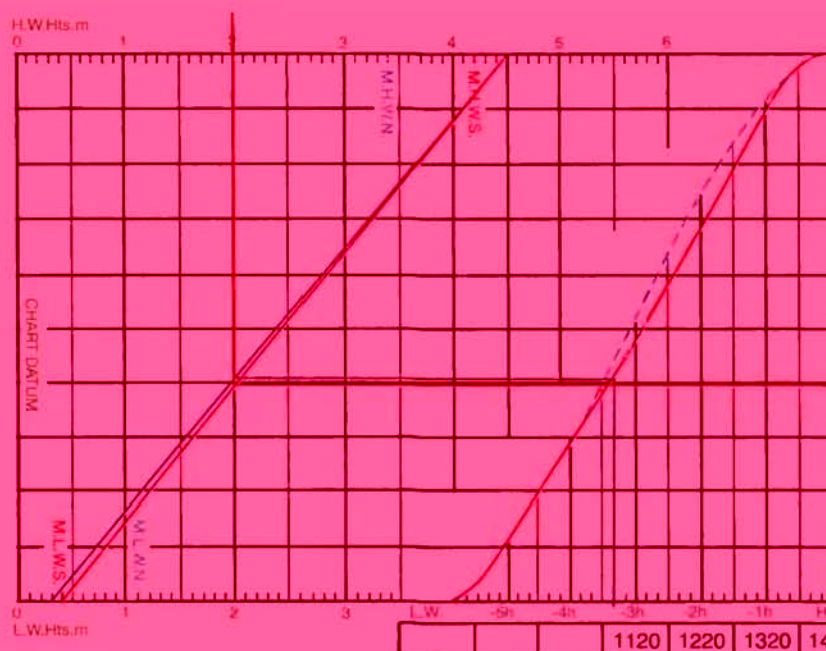
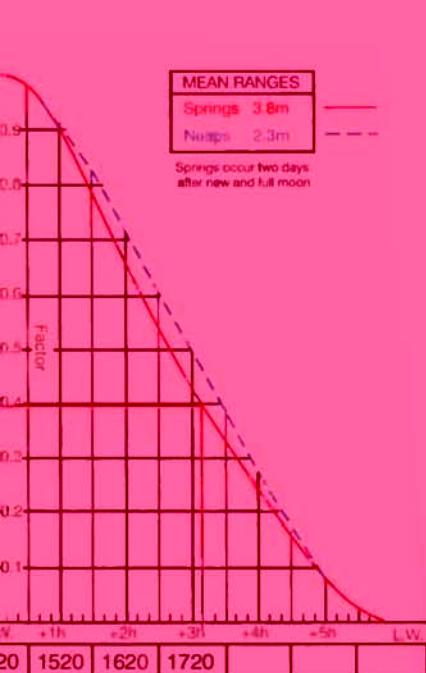
Height		
LW	HW	LW
0.3m	4.1m	0.4m
0.0m	+ 0.4m	0.0m
0.3m	4.5m	0.4m

Ranges 3.8m / 3.7m

a) Height of tide at 1100 DST 2.0m

b) Height of tide at 1100 DST 2.0m
 Charted depth of sill + 1.5m
 Depth of water at sill 3.5m
 Draught - 2.0m
 Clearance 1.5m

c) 1732 DST (height of tide falls to 2.0m)

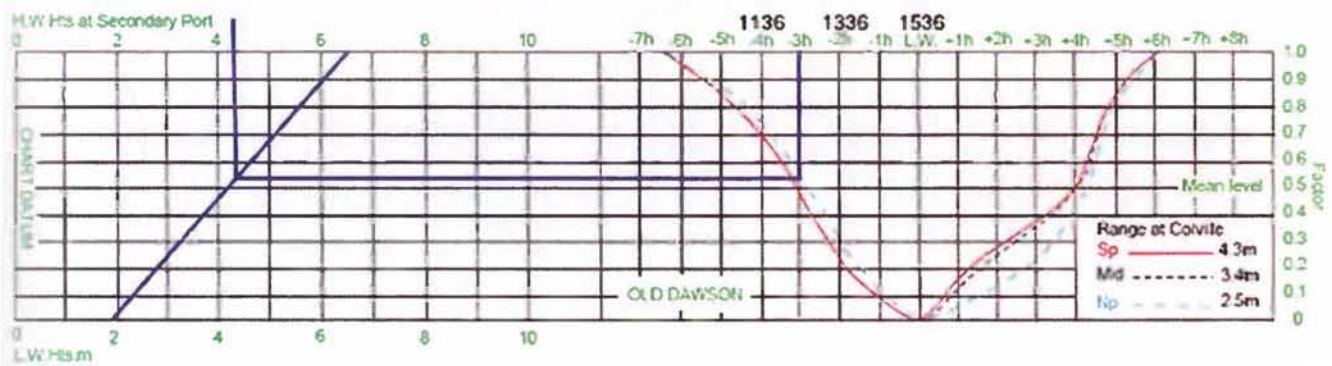


Tidal Heights

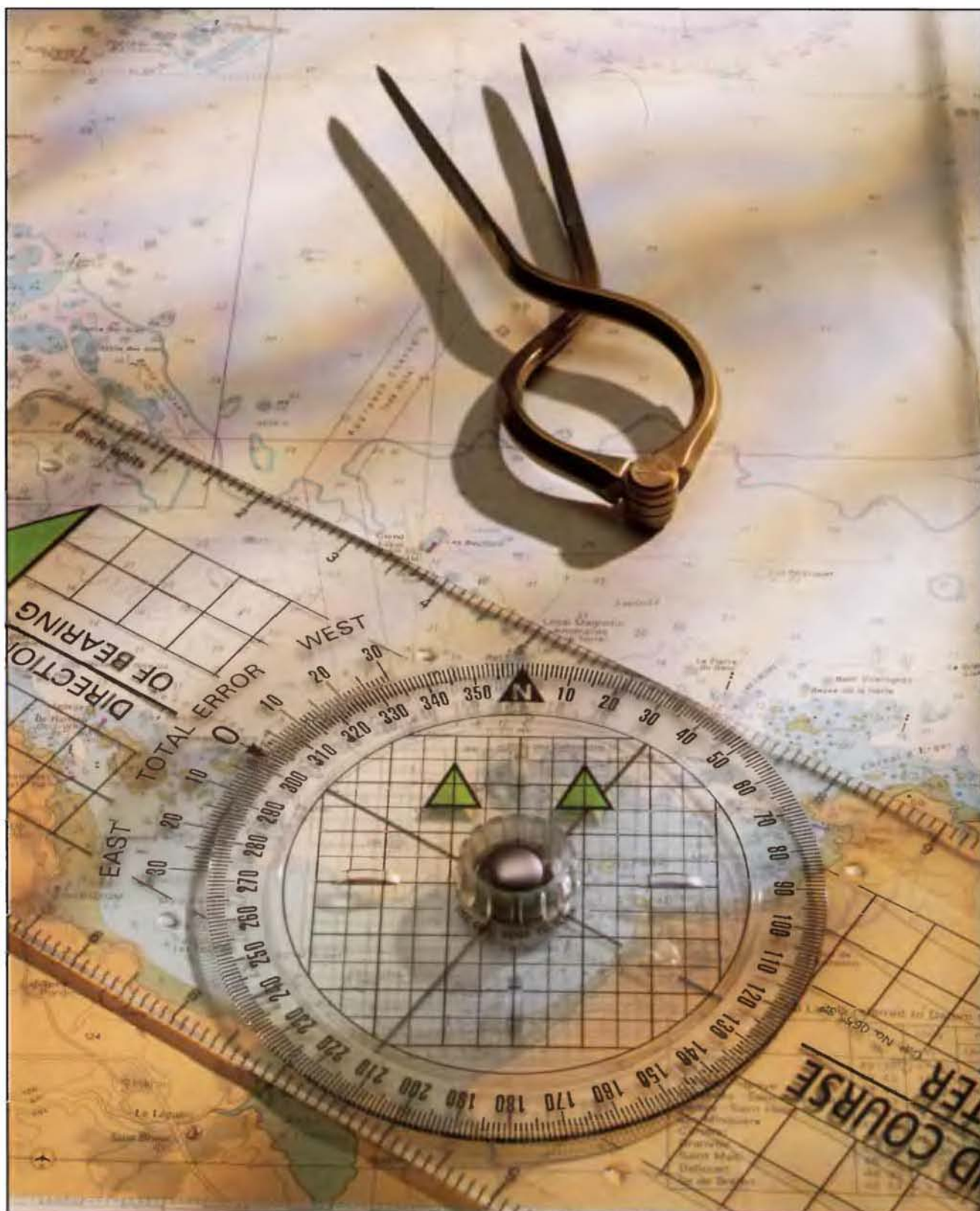
ANSWER 8.13

Friday 21st June		Time		Height		Range 3.2m
		HW	LW	HW	LW	
Colville	Zone -0100	—	1458	4.3m	1.1m	
Dawson Harbour differences			- 0022	+ 2.2m	+ 0.8m	
			1436	6.5m	1.9m	
			+ 0100			
Dawson Harbour SPDST			1536			

- a) Height of tide at 1235 SPDST 4.4m
- b) Fall of tide 4.4m - 1.9m 2.5m
- c) Depth at 1235 SPDST 5.8m
 Fall to tide - 2.5m
 Depth at LW 3.3m
 Draught - 1.3m
 Clearance 2.0m



Chartwork Position

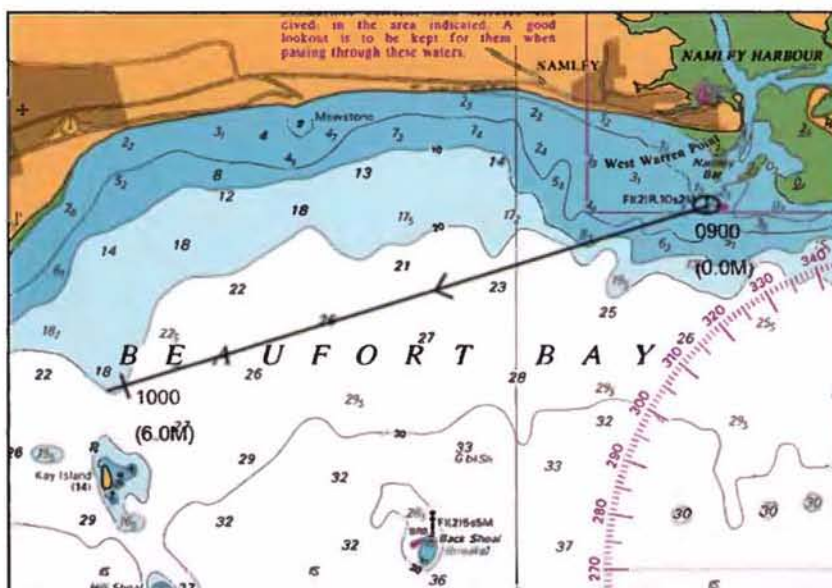


Chartwork Position

ANSWER 9.1

Course $260^{\circ}(\text{M})$
 Variation $- 007^{\circ} \text{ W}$
 $253^{\circ} (\text{T})$

DR position at 1000 UT
 $46^{\circ}22'.87\text{N}$ $005^{\circ}55'.54\text{W}$



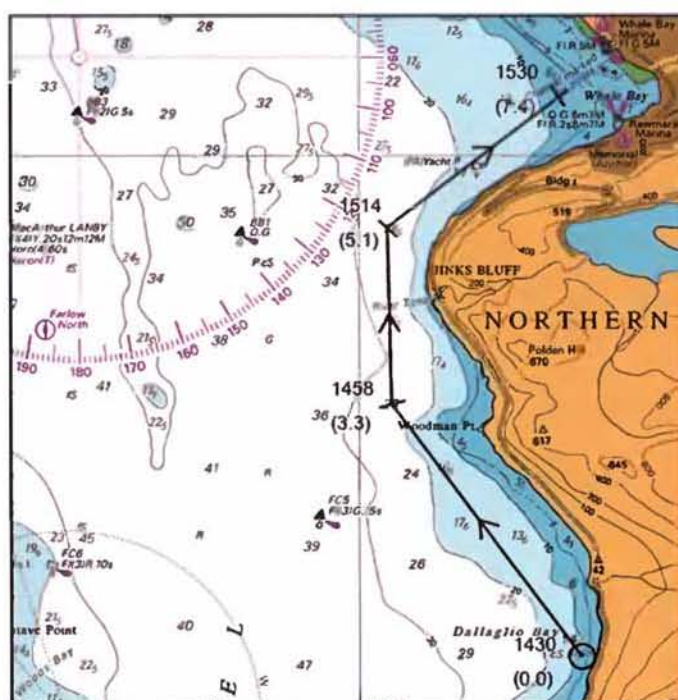
ANSWER 9.2

1st Course $330^{\circ}(\text{M})$
 Variation $- 007^{\circ} \text{ W}$
 $323^{\circ}(\text{T})$

2nd Course $005^{\circ}(\text{M})$
 Variation $- 007^{\circ} \text{ W}$
 $358^{\circ}(\text{T})$

3rd Course $060^{\circ}(\text{M})$
 Variation $- 007^{\circ} \text{ W}$
 $053^{\circ}(\text{T})$

DR position at 1530 UT
 $46^{\circ}20'.60\text{N}$ $005^{\circ}37'.00\text{W}$



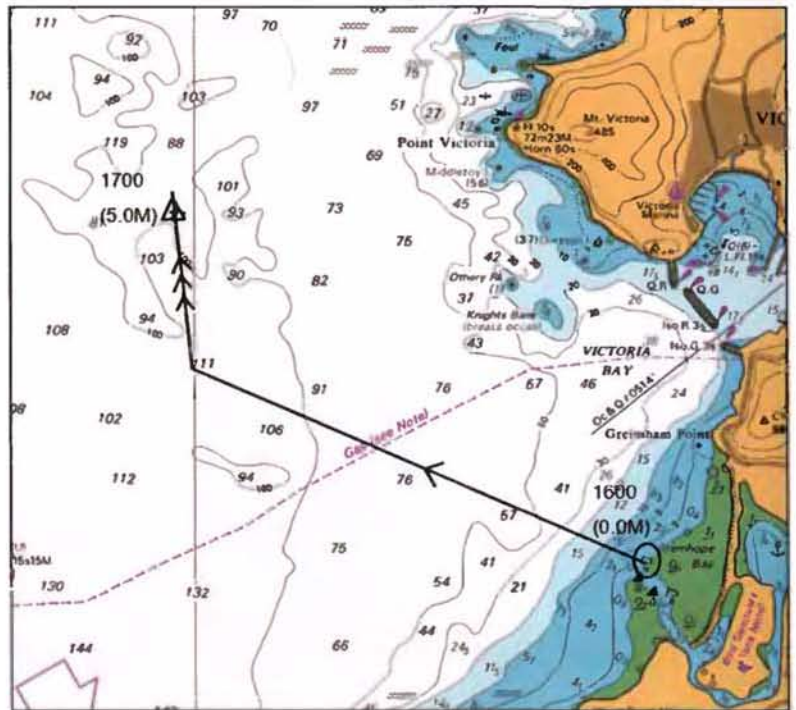
Chartwork Position

Universal Time (UT) has been used to obtain the direction and rate of the tide.
Where required the appropriate correction for DST or Time Zone has been applied.

ANSWER 9.3

Course $300^{\circ}(M)$
Variation $- 007^{\circ} W$
 $293^{\circ}(T)$

EP at 1700 UT
 $46^{\circ}26'.90N$ $006^{\circ}20'.30W$



ANSWER 9.4

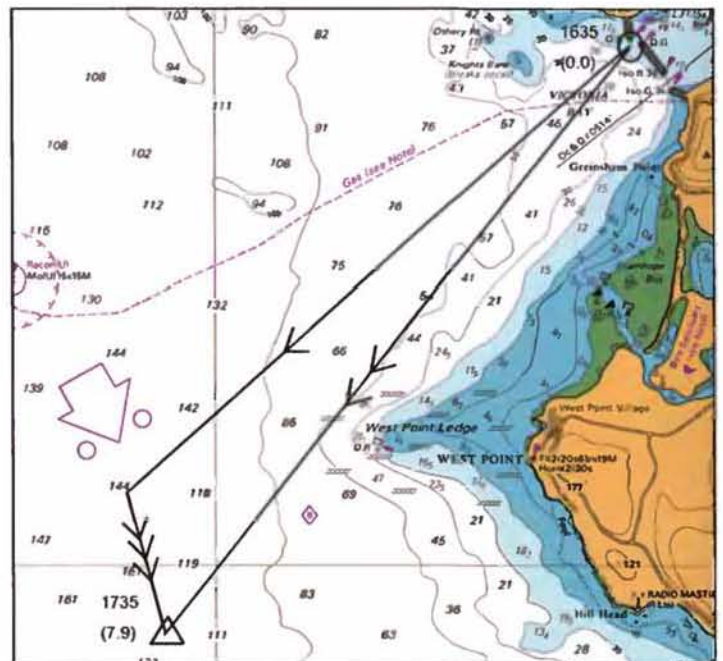
Friday 8th March HW Victoria 1905 UT Range 2.4m (neaps)

B HW - 2 1635 - 1735 UT $165^{\circ}(T)$ 1.7kn

Course $235^{\circ}(M)$
Variation $- 007^{\circ} W$
 $228^{\circ}(T)$

a) EP at 1735 UT
 $46^{\circ}19'.20N$ $006^{\circ}20'.85W$

b) Approximately 0.6M



Chartwork Position

Universal Time (UT) has been used to obtain the direction and rate of the tide.
Where required the appropriate correction for DST or Time Zone has been applied.

ANSWER 9.5

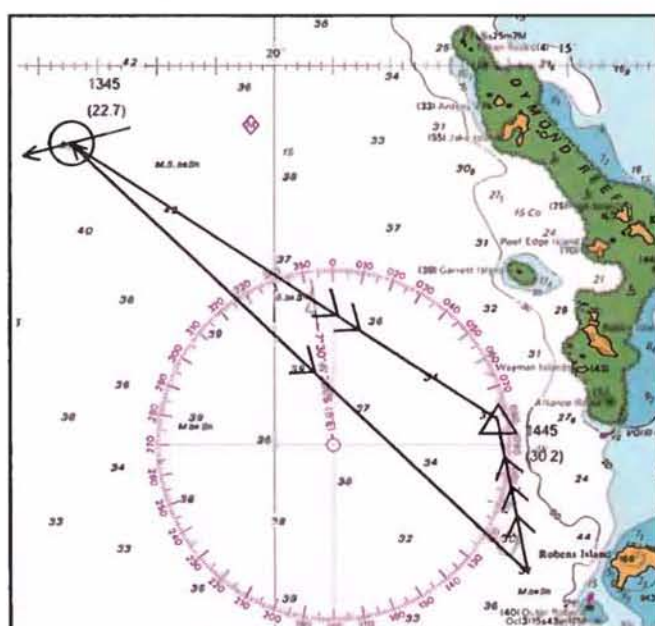
Friday 24th May HW Victoria 0816 UT (1016 SPDST) Range 4.9m (springs)

M HW+4 1146 – 1246 UT (1346 – 1446 SPDST) 349°(T) 1.9kn

Course	150° (M)
Variation	– 007° W
	143° (T)
Leeway	– 10°
	<u>133° (T)</u>

a) EP at 1445 SPDST
45°45' .80N 006°16' .20W

b) COG 122°(T) SOG 6.1kn



ANSWER 9.6

Thursday 4th July HW Victoria 1751 UT (1951 SPDST) Range 2.4 (neaps)

K HW – 2 1521 – 1621 UT (1721 – 1821 SPDST) 119°(T) 1.5kn

Course	000° (C)
Deviation	– 4° W
	356° (M)
Variation	– 7° W
	349° (T)
Leeway	+ 5°
	<u>354° (T)</u>

a) EP at 1820 SPDST
45°57' .55N 005°42' .20W

b) COG 005°(T) SOG 6.05kn



Chartwork Position

Universal Time (UT) has been used to obtain the direction and rate of the tide.
Where required the appropriate correction for DST or Time Zone has been applied.

ANSWER 9.7

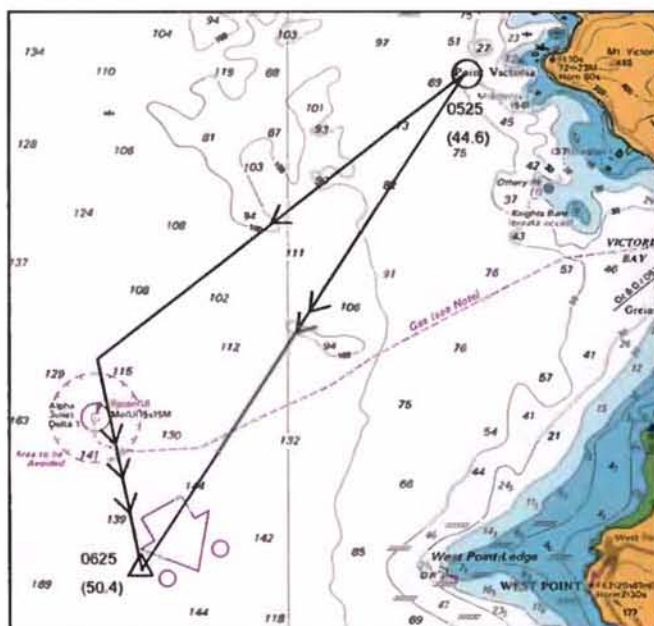
Wednesday 24th April HW Victoria 0754UT (0854 DST) Range 3.8m

TSA HW-3 0424 – 0524 UT (0524 – 0624 DST) 168°(T) 1.8np 3.4sp (Int 2.7kn)

Course	235° (C)
Deviation	- 1° W
	234° (M)
Variation	- 7° W
	227° (T)
Leeway	+ 5°
	<u>232° (T)</u>

a) EP at 0625 DST
46°21'.40N 006°22'.60W

b) Yes



ANSWER 9.8

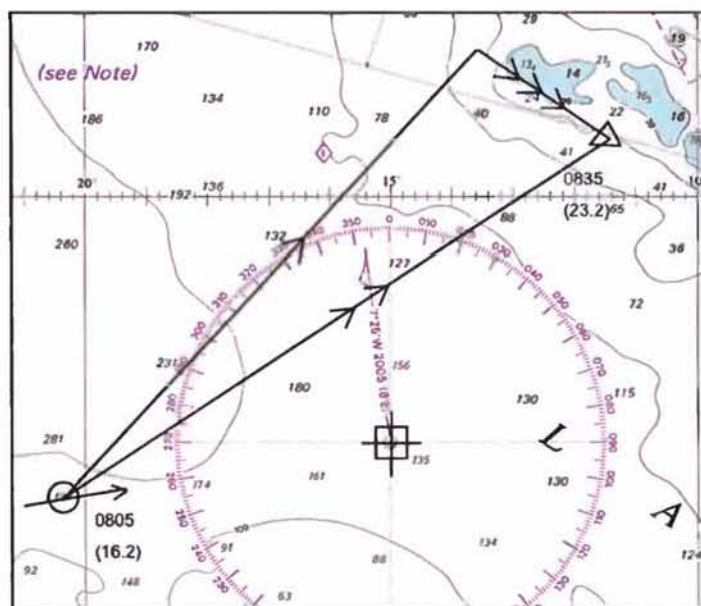
Thursday 5th December HW Victoria 1035 UT Range 5.2m

E HW - 2 0805 – 0905 UT 124°(T) 3.4sp 1.7np (Ext 3.6kn x ½ hour 1.8M)

Course	045° (C)
Deviation	nil
	045° (M)
Variation	- 7° W
	038° (T)
Leeway	+ 5°
	<u>043° (T)</u>

a) EP at 0835 UT
46°10'.65N 006°11'.35W

b) COG 057°(T) SOG 15.0kn



Chartwork Position

Universal Time (UT) has been used to obtain the direction and rate of the tide.
Where required the appropriate correction for DST or Time Zone has been applied.

ANSWER 9.9

Sunday 26th May HW Victoria 0952 UT (1052 DST) Range 5.2m

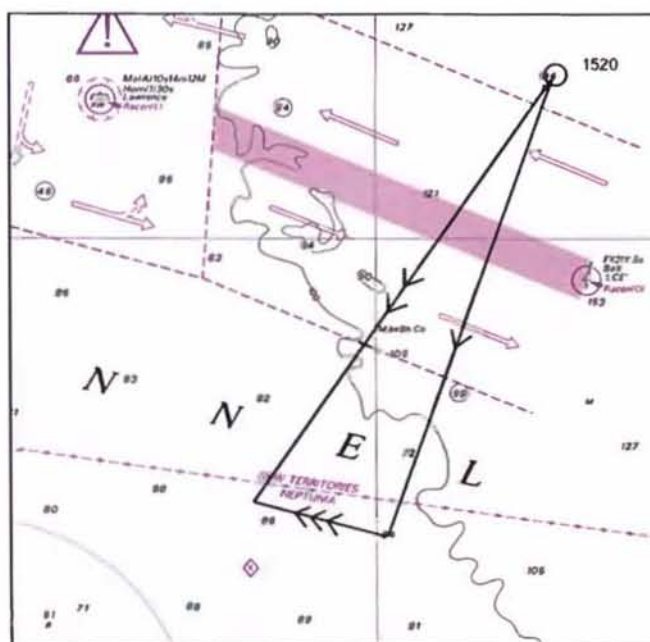
TSA HW + 5 1422 – 1522 UT (1522 – 1622 DST) 285°(T) 1.7np 3.2sp (Ext 3.4kn x ½ hour 1.7M)

Course	205° (C)
Deviation	+ 2° E
	207° (M)
Variation	- 7° W
	<u>200° (T)</u>

a) Estimated exit point
45°58'.70N 005°40'.20W

b) COG 215°(T) SOG 12.7kn

c) Distance to go 3.6M
SOG 12.7kn
x 60 = 17 minutes



ANSWER 9.10

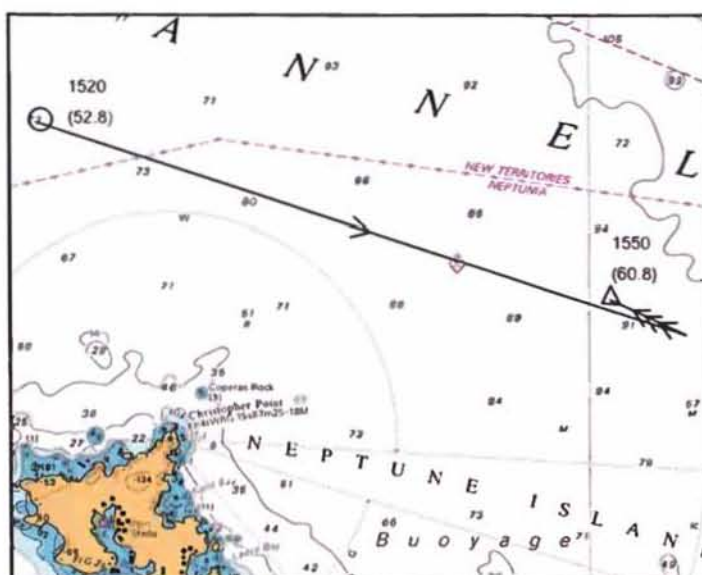
Monday 19th August HW Victoria 0751 UT (0951 SPDST) Range 3.0m

K HW + 6 1321 – 1421 UT (1521 – 1621 SPDST) 296°(T) 3.2sp 1.6np (Int 2.0kn x ½ hour 1.0M)

Course	110° (C)
Deviation	+ 5°
	115° (M)
Variation	- 7° W
	<u>108° (T)</u>

a) EP at 1550 SPDST
45°55'.57N 005°39'.67W

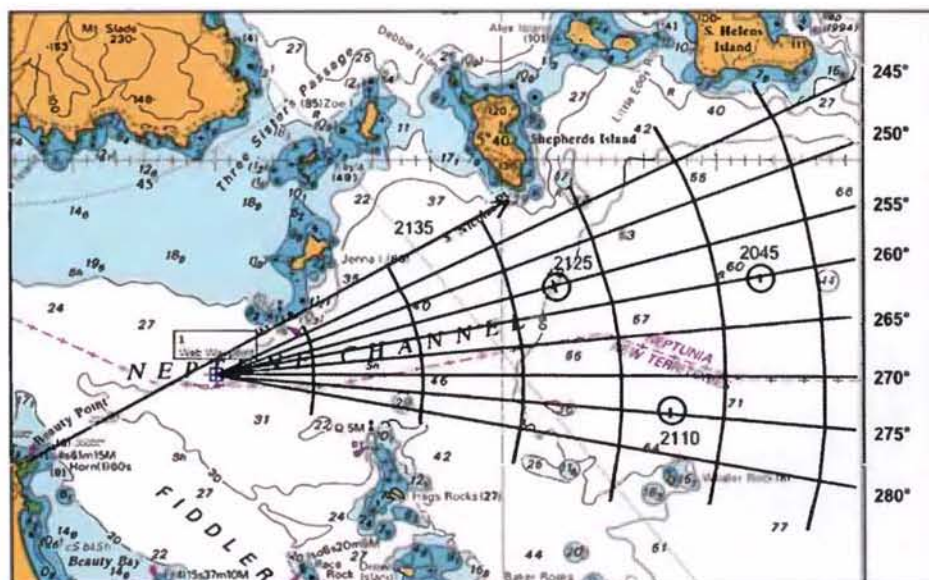
b) By making the passage against both wind and tide the skipper of this motor cruiser is taking advantage of the smoother seas often found under these conditions.



Chartwork Position

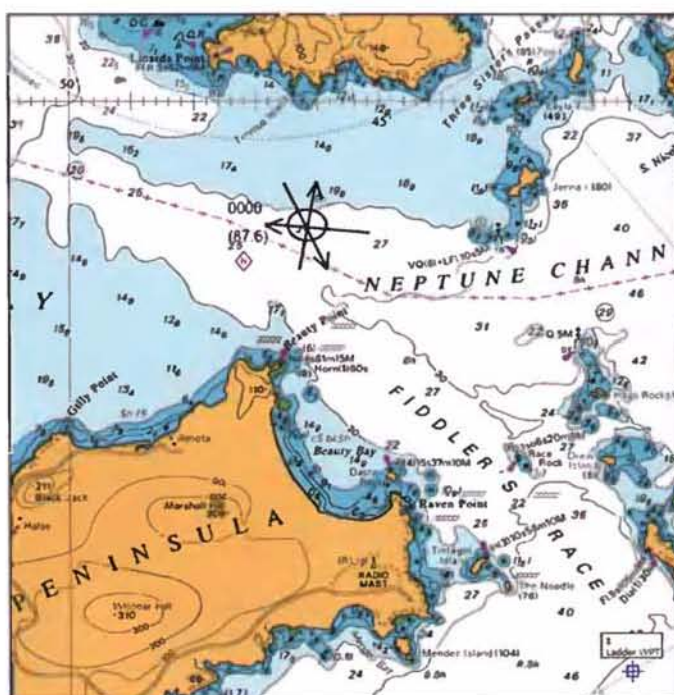
ANSWER 9.11

- See diagram.
- The yacht is approximately $\frac{1}{2}$ mile north of Whaler Rock.
- The 50 metre depth contour.
- No.



ANSWER 9.12

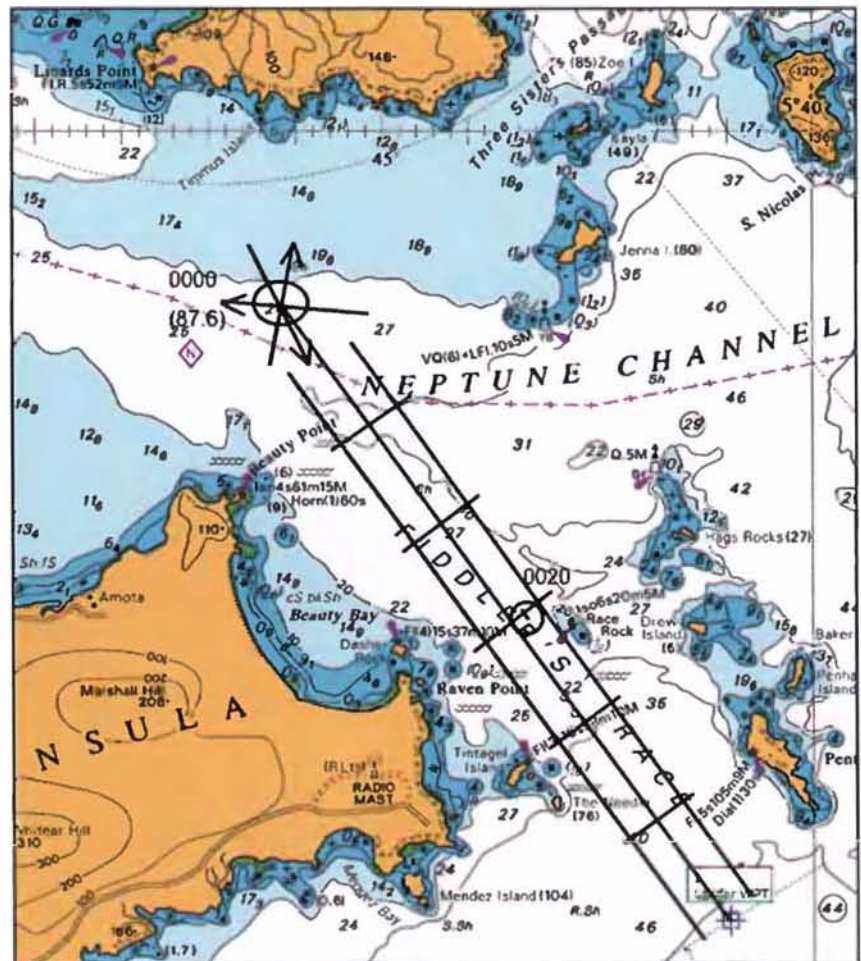
45°48'.60N 005°46'.18W



Chartwork Position

ANSWER 9.13

- a) See diagram
- c) Race Rock
- c) Linards Point Lt



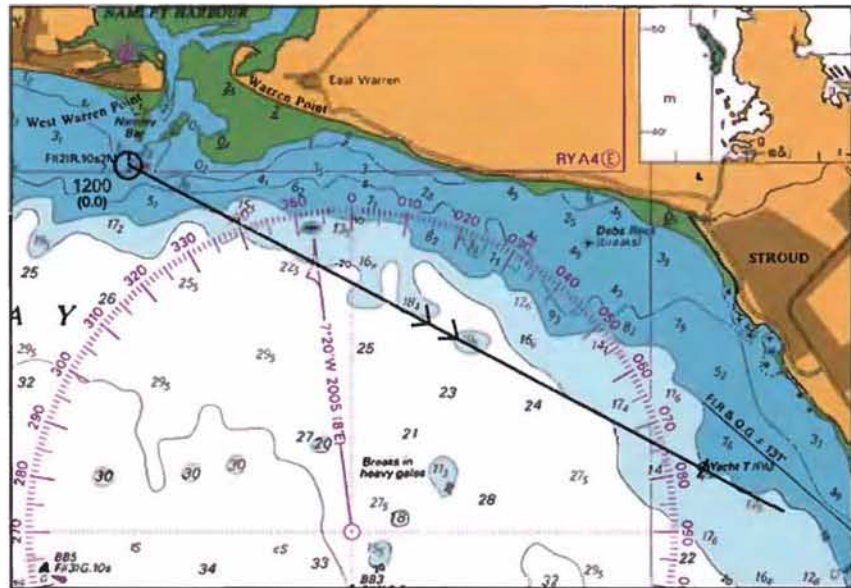
Course to Steer



Course to Steer

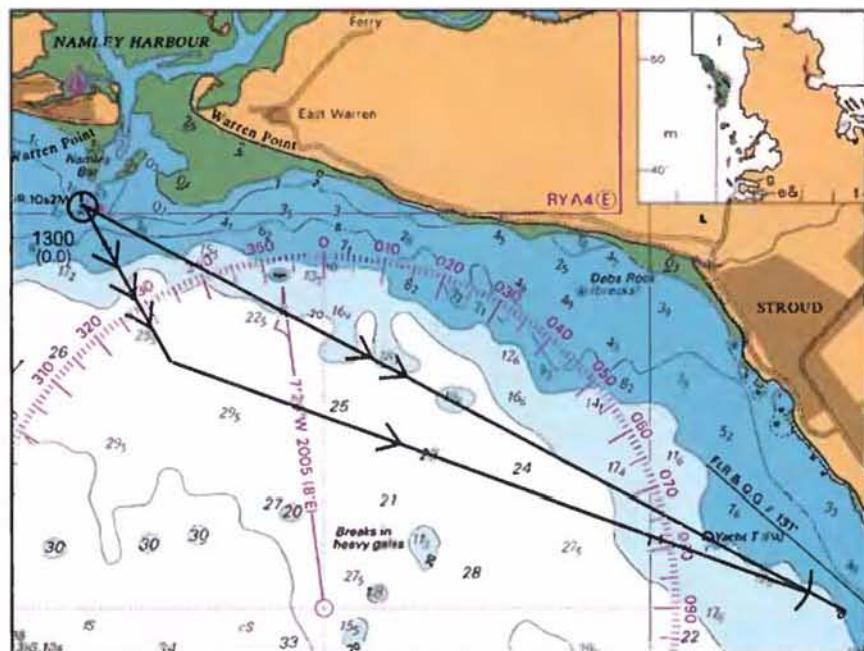
ANSWER 10.1

- a) 6.3M
- b) Course $118^{\circ}(T)$
 Variation $+ 7^{\circ} W$
 $125^{\circ}(M)$
- c) Just over an hour



ANSWER 10.2

- a) Course $110^{\circ}(T)$
 Variation $+ 7^{\circ} W$
 $117^{\circ}(M)$
- b) Distance to buoy 6.3M
 SOG 7.3kn
 $\times 60 = 52$ minutes
- c) On the starboard bow

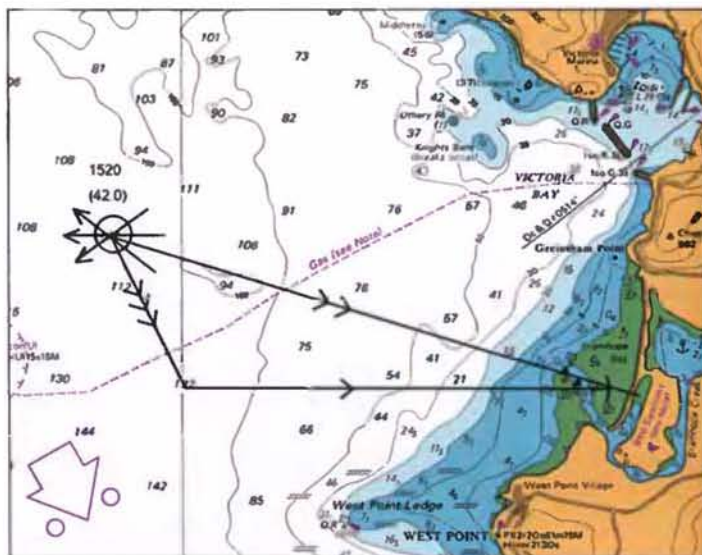


Course to Steer

Universal Time (UT) has been used to obtain the direction and rate of the tide. Where required the appropriate correction for DST or Time Zone has been applied.

ANSWER 10.3

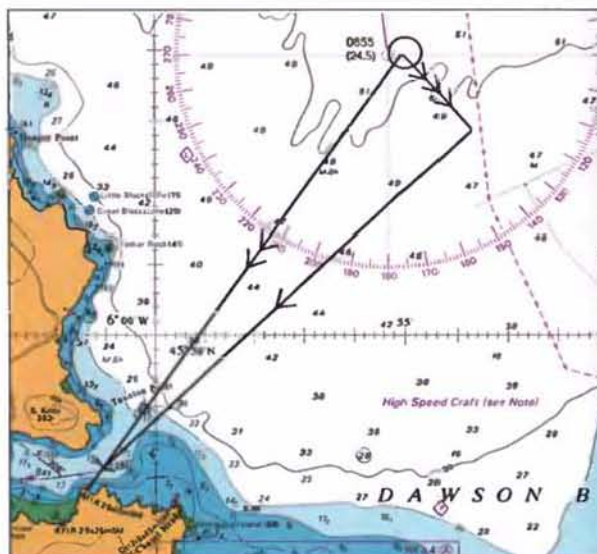
- a) $46^{\circ}24'.80N$ $006^{\circ}21'.20W$
- b) Thursday 4th July HW Victoria 1751 UT (1851 DST) Range 2.4 neaps.
- c) B HW - 3 1421 - 1521 UT (1521 - 1621 DST) $154^{\circ}(T)$ 2.0kn
- d) Course $090^{\circ}(T)$
 Variation $+ 7^{\circ} W$
 $097^{\circ}(M)$
- e) Distance to buoy 5.6M
 SOG 6.1kn
 $\times 60 = 55$ minutes
- f) On the starboard bow



ANSWER 10.4

- Tuesday 28th May HW Victoria 1125 UT (1325 SPDST) Range 4.9 (springs)
- L HW - 4 0655 - 0755 UT (0855 - 0955 SPDST) $139^{\circ}(T)$ 1.4kn

- a) Course $227^{\circ}(T)$
 Variation $+ 7^{\circ} W$
 $234^{\circ}(M)$
 Deviation $+ 1^{\circ} W$
 $235^{\circ}(C)$
- b) Distance to WPT 6.2M
 SOG 7.2kn
 $\times 60 = 52$ minutes



Course to Steer

Universal Time (UT) has been used to obtain the direction and rate of the tide.
Where required the appropriate correction for DST or Time Zone has been applied.

ANSWER 10.5

Monday 7th January HW Victoria 1702UT Range 3.2m

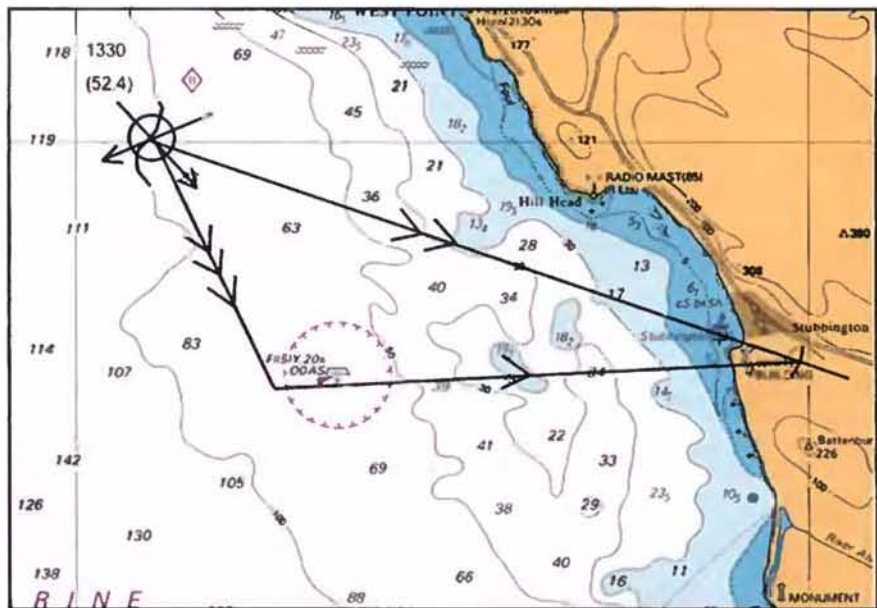
B HW - 3 1332 - 1432 UT 154°(T) 3.9sp 2.0np (Int 2.6kn)

a) 46°20'.00N 006°19'.00W

b) Course 087°(T)
Variation + 7° W
094°(M)
Leeway - 10°
084°(M)
Deviation - 4° E
080°(C)

c) Distance to WPT 5.7M
SOG 6.5kn
x 60 = 53 minutes
+ 1330
ETA 1423 UT

d) Yes



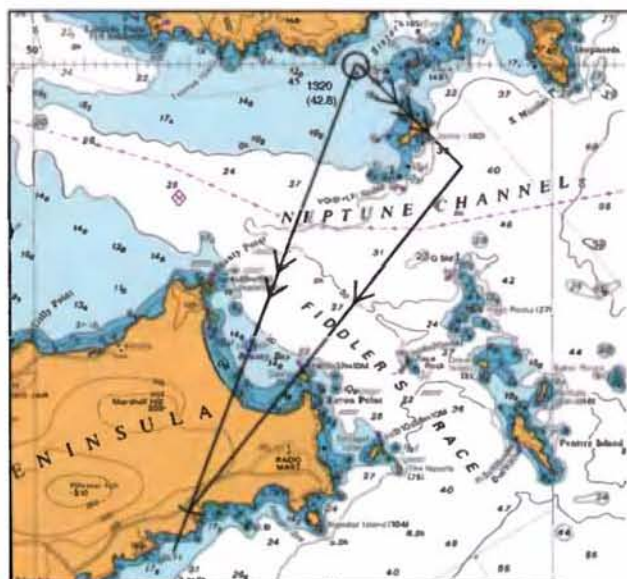
ANSWER 10.6

Monday 18th February HW Victoria 1350 UT (1450 Zone -0100) Range 3.6m

TSA HW - 1 1220 - 1320 UT (1320 - 1420 Zone -0100) 134°(T) 2.7np 5.4sp (Int 4.0kn x ½ hour 2.0M)

a) Course 218°(T)
Variation + 7° W
225°(M)
Deviation nil
225°(C)

b) Distance to WPT 4.1M
SOG 13.0kn
x 60 = 19 minutes
+ 1320
ETA 1339 Zone -0100



Instrumentation

ANSWER 11.1

The wash creates a mass of air bubbles in the water. As these are good reflectors of sound, the echo sounder may display a much shallower depth than the genuine one.

Occasionally, no depth reading will be displayed until the water becomes less turbulent.

ANSWER 11.2

- a) i) Speed through the water.
- b) A log which under-reads. Landfall would be made sooner than expected which could be dangerous, especially in poor visibility, with off-lying dangers in the vicinity of landfall.

ANSWER 11.3

- Always carry paper charts.
- Ensure chart corrections have been made and the charts are up to date.
- In addition to the charts required for a planned passage, make sure additional coverage is onboard for ports of refuge.
- Carry an up to date almanac and pilot books.
- Back up GPS positions with another source of information.
- Keep a separate record of position i.e. write the position regularly in a logbook / on the chart.

ANSWER 11.4

- a) Course Over Ground
- b) Speed Over Ground
- c) Distance To Waypoint
- d) Bearing To Waypoint
- e) Cross Track Error
- f) Estimated Time of Arrival

ANSWER 11.5

- a) Horizontal Dilution of Precision; when satellites are too close together the fix may be less accurate – as with a visual fix.
- b) The smaller number 1.4 is more favourable.

ANSWER 11.6

- c) Low down, clear of obstructions.
Siting the aerial low down avoids signal bounce and a less accurate position.
Ensure the aerial has a clear view of the sky and is not shielded.

ANSWER 11.7

- b) Working out a course to steer allowing for the tidal stream and monitoring the course using XTE.

Following a changing bearing to a waypoint would indicate the vessel was being swept off course. In a rocky area such as the Neptune Channel this could be disastrous.

ANSWER 11.8

The route should be plotted on a chart in order to check bearing and distance between waypoints, reducing the chance of overlooking an error made when keying in data.

ANSWER 11.9

- a) A dedicated chart plotter with built in GPS receiver.

This kind of purpose built chart plotter is robust and water resistant enabling it to stand up to the harsh environment often found in the cockpit of an open boat.

ANSWER 11.10

When a chart is over magnified it can give the impression that the resolution of position improves as the scale becomes larger. However, with the increasing reliability and accuracy of GPS, there is every likelihood that the actual latitude and longitude of the vessel is far more accurate than the chart on which it is being displayed.

ANSWER 11.11

- a) Vector
- b) Raster
- c) Vector
- d) Vector

ANSWER 11.12

- a) A radar target which remains on a steady bearing while progressing towards the centre of the screen indicates a risk of collision.
- b) A signal from a SART is displayed as a row of twelve dots, which stretch into arcs as you get closer to the SART's position. These become a series of concentric circles once in close proximity.

Pilotage

ANSWER 12.1

- b) On deck with pre-planned pilot notes and a basic pilotage sketch to hand.

It's important not to spend too much time below as it's easy to lose track of the vessel's position. Good preparation allows a skipper to direct the crew and manage the vessel safely.

ANSWER 12.2

- a) ii)
b) iii)

ANSWER 12.3

- a) Do not proceed (wait for lock).
b) Proceed one way traffic (enter lock).
c) Proceed two way traffic (lock freeflow).

ANSWER 12.4

- a) Vessels approaching from the south are advised to stay to seaward of the PHM off West Point in order to avoid the worst of the overfalls off the headland.
b) All craft <30m must enter the harbour through the northern entrance.
c) Lobster pots.
d) Local craft keep the SCM visible between the northern breakwater lights/heads as a means of remaining in safe water.

ANSWER 12.5

The yacht skipper must ensure the vessel leaves the precautionary area and follows the rule regarding vessels over 150 metres in length. These vessels are given a Moving Prohibited Zone of 1000m ahead and 100m to either side. Vessels under 20m must observe the MPZ.

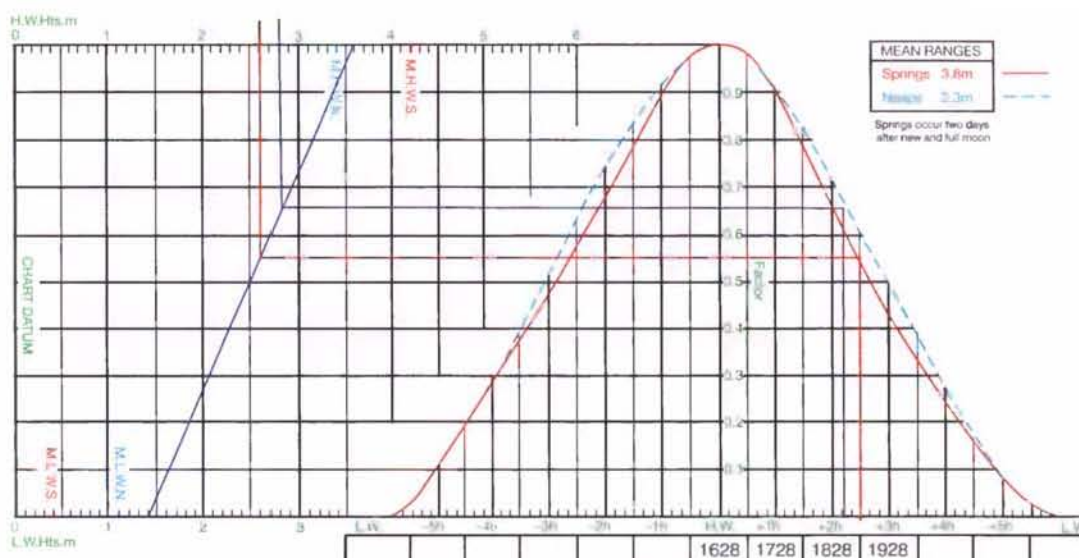
ANSWER 12.6

- a) A transit of the radio tower and the centre tower on the hotel 152°(T).
b) When aligned the church tower at Old Dawson and the flagstaff on Instow Island make a suitable transit 270°(T) towards the entrance.
c) No. The marks are unlit.
d) The broken contour lines in the vicinity of Dawson Harbour indicate approximate depth contours.

ANSWER 12.7

Friday		Time		Height		Range 2.7
3rd May		HW	LW	HW	LW	
Port Fraser	UT	1600	----	3.5m	0.8m	
Walton Bay differences		- 0032		+ 0.1m	+ 0.6m	
		1528		3.6m	1.4m	
		+ 0100				
Walton Bay DST		1628				

a) Height of tide at 1840 DST 2.8m



- The headlands are clear of dangers to within 0.5 cable.
Once inside the bay the 'The Chair', marked by an IDM is a hazard to be aware of; there is also a concrete dolphin (which lays inside the 2.0m contour) to avoid.
- A bearing of 067°(T) on Paulberry House will leave 'The Chair' to starboard.
Once past 'The Chair' a transit of a conspicuous flagstaff and the church tower at Lower Walton leads to the anchorage.
- At the anchorage soundings vary between 2.0m and 5.0m.
Height of tide at 1900 DST 2.6m
Predicted depth of water at the anchorage at 1900 DST, 4.6m to 7.6m.
- Height of tide at LW 1.4m
Predicted depth of water at the anchorage at LW, 3.4m to 6.4m.
- Avoid anchoring in Blackwattle Creek as the holding is poor due to kelp.
- Alongside berthing is permitted on the inside to the pierhead, least charted depth 2.0m.
- Fresh Water is available on the pier, Petrol and Diesel (cans only), Bar and Restaurant.

Meteorology

ANSWER 13.1

- a) ii)
- b) v)
- c) vi)
- d) vii)

ANSWER 13.2

- a) Rise of 8mb in the past 3 hours.
- c) Fall of 8mb in the past 3 hours.

ANSWER 13.3

- a) Westerly wind 25kn. A strong westerly wind is likely to generate a large swell, which reportedly breaks dangerously on the bar straddling the entrance to Sweetwater at low water.

ANSWER 13.4

- a) Within 6 – 12 hours of the time of issue of the warning.
- b) **No**, Beauty Bay is exposed to northerly winds.

ANSWER 13.5

- a) The next scheduled forecast is on VHF Ch 67 at 0020.
- b) Harbour Master
 - Metfax
 - Recorded forecast by phone
 - Local radio
 - Internet

ANSWER 13.6

South

ANSWER 13.7

- a) Land (radiation) fog. Often occurs during settled weather in autumn and winter. On a clear night the land cools down quickly, which in turn reduces the temperature of the air above it. When the air is cooled below its capacity to hold the moisture as vapour, it condenses to form fog.
- b) Sea (advection) fog. Most common in late winter and early spring, when the sea is at its coldest. When warm moist air blows over a cold sea, the sea may cool the air below its capacity to hold the moisture as vapour, leading to reduced visibility and fog.

ANSWER 13.8

A sea breeze can be expected to develop in fair weather with light offshore winds. As the sun heats the land the air above it warms and rises, allowing the cooler air above the sea to be drawn in over the land.

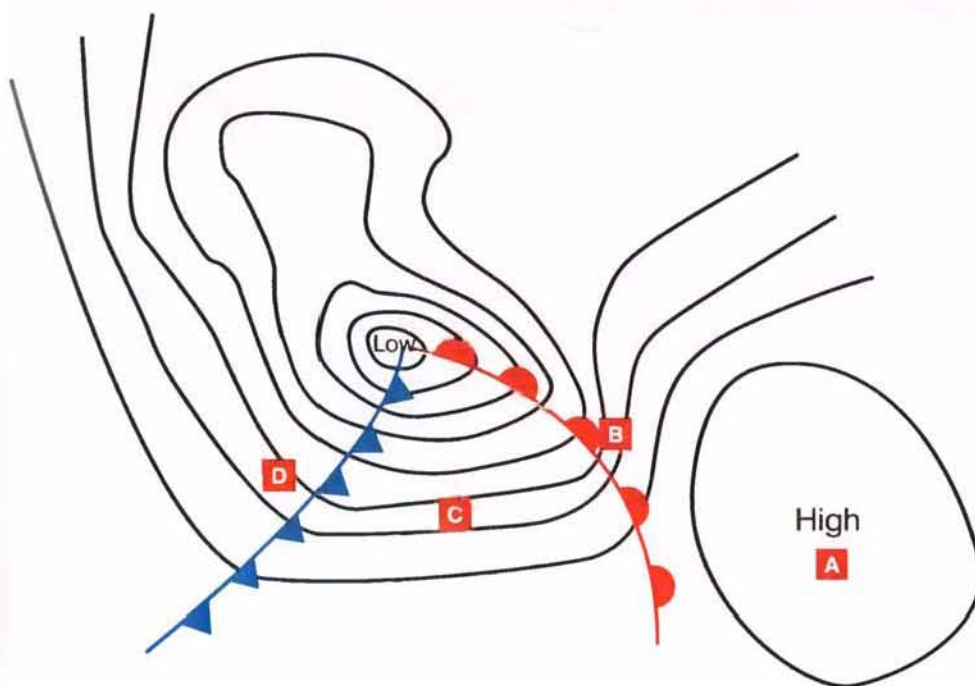
ANSWER 13.9

- a) Along the cold front.
- b) Gusty, squally winds.

ANSWER 13.10

B. Wind is slowed down by friction, which is greater over land than sea. When wind slows the Coriolis force causes it to back, with relatively greater backing over land than sea. When the 'land wind' converges with the 'sea wind' a stronger breeze can be expected along that coastline.

ANSWER 13.11



ANSWER 13.12

Closely spaced isobars indicate where the strongest winds are within a weather map.

Passage Planning



Passage Planning

ANSWER 14.1

- **Weather:** Before departure check the weather forecast and get regular updates while at sea.
- **Tides:** Check the tidal predictions for the passage and ensure the plan fits in with them.
- **Vessel:** Consider whether the boat is up to the proposed trip, and make sure that there is sufficient safety equipment and stores onboard.
- **Crew:** Take into account the experience and ability of the crew. Tired or seasick crew members could overburden the skipper.
- **Navigational dangers:** Consult up-to-date charts, pilot books and an almanac to ensure that you are familiar with any navigational dangers that might be encountered on route.
- **Contingency plans:** Prepare a plan that will enable you to take advantage of any bolt-holes or ports of refuge along the way.
- **Contacts ashore:** Tell someone ashore of your plans, and make sure they know what to do if they become concerned for your welfare. The safety identification scheme (CG66) is also useful as it can help the Coastguard to respond quickly should you get into trouble.

ANSWER 14.2

Vessels arriving in the islands must clear customs and immigration on arrival and are required to carry registration documents. Port Slade is the only port of entry in the islands; flag Q must be flown on arrival.

ANSWER 14.3

The skipper should sail to Beauty Bay. The forecast westerly wind would mean beating to Jackson Bay, which on arrival the crew would find completely exposed. By heading to Beauty Bay the crew will enjoy a fast reach and arrive to find a sheltered anchorage.

ANSWER 14.4

Dunbarton. HW Victoria is at 1125 UT (1225 DST), the tidal stream atlas shows the tide to be on a spring flood so they should carry the tide to Dunbarton.

ANSWER 14.5

- a) The trainee mate's error has been to construct a route which passes over Slade Island.
- b) A suitable alternative would be to construct a route that passes safely around the north of the island, for example:

Waypoints (suggested)

WPT 01	45°48' .36N	006°00' .75W
WPT 02	45°54' .30N	005°49' .96W
WPT 03	45°55' .02N	005°47' .14W
WPT 04	45°54' .57N	005°45' .14W
WPT 05	45°53' .27N	005°46' .66W

Passage Planning

ANSWER 14.6

- b) **Southerly 20kn.** HW Victoria is at 0851 UT (1051SPDST) the tidal stream atlas shows the tide to be on the ebb, a Southerly wind would be blowing in the same direction as the tidal stream giving smoother seas for this planing hull motor cruiser.

ANSWER 14.7

Starboard. HW Victoria is at 0930 UT (1030 Zone -0100) tidal diamond  gives a set and drift of 005°(T) 2.9kn. The yacht should be put on starboard tack in order to lee bow the tide.

ANSWER 14.8

Thursday 4th July	HW Victoria	1751 UT (1951 SPDST)	Range 2.1m
	HW Colville	1849 Zone -0100 (1959 SPDST)	Height of tide 3.9m
	HW Sweetwater	1905 Zone -0100 (2005 SPDST)	Height of tide 4.7m
	HW Hamilton	1925 Zone -0100 (2025 SPDST)	Height of tide 4.6m

Distance.....35M

Departure time Colville2120 SPDST (wind and tide together during the passage)

ETA Hamilton Sound.....2340 SPDST

Tidal gate.....Steven's Race

HazardsDymond Reef

Alternative ports and shelterJackson Bay, Sweetwater, behind the NE edge of Dymond Reef, in the lee of various islands in Gordon Bay

Waypoints (suggested)

WPT 01	45°58' .79N	006°10' .68W
WPT 02	46°02' .32N	006°13' .89W
WPT 03	46°02' .93N	006°18' .66W
WPT 04	46°01' .79N	006°21' .87W
WPT 05	45°49' .90N	006°19' .67W
WPT 06	45°37' .96N	006°13' .94W

Passage Planning

ANSWER 14.9

Sunday 29th	HW Victoria	1533 UT	(1633 DST)	Range 2.4m
	HW Bramhope Creek	0920 UT	(1020 DST)	Height of tide 2.1m
	HW Port Rampton	1634 UT	(1734 DST)	Height of tide 3.5m

Distance50M

Departure time Bramhope Creek.....1030 DST (10 minutes after LW, depth at Bramhope bar approximately 2.8m)

ETA Port Rampton1630 DST (allowing for tidal lift), (height of tide 3.3m, giving a clearance under the bridge 2.8m)

Tidal gatesWest Point Ledge / Cape Woodward

HazardsWest Point Ledge / Brandown Ranges / Robinson Rock / Busy Shipping Lanes and TSS

Alternative portBalshaw Bay (good temporary shelter, beware of poor holding)
Dunbarton (good shelter within various sounds that lead to Dunbarton and Setter Hall Marina)

Waypoints (suggested)

WPT 01	46°23'.47N	006°14'.11W	
WPT 02	46°22'.38N	006°19'.19W	
WPT 03	46°16'.26N	006°17'.21W	
WPT 04	46°06'.50N	006°08'.79W	
WPT 05	46°05'.62N	005°53'.86W	
WPT 06	46°05'.22N	005°46'.21W	
WPT 07	46°04'.84N	005°42'.04W	– motor sail last legs
WPT 08	46°11'.81N	005°40'.34W	
WPT 09	46°12'.70N	005°39'.35W	

Extracts





The RYA Training Almanac Extracts

Background information

The Training Charts and the supporting Training Almanac cover a fictitious area of the world. The coverage of the charts displays some of the land mass of three countries. The northern area of the chart covers the Northern Territories which includes the Islands within Beaufort Bay. The time zone for the Northern Territories is Universal Time (UT), zone 0; The Northern Territories also has Daylight Saving Time (DST) as noted in the tide tables within this Training Almanac. The Southern Peninsula, on the southern section of the chart, has a -0100 time zone (to convert Southern Peninsula time to UT, -1H); it also has its own DST as shown on the tide tables. Neptune Islands have the same time zone (-0100) and DST as the Southern Peninsula. Whilst the Northern Territories and the Southern peninsula have the IALA buoyage system (region A) the Neptune Islands have the IALA buoyage system (region B).

Victoria, which is situated on the west coast of the Northern Territories, is the primary standard port on which the tidal stream atlas and tidal diamonds are based. The tidal stream floods from the NW of the area towards the SE along the Lawrence Channel. The so called Northern Current is said to curve offshore north of Point Victoria, therefore any effect of an ocean current has been ignored.

CAUTION

The navigational information in this Training Almanac has been prepared from the RYA Training Charts.. These charts represent an entirely fictitious area of the world. Consequently, the Training Almanac can not be used for any actual navigational purpose.

Acknowledgement

The RYA would like to thank Chris Slade and Mike Dymond for their efforts in compiling this Training Almanac.

The RYA would also like to thank A.C. Black and the United Kingdom Hydrographic Office (UKHO) for their kind permission to reprint a number of tables in this publication. Copyright for these tables is held by either A.C. Black or the UKHO.

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Compiled by Mike Dymond & Chris Slade

Training Software
& Charts

Admiralty symbols

	Power transmission line with pylons and safe overhead clearance		Church		Drying contour LW line, Chart Datum
	Vertical clearance above Highest Astronomical Tide		Radio mast, television mast		Below 5m blue ribbon or differing blue tints may be shown
	Harbourmaster's office		Monument (including column, pillar, obelisk, statue)		Anchoring prohibited
	Custom office		Chimney		Marine Farm
	Health Office, Quarantine		Wind motor Windfarm		Wreck, depth unknown, danger to navigation
	Post office		Tanks		Wreck, depth unknown, no danger to navigation
	Yacht Harbour, Marina		Recommended anchorage		Wreck, depth obtained by sounding
	Radio reporting point		Rescue station, lifeboat station, rocket station		Wreck, swept by wire to the depth shown
	Direction of buoyage		Fishing harbour		Submarine cable
	Mooring buoy		Fishing prohibited		Buried pipeline
	Wreck showing any part at level of chart datum		Perch, stake - port and starboard hand		Overfalls, tide rips and races
	Quarry or mine		Pilot boarding		Limit of safety zone around offshore installation
	Rock which covers and uncovers, height above Chart Datum		Emergency RDF station		Major light
	Rock awash at level of Chart Datum		Marsh		Dangerous underwater rock of unknown depth
	Visitors' Berth		Kelp		Dangerous underwater rock of known depth
	Fuel station (Petrol, Diesel)		Crane		Caravan site Camping site
	Public slipway		Inn and Restaurant		Public telephone
	Water tap		Public toilets		Bird sanctuary
	Public landing, steps, ladder		Public car park		Coastguard Station
			Laundrette		Radar Transponder Beacon with Morse identification and Radar band
			Yacht Club, Sailing Club		

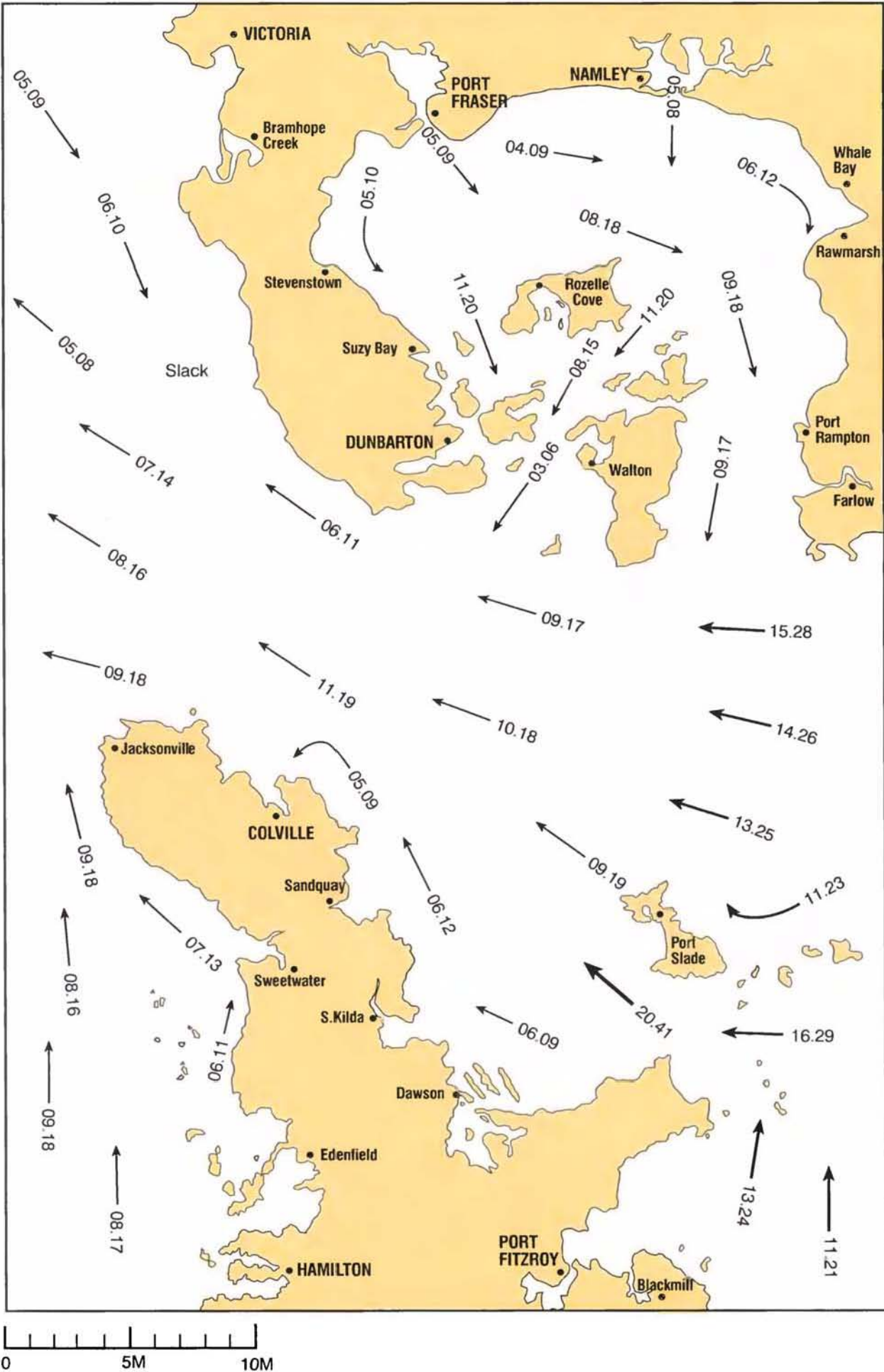
Tidal levels table

PORT	HAT	MHWS	MHWN	MLWN	MLWS
VICTORIA	6.3	5.6	4.4	2.0	0.7
Bramhope Creek	6.7	5.9	4.5	2.1	0.7
DUNBARTON	4.6	4.2	3.5	1.8	0.8
Suzy Bay Marina	4.3	4.0	3.4	1.6	0.8
PORT FRASER	4.6	4.2	3.4	1.1	0.4
Stevenston	4.2	4.0	3.6	1.3	0.4
NAMLEY HARBOUR	4.4	4.0	3.4	1.1	0.4
Itchenham	4.1	3.8	3.3	1.0	0.3
Emsburne	4.0	3.7	3.3	1.1	0.3
Whale Bay Marina	4.2	3.9	3.5	1.3	0.4
Rawmarsh Marina	4.0	3.8	3.5	1.3	0.5
Port Rampton	5.1	4.5	3.6	1.7	0.6
Farlow	5.4	4.7	3.7	1.8	0.6
Walton Bay	4.5	4.2	3.5	1.9	0.7
Parvin Sound	4.1	3.9	3.5	1.7	0.7
Endal Marina	5.1	4.6	3.5	1.5	0.4
Rozelle Cove	5.0	4.4	3.2	1.6	0.6
India Harbour	4.2	4.0	3.6	1.8	0.7
HAMILTON SOUND	6.2	5.8	4.7	1.5	0.6
November Bay	6.0	5.6	4.6	1.4	0.6
Edenfield	5.7	5.4	4.5	1.2	0.5
Sweetwater	6.4	6.0	4.8	1.6	0.7
COLVILLE	5.1	4.8	3.9	1.4	0.5
Jackson Bay	5.6	5.2	4.1	1.6	0.7
Sandquay	5.7	5.2	3.8	1.6	0.7
S.Kilda	5.1	4.9	4.2	2.3	0.5
Dawson Harbour	8.3	7.6	5.6	2.4	1.0
PORT FITZROY	7.0	6.4	5.4	1.4	0.5
Blackmill	6.8	6.2	5.2	1.4	0.5
Port Slade	7.3	6.6	4.5	1.1	0.6

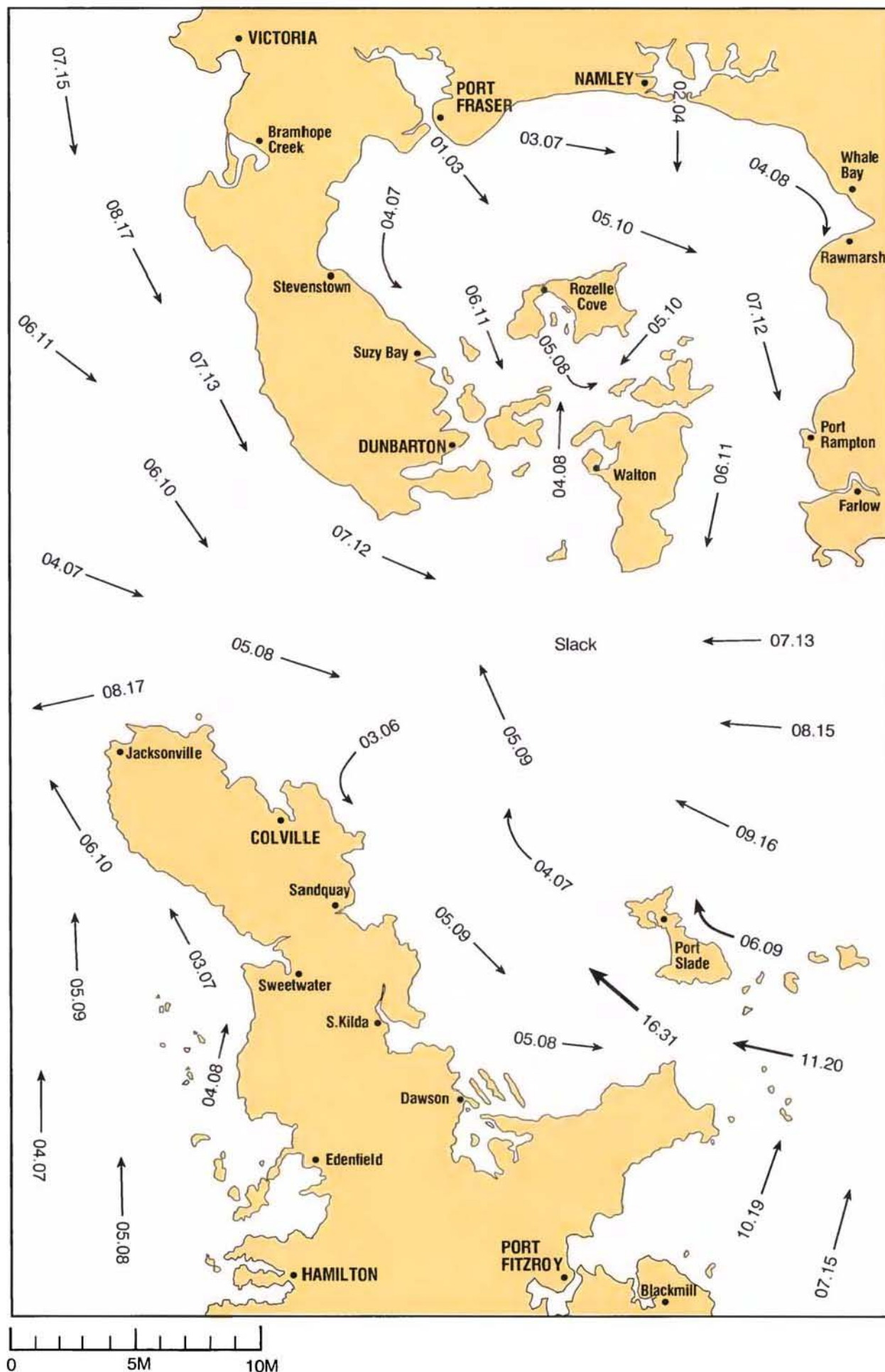
The value of HAT may be inferred for a Secondary Port by extrapolating beyond the given differences for a tide that reaches the appropriate level at the Standard Port.

Tidal Stream Atlas

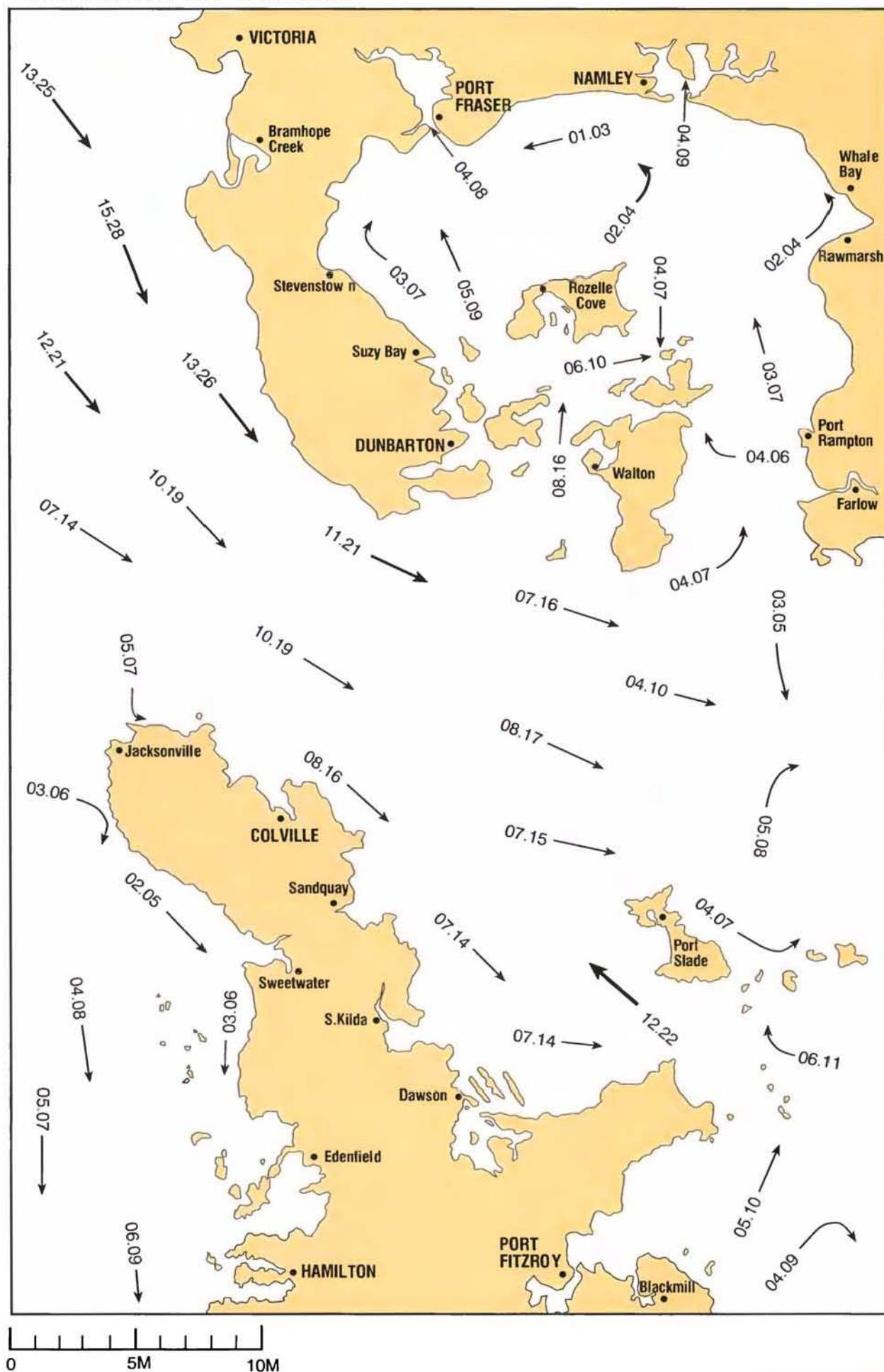
6 hours before HW VICTORIA



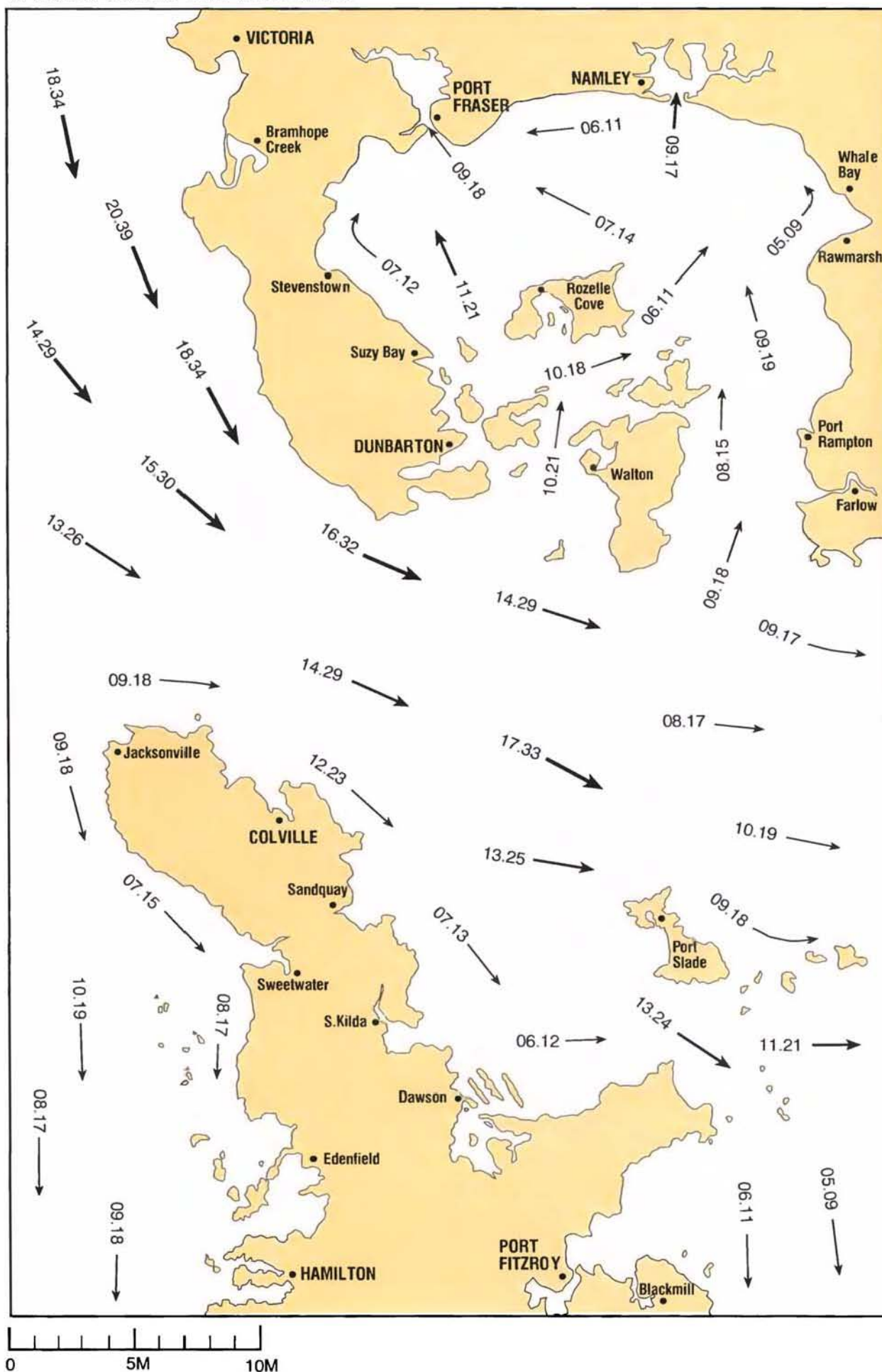
5 hours before HW VICTORIA



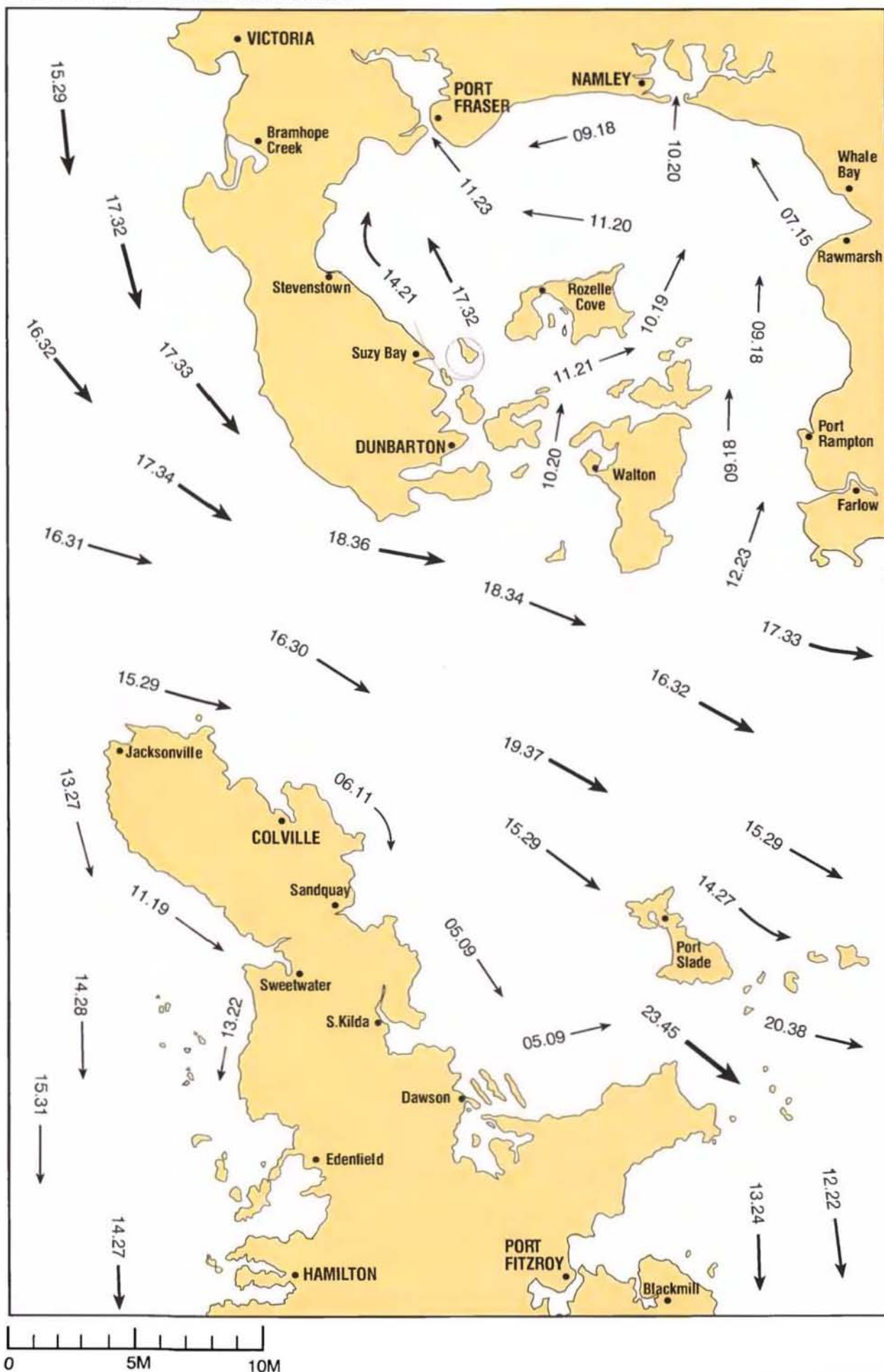
4 hours before HW VICTORIA



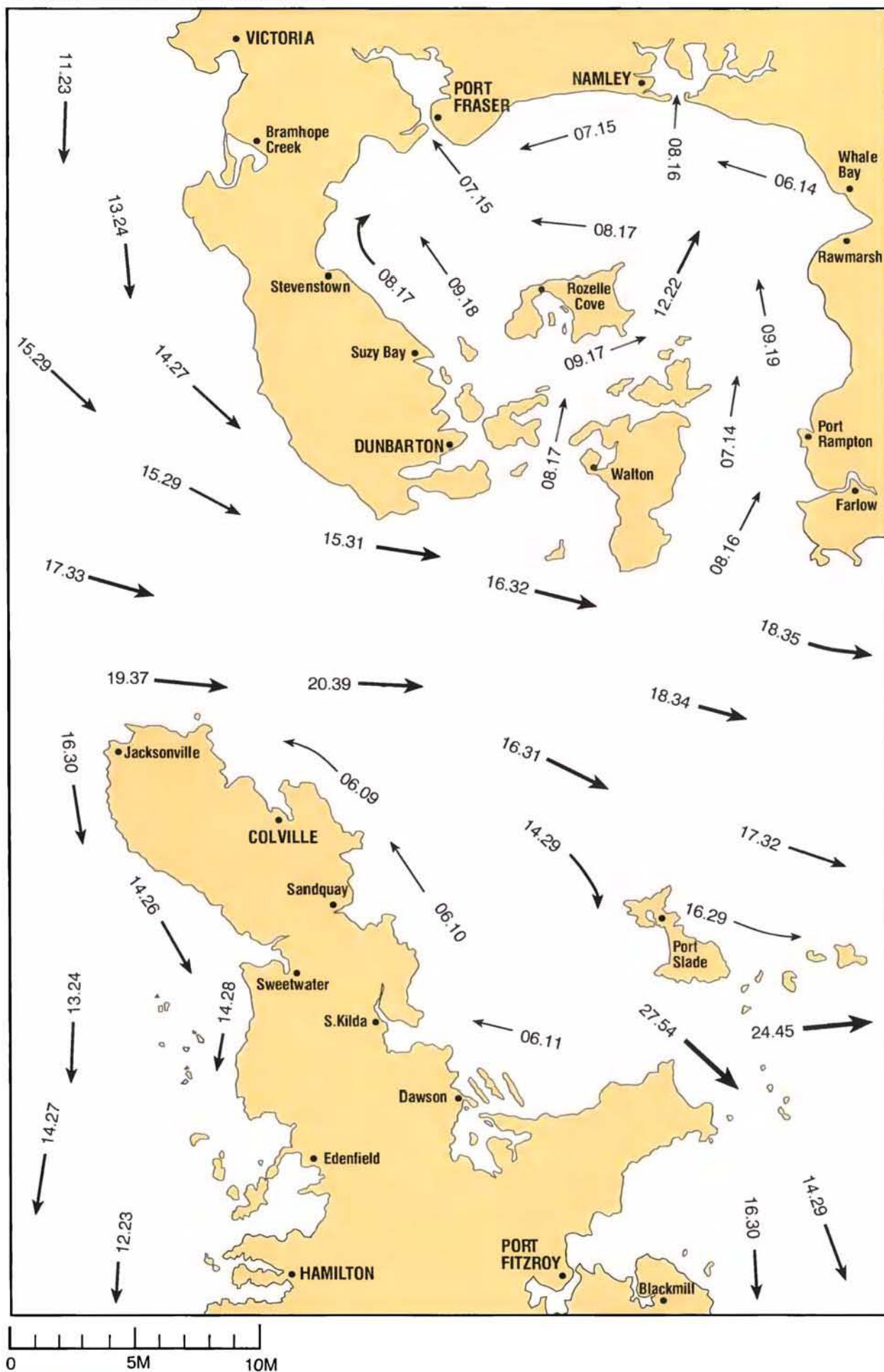
3 hours before HW VICTORIA



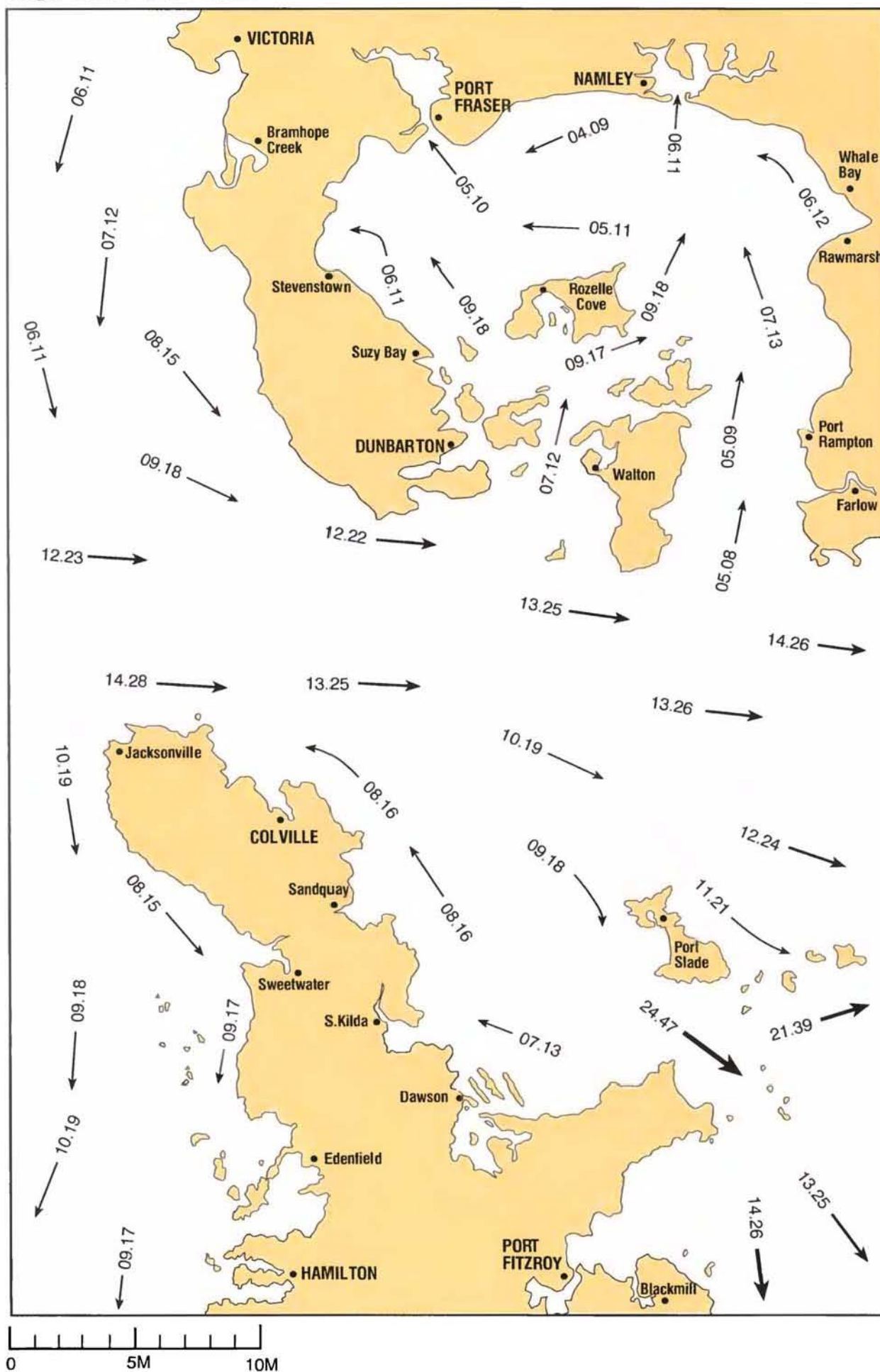
2 hours before HW VICTORIA



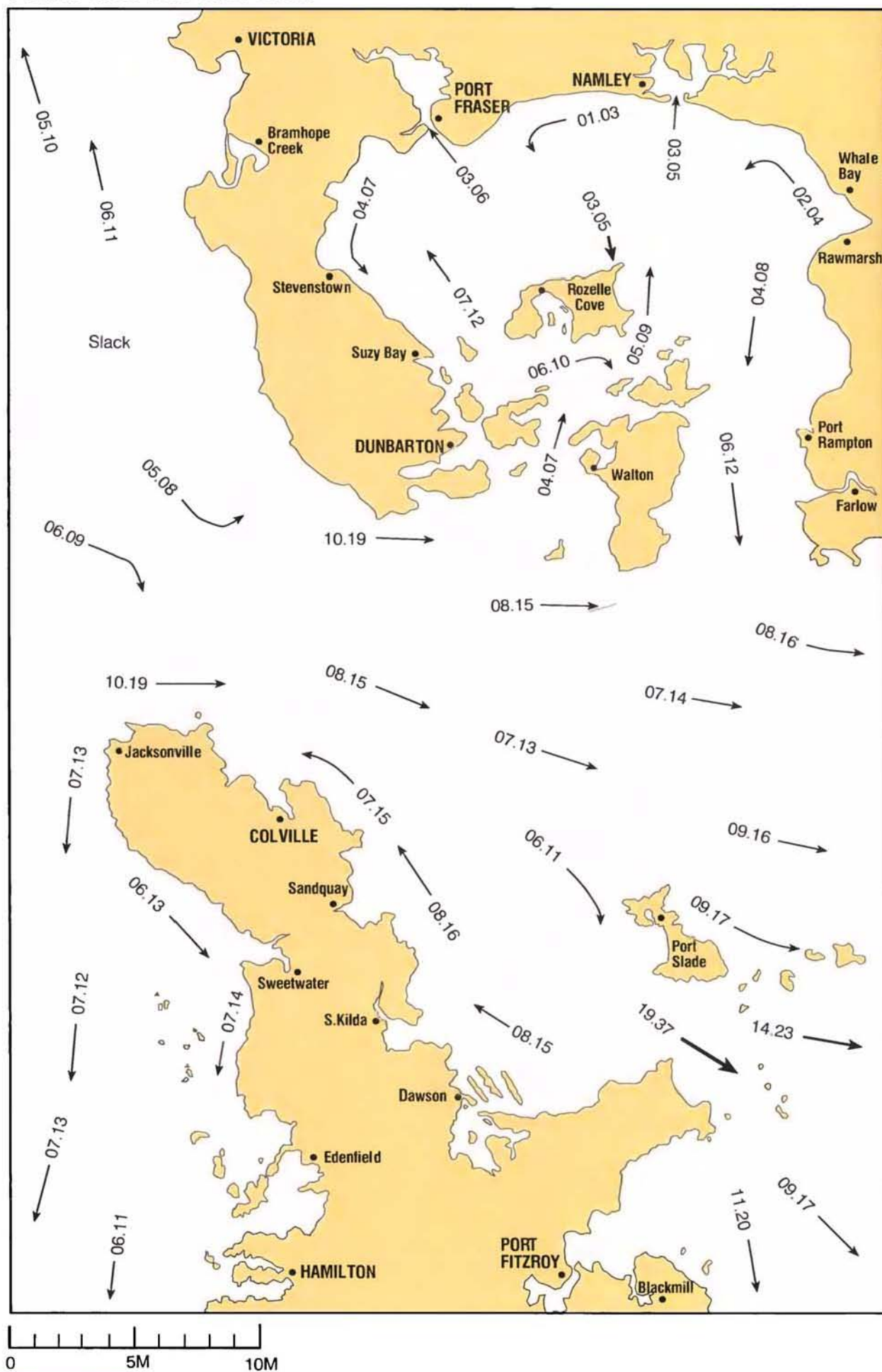
1 hour before HW VICTORIA



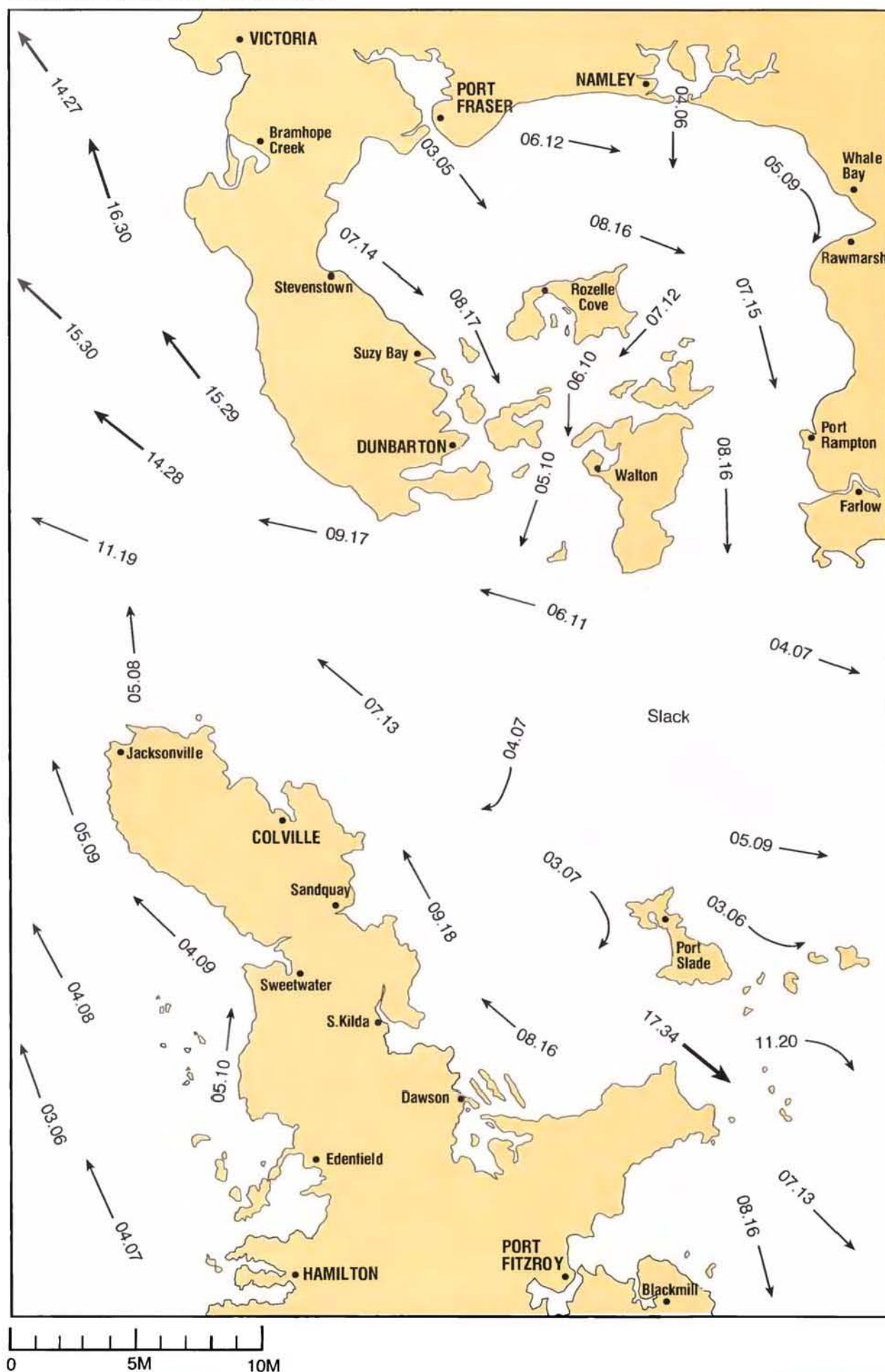
High water VICTORIA



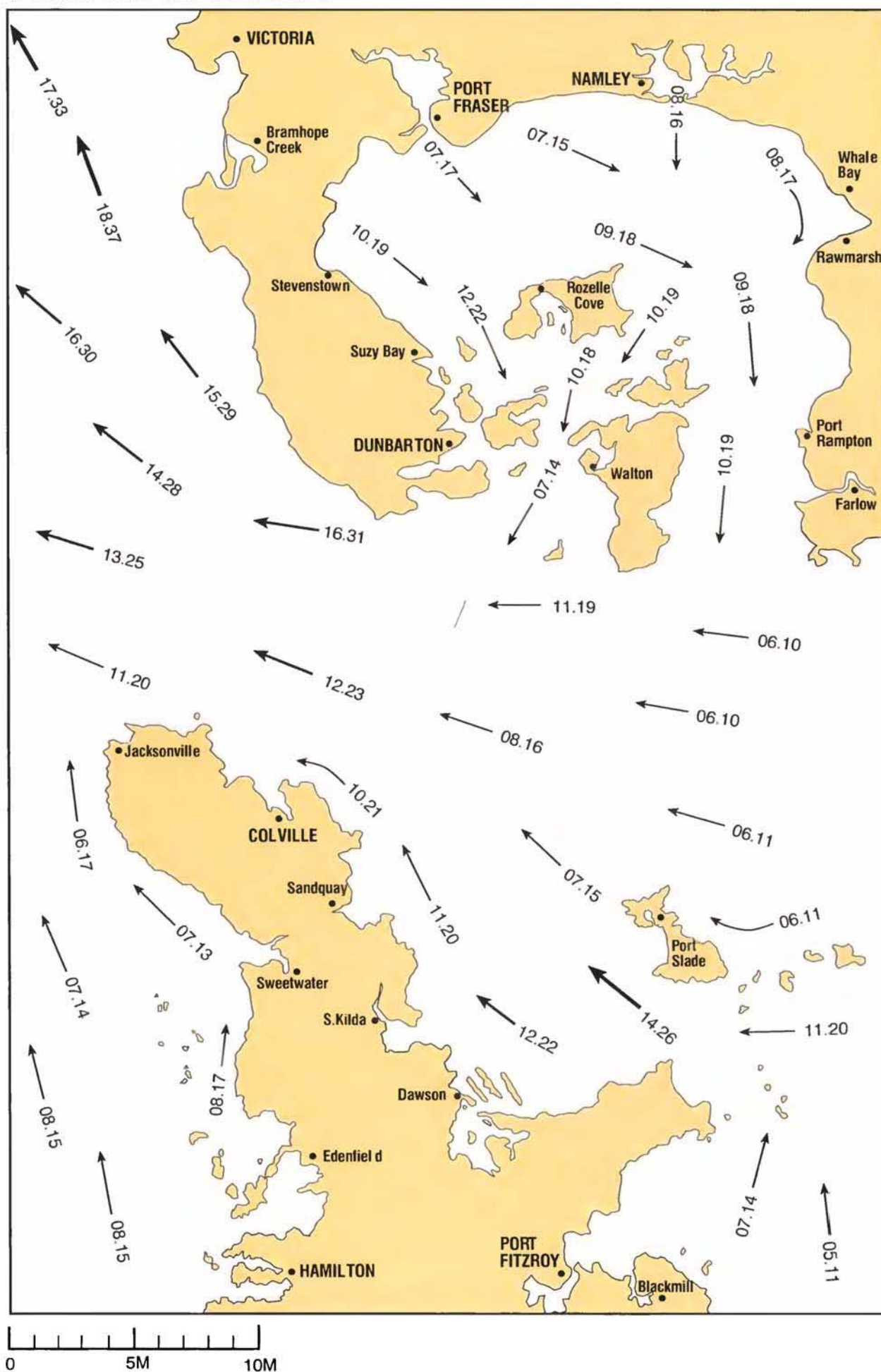
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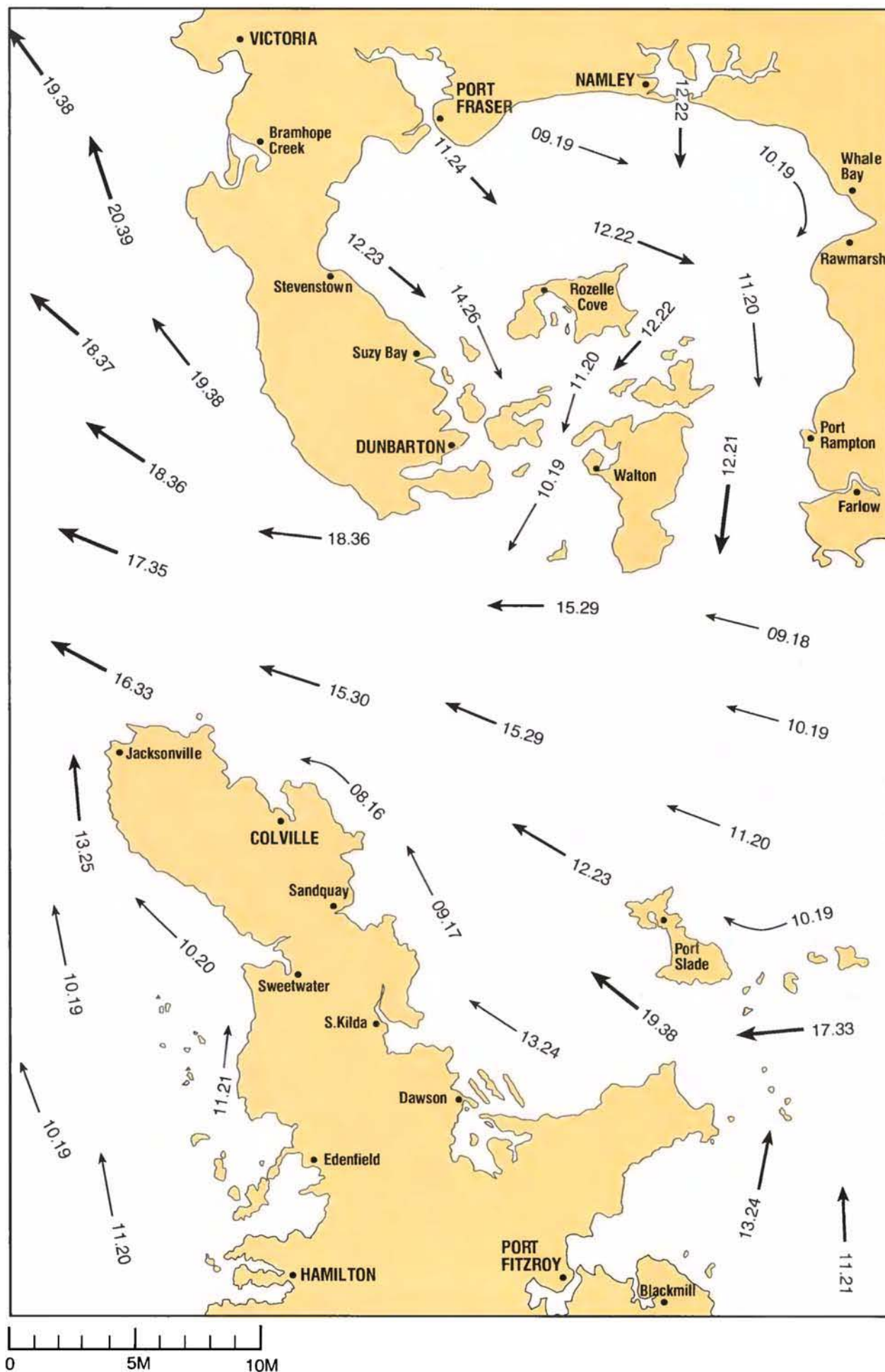
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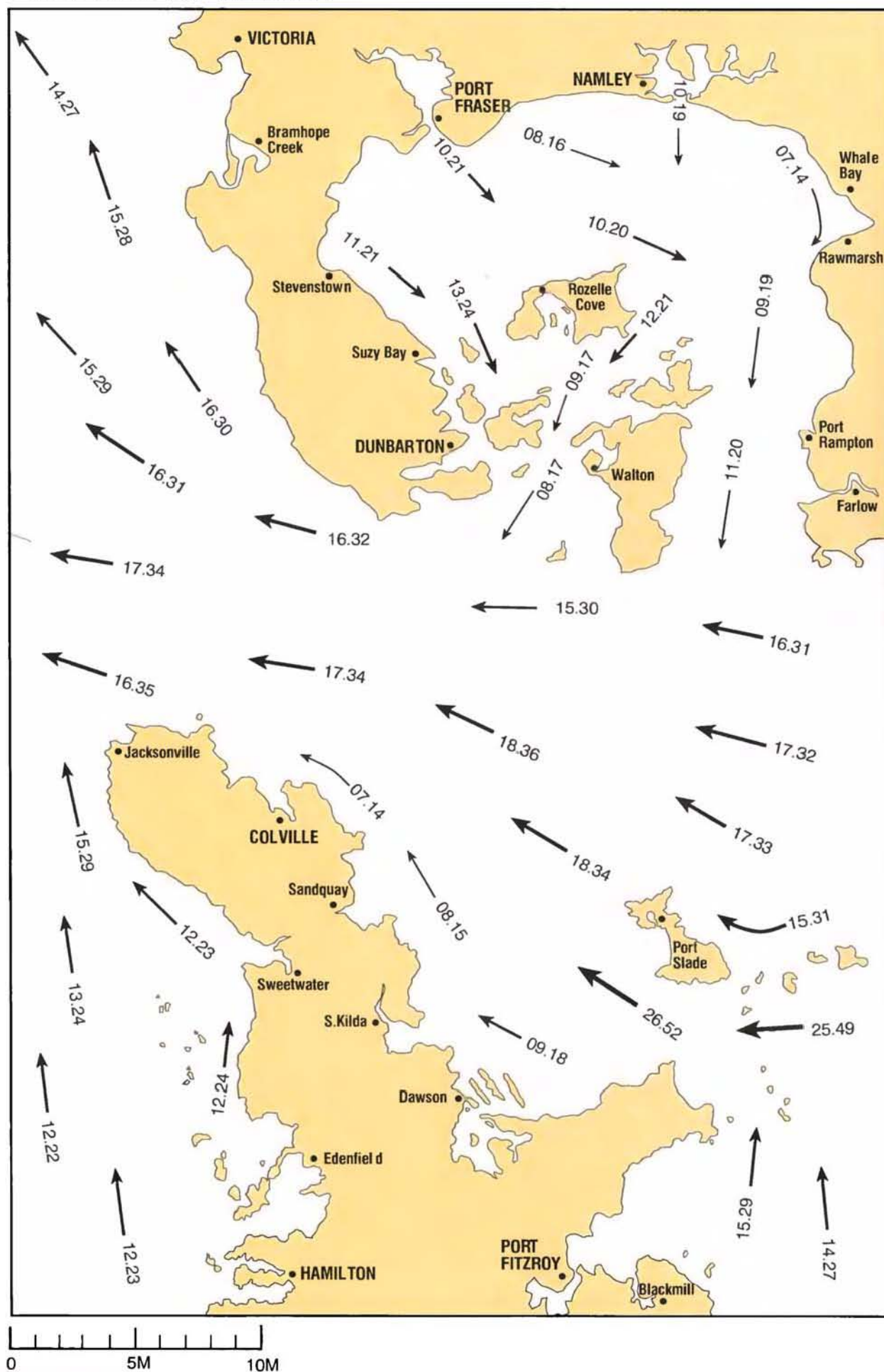
3 hours after HW VICTORIA



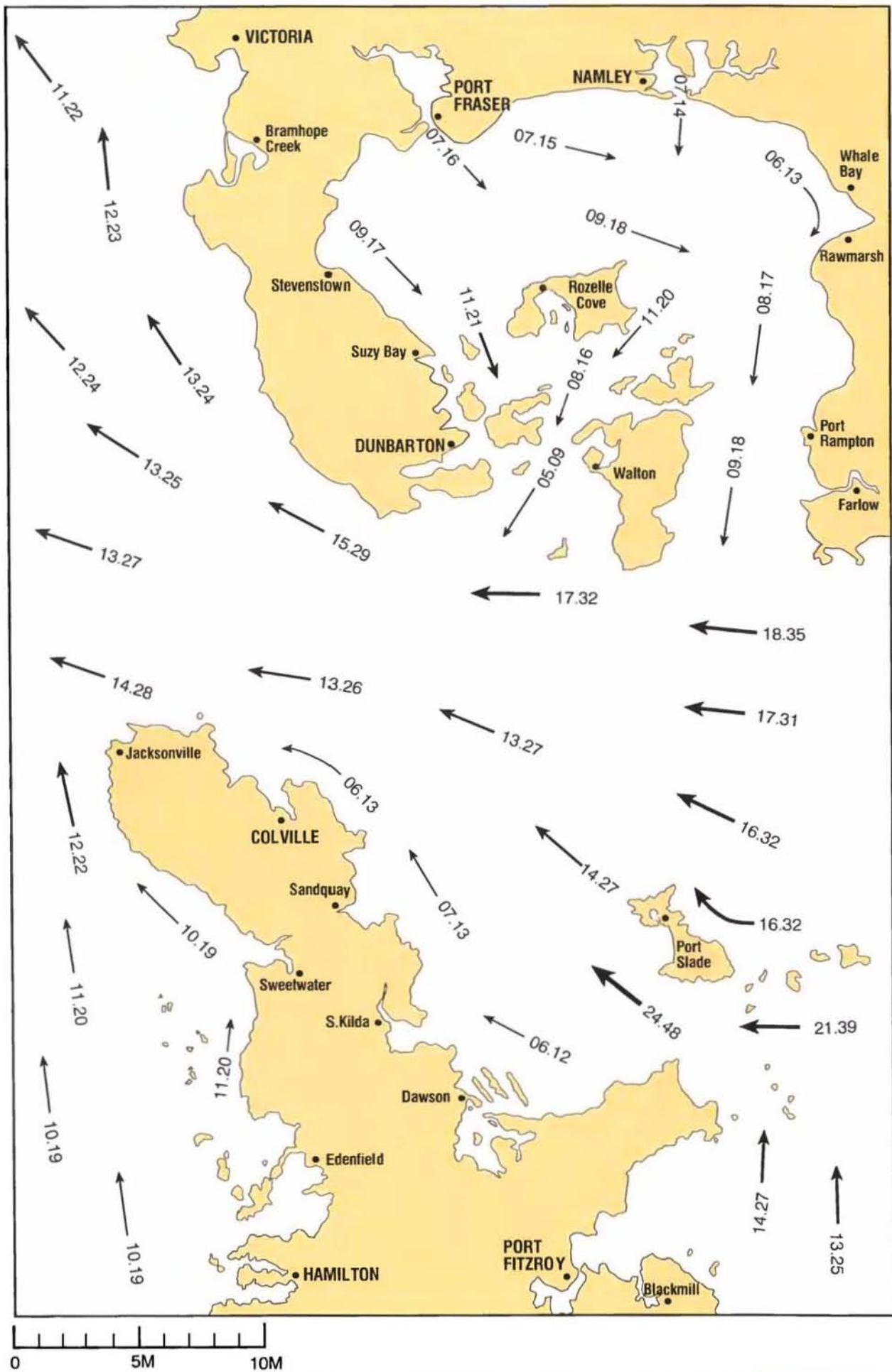
4 hours after HW VICTORIA



5 hours after HW VICTORIA

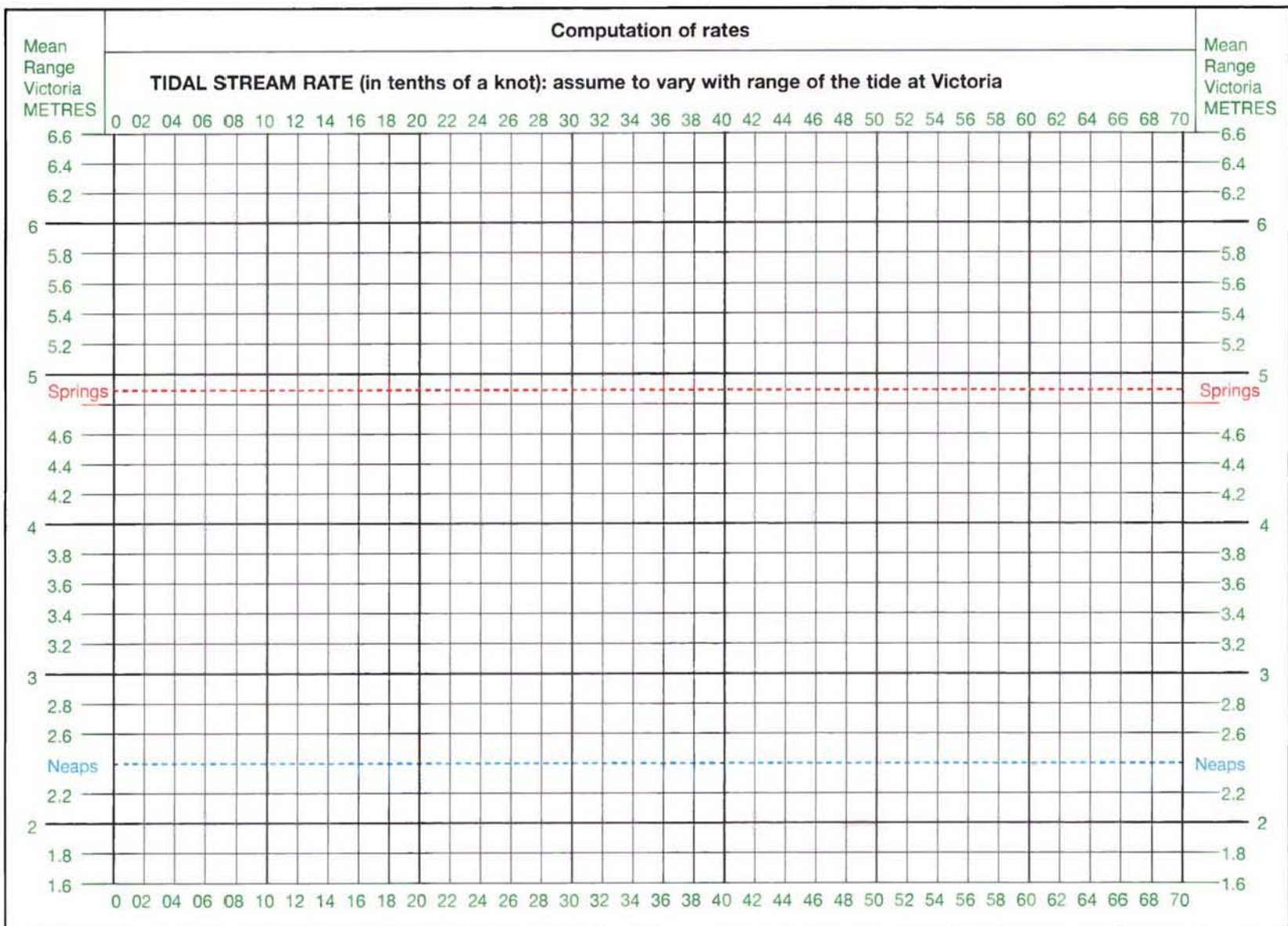


6 hours after HW VICTORIA



Computation of Rates

The graph is used to compute tidal stream rates when the tidal range is neither a spring nor neap range. Tidal Diamond or Tidal Stream Atlas data can be computed using this graph.



Instructions

1. From the tide tables, calculate the range of the tide for the day in question.
2. Note the neap and spring rate from the Tidal Stream Atlas or Tidal diamond for the required time and geographical position.
3. On this graph, plot the neap and spring rate on the relevant (neap or spring) dashed line, using the horizontal scale (Tidal Stream Rate).
4. Using a pencil and a straightedge, join the two plotted rates and extend the line to the extremities of the graph.
5. Using the calculated range from step 1, enter the vertical (Mean Range) scale. Draw a horizontal line to intercept the pencil line drawn in step 4.
6. At this interception, draw a line vertically, up or down, and read off on the horizontal scale the rate of the tidal stream for the calculated range.

Coastguard information and weather broadcasts

NORTHERN TERRITORIES

Northern Territories Coastguard Services (NTCGS)

The Central Control Centre of the NTCGS is situated at Cape Woodward. The NTCGS is responsible for providing SAR cover around the Northern Territories waters out to 50M and south to the mid-Lawrence Channel. The NTCGS is responsible for maintaining watch on VHF DSC Channel 70 and MF DSC 2187.5kHz. As the NTCGS only monitor Channel 16 by loudspeaker watch, they strongly advise pleasure craft to fit DSC radio equipment. The primary VHF transmitter is situated at Cape Woodward and relay stations near Point Victoria and Misery Point give cover over the Northern Territories Waters.

Northern territories Coastguard Services (NTCGS) weather broadcasts

Full area forecast and current conditions are broadcast on VHF Ch 67 at the following times:-

0020 0420 0820 1220 1620 2020 (all times LT). New gale warnings and strong wind warnings will be broadcast on receipt.

Local Radio Stations

'Classic Victoria' 109.9MHz. Marine forecasts at 0625 0725 0825 1725 2325

'Port Fraser FM' 98.3MHz. Land and Marine forecasts at 0705 0805 0905 1605 1805.

'Radio Farlow' 100.2MHz. Marine forecasts and Farlow Channel shipping movements at 0530 0730.

SOUTHERN PENINSULA

Southern Peninsula Coastguard Organisation (SPCGO)

The headquarters of the SPCGO are at Port Fitzroy with a secondary control centre at North Point. The SPCGO provides SAR and safety coverage around the coastal waters of the Southern Peninsula and north to mid-Lawrence Channel. The Coastguard maintains watch on DSC Channel 70 and a loudspeaker watch only on VHF Channel 16. They strongly advise yachtsmen to use DSC equipment. The primary transmitter is at Fitzroy Heights and a secondary repeating station is at North Point.

Southern Peninsula Coastguard Organisation (SPCGO) weather broadcasts.

Area forecasts and safety information are broadcast on VHF 23 at the following times:-

0001 0600 1200 1800 LT.

Local Radio Stations

'Radio Fitzroy FM' 88.8MHz. General land and marine forecasts every hour after news (approx H+0005).

'Colville Country FM' 105.0MHz. Marine forecasts at 0500 0600 0700 0800 2000 2200.

'Hamilton Local' 96.2MHz. Sailing and Surfing forecasts at 0710 0810 0910 1010.

Coast Radio Stations

The following Coast Radio Stations broadcast weather bulletins for the local area out to 20M offshore. The broadcasts are made on VHF at 0205 0605 1005 1405 1805 2205 UT after an announcement on Ch16. Bulletins include gale warnings, general synopsis and 24H forecast. Stations and VHF Ch are as follows:-

Victoria	23
Balshaw	02
Misery Pt	24
S. Stephens Pt	28
C. Donne	26
Christopher Pt	04

Some further sources of weather information

Marina or Harbour Master office. Internet sites. Weather fax. Telephone forecast. Barometer & own observation. Newspapers & Television. Buoy reports. Meteorological Office. Navtext.

Northern Territories - Passage Information

Point Victoria to Cape Woodward (Cape Balshaw)

Point Victoria is a steep-to headland with a conspicuous lighthouse (BW hor bands) [FI10s72m23M] situated in front of a conical hill (485m). Dangerous rocks extend a mile off the headland north of Point Victoria; these rocks combined with the strong tidal stream generate large standing waves out to 1.5M. Prudent mariners should give the Point a respectable clearance. There is no inshore passage as such and the visible wrecks on the shoreline are there to remind us of those who have tried to find one.

Between Point Victoria and Victoria harbour there is Othry Rk situated 1M offshore. An isolated granite pinnacle (dries 1m) causes a breaking sea in all but the slightest swell. Knights Bank (7.8m) 4ca to the SE also breaks occas.

Victoria Bay to West Point

West Point is a conspicuous flat-topped headland. It has a W square twr Lt Ho [FI(2)20s61m19M] and keeps dwellings attached. The point has a dangerous race offshore, which extends some 3M to seaward. The race is mainly due to the rapid change in depth off the headland, from 7m on the ledge to over 100m 1.6M further offshore, and the strong tidal stream. A lit (Q.R) PHM is situated near the seaward part of the race. There is no viable inshore passage for the race except for local lobster boats and then only in settled conditions. The coastal waters between Point Victoria and Hill Head may be subjected to strong katabatic gusts when an easterly airstream is blowing.

West Point to S. Anthony's Head

From a waypoint off the overfalls at West Point to another 0.5M to seaward of Bramble rocks, there are no offshore dangers. In suitable conditions Stubbington Bay, S of Hill Head, provides a useful anchorage. S. Anthony's Lt Ho (Gy 8 sided Twr) [FI.5s33m15M] marks the potentially dangerous Bramble Rks situated some 0.6M offshore and the start of the inshore firing range at Browdown.

S. Anthony's Head to Cape Woodward

The Army firing range at Browdown, between S. Anthony's Head and Tindall Point extends 1.5M offshore. Firing normally takes place 0900-1700 on weekdays only and firing will be indicated by R flags flown from 3 FS on the shore. Vessels are requested to keep clear of the range when firing is taking place. Outside the 10m contour, there are no dangers on this section of the coast until the SW reefs (4.9m) off Cape Woodward itself, which are indicated by the breakers in the locality in all but the calmest sea state.

Cape Woodward to Cape Balshaw

2M to the S of Cape Balshaw and its Lt Ho (BW chequers) [FI(2+1)30s87m22M] is the dangerous isolated Robinson Rk. (dries 1m) and to the SE of the Lt Ho is Cohen Rk (awash at CD); the sea breaks heavily in both areas. Navigators must be especially vigilant in this area. In settled conditions and good visibility, it is possible for Small Craft to pass inshore of both rks.

Traffic

Vessels over 100m LOA approaching from the W that are bound for either Dunbarton or Synka oil terminal must initially use the east-bound TSS, changing to the west-bound TSS at the Lawrence LANBY roundabout.

Tidal Streams and Currents

Within a few miles of the coasts, the tidal streams are generally rectilinear in nature, following the line of the coast. Further offshore, although the stream is biased to the NNW/SSE flow, they assume a rotatory nature. The tidal stream floods from NW to SE attaining rates of up to 4kn so careful planning is required for slow speed craft when passage making. The 'Northern Current', which is noticeable N of Point Victoria, curves offshore S of this point and any effect S of this latitude is negligible.

Cape Woodward to Misery Point including Beaufort Bay

Beaufort Bay

Beaufort Bay has an area approximately 15M square; it contains some 15 islands and many rocky outcrops. There are numerous harbours and anchorages within the bay, many only a few miles apart, which are suitable for Small Craft. The area is well charted and is a rewarding cruising ground although due navigational diligence is required especially in poor visibility. The tidal streams run hard in some sounds and passes, therefore transits, charted or opportunistic, may be the most useful aid to pilotage in some areas.

Isolated shoals and rocks

In the northern sector of the bay, four shoal areas warrant special mention. W to E, these are, a) Louisa Rocks, situated 1 mile E of Stevens Bay. This rocky plateau shoaling to a least depth of 3.3m is well marked by a R&W chequered lighthouse [FI.6s17m12M] Racon (Q) (3cm) and a Q NCM. To the NW of the rocks is an obstruction, least depth 1.7m, marked by a VQ NCM. b) Hill Shoal, 5M to the SE of Port Fraser entrance marked by a SCM. [VQ(6)+LFI.10s5M]. c) Kay Island, situated just over 1M NNW of Hill Shoal, is an unlit island some 14m high which has isolated rocks to the S and E of the main island. d) Back Shoal, 3M to the N of Strong Holme, is an isolated rock sat on a 9m plateau and marked by an IDM [FI(2)5s5M].

Northern Territories - Passage Information

Traffic

Traffic within the Beaufort bay is concentrated within three main areas, Dunbarton, Port Fraser and the Synka Oil Terminal. Operators of Small Craft should remain vigilant when operating in areas of high traffic density. It is recommended that local VTS VHF radio channels be monitored when navigating in the vicinity of harbours. Large vessels bound for Port Fraser will enter the bay via the Farlow Channel, follow the buoyed channel outside of the main islands, and pass S of both Black Shoal and Hill Shoal before approaching Port Fraser from the SWM. Vessels over 100m LOA bound for Synka Oil Terminal or Dunbarton must approach from the west-bound traffic lane and use the Falls Deep Channel. The Fraser-Fitzroy ferries use the most efficient route through the various Sounds depending on tidal stream and weather. High-speed ferries operate within the bay at speeds of up to 40kn and mariners are advised to keep a good lookout.

Deep Draught Vessels

The charted channels and deep-water tracks between Lawrence Channel and Haire Sound are those recommended by the Beaufort Bay Navigation Service for tankers under pilotage proceeding to and from the Synka Oil Terminal. Due to the possible tidal effects, vessels may need to steer noticeably different courses to those shown in order to maintain the recommended tracks. Radar surveillance of these channels is continuously maintained.

Precautionary Area

All vessels over 150m in length operating in the precautionary area E of Synka Island are given a MOVING PROHIBITED ZONE of 1000m ahead and 100m either side of the vessel. Vessels less than 20m in length are prohibited from entering this ZONE.

Tidal Streams within Beaufort Bay

The major mass of water flows in and out of the Farlow Channel; this has the effect of creating an anticlockwise flow around the bay on the flooding stream and clockwise flow during the ebb stream. Rates in the deep-water channels reach around 2kn at springs but local rates around the islands reach rates exceeding 3kn.

Cape Woodward to Misery Point

Vessels proceeding along the northern part of the Lawrence Channel in the Inshore Traffic Zone have three major headlands to pass, W to E, Cape Woodward: South Head and Misery Point, as well as the TSS of the Farlow Channel to navigate. As noted on page 142, the waters around Cape Woodward require due navigational respect due to the unmarked, offlying dangers. South Head with its conspic Lt Ho (W O twr with B top), [Oc(2)10s45m15M] and Guillemot Island (Lt Ho B&W O twr with vert bands) [Fl.G.2.5s38m10M] are both clear of dangers to the S. Misery Point with its Lt Ho (B&W horizontal banding), [Fl.10s34m25M] has rocks extending several cables SW and S of the point. A tidal race extends over a mile to the S of the light.

Northern Lawrence Channel tidal streams

The flood stream moves from W to E along the channel reaching rates of up to 3.5kn in the main channel at springs; rates of up to 5kn have been recorded close to Misery Point. Generally, there is a short period of slack water in the channel before the W going ebb starts; its rates are similar to the flood stream. The direction of the stream in Lawrence Channel is rectilinear in nature.

VICTORIA - Standard Port

46°26'.15N 006°12'.20W

Northern Territories CHART RYA 3.

Standard Port VICTORIA (→)

DESCRIPTION. Victoria is a busy port with both general cargo and container docks. Shelter is generally good within the breakwater, but the area can be affected by strong katabatic gusts during NW'ly gales. Excellent shelter within the marina which has 20 V berths. Anchoring is permitted in the northern area of the harbour clear of the marina entrance. Good holding in cS.

APPROACH WAYPOINT. 46°25'.40N 006°14'.20W.

PILOTAGE NOTES. If approaching from the S, vessels are advised to stay to seaward of the PHM (Q.R) off West Point; this avoids the worst of the overfalls. Approaching from the N or W, Othey Rk (dries 1.0m) and Knights Bank (7.8m) (breaks occas) require due consideration. The southern entrance with its ldg lts [Q.10m8M & Oc.2s18m8M #] is reserved exclusively for large vessels. All craft <30m must enter Victoria breakwater through the northern entrance. On entering the breakwater the SCM [Q(6)+L.Fl.15s], marking the Emmits Rocks, should be left to port. There is deep

water (+4m) all the way to the marina entrance from the SCM. Beware of lobster pots around Emmits Rocks.

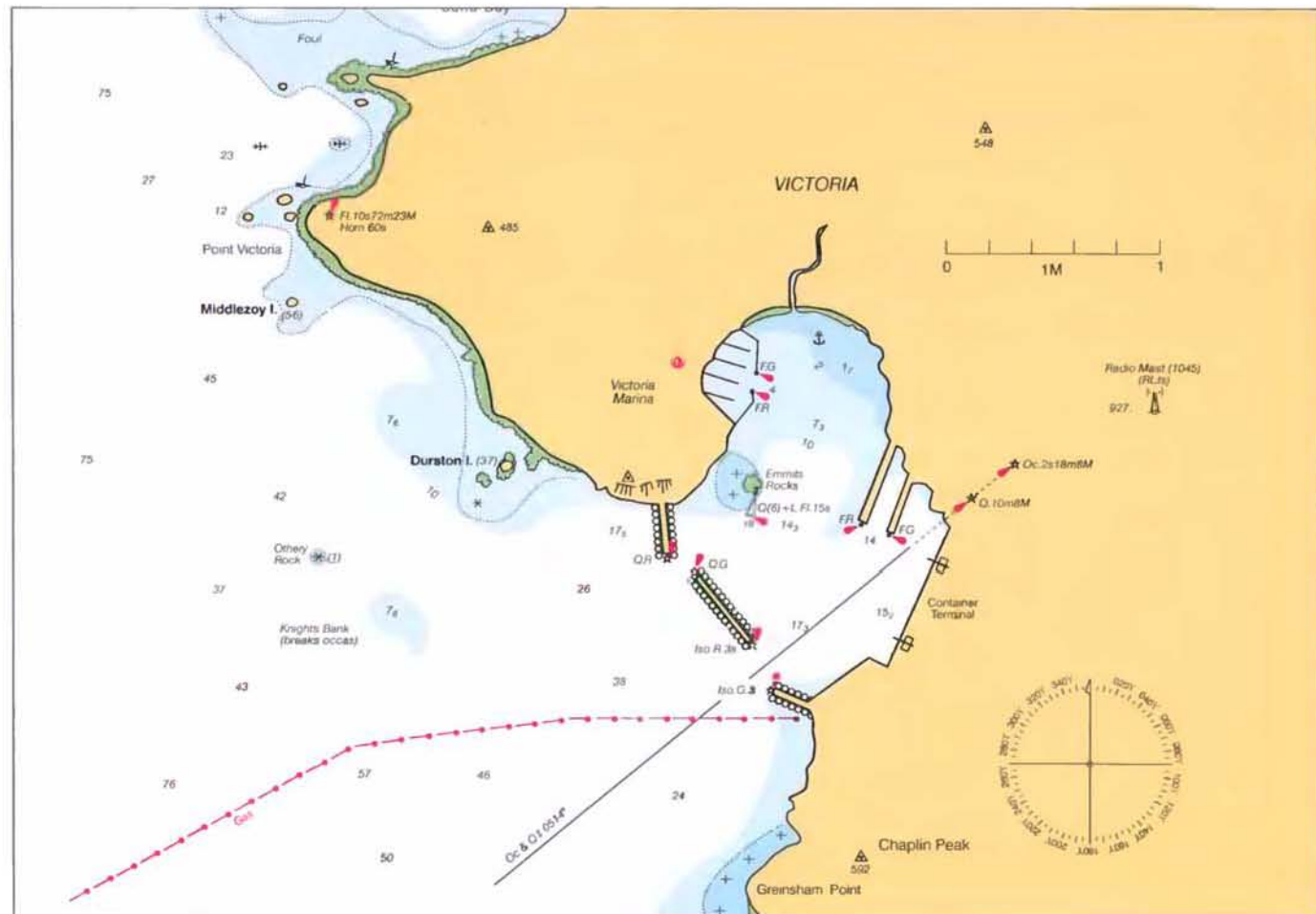
As a means of remaining in safe water when entering or leaving Victoria, local craft keep the SCM visible between the northern breakwater lights/heads.

TIDAL STREAMS AND HEIGHTS. Victoria is the primary standard port within the area; tidal stream information is based on Victoria's data. The tidal stream in Victoria Bay is relatively weak; however, around West Point and Point Victoria it reaches 4kn and presents a major tidal gate to slow speed craft.

LIGHTS AND MARKS. Victoria Bay is flanked by two major lighthouses. Two miles to the north is Point Victoria Lt Ho (B&W hor bands) [Fl.10s 72m 23M] and five miles to the S is West Point Lt Ho (W □ twr) [Fl(2)20s61m19M]. The northern entrance is marked by Q.R and Q.G lights.

VHF RADIO. Victoria Port VTS VHF Ch 12, 14, 16. Victoria Marina VHF Ch 80.

FACILITIES. **Marina** FW, P, D, Gas, Gaz, CH, BY, BH (35 tonnes), C (5 tonnes), ME, EL, Slip, Bar, R.



VICTORIA - Standard Port

TIME ZONE UT

For Summer Time add ONE
hour in non-shaded areas

SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0510 0.9 1126 5.8 TU 1742 0.7 2354 5.6		16 0549 1.2 1201 5.5 W 1814 1.1		1 0028 5.7 0627 0.6 F 1245 6.0 1903 0.4		16 0028 5.1 0629 1.2 SA 1242 5.4 1851 1.1		1 0524 0.3 1139 6.2 F 1755 0.0		16 0532 0.9 1142 5.5 SA 1750 0.9 2359 5.2		1 0024 5.7 0628 0.4 M 1247 5.8 1858 0.6		16 0000 5.3 0607 1.0 TU 1219 5.2 1821 1.1	
2 0556 0.9 1212 5.8 W 1830 0.7		17 0024 5.1 0623 1.3 TH 1235 5.4 1849 1.2		2 0115 5.5 0714 0.8 SA 1333 5.8 1952 0.6		17 0100 5.0 0702 1.3 SU 1315 5.3 1924 1.3		2 0006 5.8 0606 0.3 SA 1224 6.1 1839 0.2		17 0601 1.0 1213 5.4 SU 1819 1.0		2 0108 5.4 0714 0.7 TU 1334 5.4 1944 1.1		17 0033 5.2 0642 1.2 W 1255 5.1 1858 1.3	
3 0043 5.5 0643 1.0 TH 1301 5.7 1920 0.8		18 0058 5.0 0658 1.5 F 1311 5.3 1925 1.4		3 0204 5.3 0803 1.0 SU 1423 5.5 2045 1.0		18 0133 4.9 0736 1.5 M 1350 5.1 2000 1.5		3 0050 5.6 0651 0.5 SU 1310 5.9 1925 0.5		18 0028 5.2 0632 1.1 M 1245 5.3 1850 1.1		3 0155 5.1 0806 1.2 W 1427 4.9 2037 1.6		18 0109 5.0 0723 1.4 TH 1336 4.9 1941 1.6	
4 0135 5.3 0733 1.2 F 1353 5.6 2015 0.9		19 0134 4.8 0734 1.6 SA 1348 5.1 2003 1.5		4 0257 5.0 0858 1.4 M 1520 5.2 2144 1.3		19 0209 4.7 0816 1.7 TU 1430 4.8 2043 1.7		4 0135 5.4 0737 0.8 M 1357 5.5 2013 0.9		19 0059 5.0 0705 1.3 TU 1318 5.1 1924 1.3		4 0248 4.8 0907 1.6 TH 1532 4.5 2144 2.0		19 0153 4.8 0813 1.6 F 1429 4.6 2036 1.8	
5 0230 5.1 0828 1.4 SA 1449 5.4 2115 1.1		20 0213 4.7 0815 1.9 SU 1429 4.9 2046 1.7		5 0358 4.7 1003 1.7 TU 1627 4.9 2253 1.6		20 0254 4.5 0905 2.0 W 1521 4.6 2138 2.0		5 0223 5.1 0829 1.2 TU 1450 5.1 2109 1.4		20 0133 4.9 0743 1.5 W 1356 4.9 2004 1.6		5 0357 4.5 1028 1.9 F 1704 4.2 2310 2.3		20 0252 4.6 0921 1.8 SA 1542 4.4 2151 2.1	
6 0332 4.9 0930 1.6 SU 1552 5.2 2220 1.3		21 0258 4.5 0902 2.1 M 1517 4.7 2137 1.9		6 0512 4.6 1120 1.9 W 1748 4.7		21 0355 4.3 1013 2.2 TH 1632 4.4 2253 2.1		6 0319 4.7 0932 1.6 W 1557 4.7 2217 1.9		21 0214 4.7 0831 1.8 TH 1445 4.6 2057 1.9		6 0527 4.4 1200 2.0 SA 1844 4.2		21 0414 4.4 1049 1.8 SU 1718 4.4 2322 2.1	
7 0440 4.8 1039 1.8 M 1702 5.0 2329 1.4		22 0354 4.4 1000 2.2 TU 1616 4.6 2239 2.0		7 0008 1.8 0631 4.6 TH 1242 1.9 1911 4.6		22 0521 4.3 1140 2.2 F 1804 4.4		7 0432 4.5 1053 1.9 TH 1727 4.4 2341 2.1		22 0311 4.4 0936 2.0 F 1556 4.4 2212 2.1		7 0037 2.3 0653 4.5 SU 1318 1.8 1953 4.5		22 0546 4.5 1212 1.6 M 1841 4.6	
8 0551 4.7 1151 1.8 TU 1813 5.0		23 0505 4.3 1112 2.3 W 1728 4.5 2349 2.0		8 0122 1.8 0742 4.7 F 1355 1.7 2020 4.8		23 0018 2.1 0648 4.4 SA 1302 1.9 1923 4.6		8 0603 4.4 1225 2.0 F 1905 4.4		23 0436 4.3 1108 2.1 SA 1736 4.3 2347 2.1		8 0144 2.0 0755 4.7 M 1413 1.6 2038 4.7		23 0040 1.8 0658 4.8 TU 1318 1.2 1941 5.0	
9 0035 1.5 0657 4.7 W 1301 1.8 1921 5.0		24 0620 4.4 1225 2.2 TH 1842 4.6		9 0223 1.7 0839 5.0 SA 1453 1.5 2113 4.9		24 0130 1.8 0754 4.8 SU 1406 1.5 2024 4.9		9 0105 2.1 0725 4.6 SA 1345 1.8 2016 4.6		24 0616 4.4 1237 1.8 SU 1904 4.5		9 0231 1.7 0838 4.9 TU 1453 1.3 2112 4.9		24 0141 1.4 0754 5.2 W 1412 0.7 2030 5.3	
10 0137 1.4 0756 5.0 TH 1403 1.5 2021 5.1		25 0056 1.9 0724 4.6 F 1330 1.9 1945 4.8		10 0311 1.5 0924 5.2 SU 1538 1.3 2154 5.0		25 0228 1.4 0845 5.1 M 1458 1.0 2113 5.3		10 0210 1.9 0825 4.8 SU 1441 1.5 2104 4.8		25 0107 1.8 0728 4.7 M 1345 1.4 2006 4.9		10 0307 1.5 0912 5.1 W 1526 1.1 2140 5.1		25 0230 1.0 0842 5.6 TH 1459 0.4 2114 5.5	
11 0232 1.4 0847 5.2 F 1457 1.4 2113 5.2		26 0154 1.7 0818 4.9 SA 1426 1.6 2039 5.0		11 0351 1.3 1001 5.4 M 1615 1.1 2228 5.1		26 0316 1.0 0930 5.5 TU 1545 0.6 2158 5.6		11 0257 1.6 0908 5.1 M 1522 1.3 2139 5.0		26 0207 1.4 0822 5.2 TU 1438 0.9 2055 5.3		11 0338 1.2 0943 5.3 TH 1555 1.0 2207 5.2		26 0314 0.6 0927 5.8 F 1542 0.2 2155 5.7	
12 0319 1.3 0931 5.4 SA 1543 1.2 2157 5.2		27 0245 1.4 0904 5.2 SU 1515 1.2 2127 5.3		12 0426 1.2 1035 5.5 TU 1649 1.0 ● 2259 5.2		27 0400 0.7 1013 5.8 W 1628 0.3 O 2241 5.8		12 0334 1.4 0942 5.3 TU 1556 1.1 2209 5.1		27 0256 1.0 0908 5.6 W 1523 0.4 2138 5.6		12 0407 1.0 1013 5.4 F 1623 0.9 ● 2234 5.3		27 0357 0.4 1011 6.0 SA 1625 0.1 O 2236 5.8	
13 0400 1.2 1012 5.5 SU 1625 1.1 ● 2238 5.2		28 0331 1.1 0947 5.5 M 1601 0.8 O 2212 5.5		13 0458 1.1 1107 5.6 W 1720 1.0 2329 5.2		28 0442 0.4 1056 6.1 TH 1712 0.1 2323 5.9		13 0406 1.2 1013 5.4 W 1625 1.0 2236 5.2		28 0339 0.6 0951 5.9 TH 1606 0.1 O 2219 5.8		13 0435 0.9 1043 5.4 SA 1650 0.8 2301 5.3		28 0440 0.3 1056 6.0 SU 1707 0.2 2319 5.8	
14 0439 1.2 1050 5.6 M 1703 1.1 2315 5.2		29 0415 0.8 1030 5.7 TU 1645 0.5 2257 5.7		14 0528 1.0 1138 5.6 TH 1750 1.0 2358 5.2				14 0435 1.0 1042 5.5 TH 1653 0.9 ● 2303 5.3		29 0420 0.3 1034 6.1 F 1649 0.0 2300 5.9		14 0504 0.9 1114 5.4 SU 1719 0.9 2330 5.3		29 0524 0.3 1141 5.8 M 1751 0.5	
15 0515 1.2 1126 5.6 TU 1740 1.1 2350 5.2		30 0459 0.6 1114 5.9 W 1730 0.4 2342 5.7		15 0559 1.1 1210 5.5 F 1820 1.0				15 0503 0.9 1112 5.5 F 1721 0.9 2330 5.3		30 0502 0.2 1117 6.2 SA 1731 0.0 2342 5.8		15 0535 0.9 1145 5.4 M 1750 1.0		30 0002 5.6 0609 0.5 TU 1228 5.6 1834 0.8	
		31 0543 0.6 1159 6.0 TH 1816 0.3								31 0544 0.2 1201 6.1 SU 1814 0.2					

VICTORIA - Standard Port

TIME ZONE UT

For Summer Time add ONE
hour in **non-shaded areas**

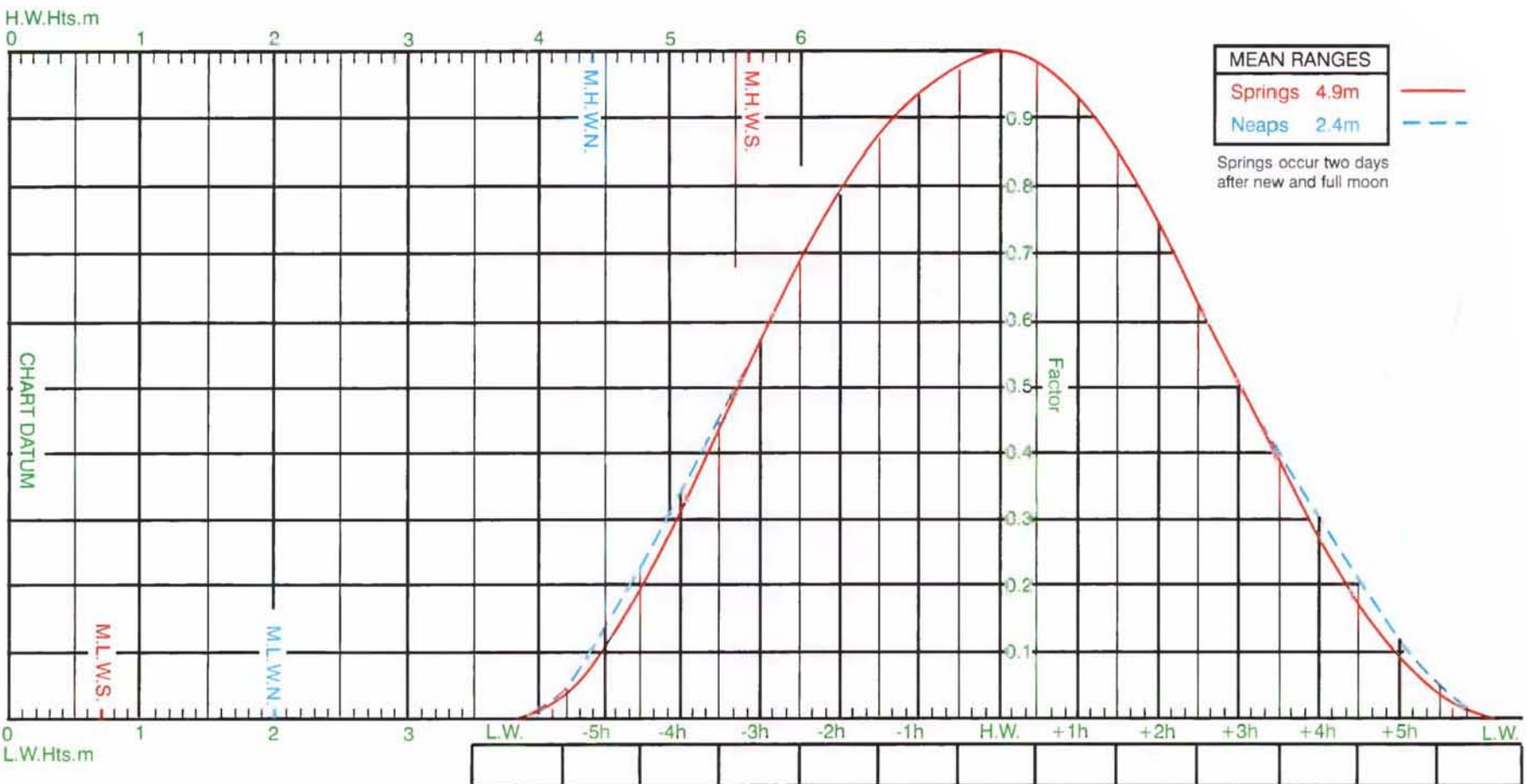
SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0046 5.4 W 1315 5.2 1920 1.2		16 0015 5.2 TH 1241 5.1 1842 1.3		1 0159 5.0 SA 1440 4.5 2038 1.9		16 0139 5.2 SU 1417 4.9 2016 1.5		1 0214 5.0 M 1449 4.5 2048 1.9		16 0217 5.4 TU 1455 5.0 2053 1.3		1 0259 4.7 TH 1533 4.4 2139 2.1		16 0349 5.0 F 1630 4.7 2240 1.8	
2 0132 5.2 TH 1407 4.8 2011 1.7		17 0056 5.1 F 1327 4.9 1929 1.5		2 0251 4.8 SU 1542 4.3 2139 2.2		17 0236 5.1 M 1520 4.8 2118 1.6		2 0301 4.8 TU 1542 4.3 2143 2.1		17 0314 5.2 W 1556 4.8 2156 1.5		2 0353 4.5 F 1637 4.3 2247 2.3		17 0506 4.7 SA 1750 4.6	
3 0223 4.9 F 1509 4.4 2111 2.1		18 0145 5.0 SA 1424 4.7 2026 1.7		3 0351 4.6 M 1653 4.2 2249 2.3		18 0339 5.0 TU 1628 4.7 2227 1.7		3 0354 4.6 W 1644 4.3 2245 2.2		18 0417 5.1 TH 1703 4.7 2306 1.6		3 0501 4.4 SA 1753 4.3		18 0003 1.8 SU 1246 1.8 1907 4.7	
4 0325 4.6 SA 1630 4.2 2229 2.3		19 0245 4.8 SU 1535 4.5 2137 1.9		4 0458 4.5 TU 1802 4.3 2357 2.2		19 0447 5.0 W 1738 4.7 2336 1.6		4 0456 4.5 TH 1751 4.3 2351 2.2		19 0527 4.9 F 1813 4.7		4 0002 2.2 SU 1232 2.0 1902 4.5		19 0123 1.7 M 1354 1.7 2012 5.0	
5 0442 4.4 SU 1758 4.2 2351 2.3		20 0359 4.7 M 1656 4.5 2256 1.9		5 0603 4.5 W 1900 4.4		20 0555 5.0 TH 1842 4.9		5 0601 4.5 F 1852 4.4		20 0018 1.6 SA 1259 1.4 1919 4.9		5 0111 2.0 M 1324 1.8 1959 4.7		20 0228 1.5 TU 1449 1.6 2102 5.2	
6 0602 4.4 M 1908 4.3		21 0517 4.8 TU 1811 4.7		6 0055 2.1 TH 1321 1.6 1946 4.6		21 0041 1.5 F 1319 1.0 1938 5.0		6 0052 2.1 SA 1317 1.7 1943 4.6		21 0127 1.5 SU 1400 1.4 2017 5.0		6 0209 1.7 TU 1427 1.6 2046 5.0		21 0318 1.3 W 1532 1.4 2143 5.4	
7 0059 2.1 TU 1329 1.7 1957 4.6		22 0009 1.7 W 1249 1.1 1912 4.9		7 0144 1.8 TH 1404 1.5 2025 4.8		22 0140 1.3 SA 1413 1.0 2029 5.2		7 0146 1.8 SU 1405 1.6 2028 4.8		22 0228 1.4 M 1454 1.3 2108 5.2		7 0259 1.4 W 1513 1.3 2129 5.3		22 0358 1.1 TH 1609 1.2 O 2218 5.5	
8 0150 1.9 W 1413 1.5 2034 4.8		23 0111 1.4 TH 1344 0.8 2003 5.2		8 0225 1.6 SA 0831 4.9 2100 5.0		23 0234 1.1 SU 1503 0.9 2116 5.4		8 0233 1.6 M 1449 1.4 2108 5.0		23 0321 1.2 TU 1541 1.2 2153 5.4		8 0343 1.0 TH 1556 1.0 ● 2210 5.6		23 0433 1.0 F 1642 1.1 2251 5.6	
9 0230 1.6 TH 1448 1.3 2105 5.0		24 0203 1.1 F 1434 0.6 2049 5.4		9 0303 1.4 SU 1517 1.2 2134 5.1		24 0325 0.9 M 1549 0.9 O 2201 5.5		9 0317 1.3 TU 1531 1.2 2147 5.2		24 0408 1.0 W 1622 1.1 O 2234 5.5		9 0426 0.7 F 1638 0.8 2252 5.8		24 0506 0.9 SA 1714 1.1 2323 5.6	
10 0304 1.4 F 1519 1.1 2134 5.1		25 0251 0.8 SA 1520 0.5 2133 5.6		10 0339 1.2 M 1553 1.1 ● 2208 5.3		25 0413 0.8 TU 1633 0.9 2245 5.5		10 0359 1.1 W 1612 1.1 ● 2227 5.4		25 0449 0.9 TH 1701 1.1 2312 5.5		10 0509 0.5 SA 1720 0.6 2335 5.9		25 0536 0.9 SU 1745 1.1 2355 5.5	
11 0335 1.2 SA 1550 1.0 2203 5.2		26 0337 0.6 SU 1604 0.5 O 2216 5.6		11 0416 1.1 TU 1629 1.0 2243 5.3		26 0458 0.8 W 1716 1.0 2328 5.5		11 0441 0.9 TH 1653 1.0 2308 5.5		26 0528 0.9 F 1738 1.1 2349 5.5		11 0552 0.3 SU 1803 0.6		26 0607 1.0 M 1816 1.2	
12 0406 1.1 SU 1620 0.9 ● 2233 5.3		27 0423 0.5 M 1648 0.6 2259 5.7		12 0455 1.0 W 1707 1.0 2322 5.4		27 0543 0.9 TH 1757 1.1		12 0525 0.7 F 1737 0.9 2352 5.6		27 0604 1.0 SA 1813 1.2		12 0019 5.9 M 1249 5.5 1847 0.7		27 0027 5.4 TU 1247 5.0 1847 1.3	
13 0438 1.0 M 1652 0.9 2304 5.3		28 0509 0.6 TU 1731 0.8 2343 5.6		13 0536 0.9 TH 1748 1.1		28 0010 5.5 F 1240 5.0 1837 1.3		13 0610 0.7 SA 1821 0.9		28 0025 5.4 SU 1250 5.0 1848 1.3		13 0105 5.8 TU 1335 5.4 1934 0.9		28 0100 5.2 W 1319 4.9 1922 1.6	
14 0512 1.0 TU 1725 1.0 2338 5.3		29 0555 0.7 W 1815 1.0		14 0003 5.4 F 1619 0.9 1832 1.2		29 0051 5.3 SA 1322 4.8 1918 1.5		14 0037 5.6 SU 1310 5.3 1908 1.0		29 0100 5.3 M 1324 4.8 1924 1.5		14 0153 5.6 W 1425 5.1 2026 1.2		29 0134 5.1 TH 1354 4.7 2000 1.8	
15 0548 1.0 W 1802 1.1		30 0027 5.4 TH 1259 5.0 1859 1.3		15 0049 5.3 SA 1322 5.0 1921 1.3		30 0132 5.1 SU 1404 4.6 2001 1.7		15 0126 5.5 M 1400 5.1 1958 1.2		30 0136 5.1 TU 1401 4.7 2002 1.7		15 0246 5.3 TH 1522 4.9 2126 1.5		30 0212 4.8 F 1437 4.6 2047 2.1	
		31 0113 5.2 F 1347 4.7 1946 1.6								31 0215 4.9 W 1443 4.5 2046 1.9				31 0301 4.6 SA 1533 4.4 2151 2.3	

VICTORIA - Mean Spring and Neap curves



Bramhope Creek

46°23'.42N 006°11'.51W

Northern Territories CHART RYA 3.

Standard Port VICTORIA (←)

Times				Height (metres)			
High Water	Low Water	MHWS	MHWN	MLWN	MLWS		
0000 0600	0500 1100	5.6	4.4	2.0	0.7		
1200 1800	1700 2300						
Differences BRAMHOPE CREEK							
+0006	-0006	+0005	+0005	+0.3	+0.1	+0.1	0.0

DESCRIPTION. A large but shallow inlet set between Greinsham Point and West Point. Good shelter in all weathers but occasionally subjected to strong katabatic winds from the higher grounds to the north. Entry needs careful planning and settled weather. The recommended anchorage is in the pool at the north of the Creek. No landing on Gull Island at any time - bird sanctuary

APPROACH WAYPOINT. 46°23'.68N 006°13'.85W.

PILOTAGE NOTES. The entrance to the creek is approximately 2M NE of West Point Lt Ho [Fl(2) 20s61m19M]. The shallows in Bramhope Bay extend 1 mile offshore and the channel is marked by lateral buoys. If approaching from the S, vessels are advised to stay to

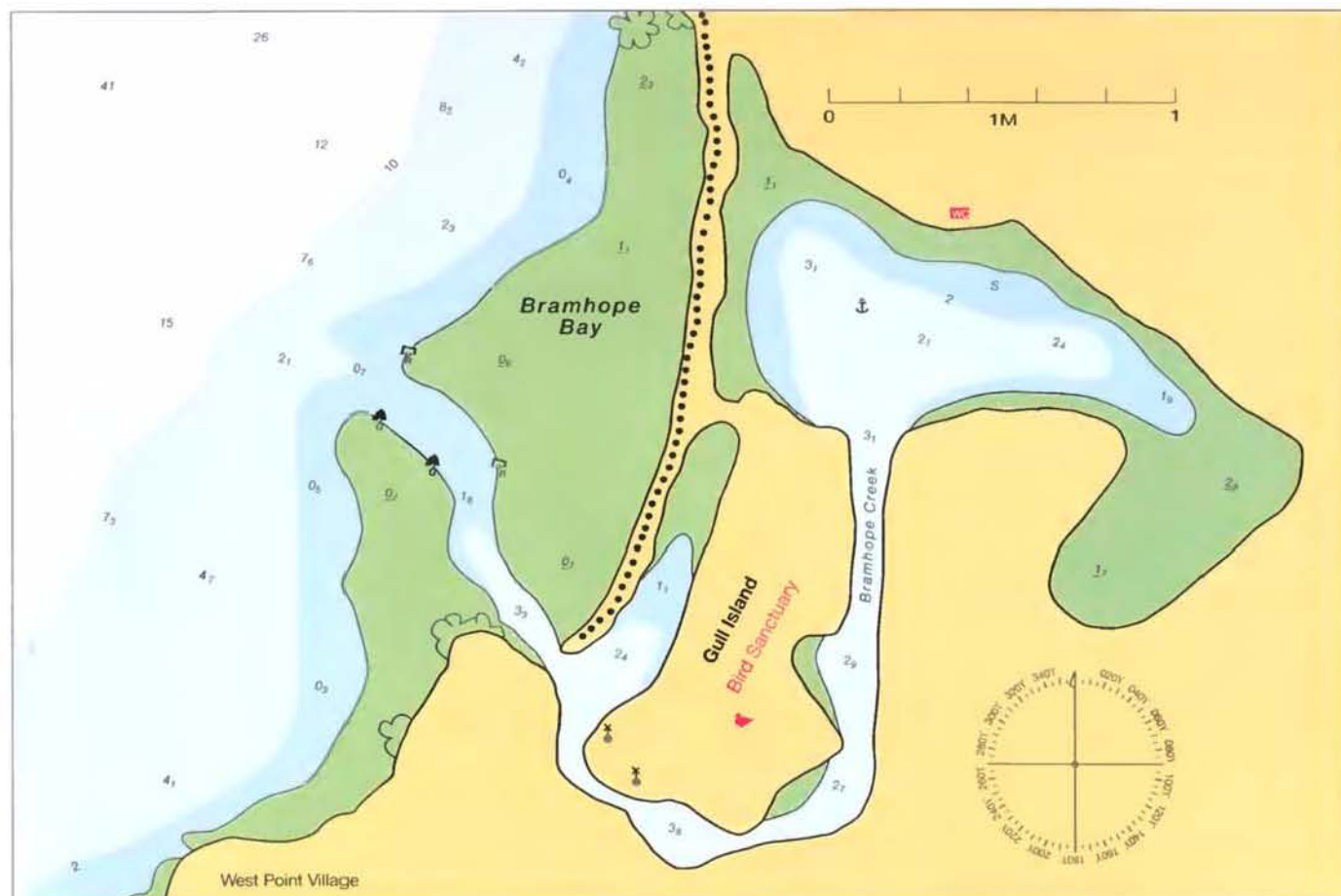
seaward of the PHM [Q.R] off West Point to clear the overfalls on the ledge. The approach channel is narrow, shallow (0.7m bar) and liable to shift. The buoys and transit marking it are moved as required. The recommended track follows the buoyed channel until abeam the 2nd PHM thence a/c to stbd to come onto the transit (X topmarks). Once through the entrance a/c to stbd to follow the obvious channel to the anchorage. The deepest water is found in the centre of the channel. Best ent/dep time is HW -3 to +1.

TIDAL STREAMS AND HEIGHTS. Tidal streams can attain 4kn around West Point but once in the shallows of Bramhope Bay the stream drops off considerably. Around mid-tide, the stream reaches approx 1kn within the narrows of the creek. There is no discernible tidal stream at the anchorage. The least depth (0.7m) is at the bar, close to the first pair of buoys.

LIGHTS AND MARKS. Two PHM and two SHM in the approach are moved as required to show best channel. The transit marks are B posts with X topmarks. None of the marks are lit but the buoys are fitted with the appropriate colour retro-reflective strips.

VHF RADIO. None.

FACILITIES. Heads, showers and barbecue facilities on northern shore.



DUNBARTON AND SETTER HALL MARINA - Standard Port

46°11'.15N 005°59'.01W

Northern Territories CHARTS RYA 3, 4.

Standard Port DUNBARTON (→)

DESCRIPTION. Dunbarton is a large commercial port with frequent movement of ore carriers and general cargo vessels. Shelter is good within the various sounds that lead to Dunbarton and Setter Hall Marina but be aware of gusts off the hills in strong westerlies. Excellent shelter within marina.

APPROACH WAYPOINT. 46°11'.23N 005°58'.04W.

PILOTAGE NOTES. Approaching from the E into Synka Sound: when rounding North Point or Huckle Head it is advised that Small Craft (<20m) use the R sector of Backness sector light and the Al. WR sectors of Clarke Ness and Southerness lights if safe to do so. This route will keep vessels clear of large commercial traffic. Beware of the unlit Y outfall buoy off Amy Bay. Vessels using the channel between Swifta and South Falls should pick up the Al. WR sector of Clarke Ness light on entering Synka Sound and follow the pilotage guidance as above. At spring tides this channel may be subjected to disturbed water due to opposing tidal streams meeting mid-channel, creating a number of eddies; these should not present any problem for the average engaged vessel. From the NW it is recommended that Small Craft navigate from 'Bluff' ECM [VQ (3)5s] crossing Rhu Channel at best speed (do not loiter at slow speed under sail) to '8A' PHM.

Speed Limit: A 10kn speed limit is in force W of a line joining 'Bluff' ECM and No '6' PHM. W of 'NN' SHM and '12A' PHM the speed limit is 6kn.

TIDAL HEIGHTS AND STREAMS. Due to local high water anomalies, the tidal curve for Dunbarton is based on low water times. The tidal streams in Synka Sound can reach rates of up to 3kn at springs. Local overfalls occur off Huckle Head and North Point; sufficient distance off should be allowed for at spring tides or during adverse weather conditions.

LIGHTS AND MARKS. The channels of Synka Sound and Rhu are well marked by buoys and at night these are augmented by the three sets of sector lights as well as the lighthouses on Huckle Head [Fl.R.5s25m8M] (R W chequered twr) and the [Iso.3s9m5M] (B♦ on post) beacon on Swifta. The numerous Martello towers, chimneys and beacons in the area may assist pilotage. Setter Hall Marina has F.R Idg lts (348°) (R□W vert. stripe on pile). The breakwaters are marked with Q.R and Q.G lights.

VHF RADIO. Dunbarton Port Control Ch 12, 14, 16. All pleasure craft should monitor Ch 12 within the port limits. Setter Hall Marina Ch 80 c/s Setter Hall.

FACILITIES. Setter Hall Marina. P, D, CH, FW, Gas, Gaz, ME, EL, BH (15 tonnes), SM.
There is a ferry between Rhu and Northerness

PORT FRASER - Standard Port

46°24'.90N 006°00'.69W

Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (→)

DESCRIPTION. Port Fraser is a large ferry port as well as a commercial and military dockyard. There are 3 major marinas within the harbour and numerous moorings. All vessels come under the authority of the Military Harbour Master (MHM) and vessels >20m must obtain permission before entering the harbour or slipping. There is very good shelter within the harbour.

APPROACH WAYPOINT. 46°23'.61N 006°00'.00W.

PILOTAGE NOTES. **From the E.** Small Craft (<20m) should stay out of the main shipping channel. The recommended route from the Outer Fraser SCM [Q(6)+LFl.15s] is to leave all PHMs to stbd before joining the Small Boat Channel at the Q.R buoy prior to entering the harbour.

From the W. With sufficient height of tide, vessels may use the Swashway between Ronald and Southcott banks. The Radio mast and Ch spire at Southlake in transit (048°) lead through the Swashway with a least depth of 2.4m. On nearing the main channel a/c to port to join the Small Boat Channel. Given sufficient height of tide and calm conditions the Inner Swashway (least depth 0.7m) may be used by vessels <20m.

A Small Boat Channel for craft <20m is established from 0.5M outside the entrance until 0.25M inside the harbour. The Small Boat Channel runs parallel to the main channel and extends 50m from the western entrance wall. All Small Craft fitted with engines must use them to propel the vessel whilst in the Small Boat Channel.

Speed Limit is 10kn within the harbour and within 1000m of the shore. Speed = speed through the water.

Exclusion Area of 50m is present around any naval vessel. No vessel is to enter this exclusion area. Escort vessels are armed and will assume that you have hostile intentions if your vessel fails to respond to a challenge.

TIDAL STREAMS AND HEIGHTS. Tidal streams in the harbour entrance can reach rates of up to 5kn on the ebb. A deep-water harbour, see marinas for access.

LIGHTS AND MARKS. Main approach lts situated on Old Harry Point [Dir.WRG11m13-5M] + [Iso.WR.3s8m8/5M] and to the W, Gull Point, [Oc.G.10s20m7M]. Port Fraser has three sets of sectored lts for use by large vessels in the main shipping channel. Small Craft can utilise the lights as follows when entering the harbour: Old Harry Castle sec lts, stay in red sector. W Entrance sec lt, stay in Al. WR sector. Coombsbury sec lt, stay in Al. WR sector.

VHF RADIO. Port Fraser MHM VHF Ch 11, 12, 16. All Marinas VHF Ch 80.

FACILITIES.

Marinas:

Dolphin Marina. Access H24. FW, Gas, Gaz, ME, EL, CH, Bar, R, Slip.

Coombsbury Marina. Access H24, max draught 2m. FW, D, P, Gas, Gaz, ME, EL, CH, BH (40 tonnes), C (20 tonnes), Slip.

Seahorse Marina. Access H24 via chan (dredged 1.5m) to lock, enter on 3 G (vert) lts or on loudspeaker instructions. Call Seahorse Marina Ch 80 on entering Redlands Lake. FW, D, P, Gas, Gaz, ME, EL, CH, BH (30 tonnes).

PORT FRASER - Standard Port



PORT FRASER - Standard Port

TIME ZONE UT

For Summer Time add ONE
hour in **non-shaded areas**

SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0031 4.1		16 0107 3.9		1 0147 4.2		16 0147 3.9		1 0047 4.3		16 0056 3.9		1 0149 4.4		16 0128 3.9	
0642 0.5		0728 0.6		0806 0.1		0800 0.6		0703 0.0		0703 0.5		0802 0.1		0729 0.6	
TU 1254 4.2		W 1333 3.9		F 1416 4.3		SA 1411 3.8		F 1314 4.5		SA 1316 3.9		M 1417 4.2		TU 1347 3.9	
1856 0.7		1920 0.9		2008 0.6		1957 0.7		1908 0.4		1902 0.7		2011 0.4		1944 0.6	
2 0114 4.1		17 0138 3.9		2 0230 4.2		17 0217 3.9		2 0129 4.4		17 0123 3.9		2 0232 4.3		17 0202 3.9	
0730 0.4		0801 0.6		0852 0.2		0829 0.6		0746 0.0		0729 0.5		0843 0.3		0801 0.6	
W 1341 4.2		TH 1406 3.8		SA 1502 4.2		SU 1442 3.8		SA 1357 4.4		SU 1342 3.9		TU 1458 4.0		W 1422 3.8	
1938 0.8		1951 0.9		2051 0.7		2031 0.7		1949 0.4		1932 0.6		2054 0.5		2021 0.6	
3 0158 4.0		18 0209 3.8		3 0315 4.2		18 0251 3.9		3 0211 4.4		18 0151 3.9		3 0316 4.1		18 0240 3.9	
0818 0.4		0832 0.6		0939 0.3		0903 0.6		0828 0.1		0757 0.5		0926 0.6		0835 0.7	
TH 1429 4.2		F 1439 3.8		SU 1550 4.0		M 1519 3.8		SU 1440 4.3		M 1412 3.9		W 1540 3.8		TH 1503 3.7	
2022 0.8		2023 0.9		2138 0.8		2108 0.8		2031 0.5		2005 0.6		2140 0.7		2102 0.7	
4 0244 4.0		19 0243 3.8		4 0403 4.0		19 0329 3.8		4 0253 4.3		19 0224 3.9		4 0405 3.8		19 0324 3.7	
0909 0.4		0904 0.7		1029 0.4		0941 0.7		0911 0.2		0828 0.6		1015 0.9		0918 0.9	
F 1519 4.1		SA 1515 3.7		M 1641 3.8		TU 1601 3.7		M 1524 4.1		TU 1448 3.9		TH 1627 3.5		F 1550 3.5	
2110 0.9		2100 0.9		2229 0.9		2151 0.9		2114 0.6		2041 0.6		2236 0.9		2154 0.8	
5 0334 3.9		20 0322 3.7		5 0457 3.8		20 0413 3.6		5 0338 4.1		20 0300 3.9		5 0507 3.5		20 0418 3.5	
1002 0.4		0942 0.7		1127 0.7		1027 0.9		0956 0.5		0902 0.7		1117 1.2		1016 1.1	
SA 1613 3.9		SU 1555 3.6		TU 1738 3.6		W 1650 3.5		TU 1609 3.8		W 1528 3.7		F 1727 3.2		SA 1647 3.3	
2202 1.0		2142 1.0		2331 1.1		2244 1.1		2201 0.8		2121 0.8		2353 1.0		2303 0.9	
6 0428 3.8		21 0406 3.6		6 0603 3.6		21 0507 3.5		6 0428 3.9		21 0342 3.7		6 0630 3.3		21 0527 3.4	
1102 0.5		1028 0.8		1235 0.9		1129 1.0		1048 0.8		0944 0.9		1235 1.4		1144 1.3	
SU 1712 3.7		M 1641 3.5		W 1845 3.4		TH 1750 3.3		W 1700 3.5		TH 1614 3.5		SA 1852 3.1		SU 1801 3.2	
2301 1.1		2232 1.1		2352 1.2		2352 1.2		2258 1.0		2210 0.9					
7 0530 3.7		22 0457 3.5		7 0049 1.1		22 0617 3.3		7 0532 3.6		22 0434 3.5		7 0130 1.1		22 0030 0.9	
1208 0.6		1123 0.9		0718 3.5		1249 1.1		1153 1.0		1041 1.1		0752 3.3		0652 3.3	
M 1816 3.6		TU 1736 3.4		TH 1348 1.0		F 1901 3.2		TH 1805 3.2		F 1712 3.3		SU 1358 1.4		M 1315 1.3	
		2333 1.2		1958 3.3						2318 1.1		2011 3.2		1924 3.2	
8 0012 1.2		23 0558 3.4		8 0215 1.1		23 0112 1.2		8 0016 1.1		23 0542 3.3		8 0247 0.9		23 0156 0.8	
0638 3.6		1227 1.0		0834 3.5		0736 3.3		0654 3.4		1210 1.2		0900 3.5		0817 3.6	
TU 1318 0.7		W 1840 3.3		F 1456 1.0		SA 1407 1.1		F 1311 1.2		SA 1824 3.1		M 1504 1.2		TU 1429 1.1	
1923 3.6				2107 3.4		2019 3.3		1927 3.1				2115 3.4		2037 3.5	
9 0129 1.1		24 0042 1.3		9 0328 0.9		24 0232 1.0		9 0154 1.1		24 0045 1.1		9 0344 0.7		24 0307 0.5	
0746 3.6		0706 3.4		0940 3.7		0854 3.5		0818 3.4		0708 3.3		0954 3.8		0922 3.8	
W 1423 0.7		TH 1334 1.0		SA 1553 1.0		SU 1515 1.0		SA 1430 1.2		SU 1340 1.2		TU 1554 1.0		W 1527 0.9	
2029 3.6		1948 3.4		2205 3.6		2129 3.5		2044 3.3		1949 3.2		2206 3.6		2137 3.8	
10 0239 1.0		25 0152 1.2		10 0427 0.7		25 0343 0.8		10 0313 0.9		25 0213 1.0		10 0428 0.6		25 0403 0.3	
0852 3.7		0815 3.5		1035 3.8		1000 3.8		0925 3.6		0836 3.5		1039 3.9		1016 4.1	
TH 1520 0.7		F 1439 1.0		M 1640 0.9		M 1613 0.8		SU 1532 1.1		M 1454 1.1		W 1635 0.9		TH 1616 0.7	
2129 3.7		2054 3.5		2255 3.8		2227 3.8		2145 3.5		2106 3.5		2250 3.8		2229 4.0	
11 0340 0.9		26 0259 1.0		11 0516 0.6		26 0443 0.5		11 0411 0.7		26 0328 0.7		11 0506 0.5		26 0452 0.1	
0952 3.8		0918 3.6		1123 3.9		1055 4.1		1020 3.8		0945 3.8		1118 4.0		1104 4.3	
F 1611 0.7		SA 1538 0.9		M 1720 0.9		TU 1702 0.7		M 1621 1.0		TU 1552 0.8		TH 1710 0.8		F 1702 0.5	
2222 3.8		2152 3.7		2339 3.9		2317 4.0		2236 3.7		2205 3.8		2327 3.9		2316 4.2	
12 0435 0.7		27 0400 0.8		12 0558 0.5		27 0534 0.3		12 0458 0.6		27 0426 0.4		12 0538 0.5		27 0536 0.0	
1045 3.9		1015 3.9		1205 4.0		1144 4.3		1106 3.9		1039 4.1		1152 4.0		1149 4.3	
SA 1655 0.7		SU 1630 0.8		TU 1757 0.8		W 1745 0.6		TU 1701 0.9		W 1641 0.7		F 1741 0.7		SA 1745 0.4	
2310 3.9		2245 3.9		●		O		2319 3.9		2255 4.0		● 2359 3.9		O	
13 0525 0.6		28 0455 0.6		13 0017 3.9		28 0003 4.2		13 0537 0.5		28 0515 0.1		13 0605 0.5		28 0001 4.3	
1134 4.0		1108 4.1		0635 0.5		0619 0.1		1146 4.0		1127 4.3		1221 3.9		0617 0.0	
SU 1736 0.8		M 1718 0.7		W 1242 3.9		TH 1230 4.4		W 1736 0.8		TH 1725 0.5		SA 1809 0.7		SU 1232 4.3	
● 2353 3.9		O 2333 4.0		1829 0.8		1827 0.5		2356 3.9		O 2341 4.2				1828 0.3	
14 0610 0.6		29 0546 0.4		14 0051 3.9		14 0051 3.9		14 0610 0.5		29 0600 0.0		14 0028 3.9		29 0046 4.4	
1217 4.0		1157 4.2		0707 0.5		0707 0.5		1221 4.0		1211 4.4		0631 0.5		0658 0.1	
M 1814 0.8		TU 1802 0.6		TH 1314 3.9		1859 0.8		TH 1808 0.7		F 1807 0.4		SU 1247 3.9		M 1314 4.2	
				1859 0.8				●				1838 0.6		1911 0.3	
15 0032 3.9		30 0018 4.1		15 0120 3.9		15 0120 3.9		15 0028 3.9		30 0025 4.4		15 0057 3.9		30 0129 4.3	
0651 0.5		0634 0.3		0735 0.5		0735 0.5		0638 0.5		0641 -0.1		0700 0.6		0738 0.3	
TU 1257 3.9		W 1244 4.3		F 1343 3.8		F 1343 3.8		F 1251 3.9		SA 1254 4.4		M 1315 3.9		TU 1354 4.1	
1848 0.8		1844 0.6		1927 0.8		1927 0.8		1835 0.7		1847 0.3		1910 0.6		1954 0.4	
		31 0103 4.2								31 0108 4.4					
		0720 0.2								0722 0.0					
		TH 1330 4.4								SU 1336 4.4					
		1925 0.6								1929 0.3					

PORT FRASER - Standard Port

TIME ZONE UT

For Summer Time add ONE
hour in **non-shaded areas**

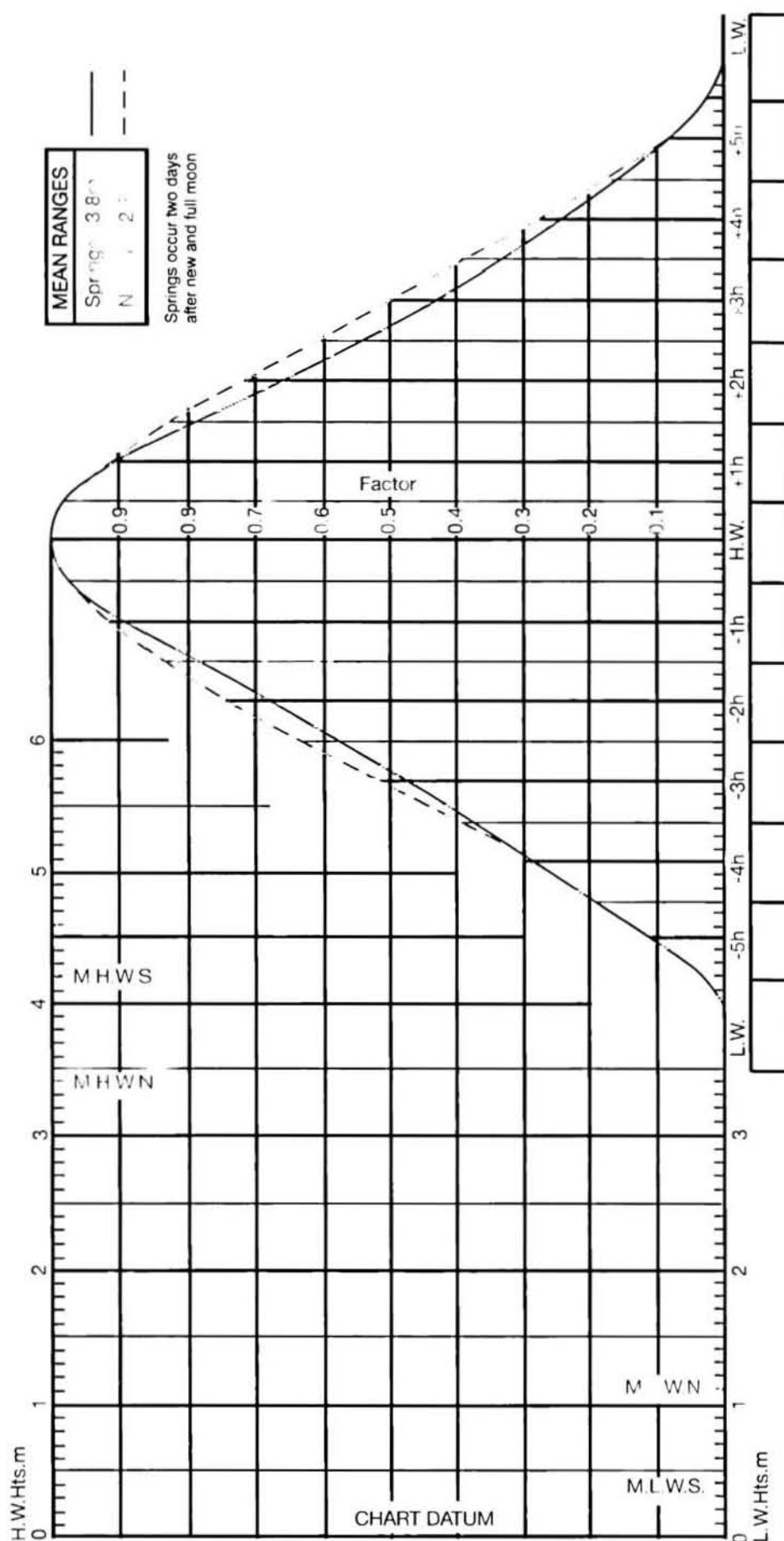
SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0212 4.2 W 0818 0.5 1434 3.9 2039 0.5		16 0146 3.9 0743 0.7 TH 1405 3.8 2010 0.6		1 0328 3.7 0921 1.0 SA 1537 3.6 2205 0.7		16 0310 3.9 0902 1.0 SU 1527 3.7 2147 0.5		1 0347 3.6 0932 1.1 M 1553 3.6 2218 0.8		16 0350 4.0 0938 0.9 TU 1603 3.9 2225 0.4		1 0429 3.6 1021 1.2 TH 1643 3.6 2301 0.9		16 0510 3.7 1103 1.1 F 1729 3.8 2353 0.9	
2 0258 4.0 0900 0.7 TH 1515 3.7 2126 0.6		17 0228 3.9 0822 0.8 F 1447 3.7 2056 0.6		2 0419 3.6 1010 1.2 SU 1626 3.4 2301 0.9		17 0405 3.8 0956 1.1 M 1623 3.6 2247 0.6		2 0432 3.5 1018 1.2 TU 1640 3.5 2306 0.9		17 0444 3.9 1032 1.0 W 1658 3.8 2324 0.5		2 0519 3.5 1118 1.3 F 1739 3.4		17 0614 3.5 1217 1.2 SA 1842 3.6	
3 0347 3.8 0947 1.0 F 1600 3.5 2222 0.8		18 0315 3.8 0908 1.0 SA 1535 3.5 2151 0.7		3 0517 3.4 1111 1.4 M 1725 3.3		18 0506 3.7 1059 1.2 TU 1725 3.6 2355 0.6		3 0522 3.4 1114 1.3 W 1735 3.4		18 0543 3.7 1135 1.1 TH 1759 3.7		3 0602 1.0 0619 3.4 SA 1226 1.3 1843 3.4		18 0108 1.0 0728 3.4 SU 1344 1.2 2001 3.5	
4 0445 3.5 1045 1.3 SA 1656 3.3 2332 0.9		19 0412 3.6 1007 1.1 SU 1634 3.4 2258 0.8		4 0005 0.9 0621 3.3 TU 1221 1.4 1830 3.3		19 0613 3.7 1211 1.2 W 1830 3.6		4 0002 0.9 0619 3.4 TH 1219 1.4 1835 3.4		19 0032 0.7 0647 3.6 F 1249 1.1 1906 3.7		4 0110 1.1 0727 3.4 SU 1336 1.3 1952 3.4		19 0224 1.1 0841 3.5 M 1504 1.0 2114 3.7	
5 0558 3.3 1157 1.4 SU 1810 3.2		20 0520 3.5 1123 1.2 M 1745 3.3		5 0112 0.9 0725 3.4 W 1331 1.3 1934 3.4		20 0106 0.6 0719 3.7 TH 1324 1.1 1934 3.7		5 0103 1.0 0721 3.4 F 1324 1.3 1937 3.4		20 0142 0.7 0754 3.6 SA 1404 1.1 2014 3.7		5 0217 1.1 0836 3.5 M 1443 1.2 2059 3.5		20 0328 1.1 0945 3.7 TU 1609 0.8 2216 3.8	
6 0055 1.0 0713 3.3 M 1317 1.4 1925 3.2		21 0016 0.7 0636 3.5 TU 1246 1.2 1859 3.4		6 0210 0.9 0824 3.5 TH 1430 1.2 2031 3.5		21 0213 0.5 0823 3.8 F 1430 1.0 2037 3.8		6 0202 0.9 0821 3.5 SA 1425 1.2 2036 3.5		21 0247 0.8 0859 3.7 SU 1513 1.0 2121 3.8		6 0318 1.0 0937 3.7 TU 1545 1.0 2159 3.7		21 0420 1.0 1039 3.9 W 1701 0.6 2307 4.0	
7 0208 0.9 0820 3.5 TU 1426 1.3 2030 3.4		22 0135 0.6 0750 3.6 W 1358 1.1 2006 3.6		7 0300 0.8 0914 3.7 F 1518 1.1 2122 3.6		22 0312 0.4 0922 3.9 SA 1529 0.8 2136 3.9		7 0257 0.9 0916 3.7 SU 1519 1.1 2131 3.6		22 0345 0.7 0959 3.8 M 1614 0.8 2222 3.9		7 0412 0.9 1031 3.9 W 1641 0.8 2253 4.0		22 0504 0.9 1125 4.0 TH 1745 0.5 O 2352 4.1	
8 0305 0.8 0915 3.6 W 1519 1.1 2124 3.6		23 0242 0.4 0854 3.8 TH 1459 0.9 2106 3.8		8 0343 0.7 0959 3.8 SA 1600 0.9 2207 3.7		23 0404 0.4 1016 3.9 SU 1623 0.7 2232 4.0		8 0348 0.8 1006 3.8 M 1609 0.9 2221 3.8		23 0435 0.7 1052 3.9 TU 1709 0.6 2316 4.0		8 0500 0.8 1119 4.0 TH 1730 0.6 ● 2341 4.1		23 0543 0.9 1207 4.1 F 1824 0.5	
9 0350 0.7 1001 3.8 TH 1602 0.9 2209 3.7		24 0338 0.3 0949 4.0 F 1551 0.7 2200 4.0		9 0422 0.7 1039 3.9 SU 1638 0.8 2250 3.8		24 0452 0.4 1106 4.0 M 1714 0.6 O 2324 4.0		9 0434 0.8 1052 3.9 TU 1657 0.8 2309 3.9		24 0520 0.8 1140 4.0 W 1757 0.6 O		9 0544 0.8 1203 4.1 F 1816 0.4		24 0032 4.1 0618 0.9 SA 1244 4.0 1858 0.5	
10 0427 0.6 1041 3.9 F 1638 0.8 2248 3.8		25 0427 0.2 1039 4.1 SA 1640 0.6 2251 4.1		10 0501 0.7 1118 3.9 M 1717 0.7 ● 2331 3.9		25 0536 0.5 1153 4.0 TU 1803 0.5		10 0518 0.7 1136 4.0 W 1743 0.6 ● 2355 4.0		25 0004 4.0 0600 0.8 TH 1224 4.0 1841 0.5		10 0027 4.3 0625 0.7 SA 1247 4.2 1900 0.3		25 0108 4.0 0651 0.9 SU 1315 4.0 1928 0.6	
11 0500 0.6 1116 3.9 SA 1710 0.7 2324 3.8		26 0512 0.2 1126 4.2 SU 1727 0.5 O 2340 4.2		11 0539 0.7 1155 3.9 TU 1757 0.6		26 0013 4.1 0617 0.6 W 1237 4.0 1849 0.5		11 0600 0.7 1219 4.0 TH 1828 0.5		26 0048 4.0 0639 0.8 F 1303 4.0 1921 0.5		11 0112 4.3 0706 0.7 SU 1329 4.3 1943 0.2		26 0138 3.9 0721 0.9 M 1342 4.0 1953 0.6	
12 0531 0.6 1148 3.9 SU 1742 0.7 ● 2358 3.9		27 0555 0.2 1210 4.1 M 1813 0.4		12 0011 3.9 0616 0.7 W 1234 3.9 1838 0.6		27 0059 4.0 0657 0.7 TH 1318 3.9 1934 0.5		12 0040 4.1 0641 0.8 F 1302 4.0 1913 0.4		27 0128 4.0 0715 0.9 SA 1338 3.9 1957 0.5		12 0156 4.4 0747 0.7 M 1411 4.3 2026 0.2		27 0204 3.9 0750 0.9 TU 1409 3.9 2018 0.6	
13 0603 0.6 1219 3.9 M 1816 0.6		28 0026 4.2 0636 0.3 TU 1253 4.1 1858 0.4		13 0052 4.0 0654 0.7 TH 1313 3.9 1921 0.5		28 0143 4.0 0736 0.8 F 1357 3.9 2017 0.5		13 0126 4.1 0722 0.8 SA 1345 4.0 1958 0.4		28 0204 3.9 0748 0.9 SU 1410 3.9 2029 0.6		13 0241 4.3 0830 0.7 TU 1453 4.2 2110 0.3		28 0232 3.9 0822 0.9 W 1440 3.9 2048 0.7	
14 0032 3.9 0635 0.6 TU 1252 3.9 1851 0.6		29 0112 4.2 0716 0.5 W 1334 4.0 1943 0.4		14 0135 4.0 0733 0.8 F 1354 3.8 2006 0.5		29 0225 3.9 0814 0.9 SA 1434 3.8 2057 0.6		14 0212 4.1 0805 0.8 SU 1428 4.0 2045 0.3		29 0237 3.8 0821 1.0 M 1442 3.9 2058 0.6		14 0327 4.2 0915 0.8 W 1539 4.1 2156 0.4		29 0305 3.8 0858 0.9 TH 1516 3.8 2123 0.8	
15 0108 3.9 0708 0.7 W 1327 3.9 1929 0.6		30 0156 4.1 0756 0.7 TH 1414 3.9 2028 0.5		15 0220 4.0 0815 0.9 SA 1438 3.8 2054 0.5		30 0306 3.8 0852 1.0 SU 1511 3.7 2136 0.7		15 0259 4.1 0850 0.9 M 1514 4.0 2133 0.4		30 0311 3.8 0855 1.0 TU 1516 3.8 2131 0.7		15 0416 4.0 1005 0.9 TH 1629 4.0 2249 0.6		30 0344 3.7 0940 1.0 F 1557 3.7 2205 0.9	
		31 0241 3.9 0837 0.8 F 1454 3.7 2115 0.6								31 0347 3.7 0934 1.1 W 1556 3.7 2211 0.8				31 0429 3.6 1032 1.2 SA 1647 3.5 2303 1.1	

PORT FRASER - Mean Spring and Neap curves



NAMLEY HARBOUR - Standard Port

46°25'.74N 005°46'.70W

Northern Territories CHARTS RYA 3, 4.

Standard Port NAMLEY HARBOUR (→)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences ITCHENHAM							
+0020	+0010	-0005	0000	-0.2	-0.1	-0.1	-0.1
Differences EMSBOURNE							
+0010	+0010	-0010	-0005	-0.3	-0.1	0.0	-0.1

DESCRIPTION. The harbour provides very good shelter in the various channels, creeks and marinas. There are five marinas and numerous visitors moorings along the channels. Hbr speed limit of 8kn. Hbr staff do prosecute for speeding offences, they also prosecute sailing vessels for failing to display a motoring cone when motor sailing.

APPROACH WAYPOINT. 46°24'.41N 005°47'.08W.

PILOTAGE NOTES. APPROACHES: Leave the Bar Beacon [Fl(2)R.10s14m2M] (R bn) 50m to port, the channel N'ward is only 100m wide. It is advisable to select a transit ahead to check for drift to avoid being swept onto the shoals that flank the entrance. Leaving the tide gauge (Q.G) to stbd make towards the SCM where the channel divides N towards Emsbourne and ENE towards Itchenham. Depths may change in this area and the buoys will be moved accordingly; the HM should be consulted for the latest information. Both main channels are well marked with buoys. Do not enter or leave harbour during onshore gales as dangerous conditions may be encountered especially with a spring ebb.

TIDAL STREAMS AND HEIGHTS. Best entry/exit is HW -3 to HW +1 avoiding the confused seas caused by the strong ebb stream. During spring tides, the bar becomes very uncomfortable in onshore winds >F5 combined with the ebb stream. The bar is dredged to 1.5m below CD but this may vary by ±0.75m after heavy onshore gales.

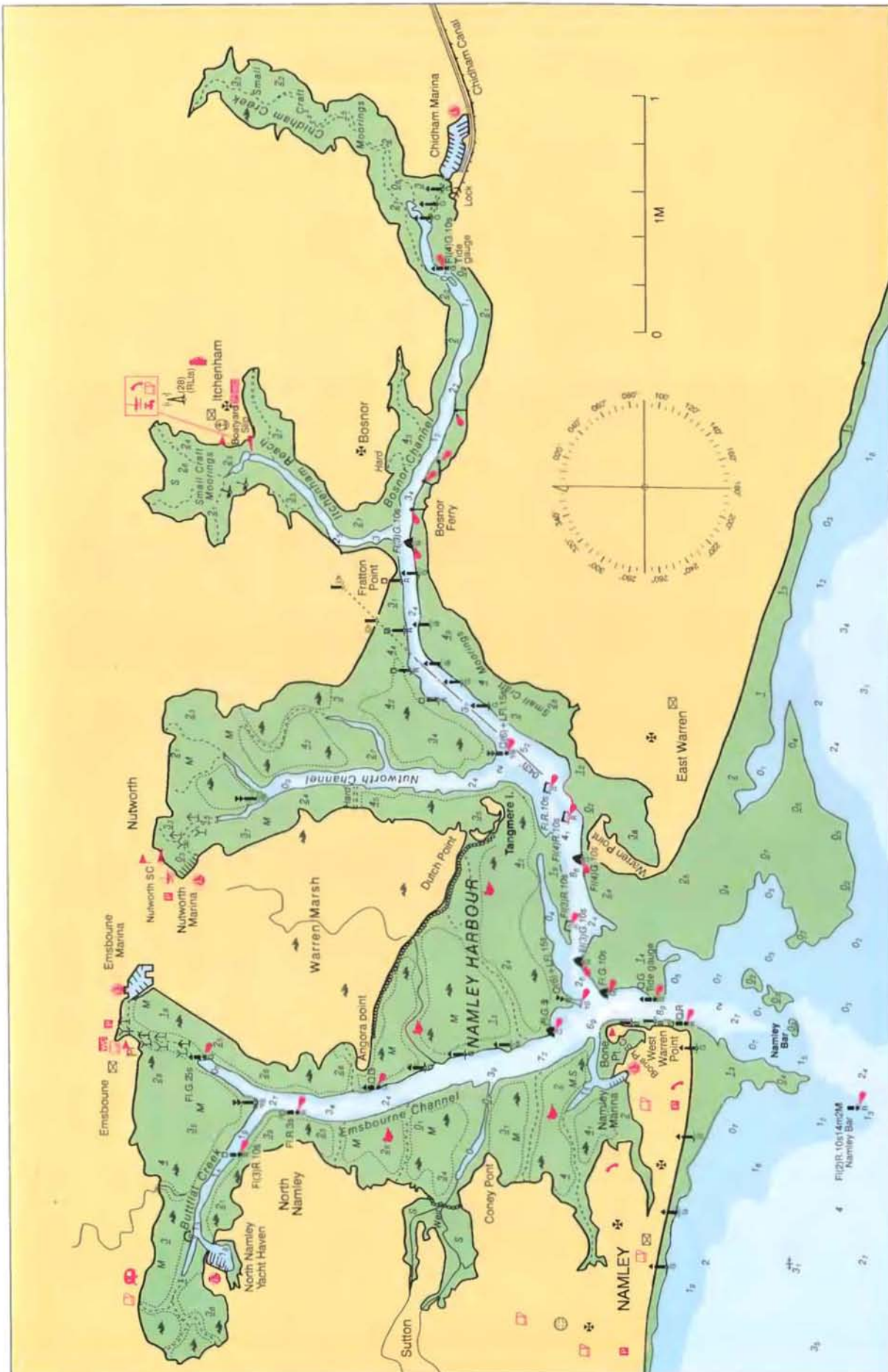
LIGHTS AND MARKS. Namley Bar Beacon [Fl(2)R.10s14m2M] is a conspicuous red painted wooden structure. A weather station on the beacon www.namleymetstn.co.nt gives access to the current weather conditions in the vicinity of the entrance. All channels within the harbour are well marked by day. Emsbourne and Namley Channels are partly lit. Nutworth Channel and Itchenham Reach are unlit.

VHF RADIO. Namley Harbour Radio and patrol vessels VHF Ch 14, 16. Marinas VHF Ch 80.

FACILITIES. Clockwise from W Warren Point.

Namley Marina. 30 V. Access at all states of the tide via dredged channel 2m; pontoons have 1.6m. ME, EL, P, D, M, Gas, CH, C (25 tonnes). From Bone Point SC follow marked channel to marina. **North Namley Yacht Haven.** 20 V. 1.3m channel to marina. Access HW -5 to +4½ ME, EL, FW, BH (10 tonnes). **Emsbourne Marina.** 10 V. Approach channel dries 0.5m. Access HW ±2 over 1.0m sill, which maintains 1.7m inside. Slip, FW, Gas, CH, ME, EL, BH (60 tonnes), C (20 tonnes). **Nutworth Marina.** 6 V. Drying 0.5m in approach channel and berths. FW, P&D (cans), Bar, R. There is a public slipway at Nutworth SC. **Chidham Marina.** 20 V. Enter well marked channel to lock. Channel is dredged to CD. A waiting pontoon is outside the lock. Call Lock Keeper on Ch 80 and await G light. Free flow near HW times. **Itchenham.** Unmarked channel, stay close to moored vessels. AB (drying 1.0m), FW, BY, ME, EL, BH (10 tonnes), Slip.

NAMLEY HARBOUR - Standard Port



NAMLEY HARBOUR - Standard Port

TIME ZONE UT

For Summer Time add ONE
hour in **non-shaded areas**

SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0035 3.9		16 0110 3.7		1 0153 4.0		16 0152 3.7		1 0052 4.1		16 0103 3.7		1 0152 4.2		16 0129 3.7	
0626 0.4		0710 0.5		0748 0.0		0746 0.5		0647 -0.1		0649 0.4		0743 0.0		0714 0.5	
TU 1256 4.0		W 1336 3.7		F 1421 4.1		SA 1416 3.6		F 1319 4.2		SA 1323 3.7		M 1419 4.0		TU 1348 3.8	
1839 0.6		1905 0.8		1955 0.5		1949 0.7		1855 0.4		1854 0.6		1955 0.3		1932 0.6	
2 0118 3.9		17 0141 3.7		2 0237 4.0		17 0222 3.7		2 0135 4.2		17 0128 3.7		2 0233 4.1		17 0202 3.7	
0712 0.3		0741 0.5		0834 0.1		0817 0.5		0729 -0.1		0716 0.4		0823 0.2		0746 0.6	
W 1342 4.0		TH 1409 3.6		SA 1507 4.0		SU 1448 3.6		SA 1402 4.2		SU 1347 3.7		TU 1459 3.8		W 1424 3.7	
1922 0.7		1938 0.8		2039 0.6		2023 0.7		1936 0.4		1924 0.6		2036 0.5		2008 0.6	
3 0202 3.9		18 0212 3.7		3 0322 3.9		18 0257 3.7		3 0216 4.1		18 0155 3.7		3 0316 3.9		18 0241 3.7	
0759 0.3		0813 0.6		0921 0.2		0851 0.5		0810 -0.1		0744 0.5		0905 0.5		0823 0.7	
TH 1431 4.0		F 1443 3.5		SU 1555 3.8		M 1525 3.6		SU 1445 4.0		M 1417 3.7		W 1540 3.5		TH 1504 3.6	
2007 0.8		2012 0.9		2125 0.7		2100 0.8		2017 0.4		1956 0.6		2122 0.7		2050 0.7	
4 0249 3.8		19 0248 3.6		4 0409 3.8		19 0335 3.6		4 0258 4.0		19 0227 3.7		4 0405 3.6		19 0326 3.6	
0849 0.3		0848 0.6		1011 0.4		0929 0.7		0852 0.1		0816 0.5		0955 0.9		0907 0.9	
F 1522 3.8		SA 1520 3.5		M 1646 3.6		TU 1608 3.5		M 1528 3.8		TU 1452 3.7		TH 1626 3.3		F 1551 3.4	
2055 0.9		2051 0.9		2215 0.9		2143 0.9		2100 0.6		2031 0.7		2220 0.9		2140 0.8	
5 0339 3.7		20 0328 3.6		5 0502 3.6		20 0419 3.5		5 0342 3.9		20 0304 3.7		5 0504 3.3		20 0421 3.4	
0943 0.4		0929 0.7		1110 0.6		1013 0.8		0937 0.4		0851 0.6		5 1108 1.2		20 0959 1.1	
SA 1617 3.7		SU 1601 3.4		TU 1742 3.3		W 1658 3.3		TU 1613 3.5		W 1533 3.5		F 1722 3.0		SA 1650 3.2	
2147 1.0		2133 1.0		2320 1.1		2233 1.0		2146 0.8		2112 0.8				2244 0.9	
6 0433 3.6		21 0412 3.5		6 0606 3.4		21 0514 3.3		6 0430 3.6		21 0347 3.5		6 0002 1.0		21 0528 3.3	
1041 0.5		1014 0.8		1224 0.8		1108 1.0		1031 0.7		0933 0.8		0629 3.1		1110 1.2	
SU 1715 3.5		M 1648 3.3		W 1849 3.2		TH 1758 3.2		W 1702 3.3		TH 1621 3.3		SA 1236 1.3		SU 1802 3.1	
2247 1.1		2222 1.1		2340 1.2		2340 1.2		2245 1.0		2200 0.9		1851 2.9			
7 0535 3.5		22 0503 3.3		7 0049 1.1		22 0621 3.2		7 0532 3.3		22 0439 3.4		7 0127 0.9		22 0015 0.9	
1149 0.6		1107 0.9		0720 3.3		1233 1.1		1146 1.0		1024 1.0		0754 3.2		0647 3.2	
M 1819 3.4		TU 1742 3.3		TH 1336 0.9		F 1905 3.1		TH 1805 3.1		F 1719 3.1		SU 1344 1.3		M 1308 1.2	
		2323 1.2		2001 3.2						2302 1.1		2014 3.1		1922 3.1	
8 0003 1.2		23 0603 3.2		8 0208 1.0		23 0105 1.2		8 0023 1.1		23 0547 3.2		8 0231 0.8		23 0145 0.7	
0642 3.5		1213 0.9		0832 3.3		0734 3.2		0655 3.2		1137 1.2		0858 3.4		0811 3.4	
TU 1302 0.6		W 1843 3.2		F 1437 0.9		SA 1355 1.1		F 1306 1.1		SA 1829 3.0		M 1442 1.1		TU 1419 1.0	
1925 3.4				2108 3.3		2015 3.2		1931 3.0				2114 3.3		2036 3.3	
9 0122 1.1		24 0036 1.2		9 0313 0.9		24 0222 1.0		9 0150 1.0		24 0033 1.1		9 0326 0.6		24 0251 0.5	
0748 3.5		0707 3.2		0937 3.5		0848 3.3		0817 3.2		0705 3.2		0951 3.6		0920 3.7	
W 1405 0.7		TH 1322 1.0		SA 1531 0.9		SU 1501 0.9		SA 1412 1.1		SU 1333 1.2		TU 1533 1.0		W 1515 0.8	
2029 3.4		1947 3.3		2206 3.4		2127 3.3		2045 3.1		1945 3.1		2206 3.5		2138 3.6	
10 0228 1.0		25 0146 1.1		10 0411 0.7		25 0329 0.8		10 0258 0.8		25 0203 0.9		10 0412 0.5		25 0347 0.2	
0851 3.5		0812 3.3		1034 3.6		0959 3.6		0922 3.4		0829 3.3		1038 3.8		1016 3.9	
TH 1500 0.7		F 1423 0.9		SA 1620 0.8		M 1559 0.8		SU 1509 1.0		M 1444 1.0		W 1617 0.8		TH 1604 0.6	
2128 3.5		2051 3.4		2257 3.6		2229 3.6		2145 3.4		2103 3.3		2251 3.7		2231 3.8	
11 0326 0.8		26 0247 1.0		11 0501 0.5		26 0428 0.5		11 0355 0.6		26 0313 0.6		11 0450 0.4		26 0435 0.1	
0950 3.6		0916 3.4		1123 3.7		1058 3.8		1017 3.6		0943 3.6		1120 3.8		1105 4.1	
F 1551 0.7		SA 1520 0.8		M 1703 0.8		TU 1649 0.6		M 1600 0.9		TU 1540 0.8		TH 1655 0.7		F 1650 0.5	
2223 3.6		2152 3.5		2342 3.7		2321 3.8		2236 3.6		2207 3.6		2330 3.7		2319 4.0	
12 0421 0.7		27 0345 0.8		12 0543 0.4		27 0519 0.2		12 0443 0.5		27 0411 0.3		12 0521 0.4		27 0519 0.0	
1045 3.7		1016 3.6		1207 3.8		1148 4.1		1105 3.8		1040 3.9		1157 3.8		1150 4.2	
SA 1637 0.7		SU 1613 0.7		TU 1742 0.8		W 1733 0.5		TU 1643 0.8		W 1629 0.6		F 1728 0.6		SA 1733 0.3	
2311 3.7		2247 3.7		•		O		2320 3.7		2259 3.8		•		O	
13 0510 0.6		28 0440 0.6		13 0021 3.7		28 0008 4.0		13 0522 0.4		28 0500 0.1		13 0005 3.7		28 0004 4.2	
1134 3.8		1111 3.8		0620 0.4		0604 0.0		1148 3.8		1129 4.1		0549 0.4		0600 0.0	
SU 1719 0.7		M 1702 0.6		W 1247 3.7		TH 1235 4.2		W 1721 0.7		TH 1713 0.4		SA 1228 3.8		SU 1233 4.2	
• 2355 3.8		O 2337 3.8		1816 0.7		1815 0.4				O 2346 4.0		1758 0.6		1814 0.3	
14 0555 0.5		29 0531 0.4		14 0056 3.7		14 0056 3.7		14 0000 3.7		29 0544 -0.1		14 0034 3.7		29 0047 4.2	
1219 3.8		1200 0.4		0651 0.4		0651 0.4		0555 0.4		1214 4.2		0617 0.4		0639 0.0	
M 1758 0.7		TU 1748 0.6		TH 1320 3.7		1848 0.7		TH 1226 3.8		F 1755 0.3		SU 1253 3.7		M 1313 4.1	
								• 1754 0.7				1828 0.6		1855 0.3	
15 0034 3.8		30 0024 3.9		15 0125 3.7		15 0125 3.7		15 0034 3.7		30 0029 4.2		15 0101 3.7		30 0129 4.2	
0634 0.5		0618 0.2		0718 0.4		0718 0.4		0623 0.4		0624 -0.2		0645 0.5		0717 0.2	
TU 1259 3.7		W 1248 4.1		F 1349 3.6		1918 0.7		F 1257 3.7		SA 1257 4.2		M 1318 3.8		TU 1353 3.9	
1833 0.8		1830 0.5						1825 0.6		1834 0.3		1859 0.5		1935 0.3	
		31 0109 4.0								31 0111 4.2					
		0703 0.1								0704 -0.1					
		TH 1335 4.1								SU 1338 4.2					
		1912 0.5								1914 0.3					

NAMLEY HARBOUR - Standard Port

TIME ZONE UT

For Summer Time add ONE
hour in **non-shaded areas**

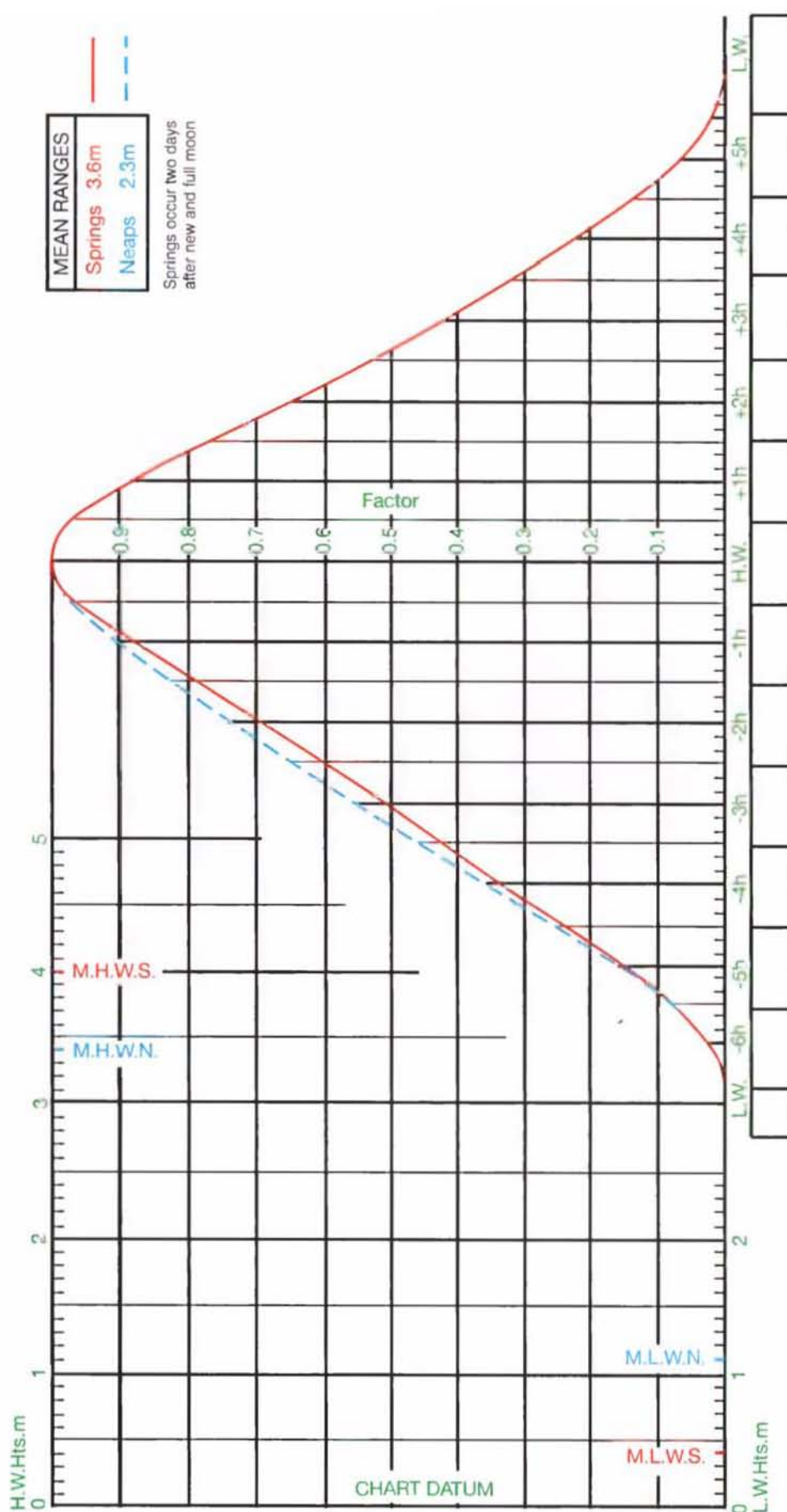
SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0211 4.0 0756 0.4 W 1432 3.8 2018 0.5		16 0145 3.8 0726 0.7 TH 1404 3.7 1954 0.6		1 0327 3.6 0900 1.0 SA 1534 3.4 2147 0.7		16 0311 3.7 0847 0.9 SU 1528 3.5 2130 0.5		1 0350 3.5 0918 1.1 M 1555 3.5 2203 0.7		16 0354 3.8 0926 0.8 TU 1608 3.7 2212 0.3		1 0435 3.4 1012 1.1 TH 1649 3.4 2251 0.9		16 0514 3.5 1051 1.0 F 1733 3.5 2347 0.8	
2 0256 3.8 0837 0.7 TH 1512 3.6 2104 0.6		17 0227 3.7 0806 0.8 F 1446 3.6 2039 0.6		2 0418 3.4 0952 1.2 SU 1624 3.3 2251 0.8		17 0406 3.6 0940 1.0 M 1624 3.5 2230 0.5		2 0434 3.3 1006 1.2 TU 1644 3.4 2253 0.8		17 0447 3.7 1019 0.9 W 1703 3.6 2311 0.5		2 0524 3.3 1109 1.2 F 1745 3.3 2355 1.0		17 0618 3.3 1211 1.1 SA 1848 3.4	
3 0345 3.6 0924 1.0 F 1557 3.3 2204 0.8		18 0316 3.6 0852 0.9 SA 1535 3.4 2132 0.7		3 0515 3.2 1059 1.3 M 1724 3.2		18 0507 3.6 1042 1.1 TU 1727 3.4 2339 0.5		3 0524 3.3 1104 1.2 W 1739 3.3 2351 0.9		18 0546 3.5 1123 1.0 TH 1805 3.5		3 0622 3.2 1219 1.2 SA 1849 3.2		18 0103 0.9 0731 3.2 SU 1335 1.1 2005 3.4	
4 0442 3.3 1029 1.2 SA 1651 3.1 2335 0.9		19 0412 3.5 0947 1.1 SU 1633 3.3 2237 0.7		4 0001 0.9 0621 3.2 TU 1215 1.3 1831 3.1		19 0613 3.5 1156 1.1 W 1835 3.4		4 0619 3.2 1210 1.2 TH 1840 3.2		19 0019 0.6 0649 3.5 F 1239 1.1 1912 3.5		4 0104 1.0 0725 3.2 SU 1329 1.2 1953 3.2		19 0210 1.0 0842 3.3 M 1447 0.9 2114 3.5	
5 0556 3.1 1156 1.4 SU 1804 3.0		20 0518 3.4 1057 1.2 M 1745 3.2		5 0103 0.8 0727 3.2 W 1320 1.2 1936 3.2		20 0050 0.5 0719 3.5 TH 1312 1.0 1939 3.5		5 0052 0.9 0719 3.2 F 1315 1.2 1940 3.2		20 0128 0.6 0755 3.4 SA 1352 1.0 2019 3.5		5 0206 1.0 0829 3.3 M 1431 1.1 2058 3.3		20 0308 1.0 0945 3.5 TU 1551 0.7 2214 3.7	
6 0053 0.9 0717 3.2 M 1309 1.3 1928 3.1		21 0001 0.7 0633 3.4 TU 1233 1.2 1900 3.3		6 0154 0.8 0825 3.4 TH 1413 1.1 2035 3.3		21 0155 0.5 0822 3.6 F 1416 0.9 2041 3.6		6 0148 0.9 0818 3.3 SA 1411 1.1 2039 3.3		21 0229 0.7 0859 3.5 SU 1457 0.9 2123 3.6		6 0303 0.9 0933 3.5 TU 1530 0.9 2201 3.5		21 0401 0.9 1039 3.7 W 1645 0.6 2306 3.8	
7 0155 0.8 0821 3.3		22 0120 0.6 0747 3.5		7 0239 0.7 0921 3.7		22 0252 0.4 0921 3.7		7 0239 0.8 0914 3.5		22 0325 0.7 0950 3.6		7 0357 0.8 1021 3.6		22 0448 0.9 1126 3.8	
8 0247 0.7 0915 3.5 W 1459 1.0 2125 3.4		23 0223 0.4 0851 3.7 TH 1445 0.9 2108 3.6		8 0321 0.7 0902 3.6 SA 1542 0.8 2214 3.5		23 0345 0.4 0916 3.8 SU 1609 0.6 2235 3.6		8 0325 0.8 0907 3.6 M 1554 0.8 2226 3.6		23 0417 0.7 0953 3.7 TU 1653 0.6 2317 3.6		8 0447 0.8 1022 3.8 TH 1716 0.5 2346 3.9		23 0525 0.8 1205 3.9 F 1810 0.4	
9 0331 0.6 1003 3.7 TH 1543 0.9 2212 3.6		24 0319 0.3 0948 3.9 F 1538 0.7 2203 3.8		9 0402 0.6 1044 3.7 SU 1644 0.7 2257 3.6		24 0434 0.4 1007 3.8 M 1700 0.5 2326 3.9		9 0417 0.7 1054 3.7 TU 1642 0.7 2314 3.7		24 0504 0.7 1141 3.8 W 1742 0.5 2310		9 0533 0.7 1206 3.9 F 1803 0.3		24 0634 3.9 1406 0.8 SA 1247 3.8 1844 0.4	
10 0409 0.5 1045 3.8 F 1621 0.8 2254 3.6		25 0405 0.2 1035 4.0 SA 1627 0.5 2254 4.0		10 0443 0.6 1122 3.8 M 1704 0.6 2336 3.7		25 0519 0.5 1153 3.9 TU 1748 0.4		10 0503 0.7 1136 3.8 W 1720 0.6 2359 3.8		25 0606 3.9 0546 0.7 TH 1225 3.6 1825 0.4		10 0631 4.1 0615 0.6 SA 1252 4.0 1847 0.2		25 0112 3.8 0640 0.8 SU 1319 3.6 1914 0.5	
11 0442 0.5 1122 3.8 SA 1657 0.7 2331 3.7		26 0455 0.2 1126 4.0 SU 1713 0.4 2342 4.1		11 0522 0.6 1159 3.8 TU 1744 0.6 2333 0.4		26 0614 3.9 0603 0.6 W 1737 3.8 2333 0.4		11 0546 0.7 1222 3.8 TH 1814 0.4		26 0750 3.9 0625 0.6 F 1305 3.8 1946 0.4		11 0717 4.1 0656 0.6 SU 1334 4.0 1930 0.1		26 0743 3.7 0711 0.8 M 1346 3.7 1940 0.5	
12 0515 0.5 1154 3.8 SU 1730 0.6		27 0537 0.2 1210 4.0 M 1758 0.3		12 0615 3.8 0559 0.6 W 1235 3.8 1823 0.5		27 0704 3.9 0640 0.6 TH 1317 3.8 1916 0.4		12 0643 3.9 0627 0.7 F 1305 3.8 1856 0.3		27 0731 3.8 0702 0.6 SA 1340 3.6 1942 0.4		12 0701 4.1 0737 0.6 M 1416 4.0 2013 0.1		27 0710 3.6 0741 0.8 TU 1413 3.7 2007 0.6	
13 0604 3.7 0547 0.5 M 1224 3.6 1804 0.6		28 0627 4.1 0617 0.3 TU 1252 4.0 1840 0.3		13 0654 3.8 0637 0.7 TH 1313 3.8 1905 0.5		28 0743 3.8 0716 0.8 F 1355 3.7 1959 0.5		13 0728 4.0 0709 0.7 SA 1348 3.8 1944 0.3		28 0708 3.7 0736 0.8 SU 1413 3.7 2014 0.5		13 0746 4.0 0820 0.6 TU 1458 4.0 2057 0.1		28 0737 3.6 0813 0.8 W 1444 3.7 2038 0.6	
14 0636 3.7 0618 0.5 TU 1254 3.6 1838 0.5		29 0711 4.0 0655 0.4 W 1332 3.9 1923 0.4		14 0735 3.8 0716 0.7 F 1354 3.7 1949 0.5		29 0757 3.7 0757 0.9 SA 1434 3.6 2039 0.5		14 0715 3.9 0752 0.7 SU 1432 3.8 2031 0.2		29 0742 3.6 0810 0.9 M 1445 3.7 2045 0.6		14 0832 3.9 0804 0.7 W 1543 3.9 2144 0.3		29 0810 3.6 0845 0.9 TH 1520 3.6 2114 0.7	
15 0708 3.8 0651 0.6 W 1327 3.8 1914 0.5		30 0755 3.9 0736 0.6 TH 1411 3.7 2044 0.5		15 0821 3.8 0759 0.8 SA 1438 3.6 2037 0.5		30 0807 3.6 0836 1.0 SU 1512 3.6 2119 0.6		15 0803 3.9 0838 0.8 M 1518 3.8 2120 0.3		30 0816 3.5 0846 0.9 TU 1521 3.6 2126 0.6		15 0820 3.7 0853 0.8 TH 1633 3.7 2238 0.5		30 0850 3.5 0916 1.0 F 1602 3.5 2155 0.9	
31 0816 0.8 F 1451 3.6 2053 0.6		31 0840 3.8 0818 0.8 SA 1553 3.6 2053 0.6		31 0926 1.0 0926 1.0 W 1602 3.5 2201 0.7		31 0932 3.5 0926 1.0 W 1602 3.5 2201 0.7		31 0937 3.4 1018 1.1 SA 1653 3.3 2248 1.1							

NAMLEY HARBOUR - Mean Spring and Neap curves



Whale Bay and Rawmarsh Marinas

Standard Port **NAMLEY HARBOUR** (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences WHALE BAY MARINA							
-0008	-0003	-0005	0000	-0.1	+0.1	+0.2	0.0
Differences RAWMARSH MARINA							
-0010	-0005	-0002	-0002	-0.2	+0.1	+0.2	+0.1

Whale Bay Marina

46°21'.12N 005°36'.28W

Northern Territories CHART RYA 3.

DESCRIPTION. A residential marina with some 26 visitors berths with a max LOA of 11m. Good shelter on the resident berths. During strong SW'lies some swell does enter the visitors berths which are situated to starboard on entering the marina.

APPROACH WAYPOINT. 46°20'.87N 005°36'.98W.

PILOTAGE NOTES. In heavy weather, beware of 11.3m shallow patch some 5M to the W of the marina entrance where large breakers may be encountered. If the heavy weather is coming from the W, it would be prudent to divert to a safer destination as heavy surf breaks along this coastline in these conditions. Given reasonable weather and visibility, the approach is straightforward and the breakwater entrance is well lit, however the 3R & 3G posts in the approach channel are not. Vessels approaching the marina at night should beware of the unlit yacht racing marks 'T' and 'P' (PA).

TIDAL STREAMS AND HEIGHTS. Once inside the 20m contour of Whale Bay, the tidal streams become weaker. The entrance channel is reported to have a least depth of 1.1m between the approach posts. The marina is dredged to 2m.

LIGHTS AND MARKS. The narrows of the breakwater are marked with Fl.R.5M (R twr) and Fl.G.5M (G twr). It is important to note that the R twr is not situated on the seaward extremity of the breakwater.

VHF RADIO. Whale Bay Marina VHF Ch 80

FACILITIES. Slip, FW, D, P, Gas, CH, ME, EL, BH (10 tonnes), C (5 tonnes), R.

Rawmarsh Marina

46°20'.33N 005°36'.12W

Northern Territories CHART RYA 3.

DESCRIPTION. Good shelter in the marina. The least depth on the approach to the marina is 2m. The marina is dredged to 2.5m.

APPROACH WAYPOINT. 46°20'.66N 005°36'.57W.

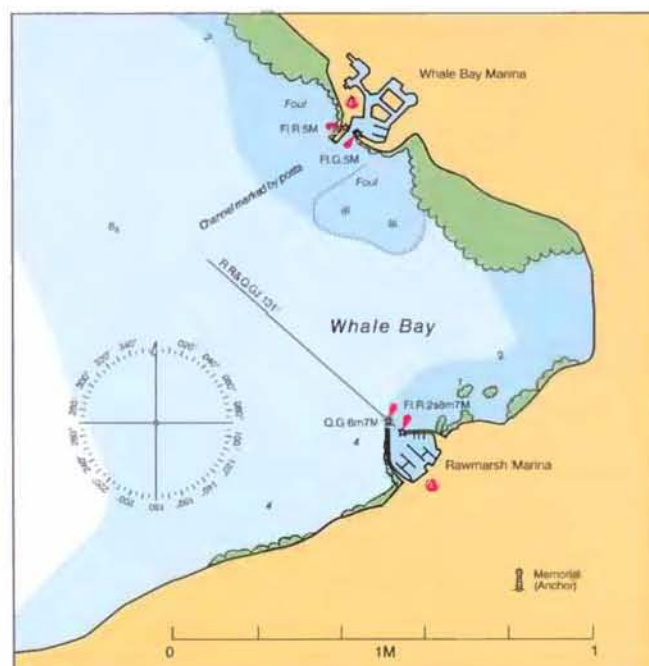
PILOTAGE NOTES. The same heavy weather and navigational warnings for Whale Bay Marina apply to Rawmarsh. If approaching from the NW the breakwater lights [Fl.R & Q.G] ≠ 131° may be used as ldg lts to clear the unlit racing mark 'T'. Vessels approaching from the SW should be aware of unlit racing mark 'P'. Apart from those noted, there are no off lying dangers. The breakwater lights are both mounted on conspic W O twrs, the port has a broad R band and the starboard a broad G band. Shallow water (dries 2m) exists on the inside of the W bkwr; vessels should therefore favour the eastern side of the entrance.

TIDAL STREAMS AND HEIGHTS. Within the 20m contour of Whale Bay the tidal streams are weak. The breakwaters shelter the marina completely from any tidal stream effect. The least depth is 2m abeam the Q.G breakwater lt.

LIGHTS AND MARKS. The entrance is marked with Q.G.6m7M and Fl.R.2s8m7M lights on the seaward extremities of the breakwater. In daylight hours the conspic 'Anchor' memorial dominates the Rawmarsh skyline.

VHF RADIO. Rawmarsh Marina VHF Ch 80.

FACILITIES. FW, D, P, Gas, Gaz, CH, ME, EL, R.



Port Rampton (Quarry Marina)

46°12'.10N 005°38'.59W

Northern Territories CHART RYA 3.

Standard Port NAMLEY HARBOUR (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences PORT RAMPTON							
-0035	-0016	-0006	-0010	+0.5	+0.2	+0.6	+0.2

DESCRIPTION. A former stone quarry which has been opened up to the sea and developed into a marina. Generally the marina provides good shelter, with the exception of strong NW'y winds. A scend may develop in these conditions and render some of the berths uncomfortable.

APPROACH WAYPOINT. 46°12'.72N 005°39'.19W.

PILOTAGE NOTES. Apart from the TSS to the S and the

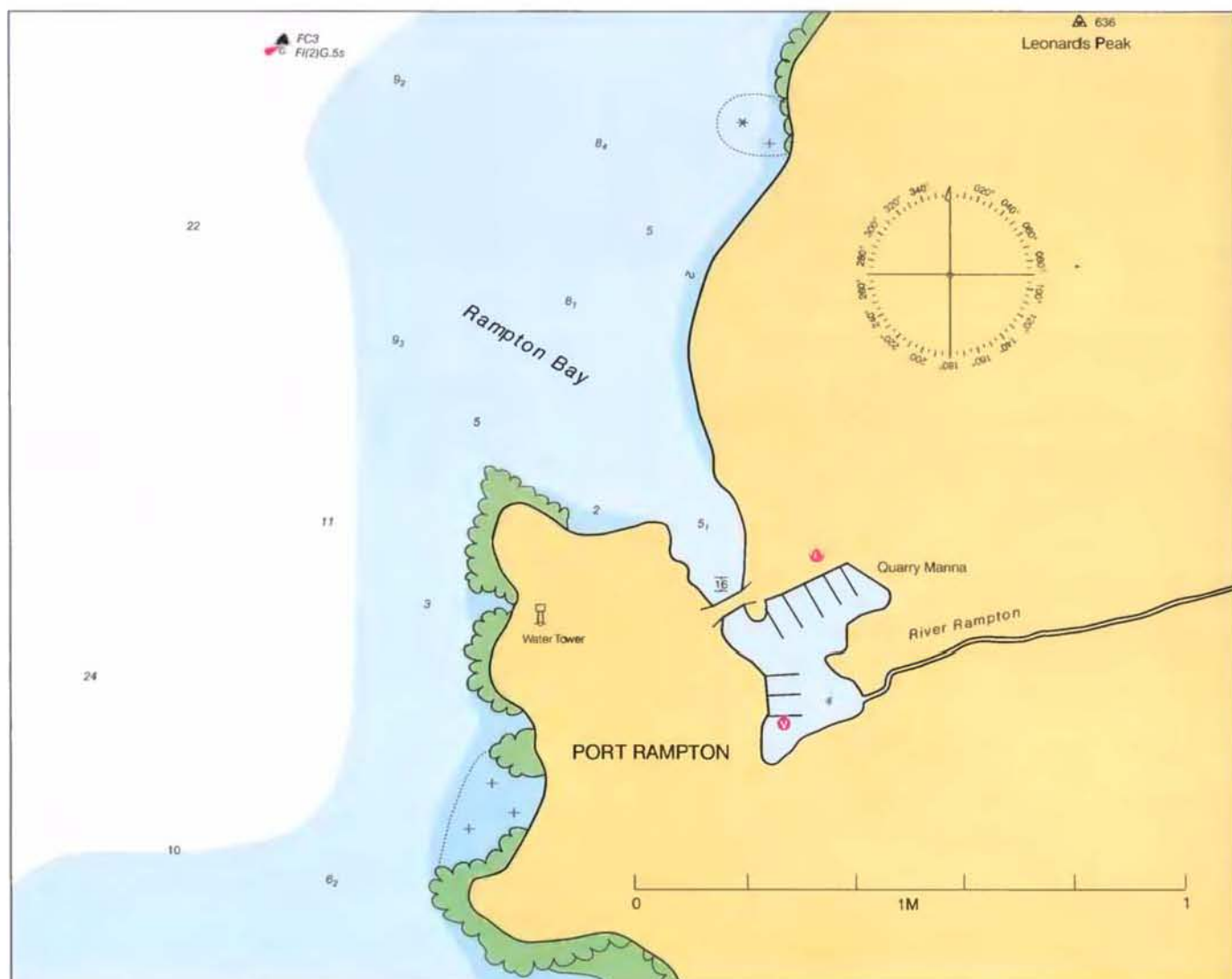
busy Farlow Channel there are no off lying dangers. Rising some 636m, Leonard's Peak, 1M to the N of the marina entrance, provides a useful landmark from some distance offshore. Rampton water tower is conspicuous on the Point. Quarry bridge has a clearance of 16m. Visitors berths are in the S section of the basin.

TIDAL STREAMS AND HEIGHTS. There is no tidal stream effect within the marina; however, the River Rampton feeds into the SE corner of the marina near the visitors berths. Although baffled to reduce the effect of the river when in spate, the flow can still cause some berthing difficulties. Contact the berthing master on VHF for present conditions. The least depth on the approach to the marina is 5.1m. The marina has a least depth of 4.0m.

LIGHTS AND MARKS. The marina is unlit and a night entry should not be attempted without local knowledge. There is a conspicuous water tower on Rampton Point.

VHF RADIO. Rampton Marina VHF Ch 80 (1000-1700).

FACILITIES. FW, D, P, Gas, CH, ME, EL, R.



Farlow River

46°10'.11N 005°36'.65W

Northern Territories CHART RYA 3.

Standard Port **NAMLEY HARBOUR** (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0000	0600	4.0	3.4	1.1	0.4
1200	1800	1200	1800				
Differences FARLOW							
-0040	-0018	-0010	-0020	+0.7	+0.3	+0.7	+0.2

DESCRIPTION. Farlow River is situated between two sets of mountains, The Twins to the N and Mt. Drew and Mt. Golding to the S. The river provides excellent shelter at the two quays. The entrance can be uncomfortable when exposed to strong W winds.

APPROACH WAYPOINT. 46°09'.87N 005°39'.89W.

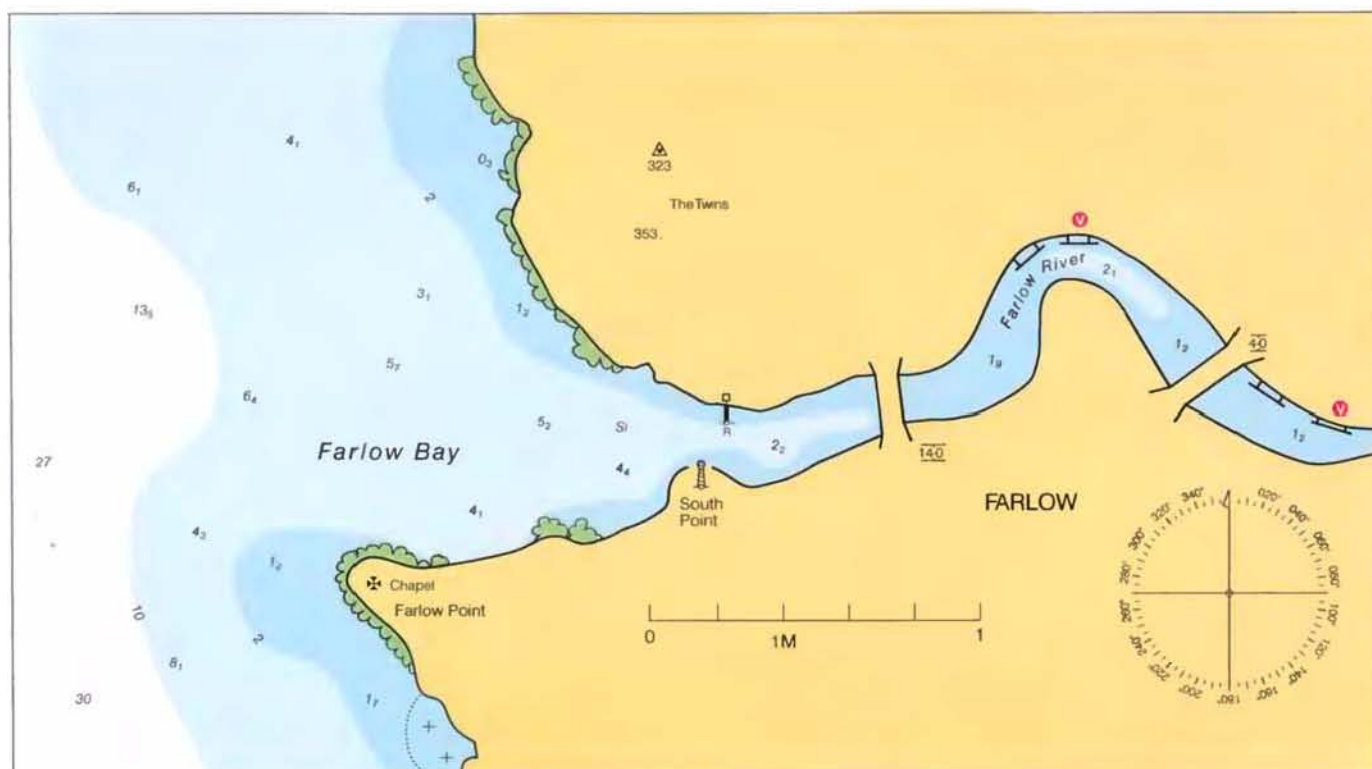
PILOTAGE NOTES. If approaching from the SE ensure that the aptly named Misery Point and the associated overfalls are given due clearance. The TSS ends just W of the entrance; otherwise there are no off lying dangers. Farlow River is not lit and therefore should only be attempted at night with local knowledge and settled conditions. The road bridge has a charted clearance of 14m and the rail bridge a clearance of 4m.

TIDAL STREAMS AND HEIGHTS. The stream runs up to 2.5kn in the main Farlow Channel, reducing to approx half of these rates in the shallows of Farlow Bay. The main effect within the river itself is that of the outgoing river current which, given the average rainfall, will be running past the quays at 0.5kn. The river has a minimum depth of 1.9m up to the lower Town Quay and 1.2m to the Upper Town Quay.

LIGHTS AND MARKS. The major Lt Ho at Misery Pt [Fl.10s34m25M] (B & W hor bands, O twr) is 2.5M to the S of the river entrance. The entrance can be difficult to locate from offshore but is situated between the Twins (conspic Mts. to the N) and Mount Drew to the S. There is a conspicuous chapel on Farlow Point and Mon on South Point. There is an unlit PHM on the N shore opposite the monument.

VHF RADIO. None.

FACILITIES. FW, D&P (cans), Gas, CH, R.



Walton Bay

46°11'.22N 005°50'.43W

Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0500	1100	4.2	3.4	1.1	0.4
1200	1800	1700	2300				

Differences WALTON BAY

-0055	-0020	-0051	-0019	0.0	+0.1	+0.8	+0.3
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DESCRIPTION. Good shelter can be found in Walton Bay whatever the wind direction. Walton Harbour is primarily an anchorage but AB is permitted on the inside of the pierhead, least depth 2m. For overnight berthing contact the Piermaster who also runs the local PO at Walton. In NW-NE winds best anchorage is in Paulberry Bay in sand. The holding in Blackwattle Creek is poor due to kelp.

APPROACH WAYPOINT. 46°11'.36N 005°52'.34W.

PILOTAGE NOTES. There is a precautionary area in Hiscock Sound in which VLCCs are given a moving

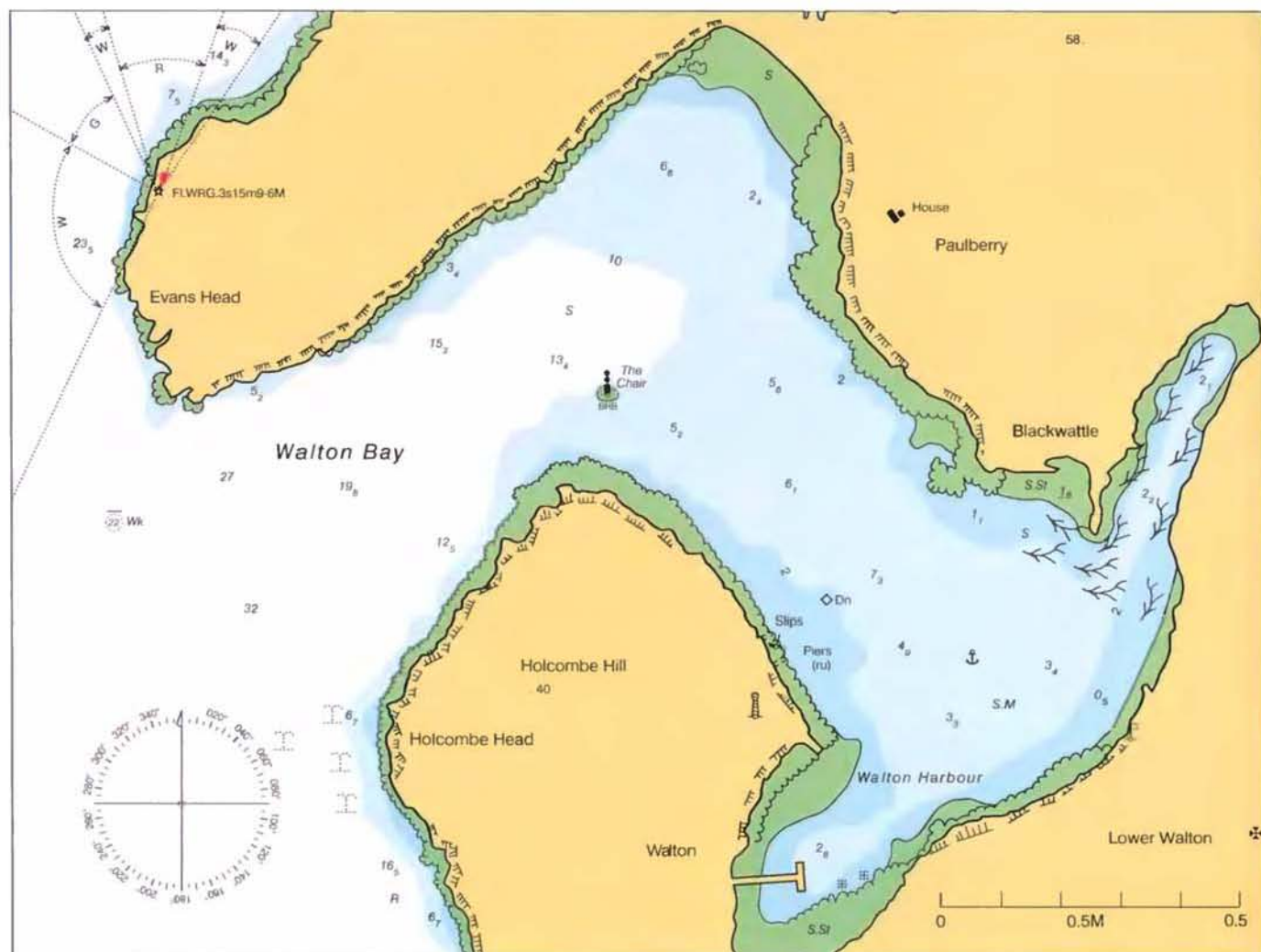
prohibited zone, see chart RYA 4 for details. During daylight, the approach to Walton Bay from Hiscock Sound is straightforward and both headlands are clear of danger to within 0.5ca. Paulberry House (conspic) on a bearing of 067° will leave the unlit IDM (The Chair) well to stbd. As the bay opens to the SE, the conspic FS & Ch at Lower Walton will come into view. This provides a useful transit to the anchorage. This transit will also clear the concrete dolphin to the NE of the old piers.

TIDAL STREAMS AND HEIGHTS. There can be up to 2.5kn of tidal stream running in Hiscock Sound, however once within the bay, the stream is light. The harbour is accessible at all states of the tide. At the anchorage the soundings vary between 2m and 5m.

LIGHTS AND MARKS. Evans Head Lt Ho [Fl.WRG.3s15m9-6M] is 7ca N of the entrance to Walton Bay. Walton Harbour is unlit. Paulberry House (W conspic), the Ch at Lower Walton and the Mon at Walton are all useful pilotage aids.

VHF RADIO. None.

FACILITIES. FW on pier. P&D (cans), Bar, R. EC Wed.



Parvin Sound

46°13'.12N 005°48'.74W

Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0500	1100	4.2	3.4	1.1	0.4
1200	1800	1700	2300				
Differences PARVIN SOUND							
-0048	-0024	-0046	-0020	-0.3	+ 0.1	+0.6	+0.3

DESCRIPTION. Parvin Sound separates North and South Douglas Is. There are two areas within the sound where visitors can moor, either S. Anthony's Bay or one of the two mooring buoys off Murray village. Good shelter within S. Anthony's Bay except in strong N'ly winds when it would be preferable to use the V buoys at Murray. Visitors may berth at S. Anthony's pierhead (least depth 2.5m) for a maximum of 1 hour. Vessels must clear the berth if the workboat from Synka Oil Terminal arrives. The causeway across the sound to the E of Murray village effectively shuts Parvin Sound off from the main Farlow Channel.

APPROACH WAYPOINT. 46°12'.99N 005°50'.38W.

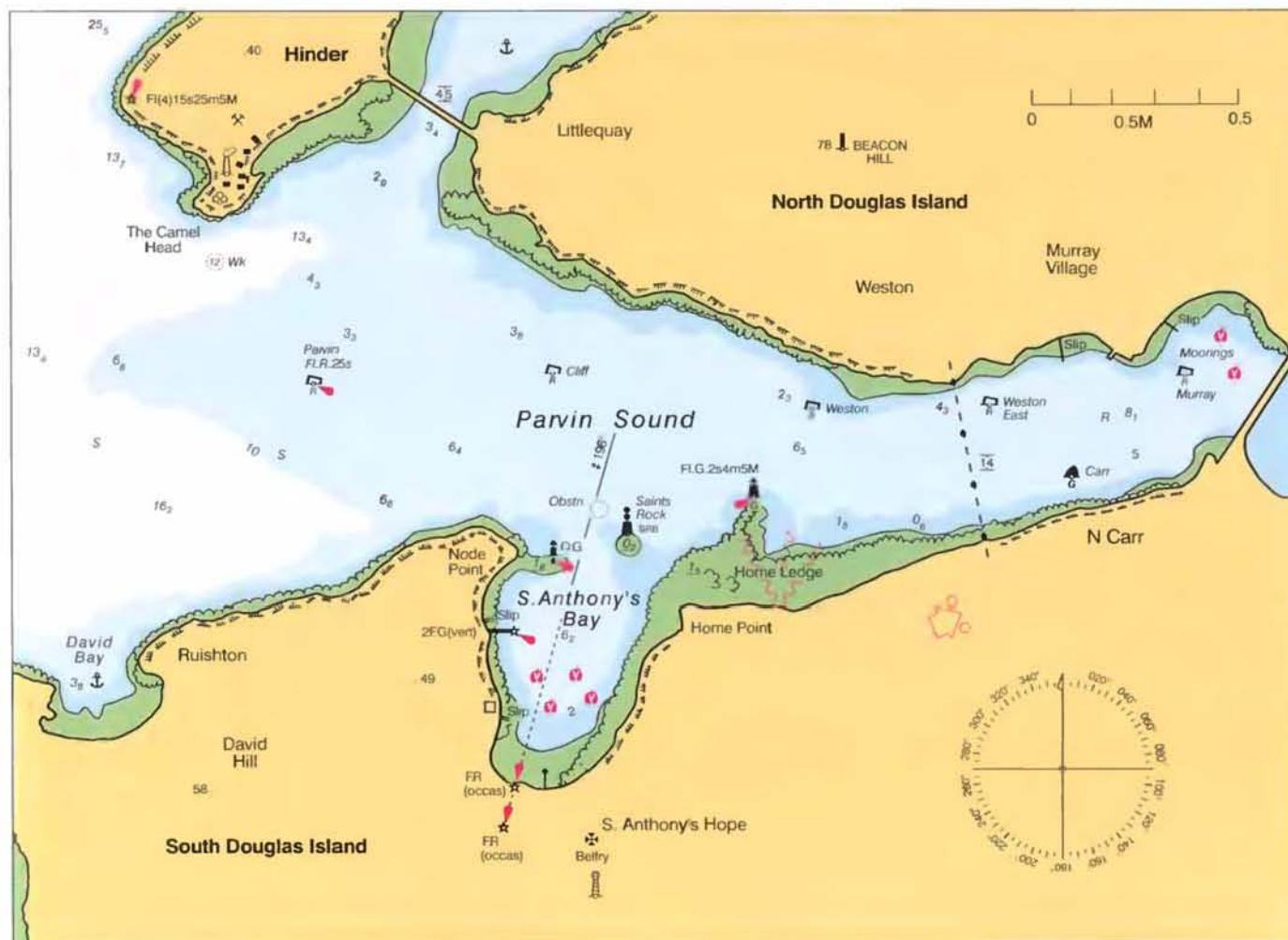
PILOTAGE NOTES. **S. Anthony's Bay.** From Parvin PHM S of Hinder I. [Fl.R.2-5s], a bearing of 116° will identify the conspic but unlit Saints Rock IDM that will be left to port when entering the bay. **Murray.** The approach to the moorings from the lit [Fl.G.2s4m5M] (G ▲ on G pyramidal twr) bn is straightforward having established safe clearance beneath the 14m cables. Beware of the unlit PHM, Murray, at the entrance to the bay

TIDAL STREAMS AND HEIGHTS. The stream at the entrance to the bay attains 1.5kn at springs. At both sets of moorings the stream is virtually negligible. Access to moorings at all states of the tide.

LIGHTS AND MARKS. The two (occas) F.R Idg lts are lit only when the workboat from Synka is entering or leaving the sound. A SH bn [Q.G] marks the end of the rocky ledge which extends to the E of Node Point. On the western side of the bay, the pier is lit with 2F.G (vert). In Parvin Sound the PHM [Fl.R.2-5s] and the SHM [Fl.G.2s4m5M] are the only lit marks.

VHF RADIO. None.

FACILITIES. FW tap, P & D (cans), Bar.



Endal Marina

46°13'.99N 005°46'.93W

Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (←)

Times		Height (metres)					
High Water	Low Water	MHWS	MHWN	MLWN	MLWS		
0000 0600	0500 1100	4.2	3.4	1.1	0.4		
1200 1800	1700 2300						

Differences ENDAL MARINA

-0042	-0017	-0040	-0012	+0.4	+0.1	+0.4	0.0
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DESCRIPTION. An old quarry which has been developed into a sheltered marina has a least depth of 3m; however, the sill at the entrance has a charted depth of 1.5m. A digital gauge displays the depth over the sill; the gauge may be difficult to see in strong sunlight. Approach should not be attempted in NW winds >F6. A storm shutter is rigged in NW'ly winds above F7, in effect closing the marina. In marginal conditions, it is vital to check by VHF (Ch 80) that access is available into the marina before entering Endal Bay. Anchoring is prohibited in the Bay.

APPROACH WAYPOINT. 46°14'.90N 005°47'.73W.

PILOTAGE NOTES. Both Hinder and Gamp Holm are clear of dangers to within 1ca of the shore, but beware of the marine farm in Drew Sound. Extensive rocky patches narrow the entrance of Endal Bay to some three cables. The transit (148°) leading to Endal Marina should be identified before entering the Bay.

TIDAL STREAMS AND HEIGHTS. Within the tidal shadow of Hinder and Gamp Holm the stream drops away until when in the bay itself, there is very little set and drift. For a 1.6m draught vessel, the sill at the marina entrance is passable at most states of the tide given calm conditions and a not too high barometer.

LIGHTS AND MARKS. The nearby major light of Gamp Holm [Fl(2)6s30m5M(U)] (W Ho) is 8½ ca NNE of the entrance to the Bay. The leading beacons (framework twrs) are situated at the S end of the marina. The seaward leading beacon [Iso.2s] is fitted with a B▼W stripe topmark, the rear beacon [Iso.4s] is fitted with a B◆W stripe topmark.

VHF RADIO. VHF Ch 80 c/s Endal Marina.

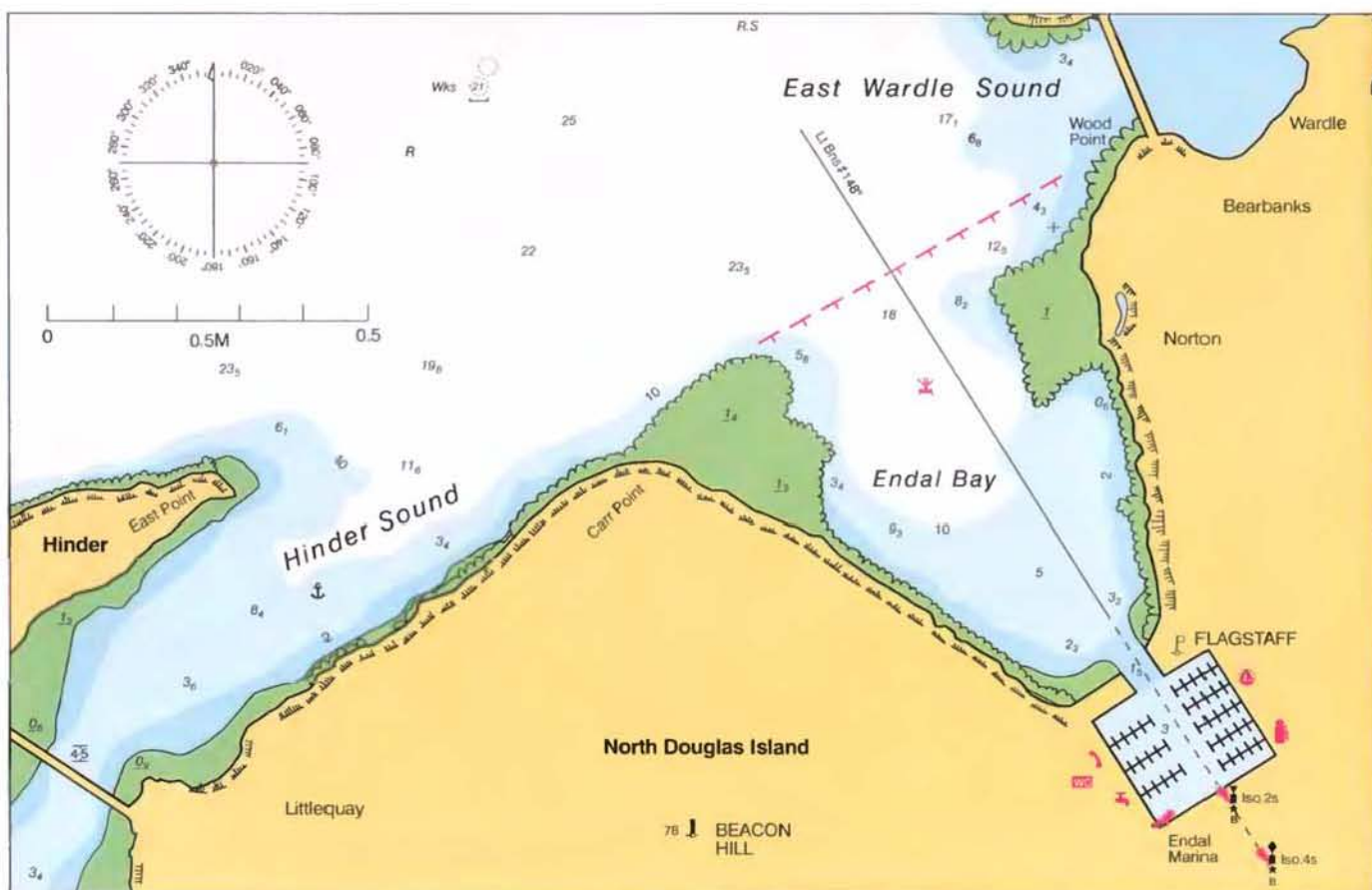
FACILITIES. D, P, Gas, Gaz, FW, Slip, BH (16 tonnes), ME, EI, C (9 tonnes), Bar, R.

ADJACENT ANCHORAGES AND SOUNDS.

Hinder Sound. Generally a sheltered secure anchorage, however vessels should not anchor within 1ca of the bridge. The Sound can be a useful shortcut for motor cruisers and other Small Craft that have sufficient clearance under the 4.5m road bridge. Tidal heights as for Endal Bay.

East Wardle Sound and Drew Sound.

Causeways connect Gamp Holm and Webb Ellis I. to N Douglas I. thereby preventing navigation through the E Wardle and Drew Sounds.



Rozelle Cove

46°17'.60N 005°54'.08W

Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (←)

Times		Height (metres)					
High Water	Low Water	MHWS	MHWN	MLWN	MLWS		
0000 0600	0500 1100	4.2	3.4	1.1	0.4		
1200 1800	1700 2300						

Differences ROZELLE COVE

-0038	-0018	-0036	-0014	+0.2	-0.2	+0.5	+0.2
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DESCRIPTION. With a regular fast-ferry connection from Dunbarton (35min), Rozelle Cove Marina provides a less expensive alternative to mainland berthing. Excellent shelter within the marina (3m) and within the anchorages of the Reaches. During sustained S'lies, the approach to the Reaches can be rough and alternative destinations should be sought if conditions dictate. Landing is prohibited on any of the Islands within the cove.

APPROACH WAYPOINT. 46°15'.72N 005°54'.32W.

PILOTAGE NOTES. Approaching from the W, the observation tower (19m) on West Point is a useful conspic daymark. From the E, Range Head SCM [VQ(6)+LFI.10s] indicates the SW corner of the Tawness firing range (see Note). Beware of the two unlit yellow range buoys off Tawness. Rozelle Cove SWM [Iso.10s] is 2ca S of the entrance to West Reach. West Reach is marked by piles, most of which are lit. Keep towards the middle of the

marked channel; some rocky ledges protrude the line between piles. The unlit Y bns (X topmark) on Tern Island may assist pilotage to the N of Plover Island. The unlit E Reach should only be attempted during daylight and with sufficient rise of tide. On the final approach to the marina from the SW, before the final 180° turn to port, the 2FG (vert) & 2FR (vert) marking the marina entrance may appear confusing. Leave the 2FR (vert) to port.

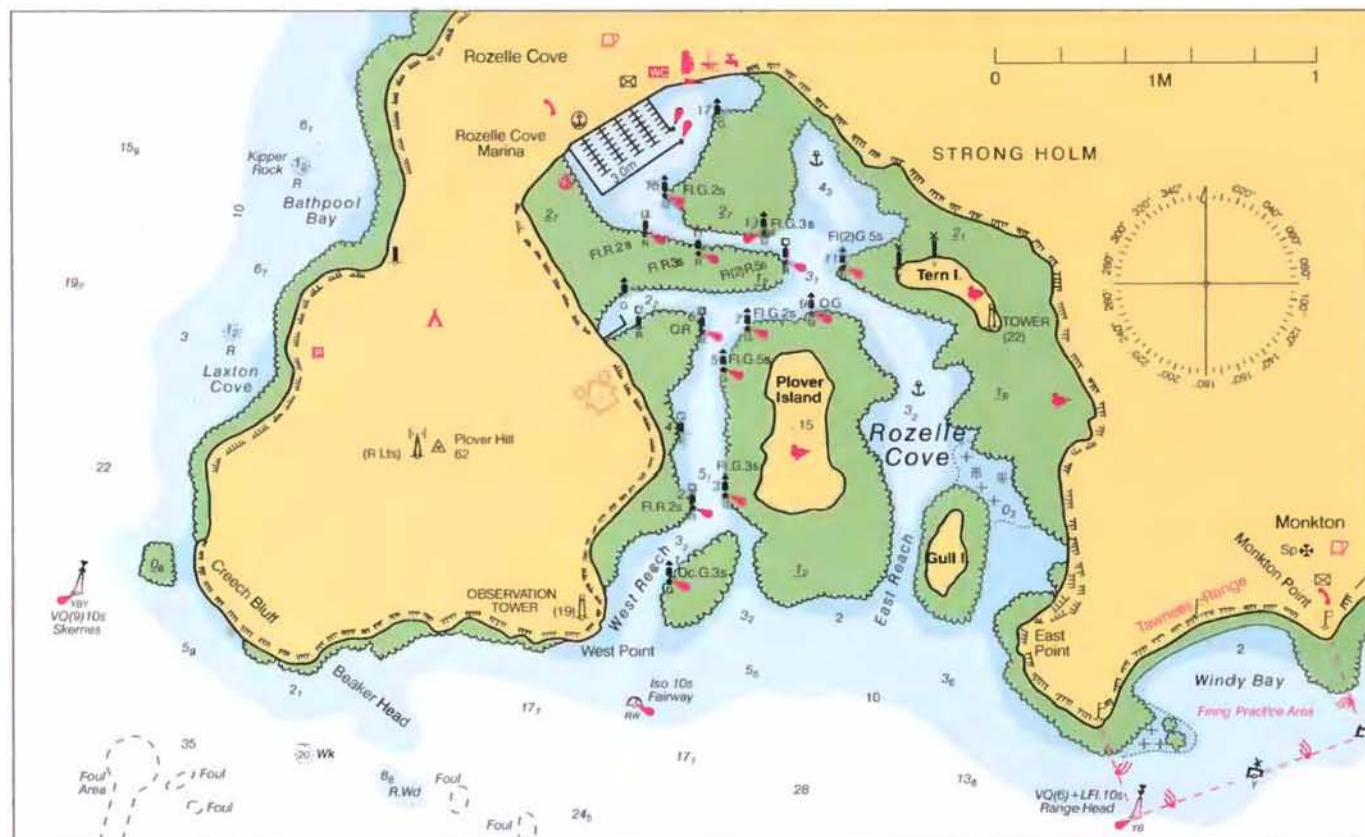
TIDAL STREAMS AND HEIGHTS. The tidal streams within the Cove are generally weak and variable; however, some sideways drift may be experienced as the tidal stream funnels through the rocks and gullies.

LIGHTS AND MARKS. To the W of the entrance is a conspic tower (19m). The radio mast on Plover Hill is marked with four (vert) R lights. Rozelle Fairway SWM (RW) [Iso.10s] is 2ca S of West Reach entrance.

VHF RADIO. Rozelle Cove Marina Ch 80.

FACILITIES. D, P, FW, Gas, Gaz, CH, BH (12 tonnes), ME, EL, Bar, R.

Tawness Ranges. No restrictions are placed on the right to transit the firing practice area at any time. The Firing Practice Area is operated using a clear range procedure; exercises and firing only take place when the area is considered clear of shipping. Red flags are flown from the FS when the range is open. Vessels transiting the range are requested not to loiter in the area.



India Harbour (Beaker Bay)

46°12'.76N 005°55'.66W

Northern Territories CHARTS RYA 3, 4.

Standard Port PORT FRASER (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0000	0600	0500	1100	4.2	3.4	1.1	0.4
1200	1800	1700	2300				

Differences INDIA HARBOUR

-0052	-0022	-0048	-0017	-0.2	+0.2	+0.7	+0.3
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DESCRIPTION. Due to the nearby Synka Oil Terminal, India Harbour is neither the quietest nor the most attractive mooring in the Islands; it does however, provide excellent shelter, although strong winds from the E or NE may generate a scend within the harbour. Overnight AB is available on the northern part of the pier; the southern section is reserved for the workboat that runs to S. Anthony's Bay on S. Douglas. An alternative to the AB is to anchor in the pool, just off the pier, in 2.5m of water. Self-preservation dictates that an anchor light should be shown during hours of darkness.

APPROACH WAYPOINT. 46°13'.01N 005°54'.04W

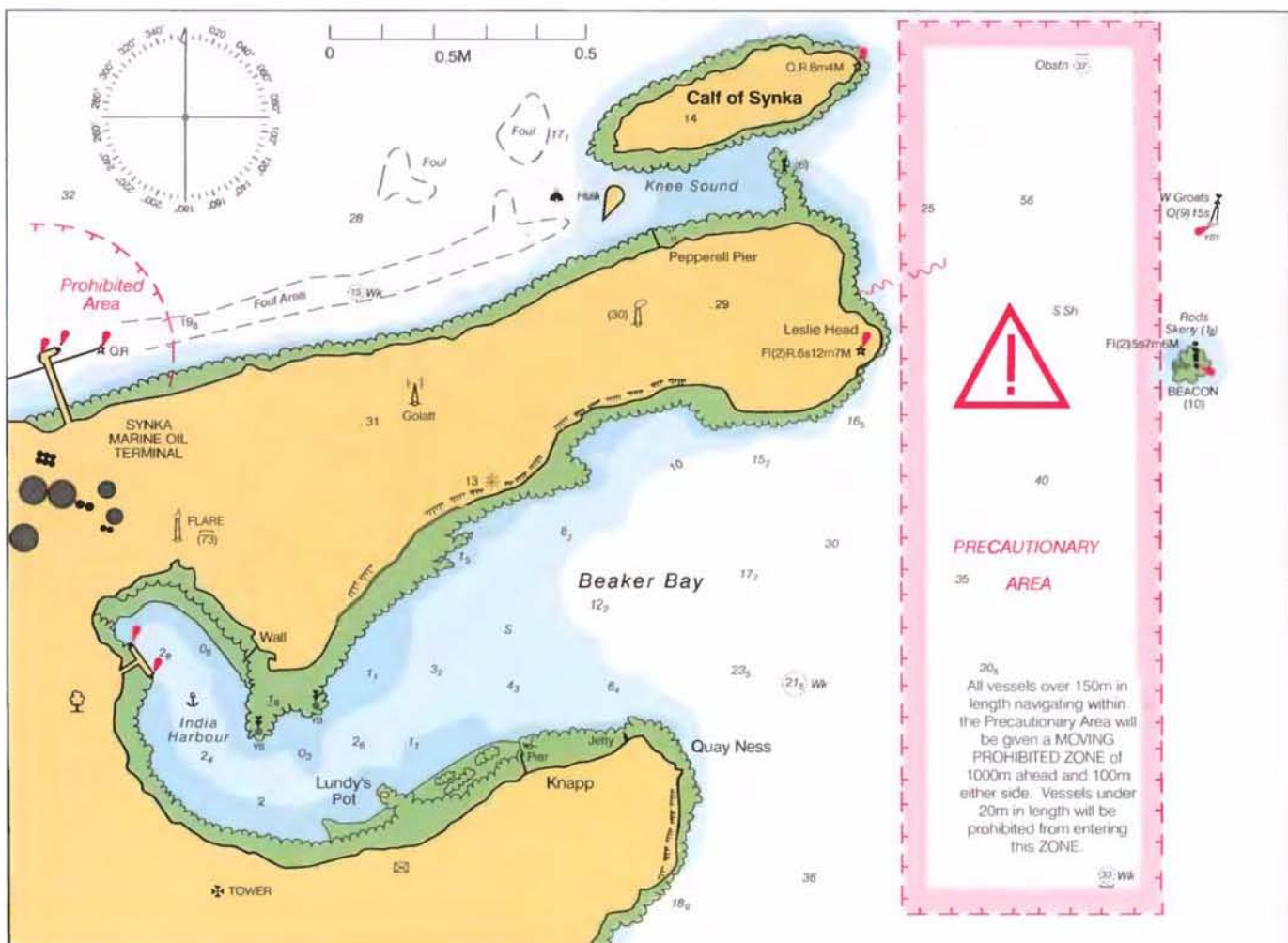
PILOTAGE NOTES. The precautionary area in Hiscock Sound will have to be navigated if a vessel is approaching Beaker Bay from the N or E. Skippers must be aware of the Moving Prohibited Zone around VLCCs in this area and stay well clear of the Zone (see Note). The 1.8m drying rk, 'Rods Skerry' and 'The Groats', to the NE of it, require suitable care. Once within the bay, rocky outcrops extend from both shores. Two unlit SCMs mark the ledges from the N shore; however, 'Lundy's Pot' to the S is unmarked.

TIDAL STREAMS AND HEIGHTS. There can be up to 2.5kn of tidal stream running in Hiscock Sound on the approach to Beaker Bay. Once within the bay the stream is light. With experience, the harbour is accessible at all states of the tide, but for the first timer it would be prudent to wait for sufficient rise of tide to clear the 0.3m ledge situated off the SCMs.

LIGHTS AND MARKS. Leslie Hd Lt Ho [Fl(2) R.6s12m7M] (RW O twr) marks the northern side of the entrance. 'Rods Skerry' [Fl(2)5s7m6M] (BRB 10m bn) and 'The Groats', to the NE, are both well marked. The pier within India Harbour is lit with 2FR (vert) at each extremity.

VHF RADIO. None.

FACILITIES. FW on pier. Bar.



Southern Peninsula - Passage information

Cape Donne to Hamilton

Cape Donne Lt Ho (W twr R top) [FI(3)10s68m19M] marks one of the number of headlands in this area. Most of the headlands have rocky ledges extending some distance offshore and due clearance should be given. Navigating the northern tip of the peninsula requires particular attention to the tidal streams which, as well as creating a tidal gate for slow speed vessels, with the streams running up to 5kn, also produces dangerous overfalls out as far as Steven's Rock Lt Ho (W ○ twr) [FI(2)12s79m15M]. The Race itself is severe at spring tides with wind against tide. Rounding the Cape is best taken at Victoria HW -4 if E bound or -5 if W bound. One mile SW of Cape Donne is False Cape with its disused Lt Ho (W twr). The Capes flank Jackson Bay, which, with a favourable wind direction, makes a very useful anchorage whilst waiting for a fair tidal stream through the race.

False Cape to Cape St. Vincent

The coastline S of False Cape is steep-to, rising to some 615m at the top of Wilkinson Ridge. The coast is clear of dangers outside the 30m contour line. 2M SW of the conspic W Anjo House is an area of magnetic anomaly; errors of up to 15° have been reported. Vessels reliant on magnetic compasses should navigate with caution in this area. Cape St. Vincent Lt Ho (RW vert. striped twr) [Oc.6s56m12M] marks the southern side of Sweetwater Bay.

Dymond Reef

The reef is a 5M long coral outcrop, 2-3M offshore, which is studded with islands and isolated rocks. The reef is a popular diving area and a good lookout should be kept for diving support vessels, which tend to work the shallower eastern side of the reef. Token Rocks, at the northern extent of the reef, is marked by a Lt Ho (W ○ twr) [FI.5s25m7M]. A refuge station is situated 3ca SSE of Karl Island.

Cape St. Vincent to Brightwater Point

Cruising inshore of Dymond Reef may provide some temporary respite when passage-making along this section of the coast in heavy weather. The judicious use of clearing bearings and a careful watch on the echo sounder opens this passage up to both daytime and night time use. The strength of the tidal streams inshore does not vary much from those offshore. The mainland coastline is clear of any dangers outside the 10m contour.

Brightwater Point to S. Stephen's Point

Unless deliberately making inshore in this area, it is prudent to stay offshore outside the 30m contour; this avoids the various obstructions within the Bay. There are several secure anchorages in Gordon's Bay that may be used in settled conditions. It is not advised to navigate Gordon's Bay at night without local knowledge due to the number of unlit rocks and islands. Outer Robens (W 6 sided twr) [Oc(3)15s43m17M], Outer Stack Lt (B twr W dia stripe)

[FI(4)12s14m5M] and S. Stephen's Pt. (W ○ twr) [Iso.6s60m24M] are the main lights in the area.

Traffic

The majority of shipping within this area tends to be coasting traffic travelling N-S or S-N. Some small coasters may be found using the inshore routes.

Tidal Streams

Tidal streams are rectilinear along this section of the coast, approximately S-going on the flood and N-going on the ebb. The maximum rate, once clear of Cape Donne and False Cape, is 2.7kn.

Cape Donne to Fitzroy Bay

Cape Donne to Danger Point

The initial paragraph should be read before navigating in the Cape Donne and Steven's Rock area. The unlit Morgan Island (75m) off Cook Point should be given a wide berth; rocky ledges extend 2 cables to seaward of the island. These ledges are cliff-sided and the depth will change from over 30m to 0m in little more than a boat length. Just under 1M to the SE of Morgan Island is the aptly named Pinnacle Rock (100m). Given an offshore wind, Snakecatcher's Bay, just W of Colville, offers a suitable temporary anchorage for vessels waiting for a favourable tide to round Cape Donne. 1M to the E of Colville breakwater is Colville Lt Ho (B&W horizontal bands) [FI(4)20s155m9M] situated high on the cliffs of Colville Point. Beware of the isolated (3m) rock sat on the 30m contour line midway between Colville and Arundells Point. There is a conspic RW (vert) bn on Arundells Point. From Arundells Point, the 10m contour clears the ledges off Ensign Bay and leads S towards the small fishing harbour of Sandquay. Sandquay Bay can be subjected to sudden squalls when a strong westerly wind is blowing; this phenomenon is primarily caused by an acceleration zone created by the mountains. In the southern part of Sandquay Bay a shallow area (2.4m) and a rocky ledge extends 6ca N of the aptly named Danger Point. A monument on Danger Point records the losses from two ships that were wrecked on the ledge during a severe NE'y gale in 1898.

Danger Point to Beauty Point

Isolated rocks are strewn along the shoreline between Danger Point with its prominent monument and Taunton Point; in some cases these rocks extend to over 5ca from the shore. Little and Great Blackstone (11 & 29m) along with Tasker Rk (41m) are the most conspicuous. All three of these rocks give excellent radar echoes. From offshore the entrance into S. Kilda is easily recognisable, lying in between the conical hills of S. Kilda (283m) to the N and Red Hill (289m) to the S. Old Chapel Head Lt Ho (W twr.) [Oc(2)8s45m15M] marks the northern entrance into Dawson Bay. Shallows exist (4.6m) almost 1M to the N of

Southern Peninsula - Passage information

Chapel Head. A dangerous rk exists 3ca NE of the Lt Ho. In the middle of Dawson Bay is Dawson Hbr which is protected by three natural granite breakwaters, the Inner, Middle and Outer Rocques. Outer Rocque Lt Ho (R&W spiral) [Fl(2)10s30m12M] is also fitted with a horn (2) 30s. Dawson Bay and harbour has a large tidal range (7.6m) primarily caused by the tidal surge trying to get through the Neptune Channel and Fiddler's Race where the tidal wave is backed up into the Dawson Bay Area. This phenomenon also causes the NW counter-tidal stream along this part of the coast. The 10m contour is clear of all dangers from S. Kilda to Gilly Point, where an isolated rock sits 2ca off the point near the contour line. Beauty Point Lt Ho (W 8 sided twr) [Iso.4s61m15M] sits on the Point below a 110m hill.

TIDAL STREAMS

The flood stream runs in a SE'ly direction along the Lawrence Channel and generally runs in this direction until HW Victoria +2. An eddy, which runs contrary to the main stream, is evident close to the NE coast of the Southern Peninsula; this eddy is formed at the eastern extremity of Dawson Bay at approximately HW Victoria -1 and is apparent 2-3M off the coast between eastern Dawson Bay and Colville to the NW. This NE going stream runs for 9 hours. The dividing line between the two opposing streams is usually noticeable by the differing sea-state; whichever stream is opposing the wind will be significantly rougher. When passage making to the SE it may be beneficial for slow speed craft to stay some 3M offshore to take advantage of the favourable SE going stream.

TIDAL HEIGHT ANOMALY IN DAWSON BAY

Two factors contribute to an unusually large tidal range in Dawson Bay. Initially the SE going flood builds up in the Neptune Channel between Slade Island and Beauty Point. This narrow channel creates a choke point increasing the sea height locally and causing the strong tidal flow through the races. Secondly, a proportion of the SE stream, being restricted by the narrows of the Neptune Channel, turns back on itself creating the reverse NW going eddy. This further augments the tide-raising effect within the bay.

Traffic

Mariners should be aware that high-speed (45kn +) ferries transit the Dawson Bay and Fiddler's Race area. A good all-round lookout must be maintained and it should be noted that these ferries create a large wash even when passing at a distance. The relatively narrow Fiddler's Race and Neptune Channel creates a choke point for vessels and therefore a higher than normal traffic density may be encountered in this area.

Fiddler's Race

Mariners should navigate with care when passage-making through Fiddler's Race which is less than 8ca wide at the narrowest point. Working the tidal steam correctly (see below) and having a recent marine weather forecast are vital

prerequisites for planning a safe passage through the race. The area is well marked with 5 major Lt Ho, however, unmarked isolated rocks exist 0.5M off the mainland coast. A 3M ridge of rocks and islets runs NW from Pentire Island. A race extends out to 1M off Beauty Point during sp tides, somewhat less at nps.

The tidal streams within the 20m contour of Beauty Bay are weak. With an offshore wind, the southern part of the bay can make a suitable waiting anchorage. Dasher Rock Lt Ho (B&W chequered $\odot$ twr) [Fl (4)15s37m10M] is 2ca off Raven Point. Two isolated rocks are situated 4ca E of Dasher Rock. The race off Raven Point extends across the channel to Race Rock at sp tides when the wind is against the tidal stream. Race Rock Lt Ho (W $\odot$ twr 2 B bands) [Iso.6s20m5M] sits almost central in the race. The SE part of the race is marked by Tintagel Lt Ho (W $\odot$ twr) [Fl (3)10s58m10M] and Pentire Lt Ho (W $\odot$ twr R band) [Fl.5s105m9M].

Tidal Streams in Fiddler's Race

The tidal stream runs up to 6.4kn in the race so the timing of passage making through the race is of the essence, making the most of slack water and therefore calmer seas. With wind against tide, overfalls extend across the race with dangerous sea conditions. At spring tides, with an opposing wind greater than F5, Small Craft should avoid the race when the tidal stream is running hard. Slack water exists for approximately 30 mins. at the change of the tide; this occurs at HW Victoria +2¹/₂ and HW Victoria -3¹/₂.

Tintagel Island to Renown Point

Several rock ledges extend seawards from the steep-to cliffs of the N coast of Fitzroy Bay. The unlit Twin Rocks (19m) stand some 1.25M from the shoreline and require due navigational care at night or in poor visibility. The rocks give good radar returns. Seal Island and its adjoining rocks are covered by the F.R light of Grumlin Head Lt Ho (W oct twr) [Fl.3s30m12M&F.R.27m10M].

Unlit islands and dangerous rocks that extend out to 1.5M about the coastline between Iguana Point and Renown Point. This area is a Marine Reserve and landing is prohibited on all islands.

Tidal Streams

Tidal streams in Fitzroy Bay run up to a maximum of 3kn at springs, roughly in a N-S, S-N direction. Within the 20m contour, the stream tends to follow the sweep of the bay. Inside the 10m line, the tidal stream is noticeably weaker

Traffic

Port Fitzroy is a busy ferry, general cargo and fishing port. Ferries, including high-speed craft, leave the harbour at frequent intervals and owners of Small Craft should maintain a good lookout. Mariners not entering port are advised to maintain a distance of at least 500m from the entrance.

HAMILTON SOUND - Standard Port

45°37'.80N 006°09'.62W

Southern Peninsula CHARTS RYA 3, 4.

Standard Port HAMILTON (→)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0200	0800	0200	0700	5.8	4.7	1.5	0.6
1400	2000	1400	1900				

Differences NOVEMBER BAY

-0010	-0010	0000	0000	-0.2	-0.1	-0.1	0.0
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DESCRIPTION. A busy but well marked harbour. All Small Craft must give way to shipping in 'The Gate', a narrow channel between Hazard Point and Horseshoe Rock. Small Craft should monitor VHF Ch 14 for shipping movements. Entrance easy except in strong NW'lies when reflecting waves from around S. Stephen's Point may cause confused seas at the entrance to the Sound. Shelter is very good within Hamilton Marina. There is an anchorage in Hamilton Bay, at the head of the sound in S M in a sounding of 3-4m.

APPROACH WAYPOINT. 45°37'.90N 006°13'.53W.

PILOTAGE NOTES. S. Stephen's Point Lt Ho [Iso.6s60m24M] (W ◯ twr) marks the southern point of the entrance to the sound. The channel is well marked by buoys and Idg lts. Generally there is room for Small Craft to navigate (with caution) outside the main channel except within the area of Hazard Point SCM. There is a local inshore passage S of Horseshoe Rk. The marina is in the southeast corner of the sound and at night 2F.R (vert) & 2F.G (vert) lights mark the entrance. Deep draught vessels approaching Hamilton Sound (from the N or S) generally

navigate along the 20m contour before altering course onto the first transit line; this ensures that they remain clear of the 7.4m shoal 8ca outside the entrance buoys.

TIDAL STREAMS AND HEIGHTS. The tidal stream sets strongly N/S across the entrance to the Sound at springs, its effect diminishing rapidly once abeam Mouse I. Access to the marina at all states of the tide.

LIGHTS AND MARKS. S. Stephen's Point Lt Ho [Iso.6s 60m24M] (W ◯ twr) is prominent on the southern side of the chan. The two sets of Idg lts [105°; front Q.20m4M, rear Iso.2s27m4M] and [054°; front F.R.3m3M, rear F.R.5m3M] are mounted on conspicuous (R ◻ W vert stripe) bns and lead on the middle of the shipping chan. The chan is well marked with buoyage.

VHF RADIO. VHF HM Ch 14, 16. Marina Ch 80.

FACILITIES. A well-equipped modern marina. FW, D, Gas, Gaz, BH (12 tonnes), ME, EL, CH, Bar.

ADJACENT MINOR HARBOUR.

November Bay. A well-protected harbour with a small marina. The entrance to the Bay, which is situated 1M N of Hamilton Sound, is entered between Portland Pt SCM [VQ(6) + LFI.10s] and Wight Point. Access to the bay is possible at all states of tide and wind.

Note: The 5m & 2m charted contours are approximated and should be used with caution. There is a strong N/S tidal stream between Puffin I. and Portland Hd at springs. There is a conspicuous R&W (27m) daymark on Bird Point. The bay has one lit mark, an IDM [FI(2)10s]. November Marina has 6 V berths therefore booking is advisable at busy times. FW, Slip, Bar, R.



HAMILTON SOUND - Standard Port

TIME ZONE -0100
Subtract 1 hour for UT.
For Summer Time add ONE
hour in non-shaded areas

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

SPRING & NEAP TIDES
Dates in red are SPRINGS
Dates in blue are NEAPS

JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0126 5.7 TU 1351 5.8 2000 0.7		16 0202 5.5 W 1429 5.5 2021 0.9		1 0243 5.9 F 1513 5.9 2120 0.6		16 0247 5.5 SA 1507 5.4 2058 0.9		1 0142 6.0 F 1411 6.1 2022 0.4		16 0152 5.6 SA 1410 5.6 2008 0.8		1 0242 6.1 M 1508 5.9 2115 0.5		16 0225 5.5 TU 1440 5.6 2039 0.8	
2 0210 5.7 W 0827 0.5 1437 5.8 2045 0.7		17 0236 5.5 TH 0848 0.8 1502 5.4 2051 1.0		2 0327 5.8 SA 0955 0.1 1558 5.8 2200 0.8		17 0316 5.4 SU 0926 0.6 1537 5.3 2124 1.0		2 0224 6.1 SA 0855 -0.1 1453 6.1 2102 0.5		17 0221 5.6 SU 0833 0.5 1438 5.6 2035 0.8		2 0324 5.9 TU 0943 0.4 1548 5.6 2148 0.7		17 0255 5.4 W 0905 0.8 1513 5.4 2105 0.9	
3 0254 5.7 TH 0915 0.4 1525 5.7 2129 0.8		18 0309 5.4 F 0917 0.8 1535 5.2 2120 1.1		3 0411 5.7 SU 1037 0.3 1644 5.6 2240 0.9		18 0346 5.3 M 0955 0.8 1609 5.2 2149 1.1		3 0306 6.0 SU 0935 0.0 1534 5.9 2138 0.6		18 0250 5.5 M 0902 0.6 1507 5.5 2100 0.9		3 0408 5.6 W 1017 0.7 1629 5.3 2223 0.9		18 0329 5.3 TH 0933 1.0 1548 5.3 2136 1.0	
4 0341 5.6 F 1004 0.5 1614 5.6 2215 1.0		19 0342 5.2 SA 0947 0.8 1608 5.1 2150 1.2		4 0459 5.5 M 1120 0.5 1734 5.3 2324 1.1		19 0417 5.1 TU 1025 0.9 1645 5.0 2218 1.3		4 0348 5.9 M 1012 0.3 1616 5.6 2213 0.8		19 0319 5.4 TU 0929 0.7 1538 5.4 2122 1.0		4 0457 5.3 TH 1057 1.1 1717 5.0 2308 1.2		19 0409 5.1 F 1006 1.2 1632 5.0 2219 1.1	
5 0430 5.5 SA 1055 0.5 1707 5.4 2305 1.1		20 0416 5.1 SU 1022 0.9 1644 5.0 2224 1.4		5 0553 5.3 TU 1210 0.8 1831 5.0		20 0455 5.0 W 1100 1.1 1729 4.8 2300 1.4		5 0432 5.6 TU 1048 0.6 1701 5.3 2250 1.0		20 0349 5.2 W 0954 0.9 1612 5.2 2148 1.1		5 0558 4.9 F 1152 1.5 1819 4.6		20 0500 4.9 SA 1057 1.4 1728 4.8 2323 1.2	
6 0524 5.3 SU 1149 0.7 1805 5.2		21 0454 4.9 M 1102 1.0 1726 4.8 2304 1.5		6 0019 1.3 W 0657 5.0 1313 1.1 1936 4.8		21 0544 4.7 TH 1151 1.3 1827 4.7		6 0523 5.3 W 1130 0.9 1752 5.0 2338 1.2		21 0426 5.1 TH 1023 1.1 1654 5.0 2228 1.2		6 0019 1.4 SA 0717 4.6 1319 1.7 1939 4.5		21 0609 4.8 SU 1219 1.6 1845 4.6	
7 0001 1.3 M 0625 5.2 1250 0.8 1908 5.1		22 0539 4.8 TU 1150 1.2 1817 4.7 2356 1.7		7 0132 1.4 TH 0813 4.9 1428 1.2 2049 4.8		22 0003 1.6 F 0655 4.6 1314 1.5 1944 4.6		7 0625 4.9 TH 1229 1.3 1856 4.7		22 0514 4.9 F 1111 1.3 1750 4.7 2330 1.4		7 0212 1.5 SU 0846 4.7 1453 1.7 2105 4.6		22 0056 1.3 M 0736 4.8 1400 1.5 2012 4.8	
8 0105 1.4 TU 0733 5.1 1356 0.9 2016 5.0		23 0637 4.6 W 1253 1.3 1921 4.6		8 0259 1.4 F 0932 4.9 1544 1.2 2201 4.9		23 0139 1.6 SA 0824 4.6 1455 1.4 2106 4.8		8 0052 1.4 F 0745 4.7 1354 1.5 2015 4.6		23 0622 4.6 SA 1233 1.6 1907 4.6		8 0341 1.2 M 1001 4.9 1605 1.4 2213 4.9		23 0234 1.0 TU 0902 5.0 1518 1.2 2129 5.1	
9 0215 1.4 W 0843 5.1 1505 1.0 2123 5.1		24 0107 1.7 TH 0751 4.6 1415 1.4 2033 4.7		9 0422 1.2 SA 1042 5.1 1649 1.2 2302 5.1		24 0319 1.4 SU 0947 4.9 1609 1.2 2219 5.1		9 0237 1.5 SA 0914 4.7 1522 1.5 2137 4.7		24 0105 1.5 SU 0754 4.6 1425 1.5 2036 4.7		9 0442 1.0 TU 1054 5.2 1657 1.2 2303 5.2		24 0352 0.7 W 1012 5.4 1623 1.0 2232 5.4	
10 0327 1.3 TH 0951 5.2 1610 1.0 2224 5.2		25 0237 1.7 F 0907 4.7 1532 1.2 2142 5.0		10 0526 1.0 SU 1138 5.3 1740 1.1 2352 5.3		25 0433 1.0 M 1055 5.3 1710 0.9 2319 5.4		10 0410 1.3 SU 1027 5.0 1633 1.3 2243 5.0		25 0254 1.3 M 0925 4.9 1545 1.2 2155 5.0		10 0526 0.8 W 1136 5.4 1737 1.0 2344 5.4		25 0458 0.4 TH 1109 5.7 1720 0.8 2324 5.7	
11 0434 1.2 F 1053 5.3 1705 0.9 2318 5.3		26 0352 1.4 SA 1014 5.0 1633 1.0 2244 5.2		11 0614 0.9 M 1223 5.4 1822 1.0		26 0537 0.7 TU 1151 5.6 1805 0.7		11 0513 1.0 M 1122 5.3 1725 1.1 2333 5.2		26 0414 0.9 TU 1036 5.4 1650 0.9 2257 5.4		11 0601 0.7 TH 1211 5.5 1811 0.9		26 0554 0.2 F 1158 5.9 1809 0.6	
12 0531 1.0 SA 1146 5.4 1752 0.9		27 0454 1.1 SU 1113 5.3 1728 0.9 2338 5.5		12 0034 5.4 TU 0653 0.8 1302 5.5 ● 1858 0.9		27 0011 5.7 W 0634 0.4 1241 5.9 O 1854 0.6		12 0558 0.8 TU 1205 5.5 1805 1.0		27 0521 0.5 W 1133 5.7 1746 0.7 2350 5.7		12 0020 5.5 F 0632 0.6 1242 5.6 ● 1842 0.8		27 0011 5.9 SA 0641 0.1 1242 6.0 O 1854 0.5	
13 0005 5.4 SU 0620 0.9 1233 5.5 ● 1833 0.9		28 0550 0.8 M 1206 5.6 1818 0.7 O		13 0111 5.5 W 0728 0.7 1337 5.5 1932 0.8		28 0058 5.9 TH 0725 0.2 1327 6.0 1939 0.5		13 0013 5.4 W 0633 0.7 1241 5.5 1839 0.9		28 0618 0.3 TH 1221 6.0 1835 0.5 O		13 0052 5.6 SA 0703 0.6 1311 5.6 1912 0.8		28 0056 6.0 SU 0724 0.1 1323 6.0 1936 0.4	
14 0047 5.5 M 0703 0.8 1315 5.5 1912 0.8		29 0028 5.7 TU 0643 0.6 1255 5.8 1906 0.6		14 0145 5.6 TH 0800 0.6 1408 5.5 2003 0.8				14 0049 5.5 TH 0704 0.6 1313 5.6 ● 1910 0.8		29 0036 5.9 F 0706 0.1 1306 6.1 1919 0.4		14 0124 5.6 SU 0734 0.5 1340 5.7 1942 0.7		29 0138 6.1 M 0804 0.1 1403 6.0 2016 0.4	
15 0126 5.5 TU 0742 0.7 1353 5.5 1948 0.9		30 0114 5.8 W 0735 0.4 1342 5.9 1952 0.6		15 0216 5.6 F 0829 0.6 1438 5.5 2032 0.9				15 0121 5.6 F 0734 0.5 1342 5.6 1940 0.8		30 0119 6.1 SA 0750 -0.1 1348 6.1 2000 0.4		15 0154 5.6 M 0806 0.5 1410 5.7 2012 0.8		30 0221 6.0 TU 0842 0.3 1443 5.8 2054 0.5	
		31 0159 5.9 TH 0824 0.2 1428 6.0 2037 0.6						31 0201 6.1 SU 0831 0.0 1428 6.1 2039 0.4							

HAMILTON SOUND - Standard Port

TIME ZONE -0100

Subtract 1 hour for UT.
For Summer Time add ONE
hour in **non-shaded areas**

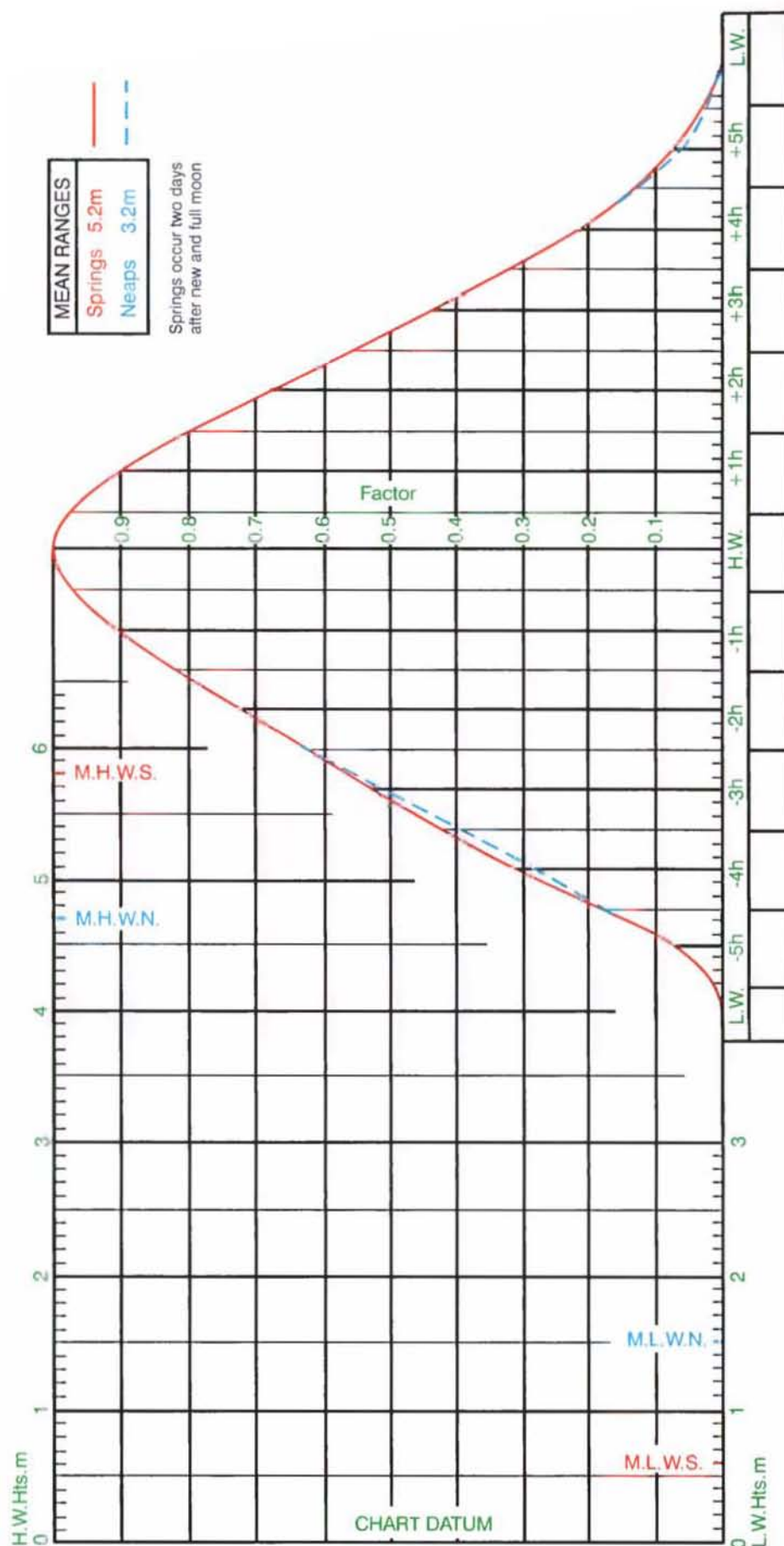
SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0304 5.8 0917 0.6 W 1522 5.6 2130 0.7		16 0239 5.5 0848 0.8 TH 1455 5.5 2059 0.8		1 0418 5.2 1007 1.3 SA 1626 5.0 2231 1.0		16 0400 5.4 1004 1.0 SU 1617 5.3 2236 0.7		1 0436 5.0 1019 1.4 M 1643 5.0 2250 1.0		16 0441 5.5 1042 1.0 TU 1656 5.4 2322 0.5		1 0514 4.9 1055 1.5 TH 1727 4.8 2337 1.2		16 0559 5.2 1149 1.2 F 1823 5.2	
2 0349 5.5 0952 0.9 TH 1603 5.3 2204 0.9		17 0318 5.4 0922 1.0 F 1535 5.3 2137 0.9		2 0507 4.9 1050 1.5 SU 1716 4.8 2321 1.2		17 0454 5.3 1055 1.2 M 1711 5.2 2334 0.7		2 0518 4.9 1100 1.5 TU 1729 4.8 2336 1.1		17 0534 5.4 1131 1.1 W 1750 5.3		2 0600 4.8 1142 1.7 F 1819 4.7		17 0039 1.0 0701 5.0 SA 1257 1.4 1936 5.0	
3 0437 5.2 1030 1.3 F 1649 5.0 2246 1.1		18 0403 5.2 1003 1.2 SA 1621 5.1 2226 0.9		3 0602 4.7 1148 1.7 M 1816 4.6		18 0553 5.2 1156 1.3 TU 1814 5.1		3 0606 4.7 1151 1.7 W 1823 4.7		18 0015 0.6 0631 5.2 TH 1227 1.2 1852 5.2		3 0034 1.3 0657 4.7 SA 1246 1.8 1927 4.5		18 0153 1.3 0813 4.9 SU 1424 1.4 2058 4.9	
4 0534 4.8 1121 1.6 SA 1746 4.7 2350 1.3		19 0457 5.1 1058 1.3 SU 1719 4.9 2330 1.0		4 0030 1.3 0704 4.6 TU 1304 1.8 1924 4.6		19 0039 0.7 0659 5.1 W 1303 1.3 1922 5.1		4 0035 1.2 0700 4.6 TH 1255 1.8 1925 4.6		19 0116 0.8 0735 5.1 F 1333 1.3 2002 5.1		4 0152 1.4 0807 4.7 SU 1415 1.7 2044 4.6		19 0314 1.3 0929 4.9 M 1554 1.3 2215 5.1	
5 0643 4.6 1238 1.8 SU 1900 4.5		20 0604 4.9 1211 1.4 M 1831 4.8		5 0147 1.2 0811 4.6 W 1418 1.7 2032 4.7		20 0148 0.7 0808 5.2 TH 1411 1.2 2031 5.2		5 0144 1.2 0802 4.7 F 1408 1.7 2032 4.7		20 0224 0.9 0843 5.1 SA 1446 1.3 2114 5.1		5 0311 1.4 0919 4.9 M 1534 1.5 2156 4.9		20 0427 1.2 1038 5.1 TU 1707 1.1 2318 5.3	
6 0129 1.4 0802 4.6 M 1408 1.8 2020 4.5		21 0052 1.0 0721 5.0 TU 1334 1.4 1949 4.9		6 0252 1.1 0913 4.8 TH 1519 1.5 2132 4.9		21 0256 0.7 0914 5.3 F 1517 1.1 2136 5.3		6 0252 1.2 0904 4.8 SA 1516 1.6 2134 4.8		21 0334 1.0 0950 5.1 SU 1600 1.2 2223 5.2		6 0415 1.2 1024 5.1 TU 1637 1.2 2257 5.2		21 0525 1.1 1133 5.3 W 1802 0.9	
7 0252 1.2 0916 4.8 TU 1519 1.6 2130 4.8		22 0214 0.8 0837 5.2 W 1446 1.2 2101 5.2		7 0347 1.0 1004 5.0 F 1610 1.3 2223 5.1		22 0400 0.6 1015 5.4 SA 1620 1.0 2236 5.4		7 0352 1.1 1002 5.1 SU 1613 1.4 2230 5.1		22 0439 0.9 1052 5.3 M 1708 1.0 2324 5.4		7 0510 1.0 1120 5.4 W 1733 0.9 2350 5.5		22 0008 5.5 0610 1.0 TH 1219 5.5 1844 0.7	
8 0352 1.0 1013 5.0 W 1614 1.4 2223 5.1		23 0325 0.6 0944 5.4 TH 1550 1.0 2204 5.4		8 0435 0.9 1048 5.2 SA 1654 1.2 2307 5.3		23 0459 0.6 1109 5.5 SU 1719 0.9 2331 5.6		8 0444 1.0 1054 5.3 M 1704 1.1 2321 5.3		23 0534 0.9 1145 5.4 TU 1805 0.9		8 0600 0.9 1210 5.6 TH 1826 0.7		23 0050 5.6 0649 1.0 F 1258 5.6 1921 0.7	
9 0440 0.9 1056 5.2 TH 1658 1.2 2307 5.3		24 0430 0.5 1042 5.6 F 1649 0.9 2258 5.6		9 0518 0.8 1129 5.4 SU 1735 1.0 2349 5.4		24 0550 0.6 1158 5.6 M 1812 0.7		9 0532 0.9 1142 5.5 TU 1752 1.0		24 0016 5.5 0621 0.9 W 1232 5.5 1854 0.7		9 0038 5.7 0648 0.8 F 1257 5.8 1916 0.5		24 0126 5.6 0724 0.9 SA 1334 5.6 1953 0.6	
10 0520 0.8 1133 5.4 F 1735 1.0 2345 5.4		25 0526 0.4 1132 5.8 SA 1741 0.7 2348 5.8		10 0559 0.7 1208 5.6 M 1815 0.9		25 0022 5.6 0635 0.6 TU 1244 5.6 1900 0.6		10 0008 5.4 0617 0.8 W 1228 5.6 1838 0.8		25 0102 5.6 0703 0.9 TH 1314 5.6 1937 0.7		10 0124 5.9 0734 0.7 SA 1340 5.9 2005 0.3		25 0159 5.6 0756 0.9 SU 1406 5.6 2024 0.6	
11 0556 0.7 1206 5.5 SA 1810 0.9		26 0614 0.3 1217 5.8 SU 1830 0.6 O		11 0029 5.5 0639 0.7 TU 1247 5.6 1854 0.8		26 0109 5.7 0718 0.7 W 1326 5.6 1946 0.6		11 0053 0.5 0701 0.8 TH 1312 5.7 1925 0.6		26 0143 5.6 0743 0.9 F 1353 5.6 2016 0.6		11 0208 6.0 0818 0.6 SU 1423 5.9 2052 0.1		26 0229 5.6 0826 1.0 M 1437 5.6 2052 0.6	
12 0020 5.5 0630 0.6 SU 1238 5.6 1843 0.8		27 0034 5.9 0657 0.3 M 1301 5.8 1914 0.5		12 0109 5.5 0718 0.7 W 1326 5.6 1935 0.7		27 0154 5.6 0759 0.8 TH 1407 5.6 2028 0.6		12 0137 5.7 0745 0.7 F 1355 5.7 2013 0.5		27 0221 5.5 0819 0.9 SA 1429 5.5 2050 0.7		12 0252 6.0 0901 0.7 M 1505 5.9 2136 0.1		27 0258 5.5 0852 1.0 TU 1507 5.5 2119 0.7	
13 0055 5.6 0705 0.6 M 1311 5.7 1917 0.8		28 0120 5.9 0738 0.4 TU 1342 5.8 1958 0.5		13 0148 5.5 0757 0.7 TH 1405 5.6 2016 0.7		28 0237 5.6 0837 0.9 F 1447 5.5 2107 0.7		13 0221 5.7 0830 0.7 SA 1437 5.7 2100 0.4		28 0256 5.5 0852 1.0 SU 1503 5.4 2120 0.7		13 0335 5.9 0941 0.8 TU 1548 5.8 2217 0.3		28 0327 5.4 0917 1.2 W 1536 5.4 2146 0.8	
14 0129 5.6 0740 0.6 TU 1345 5.7 1951 0.8		29 0205 5.8 0818 0.6 W 1422 5.7 2039 0.6		14 0229 5.5 0837 0.8 F 1445 5.5 2059 0.6		29 0317 5.4 0912 1.1 SA 1525 5.3 2141 0.8		14 0306 5.7 0914 0.8 SU 1521 5.6 2148 0.3		29 0329 5.3 0920 1.1 M 1536 5.3 2148 0.8		14 0420 5.7 1020 0.9 W 1632 5.7 2258 0.5		29 0357 5.3 0941 1.3 TH 1607 5.2 2216 1.0	
15 0203 5.5 0814 0.7 W 1419 5.6 2025 0.8		30 0249 5.7 0855 0.8 TH 1502 5.5 2117 0.7		15 0313 5.5 0919 0.9 SA 1529 5.4 2145 0.6		30 0357 5.2 0945 1.3 SU 1603 5.1 2213 0.9		15 0353 5.7 0958 0.9 M 1607 5.5 2234 0.4		30 0402 5.2 0948 1.3 TU 1610 5.2 2218 0.9		15 0506 5.5 1100 1.1 TH 1722 5.4 2342 0.7		30 0431 5.1 1009 1.4 F 1642 5.0 2249 1.2	
31 0333 5.4 0931 1.1 F 1543 5.3 2153 0.9								31 0436 5.1 1018 1.4 W 1645 5.0 2254 1.0				31 0511 4.9 1047 1.5 SA 1726 4.8 2335 1.5			

HAMILTON SOUND - Mean Spring and Neap curves



Sweetwater

45°51'.13N 006°09'.21W

Southern Peninsula CHART RYA 3.

Standard Port HAMILTON (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0200	0800	0200	0700	5.8	4.7	1.5	0.6
1400	2000	1400	1900				
Differences SWEETWATER							
-0020	-0020	-0010	-0005	+0.2	+0.1	+0.1	+0.1

DESCRIPTION. A small fishing village with limited facilities for pleasure craft apart from a number of shoreside inns that provide good fare and beer. Shelter is good at Sweetwater Quay but a westerly swell can make the anchorage in NE Sound untenable. Pleasure craft are only allowed alongside at Sweetwater Village Quay to take on FW due to FV unloading. FV have priority for berthing.

APPROACH WAYPOINT. 45°51'.62N 006°12'.75W.

PILOTAGE NOTES. The approach to Sweetwater Bay is straightforward. From the N there are no off lying dangers but note the magnetic anomaly (thought to be an iron-ore deposit) some 3M off the coast. From the S there are 6 ca of navigable water through the inshore passage between the mainland and Dymond Reef; this passage is frequently used

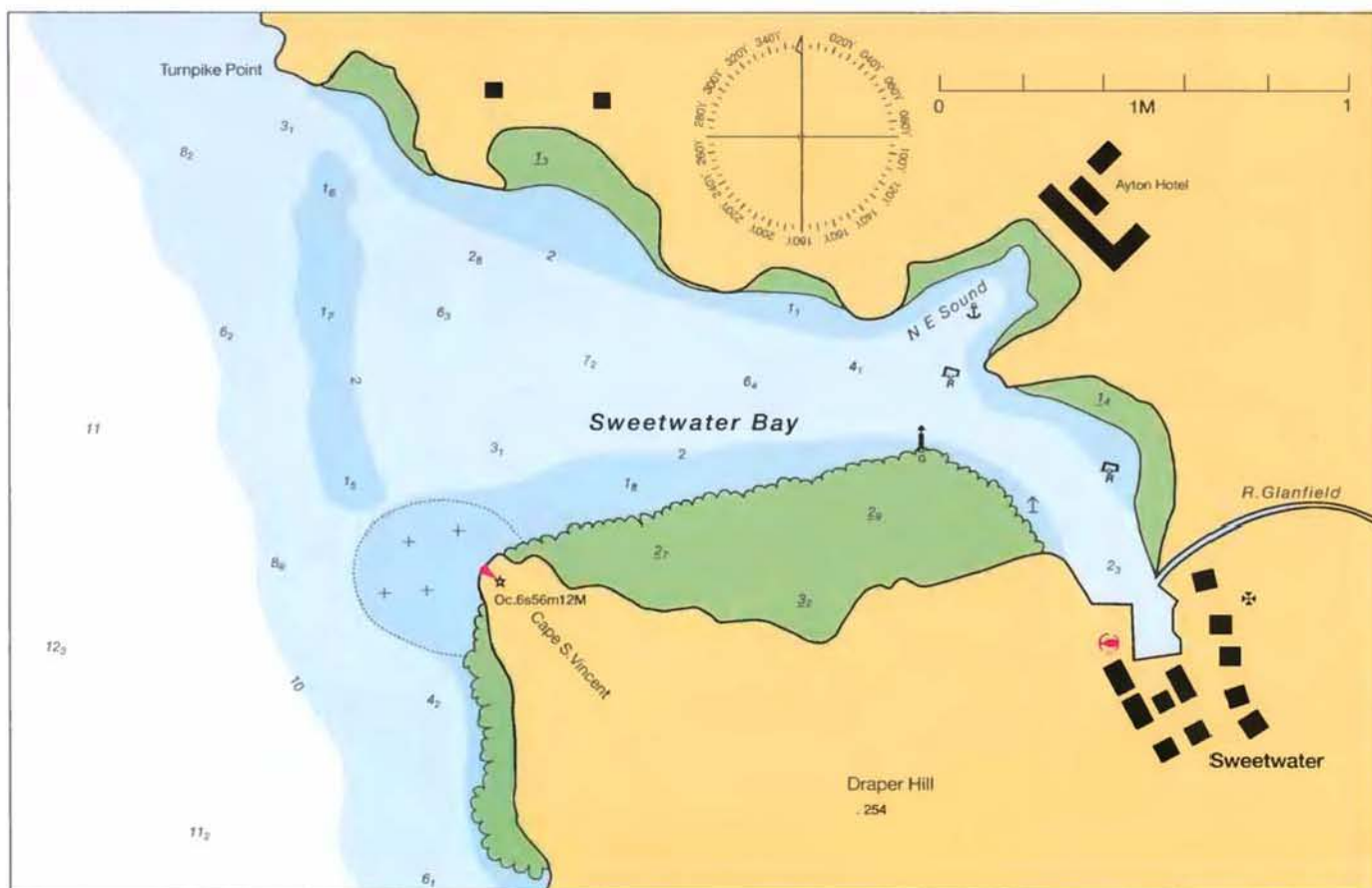
by small coasters sailing to and from Hamilton. In strong W or SW'lies this is a far less lively passage compared to the seaward route due to the (temporary) shelter provided by the reef. Rocks extend 4ca off Cape S. Vincent. The bar which virtually straddles the entrance is dangerous at LW when a westerly swell is running. Near LW a 2m swell offshore will generate a dangerous breaking swell on the bar; do not attempt an entry in these conditions. The conspicuous Ayton Hotel acts as a useful daymark both on the approach and once inside the harbour.

TIDAL STREAMS AND HEIGHTS. Outside Sweetwater the tidal stream follows the coastline and rarely exceeds 2.5kn at springs. There is little tidal flow in Sweetwater Bay itself. The shallow entrance carries a minimum depth of 1.5m.

LIGHTS AND MARKS. Cape S. Vincent Lt Ho [Oc.6s56m12M] (W&R vert striped twr) is situated on the southern headland. Offshore the northern section of Dymond Reef, Token Rks, is marked by a light twr [Fl.5s25m7M] (W&B chequered ○ twr). The conspic Ayton Hotel (W) assists pilotage on the approach. There are no lit marks in the harbour and local knowledge is required for a night-time approach or departure. The approach to Sweetwater village is marked by two SHM and two PHM.

VHF RADIO. None.

FACILITIES. FW on quayside.



Edenfield

45°42'.02N 006°09'.01W

Southern Peninsula CHART RYA 3.

Standard Port HAMILTON (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0200	0800	0200	0700	5.8	4.7	1.5	0.6
1400	2000	1400	1900				
Differences EDENFIELD							
-0018	-0012	-0006	0000	-0.4	-0.2	-0.3	-0.1

DESCRIPTION. Primarily a fishing harbour with limited facilities for pleasure craft. South Quay is used almost exclusively by FV unloading their catch. North Quay has a number of AB although in the height of the season, rafts of up to five deep are common. Alternatively anchor out of main channel in Quarantine Bay; good holding in S and M. Beware of fish traps along the southern shore. Good shelter once within the lee of Quaker Island.

APPROACH WAYPOINT. 45°40'.73N 006°14'.19W.

PILOTAGE NOTES. Two major lights mark this section of the coastline near Edenfield; to the N is the Outer Robens Lt with a 17M nominal range and to the S is S. Stephen's Pt Lt Ho with a 24M nominal range. Six cables to the S of the Edenfield SWM is the Outer Stack Lt [Fl(4)12s14m5M] (B twr W dia stripe). Main Channel, from the SWM (Iso.4s) an E x S track for 2M will bring up close to the first pair of R & G channel buoys. Beware IDM W of Quaker I. [Fl(2)10s] and

the overfalls inshore, near Waltham Pt. A SCM identifies a drying 1.1m shoal as the channel alters to port towards the N. A PCM (RGR) marks split in channel. The preferred channel makes its way to South Quay, the secondary channel to North Quay.

TIDAL STREAMS AND HEIGHTS. In the deeper water offshore, the tidal stream is rectilinear in nature either southerly with the flood stream or northerly with the ebb. With the exception of Quaker Pass, where the stream can reach 2kn, the stream within the bay is generally less than 1kn. There is access to both N & S Edenfield at all states of the tide.

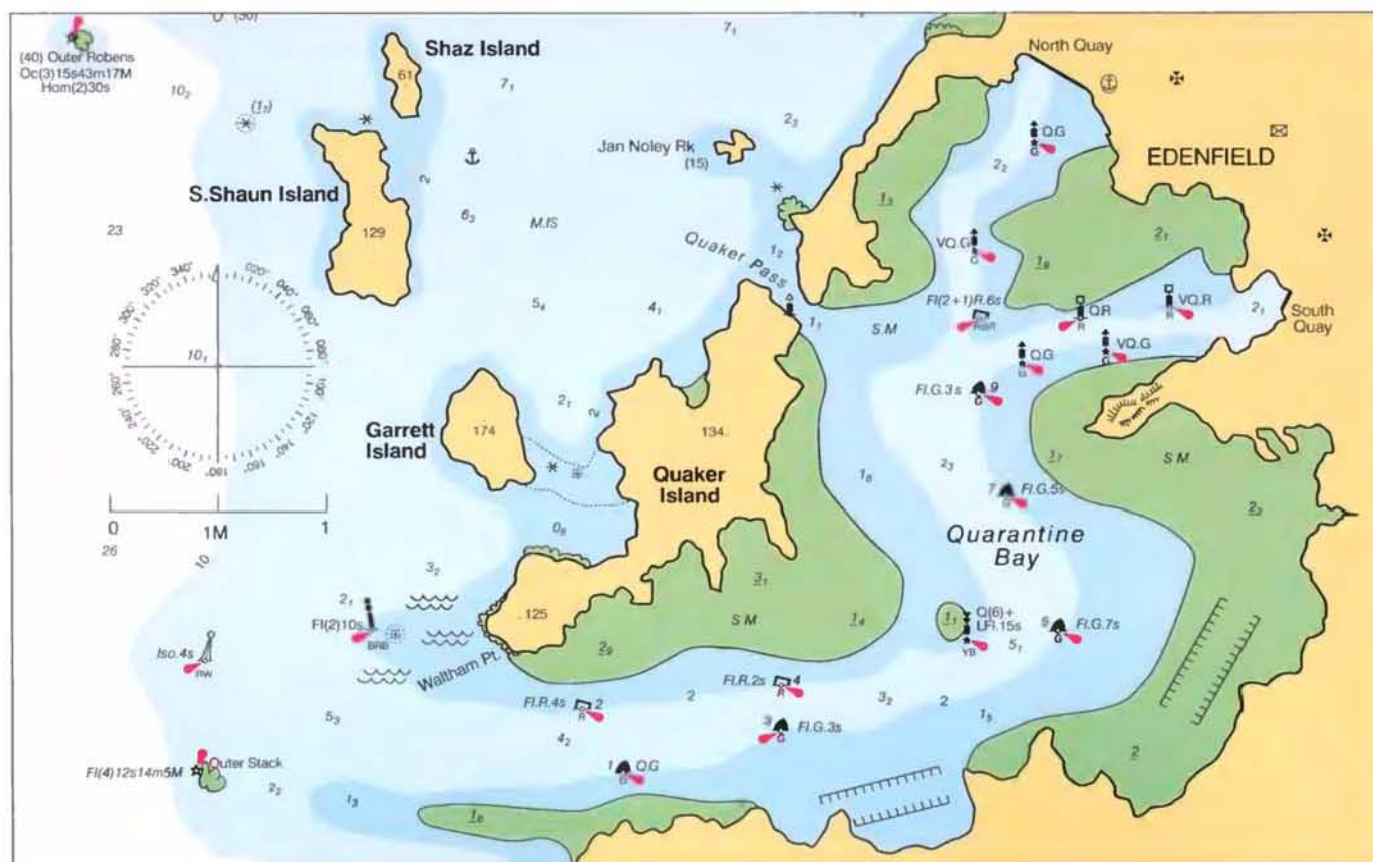
LIGHTS AND MARKS. Outer Stack Lt [Fl(4)12s14m5M] and the SWM [Iso.4s] 1M W of Quaker I. mark the entry into Quarantine Bay. The first reach is well lit with port and starboard hand buoys. The channel is only lit on the stbd side after the SCM until the PCM is reached.

VHF RADIO. None.

FACILITIES. FW on both quays.

ADJACENT ANCHORAGES.

Gordon's Bay. Generally, a sheltered anchorage can be found within the boundaries of the bay whatever the wind direction. The holding is reasonable in M & fS. Care and good pilotage are required for a night-time entry or exit due to the lack of shore lighting. Given sufficient rise of tide, Quaker Pass (least depth 1.1m) can be a useful short cut between Quarantine and Gordon's Bay. Tides as for Edenfield.



COLVILLE - Standard Port

45°57'.35N 006°09'.21W

Southern Peninsula CHART RYA 3.

Standard Port COLVILLE (→)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0100	0700	0100	0700	4.8	3.9	1.4	0.5
1300	1900	1300	1900				
Differences JACKSON BAY							
-0105	-0005	-0035	-0005	+0.4	+0.2	+0.2	+0.2

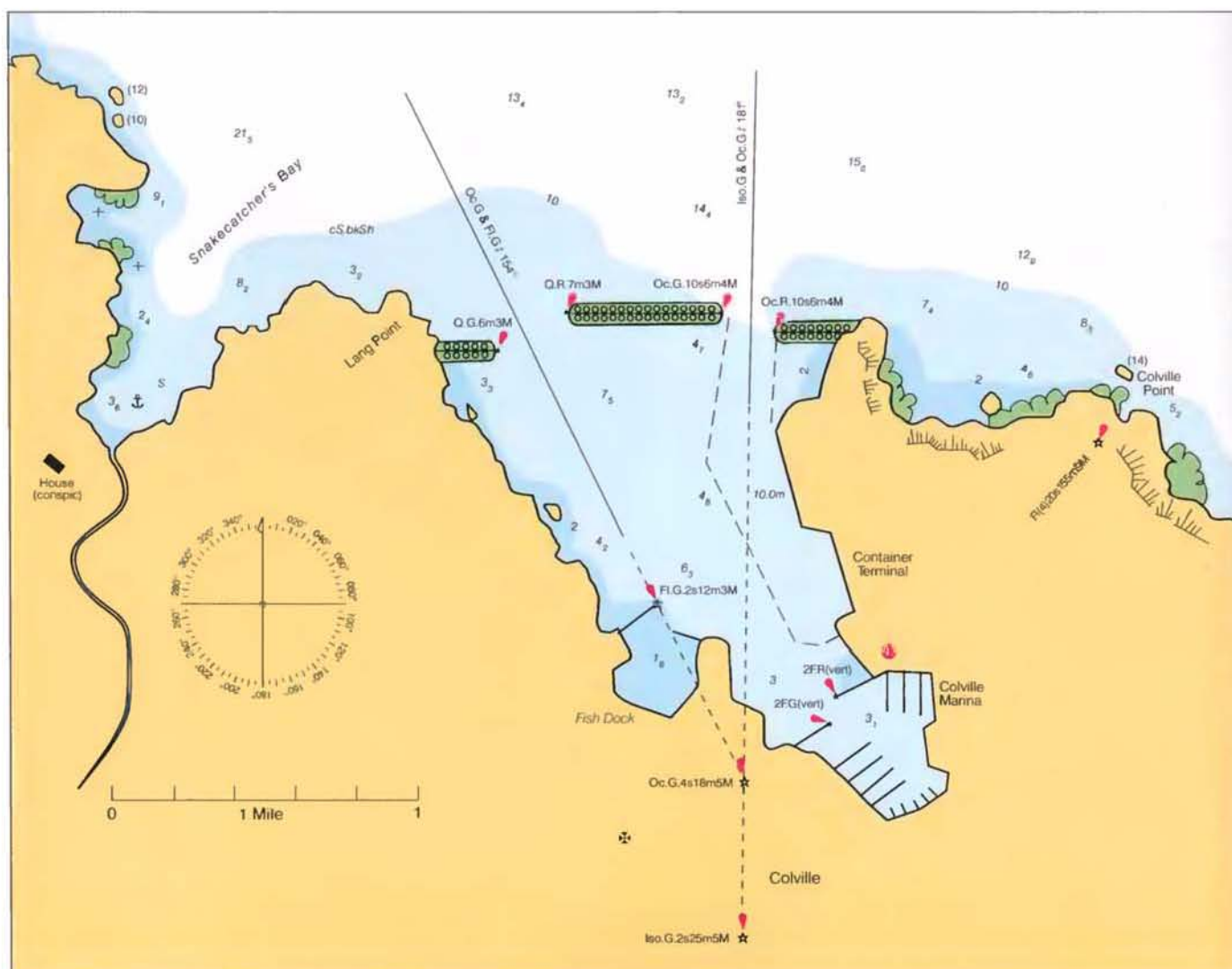
DESCRIPTION. Colville is a busy container and fishing port. The fishing fleet use the 'New Fish Docks' which have been constructed next to the ruins of the old docks. The outer breakwaters provide good shelter except during prolonged N'lies when some swell may enter the entrances. Excellent shelter in the marina from all wind directions. Colville Marina, situated at the SE corner of the harbour, is primarily a residential marina but has some 30 visitors berths in the northern part.

APPROACH WAYPOINT. 45°59'.16N 006°10'.93W.

PILOTAGE NOTES. A straightforward approach with no offshore dangers. 1M E of the entrance is the conspic Colville Pt Lt Ho. Both the E and W entrances have ldg lts. Small Craft may use either breakwater entrance although the eastern entrance should be avoided when large ship movements are taking place. There is a speed limit of 10kn within the breakwater and 4kn within the marina.

TIDAL STREAMS AND HEIGHTS. Both entrances are accessible at all states of the tide. The eastern part of the harbour has a maintained depth of 10m. There is a minimum depth of 3.1m in Colville Marina. Tidal streams within the harbour are weak and variable in direction.

LIGHTS AND MARKS. Approaching from offshore, the conspicuous Colville Point Lt Ho [Fl (4)20s155m9M] (W twr 2B hor bands) is the primary visual aid, used day or night. At 155m, the Lt Ho has the highest elevation in the Southern



COLVILLE - Standard Port

Peninsula. W breakwater entrance, [Q.G6m3M & Q.R7m3M]. E entrance, [Oc.G10s6m4M & Oc.R 10s6m4M]. The breakwater lts are fitted in G or R twrs as applicable. E entrance ldg lts, (181°) front, [Oc.G.4s18m5M]. Rear, [Iso.G.2s25m5M]. W entrance ldg lts, (154°) front, [Fl.G.2s12m3M]. Rear [Oc.G.4s18m5M]. The entrance through the Marina breakwaters is marked with 2F.R (vert) and 2F.G (vert) to port and starboard respectively.

VHF RADIO. Colville VTS VHF Ch 12. Colville Marina VHF Ch 80.

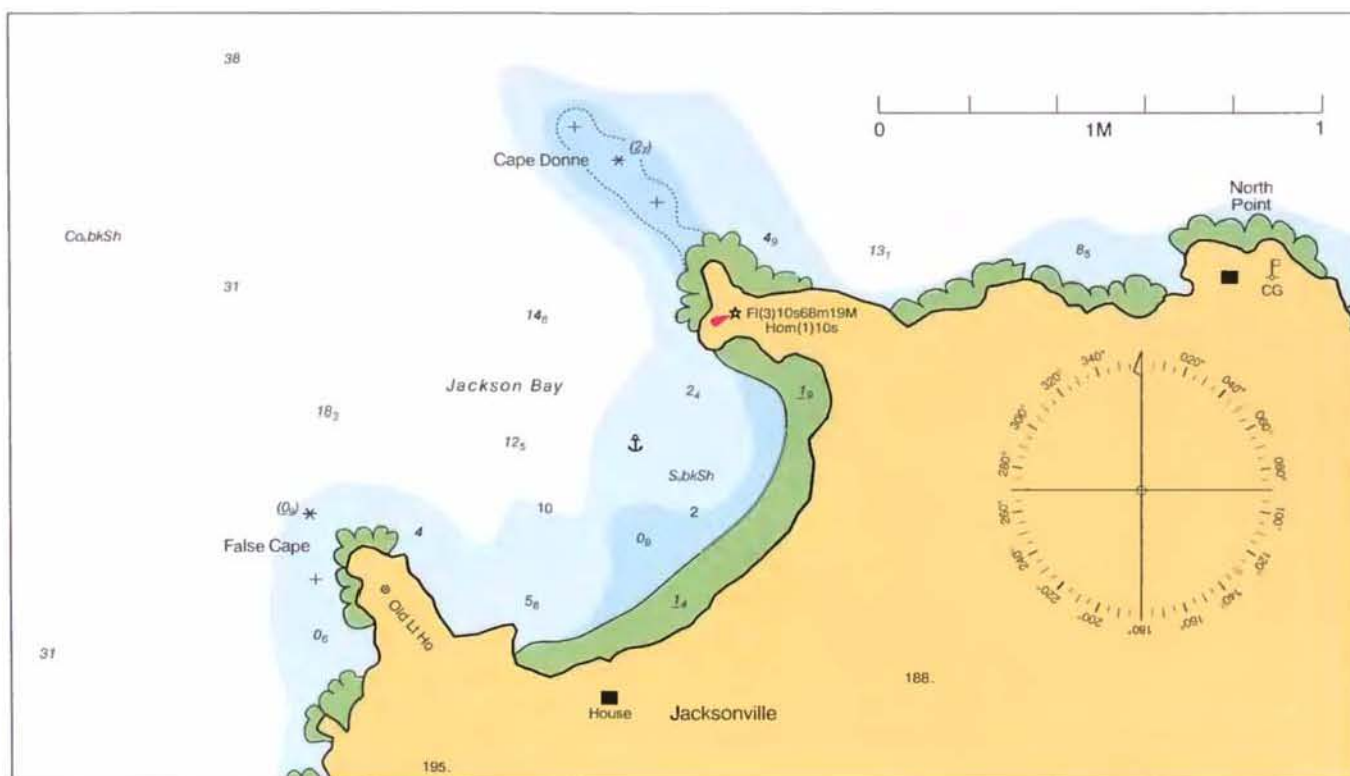
FACILITIES. FW, AC, D, P, BY, C (10 tonnes), BH (25 tonnes), ME, EL, Slip, Divers, Gas, Gaz, SM, YC, Bar.

ADJACENT MINOR ANCHORAGES.

Jackson Bay. A small but useful anchorage at the northwestern tip of the peninsula. If wind direction allows, Jackson Bay may be used as a bolthole or as a waiting anchorage to carry a fair tide, E or W, through Steven's Race. The bay is some 8 ca wide but is fringed with rocks that extend up to 6 ca from the headland at Cape Donne. The holding is good in S.bkSh. The tidal stream is strong outside the bay (4.0kn) and due allowance must be made for this on the approach and exit to ensure that the vessel remains in safe water. No facilities. Two major lights, one on Steven's Rk [Fl(2)12s79m15M] (granite twr with helo platform) and Cape Donne Lt Ho [Fl(3)10s68m19M] (W twr R lantern) assist a night entry or departure.

Snakecatchers's Bay 1 Mile to the W of the western breakwater entrance. A small secluded anchorage with satisfactory holding in sand. No facilities. Sheltered apart from winds from N to E. Tides as for Colville.

Jackson Bay



COLVILLE - Standard Port

TIME ZONE -0100

Subtract 1 hour for UT.
For Summer Time add ONE
hour in **non-shaded areas**

SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0046 0712 TU 1314 1923	4.6 0.6 4.7 0.9	16 0127 0755 W 1357 1948	4.5 0.8 4.4 1.0	1 0201 0837 F 1440 2039	4.9 0.4 4.8 0.8	16 0203 0831 SA 1427 2031	4.5 0.8 4.3 0.9	1 0106 0733 F 1340 1939	4.9 0.2 5.0 0.6	16 0114 0732 SA 1334 1934	4.5 0.7 4.4 0.8	1 0211 0834 M 1439 2043	5.0 0.3 4.7 0.5	16 0143 0802 TU 1358 2016	4.4 0.7 4.4 0.7
2 0127 0759 W 1401 2006	4.7 0.6 4.7 0.9	17 0157 0827 TH 1427 2020	4.5 0.9 4.3 1.1	2 0245 0924 SA 1526 2124	4.8 0.4 4.7 0.9	17 0230 0903 SU 1456 2105	4.5 0.8 4.3 0.9	2 0147 0818 SA 1422 2021	5.0 0.2 4.9 0.6	17 0139 0802 SU 1358 2006	4.5 0.7 4.4 0.8	2 0253 0913 TU 1517 2124	4.9 0.5 4.5 0.7	17 0215 0833 W 1430 2053	4.4 0.8 4.3 0.8
3 0210 0848 TH 1450 2052	4.7 0.6 4.7 1.0	18 0227 0859 F 1459 2056	4.5 0.9 4.2 1.1	3 0331 1012 SU 1614 2212	4.8 0.5 4.5 1.0	18 0300 0936 M 1528 2142	4.4 0.9 4.2 1.0	3 0229 0901 SU 1503 2103	5.0 0.3 4.8 0.7	18 0205 0831 M 1424 2039	4.5 0.7 4.4 0.8	3 0337 0952 W 1559 2207	4.7 0.8 4.3 0.9	18 0252 0908 TH 1508 2135	4.3 0.9 4.2 0.9
4 0257 0939 F 1543 2142	4.6 0.6 4.5 1.1	19 0258 0935 SA 1533 2134	4.4 1.0 4.2 1.2	4 0421 1102 M 1705 2303	4.6 0.7 4.3 1.2	19 0336 1012 TU 1606 2223	4.4 1.0 4.1 1.1	4 0311 0943 M 1545 2146	4.9 0.4 4.6 0.8	19 0234 0902 TU 1454 2114	4.5 0.8 4.3 0.8	4 0427 1037 TH 1648 2300	4.4 1.1 4.0 1.1	19 0338 0953 F 1556 2227	4.2 1.1 4.0 1.1
5 0348 1033 SA 1639 2236	4.5 0.7 4.4 1.2	20 0333 1013 SU 1613 2216	4.3 1.0 4.1 1.3	5 0517 1159 TU 1802	4.4 0.9 4.0	20 0420 1054 W 1655 2314	4.2 1.1 4.0 1.3	5 0357 1026 TU 1629 2232	4.7 0.7 4.3 1.0	20 0309 0935 W 1531 2154	4.4 0.9 4.2 1.0	5 0526 1138 F 1748	4.0 1.5 3.7	20 0438 1051 SA 1700 2334	4.0 1.4 3.8 1.2
6 0446 1132 SU 1741 2336	4.4 0.8 4.2 1.3	21 0415 1056 M 1700 2303	4.2 1.1 4.0 1.4	6 0004 0620 W 1308 1907	1.3 4.2 1.1 3.9	21 0516 1149 TH 1801	4.0 1.3 3.8	6 0449 1116 W 1721 2326	4.4 1.0 4.0 1.3	21 0352 1017 TH 1617 2243	4.2 1.1 4.0 1.2	6 0019 0641 SA 1311 1904	1.4 3.8 1.7 3.6	21 0557 1206 SU 1823	3.9 1.5 3.7
7 0549 1238 M 1846	4.3 0.9 4.1	22 0506 1145 TU 1758 2358	4.1 1.2 3.8 1.5	7 0124 0735 TH 1422 2023	1.5 4.0 1.2 3.8	22 0017 0631 F 1304 1926	1.5 3.9 1.5 3.7	7 0550 1222 TH 1824	4.1 1.3 3.8	22 0447 1112 F 1720 2348	4.0 1.3 3.8 1.4	7 0206 0820 SU 1439 2036	1.4 3.8 1.6 3.7	22 0102 0724 M 1343 1950	1.2 3.9 1.5 3.8
8 0045 0657 TU 1346 1953	1.4 4.2 0.9 4.1	23 0609 1244 W 1907	3.9 1.3 3.8	8 0249 0900 F 1528 2137	1.4 4.0 1.2 4.0	23 0140 0757 SA 1439 2046	1.5 3.9 1.4 3.8	8 0047 0706 F 1350 1943	1.5 3.9 1.5 3.7	23 0605 1227 SA 1847	3.8 1.5 3.7	8 0320 0936 M 1540 2145	1.2 4.0 1.4 4.0	23 0228 0843 TU 1458 2103	1.0 4.1 1.3 4.1
9 0201 0808 W 1451 2059	1.4 4.2 0.9 4.1	24 0103 0721 TH 1359 2015	1.5 3.9 1.3 3.9	9 0359 1012 SA 1624 2236	1.2 4.2 1.2 4.2	24 0308 0916 SU 1548 2154	1.4 4.1 1.3 4.1	9 0230 0844 SA 1506 2112	1.4 3.9 1.5 3.8	24 0115 0737 SU 1411 2017	1.4 3.8 1.5 3.8	9 0414 1029 TU 1627 2235	0.9 4.3 1.2 4.2	24 0332 0948 W 1554 2201	0.7 4.4 1.0 4.4
10 0311 0918 TH 1549 2159	1.2 4.3 0.9 4.2	25 0221 0831 F 1510 2118	1.5 4.0 1.3 4.0	10 0456 1110 SU 1711 2325	1.0 4.3 1.1 4.3	25 0414 1022 M 1642 2250	1.1 4.4 1.1 4.4	10 0344 1001 SU 1606 2216	1.2 4.1 1.3 4.1	25 0248 0901 M 1525 2131	1.2 4.1 1.3 4.0	10 0457 1112 W 1705 2316	0.8 4.4 1.0 4.4	25 0426 1042 TH 1643 2253	0.5 4.7 0.8 4.6
11 0412 1022 F 1641 2252	1.1 4.3 0.9 4.3	26 0333 0937 SA 1610 2216	1.3 4.2 1.1 4.2	11 0545 1157 M 1752	0.9 4.4 1.0	26 0510 1119 TU 1729 2339	0.8 4.7 0.9 4.6	11 0440 1056 M 1653 2305	1.0 4.3 1.2 4.3	26 0355 1008 TU 1620 2229	0.9 4.4 1.1 4.4	11 0532 1147 TH 1738 2350	0.7 4.4 0.9 4.4	26 0515 1131 F 1729 2341	0.3 4.8 0.6 4.8
12 0507 1117 SA 1727 2339	0.9 4.4 0.9 4.4	27 0433 1036 SU 1701 2307	1.1 4.4 1.0 4.4	12 0006 0626 TU 1237 1826	4.5 0.8 4.5 1.0	27 0600 1210 W 1813 O	0.5 4.9 0.8	12 0526 1140 TU 1732 2346	0.8 4.5 1.0 4.4	27 0450 1104 W 1708 2318	0.6 4.7 0.8 4.6	12 0603 1217 F 1808	0.7 4.4 0.8	27 0601 1216 SA 1815 O	0.2 4.8 0.5
13 0556 1205 SU 1809	0.8 4.5 0.9	28 0526 1130 M 1747 O 2353	0.8 4.6 0.9 4.6	13 0041 0702 W 1311 1856	4.5 0.8 4.4 1.0	28 0023 0647 TH 1257 1856	4.8 0.3 5.0 0.7	13 0604 1218 W 1805	0.7 4.5 1.0	28 0539 1153 TH 1752 O	0.4 4.9 0.7	13 0020 0632 SA 1242 1838	4.4 0.7 4.4 0.8	28 0026 0646 SU 1258 1900	4.9 0.2 4.8 0.5
14 0019 0640 M 1248 1844	4.5 0.8 4.5 0.9	29 0615 1220 TU 1830	0.6 4.8 0.8	14 0111 0733 TH 1338 1926	4.5 0.8 4.4 1.0	15 0138 0802 F 1402 1957	4.5 0.8 4.4 0.9	14 0020 0636 TH 1249 1834	4.5 0.7 4.5 0.9	29 0004 0625 F 1239 1836	4.8 0.2 5.0 0.6	14 0047 0702 SU 1306 1910	4.4 0.7 4.4 0.7	29 0111 0728 M 1338 1944	4.9 0.2 4.8 0.4
15 0055 0720 TU 1325 1917	4.5 0.8 4.5 1.0	30 0036 0703 W 1308 1912	4.7 0.5 4.9 0.8	15 0138 0802 F 1402 1957	4.5 0.8 4.4 0.9	16 0129 0753 SU 1400 2001	5.0 0.2 4.9 0.5	15 0049 0704 F 1313 1903	4.5 0.7 4.4 0.9	30 0047 0710 SA 1321 1919	5.0 0.1 5.0 0.5	15 0114 0732 M 1331 1943	4.4 0.7 4.4 0.7	30 0153 0808 TU 1415 2026	4.9 0.4 4.6 0.5
31 0119 0750 TH 1354 1955	4.8 0.4 4.9 0.8														

COLVILLE - Standard Port

TIME ZONE -0100

Subtract 1 hour for UT.
For Summer Time add ONE
hour in non-shaded areas

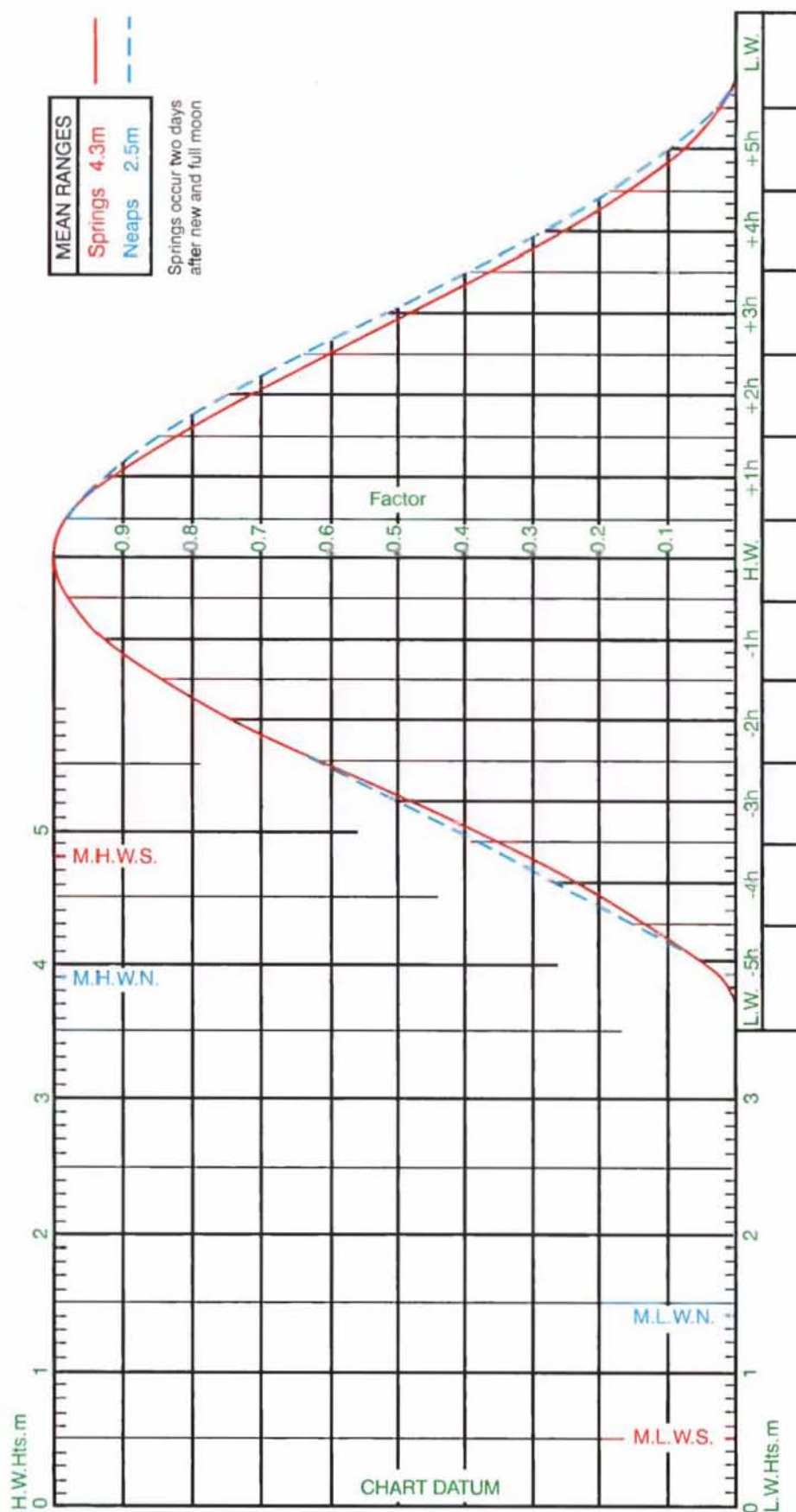
SPRING & NEAP TIDES

Dates in red are SPRINGS
Dates in blue are NEAPS

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0236 4.7 W 0846 0.6 1453 4.5 2108 0.6		16 0202 4.4 TH 0812 0.8 1414 4.3 2040 0.7		1 0352 4.2 SA 0944 1.2 1557 4.2 2228 1.0		16 0332 4.4 SU 0933 1.1 1539 4.3 2218 0.8		1 0412 4.1 M 1000 1.3 1613 4.2 2246 1.1		16 0414 4.5 TU 1011 1.1 1616 4.5 2300 0.7		1 0452 4.0 TH 1052 1.4 1652 4.1 2328 1.2		16 0532 4.2 F 1134 1.3 1745 4.3	
2 0320 4.5 TH 0925 0.9 1534 4.3 2151 0.8		17 0245 4.3 F 0852 1.0 1456 4.2 2127 0.8		2 0443 4.0 SU 1033 1.4 1650 4.0 2326 1.1		17 0431 4.3 M 1029 1.2 1637 4.2 2320 0.8		2 0500 4.0 TU 1048 1.4 1702 4.0 2336 1.1		17 0510 4.4 W 1107 1.2 1713 4.4 2359 0.8		2 0545 3.9 F 1144 1.5 1750 3.9		17 0026 1.1 SA 0634 4.0 1248 1.4 1857 4.1	
3 0409 4.3 F 1008 1.2 1621 4.1 2244 1.1		18 0335 4.2 SA 0941 1.1 1547 4.1 2222 0.9		3 0542 3.9 M 1135 1.6 1751 3.9		18 0535 4.2 TU 1132 1.3 1742 4.1		3 0553 3.9 W 1143 1.5 1759 3.9		18 0610 4.2 TH 1208 1.3 1816 4.3		3 0024 1.3 SA 0648 3.9 1247 1.6 1900 3.8		18 0143 1.3 SU 0748 4.0 1416 1.4 2025 4.0	
4 0506 4.0 SA 1104 1.5 1720 3.8 2357 1.3		19 0437 4.1 SU 1039 1.3 1650 3.9 2329 1.0		4 0033 1.2 TU 0646 3.8 1248 1.6 1856 3.8		19 0028 0.8 W 0642 4.2 1242 1.3 1849 4.2		4 0032 1.2 TH 0649 3.9 1245 1.5 1859 3.9		19 0104 0.9 F 0713 4.2 1320 1.3 1925 4.2		4 0137 1.4 SU 0755 3.9 1405 1.5 2013 3.9		19 0256 1.3 M 0906 4.0 1531 1.3 2148 4.1	
5 0615 3.8 SU 1224 1.7 1830 3.7		20 0550 4.0 M 1151 1.4 1804 3.9		5 0140 1.2 W 0750 3.9 1358 1.5 1959 3.9		20 0136 0.8 TH 0749 4.2 1353 1.2 1957 4.2		5 0133 1.2 F 0747 3.9 1351 1.5 1959 3.9		20 0212 0.9 SA 0820 4.1 1435 1.3 2040 4.2		5 0250 1.4 M 0900 4.0 1517 1.4 2121 4.0		20 0357 1.3 TU 1012 4.2 1634 1.0 2251 4.4	
6 0129 1.3 M 0738 3.8 1356 1.6 1948 3.7		21 0048 1.0 TU 0707 4.1 1313 1.4 1921 4.0		6 0237 1.1 TH 0848 4.0 1456 1.4 2056 4.0		21 0239 0.7 F 0851 4.3 1458 1.1 2103 4.3		6 0232 1.2 SA 0844 4.0 1454 1.4 2057 4.0		21 0315 0.9 SU 0926 4.2 1542 1.1 2152 4.3		6 0351 1.2 TU 0958 4.2 1618 1.2 2221 4.3		21 0448 1.2 W 1104 4.4 1726 0.8 2342 4.5	
7 0241 1.1 TU 0853 3.9 1501 1.5 2058 3.9		22 0204 0.8 W 0819 4.2 1426 1.2 2031 4.2		7 0326 1.0 F 0938 4.1 1544 1.2 2146 4.1		22 0336 0.6 SA 0950 4.4 1557 0.9 2205 4.4		7 0328 1.1 SU 0938 4.1 1550 1.2 2152 4.1		22 0412 0.9 M 1025 4.3 1641 1.0 2255 4.4		7 0443 1.1 W 1050 4.4 1710 0.9 2315 4.5		22 0532 1.1 TH 1149 4.6 1811 0.7	
8 0334 1.0 W 0947 4.1 1550 1.2 2151 4.1		23 0306 0.6 TH 0921 4.4 1525 1.0 2132 4.4		8 0410 0.9 SA 1021 4.2 1627 1.0 2230 4.2		23 0429 0.6 SU 1043 4.5 1652 0.8 2303 4.5		8 0419 1.0 M 1027 4.3 1641 1.0 2243 4.3		23 0502 0.9 TU 1118 4.4 1735 0.8 2350 4.5		8 0529 1.0 TH 1136 4.6 1758 0.7		23 0025 4.6 F 0611 1.1 1228 4.7 1851 0.7	
9 0416 0.8 TH 1030 4.3 1630 1.1 2235 4.2		24 0401 0.4 F 1016 4.6 1618 0.8 2227 4.5		9 0451 0.8 SU 1100 4.3 1708 0.9 2312 4.3		24 0519 0.6 M 1133 4.5 1744 0.7 2356 4.6		9 0505 0.9 TU 1112 4.4 1728 0.9 2331 4.4		24 0548 0.9 W 1204 4.5 1824 0.7		9 0004 4.7 F 0611 0.9 1219 4.7 1844 0.6		24 0104 4.6 SA 0645 1.1 1302 4.7 1925 0.7	
10 0453 0.7 F 1107 4.3 1705 0.9 2312 4.3		25 0451 0.3 SA 1106 4.6 1708 0.7 2319 4.6		10 0531 0.8 M 1138 4.4 1749 0.8 2351 4.3		25 0605 0.6 TU 1218 4.6 1834 0.6		10 0548 0.9 W 1154 4.5 1813 0.8		25 0037 4.6 TH 0629 0.9 1245 4.6 1908 0.7		10 0050 4.8 SA 0652 0.9 1259 4.8 1929 0.4		25 0135 4.5 SU 0716 1.1 1331 4.6 1954 0.8	
11 0527 0.7 SA 1139 4.4 1739 0.8 2345 4.3		26 0538 0.3 SU 1153 4.7 1757 0.6		11 0608 0.8 TU 1214 4.4 1829 0.7		26 0044 4.6 W 0647 0.7 1259 4.6 1920 0.6		11 0016 4.5 TH 0628 0.9 1235 4.5 1858 0.6		26 0119 4.6 F 0707 1.0 1321 4.6 1948 0.7		11 0135 4.9 SU 0734 0.9 1340 4.9 2014 0.4		26 0200 4.4 M 0748 1.0 1357 4.6 2022 0.8	
12 0600 0.7 SU 1208 4.4 1813 0.8		27 0008 4.7 M 0623 0.3 1236 4.7 1845 0.5		12 0031 4.4 W 0644 0.8 1250 4.4 1909 0.7		27 0129 4.6 TH 0726 0.8 1338 4.5 2004 0.6		12 0102 4.6 F 0708 0.9 1314 4.6 1942 0.6		27 0156 4.5 SA 0741 1.1 1354 4.6 2023 0.8		12 0219 4.9 M 0817 0.9 1421 4.9 2058 0.4		27 0224 4.4 TU 0820 1.0 1423 4.5 2051 0.9	
13 0018 4.3 M 0633 0.7 1238 4.4 1847 0.7		28 0055 4.7 TU 0706 0.4 1317 4.6 1931 0.5		13 0112 4.5 TH 0721 0.8 1326 4.4 1950 0.7		28 0210 4.5 F 0804 0.9 1414 4.5 2044 0.7		13 0147 4.7 SA 0750 0.9 1355 4.6 2028 0.5		28 0229 4.4 SU 0815 1.1 1426 4.5 2055 0.8		13 0303 4.8 TU 0902 0.9 1505 4.8 2143 0.5		28 0249 4.3 W 0855 1.1 1450 4.5 2122 0.9	
14 0051 4.4 TU 0705 0.7 1308 4.4 1923 0.7		29 0139 4.7 W 0746 0.6 1355 4.6 2014 0.5		14 0155 4.5 F 0800 0.9 1405 4.4 2035 0.7		29 0250 4.4 SA 0840 1.1 1451 4.4 2123 0.8		14 0233 4.7 SU 0834 1.0 1438 4.6 2116 0.5		29 0300 4.3 M 0849 1.1 1457 4.4 2128 0.9		14 0348 4.6 W 0948 1.0 1552 4.7 2230 0.6		29 0318 4.3 TH 0931 1.1 1522 4.4 2155 1.0	
15 0125 4.4 W 0738 0.8 1339 4.4 2000 0.7		30 0222 4.6 TH 0824 0.8 1433 4.5 2057 0.7		15 0241 4.4 SA 0844 1.0 1449 4.3 2124 0.7		30 0330 4.3 SU 0918 1.2 1530 4.3 2202 0.9		15 0322 4.6 M 0921 1.0 1525 4.6 2206 0.6		30 0333 4.2 TU 0927 1.2 1530 4.3 2203 1.0		15 0437 4.4 TH 1037 1.1 1644 4.5 2322 0.9		30 0353 4.2 F 1011 1.2 1601 4.2 2234 1.2	
31 0306 4.4 F 0902 1.0 1513 4.3 2140 0.8								31 0409 4.1 W 1007 1.3 1607 4.2 2242 1.1				31 0437 4.0 SA 1059 1.4 1653 4.0 2324 1.4			

COLVILLE - Mean Spring and Neap curves



Dawson Harbour

45°44'.10N 005°57'.79W

Southern Peninsula CHARTS RYA 3, 4.

Standard Port COLVILLE (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0100	0700	0100	0700	4.8	3.9	1.4	0.5
1300	1900	1300	1900				
Differences Dawson Harbour							
-0038	-0014	-0030	-0006	+2.8	+1.7	+1.0	+0.5

DESCRIPTION. Excellent shelter within this well protected harbour which has three granite outcrops (The Rocques) positioned at the entrance acting as natural breakwaters. The entrance and main channels are accessible at all states of tide. Dawson Harbour has managed to keep its unspoilt charm and although there are some facilities for visiting yachts and motor boats these are somewhat limited given the size of the harbour. With careful pilotage and sufficient rise of tide the various reaches in the harbour can be explored. There are AB at Old Dawson and North Mattville. Berthing at South Mattville is exclusively reserved for FV. Secure anchorage, in sand, in East Dawson Creek.

APPROACH WAYPOINT. 45°46'.92N 005°57'.24W.

PILOTAGE NOTES. The approach to the entrance is straightforward and clear of dangers. The Outer Rocque Lt Ho is conspic day and night. The entrance is protected by three rocky islands, the Inner, Middle and Outer Rocques. The recommended passage is through the 'Flanker Channel' which passes between Middle and Outer Rocque (least depth 3.3m). The conspic radio mast on Mattville Down should be used to provide a leading bearing until the hotel transit can be identified. At the Heads, the eastern side of the entrance should be favoured as a shallow sand spit extends from Dawson Head. Once through the Heads the harbour is unlit and has only a few beacons to aid pilotage. Night entry is not recommended without local knowledge.

TIDAL STREAMS AND HEIGHTS. The harbour has a large tidal range (6.6m at springs) and the spring rate can reach over 4kn through the various Rocque channels and the Heads.

At certain states of the tide, vessels navigating the Flanker Channel and the harbour approaches may be subjected to a strong lateral set and it is therefore imperative that transits are used and held. The tidal streams within the harbour are variable in both direction and rate but generally tail off near the end of the various creeks.

TIDAL HEIGHT ANOMALY IN DAWSON BAY. Two factors contribute to an unusually large tidal range in Dawson Bay. Initially the SE going flood builds up in the narrow Neptune Channel, between Slade Island and Beauty Point; this creates a restriction that increases the sea height locally and causes the strong tidal stream through the races. Secondly, a proportion of the SE stream, confined by the narrows of the Neptune Channel, turns back on itself creating the reverse NW going eddy. This further augments the tide raising effect within the bay.

Note: The 5m & 2m charted contours around the Rocques and within the harbour itself are approximated, and should be used with caution.

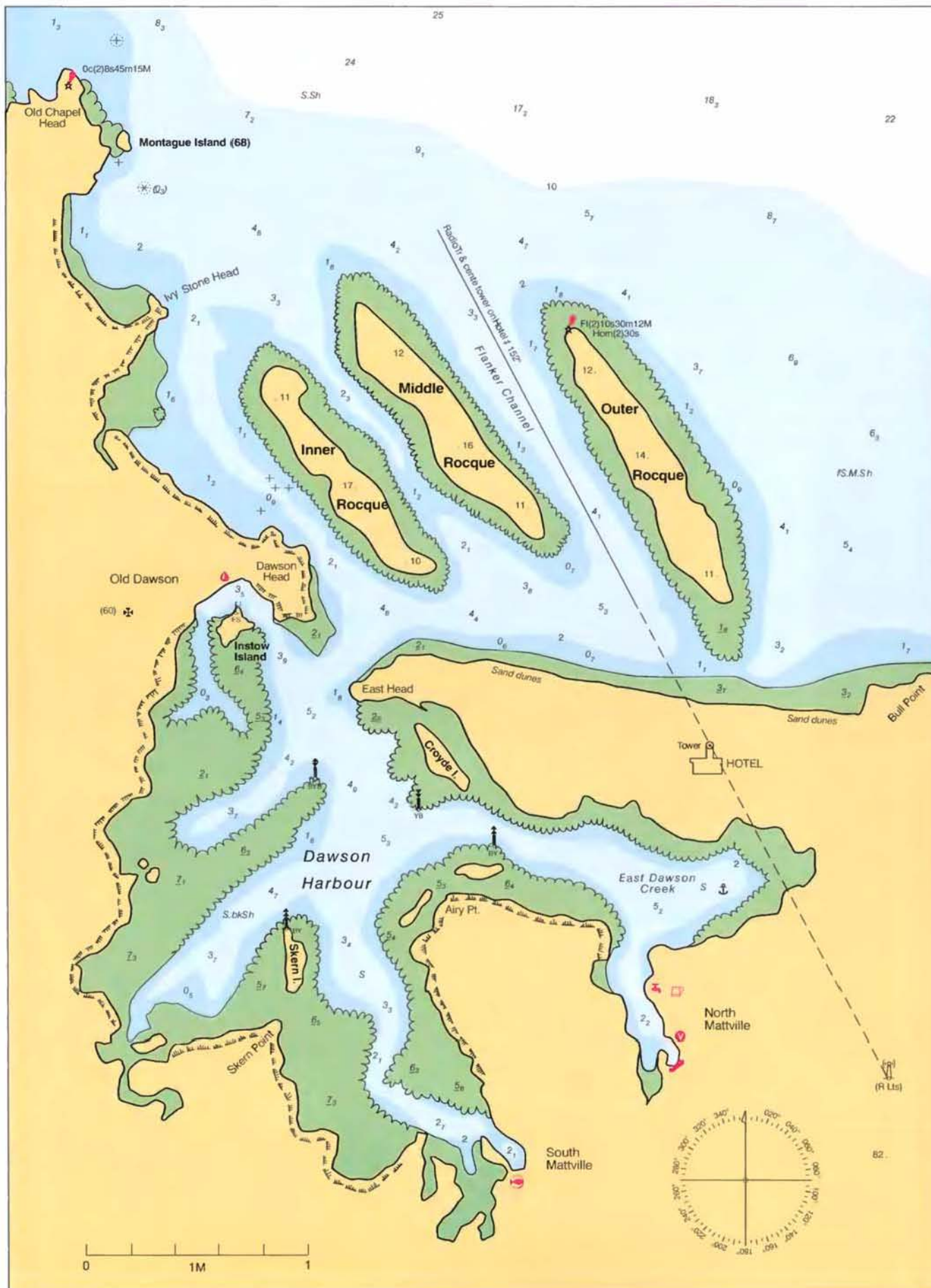
LIGHTS AND MARKS. The distinctive Outer Rocque Lt Ho [Fl(2)10s30m12M] (W twr R spiral stripe) is situated on the northern end of the Island. A further major Lt Ho on Old Chapel Head [Oc(2)8s45m15M] (W ○ twr) is a mere 2.6M from the Outer Rocque Lt Ho. There are no lights within the hbr. Four cardinal posts indicate the extremities of the primary rock ledges.

VHF RADIO. None.

FACILITIES. Old Dawson - FW, Gas, CH, Bar. North Mattville - FW, Bar.



Dawson Harbour



PORT FITZROY - Standard Port

45°37'.66N 005°53'.03W

Southern Peninsula CHARTS RYA 3, 4.

Standard Port PORT FITZROY (→)

DESCRIPTION. Port Fitzroy is a busy harbour that handles both general cargo and ferry traffic. The port does not openly encourage pleasure craft. The harbour does however, provide reasonable shelter at Old Town anchorage and limited AB on the Town Quay. The southern section of the quay is reserved exclusively for local FV but the northern section of the quay is available to visiting craft. Good holding at anchorage in Old Town Bay but expect wash from passing FV.

APPROACH WAYPOINT. 45°40'.19N 005°50'.17W.

PILOTAGE NOTES. Small Craft intending to enter Fitzroy Bay through Fiddler's Race are strongly advised to plan the passage thoroughly. The tidal stream attains spring rates of up to 6kn; during wind over tide conditions, severe overfalls in the race make this passage untenable, therefore good timing is of the essence. See page 170 for passage information through the race. All vessels must contact Port Fitzroy VTS on Ch 74 and request permission to enter the harbour. Vessels <20m must enter the main channel between No 7 & No 9 SHM or if approaching from the E

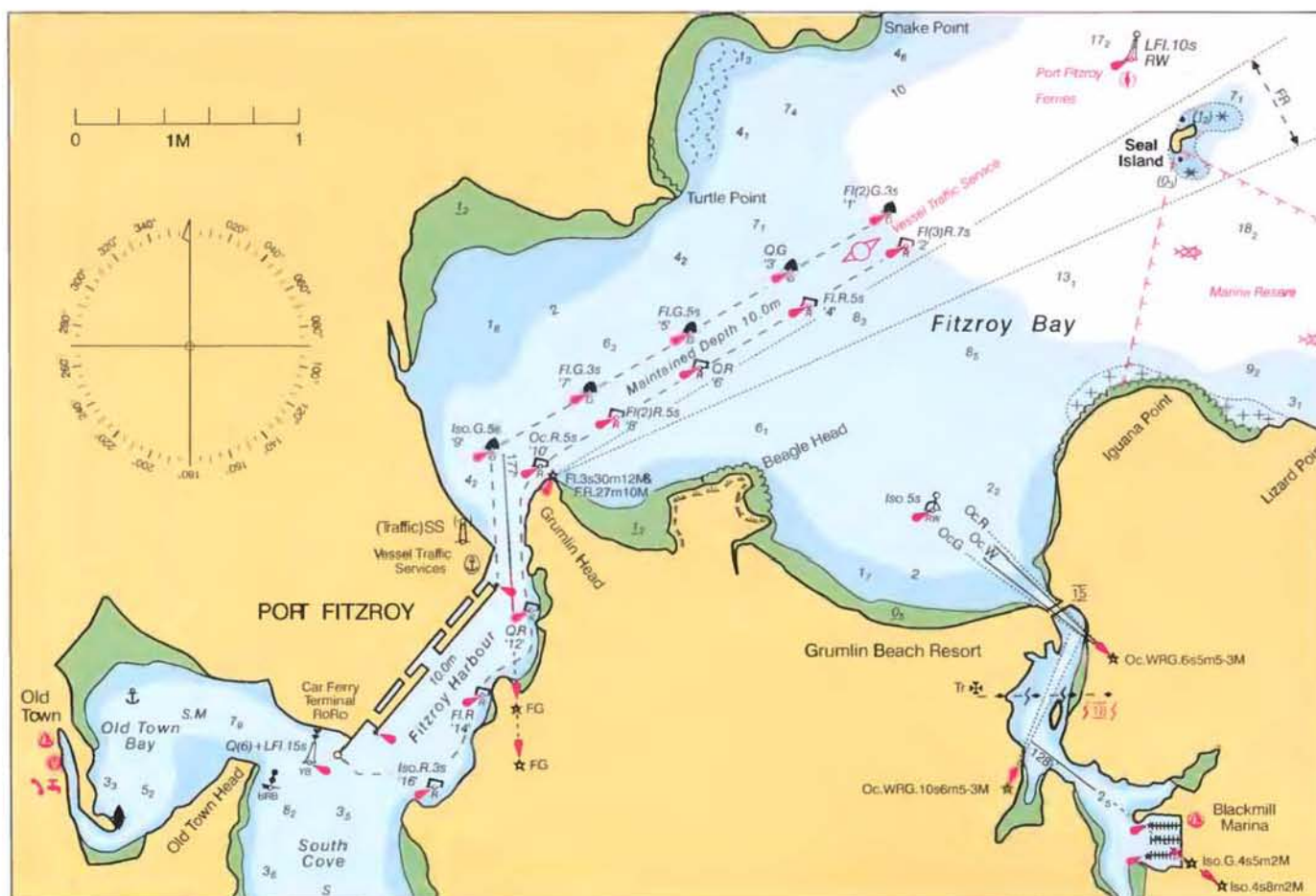
between No 8 & No 10 PHM. Vessels intending to leave Old Town must receive permission before slipping and once clear of the Heads must exit the main chan between PHM No 10 & No 8. Seal I. is unlit but covered by the F.R. light of Grumlin Head Lt Ho. Shipping channel is well marked with buoyage and ldg lts. Port Authorities request that Small Craft do not use the SWM as a waypoint.

TIDAL STREAMS AND HEIGHTS. For tidal stream information appertaining to Fiddler's Race refer to tidal stream atlas and passage notes. The tidal stream in Fitzroy Bay generally follows the sweep of the bay becoming weak inside the 10m contour line.

LIGHTS AND MARKS. IPTS are displayed from the VTS SS. The F.R. light of Grumlin Head Lt Ho [Fl.3s30m12M&F.R.27m10M] covers Seal Island and surrounding rocks. Generally a well buoyed and well lit channel up to the SCM at the Ro Ro terminal. Beyond this point the channel is unlit.

VHF RADIO. VHF Ch 74, 13, 16. Vessels <20m must contact Port Fitzroy VTS on Ch 74 and request permission before entering the main buoyed channel.

FACILITIES. FW, CH.



PORT FITZROY - Standard Port

TIME ZONE -0100

Subtract 1 hour for UT.
For Summer Time add ONE
hour in non-shaded areas

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

SPRING & NEAP TIDES

Dates in red are SPRINGS
Dates in blue are NEAPS

JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0156 6.3		16 0229 6.0		1 0311 6.5		16 0310 6.0		1 0210 6.7		16 0219 6.0		1 0313 6.8		16 0252 6.1	
TU 0824 0.6		W 0902 0.8		F 0952 0.2		SA 0933 0.8		F 0852 0.0		SA 0844 0.7		M 0945 0.0		TU 0857 0.8	
1420 6.5		W 1457 6.0		F 1542 6.8		SA 1537 6.0		F 1438 7.0		SA 1439 6.1		M 1541 6.7		TU 1512 6.2	
2033 0.9		2055 1.0		2149 0.6		2126 0.9		2057 0.4		2042 0.8		2153 0.4		2113 0.8	
2 0240 6.3		17 0300 6.0		2 0354 6.5		17 0341 6.0		2 0253 6.8		17 0246 6.0		2 0354 6.7		17 0326 6.1	
0913 0.6		TH 0931 0.9		1033 0.2		0951 0.8		0934 -0.1		0906 0.7		1017 0.3		0921 0.8	
W 1507 6.6		TH 1531 5.9		SA 1628 6.6		SU 1610 6.0		SA 1523 6.9		SU 1507 6.1		TU 1621 6.4		W 1547 6.1	
2115 0.9		2119 1.1		2227 0.7		2153 0.9		2136 0.4		2106 0.8		2226 0.6		2141 0.8	
3 0323 6.2		18 0331 5.9		3 0438 6.4		18 0414 6.0		3 0335 6.8		18 0315 6.1		3 0437 6.4		18 0404 6.1	
0959 0.5		0954 0.9		1110 0.3		1013 0.8		1011 0.0		0923 0.8		1049 0.7		0949 0.9	
TH 1555 6.5		F 1605 5.9		SU 1715 6.4		M 1645 5.9		SU 1606 6.7		M 1539 6.1		W 1701 6.0		TH 1627 5.9	
2156 0.9		2145 1.1		2305 0.8		2223 0.9		2211 0.5		2131 0.8		2258 0.8		2213 0.9	
4 0408 6.2		19 0405 5.9		4 0524 6.2		19 0451 5.9		4 0416 6.7		19 0347 6.1		4 0522 6.0		19 0449 5.9	
F 1044 0.5		SA 1017 1.0		1149 0.6		1041 0.9		1044 0.2		0943 0.8		1126 1.1		1026 1.1	
F 1644 6.4		SA 1641 5.8		M 1806 6.0		TU 1726 5.8		M 1649 6.4		TU 1613 6.1		TH 1744 5.5		F 1712 5.6	
2238 1.0		2217 1.1		2348 1.0		2257 1.0		2245 0.6		2157 0.8		2340 1.2		2255 1.1	
5 0455 6.0		20 0442 5.8		5 0616 5.9		20 0534 5.7		5 0459 6.4		20 0424 6.0		5 0619 5.4		20 0542 5.6	
1129 0.6		1046 1.0		1236 0.9		1117 1.1		1118 0.5		1009 0.8		1218 1.6		1117 1.4	
SA 1737 6.2		SU 1721 5.7		TU 1902 5.6		W 1813 5.5		TU 1733 6.0		W 1653 5.9		F 1840 5.1		SA 1808 5.3	
2324 1.1		2254 1.1		2339 1.3		2339 1.3		2321 0.9		2227 0.9					
6 0548 5.9		21 0524 5.7		6 0039 1.3		21 0627 5.4		6 0546 6.0		21 0506 5.8		6 0041 1.5		21 0000 1.4	
1220 0.8		1123 1.1		0719 5.6		1207 1.4		1159 1.0		1043 1.0		0741 5.1		0646 5.4	
SU 1835 5.9		M 1805 5.5		W 1336 1.2		TH 1909 5.2		W 1822 5.5		TH 1738 5.6		SA 1332 1.9		SU 1236 1.8	
		2337 1.3		2008 5.3						2307 1.2		2007 4.8		1917 5.1	
7 0016 1.3		22 0613 5.5		7 0145 1.5		22 0044 1.6		7 0006 1.2		22 0558 5.5		7 0204 1.7		22 0144 1.4	
0648 5.7		1210 1.3		0836 5.4		0731 5.2		0644 5.5		1131 1.4		0908 5.1		0804 5.3	
M 1319 0.9		TU 1856 5.4		TH 1450 1.4		F 1334 1.6		TH 1254 1.4		F 1833 5.3		SU 1458 1.9		M 1424 1.8	
1938 5.7				2119 5.2		2016 5.1		1924 5.1				2130 5.0		2038 5.2	
8 0119 1.4		23 0032 1.5		8 0305 1.6		23 0227 1.7		8 0109 1.5		23 0008 1.5		8 0407 1.5		23 0319 1.2	
0757 5.6		0710 5.3		0952 5.4		0845 5.2		0807 5.2		0702 5.3		1017 5.4		0927 5.6	
TU 1429 1.0		W 1319 1.4		F 1613 1.4		SA 1518 1.6		F 1407 1.7		SA 1249 1.7		M 1621 1.6		TU 1549 1.5	
2045 5.6		1956 5.2		2226 5.4		2134 5.2		2045 4.9		1941 5.0		2235 5.3		2155 5.5	
9 0230 1.5		24 0149 1.6		9 0457 1.4		24 0352 1.4		9 0230 1.7		24 0157 1.6		9 0513 1.1		24 0437 0.8	
0907 5.6		0815 5.2		1059 5.6		1006 5.5		0933 5.2		0819 5.2		1113 5.8		1037 6.1	
W 1544 1.1		TH 1440 1.5		SA 1719 1.2		SU 1635 1.4		SA 1534 1.7		SU 1449 1.8		TU 1719 1.3		W 1657 1.1	
2150 5.6		2104 5.3		2326 5.6		2248 5.5		2201 5.1		2102 5.1		2327 5.7		2257 6.0	
10 0356 1.4		25 0306 1.6		10 0602 1.1		25 0509 1.1		10 0443 1.5		25 0335 1.4		10 0558 0.8		25 0539 0.4	
1014 5.7		0927 5.3		1156 5.9		1116 5.9		1042 5.5		0945 5.5		1200 6.1		1134 6.5	
TH 1649 1.0		F 1553 1.4		SU 1810 1.1		M 1740 1.1		SU 1655 1.5		M 1615 1.5		W 1804 1.0		TH 1754 0.7	
2250 5.8		2213 5.4				2347 5.9		2305 5.4		2222 5.5				2350 6.3	
11 0514 1.2		26 0417 1.4		11 0017 5.9		26 0616 0.7		11 0546 1.1		26 0456 0.9		11 0012 5.9		26 0631 0.1	
1114 5.9		1036 5.6		0651 0.8		1213 6.3		1140 5.9		1058 6.0		0635 0.7		1224 6.8	
F 1743 0.9		SA 1658 1.2		M 1246 6.1		TU 1836 0.8		M 1749 1.2		TU 1722 1.1		TH 1239 6.2		F 1845 0.5	
2345 5.9		2314 5.7		1853 1.0				2357 5.8		2324 5.9		1843 0.8			
12 0613 1.0		27 0524 1.1		12 0102 6.0		27 0038 6.3		12 0632 0.8		27 0601 0.5		12 0050 6.0		27 0039 6.6	
1208 6.1		1136 5.9		0734 0.7		0713 0.4		1228 6.1		1156 6.4		0710 0.6		0719 0.0	
SA 1830 0.9		SU 1757 1.0		TU 1329 6.2		W 1305 6.7		TU 1833 1.0		W 1818 0.8		F 1313 6.2		SA 1311 6.9	
				● 1933 0.9		O 1926 0.6						● 1918 0.8		O 1933 0.4	
13 0033 6.0		28 0008 6.0		13 0140 6.1		28 0126 6.5		13 0041 6.0		28 0016 6.3		13 0122 6.1		28 0125 6.7	
0702 0.8		0626 0.8		0811 0.7		0805 0.1		0710 0.7		0655 0.2		0743 0.6		0803 -0.1	
SU 1257 6.2		M 1230 6.3		W 1406 6.1		TH 1352 6.9		W 1309 6.2		TH 1246 6.8		SA 1342 6.2		SU 1355 6.8	
● 1912 0.9		O 1849 0.9		2008 0.9		2013 0.5		1912 0.9		O 1907 0.5		1949 0.8		2018 0.3	
14 0117 6.1		29 0057 6.2		14 0213 6.0		29 0126 6.5		14 0119 6.1		29 0103 6.6		14 0152 6.0		29 0209 6.8	
0747 0.8		0724 0.6		0844 0.7		0844 0.7		0745 0.6		0744 -0.1		0812 0.7		0843 0.1	
M 1341 6.2		TU 1320 6.5		TH 1438 6.1		2038 1.0		TH 1343 6.2		F 1333 7.0		SU 1410 6.1		M 1437 6.7	
1951 0.9		1939 0.8						● 1947 0.8		1954 0.4		2018 0.8		2059 0.3	
15 0155 6.1		30 0143 6.4		15 0242 6.0		30 0126 6.5		15 0151 6.1		30 0148 6.8		15 0221 6.0		30 0253 6.7	
0828 0.8		0818 0.4		0911 0.8		0805 0.1		0817 0.6		0829 -0.2		0836 0.8		0919 0.2	
TU 1421 6.1		W 1408 6.7		F 1507 6.0		2102 1.0		F 1412 6.1		SA 1417 7.0		M 1439 6.2		TU 1517 6.5	
2025 1.0		2026 0.7						2017 0.9		2038 0.3		2045 0.8		2136 0.4	
		31 0228 6.5								31 0231 6.9					
		0907 0.2								0909 -0.1					
		TH 1455 6.8								SU 1500 6.9					
		2109 0.6								2118 0.3					

PORT FITZROY - Standard Port

TIME ZONE -0100

Subtract 1 hour for UT.
For Summer Time add ONE
hour in **non-shaded areas**

SPRING & NEAP TIDES

Dates in **red** are **SPRINGS**
Dates in **blue** are **NEAPS**

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0335 6.6 0952 0.5 W 1555 6.2 2210 0.6		16 0311 6.1 0909 0.9 TH 1529 6.0 2137 0.8		1 0448 5.8 1036 1.3 SA 1651 5.6 2307 1.1		16 0435 6.2 1028 1.1 SU 1648 5.8 2314 0.8		1 0509 5.7 1048 1.3 M 1709 5.6 2325 1.1		16 0513 6.3 1110 1.0 TU 1724 6.0 2353 0.6		1 0550 5.6 1133 1.4 TH 1759 5.6		16 0010 0.8 0632 5.8 F 1223 1.2 1846 5.7	
2 0418 6.3 1024 0.8 TH 1633 5.9 2242 0.9		17 0353 6.1 0943 1.0 F 1610 5.9 2215 0.9		2 0537 5.5 1116 1.5 SU 1738 5.4 2354 1.3		17 0527 6.0 1118 1.2 M 1741 5.7		2 0552 5.5 1129 1.5 TU 1755 5.5		17 0606 6.1 1158 1.1 W 1817 5.9		2 0002 1.2 0637 5.4 F 1227 1.5 1852 5.3		17 0103 1.1 0736 5.4 SA 1324 1.5 2000 5.4	
3 0505 5.9 1059 1.2 F 1714 5.5 2321 1.2		18 0440 6.0 1024 1.2 SA 1657 5.6 2303 1.0		3 0633 5.3 1209 1.7 M 1837 5.2		18 0008 0.8 0626 5.9 TU 1218 1.4 1842 5.6		3 0009 1.2 0640 5.4 W 1221 1.6 1849 5.3		18 0043 0.8 0705 5.8 TH 1254 1.3 1919 5.7		3 0102 1.4 0734 5.3 SA 1338 1.7 1954 5.2		18 0212 1.4 0850 5.3 SU 1440 1.6 2122 5.4	
4 0559 5.5 1146 1.6 SA 1805 5.2		19 0534 5.7 1118 1.4 SU 1753 5.4		4 0054 1.4 0738 5.2 TU 1317 1.8 1948 5.1		19 0112 0.9 0732 5.8 W 1326 1.4 1949 5.6		4 0104 1.3 0736 5.3 TH 1324 1.6 1950 5.3		19 0143 0.9 0810 5.7 F 1358 1.4 2028 5.6		4 0218 1.5 0842 5.2 SU 1450 1.6 2107 5.2		19 0335 1.5 1001 5.4 M 1629 1.5 2234 5.6	
5 0018 1.5 0711 5.1 SU 1254 1.9 1922 4.9		20 0009 1.2 0637 5.6 M 1231 1.6 1900 5.3		5 0202 1.4 0842 5.3 W 1424 1.7 2056 5.2		20 0223 0.9 0840 5.8 TH 1437 1.4 2057 5.7		5 0206 1.3 0838 5.3 F 1428 1.6 2056 5.3		20 0254 1.1 0917 5.6 SA 1513 1.4 2138 5.6		5 0330 1.5 0954 5.4 M 1558 1.5 2220 5.4		20 0455 1.4 1105 5.7 TU 1745 1.1 2336 5.9	
6 0135 1.6 0830 5.1 M 1413 1.9 2046 5.0		21 0132 1.2 0751 5.6 TU 1356 1.6 2015 5.4		6 0307 1.3 0940 5.5 TH 1527 1.5 2155 5.4		21 0336 0.8 0944 5.9 F 1551 1.2 2202 5.9		6 0309 1.3 0939 5.4 SA 1530 1.5 2159 5.4		21 0410 1.1 1021 5.7 SU 1639 1.3 2245 5.8		6 0436 1.3 1059 5.7 TU 1703 1.2 2323 5.8		21 0553 1.2 1200 6.0 W 1839 0.8	
7 0302 1.5 0937 5.3 TU 1530 1.7 2152 5.2		22 0256 1.0 0906 5.8 W 1516 1.4 2126 5.6		7 0407 1.1 1032 5.7 F 1623 1.3 2248 5.6		22 0442 0.7 1044 6.1 SA 1701 1.0 2302 6.1		7 0410 1.2 1036 5.6 SU 1630 1.3 2256 5.6		22 0515 1.0 1120 5.9 M 1750 1.0 2345 6.0		7 0536 1.1 1153 6.0 W 1806 0.9		22 0029 6.2 0640 1.0 TH 1247 6.1 O 1925 0.7	
8 0418 1.2 1033 5.7 W 1634 1.4 2246 5.6		23 0410 0.7 1012 6.1 TH 1627 1.1 2229 6.0		8 0500 1.0 1118 5.9 SA 1714 1.1 2334 5.8		23 0539 0.6 1139 6.3 SU 1802 0.8 2357 6.2		8 0507 1.1 1128 5.9 M 1727 1.1 2348 5.9		23 0609 0.9 1214 6.1 TU 1847 0.8		8 0016 6.1 0630 1.0 TH 1242 6.2 ● 1905 0.7		23 0115 6.3 0722 0.9 F 1329 6.2 2005 0.6	
9 0510 1.0 1120 5.9 TH 1723 1.1 2333 5.8		24 0512 0.4 1109 6.4 F 1728 0.8 2324 6.2		9 0546 0.9 1201 6.0 SU 1801 0.9		24 0629 0.5 1229 6.3 M 1856 0.7 O		9 0559 1.0 1215 6.0 TU 1822 0.9		24 0039 6.2 0656 0.9 W 1302 6.2 O 1937 0.7		9 0105 6.4 0720 0.9 F 1327 6.3 1959 0.5		24 0156 6.3 0801 0.9 SA 1405 6.2 2041 0.7	
10 0552 0.8 1201 6.1 F 1804 0.9		25 0605 0.2 1200 6.6 SA 1822 0.6		10 0017 6.0 0629 0.8 M 1241 6.1 ● 1845 0.8		25 0048 6.3 0714 0.6 TU 1315 6.3 1945 0.6		10 0035 6.1 0647 0.9 W 1300 6.2 ● 1915 0.8		25 0128 6.3 0739 0.9 TH 1345 6.2 2022 0.7		10 0152 6.6 0808 0.8 SA 1410 6.4 2049 0.3		25 0231 6.2 0837 1.0 SU 1435 6.1 2112 0.7	
11 0013 5.9 0630 0.7 SA 1237 6.2 1841 0.8		26 0016 6.4 0652 0.2 SU 1248 6.6 O 1912 0.5		11 0058 6.1 0709 0.8 TU 1319 6.2 1930 0.8		26 0138 6.4 0757 0.7 W 1359 6.3 2032 0.6		11 0122 6.3 0733 0.9 TH 1343 6.2 2007 0.7		26 0212 6.2 0820 0.9 F 1424 6.1 2102 0.7		11 0237 6.7 0853 0.7 SU 1452 6.5 2134 0.2		26 0301 6.1 0907 1.0 M 1503 6.0 2137 0.8	
12 0050 6.0 0705 0.7 SU 1310 6.2 ● 1917 0.8		27 0104 6.6 0737 0.2 M 1333 6.6 1959 0.5		12 0138 6.1 0748 0.9 W 1358 6.1 2015 0.8		27 0224 6.3 0836 0.8 TH 1439 6.1 2113 0.7		12 0207 6.4 0818 0.9 F 1426 6.2 2057 0.6		27 0252 6.2 0856 1.0 SA 1458 6.0 2136 0.8		12 0321 6.7 0935 0.7 M 1534 6.5 2215 0.2		27 0329 6.0 0932 1.1 TU 1531 6.0 2157 0.9	
13 0124 6.0 0738 0.8 M 1342 6.2 1952 0.8		28 0151 6.6 0818 0.3 TU 1416 6.5 2043 0.5		13 0219 6.2 0826 0.9 TH 1437 6.1 2059 0.7		28 0307 6.2 0913 0.9 F 1516 6.0 2149 0.8		13 0252 6.5 0902 0.9 SA 1508 6.2 2144 0.5		28 0328 6.0 0928 1.1 SU 1530 6.0 2203 0.9		13 0406 6.7 1015 0.7 TU 1616 6.5 2252 0.3		28 0357 6.0 0954 1.1 W 1602 6.0 2214 0.9	
14 0158 6.1 0809 0.8 TU 1416 6.2 2027 0.8		29 0236 6.5 0856 0.5 W 1456 6.3 2123 0.6		14 0302 6.3 0905 0.9 F 1518 6.0 2142 0.7		29 0348 6.0 0945 1.1 SA 1552 5.9 2221 0.9		14 0337 6.5 0944 0.9 SU 1551 6.2 2227 0.5		29 0401 5.9 0955 1.1 M 1602 5.9 2228 0.9		14 0451 6.5 1053 0.8 W 1700 6.3 2328 0.5		29 0430 5.9 1020 1.1 TH 1637 5.9 2235 1.0	
15 0233 6.1 0838 0.9 W 1451 6.1 2102 0.8		30 0320 6.4 0931 0.8 TH 1534 6.1 2158 0.7		15 0346 6.2 0945 1.0 SA 1601 6.0 2226 0.7		30 0428 5.9 1015 1.2 SU 1629 5.8 2251 1.0		15 0424 6.4 1026 0.9 M 1636 6.2 2310 0.5		30 0434 5.8 1021 1.2 TU 1636 5.9 2252 1.0		15 0539 6.1 1134 1.0 TH 1748 6.1		30 0507 5.8 1051 1.2 F 1718 5.7 2305 1.2	
31 0404 6.1 1003 1.0 F 1611 5.9 2231 0.9								31 0510 5.7 1053 1.2 W 1715 5.7 2321 1.1				31 0550 5.5 1132 1.5 SA 1807 5.4 2350 1.4			

PORT FITZROY - Standard Port

TIME ZONE -0100

Subtract 1 hour for UT.
For Summer Time add ONE
hour in **non-shaded areas**.

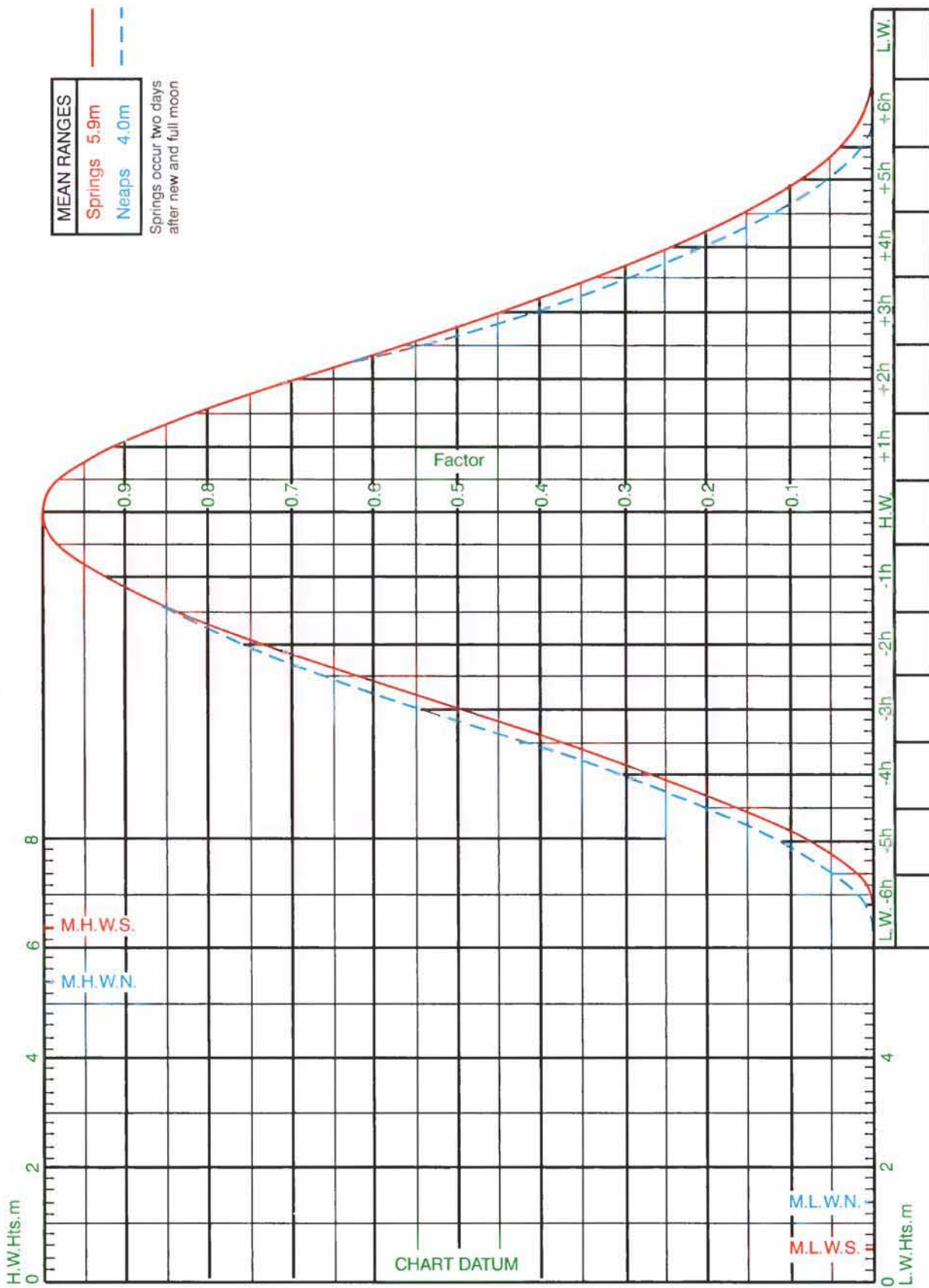
SPRING & NEAP TIDES

Dates in red are SPRINGS
Dates in blue are NEAPS

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0643 SU 1240 1907	5.3 1.7 5.2	16 0137 M 0822 1418 2108	1.8 5.0 1.7 5.2	1 0016 TU 0709 1348 1950	1.9 5.0 1.8 5.1	16 0231 W 0913 1556 2156	2.1 5.0 1.6 5.5	1 0308 F 0921 1603 2206	1.7 5.4 1.0 5.9	16 0416 SA 1030 1659 2303	1.6 5.6 1.1 5.9	1 0338 SU 0951 1635 2234	1.4 5.8 0.7 6.1	16 0359 M 1029 1644 2300	1.5 5.5 1.2 5.7
2 0112 M 0749 1417 2021	1.7 5.1 1.8 5.1	17 0304 TU 0941 1624 2221	1.9 5.1 1.5 5.5	2 0218 W 0832 1514 2119	2.0 5.0 1.6 5.3	17 0401 TH 1018 1700 2255	1.8 5.4 1.2 5.8	2 0420 SA 1026 1707 2305	1.4 5.8 0.7 6.3	17 0508 SU 1116 1740 2345	1.3 5.8 0.9 6.1	2 0448 M 1049 1733 2329	1.1 6.1 0.5 6.4	17 0454 TU 1117 1730 2343	1.3 5.7 1.1 5.9
3 0255 TU 0911 1535 2148	1.8 5.1 1.6 5.3	18 0435 W 1046 1731 2321	1.6 5.5 1.1 5.9	3 0344 TH 0958 1629 2236	1.7 5.4 1.2 5.8	18 0503 F 1111 1746 2343	1.4 5.8 0.9 6.2	3 0521 SU 1120 1802 2355	1.0 6.2 0.4 6.6	18 0551 M 1157 1818 2355	1.1 6.0 0.8 6.6	3 0548 TU 1143 1825 2355	0.9 6.4 0.4 6.6	18 0542 W 1200 1812 2355	1.1 5.9 1.0 6.0
4 0411 W 1030 1647 2300	1.5 5.5 1.2 5.8	19 0533 TH 1140 1819 2300	1.3 5.9 0.8 6.0	4 0452 F 1101 1734 2333	1.3 5.9 0.7 6.3	19 0550 SA 1156 1825 2333	1.1 6.1 0.7 6.3	4 0615 M 1208 1852 ●	0.8 6.5 0.2 6.6	19 0022 TU 0628 1234 1853	6.1 0.9 6.0 0.9	4 0018 W 1234 ● 1911	6.5 6.5 0.4 6.6	19 0023 TH 0626 1241 O 1851	6.0 0.9 6.0 1.0
5 0516 TH 1130 1753 2356	1.3 5.9 0.8 6.2	20 0011 F 0619 1226 1900	6.2 1.1 6.2 0.6	5 0550 SA 1151 1829 2356	1.0 6.3 0.4 6.7	20 0025 SU 0630 1235 1900	6.3 0.9 6.2 0.7	5 0042 TU 0705 1255 1937	6.8 0.6 6.7 0.2	20 0055 W 0703 1307 O 1925	6.1 0.9 6.1 0.9	5 0106 TH 0733 1323 1955	6.5 0.6 6.6 0.5	20 0101 F 0709 1320 1928	6.1 0.9 6.1 1.0
6 0613 F 1219 1851	1.0 6.2 0.5	21 0055 SA 0700 1306 O 1937	6.4 0.9 6.2 0.6	6 0022 SU 0641 1237 ● 1919	6.7 0.8 6.6 0.2	21 0100 M 0707 1308 O 1933	6.3 0.9 6.2 0.7	6 0127 W 1341 2019	6.8 0.5 6.8 0.2	21 0126 TH 0737 1340 1953	6.1 0.9 6.1 1.0	6 0150 F 1411 2036	6.5 0.6 6.6 0.6	21 0138 SA 0752 1359 2004	6.1 0.8 6.1 1.0
7 0045 SA 0704 1305 ● 1943	6.6 0.8 6.5 0.3	22 0132 SU 0738 1339 2010	6.4 0.9 6.2 0.6	7 0108 M 0729 1321 2005	6.9 0.6 6.7 0.1	22 0129 TU 0740 1337 2003	6.2 0.9 6.1 0.8	7 0210 TH 0837 1426 2058	6.7 0.5 6.8 0.4	22 0156 F 0810 1414 2020	6.1 0.9 6.1 1.0	7 0232 SA 0906 1457 2114	6.3 0.6 6.5 0.8	22 0215 SU 0835 1439 2040	6.0 0.8 6.2 1.0
8 0132 SU 0752 1347 2031	6.8 0.7 6.6 0.1	23 0203 M 0812 1407 2039	6.2 0.9 6.1 0.8	8 0152 TU 0815 1404 2047	6.9 0.5 6.8 0.1	23 0155 W 0810 1405 2027	6.1 0.9 6.1 0.9	8 0252 F 0919 1511 2134	6.5 0.6 6.6 0.6	23 0229 SA 0844 1450 2049	6.1 0.9 6.1 1.1	8 0313 SU 0947 1544 2148	6.2 0.7 6.3 1.0	23 0252 M 0917 1521 2117	6.0 0.8 6.2 1.1
9 0216 M 0837 1429 2114	6.9 0.6 6.7 0.1	24 0229 TU 0841 1433 2104	6.1 1.0 6.0 0.9	9 0235 W 0857 1447 2125	6.9 0.5 6.8 0.2	24 0222 TH 0836 1434 2046	6.1 1.0 6.1 1.0	9 0332 SA 0957 1556 2208	6.3 0.7 6.4 0.9	24 0304 SU 0918 1530 2120	6.0 1.0 6.0 1.1	9 0352 M 1630 2222	5.9 0.9 6.0 1.3	24 0331 TU 0959 1606 2156	6.0 0.9 6.1 1.1
10 0300 TU 0918 1511 2152	6.9 0.6 6.7 0.1	25 0254 W 0905 1501 2121	6.1 1.0 6.0 0.9	10 0316 TH 0937 1529 2159	6.7 0.5 6.7 0.4	25 0251 F 0901 1507 2106	6.1 1.0 6.1 1.0	10 0412 SU 1035 1645 2243	6.0 1.0 6.0 1.3	25 0342 M 0953 1614 2157	5.9 1.1 5.9 1.3	10 0432 TU 1103 1719 2259	5.7 1.1 5.7 1.5	25 0414 W 1042 1654 2239	5.9 0.9 6.0 1.2
11 0342 W 0957 1552 2226	6.8 0.6 6.7 0.3	26 0322 TH 0926 1531 2135	6.1 1.0 6.0 1.0	11 0357 F 1013 1613 2231	6.4 0.7 6.5 0.7	26 0324 SA 0927 1543 2131	6.1 1.1 6.0 1.1	11 0453 M 1117 1740 2327	5.6 1.2 5.6 1.6	26 0424 TU 1036 1704 2243	5.7 1.2 5.8 1.4	11 0517 W 1813 2344	5.5 1.3 5.4 1.7	26 0501 TH 1129 1747 2328	5.8 0.9 5.9 1.3
12 0424 TH 1033 1635 2259	6.5 0.7 6.5 0.6	27 0353 F 0949 1606 2157	6.0 1.1 6.0 1.0	12 0437 SA 1050 1700 2308	6.0 0.9 6.1 1.1	27 0400 SU 0956 1626 2204	5.9 1.2 5.8 1.3	12 0543 TU 1214 1851	5.2 1.5 5.2	27 0514 W 1135 1802 2343	5.5 1.3 5.6 1.6	12 0612 TH 1242 1915	5.2 1.5 5.2	27 0555 F 1224 1846	5.6 1.0 5.7
13 0508 F 1110 1721 2337	6.1 0.9 6.1 1.0	28 0429 SA 1016 1646 2226	5.9 1.2 5.8 1.2	13 0520 SU 1133 1756 2356	5.6 1.3 5.6 1.6	28 0442 M 1035 1715 2249	5.6 1.4 5.6 1.5	13 0027 W 0702 1329 2009	1.9 5.0 1.7 5.2	28 0616 TH 1253 1910	5.3 1.3 5.5	13 0043 F 0722 1345 2018	1.9 5.1 1.5 5.2	28 0027 SA 0657 1330 1952	1.4 5.5 1.1 5.6
14 0555 SA 1155 1817	5.7 1.3 5.6	29 0511 SU 1053 1735 2308	5.6 1.4 5.5 1.5	14 0616 M 1235 1919	5.1 1.6 5.2	29 0534 TU 1135 1816 2354	5.3 1.6 5.3 1.8	14 0145 TH 0829 1458 2117	2.1 5.0 1.6 5.3	29 0100 F 0729 1414 2023	1.7 5.3 1.2 5.6	14 0151 SA 0833 1449 2117	1.9 5.1 1.5 5.3	29 0136 SU 0807 1443 2100	1.5 5.5 1.0 5.7
15 0027 SU 0656 1257 1938	1.4 5.2 1.6 5.2	30 0603 M 1151 1836	5.3 1.7 5.2	15 0105 TU 0750 1450 2046	2.0 4.9 1.8 5.2	30 0639 W 1320 1929	5.1 1.7 5.2	15 0306 F 0935 1609 2214	1.9 5.3 1.3 5.6	30 0222 SA 0844 1528 2133	1.6 5.5 1.0 5.8	15 0257 SU 0935 1550 2211	1.7 5.3 1.3 5.5	30 0250 M 0917 1559 2205	1.4 5.7 1.0 5.8
				31 0136 TH 0759 2052	2.0 5.1 5.4									31 0412 TU 1705 2305	1.3 5.9 6.0

PORT FITZROY - Mean Spring and Neap curves



Blackmill

45°37'.44N 005°48'.53W

Southern Peninsula CHARTS RYA 3, 4.

Standard Port PORT FITZROY (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0300	0900	0300	0900	6.4	5.4	1.4	0.5
1500	2100	1500	2100				
Differences Blackmill							
+0005	+0005	-0005	-0005	-0.2	-0.2	0.0	0.0

DESCRIPTION. A small marina that, by nature of the depth and height restrictions on the approach, caters for smaller sailing vessels and motor yachts. Once under the road bridge the shelter within the harbour is good and excellent in marina. Approach difficult in NW winds >F6 in narrow entrance, alternative shelter should be sought.

APPROACH WAYPOINT. 45°38'.91N 005°49'.87W.

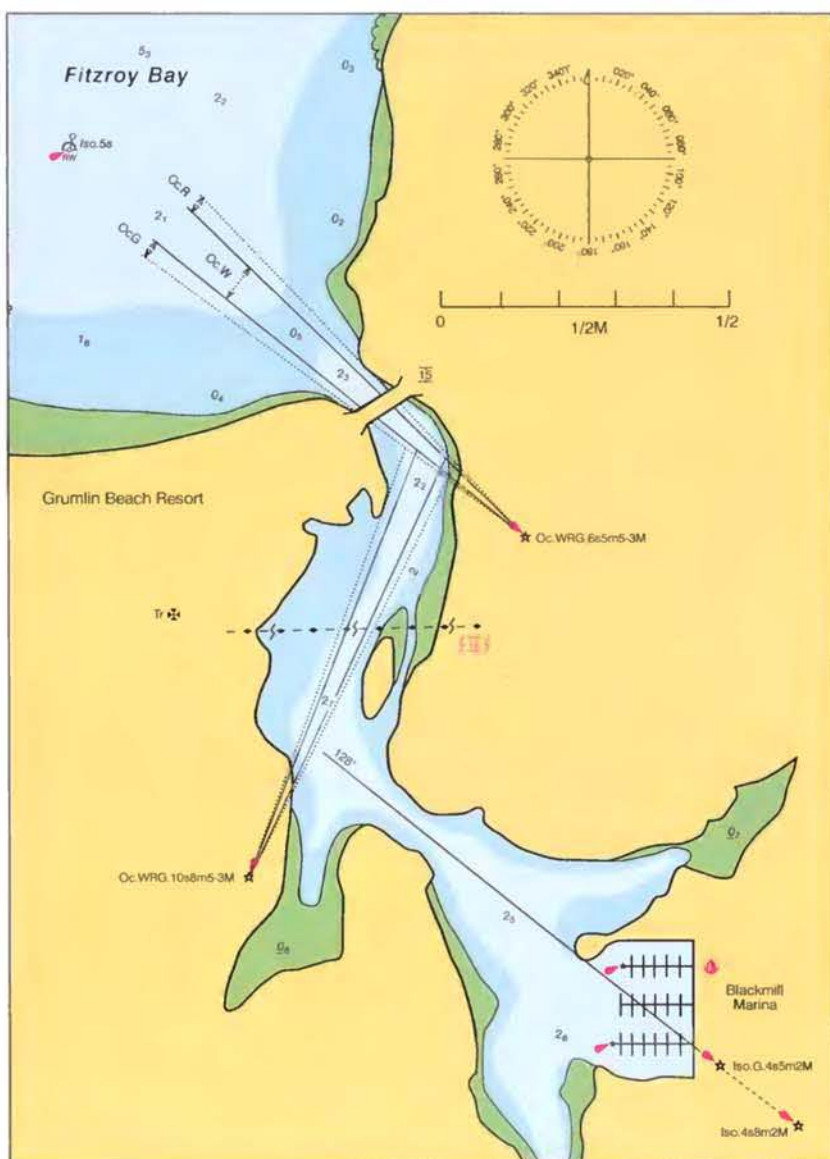
PILOTAGE NOTES. Vessels making for Blackmill must keep clear of the buoyed approach channel to Port Fitzroy, (see also the pilotage notes for Port Fitzroy reference the approach to Fitzroy Bay). Seal Island is unlit but covered by the F.R. It of Grumlin Head Lt Ho. If approaching from the E, beware of the unmarked South and Tower rocks. A SWM (Iso.5s) is situated 7ca NW of the narrow entrance. Two sets of sector lights lead through the narrow passes, with both sector lights the white sectors indicate centre of channel. Should a vessel wander off to port or starboard when entering harbour the lights change to red or green respectively. A pair of ldg lts (128") mounted on framework twrs (R □ W stripe) guide through the final pass. Once through the final pass a/c to stbd to clear the point before entering the marina.

TIDAL STREAMS AND HEIGHTS. Least water at the bar 0.5m and generally 2.2m+ in the river. With larger yachts, careful timing will be required when entering or leaving Blackmill. The bridge has a 15m vertical clearance; the power cables have a safe overhead clearance of 18m. Minimum depth within the marina 2.5m.

LIGHTS AND MARKS. Grumlin Head Lt Ho [Fl.3s30m12M&F.R.27m10M] (W oct twr) is the only major light in the area. The river is well lit with sec lts and ldg lts. The marina extremities are marked by 2F.R (vert).

VHF RADIO. Port Fitzroy VTS VHF Ch 74 (all vessels must keep a listening watch in Fitzroy Bay). Blackmill Marina VHF Ch 80.

FACILITIES. FW, Gas, D, CH, ME, EL, BH (10 tonnes), C (5 tonnes), Bar, R.



Neptune Islands - Passage information

Neptune Islands are a group of over 20 islands extending in an E-W chain some 12M. At the closest they are only 3M from the Southern Peninsula. Slade Island is the largest of the group and one of the four that are inhabited. The Neptune Islands are IALA buoyage system – Region B (red to starboard) area. The Islands have many rocky outcrops and offlying dangers and care is required especially in poor visibility.

Approaching offshore from the N or NE, Slade Island resembles a saddle with Mt. Slade (230m) at the southern end and the (124m) heights to the N. The centre of the island dips down toward sea level giving the saddle appearance. Slade Island has two major lights; Christopher Point Lt Ho (R&W striped O twr) [Fl(4)WRG.15s87m25-18M] and Linards Point Lt Ho (R&W chequered twr) [Fl.R.5s52m9M].

Neptune Channel, marked by N and S cardinal Bns is sometimes used by ferries in rough weather as a calmer

alternative to Fiddler's Race. The Islands are under the jurisdiction of Neptunia. Vessels arriving at the Islands must clear customs and immigration on arrival. Port Slade is the only port of entry on the Islands. Flag 'Q' must be flown on arrival. Vessels returning to the Northern Territories or to the Southern Peninsula will be subject to customs formalities on return.

Tidal Streams

The tidal streams run hard through the islands and are difficult to predict with any degree of accuracy. As would be expected they run the hardest around headlands and in the narrow channels. Where possible, transits should be used when navigating the many narrows around the islands.



Neptune Islands - Alphabetical list of Lights (5M Range +)

Christopher Pt Lt Ho	R & W Striped O twr	Fl(4)WRG.15s87m25-18M
Jenna Rks Bn.	YB bn	VQ(6)+LFl.10s5M
Linards Point Lt Ho	R&W chequered twr	Fl.R.5s52m9M

Port Slade

45°52'.82N 005°48'.05W

Neptunia (Neptune Islands) CHART RYA 3.

Standard Port COLVILLE (←)

Times				Height (metres)			
High Water		Low Water		MHWS	MHWN	MLWN	MLWS
0100	0700	0100	0700	4.8	3.9	1.4	0.5
1300	1900	1300	1900				
Differences PORT SLADE							
-0045	-0035	-0035	-0020	+1.8	+0.6	-0.3	+0.1

DESCRIPTION. Port Slade is a fishing harbour with alongside berths and visitors moorings just off the Town Quay. Excellent shelter at the Town Quay or on the visitors buoys.

APPROACH WAYPOINT. 45°50'.53N 005°48'.86W.

PILOTAGE NOTES. NB. The Neptune Islands are an IALA 'B' (red to starboard) region. The main hazards are the strong tidal streams and the many rocks around the islands. The entrance channel to Port Slade is on the SW corner of the Island, to the W of the conspic Linards Point and the Lt Ho. The channel is well marked by lateral and cardinal buoyage most of which are lit. In settled conditions, it is possible to shortcut the buoyed channel and use the Cow and Calf channel (FS and Bn $\neq$ 070°) N of Glyn Reef.

TIDAL STREAMS AND HEIGHTS. The tidal streams run strongly around the various Neptune Islands due to the choke point between the Islands and the Southern Territories. There is a 6.0m spring range at Port Slade. Access to Port Slade possible at all states of the tide, minimum depth 3.1m.

LIGHTS AND MARKS. A conspic Island with Mt. Slade rising to 230m at the southern end. Christopher Point Lt Ho (W four sided twr) [Fl(4) WRG.15s87m25-18M] is situated at the northernmost point of the island. Linards Point Lt Ho (RW chequered $\odot$ twr) [Fl.R.5s52m9M] marks the SW corner of the Island. The entrance buoys are Q.G & Q.R.
Note: IALA 'B' (red-right-returning) buoyage system.

VHF RADIO. VHF Harbour Master Ch 09 1000-1600.

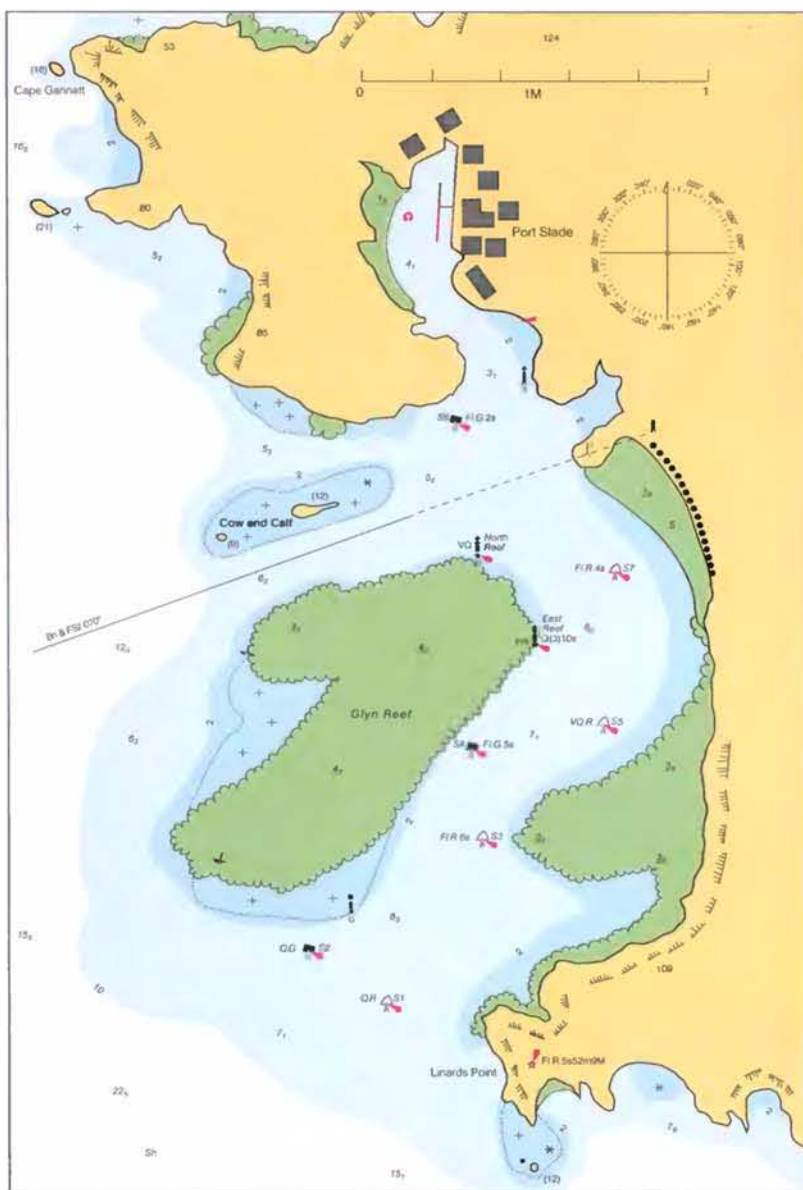
FACILITIES. Slip, FW, D, P, ME.

ADJACENT ANCHORAGES.

Ladye Bay and Sand Bay. Both anchorages although picturesque, are ringed with rocks and require local knowledge or large scale chart (N 03) before attempting pilotage.

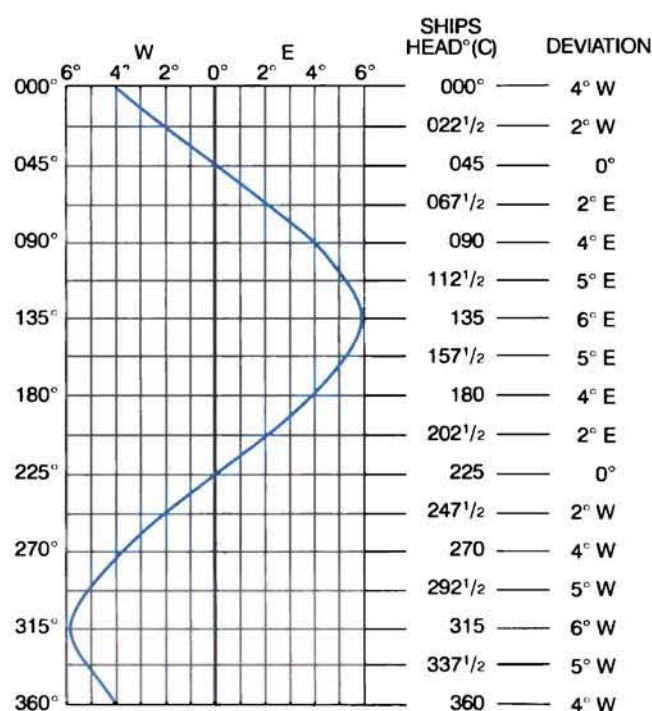
SPECIAL NOTES FOR THE NEPTUNE ISLANDS.

Vessels arriving in the Islands must clear customs and immigration on arrival and are required to carry registration documents. Port Slade is the only port of entry in the Islands. Flag 'Q' must be flown on arrival. Vessels returning to the Southern Peninsula or Northern Territories will be subject to customs formalities on return.



REFERENCE INFORMATION

Compass deviation table



Lights - distance off in Miles when rising or dipping

Height of light		Height of eye										
metres		metres	1	2	3	4	5	6	7	8	9	10
metres	feet	feet	3	7	10	13	16	20	23	26	30	33
10	33		8.7	9.5	10.2	10.8	11.3	11.7	12.1	12.5	12.8	13.2
12	39		9.3	10.1	10.8	11.4	11.9	12.3	12.7	13.1	13.4	13.8
14	46		9.9	10.7	11.4	12.0	12.5	12.9	13.3	13.7	14.0	14.4
16	53		10.4	11.2	11.9	12.5	13.0	13.4	13.8	14.2	14.5	14.9
18	59		10.9	11.7	12.4	13.0	13.5	13.9	14.3	14.7	15.0	15.4
20	66		11.4	12.2	12.9	13.5	14.0	14.4	14.8	15.2	15.5	15.9
22	72		11.9	12.7	13.4	14.0	14.5	14.9	15.3	15.7	16.0	16.4
24	79		12.3	13.1	13.8	14.4	14.9	15.3	15.7	16.1	16.4	17.0
26	85		12.7	13.5	14.2	14.8	15.3	15.7	16.1	16.5	16.8	17.2
28	92		13.1	13.9	14.6	15.2	15.7	16.1	16.5	16.9	17.2	17.6
30	98		13.5	14.3	15.0	15.6	16.1	16.5	16.9	17.3	17.6	18.0
32	105		13.9	14.7	15.4	16.0	16.5	16.9	17.3	17.7	18.0	18.4
34	112		14.2	15.0	15.7	16.3	16.8	17.2	17.6	18.0	18.3	18.7
36	118		14.6	15.4	16.1	16.7	17.2	17.6	18.0	18.4	18.7	19.1
38	125		14.9	15.7	16.4	17.0	17.5	17.9	18.3	18.7	19.0	19.4
40	131		15.3	16.1	16.8	17.4	17.9	18.3	18.7	19.1	19.4	19.8
42	138		15.6	16.4	17.1	17.7	18.2	18.6	19.0	19.4	19.7	20.1
44	144		15.9	16.7	17.4	18.0	18.5	18.9	19.3	19.7	20.0	20.4
46	151		16.2	17.0	17.7	18.3	18.8	19.2	19.6	20.0	20.3	20.7
48	157		16.5	17.3	18.0	18.6	19.1	19.5	19.9	20.3	20.6	21.0
50	164		16.8	17.6	18.3	18.9	19.4	19.8	20.2	20.6	20.9	21.3
55	180		17.5	18.3	19.0	19.6	20.1	20.5	20.9	21.3	21.6	22.0
60	197		18.2	19.0	19.7	20.3	20.8	21.2	21.6	22.0	22.3	22.7
65	213		18.9	19.7	20.4	21.0	21.5	21.9	22.3	22.7	23.0	23.4
70	230		19.5	20.3	21.0	21.6	22.1	22.5	22.9	23.2	23.6	24.0
75	246		20.1	20.9	21.6	22.2	22.7	23.1	23.5	23.9	24.2	24.6
80	262		20.7	21.5	22.2	22.8	23.3	23.7	24.1	24.5	24.8	25.2
85	279		21.3	22.1	22.8	23.4	23.9	24.3	24.7	25.1	25.4	25.8
90	295		21.8	22.6	23.3	23.9	24.4	24.8	25.2	25.6	25.9	26.3
95	312		22.4	23.2	23.9	24.5	25.0	25.4	25.8	26.2	26.5	26.9
metres	feet	metres	1	2	3	4	5	6	7	8	9	10
Height of light		feet	3	7	10	13	16	20	23	26	30	33
		Height of eye										

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