



Training Almanac

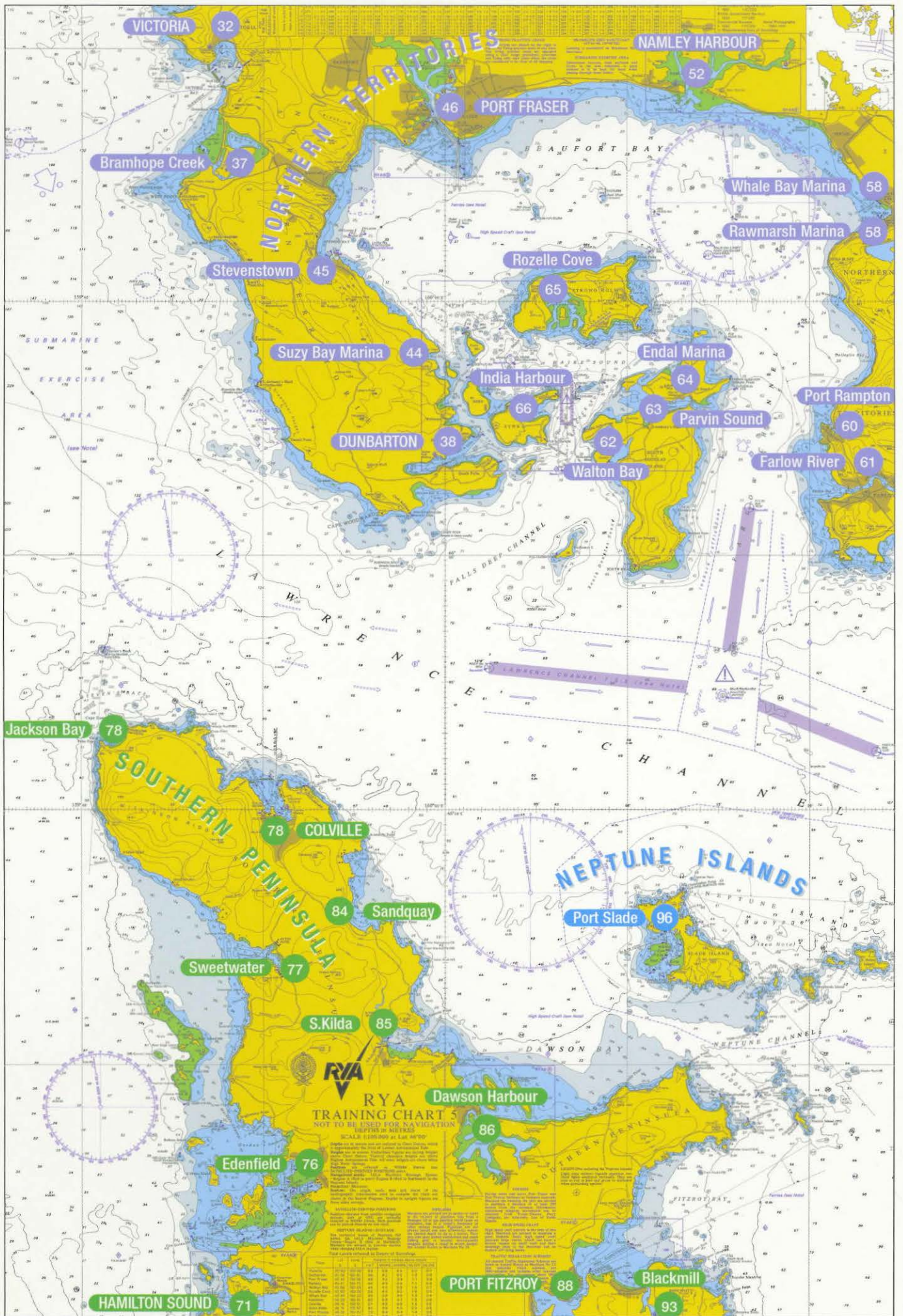
Map showing navigational aids: Turtle Point, Beagle Head, Grumlin Head, Grumlin Beach Res., Fitzroy Harbour. Aids include Fl(2)G.3s, Fl.G.5s, Fl.G.3s, Iso.G.5s, Qc.R.5s, Fl(2)R.5s, Fl.R.5s, Iso.5s, Qc.G.5s, Q.R.12', F.L.R.14', F.G., and Vessel Traffic.

0.9	16	0549	1.2	1	0028	5.7	16	0028	5.1	1	05
5.8		1201	5.5		0627	0.6		0629	1.2		11
0.7		W 1814	1.1		F 1245	6.0		SA 1242	5.4		F 17
5.6					1903	0.4		1851	1.1		
0.9	17	0024	5.1	2	0115	5.5	17	0100	5.0	2	00
5.8		0623	1.3		0714	0.8		0702	1.3		06
0.7		TH 1235	5.4		SA 1333	5.8		SU 1315	5.3		SA 12
		1849	1.2		1952	0.6		1924	1.3		18
5.5	18	0058	5.0	3	0204	5.3	18	0133	4.9	3	00
1.0		0658	1.5		0803	1.0		0736	1.5		06
5.7		F 1311	5.3		SU 1423	5.5		M 1350	5.1		SU 13
0.8		1925	1.4		2045	1.0		2000	1.5		19
5.3	19	0134	4.8	4	0257	5.0	19	0209	4.7	4	01
1.2		0734	1.6		0858	1.4		0816	1.7		07
5.6		SA 1348	5.1		M 1520	5.2		TU 1430	4.8		M 13
0.9		2003	1.5		2144	1.3		2043	1.7		20
5.1	20	0213	4.7	5	0358	4.7	20	0254	4.5	5	02
1.4		0815	1.9		1003	1.7		0905	2.0		08
5.4		SU 1429	4.9		TU 1627	4.9		W 1521	4.6		TU 14
1.1		2046	1.7		2253	1.6		2138	2.0		21
4.9	21	0258	4.5	6	0512	4.6	21	0355	4.3	6	03
1.6		0902	2.1		1120	1.9		1013	2.2		09
1.3		M 1517	4.7		W 1748	4.7		TH 1632	4.4		W 15
		2137	1.9					2253	2.1		22

Map showing Victoria, Port Fraser, Namley, Bramhope Creek, Stevenstown, Suzy Bay, Rozelle Cove. Arrows indicate directions with times: 01.03, 04.08, 02.04, 03.07, 05.09, 06.10.

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Northern Hemisphere Edition



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RYA
TRAINING CHART 5
NOT TO BE USED FOR NAVIGATION
SCALE: 1:100,000 at Low Water

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The RYA Training Almanac

Background Information

The RYA 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. The 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 cannot be used for any actual navigational purpose.

Acknowledgements

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

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Edited by Simon Jinks.








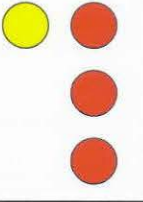
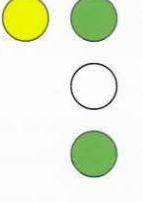
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International port traffic signals

No.	Lights		Main message
1		Flashing	Serious emergency. All vessels to stop or divert according to instructions.
2		Fixed or Slow Occulting	Vessels shall not proceed (Note: some ports may use an exemption signal, as in 2a below).
3			Vessels may proceed. One-way traffic.
4			Vessels may proceed. Two-way traffic.
5			A vessel may proceed only when she has received specific orders to do so (Note: some ports may use an exemption signal, as in 5a below).
Exemption signals and messages			
2a		Fixed or Slow Occulting	Vessels shall not proceed, except that vessels which navigate outside the main channel need not comply with the main message.
5a			A vessel may proceed when she has received specific orders to do so, except that vessels which navigate outside the main channel need not comply with the main message.
Auxiliary signals and messages			
White and/or yellow lights displayed to the right of the main lights.			Local meanings, as promulgated in local port orders.

The international system is gradually being introduced, but its general adoption is likely to take many years.

- (a) The main movement message given by a port traffic signal always comprises three lights, disposed vertically. No additional light shall be added to the column carrying the main message. The fact that the main message always consists of three vertical lights allows the mariner to recognise it as a traffic signal, and not lights of navigational significance. The signals may also be used to control traffic at locks and bridges.
- (b) Red lights indicate 'Do not proceed.'
- (c) Green lights indicate 'Proceed, subject to the conditions stipulated'. Note that, to avoid confusion, red and green lights are never displayed together.
- (d) Some signals may be omni-directional – i.e. exhibited to all vessels simultaneously: others must be directional, and be shown either to vessels entering or to vessels leaving harbour.
- (e) The 'Serious Emergency' signal must be flashing, at least 60 flashes per minute. All other signals must be either fixed or slow occulting (the latter is useful when background glare is a problem). A mixture of fixed and occulting lights must not be used.
- (f) Signal no. 5 is based on the assumption that another means of communication such as VHF radio, signal lamp, loud-hailer, or auxiliary signal will be used to inform a vessel that she may specifically proceed.
- (g) A single yellow light, displayed to the left of the column carrying main messages nos 2 or 5, at the level of the upper light, may be used to indicate that 'Vessels which can safely navigate outside the main channel need not comply with the main message.' This signal, as shown at nos. 2a and 5a, is of obvious significance to yachtsmen.
- (h) Signals which are auxiliary to the main message may be devised by local authorities. Such auxiliary signals should employ only white and/or yellow lights, and should be displayed to the right of the column carrying the main message. Ports with complex entrances and much traffic may need many auxiliary signals, which will have to be documented. Smaller harbours with less traffic may only need one or two of the basic signals, such as nos 2 and 4.

Distress and life-saving signals

Signals to be used by ships, aircraft or persons in distress.

Flares

NEVER fire a parachute flare if a helicopter is approaching.

Fire rocket vertically.

If windy fire 15° downwind.

In low cloud fire at 45°.

NEVER fire into the wind.

Handheld pinpoint flare shows exactly where you are – use inshore or in sight of vessels.

Orange smoke for use by day – especially in bright conditions.

For use at night or in dull conditions to pinpoint position.

Long-range signal for use offshore.

Floating orange smoke.

Handheld orange smoke.

White collision-warning flare.

Replies from life-saving stations etc. to distress signals made by ships or persons

Orange smoke signal.



OR

White star rocket – three single signals fired at intervals of about one minute.



Meaning

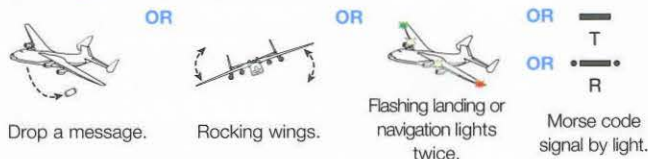
'You are seen – assistance will be given as soon as possible.'

Surface-to-air signals

Message	International Code of Signals	ICAO Visual Signals
I require assistance	V  ...	V
I require medical assistance	W  ...	X
No or negative	N  ..	N
Yes or affirmative	C  ...	Y
Proceeding in this direction		↑

Air-to-surface replies

Message understood



Message not understood – repeat

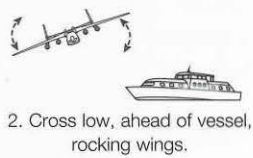


Air-to-surface direction signals

Sequence of three manoeuvres meaning 'proceed in this direction'

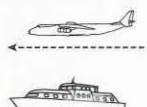


1. Circle vessel at least once.



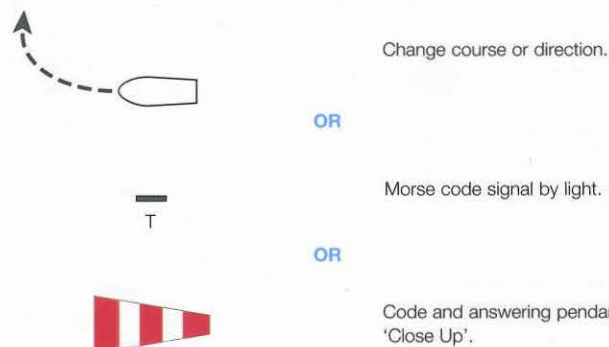
2. Cross low, ahead of vessel, rocking wings.

3. Overfly vessel and head in required direction.



Surface-to-air replies

Message understood – I will comply



Landing signals for the guidance of small boats with crews or persons in distress

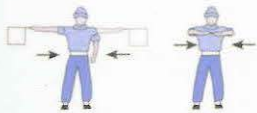
By night, white lights or flares are used instead of white flags.



Vertical motion of a white flag or of the arms.

Other signals
International code letter **K** (— • —) by light or sound.

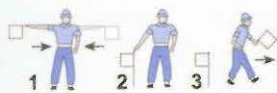
Meaning
'This is the best place to land.'
(An indication of direction may be given by a steady white light or flare at a lower level.)



Horizontal motion of a white flag or of the arms extended horizontally.

International code letter **S** (•••) by light or sound.

Meaning
'Landing here is highly dangerous.'



1. Horizontal motion of a white flag, followed by **2.** placing the white flag in the ground and, **3.** by carrying another white flag in the direction to be indicated.

1. Signalling the code letter **S** (•••), followed by letter **R** (• — •) if the better landing place is more to the right in the direction of the approach, or **2.** by **L** (• — ••) if the better landing place is to the left in the direction of approach.

Meaning
'Landing here is highly dangerous. A more favourable location for landing is in the direction indicated.'

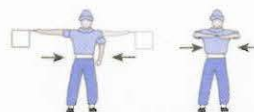
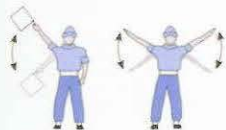
Signals to be made in connection with the use of shore apparatus for life-saving

Signal
Vertical motion of a white flag (or white light or flare by night) or of the arms.

Meaning
In general: Affirmative.
Specifically: Rocket line is held – tail block is made fast – hawser is made fast – man is in the breeches buoy – haul away.

Signal
Horizontal motion of a white flag (or white light or flare by night) or of the arms.

Meaning
In general: Negative.
Specifically: Slack away – stop hauling.



Signals to be used to warn a ship which is standing into danger

International code flag **U**



or **NF**



International code signal **U** by light or sound •• —

Signals used by sub-aqua divers

'I am OK.'



'I need assistance.'



Abbreviations

The following abbreviations may be used in the Training Almanac and on the RYA Training Charts.

AB	Alongside Berth	H, Hrs, h	Hour(s)
AC	Shore power (electrics)	H- H+	Hours before or after given time
a/c	Alter course	H24	Continuous
Al	Alternating light	HAT	Highest Astronomical Tide
AM	Amplitude Modulation	Hbr	Harbour
B	Bay or Black	Hd	Head or Headland
Bar	Licensed bar	HDOP	Horizontal Dilution of Precision
BH	Boat Hoist (tonnes)	HF	High Frequency
Bk	Bank	HM	Harbour Master
bk	broken	Ho	House
Bkwtr	Breakwater	(hor)	Horizontally disposed
Bldg	Building	ht	Height
Bn(s)	Beacon(s)	HW	High Water
Brg	Bearing	Hz	Hertz
Bu	Blue	I	Island
BY	Boatyard	IALA	International Association of Lighthouse Authorities
C	Crane (tonnes)	IDM	Isolated Danger Mark
c	Coarse	IMO	International Maritime Organisation
ca	Cable (distance)	INMARSAT	International Maritime Satellite Organisation
CD	Chart Datum	INT	International
CG	Coastguard	Intens	Intensified
CH	Chandlery	IPTS	International Port Traffic Signals
Ch	Channel (VHF) or Church	IQ	Interrupted quick flashing light
Chan	Channel (Navigational)	IRPCS	International Regulations for the Prevention of Collisions at Sea
Chy	Chimney	ISAF	International Sailing Federation
cm	Centimetre	Iso	Isophase light
Conspic	Conspicuous	ITZ	Inshore Traffic Zone
CRS	Coast Radio Station	khz	Kilohertz
c/s	Callsign	km	Kilometres
Cy	Clay	kn	Knots(s)
D	Diesel	kW	Kilowatts
Dia	Diaphone	L	Lake
Dir Lt	Directional light	L or Lndg	Landing place
Dn(s)	Dolphin(s)	Lat	Latitude
Dr	Doctor	LAT	Lowest Astronomical Tide
dr	Dries	Lanby	Large automatic navigational buoy
DR	Dead Reckoning	LB	Lifeboat
DSC	Digital Selective Calling	Ldg	Leading
DST	Daylight Saving Time	LFI	Long flash
DZ	Danger Zone	LF	Low Frequency
E	East	LH	Left hand
EC	Early closing	LOA	Length overall
ECM	East cardinal mark (buoy or beacon)	Long	Longitude
ED	Existence doubtful	LPG	Liquid petroleum gas
EI	Electrical repairs	LT	Local time
Elev	Elevation	Lt(s)	Light(s)
Ent	Entrance	Lt by	Light buoy
EP	Estimated Position	Lt F	Light float
Est	Estuary	Lt Ho	Lighthouse
ETA	Estimated Time of Arrival	Lt V	Light vessel
ETD	Estimated Time of Departure	LW	Low water
F	Fixed	M	Sea Mile(s)
f	Fine (e.g. sand)	M	Moorings available
Fcast	Forecast	M	Mud
FFI	Fixed and flashing light	m	Metre(s)
Fl	Flashing	mm	Millimetres
FM	Frequency modulation	Mag	Magnetic
Fog Det Lt	Fog Detector Light	MCA	Maritime Coastguard Agency
Freq or Fx	Frequency	ME	Marine engine repairs
FS	Flagstaff	MF	Medium frequency
FV	Fishing vessel	MHWN	Mean High Water Neaps
FW	Fresh water supply	MHWS	Mean High Water Springs
G	Green or Gravel	MHz	Megahertz
Gas	Calor Gas	Min	Minute (of time)
Gaz	Camping Gaz	Mk	Mark
GDOP	Geometrical Dilution of Position	ML	Mean Level (tidal)
GMDSS	Global Maritime Distress and Safety System	MLWN	Mean Low Water Neaps
GPS	Global Positioning System	MLWS	Mean Low Water Springs
grt	Gross Registered Tonnage	MMSI	Maritime Mobile Service Identity
Gy	Grey	Mo	Morse
		Mon	Monument or Monday

MRCC	Maritime Rescue Co-ordination Centre	Si	Silt
MRSC	Maritime Rescue Sub Centre	Sig	Signal
ms	Millisecond(s); minutes, seconds	SM	Sailmaker
MSI	Marine Safety Information	So	Soft
MSL	Mean Sea Level	SOLAS	Safety of Life at Sea (IMO Convention)
Mt(s)	Mountain(s) or Mount	SPCGO	Southern Peninsula Coastguard Organisation
N	North	Sp	Spire
NB	Notice Board	sp	Spring tides
NCM	North Cardinal Mark (buoy or beacon)	SPM	Special Mark (buoy or beacon)
NM	Notice to Mariners	SPM	Single Point Mooring
No	Number	SR	Sunrise
Np	Neap tides	SS	Sunset or Signal Station
NRT	Net registered tonnage	SSB	Single Side Band (Radio)
NTCGS	Northern Territories Coastguard Service	St	Stones
O	Circular in shape	Stbd	Starboard
Obscd	Obscured	Sta	Station
Obstn	Obstruction	Str	Strait
Oc	Occulting light	subm	Submerged
(occas)	Occasional	SWM	Safe Water mark (buoy or beacon)
oct	Octagonal	sy	Sticky
ODAS	Ocean Data Acquisition System	sync	Synchronised
Or	Orange	(T), temp	Temporary
P	Petrol	t	Tonne or Ton
P	Port	tbc	To be confirmed
P	Pebbles	tbn	To be notified
(P)	Preliminary (NM)	TD	Temporarily discontinued (fog signal)
PA	Position approximate	TE	Temporarily extinguished (light)
Pass	Passage	Tel	Telephone
PCM	Preferred Channel Mark (buoy or beacon)	Tfc	Traffic
PD	Position doubtful	Tr, twr	Tower
PHM	Port-hand mark	TSS	Traffic Separation Scheme
PO	Post Office	ufn	Until further notice
Prohib	Prohibited	uncov	Uncovers
Prom	Prominent	Unintens	Unintensified
Pt	Point	unexam	Unexamined
PV	Pilot Vessel	UQ	Ultra Quick flashing light
Pyl	Pylon	UT	Universal Time
Q	Quick flashing light	V	Victuals
R	Red	Var	Variation (magnetic)
R	River	Vel	Velocity
R	Restaurant	(vert)	Vertically disposed
R	Rock	VHF	Very High Frequency
Ra	Radar Station	Vi	Violet
Racon	Radar Transponder Beacon	vis	Visible or Visibility
Radome	Radar dome	VLCC	Very Large Crude Carrier
Ramark	Radar Beacon	VTM	Vessel Traffic Management
RCC	Rescue Co-ordination Centre	VTS	Vessel Traffic Services
Rds	Roads or Roadstead	VQ	Very Quick flashing light
Ref	Refuge station or buoy	W	West
Ro-Ro	Roll-on Roll-off vessel or berth	W	White
R/T	Radiotelephony	WCM	West Cardinal Mark (buoy or beacon)
Ru	Ruins	Wd	Weed
Rep	Reported	wef	With effect from
Rf	Reef	WGS	World Geodetic System (GPS datum)
RG	Emergency RDF Station	Whis	Whistle
RH	Right hand	Wk	Wreck
Rk(s), Rky	Rock(s), Rocky	WMO	World Meteorological Organisation
S	Sand	WPT	Waypoint
S	South	Y	Yellow
S	Saint	YC	Yacht Club
s or sec(s)	Second(s) of time		
SAR	Search and Rescue	SHAPES	
SBM	Single Buoy Mooring	○	Round
SC	Sailing Club	△	Triangular
SCM	South Cardinal Mark (buoy or beacon)	□	Square
Sd	Sound	◇	Diamond
SD	Sailing Directions	≠	In transit (with)
SD	Sounding doubtful	<	Less than
Sem	Semaphore	>	Greater than
sf	Stiff		
Sh	Shells or Shoal		
SHM	Starboard-hand Mark (buoy or beacon)		

CLASS OF LIGHT	International abbreviations	Illustration period shown
FIXED	F	
OCCULTING (total duration of light longer than dark)		
Single occulting	Oc	
Group occulting e.g.	Oc(2)	
Composite group-occulting e.g.	Oc(2+3)	
ISOPHASE (light and dark equal)	Iso	
FLASHING (total duration of light shorter than dark)		
Single-flashing	Fl	
Long-flashing (flash 2s or longer)	L Fl	
Group-flashing	Fl(3)	
Composite group-flashing e.g.	Fl(2+1)	
QUICK (50 to 79, usually either 50 or 60, flashes per minute)		
Continuous quick	Q	
Group quick e.g.	Q(3)	
Interrupted quick	Iq	
VERY QUICK (80 to 159, usually either 100 or 120, flashes per minute)		
Continuous very quick	VQ	
Group very quick e.g.	VQ(3)	
Interrupted very quick	IVQ	
ULTRA QUICK (160 or more, usually 240 to 300, flashes per minute)		
Continuous ultra quick	UQ	
Interrupted ultra quick	IUQ	
MORSE CODE e.g.	Mo(K)	
FIXED AND FLASHING	FFI	
ALTERNATING e.g.	Al WR	

COLOUR	International abbreviations	NOMINAL RANGE in miles	International abbreviations
White	W (may be omitted)	Light with single range e.g.	15M
Red	R	Light with two different ranges e.g.	15/10M
Green	G	Light with three or more ranges e.g.	15-7M
Blue	Bu		
Violet	Vi	PERIOD is given in seconds e.g.	90s
Yellow	Y	DISPOSITION horizontally disposed	(hor)
Orange	Y	vertically disposed	(vert)
Amber	Y	ELEVATION is given in metres (m) above MHWS	

	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
	Harbour Master'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		Kelp
	Visitors' berth		Crane		Dangerous underwater rock of unknown depth
	Fuel station (petrol, diesel)		Inn and restaurant		Dangerous underwater rock of known depth
	Public slipway		Public toilets		Caravan site, Camping site
	Water tap		Public car park		Public telephone
	Public landing, steps, ladder		Laundrette		Bird sanctuary
			Yacht club, Sailing club		Coastguard Station
					RACON (1) 3cm Radar Transponder Beacon with Morse identification and Radar band

Tidal levels table

Tidal streams

Six hours before high water Victoria

Five hours before high water Victoria

Four hours before high water Victoria

Three hours before high water Victoria

Two hours before high water Victoria

One hour before high water Victoria

High water Victoria

12

13

14

15

16

17

18

19

One hour after high water Victoria

Two hours after high water Victoria

Three hours after high water Victoria

Four hours after high water Victoria

Five hours after high water Victoria

Six hours after high water Victoria

Computation of Rates

20

21

22

23

24

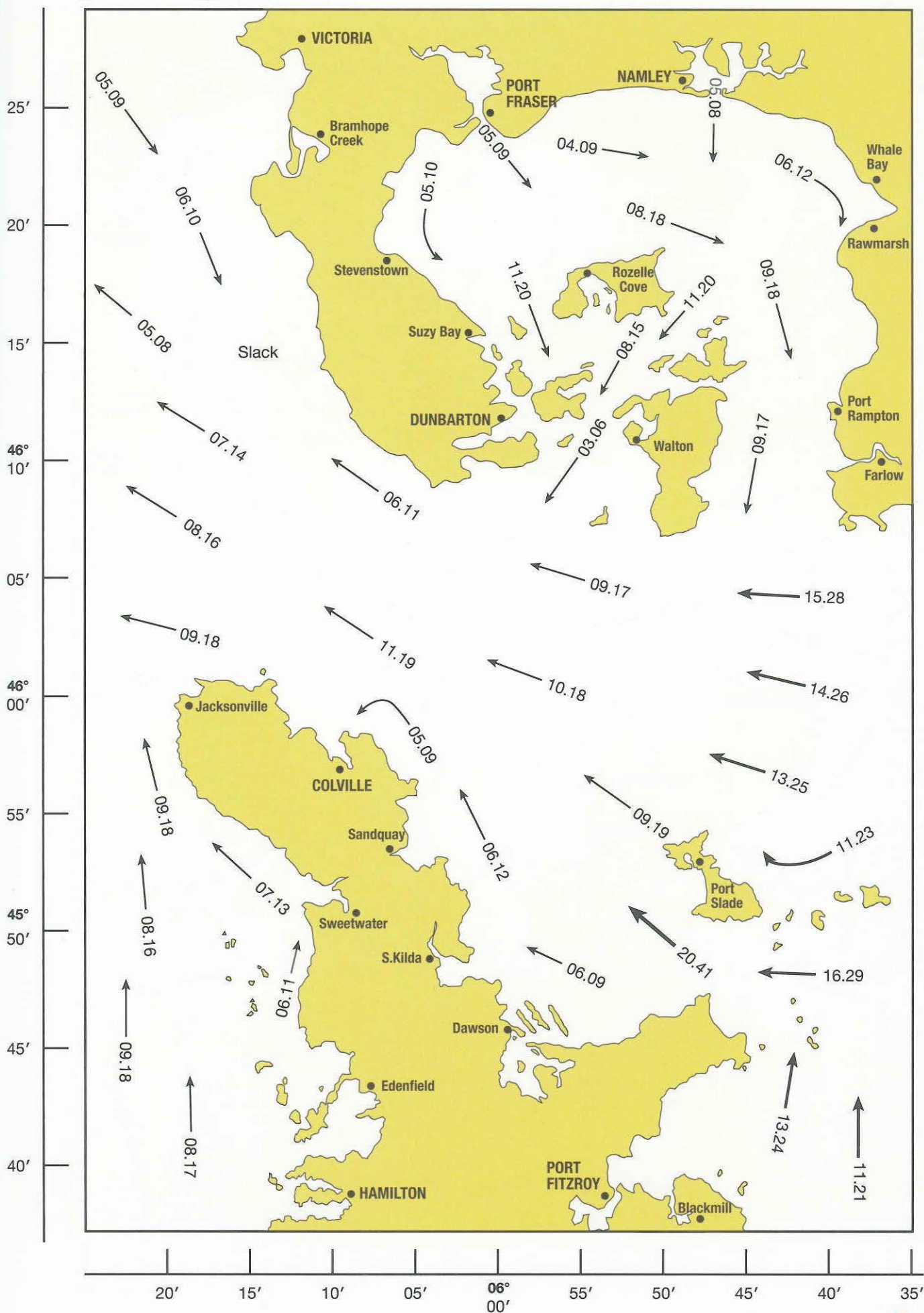
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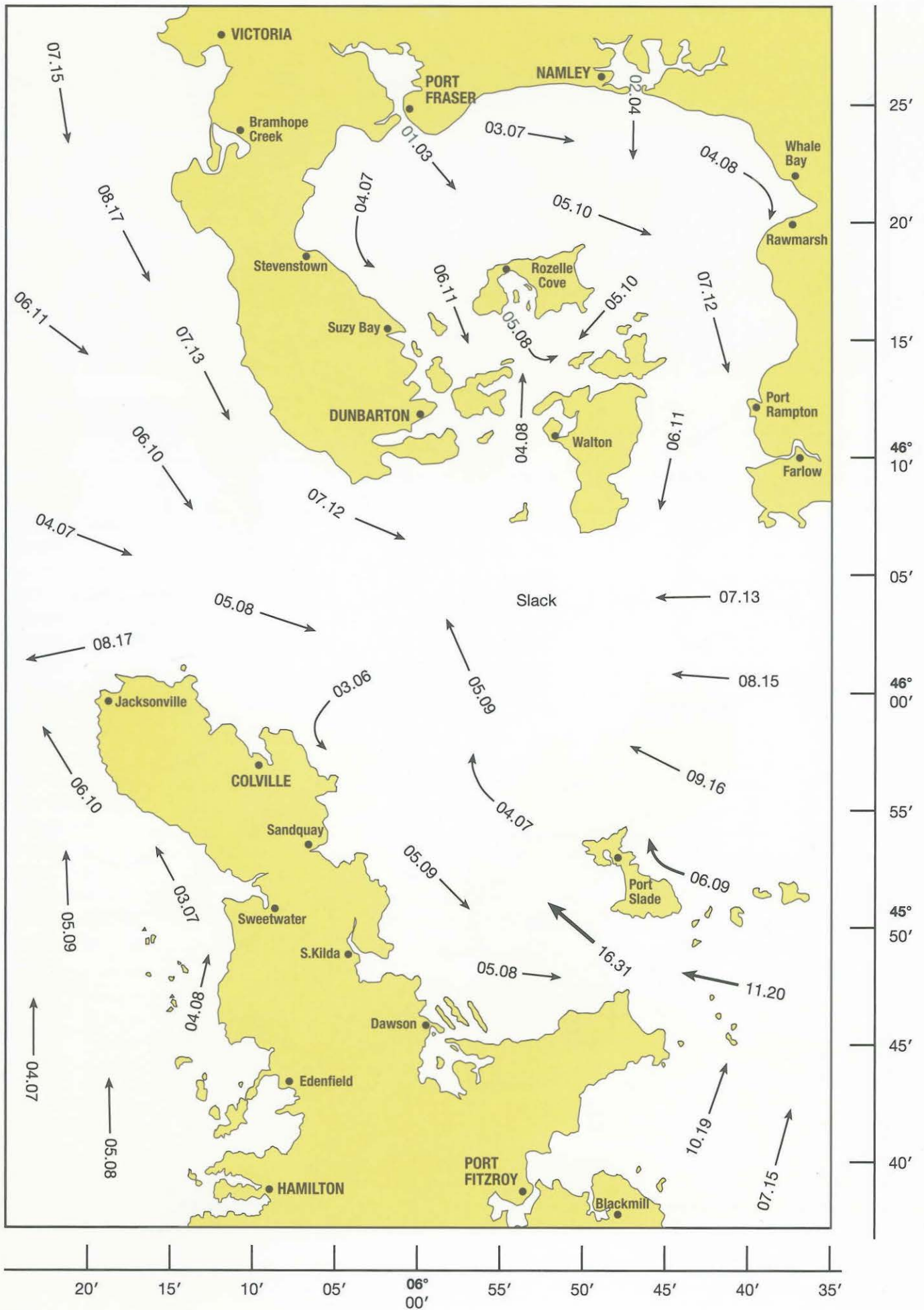
Tidal levels table

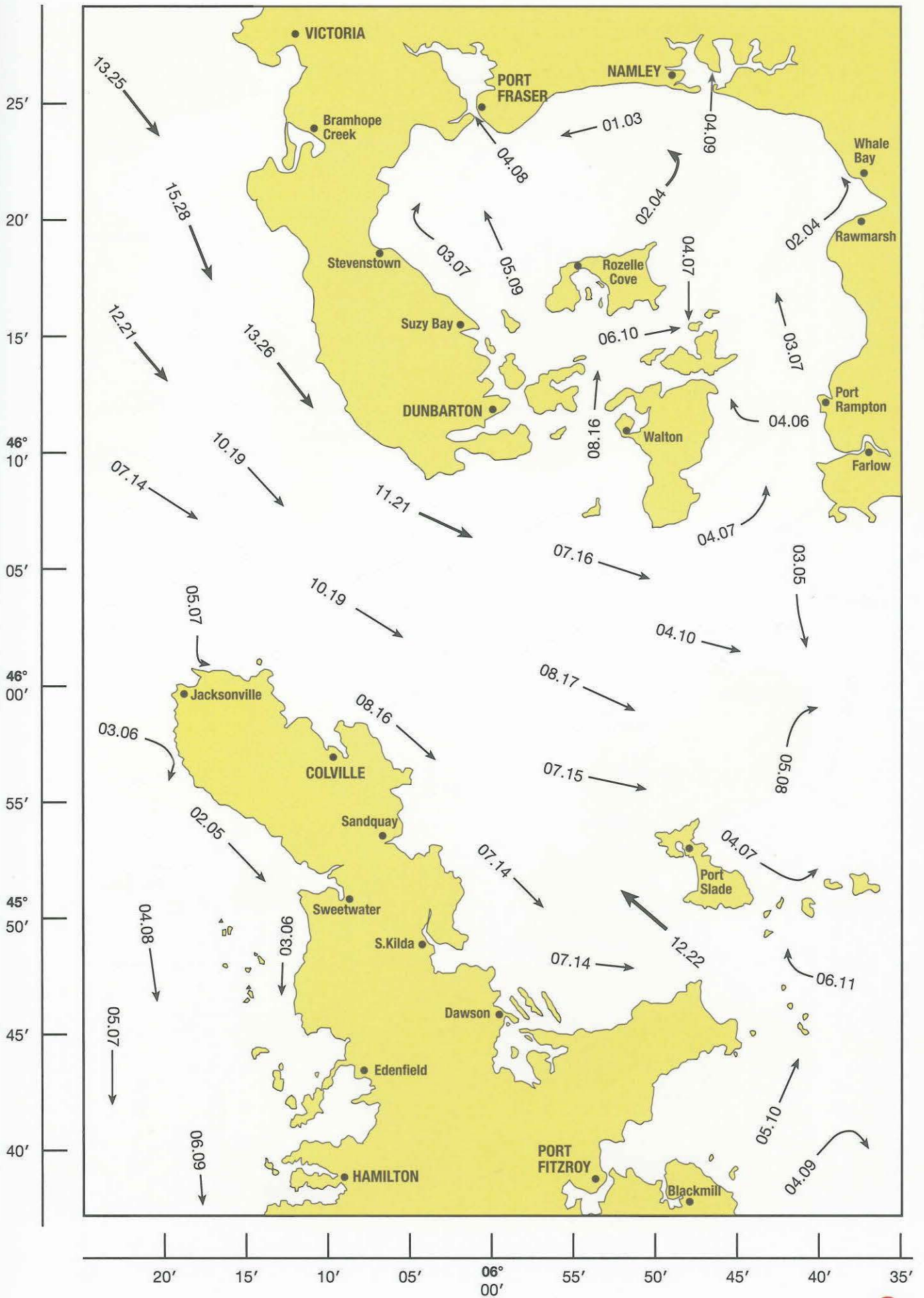
PORT	HAT	MHWS	MHWN	MLWN	MLWS
VICTORIA	6.3	5.6	4.4	2.0	0.7
Bramhope Creek	6.7	5.9	4.5	2.1	0.7
DUNBARTON	4.6	4.2	3.5	1.8	0.8
Suzy Bay Marina	4.3	4.0	3.4	1.6	0.8
PORT FRASER	4.6	4.2	3.4	1.1	0.4
Stevenstown	4.2	4.0	3.6	1.3	0.4
NAMLEY HARBOUR	4.4	4.0	3.4	1.1	0.4
Itchenham	4.1	3.8	3.3	1.0	0.3
Emsburne	4.0	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.

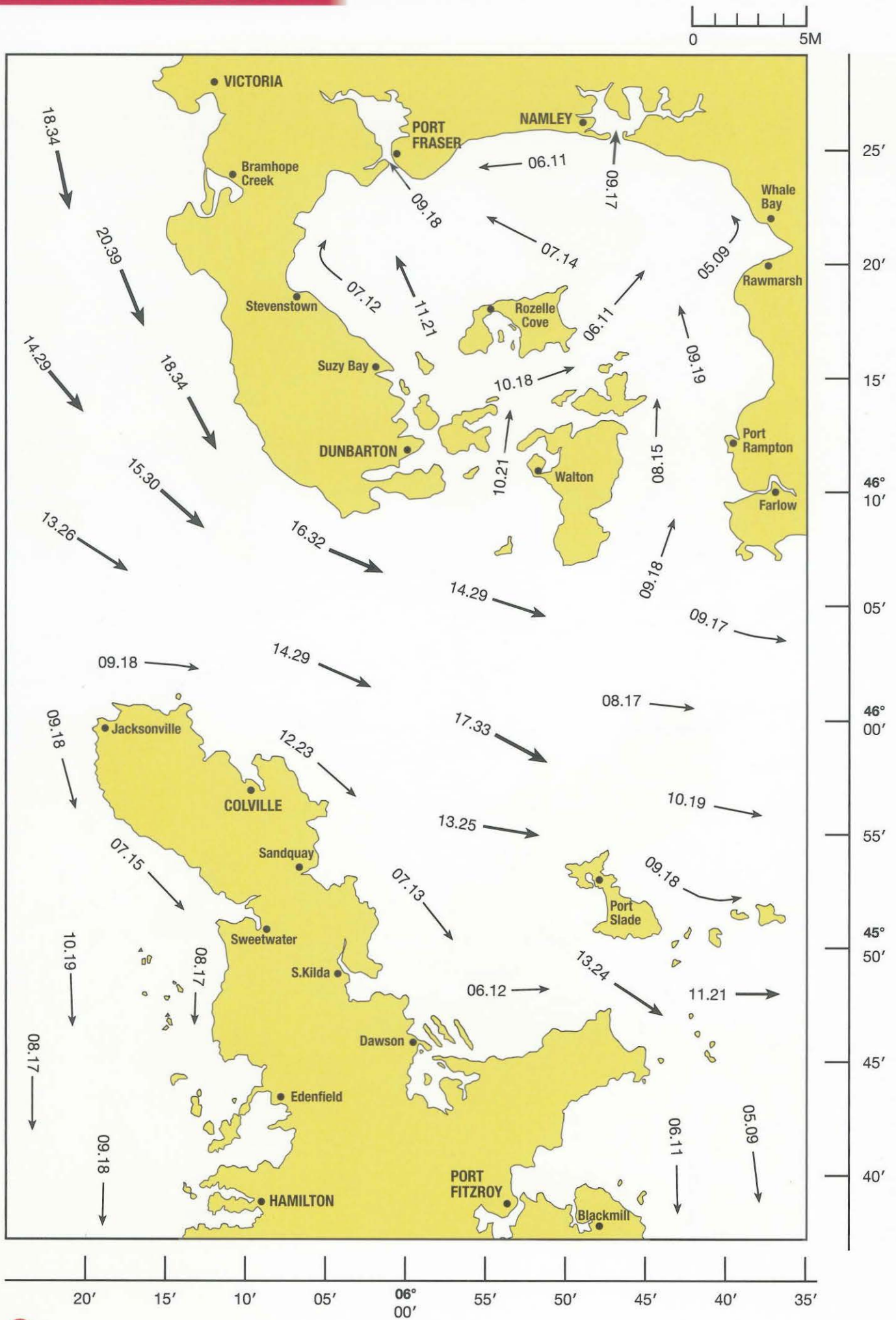


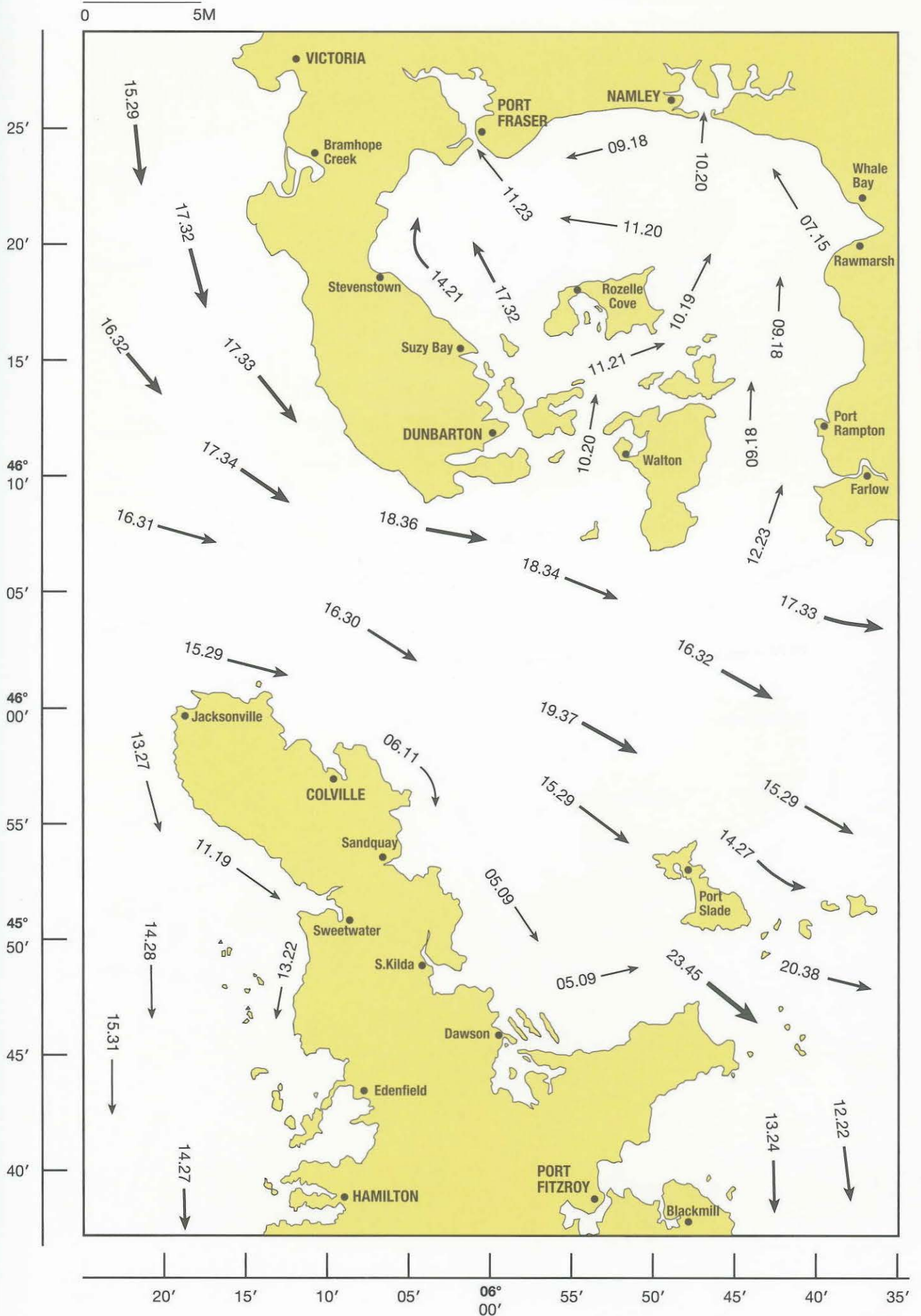
0 5M

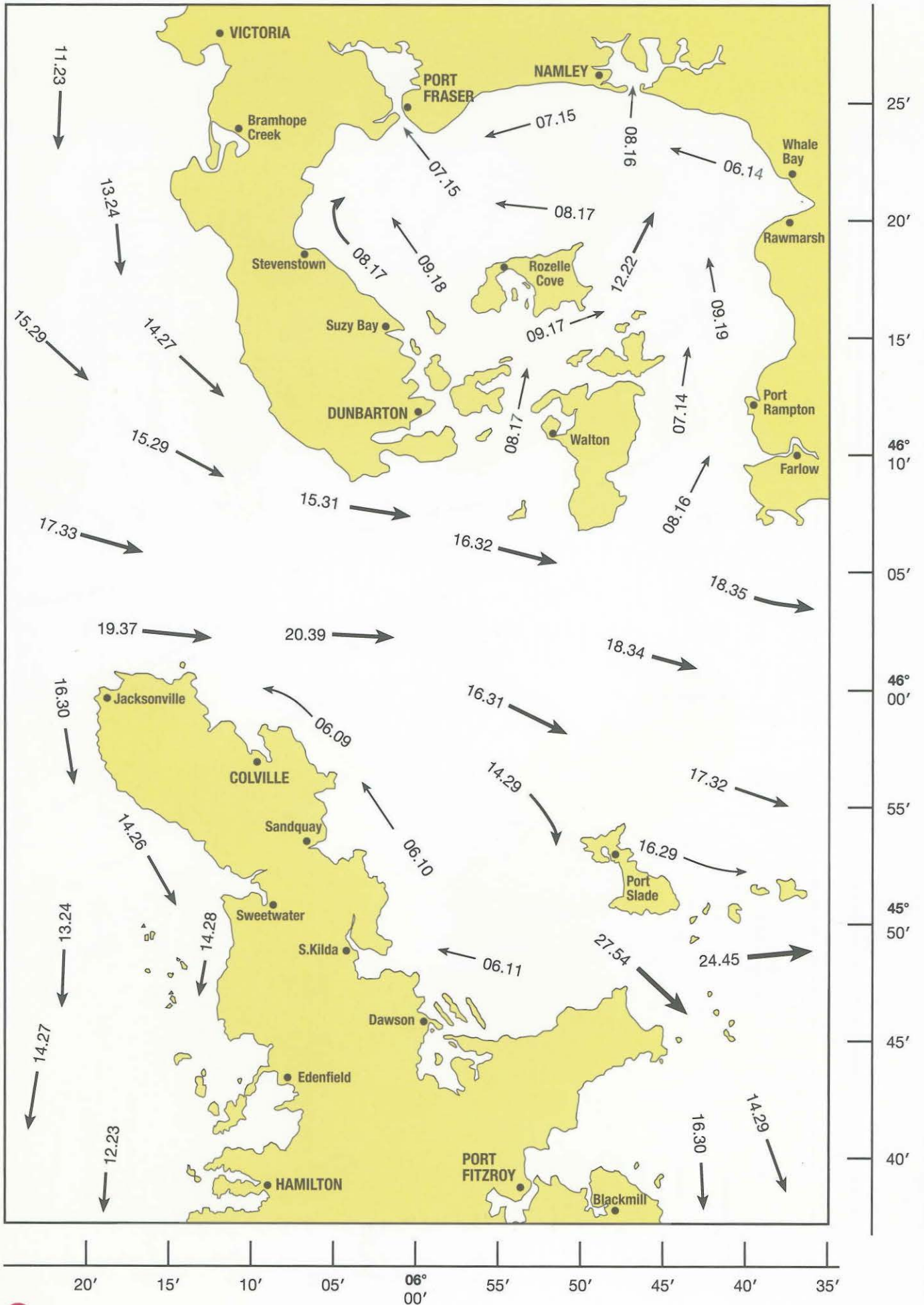


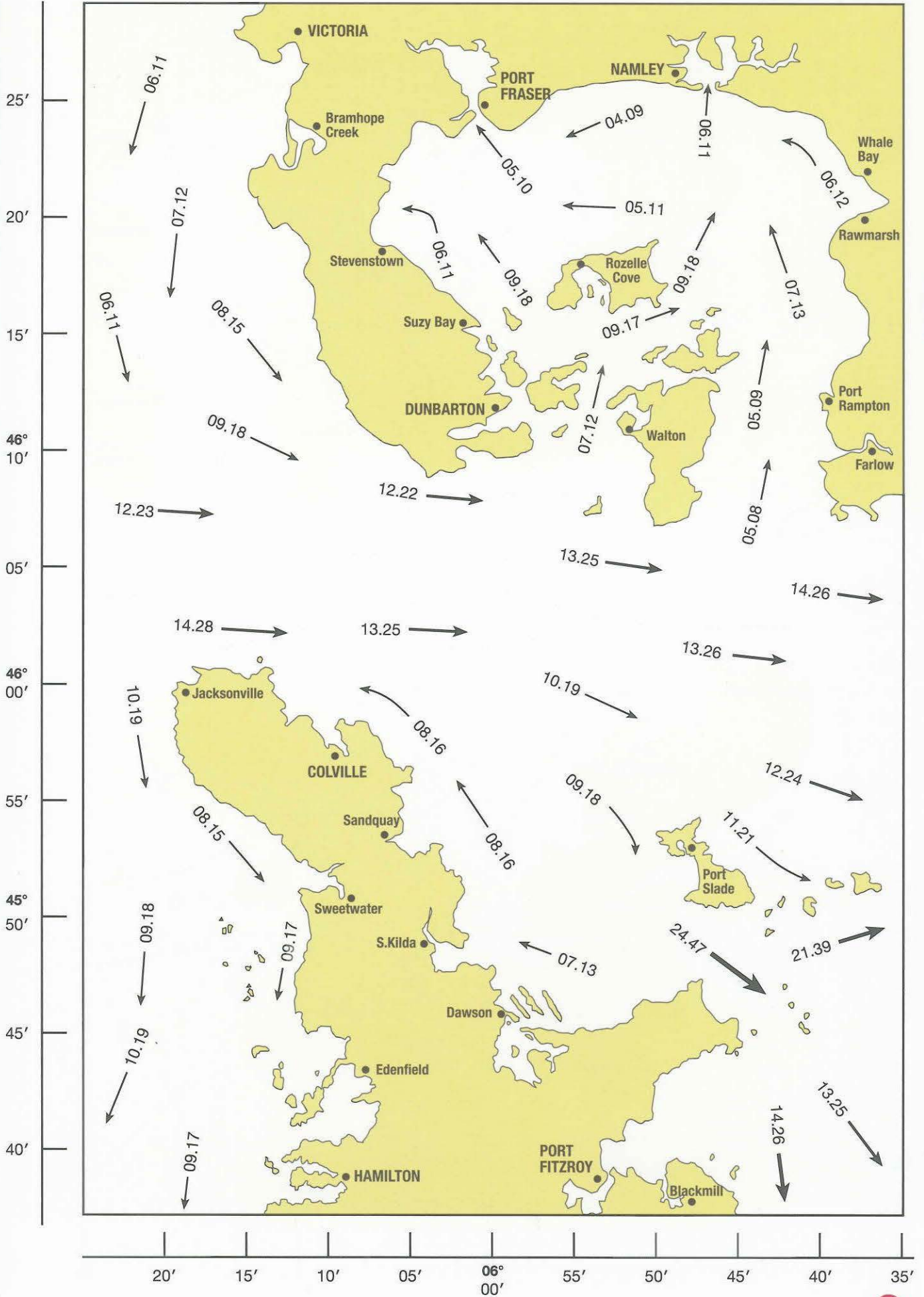


Three hours before HW Victoria

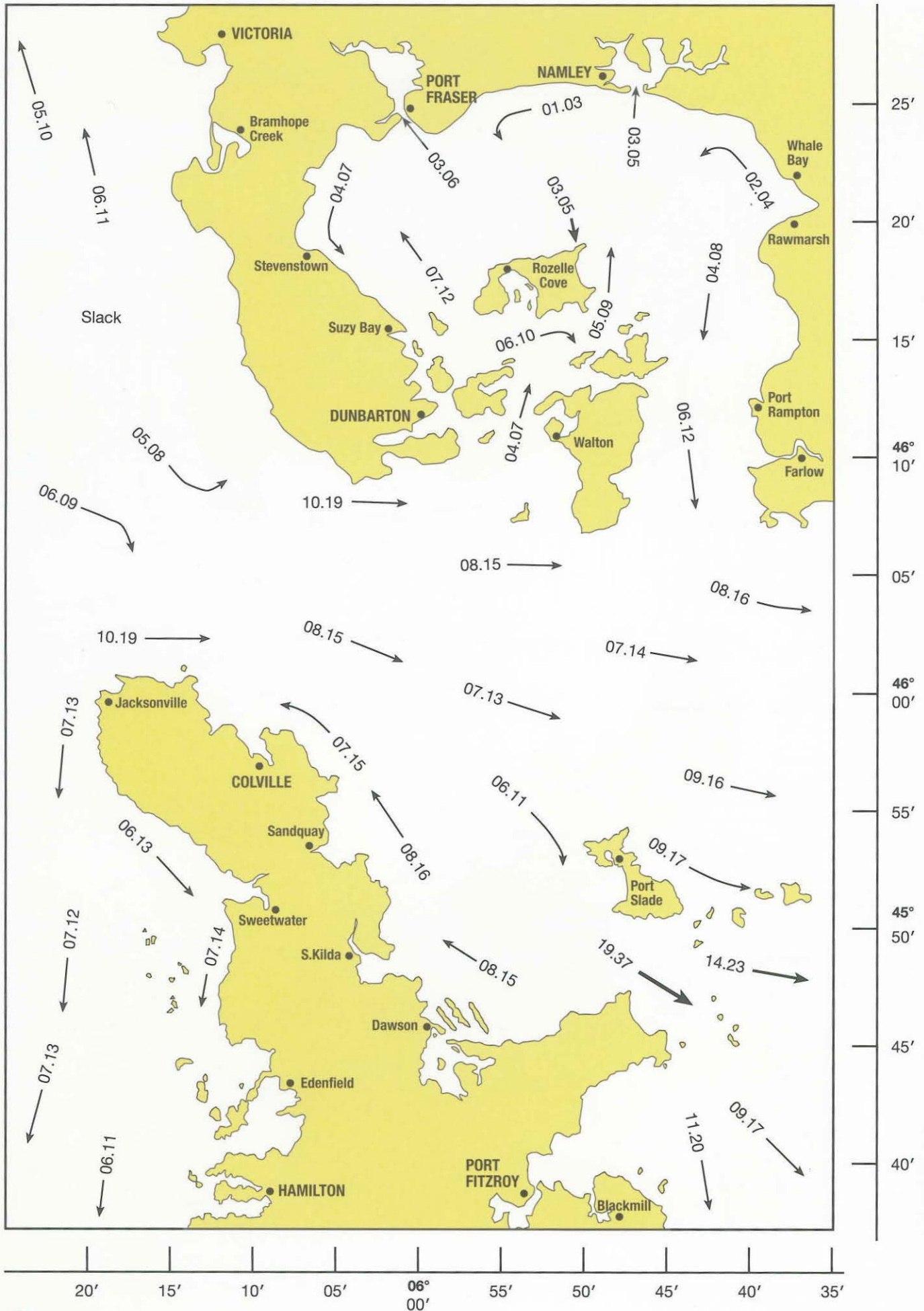


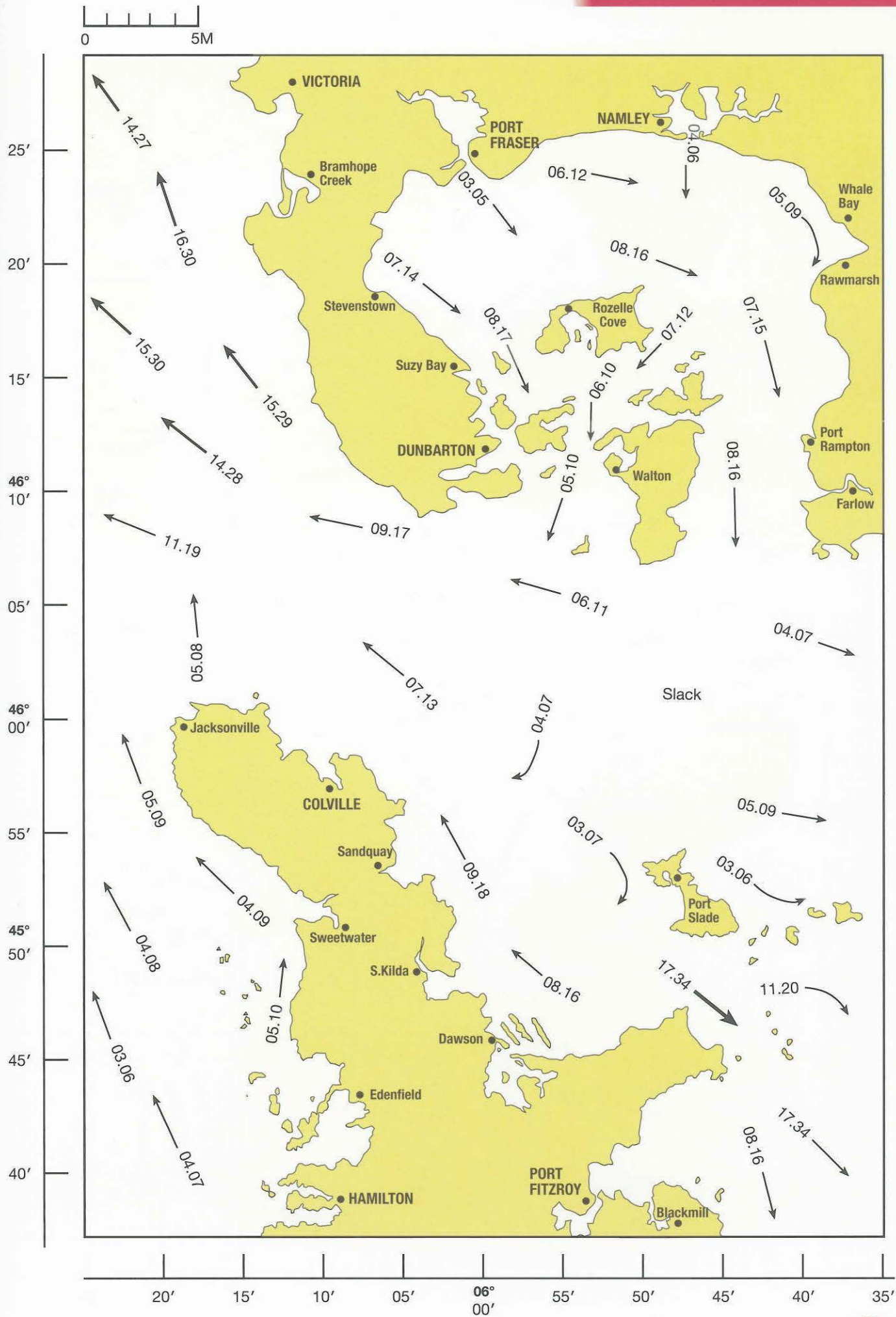




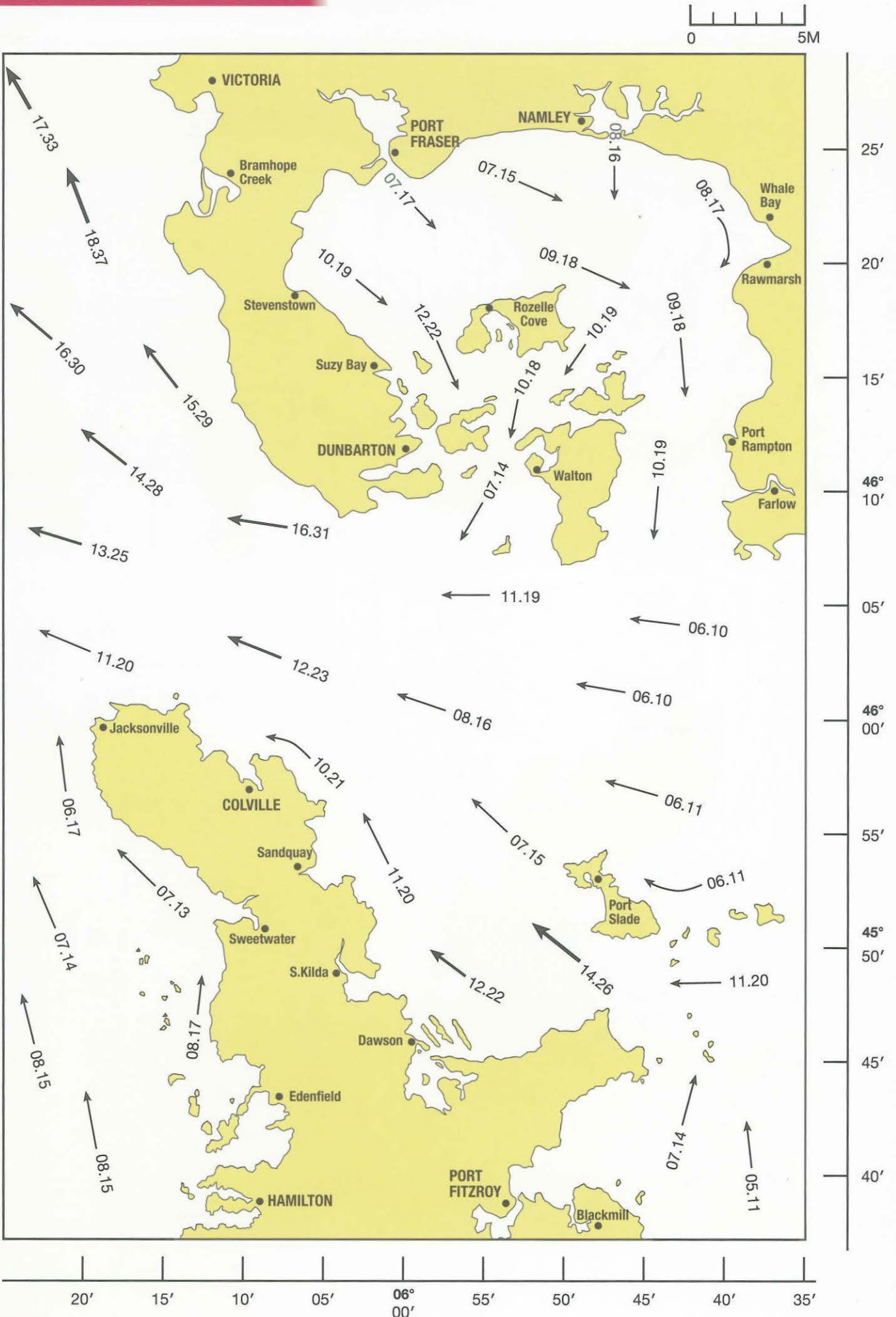


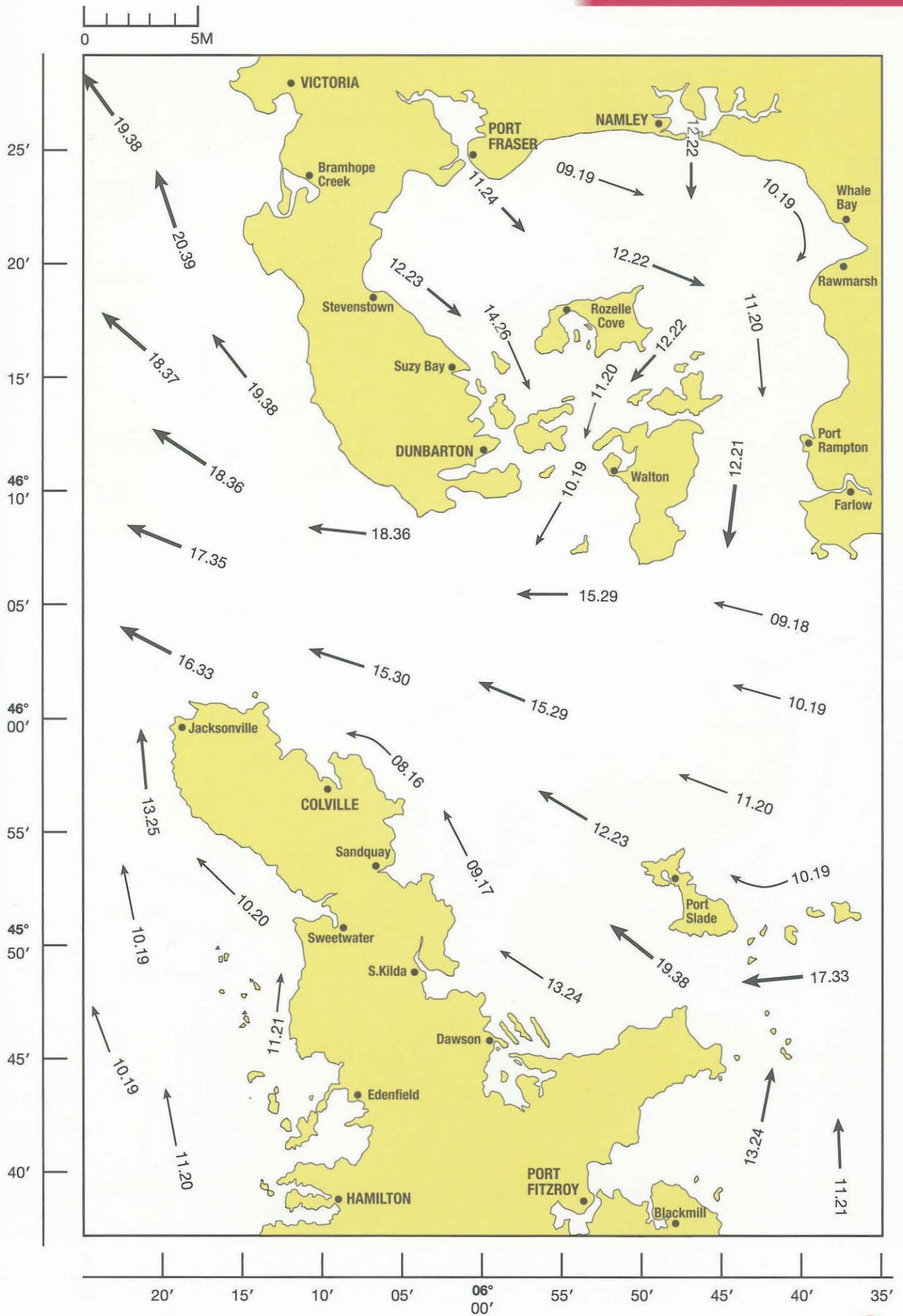
One hour after HW Victoria



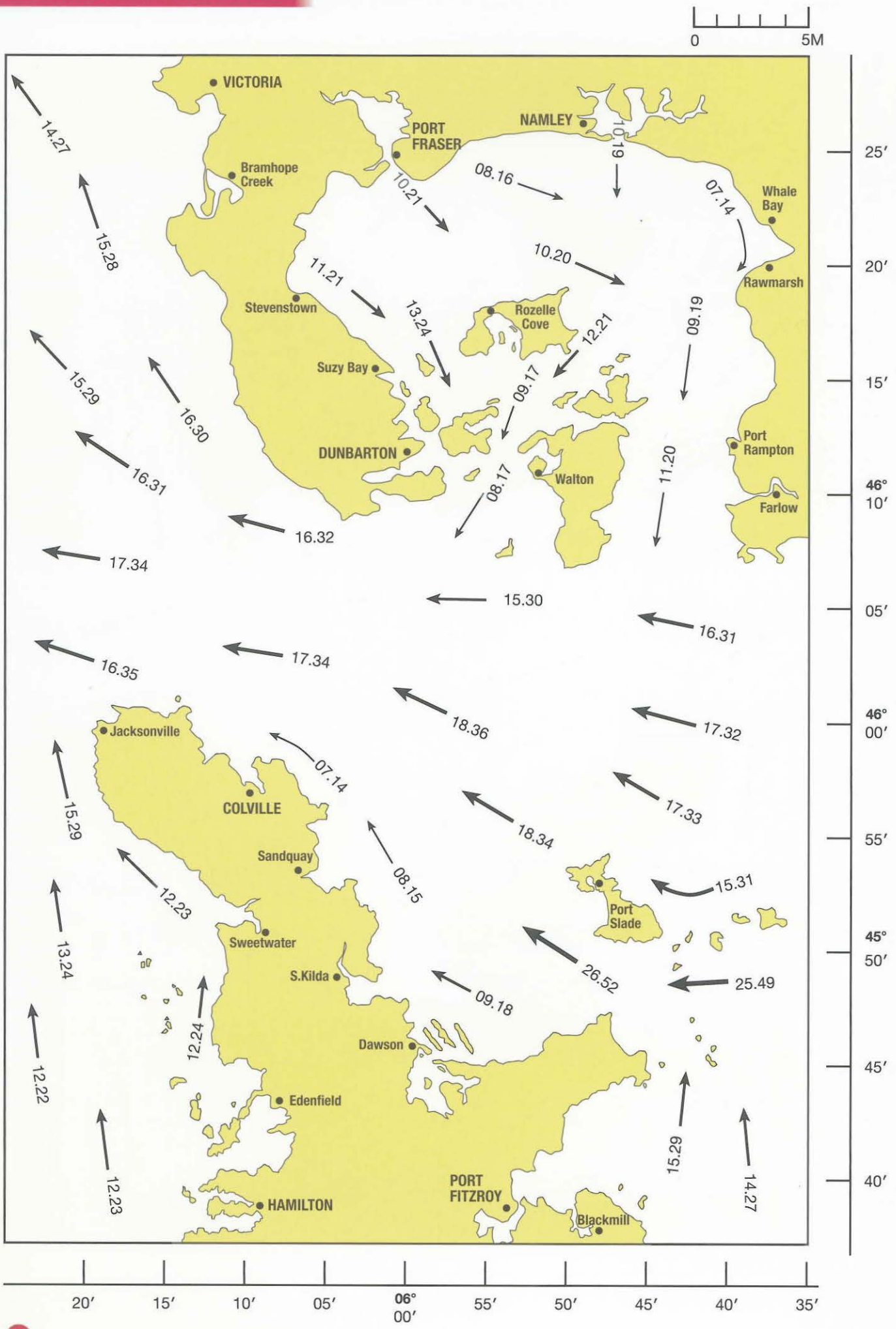


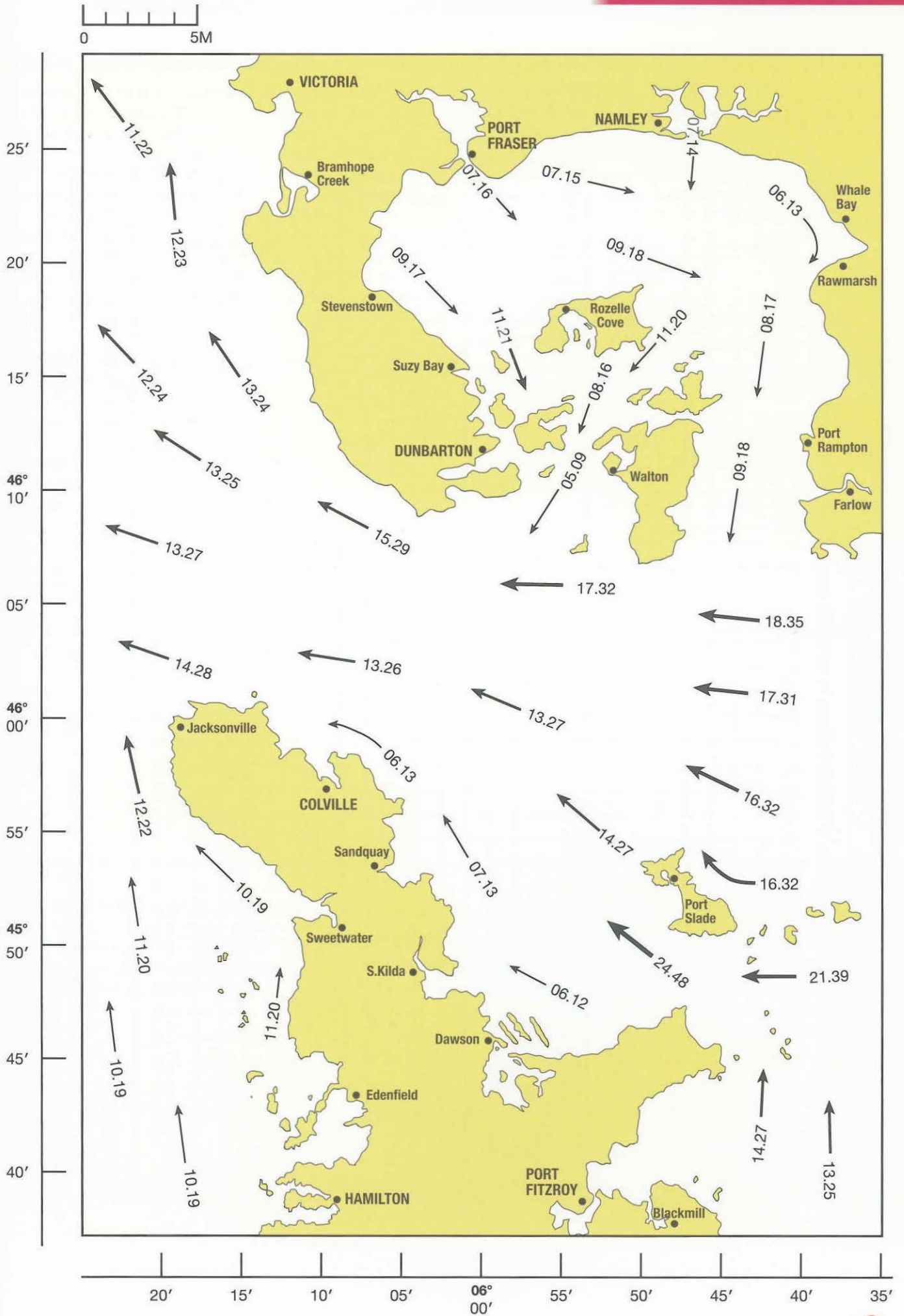
Three hours after HW Victoria



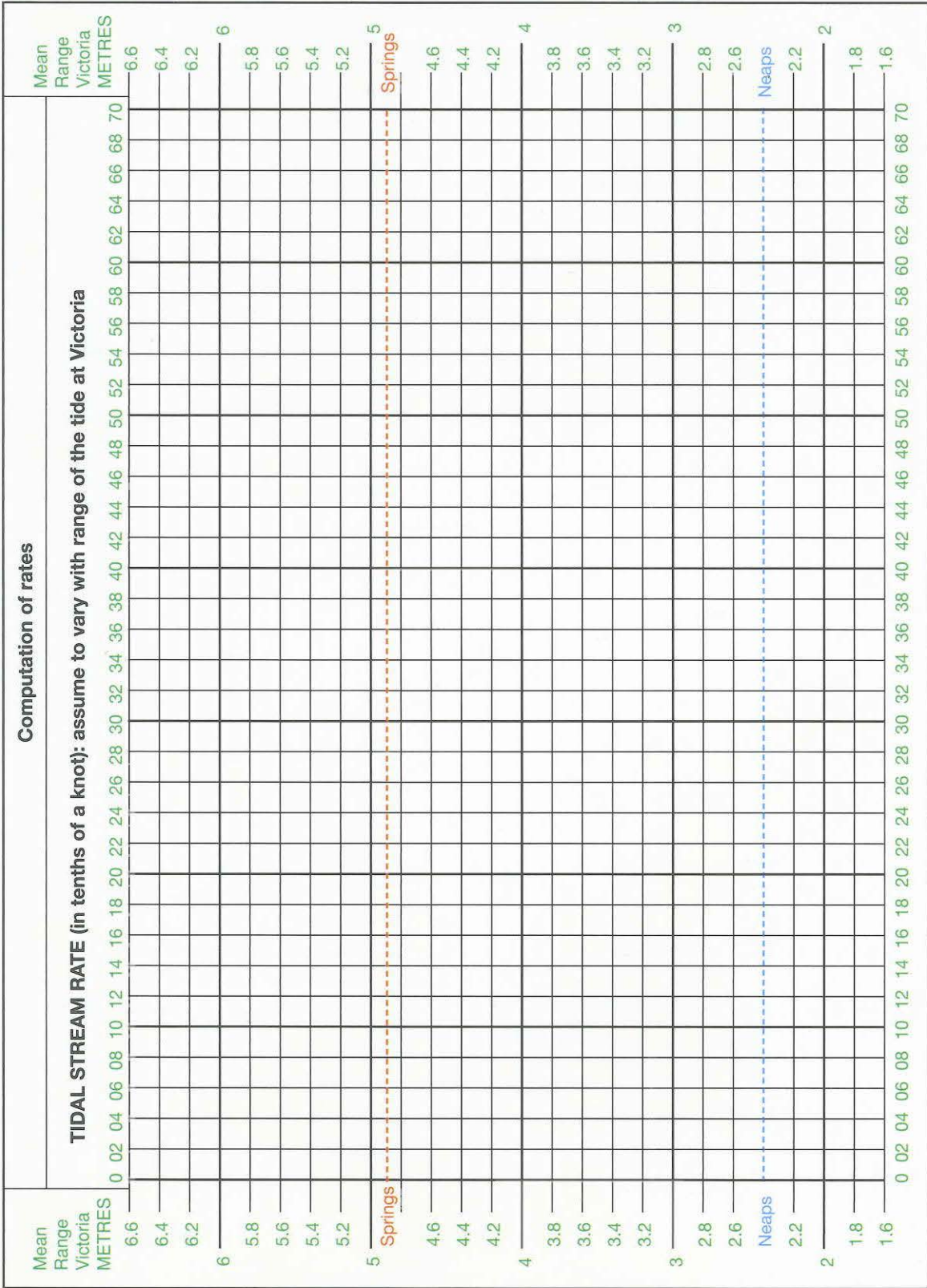


Five hours after HW Victoria





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.

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.

Some further sources of weather information

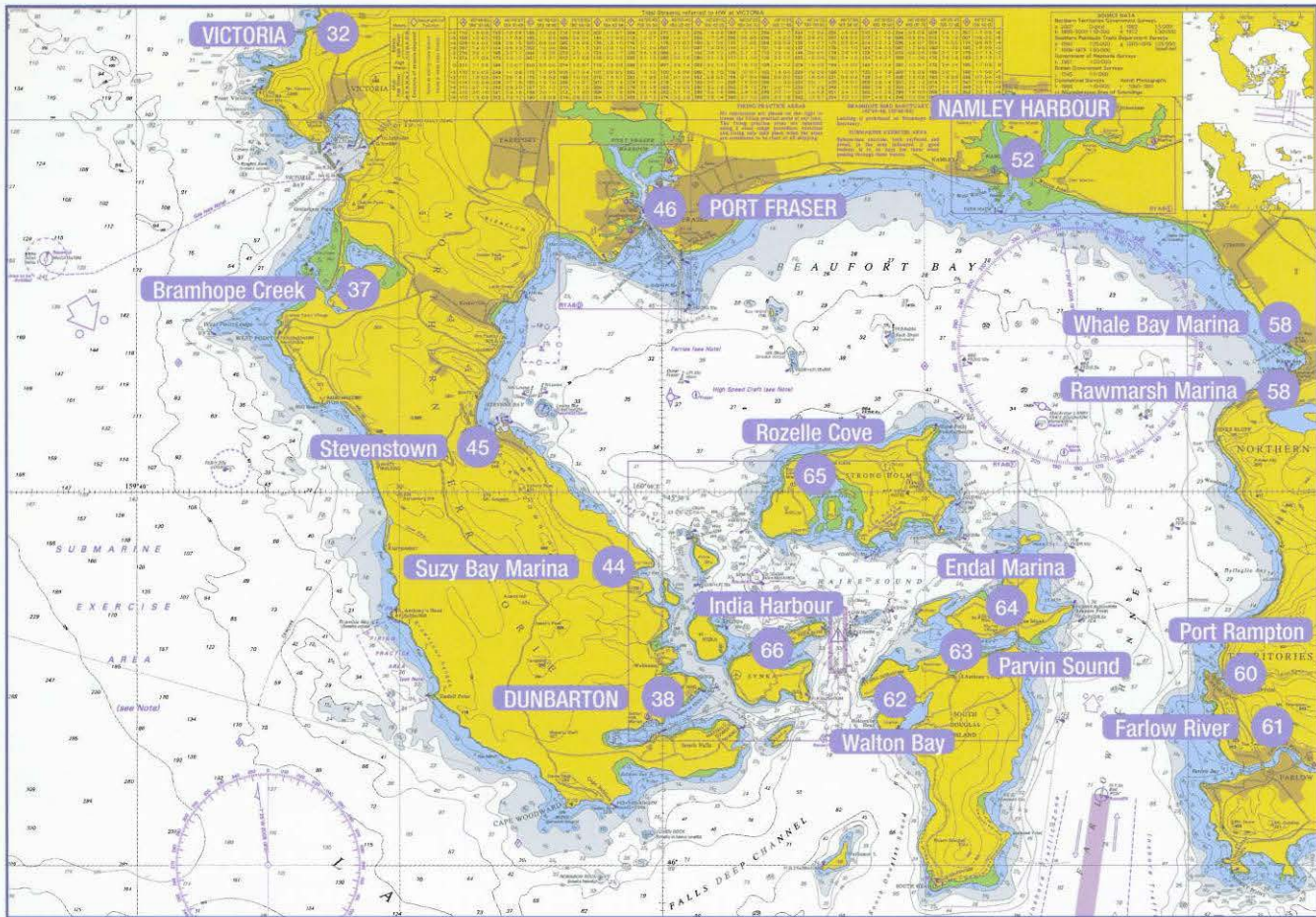
Marina or Harbour Master office. Internet sites. Weather fax. Telephone forecast. Barometer and own observation. Newspapers and television. Buoy reports. Meteorological Office. Navtext.

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 Ch 16. 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

NORTHERN TERRITORIES AND ADJACENT ISLANDS



Northern Territories – Passage information

Point Victoria to Cape Woodward (Cape Balshaw).
Cape Woodward to Misery Point including Beaufort Bay.

Northern Territories – List of lights

Range greater than 5 miles

VICTORIA

Standard Port

Bramhope Creek

Standard Port VICTORIA

DUNBARTON and Setter Hall Marina

Standard Port

Suzy Bay Marina

Standard Port DUNBARTON

Stevenstown

Standard Port PORT FRASER

PORT FRASER

Standard Port

NAMLEY HARBOUR

Standard Port

29

Whale Bay and Rawmarsh Marina

Standard Port NAMLEY HARBOUR

31

Port Rampton

Standard Port NAMLEY HARBOUR

32

Farlow River

Standard Port NAMLEY HARBOUR

37

Walton Bay

Standard Port PORT FRASER

38

Parvin Sound

Standard Port PORT FRASER

44

Endal Marina

Standard Port PORT FRASER

45

Rozelle Cove

Standard Port PORT FRASER

46

India Harbour (Beaker Bay)

Standard Port PORT FRASER

52

NAMLEY HARBOUR

Standard Port

58

60

61

62

63

64

65

66

Point Victoria to Cape Woodward (Cape Balshaw)

Point Victoria is a steep-to headland with a conspicuous lighthouse (BW hor bands) [F10s72m23M] 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 Othery 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 [F(2)20s61m19M] and keeper's 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) [F1.5s33m15M] marks the potentially dangerous Bramble Rks situated some 0.6M offshore and the start of the inshore firing range at Browndown.

S. Anthony's Head to Cape Woodward

The Army firing range at Browndown, 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) [F(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 eastbound TSS, changing to the westbound 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 [F1.6s17m12M] 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 Holm, is an isolated rock sat on a 9m plateau and marked by an IDM [F(2)5s5M].

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 Back 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 westbound 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 29, the waters around Cape Woodward require due navigational respect due to the unmarked, offlying dangers. South Head with its conspicuous 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.

Northern Territories – alphabetical list of lights (5M+ range)

Back Shoal Bn. 46°21.414'N 5°51.221'W	B&R hor bands	Fl(2)5s5M
Backless Lt 46°10.876'N 5°57.117'W	Framework twr	Iso.WRG.5s8m11-8M
Calf of Potta Lt Ho 46°15.958'N 5°58.831'W	W O twr	Fl.3s11m10M
Cape Balshaw Lt Ho 46°08.858'N 6°01.964'W	BW chequered O twr	Fl(2+1)30s87m22M Horn(2+1)30s
Clark Ness Lt 46°11.938'N 5°58.594'W	W 8 sided twr	Dir.WRG.13-5M
Dolphin Pt. Lt 46°24.252'N 6°00.553'W	R □ W vert Stripe on Gy Fort	Dir. WRG.6m13-5M
Evans Hd. Lt Ho 46°12.042'N 5°52.408'W	WG chequered O twr	Fl.WRG3s15m9-6M
Fort Gull. 46°23.325'N 6°02.121'W	W structure on fort twr	Oc.G.10s20m7M
Gamp Holm Lt Ho 46°15.414'N 5°47.374'W	W O twr	Fl(2)6s30m5M(U)
Guillemot I. Lt Ho 46°07.140'N 5°53.920'W	B&W vert bands O twr	Fl.G.2.5s38m10M
Hill Shoal Bn. 46°20.450'N 5°55.060'W	YB	VQ(6) +LFl.10s5M
Hinder Lt Ho 46°13.908'N 5°50.354'W	W O twr	Fl(4)15s25m5M
Holm Point. 46°18.802'N 5°49.625'W	R & W vert striped twr	Fl(4)15s28m12M
Home Ledge Beacon 46°12.986'N 5°48.281'W	G pyramidal bn	Fl.G.2s4m5M
Huckle Hd. Lt Ho 46°11.680'N 5°54.375'W	RW chequered O twr	Fl.R.5s25m8M
Johnson Point Lt Ho 46°14.107'N 5°44.371'W	W □ Ho	Fl(3)WR.6s30m10M
Lawrence LANBY 46°01.673'N 5°44.759'W	RW Hull	Mo(A)10s14m12M Horn(1)30s Racon(L)
Leslie Hd. Lt Ho 46°13.443'N 5°53.790'W	R & W striped O twr	Fl(2) R.6s12m7M
Louisa Rocks Lt Ho 46°19.339'N 6°04.569'W	R&W chequered	Fl.6s17m12M Racon(Q)(3cm)
MacArthur LANBY 46°18.980'N 5°45.555'W	Y hull	Fl(4)Y.20s12m12M Horn(4)60s Racon(T)
Misery Point Lt Ho 46°07.056'N 5°38.334'W	B&W hor bands O twr	Fl.10s34m25M Dia(1)60s
Mutton Head Lt Ho 46°16.085'N 5°49.508'W	Lt Gy O twr	Fl(3)10s50m10M
Old Harry Pt. Lt Ho 46°23.582'N 5°59.260'W	W O twr B top	Dir.WRG.11m13-5M+Iso.WR3s8m8/5M
Point Victoria Lt Ho 46°27.774'N 6°15.289'W	BW hor bands	Fl.10s72m23M Horn60s
Rawmarsh Marina E Bkwtr 46°20.388'N 5°36.102'W	WRW O twr	Fl.R.2s8m7M
Rawmarsh Marina W Bkwtr 46°20.408'N 5°36.143'W	WGW O twr	Q.G.6m7M
Rods Skerry Bn. 46°13.414'N 5°52.857'W	BRB Bn.	Fl(2)5s7m6M
S. Anthony's Lt Ho 46°13.873'N 6°10.113'W	Gy 8 sided twr	Fl.5s33m15M
South Head Lt Ho 46°06.684'N 5°49.613'W	W O twr with B top	Oc(2)10s45m15M
Southerness Lt 46°10.771'N 6°00.085'W	Framework twr on piles	Dir.WRG.3s6m7-5M
Swifta Bn. 46°10.743'N 5°55.553'W	B post ♦ topmark	Iso.3s9m5M
Victoria Ldg Lts 051.4° 46°26.507'N 6°10.917'W	Both lts, R □ W vert stripe on framework twr.	Front [Q.10m8M] Rear [Oc.2s18m8M]
West point Lt Ho 46°21.265'N 6°14.629'W	W □ twr and dwellings	Fl(2)20s61m19M Horn(2)30s
Whale Bay Marina N Hd. 46°21.125'N 5°36.328'W	R O twr	Fl.R.4m5M
Whale Bay Marina S Hd. 46°21.082'N 5°36.273'W	G O twr	Fl.G.4m5M

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'y 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 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.

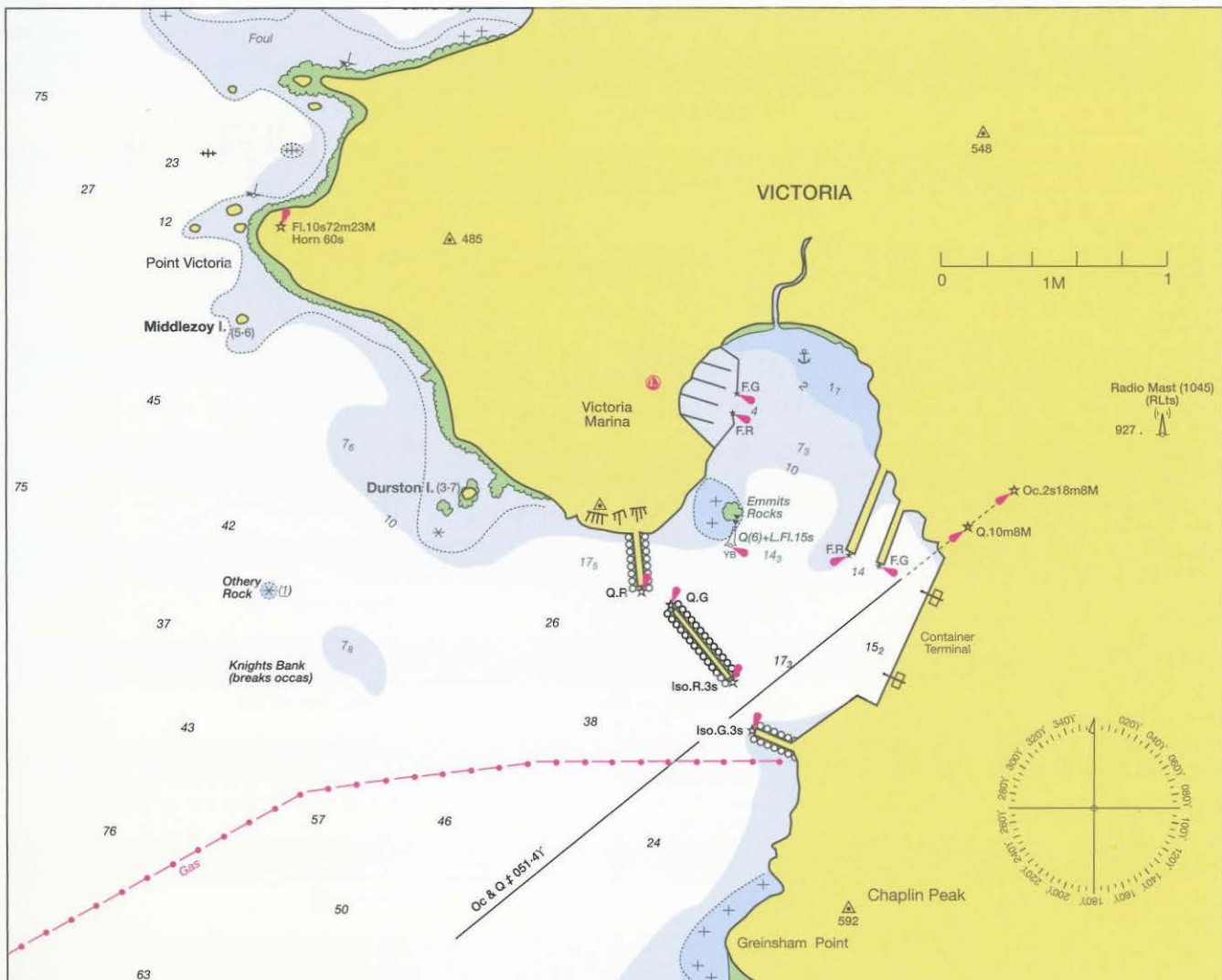
As a means of remaining in safe water when entering or leaving Victoria, local craft keep the SCM visible between the northern breakwater lights/heads.

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.



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				
1 0510 1126 TU 1742 2354	0.9 5.8 0.7 5.6	16 0549 1201 W 1814	1.2 5.5 1.1	1 0028 0627 F 1245 1903	5.7 0.6 6.0 0.4	16 0028 0629 SA 1242 1851	5.1 1.2 5.4 1.1	1 0524 1139 F 1755	0.3 6.2 0.0	16 0532 1142 SA 1750 2359	0.9 5.5 0.9 5.2	1 0024 0628 M 1247 1858	5.7 0.4 5.8 0.6	16 0000 0607 TU 1219 1821	5.3 1.0 5.2 1.1
2 0556 1212 W 1830	0.9 5.8 0.7	17 0024 0623 TH 1235 1849	5.1 1.3 5.4 1.2	2 0115 0714 SA 1333 1952	5.5 0.8 5.8 0.6	17 0100 0702 SU 1315 1924	5.0 1.3 5.3 1.3	2 0006 0606 SA 1224 1839	5.8 0.3 6.1 0.2	17 0601 1213 SU 1819	1.0 5.4 1.0	2 0108 0714 TU 1334 1944	5.4 0.7 5.4 1.1	17 0033 0642 W 1255 1858	5.2 1.2 5.1 1.3
3 0043 0643 TH 1301 1920	5.5 1.0 5.7 0.8	18 0058 0658 F 1311 1925	5.0 1.5 5.3 1.4	3 0204 0803 SU 1423 2045	5.3 1.0 5.5 1.0	18 0133 0736 M 1350 2000	4.9 1.5 5.1 1.5	3 0050 0651 SU 1310 1925	5.6 0.5 5.9 0.5	18 0028 0632 M 1245 1850	5.2 1.1 5.3 1.1	3 0155 0806 W 1427 2037	5.1 1.2 4.9 1.6	18 0109 0723 TH 1336 1941	5.0 1.4 4.9 1.6
4 0135 0733 F 1353 2015	5.3 1.2 5.6 0.9	19 0134 0734 SA 1348 2003	4.8 1.6 5.1 1.5	4 0257 0858 M 1520 2144	5.0 1.4 5.2 1.3	19 0209 0816 TU 1430 2043	4.7 1.7 4.8 1.7	4 0135 0737 M 1357 2013	5.4 0.8 5.5 0.9	19 0059 0705 TU 1318 1924	5.0 1.3 5.1 1.3	4 0248 0907 TH 1532 2144	4.8 1.6 4.5 2.0	19 0153 0813 F 1429 2036	4.8 1.6 4.6 1.8
5 0230 0828 SA 1449 2115	5.1 1.4 5.4 1.1	20 0213 0815 SU 1429 2046	4.7 1.9 4.9 1.7	5 0358 1003 TU 1627 2253	4.7 1.7 4.9 1.6	20 0254 0905 W 1521 2138	4.5 2.0 4.6 2.0	5 0223 0829 TU 1450 2109	5.1 1.2 5.1 1.4	20 0133 0743 W 1356 2004	4.9 1.5 4.9 1.6	5 0357 1028 F 1704 2310	4.5 1.9 4.2 2.3	20 0252 0921 SA 1542 2151	4.6 1.8 4.4 2.1
6 0332 0930 SU 1552 2220	4.9 1.6 5.2 1.3	21 0258 0902 M 1517 2137	4.5 2.1 4.7 1.9	6 0512 1120 W 1748	4.6 1.9 4.7	21 0355 1013 TH 1632 2253	4.3 2.2 4.4 2.1	6 0319 0932 W 1557 2217	4.7 1.6 4.7 1.9	21 0214 0831 TH 1445 2057	4.7 1.8 4.6 1.9	6 0527 1200 SA 1844	4.4 2.0 4.2	21 0414 1049 SU 1718 2322	4.4 1.8 4.4 2.1
7 0440 1039 M 1702 2329	4.8 1.8 5.0 1.4	22 0354 1000 TU 1616 2239	4.4 2.2 4.6 2.0	7 0008 0631 TH 1242 1911	1.8 4.6 1.9 4.6	22 0521 1140 F 1804	4.3 2.2 4.4	7 0432 1053 TH 1727 2341	4.5 1.9 4.4 2.1	22 0311 0936 F 1556 2212	4.4 2.0 4.4 2.1	7 0037 0653 SU 1318 1953	2.3 4.5 1.8 4.5	22 0546 1212 M 1841	4.5 1.6 4.6
8 0551 1151 TU 1813	4.7 1.8 5.0	23 0505 1122 W 1728 2349	4.3 2.3 4.5 2.0	8 0122 0742 F 1355 2020	1.8 4.7 1.7 4.8	23 0018 0648 SA 1302 1923	2.1 4.4 1.9 4.6	8 0603 1225 F 1905	4.4 2.0 4.4	23 0436 1108 SA 1736 2347	4.3 2.1 4.3 2.1	8 0144 0755 M 1413 2038	2.0 4.7 1.6 4.7	23 0040 0658 TU 1318 1941	1.8 4.8 1.8 5.0
9 0035 0657 W 1301 1921	1.5 4.8 1.7 5.0	24 0620 1225 TH 1842	4.4 2.2 4.6	9 0223 0839 SA 1453 2113	1.7 5.0 1.5 4.9	24 0130 0754 SU 1406 2024	1.8 4.8 1.5 4.9	9 0105 0725 SA 1345 2016	2.1 4.6 1.8 4.6	24 0616 1237 SU 1904	4.4 1.8 4.5	9 0231 0838 TU 1453 2112	1.7 4.9 1.3 4.9	24 0141 0754 W 1412 2030	1.4 5.2 0.7 5.3
10 0137 0756 TH 1403 2021	1.4 5.0 1.5 5.1	25 0056 0724 F 1330 1945	1.9 4.6 1.9 4.8	10 0311 0924 SU 1538 2154	1.5 5.2 1.3 5.0	25 0228 0845 M 1458 2113	1.4 5.1 1.0 5.3	10 0210 0825 SU 1441 2104	1.9 4.8 1.5 4.8	25 0107 0728 M 1345 2006	1.8 4.7 1.4 4.9	10 0307 0912 W 1526 2140	1.5 5.1 1.1 5.1	25 0230 0842 TH 1459 2114	1.0 5.6 0.4 5.5
11 0232 0847 F 1457 2113	1.4 5.2 1.4 5.2	26 0154 0818 SA 1426 2039	1.7 4.9 1.6 5.0	11 0351 1001 M 1615 2228	1.3 5.4 1.1 5.1	26 0316 0930 TU 1545 2158	1.0 5.5 0.6 5.6	11 0257 0908 M 1522 2139	1.6 5.1 1.3 5.0	26 0207 0822 TU 1438 2055	1.4 5.2 0.9 5.3	11 0338 0943 TH 1555 2207	1.2 5.3 1.0 5.2	26 0314 0927 F 1542 2155	0.6 5.8 0.2 5.7
12 0319 0931 SA 1543 2157	1.3 5.4 1.2 5.2	27 0245 0904 SU 1515 2127	1.4 5.2 1.2 5.3	12 0426 1035 TU 1649 ● 2259	1.2 5.5 1.0 5.2	27 0400 1013 W 1628 O 2241	0.7 5.8 0.3 5.8	12 0334 0942 TU 1556 2209	1.4 5.3 1.1 5.1	27 0256 0908 W 1523 2138	1.0 5.6 0.4 5.6	12 0407 1013 F 1623 ● 2234	1.0 5.4 0.9 5.3	27 0357 1011 SA 1625 O 2236	0.4 6.0 0.1 5.8
13 0400 1012 SU 1625 ● 2238	1.2 5.5 1.1 5.2	28 0331 0947 M 1601 O 2212	1.1 5.5 0.8 5.5	13 0458 1107 W 1720 2329	1.1 5.6 1.0 5.2	28 0442 1056 TH 1712 2323	0.4 6.1 0.1 5.9	13 0406 1013 W 1625 2236	1.2 5.4 1.0 5.2	28 0339 0951 TH 1606 O 2219	0.6 5.9 0.1 5.8	13 0435 1043 SA 1650 2301	0.9 5.4 0.8 5.3	28 0440 1056 SU 1707 2319	0.3 6.0 0.2 5.8
14 0439 1050 M 1703 2315	1.2 5.6 1.1 5.2	29 0415 1030 TU 1645 2257	0.8 5.7 0.5 5.7	14 0528 1138 TH 1750 2358	1.0 5.6 1.0 5.2	15 0559 1210 F 1820	1.1 5.5 1.0	14 0435 1042 TH 1653 ● 2303	0.9 5.5 0.9 5.3	29 0420 1034 F 1649 2300	0.3 6.1 0.0 5.9	14 0504 1114 SU 1719 2330	0.9 5.4 0.9 5.3	29 0524 1141 M 1751	0.3 5.8 0.5
15 0515 1126 TU 1740 2350	1.2 5.6 1.1 5.2	30 0459 1114 W 1730 2342	0.6 5.9 0.4 5.7	15 0559 1210 F 1820	1.1 5.5 1.0	15 0503 1112 F 1721 2330	0.9 5.5 0.9 5.3	15 0503 1112 F 1721 2330	0.9 5.5 0.9 5.3	30 0502 1117 SA 1731 2342	0.2 6.2 0.0 5.8	15 0535 1145 M 1750	0.9 5.4 1.0	30 0002 0609 TU 1228 1834	5.6 0.5 5.6 0.8
		31 0543 1159 TH 1816	0.6 6.0 0.3					31 0544 1201 SU 1814	0.2 6.1 0.2						

TIME ZONE UT

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SPRING & NEAP TIDES

Dates in red are SPRINGS
Dates in blue are NEAPS

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

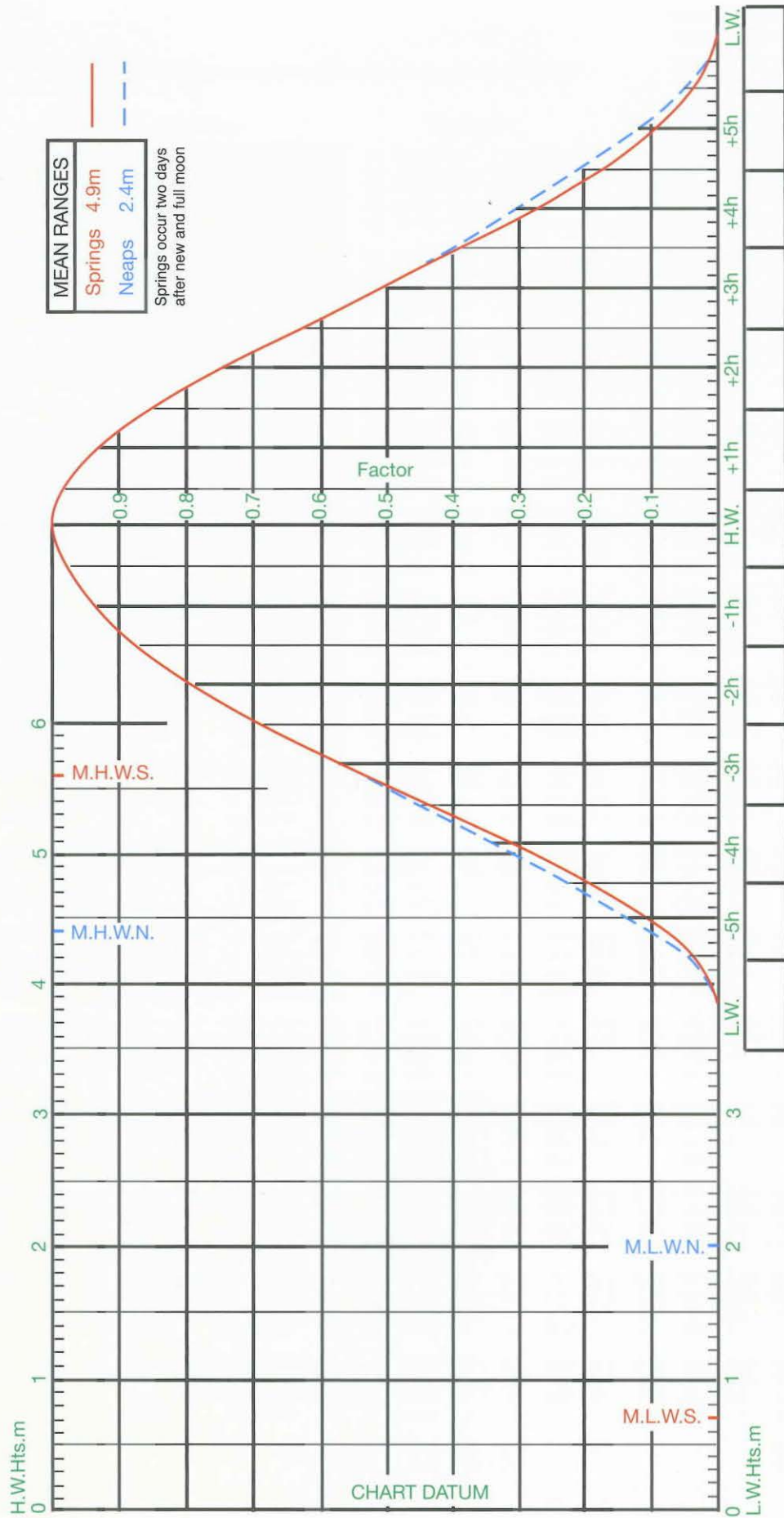
MAY				JUNE				JULY				AUGUST			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0046 W 1315 1920	5.4 0.8 5.2 1.2	16 0015 TH 0628 1842	5.2 1.1 5.1 1.3	1 0159 SA 1440 2038	5.0 1.5 4.5 1.9	16 0139 SU 0801 1417 2016	5.2 1.1 4.9 1.5	1 0214 M 0835 1449 2048	5.0 1.6 4.5 1.9	16 0217 TU 0840 1455 2053	5.4 0.9 5.0 1.3	1 0259 TH 1533 2139	4.7 1.8 4.4 2.1	16 0349 F 1630 2240	5.0 1.5 4.7 1.8
2 0132 TH 1407 2011	5.2 1.2 4.8 1.7	17 0056 F 0713 1327 1929	5.1 1.2 4.9 1.5	2 0251 SU 1542 2139	4.8 1.7 4.3 2.2	17 0236 M 0901 1520 2118	5.1 1.2 4.8 1.6	2 0301 TU 0925 1542 2143	4.8 1.7 4.3 2.1	17 0314 W 0939 1556 2156	5.2 1.1 4.8 1.5	2 0353 F 1637 2247	4.5 2.0 4.3 2.3	17 0506 SA 1750	4.7 1.8 4.6
3 0223 F 1509 2111	4.9 1.6 4.4 2.1	18 0145 SA 0808 1424 2026	5.0 1.4 4.7 1.7	3 0351 M 1024 1653 2249	4.6 1.9 4.2 2.3	18 0339 TU 1007 1628 2227	5.0 1.2 4.7 1.7	3 0354 W 1021 1644 2245	4.6 1.9 4.3 2.2	18 0417 TH 1044 1703 2306	5.1 1.3 4.7 1.6	3 0501 SA 1122 1753	4.4 2.1 4.3	18 0003 SU 0633 1246 1907	1.8 4.6 1.8 4.7
4 0325 SA 0958 1630 2229	4.6 1.9 4.2 2.3	19 0245 SU 0914 1535 2137	4.8 1.5 4.5 1.9	4 0458 TU 1130 1802 2357	4.5 1.9 4.3 2.2	19 0447 W 1115 1738 2336	5.0 1.2 4.7 1.6	4 0456 TH 1122 1751 2351	4.5 1.9 4.3 2.2	19 0527 F 1152 1813	4.9 1.4 4.7	4 0002 SU 0617 1232 1902	2.2 4.4 2.0 4.5	19 0123 M 0751 1354 2012	1.7 4.7 1.7 5.0
5 0442 SU 1119 1758 2351	4.4 2.0 4.2 2.3	20 0359 M 1031 1656 2256	4.7 1.5 4.5 1.9	5 0603 W 1230 1900	4.5 1.8 4.4	20 0555 TH 1219 1842	5.0 1.1 4.9	5 0601 F 1222 1852	4.5 1.9 4.4	20 0018 SA 0639 1259 1919	1.6 4.9 1.4 4.9	5 0111 M 0726 1334 1959	2.6 4.0 1.8 4.7	20 0228 TU 0851 1449 2102	1.5 4.9 1.6 5.2
6 0602 M 1232 1908	4.4 1.9 4.3	21 0517 TU 1145 1811	4.8 1.3 4.7	6 0055 TH 0700 1321 1946	2.1 4.6 1.6 4.6	21 0041 F 0658 1319 1938	1.5 5.1 1.0 5.0	6 0052 SA 0702 1317 1943	2.1 4.6 1.7 4.6	21 0127 SU 0747 1400 2017	1.5 4.9 1.4 5.0	6 0209 TU 0823 1427 2046	1.7 4.8 1.6 5.0	21 0318 W 0936 1532 2143	1.3 5.0 1.4 5.4
7 0059 TU 0706 1329 1957	2.1 4.6 1.7 4.6	22 0009 W 0626 1249 1912	1.7 5.0 1.1 4.9	7 0144 F 0748 1404 2025	1.8 4.8 1.5 4.8	22 0140 SA 0756 1413 2029	1.3 5.2 1.0 5.2	7 0146 SU 0756 1405 2028	1.8 4.7 1.6 4.8	22 0228 M 0847 1454 2108	1.4 5.0 1.3 5.2	7 0259 W 0911 1513 2129	1.4 5.0 1.3 5.3	22 0358 TH 1013 1609 2218	1.1 5.1 1.2 5.5
8 0150 W 0754 1413 2034	1.9 4.8 1.5 4.8	23 0111 TH 0725 1344 2003	1.4 5.2 0.8 5.2	8 0225 SA 0831 1442 2100	1.6 4.9 1.3 5.0	23 0234 SU 0850 1503 2116	1.1 5.3 0.9 5.4	8 0233 M 0843 1449 2108	1.6 4.9 1.4 5.0	23 0321 TU 0938 1541 2153	1.2 5.1 1.2 5.4	8 0343 TH 0954 1556 2210	1.0 5.3 1.0 5.6	23 0433 F 1045 1642 2251	1.0 5.2 1.1 5.6
9 0230 TH 0833 1448 2105	1.6 5.0 1.3 5.0	24 0203 F 0816 1434 2049	1.1 5.5 0.6 5.4	9 0303 SU 0910 1517 2134	1.4 5.1 1.2 5.1	24 0325 M 0940 1549 2201	0.9 5.4 0.9 5.5	9 0317 TU 0927 1531 2147	1.3 5.1 1.2 5.2	24 0408 W 1023 1622 2234	1.0 5.2 1.1 5.5	9 0426 F 1037 1638 2252	0.7 5.5 0.8 5.8	24 0506 SA 1116 1714 2323	0.9 5.2 1.1 5.6
10 0304 F 0908 1519 2134	1.4 5.1 1.1 5.1	25 0251 SA 0905 1520 2133	0.8 5.6 0.5 5.6	10 0339 M 0947 1553 2208	1.2 5.2 1.1 5.3	25 0413 TU 1028 1633 2245	0.8 5.4 0.9 5.5	10 0359 W 1009 1612 2227	1.1 5.2 1.1 5.4	25 0449 TH 1103 1701 2312	0.9 5.2 1.1 5.5	10 0509 SA 1120 1720 2335	0.5 5.6 0.6 5.9	25 0536 SU 1145 1745 2355	0.9 5.2 1.1 5.5
11 0335 SA 0941 1550 2203	1.2 5.2 1.0 5.2	26 0337 SU 0952 1604 2216	0.6 5.7 0.5 5.6	11 0416 TU 1025 1629 2243	1.1 5.2 1.0 5.3	26 0458 W 1114 1716 2328	0.8 5.3 1.0 5.5	11 0441 TH 1051 1653 2308	0.9 5.3 1.0 5.5	26 0528 F 1140 1738 2349	0.9 5.1 1.1 5.5	11 0552 SU 1203 1803	0.3 5.6 0.6	26 0607 M 1215 1816	1.0 5.1 1.2
12 0406 SU 1014 1620 2233	1.1 5.3 0.9 5.3	27 0423 M 1038 1648 2259	0.5 5.7 0.6 5.7	12 0455 W 1105 1707 2322	1.0 5.2 1.0 5.4	27 0543 TH 1158 1757	0.9 5.2 1.1	12 0525 F 1135 1737 2352	0.7 5.4 0.9 5.6	27 0604 SA 1215 1813	1.0 5.1 1.2	12 0019 M 0636 1249 1847	5.9 0.4 5.5 0.7	27 0027 TU 0637 1247 1847	5.4 1.1 5.0 1.3
13 0438 M 1047 1652 2304	1.0 5.3 0.9 5.3	28 0509 TU 1125 1731 2343	0.6 5.5 0.8 5.6	13 0536 TH 1146 1748	0.9 5.2 1.1	28 0010 F 0625 1240 1837	5.5 1.0 5.0 1.3	13 0610 SA 1221 1821	0.7 5.4 0.9	28 0025 SU 0639 1250 1848	5.4 1.1 5.0 1.3	13 0105 TU 0723 1335 1934	5.8 0.5 5.4 0.9	28 0100 W 0709 1319 1922	5.2 1.3 4.9 1.6
14 0512 TU 1122 1725 2338	1.0 5.3 1.0 5.3	29 0555 W 1212 1815	0.7 5.3 1.0	14 0003 F 1232 1832	5.4 0.9 1.2	29 0051 SA 0707 1322 1918	5.3 1.2 4.8 1.5	14 0037 SU 0656 1310 1908	5.6 0.7 5.3 1.0	29 0100 M 0714 1324 1924	5.3 1.2 4.8 1.5	14 0153 W 1425 2026	5.6 0.8 5.1 1.2	29 0134 TH 1354 2000	5.1 1.5 4.7 1.8
15 0548 W 1159 1802	1.0 5.2 1.1	30 0027 TH 0641 1259 1859	5.4 0.9 5.0 1.3	15 0049 SA 0708 1322 1921	5.3 1.0 5.0 1.3	30 0132 SU 0750 1404 2001	5.1 1.4 4.6 1.7	15 0126 M 0746 1400 1958	5.5 0.8 5.1 1.2	30 0136 TU 0751 1401 2002	5.1 1.4 4.7 1.7	15 0246 TH 0908 1522 2126	5.3 1.1 4.9 1.5	30 0212 F 0824 1437 2047	4.8 1.8 4.6 2.1
31 0113 F 0730 1347 1946	5.2 1.2 4.7 1.6							31 0215 W 0831 1443 2046	4.9 1.6 4.5 1.9			31 0301 SA 0915 1533 2151	4.6 2.0 4.4 2.3		

TIME ZONE UT
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SPRING & NEAP TIDES
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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 0408 4.3 1025 2.3 SU 1655 4.3 2317 2.3		16 0634 4.5 1234 2.2 M 1856 4.7		1 0511 4.3 1118 2.4 TU 1750 4.4		16 0055 1.9 0732 4.6 W 1321 2.1 1934 4.9		1 0051 1.5 0715 5.0 F 1312 1.7 1927 5.3		16 0157 1.6 0819 4.9 SA 1414 1.8 2018 5.1		1 0114 1.1 0734 5.2 SU 1333 1.4 1947 5.5		16 0152 1.7 0814 4.9 M 1414 1.8 2019 5.0		
2 0540 4.3 1152 2.3 M 1825 4.4		17 0117 1.8 0752 4.6 TU 1345 2.0 2001 5.0		2 0014 2.0 0641 4.5 W 1242 2.1 1904 4.8		17 0154 1.6 0821 4.8 TH 1411 1.8 2019 5.1		2 0145 1.0 0804 5.3 SA 1402 1.2 2015 5.6		17 0234 1.4 0851 5.1 SU 1449 1.6 2053 5.3		2 0205 0.8 0822 5.5 M 1423 1.0 2037 5.7		17 0231 1.6 0850 5.0 TU 1453 1.6 2059 5.1		
3 0042 2.1 0704 4.5 TU 1308 2.0 1933 4.7		18 0219 1.5 0844 4.9 W 1436 1.7 2047 5.2		3 0122 1.6 0744 4.9 TH 1342 1.7 1958 5.2		18 0236 1.4 0856 5.0 F 1449 1.6 2055 5.3		3 0231 0.6 0847 5.6 SU 1446 0.9 2059 5.9		18 0306 1.3 0920 5.2 M 1521 1.4 2126 5.4		3 0252 0.7 0907 5.7 TU 1510 0.8 2125 5.9		18 0307 1.4 0924 5.2 W 1529 1.5 2136 5.2		
4 0147 1.7 0806 4.8 W 1407 1.7 2025 5.1		19 0303 1.3 0922 5.0 TH 1516 1.5 2124 5.4		4 0214 1.1 0831 5.3 F 1430 1.2 2043 5.6		19 0310 1.2 0925 5.2 SA 1521 1.4 2126 5.4		4 0315 0.4 0928 5.8 M 1529 0.6 2142 6.1		19 0335 1.2 0949 5.3 TU 1552 1.3 2158 5.4		4 0338 0.6 0951 5.8 W 1557 0.7 2213 5.9		19 0341 1.3 0957 5.3 TH 1605 1.3 O 2213 5.3		
5 0239 1.3 0854 5.1 TH 1454 1.3 2108 5.4		20 0339 1.1 0953 5.2 F 1548 1.3 2155 5.5		5 0259 0.7 0913 5.6 SA 1512 0.8 2124 5.9		20 0339 1.1 0951 5.3 SU 1550 1.2 2155 5.5		5 0357 0.3 1009 5.9 TU 1612 0.4 2227 6.2		20 0405 1.2 1018 5.4 W 1624 1.2 O 2231 5.4		5 0423 0.6 1035 5.8 TH 1645 0.7 2301 5.8		20 0416 1.3 1030 5.4 F 1642 1.2 2250 5.3		
6 0323 0.8 0936 5.4 F 1537 0.9 2149 5.8		21 0409 1.0 1020 5.3 SA 1618 1.1 O 2225 5.6		6 0340 0.3 0953 5.8 SU 1553 0.5 2206 6.2		21 0407 1.0 1017 5.4 M 1618 1.1 O 2225 5.6		6 0440 0.3 1052 5.9 W 1657 0.4 2313 6.0		21 0436 1.2 1048 5.4 TH 1656 1.2 2305 5.4		6 0508 0.8 1120 5.8 F 1732 0.7 2349 5.6		21 0452 1.2 1106 5.5 SA 1720 1.1 2329 5.3		
7 0405 0.4 1017 5.7 SA 1617 0.6 2230 6.0		22 0438 1.0 1047 5.3 SU 1647 1.1 2254 5.6		7 0421 0.1 1033 6.0 M 1634 0.3 2248 6.3		22 0434 1.0 1044 5.4 TU 1647 1.1 2255 5.5		7 0524 0.5 1136 5.8 TH 1743 0.6		22 0508 1.2 1121 5.4 F 1731 1.3 2340 5.3		7 0553 1.0 1206 5.7 SA 1821 0.9		22 0530 1.2 1144 5.5 SU 1801 1.1		
8 0447 0.2 1058 5.8 SU 1658 0.4 2312 6.2		23 0505 0.9 1114 5.3 M 1715 1.1 2324 5.6		8 0503 0.1 1114 6.0 TU 1716 0.3 2332 6.2		23 0502 1.1 1113 5.4 W 1717 1.2 2327 5.4		8 0001 5.8 0609 0.9 F 1222 5.7 1832 0.9		23 0543 1.3 1156 5.3 SA 1809 1.3		8 0038 5.3 0639 1.3 SU 1253 5.5 1911 1.2		23 0010 5.2 0610 1.3 M 1226 5.4 1844 1.2		
9 0528 0.1 1140 5.8 M 1740 0.4 2356 6.1		24 0533 1.0 1142 5.3 TU 1745 1.1 2355 5.5		9 0546 0.3 1157 5.8 W 1801 0.5		24 0531 1.2 1142 5.3 TH 1749 1.3 2359 5.3		9 0051 5.4 0657 1.3 SA 1310 5.4 1925 1.2		24 0019 5.1 0620 1.5 SU 1235 5.2 1852 1.5		9 0129 5.0 0727 1.6 M 1342 5.3 2003 1.5		24 0056 5.1 0655 1.4 TU 1312 5.4 1932 1.2		
10 0612 0.2 1222 5.7 TU 1823 0.5		25 0602 1.1 1212 5.2 W 1815 1.3		10 0018 6.0 0630 0.6 TH 1242 5.6 1848 0.8		25 0603 1.3 1214 5.2 F 1824 1.4		10 0146 5.0 0749 1.7 SU 1403 5.1 2026 1.6		25 0104 5.0 0704 1.7 M 1320 5.1 1942 1.6		10 0222 4.7 0818 2.0 TU 1434 5.0 2101 1.7		25 0145 5.0 0744 1.5 W 1403 5.2 2026 1.3		
11 0041 6.0 0656 0.5 W 1308 5.5 1909 0.8		26 0026 5.3 0632 1.3 TH 1243 5.1 1848 1.5		11 0107 5.6 0718 1.1 F 1330 5.3 1940 1.2		26 0034 5.1 0637 1.5 SA 1249 5.1 1902 1.6		11 0250 4.6 0850 2.1 M 1507 4.8 2138 1.9		26 0156 4.8 0756 1.9 TU 1415 4.9 2042 1.7		11 0322 4.5 0917 2.2 W 1532 4.8 2204 1.9		26 0241 4.9 0839 1.7 TH 1500 5.1 2126 1.4		
12 0128 5.7 0744 0.9 TH 1355 5.2 2000 1.1		27 0059 5.1 0705 1.5 F 1316 4.9 1925 1.7		12 0201 5.1 0811 1.6 SA 1425 5.0 2043 1.6		27 0114 4.9 0718 1.8 SU 1331 4.9 1951 1.8		12 0410 4.4 1007 2.4 TU 1624 4.7 2259 2.0		27 0300 4.6 0901 2.1 W 1523 4.8 2154 1.8		12 0431 4.3 1025 2.4 TH 1637 4.7 2310 2.0		27 0344 4.8 0943 1.8 F 1604 5.1 2233 1.4		
13 0221 5.3 0838 1.4 F 1450 4.9 2101 1.6		28 0136 4.9 0744 1.8 SA 1355 4.7 2011 2.0		13 0308 4.7 0918 2.1 SU 1535 4.7 2204 1.9		28 0204 4.7 0809 2.1 M 1426 4.7 2054 2.0		13 0538 4.3 1128 2.4 W 1742 4.7		28 0418 4.6 1017 2.1 TH 1640 4.8 2309 1.6		13 0542 4.3 1135 2.4 F 1744 4.6		28 0454 4.7 1053 1.8 SA 1713 5.0 2340 1.4		
14 0326 4.8 0944 1.8 SA 1601 4.6 2221 1.9		29 0223 4.6 0833 2.1 SU 1449 4.5 2114 2.2		14 0440 4.4 1043 2.4 M 1704 4.6 2336 2.0		29 0313 4.4 0919 2.3 TU 1544 4.5 2219 2.1		14 0012 2.0 0649 4.5 TH 1238 2.3 1848 4.8		29 0535 4.7 1132 2.0 F 1752 5.0		14 0012 2.0 0643 4.5 SA 1238 2.3 1843 4.7		29 0603 4.8 1202 1.7 SU 1822 5.1		
15 0453 4.5 1108 2.1 SU 1730 4.6 2354 2.0		30 0331 4.3 0943 2.3 M 1610 4.4 2243 2.3		15 0620 4.4 1211 2.3 TU 1830 4.7		30 0446 4.4 1048 2.3 W 1716 4.6 2344 1.9		15 0112 1.8 0741 4.7 F 1332 2.0 1938 5.0		30 0016 1.4 0640 4.9 SA 1237 1.7 1853 5.3		15 0106 1.9 0733 4.7 SU 1330 2.1 1935 4.8		30 0044 1.3 0705 5.0 M 1307 1.5 1925 5.2		
						31 0613 4.6 1210 2.1 TH 1831 4.9							31 0143 1.2 0801 5.2 TU 1406 1.3 2023 5.4			



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 [F(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

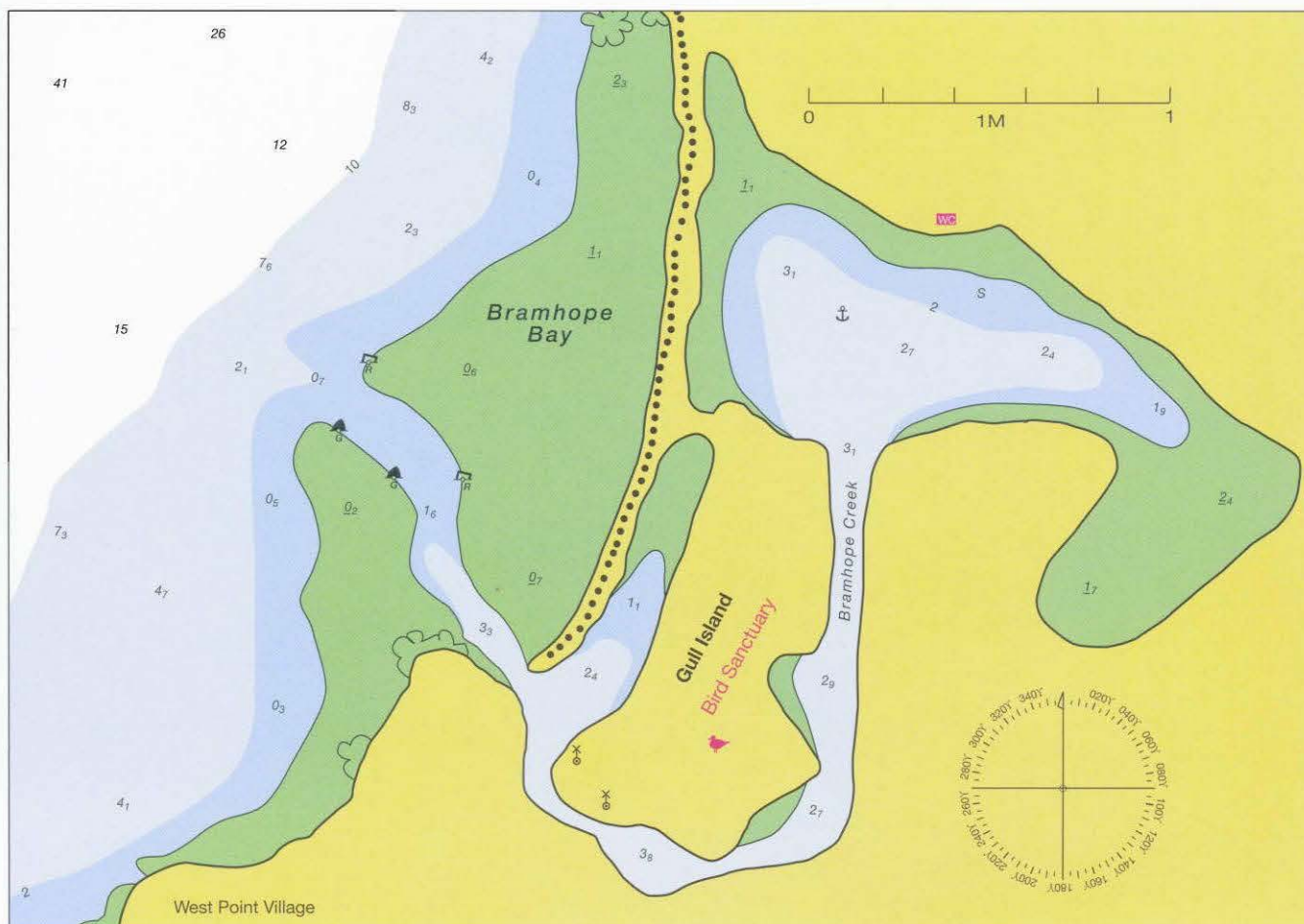
to seaward of the PHM [Q.R] off West Point to clear the overfalls on the ledge. The approach channel is narrow, shallow (0.7m bar) and liable to shift. The buoys and transit marking it are moved as required. The recommended track follows the buoyed channel until abeam the 2nd PHM thence a/c to stbd to come on to 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.



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 Southernness 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 engine 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.

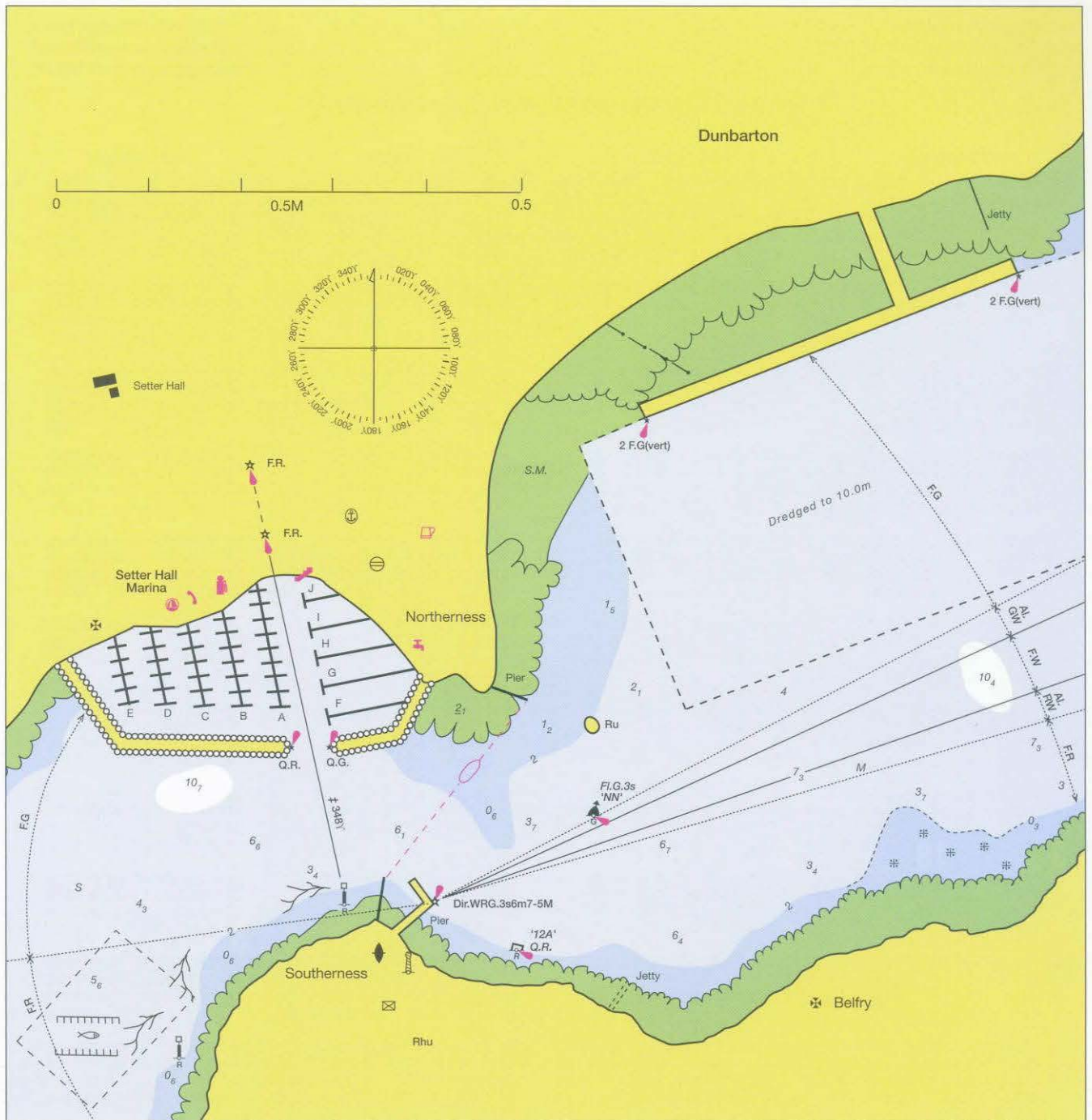
Speed Limit: A 10kn speed limit is in force W of a line joining 'Bluff' ECM and No '6' PHM. W of 'NN' SHM and '12A' PHM the speed limit is 6kn.

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 lgt (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, EI, BH (15 tonnes), SM. There is a ferry between Rhu and Northernness.



DUNBARTON AND SETTER HALL MARINA – 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

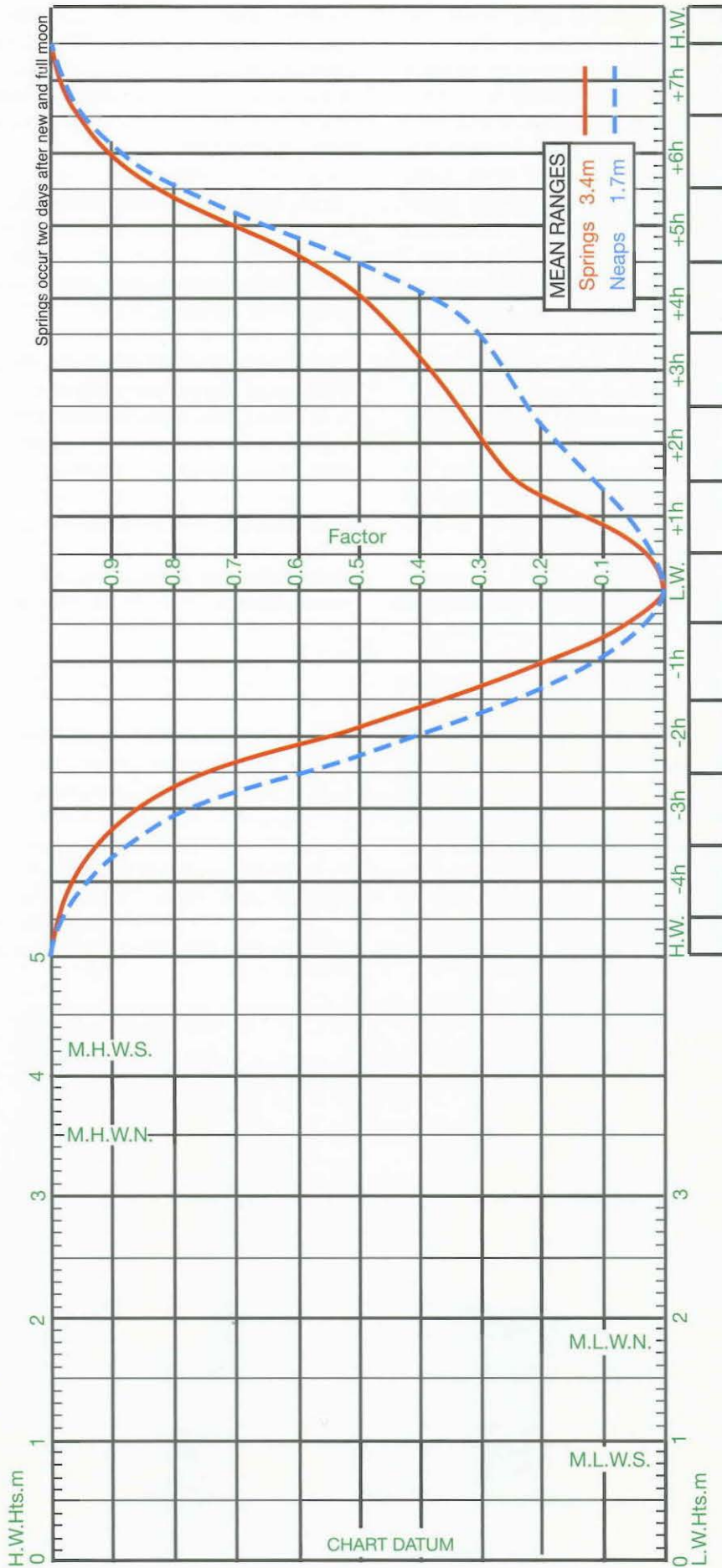
JANUARY				FEBRUARY				MARCH				APRIL			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0532 TU 1211 1759	1.0 4.2 0.7	16 0039 W 0609 1242 1829	4.0 1.2 4.0 1.0	1 0126 F 0653 1342 1918	4.4 0.7 4.2 0.5	16 0125 SA 0648 1334 1902	4.0 1.1 3.9 1.0	1 0016 F 0557 1235 1819	4.4 0.4 4.4 0.4	16 0023 SA 0559 1235 1813	4.0 0.8 4.0 0.8	1 0127 M 0657 1352 1916	4.4 0.4 4.3 0.6	16 0055 TU 0622 1318 1837	4.0 0.9 4.0 1.0
2 0047 W 0618 1301 1843	4.3 1.0 4.2 0.7	17 0116 TH 0641 1320 1859	4.0 1.3 4.0 1.1	2 0218 SA 0738 1434 2000	4.3 0.8 4.1 0.7	17 0159 SU 0713 1409 1928	4.0 1.2 3.9 1.1	2 0106 SA 0638 1325 1900	4.4 0.4 4.3 0.4	17 0054 SU 0623 1308 1836	4.0 0.9 4.0 0.9	2 0211 TU 0735 1439 1954	4.2 0.7 4.1 0.9	17 0128 W 0650 1354 1907	4.0 1.0 3.9 1.2
3 0139 TH 0703 1353 1929	4.2 1.0 4.1 0.8	18 0154 F 0712 1358 1928	4.0 1.4 3.9 1.2	3 0309 SU 0823 1526 2045	4.2 0.9 4.0 0.9	18 0233 M 0741 1445 1958	3.9 1.3 3.8 1.3	3 0154 SU 0718 1415 1940	4.4 0.5 4.2 0.6	18 0126 M 0646 1342 1901	4.0 1.0 3.9 1.0	3 0256 W 0815 1528 2037	4.0 1.0 3.9 1.3	18 0204 TH 0724 1436 1945	3.9 1.2 3.8 1.4
4 0233 F 0752 1447 2018	4.2 1.1 4.0 0.9	19 0233 SA 0743 1438 1959	3.9 1.4 3.7 1.4	4 0401 M 0910 1620 2134	4.0 1.2 3.9 1.2	19 0310 TU 0815 1524 2034	3.8 1.4 3.7 1.4	4 0241 M 0759 1502 2019	4.3 0.7 4.0 0.9	19 0157 TU 0712 1416 1929	4.0 1.1 3.9 1.2	4 0342 TH 0901 1625 2132	3.7 1.4 3.7 1.6	19 0246 F 0806 1528 2036	3.7 1.4 3.7 1.6
5 0331 SA 0843 1546 2108	4.1 1.3 3.9 1.1	20 0314 SU 0817 1520 2034	3.8 1.6 3.7 1.4	5 0458 TU 1006 1722 2231	3.9 1.4 3.7 1.7	20 0352 W 0857 1614 2122	3.7 1.6 3.6 1.7	5 0327 TU 0841 1553 2104	4.0 1.1 3.9 1.2	20 0231 W 0744 1454 2003	3.8 1.2 3.7 1.4	5 0440 F 1006 1740 2251	3.5 1.7 3.5 1.9	20 0343 SA 0905 1640 2149	3.6 1.6 3.6 1.9
6 0432 SU 0939 1648 2204	4.0 1.4 3.8 1.3	21 0400 M 0857 1606 2116	3.7 1.7 3.6 1.6	6 0604 W 1117 1835 2348	3.7 1.6 3.5 1.6	21 0449 TH 0955 1724 2231	3.6 1.8 3.4 1.9	6 0418 W 0931 1651 2200	3.8 1.4 3.7 1.5	21 0310 TH 0824 1543 2051	3.7 1.4 3.6 1.6	6 0604 SA 1140 1917	3.3 1.8 3.4	21 0504 SU 1032 1812 2329	3.5 1.7 3.5 1.8
7 0538 M 1041 1759 2309	4.0 1.5 3.7 1.4	22 0452 TU 0948 1704 2211	3.7 1.9 3.5 1.8	7 0714 TH 1242 1953	3.7 1.7 3.5	22 0611 F 1126 1852	3.5 1.9 3.4	7 0519 TH 1038 1806 2320	3.6 1.7 3.5 1.8	22 0405 F 0920 1653 2201	3.6 1.7 3.5 1.9	7 0028 SU 0746 1309 2029	1.9 3.3 1.7 3.6	22 0636 M 1216 1931	3.5 1.5 3.7
8 0644 TU 1156 1907	3.9 1.5 3.7	23 0556 W 1056 1818 2326	3.6 1.9 3.4 1.8	8 0113 F 0824 1356 2103	3.7 1.7 1.5 3.7	23 0014 SA 0730 1307 2011	1.9 3.6 1.7 3.6	8 0641 F 1213 1938	3.4 1.8 3.4	23 0526 SA 1051 1828 2353	3.4 1.8 3.4 1.9	8 0145 M 0849 1410 2117	1.7 3.5 1.5 3.8	23 0059 TU 0751 1331 2032	1.6 3.7 1.3 3.9
9 0024 W 0746 1310 2012	1.4 3.9 1.5 3.7	24 0704 TH 1221 1930	3.7 1.8 3.5	9 0223 SA 0922 1456 2155	1.5 3.8 1.4 3.8	24 0140 SU 0837 1415 2112	1.6 3.7 1.4 3.8	9 0054 SA 0809 1337 2052	1.8 3.5 1.7 3.6	24 0700 SU 1245 1952	3.5 1.7 3.6	9 0237 TU 0932 1454 2155	1.4 3.7 1.3 3.9	24 0203 W 0849 1428 2121	1.3 3.9 1.0 4.1
10 0135 TH 0843 1414 2112	1.4 4.0 1.4 3.8	25 0049 F 0806 1334 2034	1.7 3.7 1.6 3.7	10 0319 SU 1008 1545 2237	1.4 3.9 1.2 4.0	25 0241 M 0930 1511 2201	1.4 4.0 1.1 4.0	10 0211 SU 0911 1438 2142	1.7 3.7 1.4 3.8	25 0125 M 0816 1357 2054	1.6 3.7 1.4 3.9	10 0319 W 1007 1535 2227	1.3 3.8 1.1 4.0	25 0256 TH 0938 1519 2206	0.9 4.0 0.7 4.3
11 0236 F 0933 1510 2202	1.4 4.0 1.3 3.9	26 0156 SA 0900 1432 2128	1.5 3.9 1.4 3.8	11 0404 M 1045 1627 2313	1.3 4.0 1.0 4.0	26 0336 TU 1017 1603 2246	1.0 4.1 0.7 4.2	11 0304 M 0955 1525 2222	1.4 3.7 1.3 4.0	26 0227 TU 0912 1454 2144	1.3 3.9 1.0 4.1	11 0356 TH 1037 1612 2255	1.0 3.9 0.9 4.0	26 0346 F 1023 1608 2249	0.6 4.2 0.5 4.4
12 0329 SA 1018 1559 2245	1.3 4.0 1.1 4.0	27 0253 SU 0947 1525 2216	1.4 4.0 1.1 4.0	12 0445 TU 1118 1707 ● 2344	1.1 4.0 0.9 4.0	27 0426 W 1101 1653 O 2329	0.7 4.2 0.5 4.4	12 0347 TU 1032 1605 2255	1.2 3.9 1.0 4.0	27 0320 W 0959 1544 2228	0.9 4.1 0.6 4.3	12 0432 F 1106 ● 2322	0.9 3.9 4.0	27 0434 SA 1107 O 1655 2330	0.4 4.3 0.4 4.4
13 0416 SU 1056 1644 ● 2324	1.2 4.1 1.0 4.0	28 0346 M 1031 1617 O 2300	1.1 4.1 0.8 4.2	13 0521 W 1149 1740	1.0 4.0 0.9	28 0514 TH 1144 1737	0.5 4.3 0.4	13 0425 W 1103 1643 2324	1.0 3.9 0.9 4.0	28 0410 TH 1044 1633 O 2310	0.6 4.3 0.4 4.4	13 0506 SA 1135 1719 2350	0.8 4.0 0.8 4.0	28 0518 SU 1152 1736	0.4 4.4 0.4
14 0459 M 1131 1723	1.1 4.1 1.0	29 0438 TU 1114 1707 2344	0.9 4.2 0.6 4.3	14 0018 TH 0552 1224 1810	4.0 1.0 4.0 0.9	14 0501 TH 1131 1717 ● 2352	0.9 4.0 0.8 4.0	14 0501 TH 1131 1717 ● 2352	0.9 4.0 0.8 4.0	29 0457 F 1127 1718 2354	0.4 4.4 0.4 4.4	14 0533 SU 1208 1746	0.8 4.0 0.8	29 0015 M 0558 1241 1815	4.4 0.4 4.3 0.5
15 0001 TU 0535 1207 1757	4.0 1.1 4.0 1.0	30 0526 W 1159 1751	0.8 4.3 0.5	15 0051 F 0621 1259 1837	4.0 1.0 4.0 0.9	15 0531 F 1201 1747	0.8 4.0 0.8	15 0531 F 1201 1747	0.8 4.0 0.8	30 0538 SA 1214 1759	0.4 4.4 0.4	15 0023 M 0558 1242 1811	4.0 4.0 4.0 0.9	30 0101 TU 0636 1329 1853	4.3 0.6 4.2 0.8
31 0035 TH 0610 1251 1834	4.4 0.7 4.3 0.5							31 0041 SU 0618 1304 1837	4.4 0.4 4.4 0.4						

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 0144	4.2	16 0107	4.0	1 0248	3.7	16 0231	3.9	1 0305	3.7	16 0316	4.0	1 0355	3.6	16 0448	3.7
W 1417	4.0	TH 1340	4.0	SA 1536	3.7	SU 1517	4.0	M 1550	3.7	TU 1559	4.0	TH 1631	3.7	F 1725	3.8
1932	1.1	1856	1.2	2041	1.6	2030	1.3	2054	1.6	2108	1.2	2132	1.7	2236	1.5
2 0228	4.0	17 0147	3.9	2 0338	3.6	17 0328	3.8	2 0353	3.6	17 0414	3.9	2 0448	3.5	17 0600	3.6
0753	1.1	0716	1.1	0905	1.5	0857	1.2	0912	1.5	0932	1.1	0952	1.8	1110	1.6
TH 1507	3.9	F 1426	3.9	SU 1632	3.7	M 1620	3.9	TU 1640	3.7	W 1658	4.0	F 1727	3.6	SA 1838	3.7
2015	1.4	1940	1.4	2136	1.8	2127	1.4	2141	1.8	2202	1.3	2230	1.9		
3 0314	3.7	18 0236	3.8	3 0436	3.4	18 0434	3.7	3 0447	3.5	18 0518	3.7	3 0556	3.4	18 0000	1.6
0838	1.4	0803	1.3	1003	1.7	0955	1.3	1001	1.7	1029	1.3	1059	1.9	0720	3.6
F 1602	3.7	SA 1523	3.8	M 1738	3.6	TU 1728	3.9	W 1735	3.7	TH 1803	3.9	SA 1834	3.6	SU 1237	1.7
2108	1.7	2034	1.5	2241	1.9	2230	1.4	2238	1.8	2307	1.4	2354	1.9	1953	3.7
4 0408	3.5	19 0336	3.7	4 0547	3.3	19 0547	3.7	4 0549	3.4	19 0628	3.7	4 0709	3.4	19 0125	1.6
0936	1.6	0903	1.4	1113	1.8	1101	1.3	1102	1.8	1138	1.4	1226	1.9	0837	3.7
SA 1711	3.5	SU 1632	3.7	TU 1844	3.6	W 1837	3.9	TH 1834	3.6	F 1906	3.8	SU 1941	3.7	M 1356	1.6
2216	1.9	2141	1.6	2356	1.9	2342	1.4	2348	1.8					2058	3.7
5 0521	3.3	20 0449	3.6	5 0656	3.3	20 0655	3.7	5 0653	3.4	20 0024	1.4	5 0113	1.7	20 0233	1.4
1055	1.8	1016	1.5	1222	1.7	1213	1.3	1213	1.7	0735	3.7	0818	3.6	0936	3.8
SU 1838	3.5	M 1753	3.7	W 1939	3.7	TH 1937	4.0	F 1929	3.7	SA 1255	1.4	M 1338	1.7	TU 1457	1.4
2342	2.0	2300	1.6							2009	3.8	2040	3.7	2149	3.9
6 0656	3.3	21 0614	3.6	6 0100	1.7	21 0054	1.3	6 0054	1.7	21 0137	1.4	6 0214	1.4	21 0327	1.2
1220	1.8	1139	1.4	0755	3.4	0757	3.8	0753	3.5	0841	3.7	0914	3.7	1022	4.0
M 1948	3.6	TU 1906	3.8	TH 1319	1.5	F 1322	1.2	SA 1315	1.6	SU 1405	1.4	TU 1437	1.5	W 1547	1.3
				2025	3.7	2032	4.0	2021	3.7	2106	3.9	2129	3.9	2231	4.0
7 0100	1.8	22 0021	1.4	7 0150	1.5	22 0159	1.2	7 0150	1.5	22 0241	1.3	7 0307	1.2	22 0412	1.0
0807	3.4	0724	3.7	0843	3.6	0854	3.9	0847	3.7	0938	3.9	1001	4.0	1100	4.0
TU 1325	1.6	W 1254	1.3	F 1407	1.4	SA 1424	1.1	SU 1409	1.5	M 1506	1.4	W 1529	1.3	TH 1631	1.2
2038	3.7	2005	4.0	2105	3.8	2122	4.1	2108	3.8	2157	4.0	2212	4.0	O 2306	4.0
8 0155	1.5	23 0129	1.3	8 0234	1.4	23 0257	1.0	8 0239	1.4	23 0338	1.1	8 0357	0.9	23 0453	0.9
0854	3.6	0822	3.9	0924	3.7	0947	4.0	0935	3.7	1029	4.0	1044	4.1	1135	4.1
W 1412	1.4	TH 1355	1.0	SA 1450	1.3	SU 1519	1.0	M 1458	1.4	TU 1559	1.2	TH 1619	1.1	F 1709	1.1
2116	3.8	2056	4.1	2143	3.9	2209	4.1	2151	4.0	2241	4.0	● 2255	4.1	2338	4.0
9 0238	1.4	24 0227	1.0	9 0316	1.2	24 0351	0.9	9 0327	1.2	24 0427	1.0	9 0445	0.7	24 0528	0.8
0930	3.7	0915	4.0	1003	3.8	1035	4.0	1019	3.9	1112	4.0	1127	4.2	1209	4.1
TH 1454	1.2	F 1450	0.8	SU 1532	1.2	M 1611	1.0	TU 1546	1.3	W 1645	1.1	F 1707	0.9	SA 1742	1.0
2149	3.9	2143	4.2	2219	4.0	O 2253	4.2	2232	4.0	O 2319	4.0	2336	4.2		
10 0318	1.2	25 0320	0.8	10 0357	1.1	25 0441	0.8	10 0414	1.0	25 0511	0.9	10 0530	0.6	25 0011	4.0
1003	3.7	1003	4.1	1041	3.9	1121	4.1	1100	4.0	1152	4.0	1212	4.3	0559	0.8
F 1534	1.1	SA 1541	0.7	M 1613	1.1	TU 1659	1.0	W 1634	1.1	TH 1727	1.1	SA 1750	0.7	SU 1244	4.0
2221	4.0	2227	4.3	● 2255	4.0	2333	4.2	● 2311	4.0	2357	4.0			1813	1.0
11 0356	1.0	26 0411	0.6	11 0436	1.0	26 0525	0.8	11 0500	0.9	26 0547	0.9	11 0024	4.2	26 0046	4.0
1035	3.8	1049	4.2	1118	4.0	1206	4.1	1141	4.1	1234	4.0	0613	0.5	0628	0.9
SA 1611	1.0	SU 1630	0.6	TU 1653	1.1	W 1740	1.0	TH 1719	1.0	F 1802	1.1	SU 1302	4.4	M 1315	4.0
2251	4.0	O 2310	4.4	2329	4.0			2352	4.1	1832	0.7	1841	1.1		
12 0432	0.9	27 0458	0.6	12 0514	0.9	27 0015	4.1	12 0543	0.8	27 0036	4.0	12 0114	4.2	27 0120	4.0
1107	3.9	1133	4.2	1157	4.0	0604	0.9	1229	4.1	0622	0.9	0655	0.5	0654	1.0
SU 1646	0.9	M 1715	0.7	W 1731	1.0	TH 1252	4.1	F 1802	0.9	SA 1313	4.0	M 1352	4.3	TU 1349	4.0
● 2321	4.0	2352	4.3			1818	1.1			1835	1.1	1915	0.7	1906	1.2
13 0505	0.9	28 0540	0.6	13 0009	4.0	28 0058	4.0	13 0040	4.1	28 0113	4.0	13 0205	4.2	28 0155	3.9
1139	4.0	1222	4.2	0552	0.9	0641	1.0	0626	0.7	0654	1.0	0738	4.6	0719	1.2
M 1718	0.9	TU 1755	0.8	TH 1242	4.0	F 1337	4.0	SA 1319	4.2	SU 1350	4.0	TU 1441	0.3	W 1422	4.0
2353	4.0			1810	1.1	1855	1.2	1846	0.9	1908	1.2	1959	4.8	1933	1.3
14 0534	0.9	29 0037	4.2	14 0052	4.0	29 0139	3.9	14 0129	4.1	29 0151	3.9	14 0256	4.0	29 0231	3.8
1219	4.0	0618	0.7	0632	0.9	0717	1.1	0709	0.7	0724	1.1	0820	0.8	0745	1.3
TU 1747	1.0	W 1310	4.1	F 1330	4.0	SA 1420	4.0	SU 1410	4.2	M 1426	4.0	W 1530	4.1	TH 1457	3.9
		1834	1.0	1851	1.1	1933	1.4	1931	0.9	1940	1.4	2044	1.0	2004	1.4
15 0029	4.0	30 0120	4.1	15 0139	4.0	30 0221	3.8	15 0221	4.0	30 0231	3.8	15 0349	4.0	30 0310	3.7
0604	0.9	0657	0.9	0715	1.0	0752	1.3	0755	0.8	0754	1.3	0907	1.1	0818	1.5
W 1258	4.0	TH 1357	4.0	SA 1421	4.0	SU 1503	3.9	M 1503	4.1	TU 1505	3.9	TH 1623	4.0	F 1535	3.7
1819	1.1	1913	1.2	1938	1.2	2012	1.4	2018	1.0	2012	1.4	2135	1.3	2042	1.6
		31 0203	4.0							31 0312	3.7	31 0355	3.6		
		F 0735	1.1							W 0826	1.4	0902	1.8		
		F 1445	3.9							W 1547	3.8	SA 1625	3.6		
		1955	1.4							2048	1.6	2135	1.9		



Suzy Bay Marina

46°14'.95N 006°00'.93W

Northern Territories CHARTS RYA 3, 4.

Standard Port DUNBARTON (←)

Times		Height (metres)			
High Water	Low Water	MHWS	MHWN	MLWN	MLWS
0000	0600	4.2	3.5	1.8	0.8
1200	1800				
		0500	1100		
		1700	2300		

Differences SUZY BAY MARINA							
+0008	+0002	+0005	+0005	-0.2	-0.1	-0.2	0.0

DESCRIPTION. A 120-berth marina set in the spectacular countryside of the Northern Territories. Twenty berths are reserved for visitors on 'D' pontoon, the first pontoon after the breakwater. Good shelter within the marina.

APPROACH WAYPOINT. 46°15'.00N 006°00'.47W.

PILOTAGE NOTES. In daylight with good visibility the approach to Suzy Bay Marina is straightforward. From the S, via Wooldridge Sound, the channel is well marked and lit until the SE corner of Little Ryes. During daylight and in settled

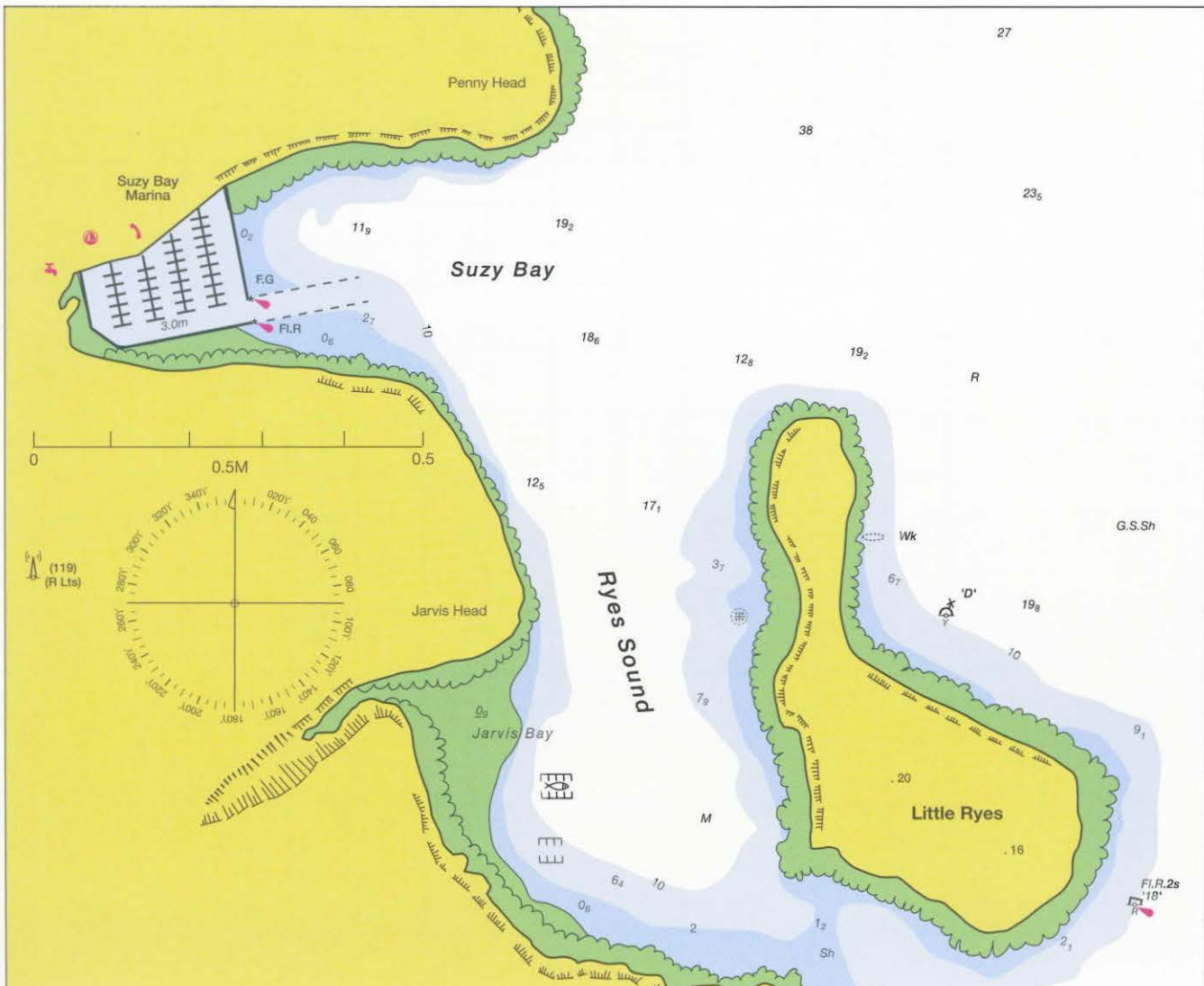
weather, given a satisfactory height of tide, the shortcut through Ryes Sound (least depth 1.2m) is an interesting diversion. Beware of fish farms in Jarvis Bay marked by lit buoys (unreliable). From the N, the pilotage is clear of dangers with the coastline steep-to. Beware of the unlit racing buoy 'A', N of Penny Head.

TIDAL STREAMS AND HEIGHTS. There is no significant tidal stream in Suzy Bay. The set and drift through the various sounds near Suzy Bay are complex and variable with the drift generally increasing where a sound narrows. Suzy Bay Marina is dredged to 3m.

LIGHTS AND MARKS. The Calf of Potta Lt Ho [Fl.3s11m10M] (W O twr) is the major light in the area. The extremities of the shoals to the N and the S of Potta are marked by an NCM and SCM respectively. The marina entrance is marked by F.G & Fl.R.

VHF RADIO. Suzy Bay Marina VHF Ch 80 (0800–2000).

FACILITIES. FW, B, R, Gas, Gaz, CH, ME, EI, BH (15 tonnes).



46°18'.84N 006°06'.47W
Northern Territories CHART RYA 3.

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 STEVENSTOWN							
-0026	-0024	-0032	-0012	-0.2	+0.2	+0.2	0.0

DESCRIPTION. A small marina with two floating pontoons and good shoreside facilities. The marina is tucked outside the western breakwater of the military dockyard and is protected by a floating boom. There are a number of moorings outside the boom, some of which are available for visiting yachts. Shelter is good inside of the boom except during strong NE winds, when a scend will make the berths uncomfortable. The minimum depth on the outer pontoon is 3m and vessels <15m can be accommodated. The main dockyard is a military area and is patrolled by military police vessels.

APPROACH WAYPOINT. 46°19'.29N 006°05'.45W.

PILOTAGE NOTES. Louisa Rks sit 1.5M to the ENE of Stevenstown. The rocks are marked by two NCM, one of which indicates an isolated obstruction NW of the main group of rocks. Louisa Lt Ho [Fl.6s17m12M] (R&W chequered bn) sits on the southern edge of the rocks. If approaching from the SE beware of the unmarked rocks and small islands that extend in some cases out to 4ca from the shore. Approaching the harbour, leave the Fl(3)7s light on the end of the dockyard bkwr well to port, and then run

on a SW'ly course to parallel the breakwater with its Q.G and Fl.R.2s lights. The wall is steep-to and except in a lee-shore situation can be followed closely round to the northern entrance of the marina. The southern entrance to the marina is between the boom and the Town Quay; due to numerous unlit moorings in the area this route is not advised at night.

TIDAL STREAMS AND HEIGHTS. At spring tides the stream can reach up to 2kn in the region of Louisa Rks. Closer to the coast the stream drops off to 0.5kn or less. In the moorings or in the marina the stream is barely discernible. With the exception of the inshore berths, which are reserved for small sports-boats and RIBs, the berths are accessible at all states of the tide.

LIGHTS AND MARKS. Louisa Lt Ho [Fl.6s17m12M] Racon Q (3cm) (R&W chequered ○ bn) is the main light in the NW section of Beaufort Bay. The main breakwater around the naval base is well lit by 5 lights; the boom and the pontoons are unlit but readily identifiable at night due to the backscatter of the town lights.

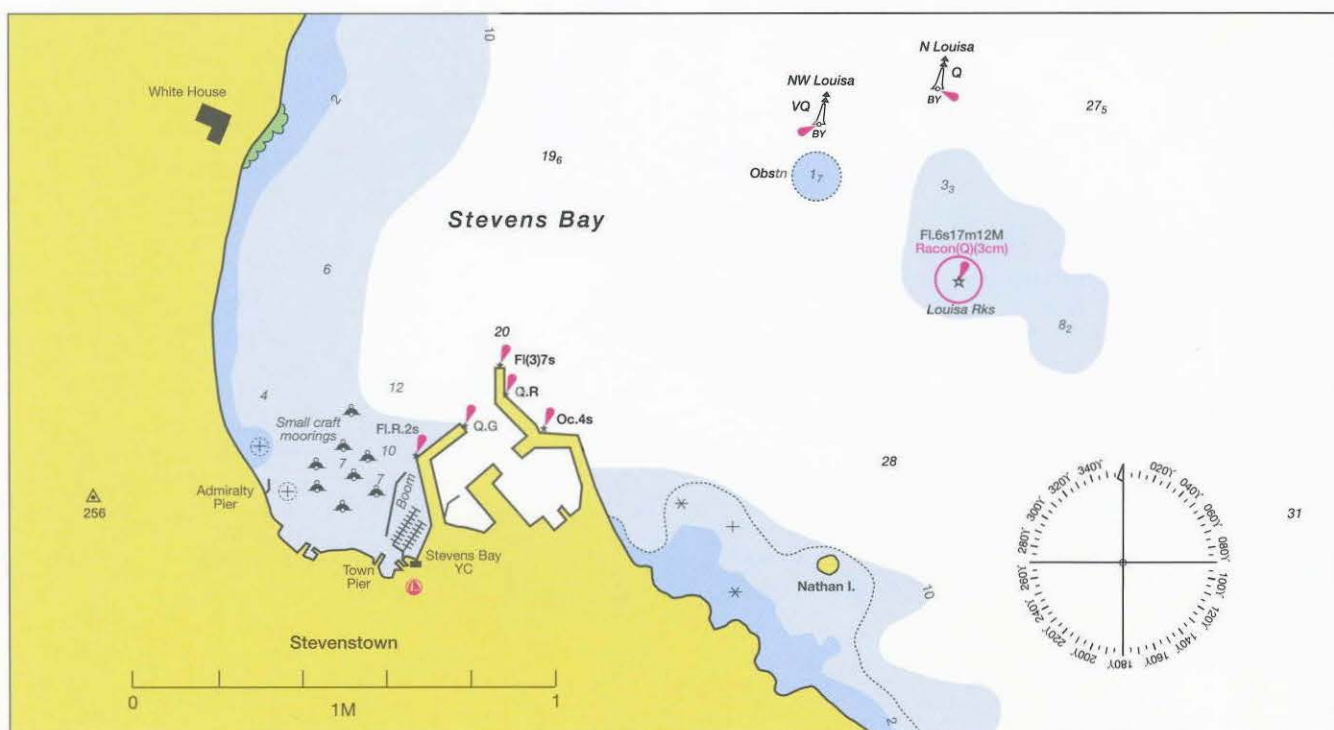
VHF RADIO. Stevenstown Naval Base Radio and patrol vessels Ch 12, 14, 16. Marina Ch 80 (0900-1800).

FACILITIES. FW, CH, ME, EI, Bar, R.

ADJACENT MINOR HARBOUR.

Kinder Harbour. A small fishing harbour with moorings for resident fishing vessels only. Emergency berthing available, obtain permission from the Harbour Master. VHF Ch 9, working hours only.

A straightforward approach with no off-lying dangers. The breakwater is lit with LFl. R. 6s.



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)+LFI.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.WRG1 1m13-5M] + [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. Coombesbury 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, EI, CH, Bar, R, Slip.

Coombesbury Marina. Access H24, max draught 2m. FW, D, P, Gas, Gaz, ME, EI, 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, EI, CH, BH (30 tonnes).



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				
1 0031	4.1	16 0107	3.9	1 0147	4.2	16 0147	3.9	1 0149	4.4	16 0128	3.9
TU 0642	0.5	W 0728	0.6	F 0806	0.1	SA 0800	0.6	M 0802	0.1	TU 0729	0.6
1254	4.2	W 1333	3.9	F 1416	4.3	SA 1411	3.8	M 1417	4.2	TU 1347	3.9
1856	0.7	1920	0.9	2008	0.6	1957	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
0730	0.4	0801	0.6	0852	0.2	0829	0.6	0746	0.0	0729	0.5
W 1341	4.2	TH 1406	3.8	SA 1502	4.2	SU 1442	3.8	SA 1357	4.4	SU 1342	3.9
1938	0.8	1951	0.9	2051	0.7	2031	0.7	1949	0.4	1932	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
0818	0.4	0832	0.6	0939	0.3	0903	0.6	0828	0.1	0757	0.5
TH 1429	4.2	F 1439	3.8	SU 1550	4.0	M 1519	3.8	SU 1440	4.3	M 1412	3.9
2022	0.8	2023	0.9	2138	0.8	2108	0.8	2031	0.5	2005	0.6
4 0244	4.0	19 0243	3.8	4 0403	4.0	19 0329	3.8	4 0253	4.3	19 0224	3.9
0909	0.4	0904	0.7	1029	0.4	0941	0.7	0911	0.2	0828	0.6
F 1519	4.1	SA 1515	3.7	M 1641	3.8	TU 1601	3.7	M 1524	4.1	TU 1448	3.9
2110	0.9	2100	0.9	2229	0.9	2151	0.9	2114	0.6	2041	0.6
5 0334	3.9	20 0322	3.7	5 0457	3.8	20 0413	3.6	5 0338	4.1	20 0300	3.9
1002	0.4	0942	0.7	1127	0.7	1027	0.9	0956	0.5	0902	0.7
SA 1613	3.9	SU 1555	3.6	TU 1738	3.6	W 1650	3.5	TU 1609	3.8	W 1528	3.7
2202	1.0	2142	1.0	2331	1.1	2244	1.1	2201	0.8	2121	0.8
6 0428	3.8	21 0406	3.6	6 0603	3.6	21 0507	3.5	6 0428	3.9	21 0342	3.7
1102	0.5	1028	0.8	1235	0.9	1129	1.0	1048	0.8	0944	0.9
SU 1712	3.7	M 1641	3.5	W 1845	3.4	TH 1750	3.3	W 1700	3.5	TH 1614	3.5
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
1208	0.6	1123	0.9	0718	3.5	1249	1.1	1153	1.0	1041	1.1
M 1816	3.6	TU 1736	3.4	TH 1348	1.0	F 1901	3.2	TH 1805	3.2	F 1712	3.3
		2333	1.2	1958	3.3					2318	1.1
8 0012	1.2	23 0558	3.4	8 0215	1.1	23 0112	1.2	8 0016	1.1	23 0542	3.3
0638	3.6	1227	1.0	0834	3.5	0736	3.3	0654	3.4	1210	1.2
TU 1318	0.7	W 1840	3.3	F 1456	1.0	SA 1407	1.1	F 1311	1.2	SA 1824	3.1
1923	3.6			2107	3.4	2019	3.3	1927	3.1		
9 0129	1.1	24 0042	1.3	9 0328	0.9	24 0232	1.0	9 0154	1.1	24 0045	1.1
0746	3.6	0706	3.4	0940	3.7	0854	3.5	0818	3.4	0708	3.3
W 1423	0.7	TH 1334	1.0	SA 1553	1.0	SU 1515	1.0	SA 1430	1.2	SU 1340	1.2
2029	3.6	1948	3.4	2205	3.6	2129	3.5	2044	3.3	1949	3.2
10 0239	1.0	25 0152	1.2	10 0427	0.7	25 0343	0.8	10 0313	0.9	25 0213	1.0
0852	3.7	0815	3.5	1035	3.8	1000	3.8	0925	3.6	0836	3.5
TH 1520	0.7	F 1439	1.0	SA 1640	0.9	M 1613	0.8	SU 1532	1.1	M 1454	1.1
2129	3.7	2054	3.5	2255	3.8	2227	3.8	2145	3.5	2106	3.5
11 0340	0.9	26 0259	1.0	11 0516	0.6	26 0443	0.5	11 0411	0.7	26 0328	0.7
0952	3.8	0918	3.6	1123	3.9	1055	4.1	1020	3.8	0945	3.8
F 1611	0.7	SA 1538	0.9	M 1720	0.9	TU 1702	0.7	M 1621	1.0	TU 1552	0.8
2222	3.8	2152	3.7	2339	3.9	2317	4.0	2236	3.7	2205	3.8
12 0435	0.7	27 0400	0.8	12 0558	0.5	27 0534	0.3	12 0458	0.6	27 0426	0.4
1045	3.9	1015	3.9	1205	4.0	1144	4.3	1106	3.9	1039	4.1
SA 1655	0.7	SU 1630	0.8	TU 1757	0.8	W 1745	0.6	TU 1701	0.9	W 1641	0.7
2310	3.9	2245	3.9	•	•	•	•	2319	3.9	2255	4.0
13 0525	0.6	28 0455	0.6	13 0017	3.9	28 0003	4.2	13 0537	0.5	28 0515	0.1
1134	4.0	1108	4.1	0635	0.5	0619	0.1	1146	4.0	1127	4.3
SU 1736	0.8	M 1718	0.7	W 1242	3.9	TH 1230	4.4	W 1736	0.8	TH 1725	0.5
• 2353	3.9	O 2333	4.0	1829	0.8	1827	0.5	2356	3.9	O 2341	4.2
14 0610	0.6	29 0546	0.4	14 0051	3.9	29 0051	3.9	14 0610	0.5	29 0600	0.0
1217	4.0	1157	4.2	0707	0.5	0707	0.5	1221	4.0	1211	4.4
M 1814	0.8	TU 1802	0.6	TH 1314	3.9	1859	0.8	TH 1808	0.7	F 1807	0.4
								•	•		
15 0032	3.9	30 0018	4.1	15 0120	3.9	30 0025	4.4	15 0028	3.9	30 0025	4.4
0651	0.5	0634	0.3	0735	0.5	0641	-0.1	0638	0.5	0641	-0.1
TU 1257	3.9	W 1244	4.3	F 1343	3.8	F 1251	3.9	F 1251	3.9	SA 1254	4.4
1848	0.8	1844	0.6	1927	0.8	1835	0.7	1835	0.7	1847	0.3
		31 0103	4.2					31 0108	4.4		
		TH 0720	0.2					0722	0.0		
		TH 1330	4.4					SU 1336	4.4		
		1925	0.6					1929	0.3		

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

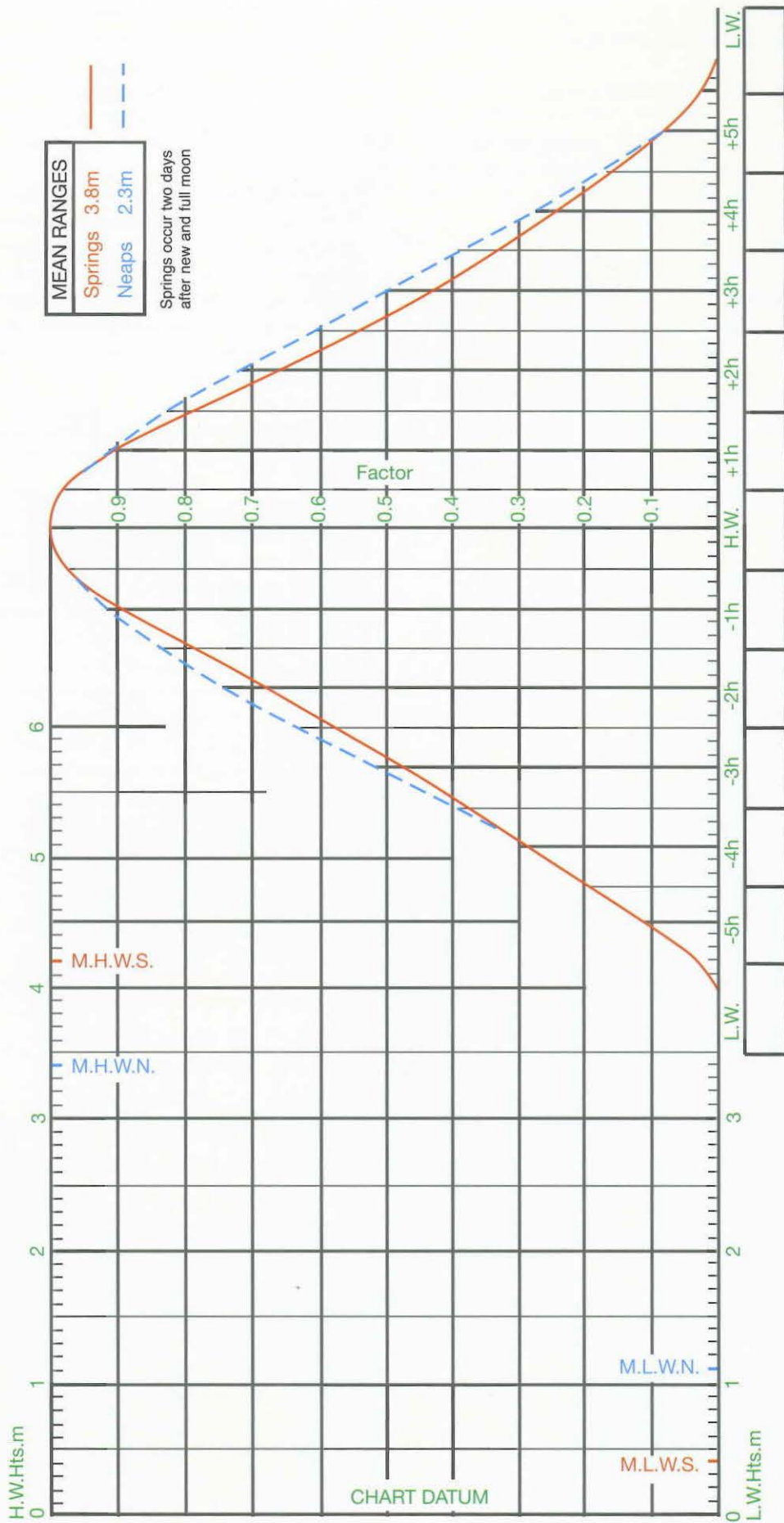
MAY		JUNE		JULY		AUGUST	
Time	m	Time	m	Time	m	Time	m
1 0212 4.2		16 0146 3.9		1 0328 3.7	16 0310 3.9	1 0347 3.6	16 0350 4.0
0818 0.5		0743 0.7		0921 1.0	0902 1.0	0932 1.1	0938 0.9
W 1434 3.9		TH 1405 3.8		SA 1537 3.6	SU 1527 3.7	M 1553 3.6	TU 1603 3.9
2039 0.5		2010 0.6		2205 0.7	2147 0.5	2218 0.8	2225 0.4
2 0258 4.0		17 0228 3.9		2 0419 3.6	17 0405 3.8	2 0432 3.5	17 0444 3.9
0900 0.7		0822 0.8		1010 1.2	0956 1.1	1018 1.2	1032 1.0
TH 1515 3.7		F 1447 3.7		SU 1626 3.4	M 1623 3.6	TU 1640 3.5	W 1658 3.8
2126 0.6		2056 0.6		2301 0.9	2247 0.6	2306 0.9	2324 0.5
3 0347 3.8		18 0315 3.8		3 0517 3.4	18 0506 3.7	3 0522 3.4	18 0543 3.7
0947 1.0		0908 1.0		1111 1.4	1059 1.2	1114 1.3	1135 1.1
F 1600 3.5		SA 1535 3.5		M 1725 3.3	TU 1725 3.6	W 1735 3.4	TH 1759 3.7
2222 0.8		2151 0.7			2355 0.6		
4 0445 3.5		19 0412 3.6		4 0005 0.9	19 0613 3.7	4 0002 0.9	19 0032 0.7
1045 1.3		1007 1.4		0621 3.3	1211 1.2	0619 3.4	0647 3.6
SA 1656 3.3		SU 1634 3.4		TU 1221 1.4	W 1830 3.6	TH 1219 1.4	F 1249 1.1
2332 0.9		2258 0.8		1830 3.3		1835 3.4	1906 3.7
5 0558 3.3		20 0520 3.5		5 0112 0.9	20 0106 0.6	5 0103 1.0	20 0142 0.7
1157 1.4		1123 1.2		0725 3.4	0719 3.7	0721 3.4	0754 3.6
SU 1810 3.2		M 1745 3.3		W 1331 1.3	TH 1324 1.1	F 1324 1.3	SA 1404 1.1
				1934 3.4	1934 3.7	1937 3.4	SA 2014 3.7
6 0055 1.0		21 0016 0.7		6 0210 0.9	21 0213 0.5	6 0202 0.9	21 0247 0.8
0713 3.3		0636 3.5		0824 3.5	0823 3.8	0821 3.5	0859 3.7
M 1317 1.4		TU 1246 1.2		TH 1430 1.2	F 1430 1.0	SA 1425 1.2	SU 1513 1.0
1925 3.2		1859 3.4		2031 3.5	2037 3.8	2036 3.5	2121 3.8
7 0208 0.9		22 0135 0.6		7 0300 0.8	22 0312 0.4	7 0257 0.9	22 0345 0.7
0820 3.5		0750 3.6		0914 3.7	0922 3.9	0916 3.7	0959 3.8
TU 1426 1.3		W 1358 1.1		F 1518 1.1	SA 1529 0.8	SU 1519 1.1	M 1614 0.8
2030 3.4		2006 3.6		2122 3.6	2136 3.9	2131 3.6	2222 3.9
8 0305 0.8		23 0242 0.4		8 0343 0.7	23 0404 0.4	8 0348 0.8	23 0435 0.7
0915 3.6		0854 3.8		0959 3.8	1016 3.9	M 1006 3.8	TU 1052 3.9
W 1519 1.1		TH 1459 0.9		SA 1600 0.9	SU 1623 0.7	M 1609 0.9	TU 1709 0.6
2124 3.6		2106 3.8		2207 3.7	2232 4.0	2221 3.8	2316 4.0
9 0350 0.7		24 0338 0.3		9 0422 0.7	24 0452 0.4	9 0434 0.8	24 0520 0.8
1001 3.8		0949 4.0		1039 3.9	1106 4.0	1052 3.9	1140 4.0
TH 1602 0.9		F 1551 0.7		SU 1638 0.8	M 1714 0.6	TU 1657 0.8	W 1757 0.6
2209 3.7		2200 4.0		2250 3.8	O 2324 4.0	2309 3.9	O
10 0427 0.6		25 0427 0.2		10 0501 0.7	25 0536 0.5	10 0518 0.7	25 0004 4.0
1041 3.9		1039 4.1		1118 3.9	1153 4.0	1136 4.0	0600 0.8
F 1638 0.8		SA 1640 0.6		M 1717 0.7	TU 1803 0.5	W 1743 0.6	TH 1224 4.0
2248 3.8		2251 4.1		● 2331 3.9		● 2355 4.0	1841 0.5
11 0500 0.6		26 0512 0.2		11 0539 0.7	26 0013 4.1	11 0600 0.7	26 0048 4.0
1116 3.9		1126 4.2		1155 3.9	0617 0.6	1219 4.0	0639 0.8
SA 1710 0.7		SU 1727 0.5		TU 1757 0.6	W 1237 4.0	TH 1828 0.5	F 1303 4.0
2324 3.8		O 2340 4.2			1849 0.5		1921 0.5
12 0531 0.6		27 0555 0.2		12 0011 3.9	27 0059 4.0	12 0040 4.1	27 0128 4.0
1148 3.9		1210 4.1		0616 0.7	0657 0.7	0641 0.8	0715 0.9
SU 1742 0.7		M 1813 0.4		W 1234 3.9	TH 1318 3.9	F 1302 4.0	SA 1338 3.9
● 2358 3.9				1838 0.6	1934 0.5	1913 0.4	SA 1957 0.5
13 0603 0.6		28 0026 4.2		13 0052 4.0	28 0143 4.0	13 0126 4.1	28 0204 3.9
1219 3.9		0636 0.3		0654 0.7	0736 0.8	0722 0.8	0748 0.9
M 1816 0.6		TU 1253 4.1		TH 1313 3.9	F 1357 3.9	SA 1345 4.0	SU 1410 3.9
		1858 0.4		1921 0.5	2017 0.5	1958 0.4	2029 0.6
14 0032 3.9		29 0112 4.2		14 0135 4.0	29 0225 3.9	14 0212 4.1	29 0237 3.8
0635 0.6		0716 0.5		0733 0.8	0814 0.9	0805 0.8	0821 1.0
TU 1252 3.9		W 1334 4.0		F 1354 3.8	SA 1434 3.8	SU 1428 4.0	M 1442 3.9
1851 0.6		1943 0.4		2006 0.5	2057 0.6	2045 0.3	2058 0.6
15 0108 3.9		30 0156 4.1		15 0220 4.0	30 0306 3.8	15 0259 4.1	30 0311 3.8
0708 0.7		0756 0.7		0815 0.9	0852 1.0	M 0850 0.9	TU 0855 1.0
W 1327 3.9		TH 1414 3.9		SA 1438 3.8	SU 1511 3.7	M 1514 4.0	TU 1516 3.8
1929 0.6		2028 0.5		2054 0.5	2136 0.7	2133 0.4	2131 0.7
		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					

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

SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0526 1139 SU 1752	3.4 1.3 3.3	16 0036 0702 M 1330 1950	1.3 3.3 1.2 3.5	1 0555 1229 TU 1838	3.3 1.3 3.3	16 0131 0752 W 1427 2039	1.6 3.3 1.0 3.6	1 0153 0807 F 1436 2051	1.3 3.5 0.7 3.8	16 0256 0906 SA 1533 2142	1.3 3.7 0.8 3.8	1 0219 0831 SU 1504 2114	1.1 3.8 0.5 3.9	16 0258 0905 M 1527 2139	1.2 3.6 0.9 3.7
2 0022 0637 M 1258 1911	1.3 3.3 1.3 3.3	17 0201 0822 TU 1452 2104	1.4 3.4 1.0 3.6	2 0110 0723 W 1352 2010	1.4 3.3 1.1 3.4	17 0241 0857 TH 1525 2135	1.4 3.6 0.8 3.8	2 0254 0907 SA 1534 2146	1.1 3.8 0.5 4.1	17 0342 0952 SU 1612 2223	1.1 3.8 0.7 3.9	2 0316 0927 M 1556 2206	0.9 4.0 0.4 4.1	17 0343 0952 TU 1607 2221	1.0 3.7 0.8 3.8
3 0142 0758 TU 1415 2033	1.3 3.4 1.2 3.5	18 0309 0926 W 1553 2202	1.3 3.6 0.8 3.9	3 0225 0842 TH 1504 2120	1.3 3.5 0.9 3.8	18 0333 0949 F 1612 2222	1.2 3.8 0.7 4.0	3 0346 0959 SU 1623 2234	0.9 4.1 0.3 4.3	18 0421 1032 M 1646 2259	0.9 3.9 0.7 4.0	3 0409 1020 TU 1644 2255	0.7 4.2 0.3 4.2	18 0423 1035 W 1645 2300	0.9 3.8 0.8 3.9
4 0252 0911 W 1525 2141	1.2 3.6 1.0 3.7	19 0401 1019 TH 1642 2250	1.2 3.9 0.6 4.0	4 0325 0941 F 1601 2214	1.1 3.8 0.6 4.1	19 0416 1033 SA 1650 2302	1.0 4.0 0.6 4.1	4 0433 1047 M 1708 ● 2320	0.7 4.3 0.2 4.4	19 0456 1108 TU 1717 2331	0.8 3.9 0.7 4.0	4 0458 1110 W 1729 ● 2341	0.6 4.3 0.4 4.2	19 0502 1115 TH 1722 O 2336	0.8 3.9 0.8 3.9
5 0351 1009 TH 1624 2236	1.0 3.9 0.7 4.0	20 0443 1104 F 1722 2332	1.0 4.0 0.5 4.1	5 0415 1030 SA 1650 2302	0.9 4.1 0.3 4.3	20 0453 1112 SU 1723 2337	0.9 4.0 0.6 4.1	5 0518 1132 TU 1751	0.6 4.4 0.2	20 0528 1142 W 1747 O	0.8 3.9 0.8 0.8	5 0547 1158 TH 1812	0.5 4.3 0.4	20 0541 1154 F 1758	0.7 3.9 0.8
6 0440 1058 F 1713 2324	0.9 4.1 0.4 4.3	21 0521 1144 SA 1757 O	0.9 4.1 0.5	6 0459 1116 SU 1734 ● 2346	0.7 4.3 0.2 4.5	21 0527 1145 M 1752 O	0.9 4.0 0.7	6 0003 0602 W 1218 1831	4.4 0.5 4.5 0.3	21 0001 0600 TH 1215 1817	4.0 0.7 3.9 0.8	6 0025 0634 F 1246 1853	4.1 0.5 4.3 0.6	21 0013 0620 SA 1233 1834	3.9 0.7 4.0 0.8
7 0523 1142 SA 1757 ●	0.7 4.3 0.3	22 0009 0554 SU 1218 1827	4.1 0.9 4.1 0.6	7 0541 1159 M 1815	0.6 4.4 0.1	22 0007 0556 TU 1214 1817	4.0 0.8 4.0 0.7	7 0046 0647 TH 1302 1912	4.3 0.5 4.4 0.4	22 0032 0635 F 1249 1849	4.0 0.7 3.9 0.8	7 0108 0722 SA 1333 1934	4.1 0.5 4.2 0.7	22 0050 0701 SU 1312 1910	3.9 0.6 4.0 0.9
8 0009 0604 SU 1225 1839	4.4 0.4 4.4 0.1	23 0041 0624 M 1246 1853	4.0 0.9 4.0 0.6	8 0028 0622 TU 1242 1855	4.5 0.5 4.5 0.1	23 0033 0625 W 1241 1844	4.0 0.8 3.9 0.7	8 0128 0732 F 1347 1953	4.2 0.5 4.3 0.6	23 0104 0712 SA 1325 1921	3.9 0.7 3.9 0.9	8 0150 0811 SU 1420 2016	4.0 0.5 4.1 0.9	23 0127 0744 M 1354 1948	3.9 0.6 4.0 0.9
9 0053 0645 M 1307 1921	4.5 0.6 4.4 0.1	24 0106 0652 TU 1311 1916	4.0 0.8 4.0 0.7	9 0111 0705 W 1324 1935	4.5 0.5 4.5 0.2	24 0058 0656 TH 1311 1911	4.0 0.8 3.9 0.8	9 0210 0820 SA 1434 2036	4.1 0.6 4.2 0.8	24 0139 0752 SU 1404 1957	3.9 0.7 3.9 1.0	9 0232 0901 M 1507 2059	3.8 0.6 3.9 1.1	24 0207 0829 TU 1439 2030	3.8 0.6 3.9 1.0
10 0135 0726 TU 1348 2001	4.5 0.6 4.5 0.2	25 0130 0721 W 1338 1942	3.9 0.8 4.0 0.7	10 0152 0748 TH 1407 2016	4.3 0.5 4.4 0.4	25 0127 0729 F 1343 1941	4.0 0.8 3.9 0.8	10 0252 0911 SU 1525 2122	3.9 0.7 3.9 1.1	25 0218 0836 M 1448 2038	3.8 0.8 3.8 1.1	10 0315 0953 TU 1558 2145	3.7 0.7 3.7 1.3	25 0250 0918 W 1528 2118	3.8 0.6 3.8 1.0
11 0217 0809 W 1430 2042	4.4 0.6 4.4 0.3	26 0157 0753 TH 1408 2011	3.9 0.8 3.9 0.7	11 0234 0833 F 1452 2058	4.2 0.6 4.2 0.7	26 0200 0806 SA 1419 2013	3.9 0.8 3.9 0.9	11 0338 1010 M 1623 2218	3.6 0.9 3.6 1.4	26 0301 0927 TU 1539 2129	3.7 0.9 3.7 1.2	11 0403 1049 W 1653 2241	3.6 0.9 3.5 1.4	26 0339 1011 TH 1623 2212	3.7 0.6 3.7 1.1
12 0300 0853 TH 1514 2126	4.2 0.7 4.3 0.5	27 0229 0828 F 1443 2043	3.9 0.9 3.9 0.8	12 0317 0923 SA 1542 2146	3.9 0.8 4.0 1.0	27 0237 0847 SU 1500 2051	3.8 0.9 3.8 1.0	12 0435 1121 TU 1734 2328	3.4 1.0 3.4 1.6	27 0354 1029 W 1639 2234	3.5 0.9 3.6 1.3	12 0500 1150 TH 1755 2347	3.4 1.0 3.4 1.5	27 0436 1111 F 1725 2314	3.6 0.7 3.6 1.2
13 0346 0941 F 1603 2215	4.0 0.8 4.0 0.8	28 0306 0908 SA 1522 2120	3.8 1.0 3.8 1.0	13 0405 1022 SU 1643 2247	3.6 1.0 3.6 1.3	28 0320 0937 M 1550 2142	3.6 1.0 3.6 1.2	13 0551 1239 W 1850	3.3 1.0 3.4	28 0500 1141 TH 1752 2353	3.4 0.9 3.5 1.4	13 0607 1253 F 1900	3.3 1.0 3.3	28 0542 1218 SA 1832	3.6 0.7 3.6
14 0436 1039 SA 1703 2317	3.7 1.0 3.7 1.1	29 0350 0957 SU 1610 2211	3.7 1.1 3.6 1.2	14 0507 1140 M 1804	3.4 1.1 3.4	29 0413 1044 TU 1653 2258	3.4 1.1 3.4 1.4	14 0049 0707 TH 1349 1958	1.6 3.3 1.0 3.5	29 0617 1256 F 1908	3.4 0.8 3.6	14 0059 0713 SA 1351 2000	1.5 3.4 1.0 3.4	29 0026 0651 SU 1329 1939	1.2 3.6 0.7 3.6
15 0540 1155 SU 1823	3.4 1.2 3.5	30 0444 1105 M 1714 2335	3.4 1.3 3.4 1.4	15 0005 0632 TU 1311 1928	1.5 3.2 1.1 3.4	30 0524 1206 W 1814	3.3 1.1 3.4	15 0200 0812 F 1446 2055	1.5 3.5 0.9 3.7	30 0111 0729 SA 1405 2015	1.3 3.6 0.7 3.7	15 0205 0813 SU 1442 2053	1.3 3.5 0.9 3.6	30 0141 0758 M 1434 2043	1.1 3.7 0.6 3.7
				31 0034 0651 TH 1327 1942	1.5 3.3 1.0 3.5							31 0249 0902 TU 1533 2142	1.0 3.8 0.6 3.8		



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, as 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.

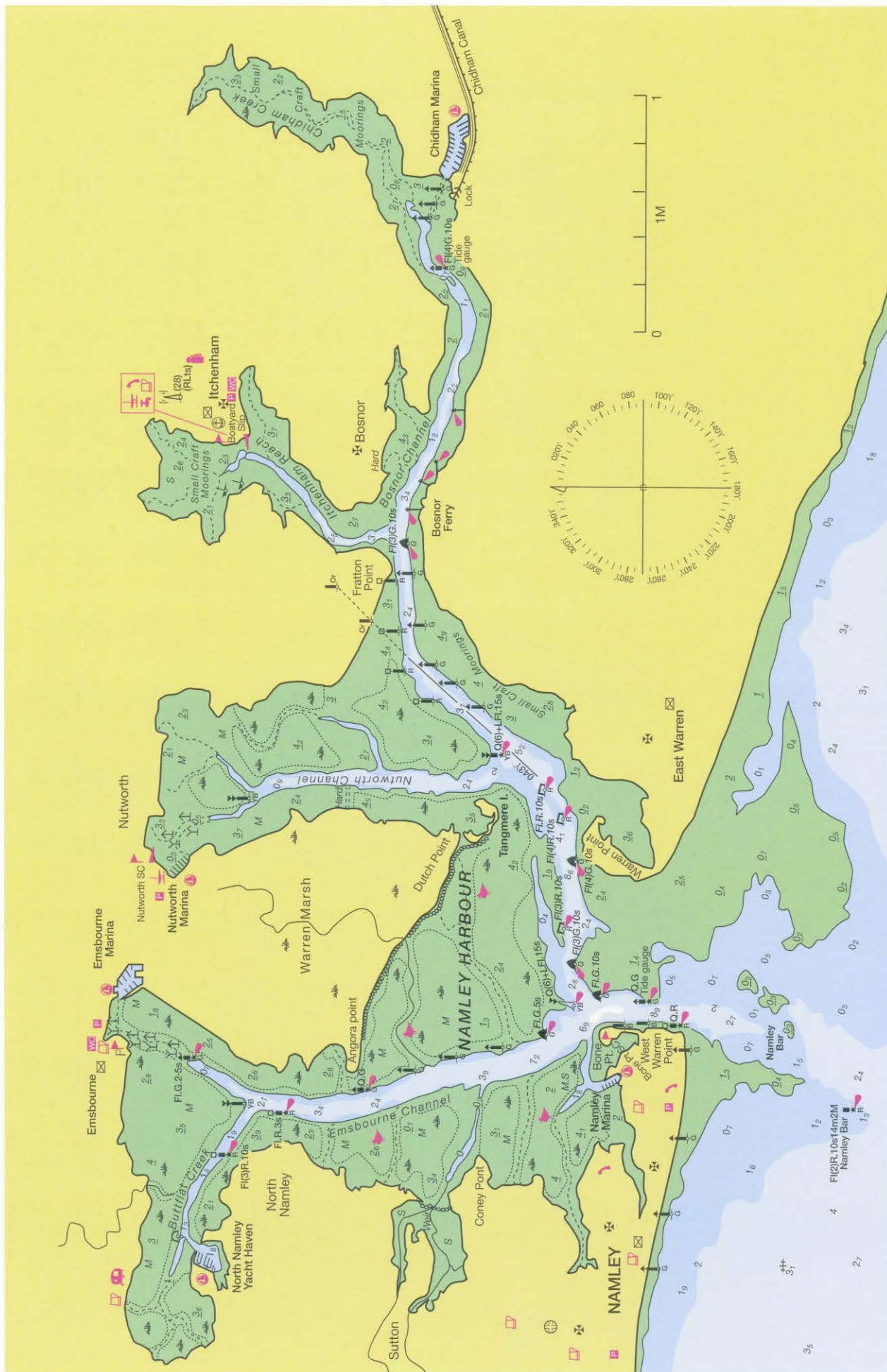
TIDAL STREAMS AND HEIGHTS. Best entry/exit is HW -3 to HW +1 avoiding the confused seas caused by the strong ebb stream. During spring tides, the bar becomes very uncomfortable in onshore winds > F5 combined with the ebb stream. The bar is dredged to 1.5m below CD but this may vary by ±0.75m after heavy 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, EI, 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, EI, 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, EI, 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, EI, BH (10 tonnes), Slip.



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	Time	m
1 0035 TU 1256 1839	3.9 4.0 0.6	16 0110 W 1336 1905	3.7 0.5 0.8	1 0153 F 1421 1955	4.0 4.1 0.5	16 0152 SA 1416 1949	3.7 0.5 0.7	1 0052 F 1319 1855	4.1 4.2 0.4	16 0103 SA 1323 1854	3.7 0.4 0.6	1 0152 M 1419 1955	4.2 4.0 0.3	16 0129 TU 1348 1932	3.7 0.5 0.6		
2 0118 W 1342 1922	3.9 4.0 0.7	17 0141 TH 1409 1938	3.7 0.5 0.8	2 0237 SA 1507 2039	4.0 4.0 0.6	17 0222 SU 1448 2023	3.7 0.5 0.7	2 0135 SA 1402 1936	4.2 4.2 0.4	17 0128 SU 1347 1924	3.7 0.4 0.6	2 0233 TU 1459 2036	4.1 0.2 3.8 0.5	17 0202 W 1424 2008	3.7 0.6 3.7 0.6		
3 0202 TH 1431 2007	3.9 0.3 0.8	18 0212 F 1443 2012	3.7 0.6 0.9	3 0322 SU 1555 2125	3.9 0.2 0.7	18 0257 M 1525 2100	3.7 0.5 0.8	3 0216 SU 1445 2017	4.1 4.0 0.4	18 0155 M 1417 1956	3.7 0.5 0.6	3 0316 W 1540 2122	3.9 0.5 3.5 0.7	18 0241 TH 1504 2050	3.7 0.7 3.6 0.7		
4 0249 F 1522 2055	3.8 0.3 0.9	19 0248 SA 1520 2051	3.6 0.6 0.9	4 0409 M 1646 2215	3.8 0.4 0.9	19 0335 TU 1608 2143	3.6 0.7 0.9	4 0258 M 1528 2100	4.0 0.1 0.6	19 0227 TU 1452 2031	3.7 0.5 0.7	4 0405 TH 1626 2220	3.6 0.9 3.3 0.9	19 0326 F 1551 2140	3.6 0.9 3.4 0.8		
5 0339 SA 1617 2147	3.7 0.4 1.0	20 0328 SU 1601 2133	3.6 0.7 1.0	5 0502 TU 1742 2320	3.6 0.3 1.1	20 0419 W 1658 2233	3.5 0.8 1.0	5 0342 TU 1613 2146	3.9 0.4 0.8	20 0304 W 1533 2112	3.7 0.6 3.5 0.8	5 0504 F 1722	3.3 1.2 3.0	20 0421 SA 1959 2244	3.4 1.1 3.2 0.9		
6 0433 SU 1715 2247	3.6 0.5 1.1	21 0412 M 1648 2222	3.5 0.8 1.1	6 0606 W 1849	3.4 0.8 3.2	21 0514 TH 1758 2340	3.3 1.0 1.2	6 0430 W 1702 2245	3.6 0.7 3.3 1.0	21 0347 TH 1621 2200	3.5 0.8 3.3 0.9	6 0002 SA 1236 1851	1.0 3.1 1.3 2.9	21 0528 SU 1802	3.3 1.2 3.1		
7 0535 M 1819	3.5 0.6 3.4	22 0503 TU 1742 2323	3.3 0.9 1.2	7 0049 TH 1336 2001	1.1 3.3 0.9 3.2	22 0621 F 1905	3.2 1.1 3.1	7 0532 TH 1805	3.3 1.0 3.1	22 0439 F 1719 2302	3.4 1.0 3.1 1.1	7 0127 SU 1344 2014	0.9 3.2 1.3 3.1	22 0015 M 1308 1922	0.9 3.2 1.2 3.1		
8 0642 TU 1302 1925	1.2 3.5 0.6 3.4	23 0603 W 1843	3.2 0.9 3.2	8 0208 F 1437 2108	1.0 3.3 0.9 3.3	23 0105 SA 1355 2015	1.2 3.2 1.1 3.2	8 0023 F 1306 1931	1.1 3.2 1.1 3.0	23 0547 SA 1829	3.2 1.2 3.0	8 0231 M 1442 2114	0.8 3.4 1.1 3.3	23 0145 TU 1419 2036	0.7 3.4 1.0 3.3		
9 0122 W 1405 2029	1.1 3.5 0.7 3.4	24 0036 TH 1322 1947	1.2 3.2 1.0 3.3	9 0313 SA 1531 2206	0.9 3.5 0.9 3.4	24 0222 SU 1501 2127	1.0 3.3 0.9 3.3	9 0150 SA 1412 2045	1.0 3.2 1.1 3.1	24 0033 SU 1333 1945	1.1 3.2 1.2 3.1	9 0326 TU 1533 2206	0.6 3.6 1.0 3.5	24 0251 W 1515 2138	0.5 3.7 0.8 3.6		
10 0228 TH 1500 2128	1.0 3.5 0.7 3.5	25 0146 F 1423 2051	1.1 3.3 0.9 3.4	10 0411 SU 1620 2257	0.7 3.6 0.8 3.6	25 0329 M 1559 2229	0.8 3.6 0.8 3.6	10 0258 SU 1509 2145	0.8 3.4 1.0 3.4	25 0203 M 1444 2103	0.9 3.3 1.0 3.3	10 0412 W 1617 2251	0.5 3.8 0.8 3.7	25 0347 TH 1604 2231	0.2 3.9 0.6 3.8		
11 0326 F 1551 2223	0.8 3.6 0.7 3.6	26 0247 SA 1520 2152	1.0 3.4 0.8 3.5	11 0501 M 1703 2342	0.5 3.7 0.8 3.7	26 0428 TU 1649 2321	0.5 3.8 0.6 3.8	11 0355 M 1600 2236	0.6 3.6 0.9 3.6	26 0313 TU 1540 2207	0.6 3.6 0.8 3.6	11 0450 TH 1655 2330	0.4 3.8 0.7 3.7	26 0435 F 1650 2319	0.1 4.1 0.5 4.0		
12 0421 SA 1637 2311	0.7 3.7 0.7 3.7	27 0345 SU 1613 2247	0.8 3.6 0.7 3.7	12 0543 TU 1742 •	0.4 3.8 0.8	27 0519 W 1733 O	0.2 4.1 0.5	12 0443 TU 1643 2320	0.5 3.8 0.8 3.7	27 0411 W 1629 2259	0.3 3.9 0.6 3.8	12 0521 F 1728 •	0.4 3.8 0.6	27 0519 SA 1733 O	0.0 4.2 0.3		
13 0510 SU 1719 • 2355	0.6 3.8 0.7 3.8	28 0440 M 1702 O 2337	0.6 3.8 0.6 3.8	13 0021 W 1247 1816	3.7 0.4 0.7	28 0008 TH 1235 1815	4.0 0.0 4.2	13 0522 W 1721	0.4 3.8 0.7	28 0500 TH 1713 O 2346	0.1 4.1 0.4 4.0	13 0005 SA 1228 1758	3.7 3.4 0.6	28 0004 SU 1233 1814	4.2 0.0 4.2 0.3		
14 0555 M 1758	0.5 3.8 0.7	29 0531 TU 1748	0.4 4.0 0.6	14 0056 TH 1320 1848	3.7 0.4 3.7 0.7	15 0125 F 1349 1918	3.7 0.4 3.6 0.7	14 0000 TH 1226 • 1754	3.7 3.8 0.7	29 0544 F 1755	-0.1 4.2 0.3	14 0034 SU 1253 1828	3.7 0.4 3.7 0.6	29 0047 M 1313 1855	4.2 0.0 4.1 0.3		
15 0034 TU 1259 1833	3.8 0.5 0.8	30 0024 W 1248 1830	3.9 4.1 0.5	15 0718 F 1918	3.7 0.4 3.6 0.7	15 0034 F 1257 1825	3.7 3.7 0.6	15 0034 F 1257 1825	3.7 3.7 0.6	30 0029 SA 1257 1834	4.2 -0.2 4.2 0.3	15 0101 M 1318 1859	3.7 3.8 0.5	30 0129 TU 1353 1935	4.2 0.2 3.9 0.3		
		31 0109 TH 1335 1912	4.0 0.1 4.1 0.5			31 0111 SU 1338 1914	4.2 -0.1 4.2 0.3										

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 0756 W 1432 2018	4.0 0.4 3.8 0.5	16 0145 0726 TH 1404 1954	3.8 0.7 3.7 0.6	1 0327 0900 SA 1534 2147	3.6 1.0 3.4 0.7	16 0311 0847 SU 1528 2130	3.7 0.9 3.5 0.5	1 0350 0918 M 1555 2203	3.5 1.1 3.5 0.7	16 0354 0926 TU 1608 2212	3.8 0.8 3.7 0.3	1 0435 1012 TH 1649 2251	3.4 1.1 3.4 0.9	16 0514 1051 F 1733 2347	3.5 1.0 3.5 0.8
2 0256 0837 TH 1512 2104	3.8 0.7 3.6 0.6	17 0227 0806 F 1446 2039	3.7 0.8 3.6 0.6	2 0418 0952 SU 1624 2251	3.4 1.2 3.3 0.8	17 0406 0940 M 1624 2230	3.6 1.0 3.5 0.5	2 0434 1006 TU 1644 2253	3.3 1.2 3.4 0.8	17 0447 1019 W 1703 2311	3.7 0.9 3.6 0.5	2 0524 1109 F 1745 2355	3.3 1.2 3.3 1.0	17 0618 1211 SA 1848	3.3 1.1 3.4
3 0345 0924 F 1557 2204	3.6 1.0 3.3 0.8	18 0316 0852 SA 1535 2132	3.6 0.9 3.4 0.7	3 0515 1059 M 1724	3.2 1.3 3.2	18 0507 1042 TU 1727 2339	3.6 1.1 3.4 0.5	3 0524 1104 W 1739 2351	3.3 1.2 3.3 0.9	18 0546 1123 TH 1805	3.5 1.0 3.5	3 0622 1219 SA 1849	3.2 1.2 3.2	18 0103 0731 SU 1335 2005	0.9 3.2 1.1 3.4
4 0442 1029 SA 1651 2335	3.3 1.2 3.1 0.9	19 0412 0947 SU 1633 2237	3.5 1.1 3.3 0.7	4 0001 0621 TU 1215 1831	0.9 3.2 1.3 3.1	19 0613 1156 W 1835	3.5 1.1 3.4	4 0619 1210 TH 1840	3.2 1.2 3.2	19 0019 0649 F 1239 1912	0.6 3.5 1.1 3.5	4 0104 0725 SU 1329 1953	1.0 3.2 1.2 3.2	19 0210 0842 M 1447 2114	1.0 3.3 0.9 3.5
5 0556 1156 SU 1804	3.1 1.4 3.0	20 0518 1057 M 1745	3.4 1.2 3.2	5 0103 0727 W 1320 1936	0.8 3.2 1.2 3.2	20 0050 0719 TH 1312 1939	0.5 3.5 1.0 3.5	5 0052 0719 F 1315 1940	0.9 3.2 1.2 3.2	20 0128 0755 SA 1352 2019	0.6 3.4 1.0 3.5	5 0206 0829 M 1431 2058	1.0 3.3 1.1 3.3	20 0308 0945 TU 1551 2214	1.0 3.5 0.7 3.7
6 0053 0717 M 1309 1928	0.9 3.2 1.3 3.1	21 0001 0633 TU 1233 1900	0.7 3.4 1.2 3.3	6 0154 0825 TH 1413 2035	0.8 3.4 1.1 3.3	21 0155 0822 F 1416 2041	0.5 3.6 0.9 3.6	6 0148 0818 SA 1411 2039	0.9 3.3 1.1 3.3	21 0229 0859 SU 1457 2123	0.7 3.5 0.9 3.6	6 0303 0933 TU 1530 2201	0.9 3.5 0.9 3.5	21 0401 1039 W 1645 2306	0.9 3.7 0.6 3.8
7 0155 0821 TU 1408 2032	0.8 3.3 1.2 3.2	22 0120 0747 W 1347 2008	0.6 3.5 1.0 3.4	7 0239 0916 F 1500 2127	0.7 3.5 1.0 3.4	22 0252 0921 SA 1514 2139	0.4 3.7 0.8 3.7	7 0239 0914 SU 1503 2135	0.8 3.5 1.0 3.4	22 0325 0959 M 1558 2223	0.7 3.6 0.7 3.7	7 0357 1031 W 1626 2256	0.8 3.6 0.7 3.7	22 0448 1126 TH 1731 O 2352	0.9 3.8 0.4 3.9
8 0247 0915 W 1459 2125	0.7 3.5 1.0 3.4	23 0223 0851 TH 1445 2108	0.4 3.7 0.9 3.6	8 0321 1002 SA 1542 2214	0.7 3.6 0.8 3.5	23 0345 1016 SU 1609 2235	0.4 3.8 0.6 3.8	8 0329 1007 M 1554 2226	0.8 3.6 0.8 3.6	23 0417 1053 TU 1653 2317	0.7 3.7 0.6 3.8	8 0447 1122 TH 1716 ● 2346	0.8 3.8 0.5 3.9	23 0529 1209 F 1810	0.8 3.9 0.4
9 0331 1003 TH 1543 2212	0.6 3.7 0.9 3.6	24 0319 0948 F 1538 2203	0.3 3.9 0.7 3.8	9 0402 1044 SU 1624 2257	0.6 3.7 0.7 3.6	24 0434 1107 M 1700 O 2326	0.4 3.8 0.5 3.9	9 0417 1054 TU 1642 2314	0.7 3.7 0.7 3.7	24 0504 1141 W 1742 O	0.7 3.8 0.5	9 0533 1208 F 1803	0.7 3.9 0.3	24 0034 0606 SA 1247 1844	3.9 0.8 3.8 0.4
10 0409 1045 F 1621 2254	0.5 3.8 0.8 3.6	25 0409 1039 SA 1627 2254	0.2 4.0 0.5 4.0	10 0443 1122 M 1704 ● 2336	0.6 3.8 0.6 3.7	25 0519 1153 TU 1748	0.5 3.9 0.4	10 0503 1139 W 1729 ● 2359	0.7 3.8 0.6 3.8	25 0006 0546 TH 1225 1826	3.9 0.7 3.8 0.4	10 0031 0615 SA 1252 1847	4.1 0.6 4.0 0.2	25 0112 0640 SU 1319 1914	3.8 0.8 3.8 0.5
11 0442 1122 SA 1657 2331	0.5 3.8 0.7 3.7	26 0455 1126 SU 1713 O 2342	0.2 4.0 0.4 4.1	11 0522 1159 TU 1744	0.6 3.8 0.6	26 0014 0600 W 1237 1833	3.9 0.6 3.8 0.4	11 0546 1222 TH 1814	0.7 3.8 0.4	26 0050 0625 F 1305 1906	3.9 0.8 3.8 0.4	11 0117 0656 SU 1334 1930	4.1 0.6 4.0 0.1	26 0143 0711 M 1346 1940	3.7 0.8 3.7 0.5
12 0515 1154 SU 1730 ●	0.5 3.8 0.6	27 0537 1210 M 1758	0.2 4.0 0.3	12 0015 0559 W 1235 1823	3.8 0.6 3.8 0.5	27 0100 0640 TH 1317 1916	3.9 0.6 3.8 0.4	12 0043 0627 F 1305 1858	3.9 0.7 3.8 0.3	27 0131 0702 SA 1340 1942	3.8 0.8 3.8 0.4	12 0201 0737 M 1416 2013	4.1 0.6 4.0 0.1	27 0210 0741 TU 1413 2007	3.6 0.8 3.7 0.6
13 0004 0547 M 1224 1804	3.7 0.5 3.8 0.6	28 0027 0617 TU 1252 1840	4.1 0.3 4.0 0.3	13 0054 0637 TH 1313 1905	3.8 0.7 3.8 0.5	28 0143 0719 F 1355 1959	3.8 0.8 3.7	13 0128 0709 SA 1348 1944	4.0 0.7 3.8 0.3	28 0208 0736 SU 1413 2014	3.7 0.8 3.7 0.5	13 0246 0820 TU 1458 2057	4.0 0.6 4.0 0.1	28 0237 0813 W 1444 2038	3.6 0.8 3.7 0.6
14 0036 0619 TU 1254 1838	3.7 0.5 3.8 0.5	29 0111 0656 W 1332 1923	4.0 0.4 3.9 0.4	14 0135 0716 F 1354 1949	3.8 0.7 3.7 0.5	29 0226 0757 SA 1433 2039	3.7 0.9 3.6 0.5	14 0215 0752 SU 1432 2031	3.9 0.7 3.8 0.2	29 0242 0810 M 1445 2045	3.6 0.9 3.7 0.6	14 0332 0904 W 1543 2144	3.9 0.7 3.9 0.3	29 0310 0849 TH 1520 2114	3.6 0.9 3.6 0.7
15 0108 0651 W 1327 1914	3.8 0.6 3.8 0.5	30 0155 0736 TH 1411 2006	3.9 0.6 3.7 0.5	15 0221 0759 SA 1438 2037	3.8 0.8 3.6 0.5	30 0307 0836 SU 1512 2119	3.6 1.0 3.6 0.6	15 0303 0838 M 1518 2120	3.9 0.8 3.8 0.3	30 0316 0846 TU 1521 2120	3.5 0.9 3.6 0.6	15 0420 0953 TH 1633 2238	3.7 0.8 3.7 0.5	30 0350 0930 F 1602 2155	3.5 1.0 3.5 0.9
		31 0240 0816 F 1451 2053	3.8 0.8 3.6 0.6							31 0352 0926 W 1602 2201	3.5 1.0 3.5 0.7			31 0437 1018 SA 1653 2248	3.4 1.1 3.3 1.1

TIME ZONE UT

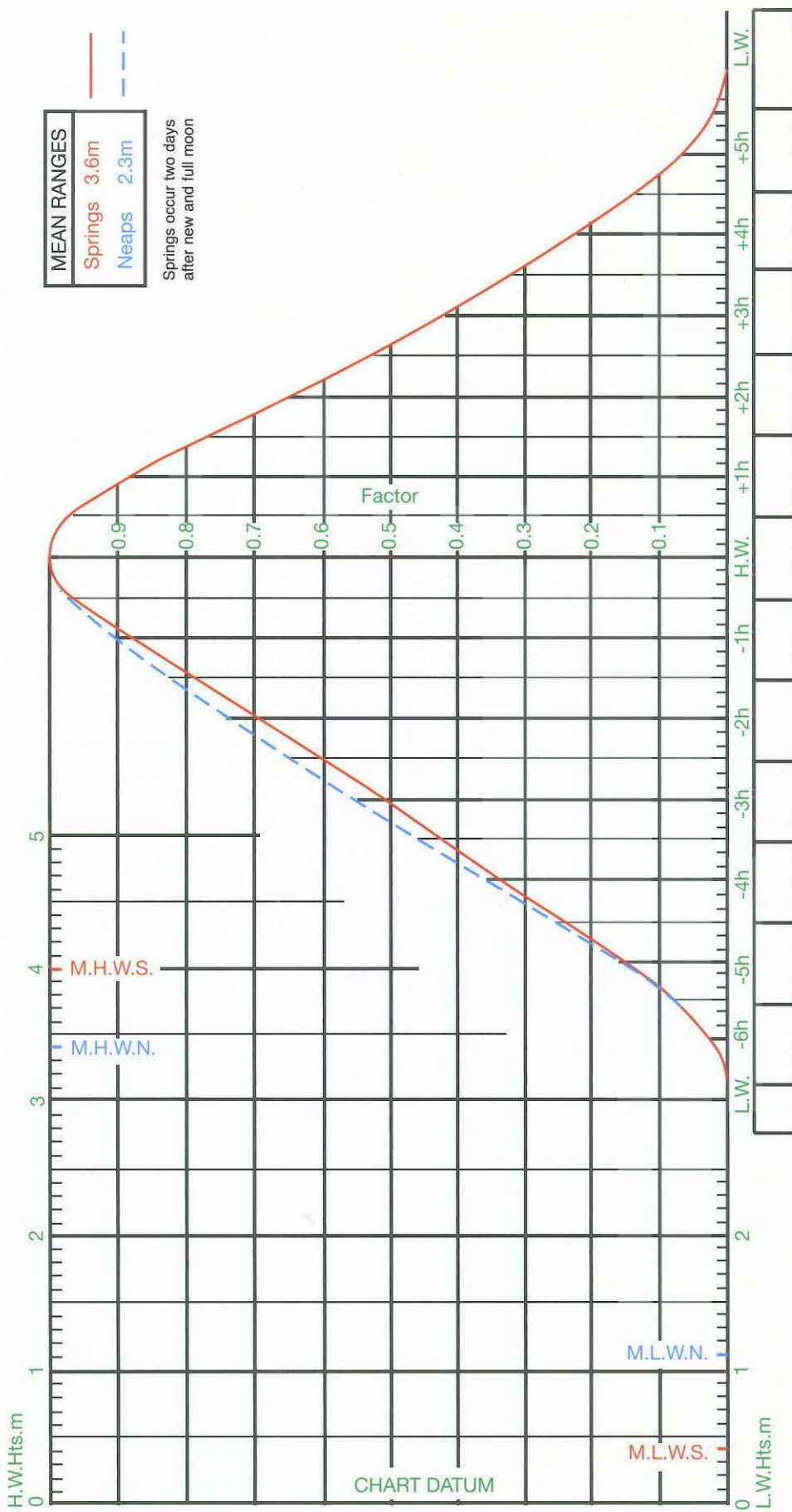
For Summer Time add ONE hour in non-shaded areas

SPRING & NEAP TIDES

Dates in red are SPRINGS
Dates in blue are NEAPS

TIMES AND HEIGHTS OF HIGH AND LOW WATERS

SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0535 3.2 1124 1.3 SU 1759 3.2		16 0039 1.2 0708 3.1 M 1322 1.1 1954 3.3		1 0601 3.1 1213 1.3 TU 1838 3.2		16 0122 1.4 0754 3.2 W 1409 0.9 2036 3.5		1 0149 1.3 0803 3.4 F 1420 0.7 2047 3.7		16 0239 1.2 0904 3.5 SA 1514 0.7 2142 3.7		1 0208 1.1 0831 3.6 SU 1444 0.5 2113 3.8		16 0242 1.1 0905 3.4 M 1506 0.8 2142 3.6	
2 0016 1.2 0641 3.2 M 1251 1.3 1912 3.2		17 0149 1.2 0824 3.2 TU 1434 0.9 2101 3.5		2 0113 1.4 0718 3.1 W 1343 1.1 2001 3.3		17 0221 1.3 0854 3.4 TH 1505 0.7 2130 3.7		2 0245 1.0 0906 3.6 SA 1516 0.5 2145 3.9		17 0325 1.0 0952 3.6 SU 1554 0.7 2225 3.8		2 0304 0.9 0929 3.8 M 1537 0.4 2207 3.9		17 0325 1.0 0954 3.5 TU 1546 0.8 2225 3.7	
3 0140 1.2 0751 3.2 TU 1406 1.1 2028 3.3		18 0248 1.2 0925 3.5 W 1534 0.7 2157 3.7		3 0222 1.2 0835 3.3 TH 1449 0.8 2117 3.6		18 0313 1.1 0945 3.6 F 1554 0.6 2218 3.9		3 0335 0.8 1000 3.9 SU 1606 0.3 2235 4.1		18 0405 0.9 1034 3.7 M 1628 0.7 2303 3.9		3 0356 0.7 1022 4.0 TU 1626 0.3 2257 4.0		18 0407 0.8 1038 3.6 W 1626 0.8 2304 3.8	
4 0243 1.1 0904 3.4 W 1511 0.9 2140 3.6		19 0340 1.1 1017 3.7 TH 1625 0.5 2246 3.9		4 0316 1.0 0940 3.6 F 1546 0.5 2215 3.9		19 0358 1.0 1031 3.8 SA 1634 0.5 2301 4.0		4 0421 0.6 1049 4.1 M 1652 0.2 ● 2322 4.2		19 0441 0.8 1112 3.8 TU 1659 0.7 2336 3.9		4 0445 0.6 1113 4.1 W 1711 0.3 ● 2343 4.1		19 0447 0.7 1119 3.7 TH 1704 0.7 O 2340 3.8	
5 0339 0.9 1009 3.6 TH 1609 0.6 2239 3.8		20 0426 0.9 1103 3.8 F 1707 0.4 2330 4.0		5 0405 0.8 1033 3.9 SA 1636 0.3 2304 4.2		20 0438 0.8 1112 3.8 SU 1708 0.5 2339 4.0		5 0506 0.5 1135 4.2 TU 1734 0.1		20 0514 0.7 1146 3.8 W 1730 0.7 O		5 0532 0.5 1200 4.1 TH 1753 0.4		20 0527 0.7 1156 3.8 F 1742 0.7	
6 0429 0.8 1101 3.8 F 1700 0.4 2328 4.1		21 0506 0.8 1144 3.9 SA 1743 0.4 O		6 0449 0.6 1119 4.1 SU 1720 0.1 ● 2349 4.3		21 0513 0.8 1147 3.8 M 1737 0.6 O		6 0005 4.3 0548 0.4 W 1219 4.3 1813 0.2		21 0005 3.9 0547 0.7 TH 1217 3.8 1801 0.7		6 0026 4.0 0617 0.4 F 1246 4.1 1833 0.5		21 0015 3.8 0606 0.6 SA 1234 3.8 1817 0.8	
7 0514 0.6 1147 4.0 SA 1745 0.2 ●		22 0010 4.0 0541 0.8 SU 1220 3.9 1813 0.5		7 0531 0.5 1203 4.2 M 1801 0.0		22 0011 3.9 0544 0.7 TU 1218 3.8 1803 0.6		7 0047 4.2 0631 0.4 TH 1302 4.3 1853 0.3		22 0033 3.9 0621 0.7 F 1248 3.8 1832 0.7		7 0108 3.9 0702 0.4 SA 1332 4.0 1913 0.7		22 0051 3.8 0646 0.6 SU 1312 3.8 1854 0.8	
8 0013 4.2 0555 0.5 SU 1230 4.1 1826 0.0		23 0045 3.9 0613 0.8 M 1250 3.8 1839 0.5		8 0031 4.3 0611 0.4 TU 1244 4.3 1839 0.0		23 0037 3.8 0614 0.7 W 1244 3.8 1829 0.6		8 0128 4.1 0713 0.4 F 1346 4.2 1932 0.5		23 0104 3.8 0656 0.7 SA 1323 3.8 1904 0.8		8 0149 3.8 0748 0.5 SU 1418 3.9 1954 0.9		23 0128 3.8 0727 0.6 M 1354 3.8 1932 0.9	
9 0057 4.3 0635 0.5 M 1311 4.2 1907 0.0		24 0112 3.8 0642 0.7 TU 1315 3.8 1903 0.6		9 0113 4.3 0651 0.4 W 1325 4.3 1918 0.1		24 0100 3.8 0643 0.7 TH 1310 3.8 1856 0.7		9 0208 3.9 0757 0.5 SA 1431 4.0 2014 0.8		24 0138 3.8 0734 0.7 SU 1402 3.8 1941 0.9		9 0230 3.7 0836 0.6 M 1506 3.7 2037 1.1		24 0208 3.7 0811 0.6 TU 1440 3.8 2016 0.9	
10 0139 4.2 0715 0.5 TU 1351 4.2 1947 0.0		25 0134 3.7 0711 0.7 W 1339 3.8 1929 0.6		10 0153 4.1 0732 0.4 TH 1406 4.2 1958 0.3		25 0127 3.8 0715 0.7 F 1341 3.8 1926 0.7		10 0249 3.7 0846 0.7 SU 1521 3.7 2059 1.1		25 0217 3.7 0816 0.7 M 1447 3.7 2024 1.0		10 0313 3.5 0930 0.7 TU 1556 3.5 2124 1.2		25 0252 3.6 0859 0.6 W 1531 3.7 2104 1.0	
11 0221 4.1 0756 0.5 W 1432 4.2 2028 0.2		26 0159 3.7 0742 0.7 TH 1409 3.8 1958 0.7		11 0234 3.9 0815 0.6 F 1450 4.0 2040 0.6		26 0159 3.8 0750 0.8 SA 1418 3.8 2000 0.9		11 0333 3.4 0947 0.9 M 1618 3.4 2158 1.4		26 0301 3.5 0906 0.8 TU 1539 3.6 2115 1.2		11 0401 3.4 1031 0.8 W 1652 3.3 2222 1.4		26 0341 3.5 0952 0.6 TH 1625 3.6 2157 1.1	
12 0304 3.9 0839 0.6 TH 1515 4.0 2112 0.4		27 0231 3.7 0816 0.8 F 1443 3.7 2031 0.8		12 0316 3.7 0902 0.7 SA 1539 3.7 2128 1.0		27 0237 3.7 0830 0.8 SU 1500 3.7 2041 1.0		12 0428 3.2 1113 1.0 TU 1732 3.2 2328 1.5		27 0354 3.4 1004 0.9 W 1640 3.4 2214 1.3		12 0458 3.3 1139 0.9 TH 1755 3.2 2339 1.5		27 0437 3.5 1050 0.6 F 1726 3.5 2258 1.1	
13 0348 3.7 0926 0.8 F 1603 3.8 2202 0.7		28 0309 3.6 0855 0.9 SA 1524 3.6 2111 1.0		13 0402 3.4 1001 1.0 SU 1638 3.4 2237 1.3		28 0321 3.5 0918 1.0 M 1551 3.5 2131 1.2		13 0544 3.1 1231 1.0 W 1854 3.2		28 0458 3.3 1116 0.9 TH 1750 3.4 2332 1.3		13 0604 3.2 1243 0.9 F 1902 3.2		28 0542 3.4 1158 0.6 SA 1833 3.4	
14 0438 3.4 1023 1.0 SA 1703 3.5 2314 1.1		29 0354 3.4 0942 1.1 SU 1614 3.4 2159 1.2		14 0500 3.2 1136 1.1 M 1806 3.2		29 0414 3.3 1017 1.1 TU 1654 3.3 2234 1.4		14 0045 1.5 0707 3.2 TH 1334 0.9 1959 3.4		29 0616 3.3 1237 0.8 F 1905 3.5		14 0054 1.4 0711 3.2 SA 1338 0.9 2002 3.3		29 0013 1.2 0653 3.4 SU 1311 0.6 1940 3.5	
15 0541 3.2 1151 1.1 SU 1827 3.3		30 0450 3.2 1041 1.2 M 1719 3.2 2306 1.4		15 0011 1.5 0635 3.1 TU 1303 1.0 1933 3.3		30 0526 3.1 1141 1.1 W 1812 3.3		15 0147 1.4 0810 3.3 F 1428 0.8 2053 3.5		30 0102 1.2 0728 3.4 SA 1346 0.6 2013 3.6		15 0153 1.3 0811 3.3 SU 1425 0.9 2055 3.4		30 0131 1.1 0800 3.5 M 1415 0.6 2043 3.5	
				31 0027 1.4 0647 3.2 TH 1315 0.9 1935 3.4								31 0236 0.9 0903 3.6 TU 1512 0.6 2143 3.6			



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, EI, 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.

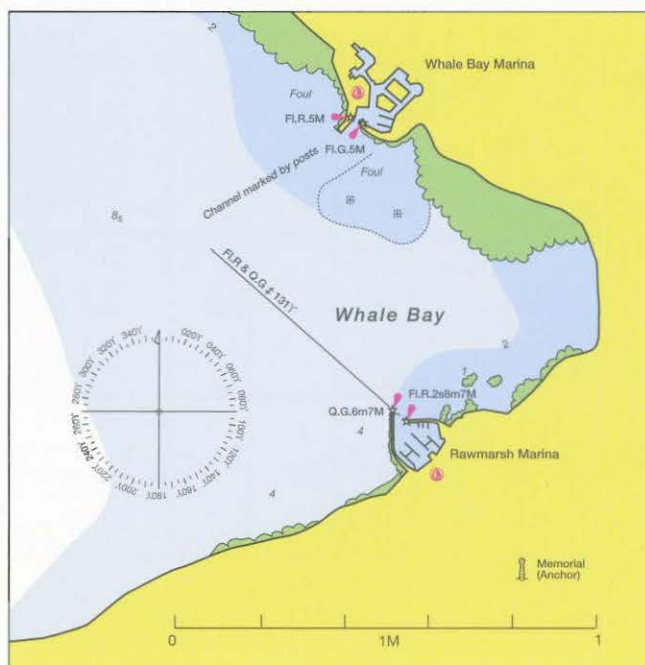
PILOTAGE NOTES. The same heavy-weather and navigational warnings for Whale Bay Marina apply to Rawmarsh. If approaching from the NW the breakwater lights [Fl.R & Q.G] 131° may be used as ldg lts to clear the unlit racing mark 'T'. Vessels approaching from the SW should be aware of unlit racing mark 'P'. 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.

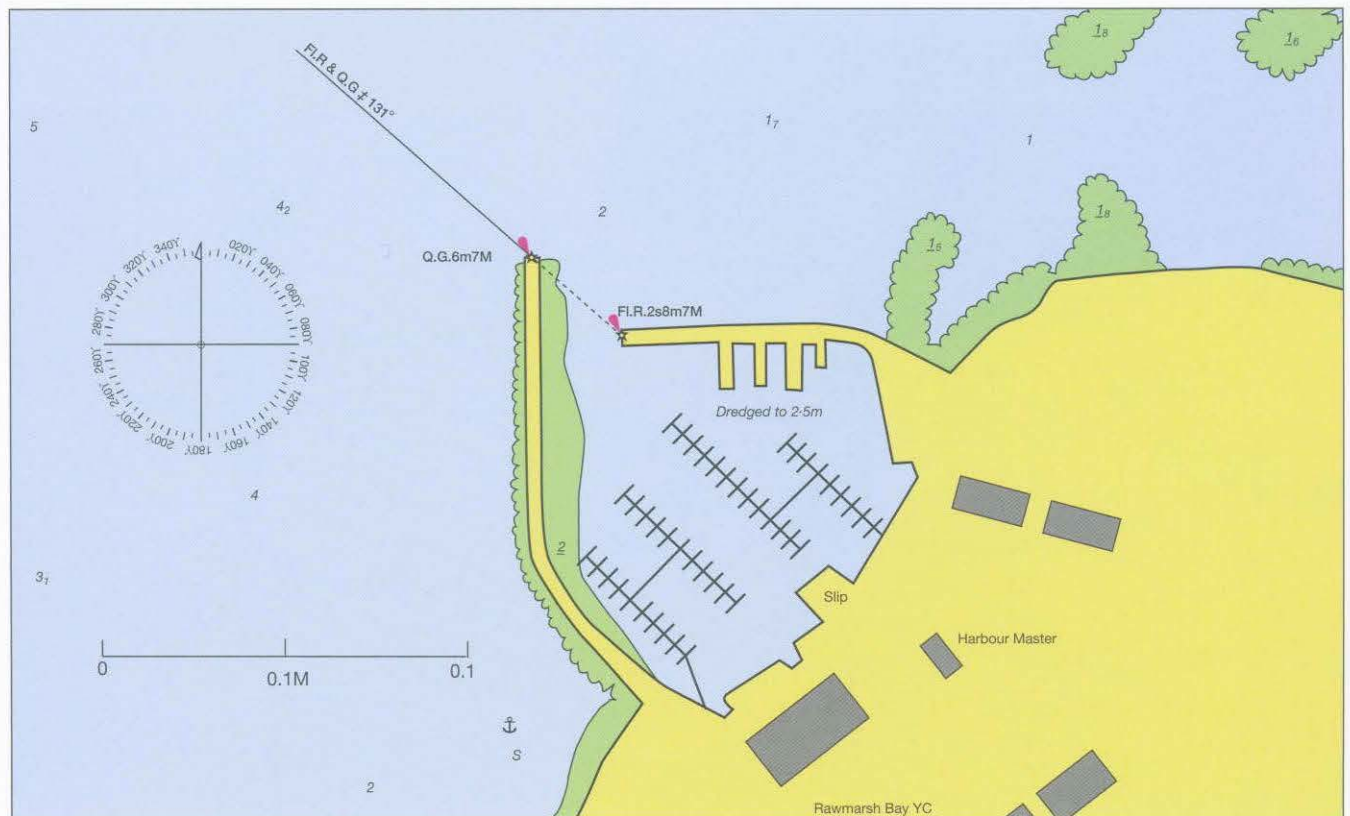
TIDAL STREAMS AND HEIGHTS. Within the 20m contour of Whale Bay the tidal streams are weak. The breakwaters shelter the marina completely from any tidal-stream effect. The least depth is 2m abeam the Q.G breakwater lt.

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, EI, 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°13'.16N 005°39'.78W.

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

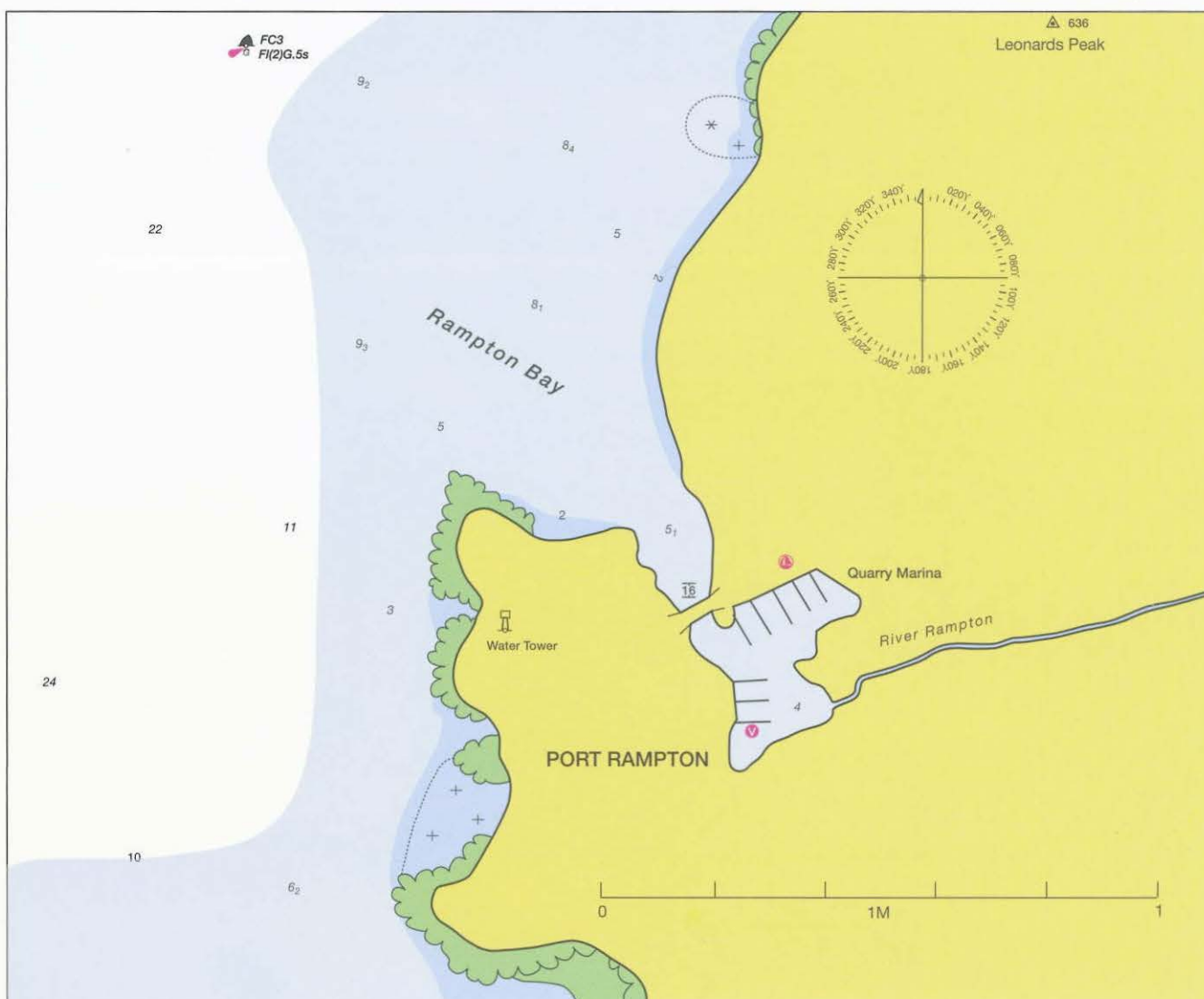
entrance, provides a useful landmark from some distance offshore. Rampton water tower is conspicuous on the point. Quarry bridge has a clearance of 16m. Visitors' berths are in the S section of the basin.

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, EI, R.



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.

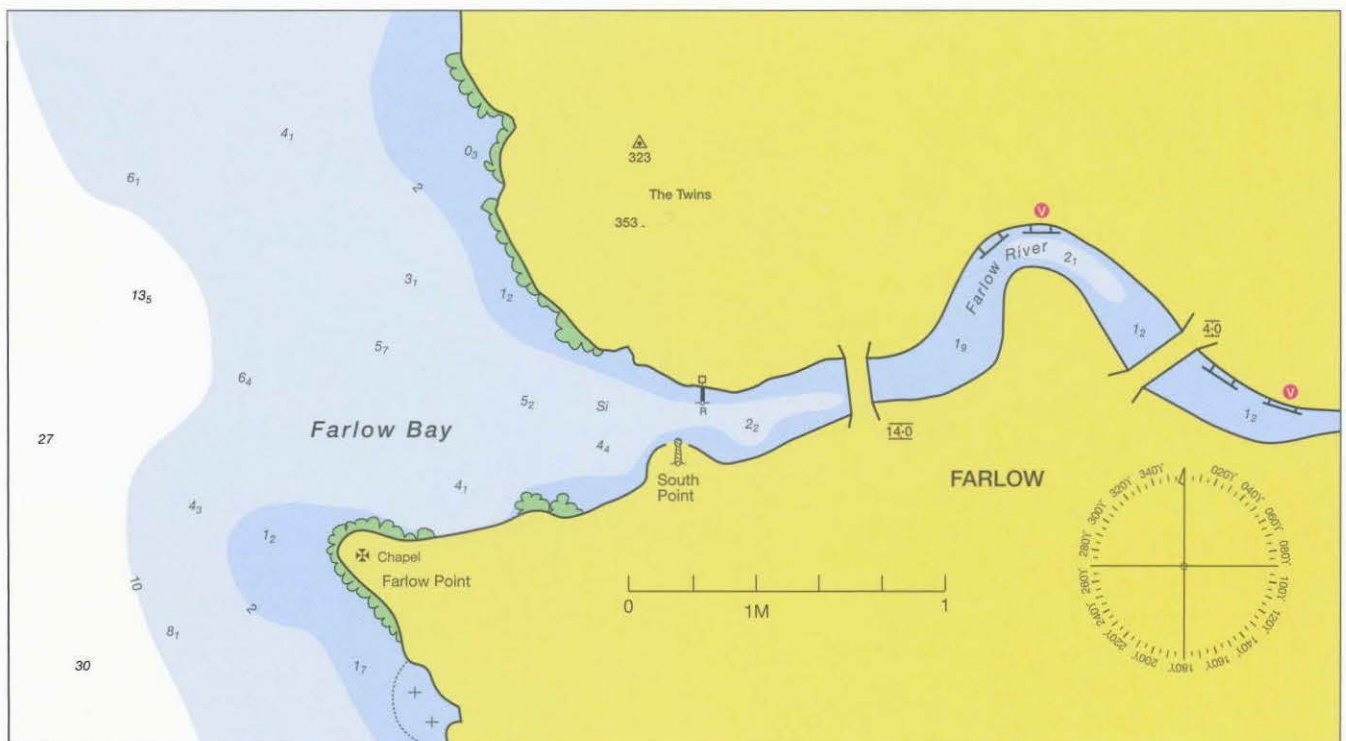
PILOTAGE NOTES. If approaching from the SE ensure that the aptly named Misery Point and the associated overfalls are given due clearance. The TSS ends just W of the entrance; otherwise there are no off-lying dangers. Farlow River is not lit and therefore at night should only be attempted with local knowledge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



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

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 RYA Chart 4 for details. During daylight, the approach

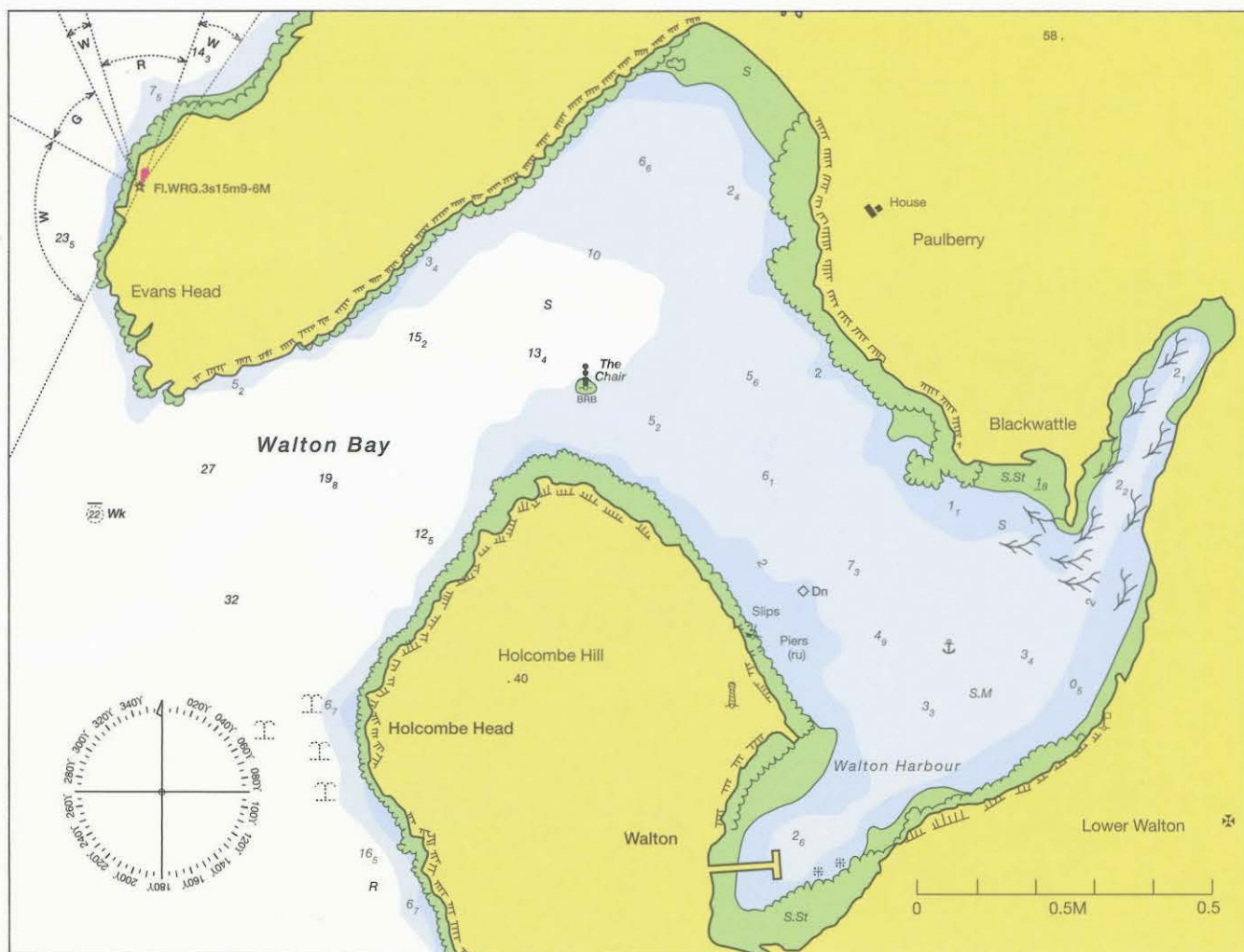
to Walton Bay from Hiscock Sound is straightforward and both headlands are clear of danger to within 0.5ca. Paulberry House (conspic) on a bearing of 067° will leave the unlit IDM (The Chair) well to stbd. As the bay opens to the SE, the conspic FS & Ch at Lower Walton will come into view. This provides 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.



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'y 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.

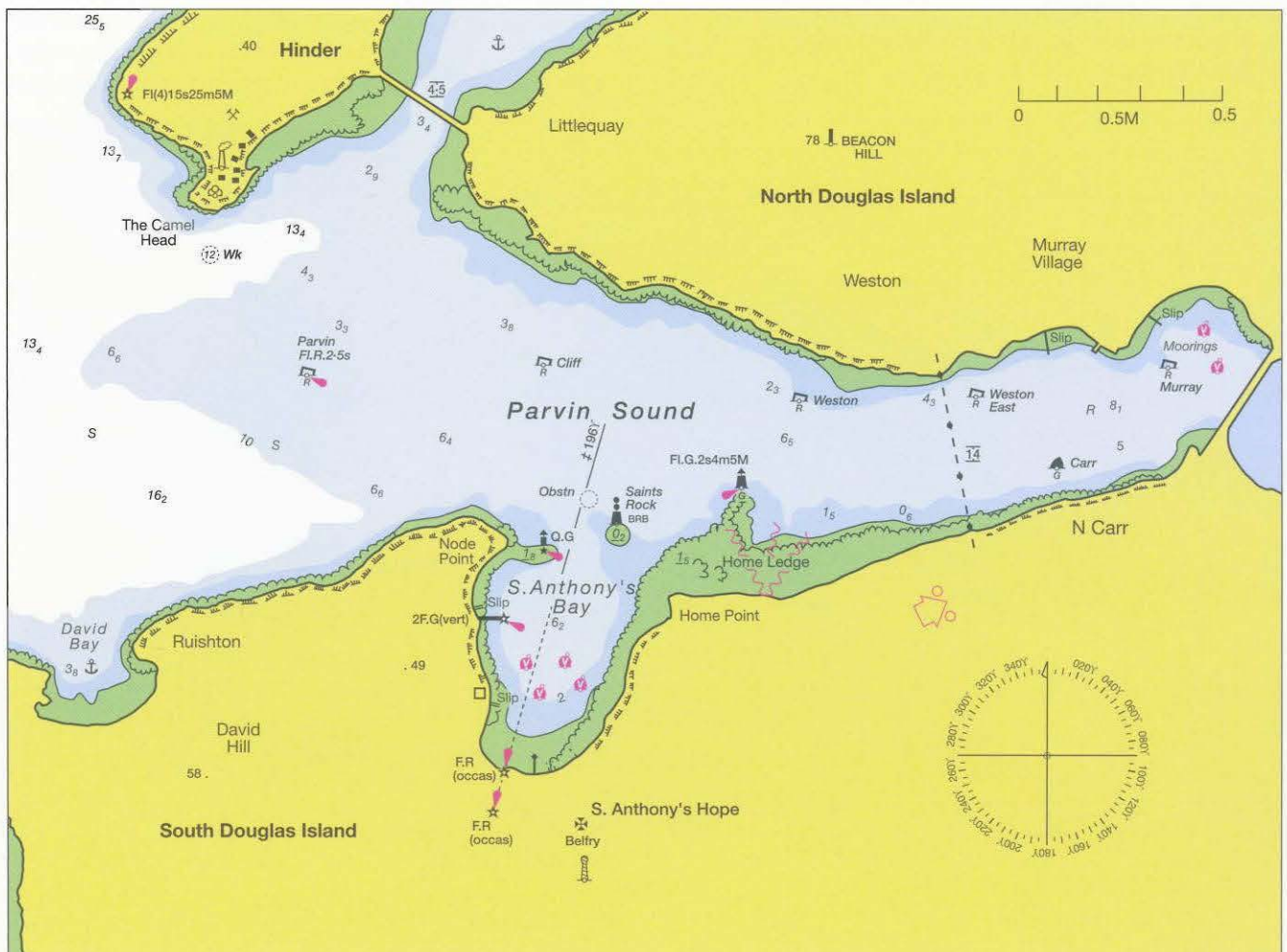
PILOTAGE NOTES. S. Anthony's Bay. From Parvin PHM S of Hinder I. [Fl.R.2-5s], a bearing of 116° will identify the conspic but unlit Saints Rock IDM that will be left to port when entering the bay. **Murray.** The approach to the moorings from the lit [Fl.G.2s4m5M] (G ▲ on G pyramidal twr) bn is straightforward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



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

DESCRIPTION. An old quarry which has been developed into a sheltered marina, it 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 8¹/₂ 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.

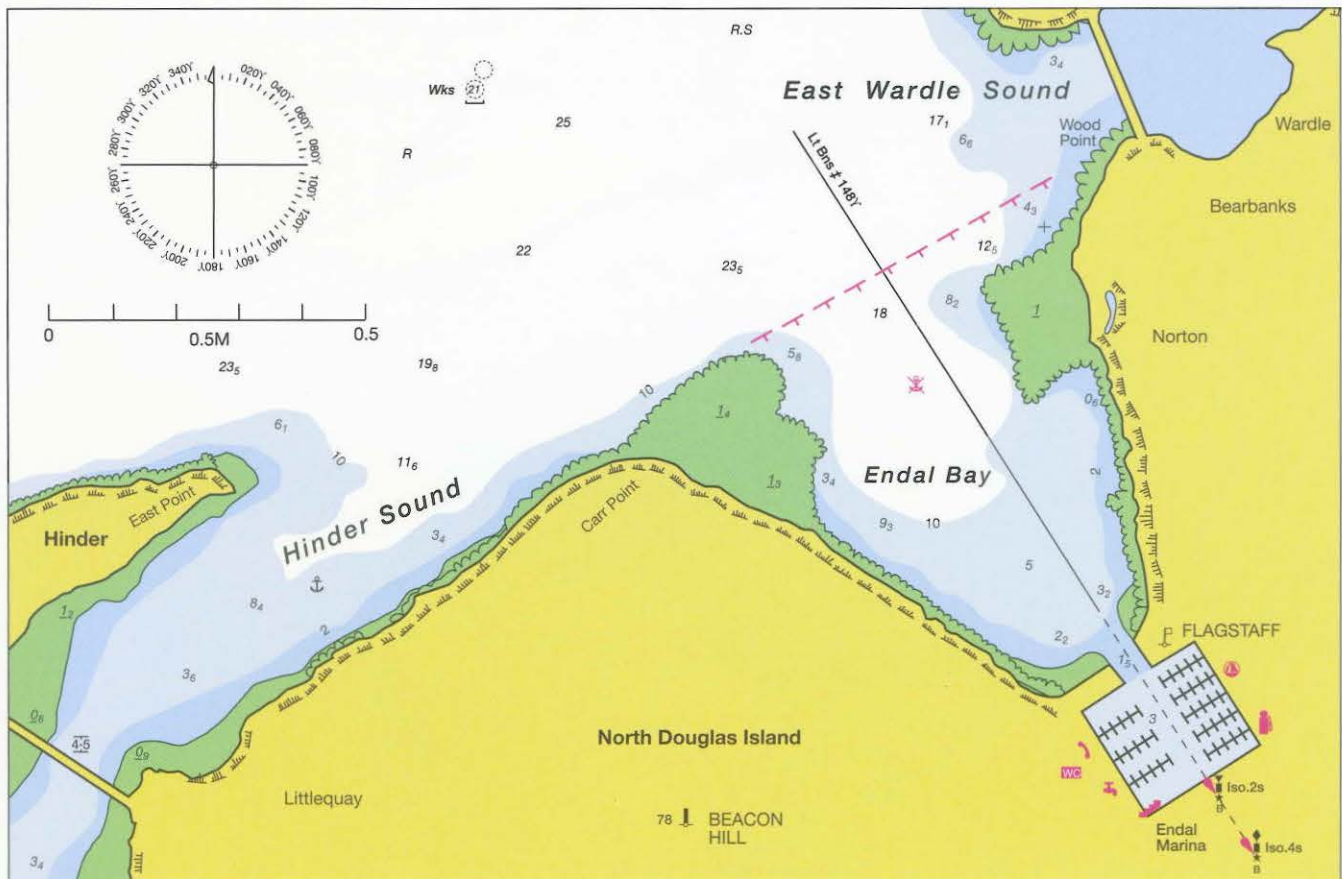
FACILITIES. D, P, Gas, Gaz, FW, Slip, BH (16 tonnes), ME, EI, C (9 tonnes), Bar, R.

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.



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

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)+LFl.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 2F.G (vert) & 2F.R (vert) marking the marina entrance may appear confusing. Leave the 2F.R (vert) to port.

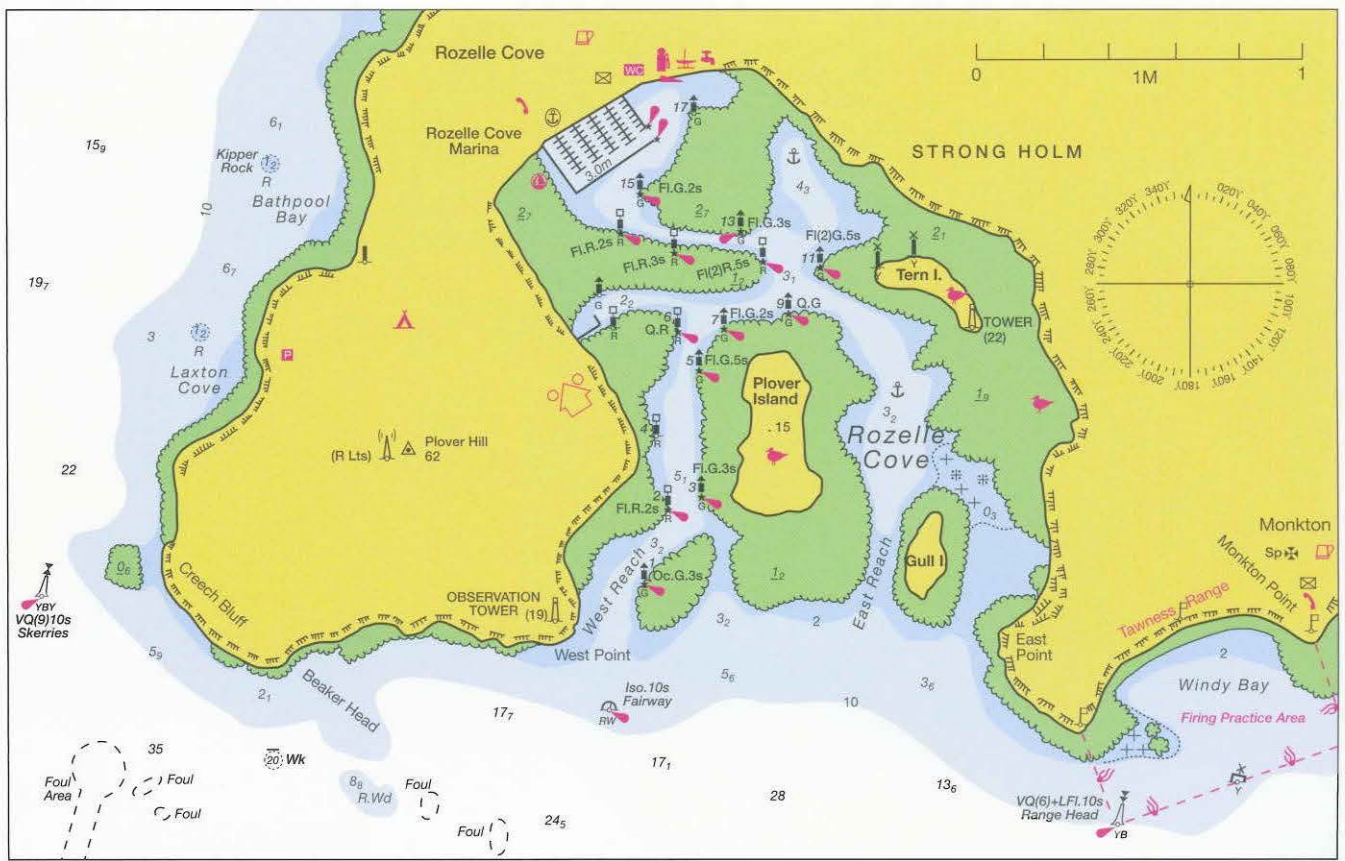
TIDAL STREAMS AND HEIGHTS. The tidal streams within the cove are generally weak and variable; however, some sideways drift may be experienced as the tidal stream funnels through the rocks and gullies.

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 Range. 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

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.

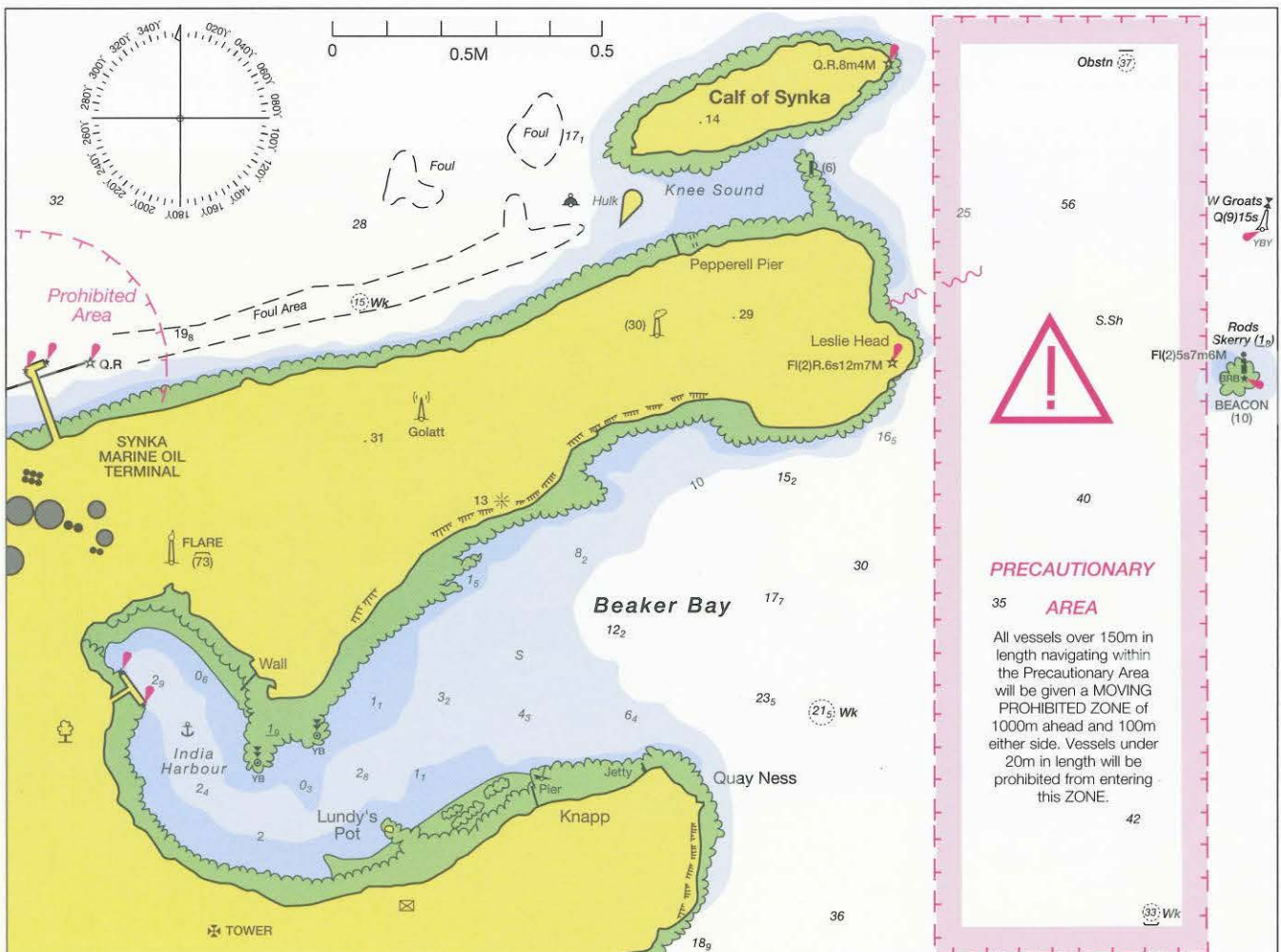
PILOTAGE NOTES. The precautionary area in Hiscock Sound will have to be navigated if a vessel is approaching Beaker Bay from the N or E. Skippers must be aware of the Moving Prohibited Zone around VLCCs in this area and stay well clear of the zone (see Note). The 1.8m drying rk, 'Rods Skerry', and 'The 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.

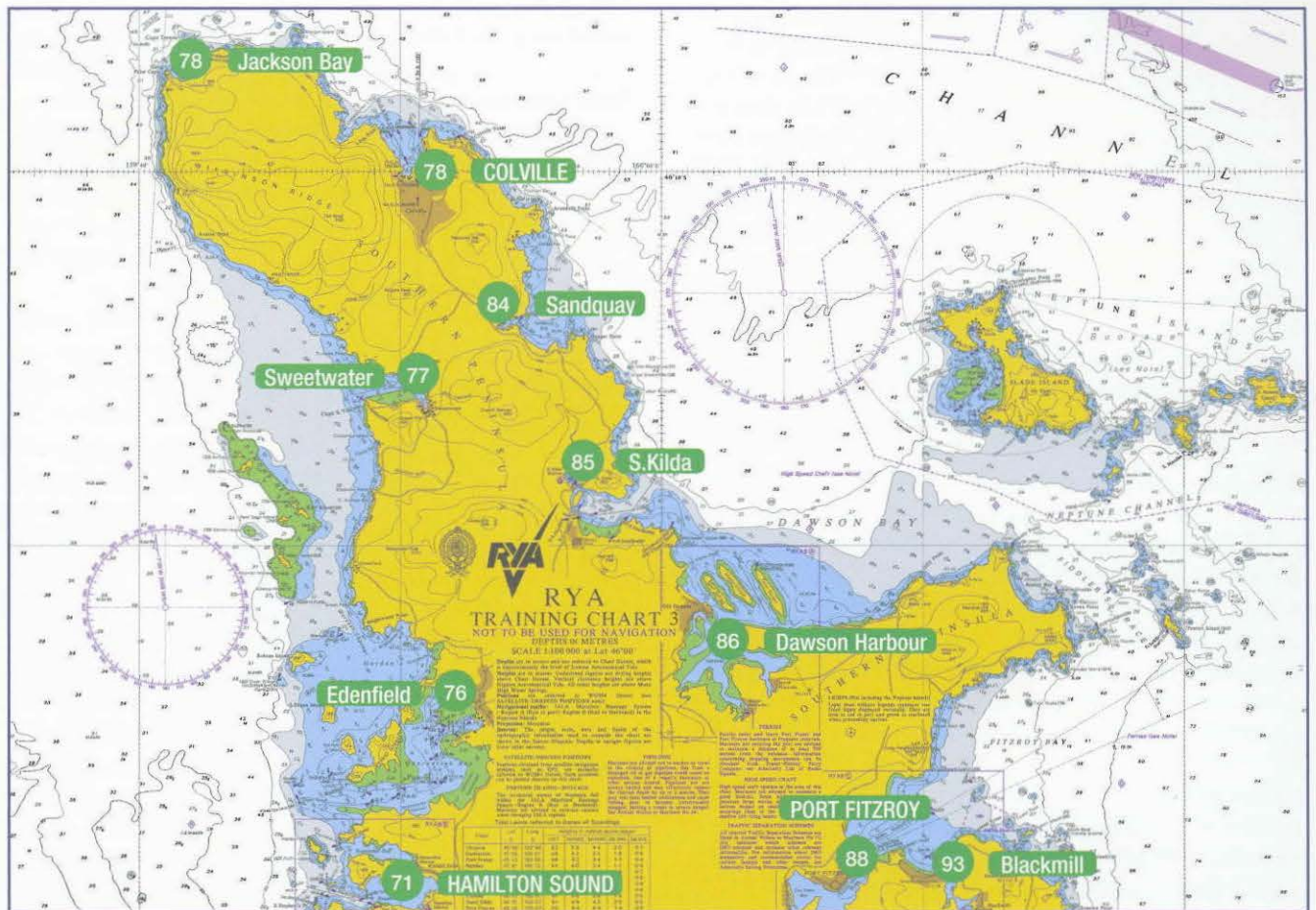
TIDAL STREAMS AND HEIGHTS. There can be up to 2.5kn of tidal stream running in Hiscock Sound on the approach to Beaker Bay. Once within the bay the stream is light. With experience, the harbour is accessible at all states of the tide, but for the first timer it would be prudent to wait for sufficient 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 2F.R (vert) at each extremity.

VHF RADIO. None.

FACILITIES. FW on pier. Bar.





Southern Peninsula – Passage information

Cape Donne to Hamilton
Cape Donne to Fitzroy Bay

Southern Peninsula – List of lights

Range greater than 5 miles

HAMILTON SOUND

Standard Port

Edenfield

Standard Port HAMILTON

Sweetwater

Standard Port HAMILTON

COLVILLE

Standard Port

68

Jackson Bay

Standard Port COLVILLE

70

Sandquay

Standard Port COLVILLE

71

S.Kilda

Standard Port COLVILLE

76

Dawson Harbour

Standard Port COLVILLE

77

PORT FITZROY

Standard Port

78

Blackmill

Standard Port PORT FITZROY

78

84

85

86

88

93

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 S. 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 S. 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 reef station is situated 3ca SSE of Karl Island.

Cape S. 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 It (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 (11m & 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 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 stream 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 \circ 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 \circ 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 \circ twr) [Fl (3)10s58m10M] and Pentire Lt Ho (W \circ 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 around 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.

Southern Peninsula – alphabetical list of lights (5M+ range)

West Coast

Cape Donne Lt Ho 46°00.433'N 6°17.748'W	W ○ twr R top	Fl(3)10s68m19M Horn(1)10s
Cape St Vincent Lt Ho 45°51.037'N 6°11.333'W	RW vert striped ○ twr	Oc.6s56m12M
Outer Robens 45°43.511'N 6°14.673'W	W 6 sided twr	Oc(3)15s43m17M Horn(2)30s
Outer Stack Lt 45°40.196'N 6°13.873'W	B twr W dia stripe	Fl(4)12s14m5M
Portland Pt Bn 45°39.027'N 6°12.335'W	YB ○ Bn	VQ(6)+LFI.10s5M
S. Stephen's Pt 45°37.449'N 6°13.283'W	W ○ twr	Iso.6s60m24M
Steven's Rock Lt Ho 46°03.422'N 6°18.802'W	W Granite ○ twr with Helo pad	Fl(2)12s79m15M Horn(1)60s
Token Rocks Lt Ho 45°50.294'N 6°16.780'W	BW chequered ○ twr	Fl.5s25m7M

East Coast

Beauty Point Lt Ho 45°47.045'N 5°46.620'W	W 8 sided twr	Iso.4s61m15M Horn(1)60s
Blackmill Sect Lt outer 45°38.101'N 5°48.534'W	W ○ twr	Oc.WRG.6s5m5-3M
Blackmill Sect Lt inner 45°37.520'N 5°49.217'W	W ○ twr	Oc.WRG.10s8m5-3M
Colville E ent Front Idg Its 45°56.838'N 6°09.318'W	W mast	Oc.G.4s18m5M (181°)
Colville E ent Rear Idg Its 45°56.323'N 6°09.332'W	W mast	Iso.G.2s25m5M (181°)
Colville Pt Lt Ho 45°57.980'N 6°07.660'W	B&W horizontal bands	Fl(4)20s155m9M
Colville W ent Front Idg Its 45°57.420'N 6°09.727'W	twr on pier hd	Fl.G.2s12m3M (154°)
Colville W ent Rear Idg Its 45°56.838'N 6°09.318'W	W mast	Oc.G.4s18m5M (154°)
Dasher Rock Lt Ho 45°45.838'N 5°44.820'W	B&W chequered ○ twr	Fl(4)15s37m10M
Grumlin Head Lt Ho 45°38.922'N 5°52.066'W	W oct twr	Fl.3s30m12M&F.R.27m10M
Hags Rks Bn. 45°47.232'N 5°41.832'W	BY bn	Q.5M
Old Chapel Head Lt Ho 45°47.592'N 5°59.644'W	W ○ twr	Oc(2)8s45m15M
Outer Rocque Lt Ho 45°46.486'N 5°56.398'W	R&W spiral ○ twr	Fl(2)10s30m12M Horn(2)30s
Pentire Lt Ho 45°44.951'N 5°40.709'W	W □ twr	Fl.5s105m9M Dia(1)30s
Race Rock Lt Ho 45°45.983'N 5°42.799'W	W ○ twr 2 B bands	Iso.6s20m5M
S. Kilda Front Idg Its 45°47.760'N 6°01.460'W	R W □ vert stripe framework twr	Fl.R.2.5s15m5M (216°)
S. Kilda Front Idg Its 45°47.861'N 6°03.387'W	R W □ vert stripe framework twr	Q.R.30m5M (262°)
S. Kilda Rear Idg Its 45°47.814'N 6°03.838'W	R W □ vert stripe framework twr	Q.R.45m5M (262°)
S. Kilda Rear Idg Its 45°47.243'N 6°01.973'W	R W □ vert stripe framework twr	Fl.R.2.5s 25m5M (216°)
Tintagel Lt Ho 45°44.879'N 5°43.320'W	W ○ twr	Fl(3)10s58m10M

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

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 O twr) marks the southern point of the entrance to the sound. The channel is well marked by buoys and ldg 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 south-east 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 O twr) is prominent on the southern side of the chan. The two sets of ldg lts [105°; front Q.20m4M, rear Iso.2s27m4M] [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, EI, 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)+L.FI.10s] and Wight Point. Access to the bay is possible at all states of tide and wind.

Note: The 5m and 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 Pt. 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.



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 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 0911 0.1 F 1513 5.9 2120 0.6	16 0247 5.5 0858 0.6 SA 1507 5.4 2058 0.9	1 0142 6.0 0812 0.0 F 1411 6.1 2022 0.4	16 0152 5.6 0804 0.5 SA 1410 5.6 2008 0.8	1 0242 6.1 0909 0.1 M 1508 5.9 2115 0.5	16 0225 5.5 0837 0.6 TU 1440 5.6 2039 0.8	2 0210 5.7 0827 0.5 W 1437 5.8 2045 0.7	17 0236 5.5 0848 0.8 TH 1502 5.4 2051 1.0	2 0327 5.8 0955 0.1 SA 1558 5.8 2200 0.8	17 0316 5.4 0926 0.6 SU 1537 5.3 2124 1.0	2 0224 6.1 0855 -0.1 SA 1453 6.1 2102 0.5	17 0221 5.6 0833 0.5 SU 1438 5.6 2035 0.8	2 0324 5.9 0943 0.4 TU 1548 5.6 2148 0.7	17 0255 5.4 0905 0.8 W 1513 5.4 2105 0.9	3 0254 5.7 0915 0.4 TH 1525 5.7 2129 0.8	18 0309 5.4 0917 0.8 F 1535 5.2 2120 1.1	3 0411 5.7 1037 0.3 SU 1644 5.6 2240 0.9	18 0346 5.3 0955 0.8 M 1609 5.2 2149 1.1	3 0306 6.0 0935 0.0 SU 1534 5.9 2138 0.6	18 0250 5.5 0902 0.6 M 1507 5.5 2100 0.9	3 0408 5.6 1017 0.7 W 1629 5.3 2223 0.9	18 0329 5.3 0933 1.0 TH 1548 5.3 2136 1.0	4 0341 5.6 1004 0.5 F 1614 5.6 2215 1.0	19 0342 5.2 0947 0.8 SA 1608 5.1 2150 1.2	4 0459 5.5 1120 0.5 M 1734 5.3 2324 1.1	19 0417 5.1 1025 0.9 TU 1645 5.0 2218 1.3	4 0348 5.9 1012 0.3 M 1616 5.6 2213 0.8	19 0319 5.4 0929 0.7 TU 1538 5.4 2122 1.0	4 0457 5.3 1057 1.1 TH 1717 5.0 2308 1.2	19 0409 5.1 1006 1.2 F 1632 5.0 2219 1.1	5 0430 5.5 1055 0.5 SA 1707 5.4 2305 1.1	20 0416 5.1 1022 0.9 SU 1644 5.0 2224 1.4	5 0553 5.3 1210 0.8 TU 1831 5.0	20 0455 5.0 1100 1.1 W 1729 4.8 2300 1.4	5 0432 5.6 1048 0.6 TU 1701 5.3 2250 1.0	20 0349 5.2 0954 0.9 W 1612 5.2 2148 1.1	5 0558 4.9 1152 1.5 F 1819 4.6	20 0500 4.9 1057 1.4 SA 1728 4.8 2323 1.2	6 0524 5.3 1149 0.7 SU 1805 5.2	21 0454 4.9 1102 1.0 M 1726 4.8 2304 1.5	6 0019 1.3 0657 5.0 W 1313 1.1 1936 4.8	21 0544 4.7 1151 1.3 TH 1827 4.7	6 0523 5.3 1130 0.9 W 1752 5.0 2338 1.2	21 0426 5.1 1023 1.1 TH 1654 5.0 2228 1.2	6 0019 1.4 0717 4.6 SA 1319 1.7 1939 4.5	21 0609 4.8 1219 1.6 SU 1845 4.6	7 0001 1.3 0625 5.2 M 1250 0.8 1908 5.1	22 0539 4.8 1150 1.2 TU 1817 4.7 2356 1.7	7 0132 1.4 0813 4.9 TH 1428 1.2 2049 4.8	22 0003 1.6 0655 4.6 F 1314 1.5 1944 4.6	7 0625 4.9 1229 1.3 TH 1856 4.7	22 0514 4.9 1111 1.3 F 1750 4.7 2330 1.4	7 0212 1.5 0846 4.7 SU 1453 1.7 2105 4.6	22 0056 1.3 0736 4.8 M 1400 1.5 2012 4.8	8 0105 1.4 0733 5.1 TU 1356 0.9 2016 5.0	23 0637 4.6 1253 1.3 W 1921 4.6	8 0259 1.4 0932 4.9 F 1544 1.2 2201 4.9	23 0139 1.6 0824 4.6 SA 1455 1.4 2106 4.8	8 0052 1.4 0745 4.7 F 1354 1.5 2015 4.6	23 0622 4.6 1233 1.6 SA 1907 4.6	8 0341 1.2 1001 4.9 M 1605 1.4 2213 4.9	23 0234 1.0 0902 5.0 TU 1518 1.2 2129 5.1	9 0215 1.4 0843 5.1 W 1505 1.0 2123 5.1	24 0107 1.7 0751 4.6 TH 1415 1.4 2033 4.7	9 0422 1.2 1042 5.1 SA 1649 1.2 2302 5.1	24 0319 1.4 0947 4.9 SU 1609 1.2 2219 5.1	9 0237 1.5 0914 4.7 SA 1522 1.5 2137 4.7	24 0105 1.5 0754 4.6 SU 1425 1.5 2036 4.7	9 0442 1.0 1054 5.2 TU 1657 1.2 2303 5.2	24 0352 0.7 1012 5.4 W 1623 1.0 2232 5.4	10 0327 1.3 0951 5.2 TH 1610 1.0 2224 5.2	25 0237 1.7 0907 4.7 F 1532 1.2 2142 5.0	10 0526 1.0 1138 5.3 SU 1740 1.1 2352 5.3	25 0433 1.0 1055 5.3 M 1710 0.9 2319 5.4	10 0410 1.3 1027 5.0 SU 1633 1.3 2243 5.0	25 0254 1.3 0925 4.9 M 1545 1.2 2155 5.0	10 0526 0.8 1136 5.4 W 1737 1.0 2344 5.4	25 0458 0.4 1109 5.7 TH 1720 0.8 2324 5.7	11 0434 1.2 1053 5.3 F 1705 0.9 2318 5.3	26 0352 1.4 1014 5.0 SA 1633 1.0 2244 5.2	11 0614 0.9 1223 5.4 M 1822 1.0	26 0537 0.7 1151 5.6 TU 1805 0.7	11 0513 1.0 1122 5.3 M 1725 1.1 2333 5.2	26 0414 0.9 1036 5.4 TU 1650 0.9 2257 5.4	11 0601 0.7 1211 5.5 TH 1811 0.9	26 0554 0.2 1158 5.9 F 1809 0.6	12 0531 1.0 1146 5.4 SA 1752 0.9	27 0454 1.1 1113 5.3 SU 1728 0.9 2338 5.5	12 0034 5.4 0653 0.8 TU 1302 5.5 ● 1858 0.9	27 0011 5.7 0634 0.4 W 1241 5.9 O 1854 0.6	12 0558 0.8 1205 5.5 TU 1805 1.0	27 0521 0.5 1133 5.7 W 1746 0.7 2350 5.7	12 0020 5.5 0632 0.6 F 1242 5.6 ● 1842 0.8	27 0011 5.9 0641 0.1 SA 1242 6.0 O 1854 0.5	13 0005 5.4 0620 0.9 SU 1233 5.5 ● 1833 0.9	28 0550 0.8 1206 5.6 M 1818 0.7 O	13 0111 5.5 0728 0.7 W 1337 5.5 1932 0.8	28 0058 5.9 0725 0.2 TH 1327 6.0 1939 0.5	13 0013 5.4 0633 0.7 W 1241 5.5 1839 0.9	28 0618 0.3 1221 6.0 TH 1835 0.5 O	13 0052 5.6 0703 0.6 SA 1311 5.6 1912 0.8	28 0056 6.0 0724 0.1 SU 1323 6.0 1936 0.4	14 0047 5.5 0703 0.8 M 1315 5.5 1912 0.8	29 0028 5.7 0643 0.6 TU 1255 5.8 1906 0.6	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0049 5.5 0704 0.6 TH 1313 5.6 ● 1910 0.8	29 0036 5.9 0706 0.1 F 1306 6.1 1919 0.4	14 0124 5.6 0734 0.5 SU 1340 5.7 1942 0.7	29 0138 6.1 0804 0.1 M 1403 6.0 2016 0.4	15 0126 5.5 0742 0.7 TU 1353 5.5 1948 0.9	30 0114 5.8 0735 0.4 W 1342 5.9 1952 0.6	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0121 5.6 0734 0.5 F 1342 5.6 1940 0.8	30 0119 6.1 0750 -0.1 SA 1348 6.1 2000 0.4	15 0154 5.6 0806 0.5 M 1410 5.7 2012 0.8	30 0221 6.0 0842 0.3 TU 1443 5.8 2054 0.5	31 0159 5.9 0824 0.2 TH 1428 6.0 2037 0.6				31 0201 6.1 0831 0.0 SU 1428 6.1 2039 0.4			
2 0210 5.7 0827 0.5 W 1437 5.8 2045 0.7	17 0236 5.5 0848 0.8 TH 1502 5.4 2051 1.0	2 0327 5.8 0955 0.1 SA 1558 5.8 2200 0.8	17 0316 5.4 0926 0.6 SU 1537 5.3 2124 1.0	2 0224 6.1 0855 -0.1 SA 1453 6.1 2102 0.5	17 0221 5.6 0833 0.5 SU 1438 5.6 2035 0.8	2 0324 5.9 0943 0.4 TU 1548 5.6 2148 0.7	17 0255 5.4 0905 0.8 W 1513 5.4 2105 0.9	3 0254 5.7 0915 0.4 TH 1525 5.7 2129 0.8	18 0309 5.4 0917 0.8 F 1535 5.2 2120 1.1	3 0411 5.7 1037 0.3 SU 1644 5.6 2240 0.9	18 0346 5.3 0955 0.8 M 1609 5.2 2149 1.1	3 0306 6.0 0935 0.0 SU 1534 5.9 2138 0.6	18 0250 5.5 0902 0.6 M 1507 5.5 2100 0.9	3 0408 5.6 1017 0.7 W 1629 5.3 2223 0.9	18 0329 5.3 0933 1.0 TH 1548 5.3 2136 1.0	4 0341 5.6 1004 0.5 F 1614 5.6 2215 1.0	19 0342 5.2 0947 0.8 SA 1608 5.1 2150 1.2	4 0459 5.5 1120 0.5 M 1734 5.3 2324 1.1	19 0417 5.1 1025 0.9 TU 1645 5.0 2218 1.3	4 0348 5.9 1012 0.3 M 1616 5.6 2213 0.8	19 0319 5.4 0929 0.7 TU 1538 5.4 2122 1.0	4 0457 5.3 1057 1.1 TH 1717 5.0 2308 1.2	19 0409 5.1 1006 1.2 F 1632 5.0 2219 1.1	5 0430 5.5 1055 0.5 SA 1707 5.4 2305 1.1	20 0416 5.1 1022 0.9 SU 1644 5.0 2224 1.4	5 0553 5.3 1210 0.8 TU 1831 5.0	20 0455 5.0 1100 1.1 W 1729 4.8 2300 1.4	5 0432 5.6 1048 0.6 TU 1701 5.3 2250 1.0	20 0349 5.2 0954 0.9 W 1612 5.2 2148 1.1	5 0558 4.9 1152 1.5 F 1819 4.6	20 0500 4.9 1057 1.4 SA 1728 4.8 2323 1.2	6 0524 5.3 1149 0.7 SU 1805 5.2	21 0454 4.9 1102 1.0 M 1726 4.8 2304 1.5	6 0019 1.3 0657 5.0 W 1313 1.1 1936 4.8	21 0544 4.7 1151 1.3 TH 1827 4.7	6 0523 5.3 1130 0.9 W 1752 5.0 2338 1.2	21 0426 5.1 1023 1.1 TH 1654 5.0 2228 1.2	6 0019 1.4 0717 4.6 SA 1319 1.7 1939 4.5	21 0609 4.8 1219 1.6 SU 1845 4.6	7 0001 1.3 0625 5.2 M 1250 0.8 1908 5.1	22 0539 4.8 1150 1.2 TU 1817 4.7 2356 1.7	7 0132 1.4 0813 4.9 TH 1428 1.2 2049 4.8	22 0003 1.6 0655 4.6 F 1314 1.5 1944 4.6	7 0625 4.9 1229 1.3 TH 1856 4.7	22 0514 4.9 1111 1.3 F 1750 4.7 2330 1.4	7 0212 1.5 0846 4.7 SU 1453 1.7 2105 4.6	22 0056 1.3 0736 4.8 M 1400 1.5 2012 4.8	8 0105 1.4 0733 5.1 TU 1356 0.9 2016 5.0	23 0637 4.6 1253 1.3 W 1921 4.6	8 0259 1.4 0932 4.9 F 1544 1.2 2201 4.9	23 0139 1.6 0824 4.6 SA 1455 1.4 2106 4.8	8 0052 1.4 0745 4.7 F 1354 1.5 2015 4.6	23 0622 4.6 1233 1.6 SA 1907 4.6	8 0341 1.2 1001 4.9 M 1605 1.4 2213 4.9	23 0234 1.0 0902 5.0 TU 1518 1.2 2129 5.1	9 0215 1.4 0843 5.1 W 1505 1.0 2123 5.1	24 0107 1.7 0751 4.6 TH 1415 1.4 2033 4.7	9 0422 1.2 1042 5.1 SA 1649 1.2 2302 5.1	24 0319 1.4 0947 4.9 SU 1609 1.2 2219 5.1	9 0237 1.5 0914 4.7 SA 1522 1.5 2137 4.7	24 0105 1.5 0754 4.6 SU 1425 1.5 2036 4.7	9 0442 1.0 1054 5.2 TU 1657 1.2 2303 5.2	24 0352 0.7 1012 5.4 W 1623 1.0 2232 5.4	10 0327 1.3 0951 5.2 TH 1610 1.0 2224 5.2	25 0237 1.7 0907 4.7 F 1532 1.2 2142 5.0	10 0526 1.0 1138 5.3 SU 1740 1.1 2352 5.3	25 0433 1.0 1055 5.3 M 1710 0.9 2319 5.4	10 0410 1.3 1027 5.0 SU 1633 1.3 2243 5.0	25 0254 1.3 0925 4.9 M 1545 1.2 2155 5.0	10 0526 0.8 1136 5.4 W 1737 1.0 2344 5.4	25 0458 0.4 1109 5.7 TH 1720 0.8 2324 5.7	11 0434 1.2 1053 5.3 F 1705 0.9 2318 5.3	26 0352 1.4 1014 5.0 SA 1633 1.0 2244 5.2	11 0614 0.9 1223 5.4 M 1822 1.0	26 0537 0.7 1151 5.6 TU 1805 0.7	11 0513 1.0 1122 5.3 M 1725 1.1 2333 5.2	26 0414 0.9 1036 5.4 TU 1650 0.9 2257 5.4	11 0601 0.7 1211 5.5 TH 1811 0.9	26 0554 0.2 1158 5.9 F 1809 0.6	12 0531 1.0 1146 5.4 SA 1752 0.9	27 0454 1.1 1113 5.3 SU 1728 0.9 2338 5.5	12 0034 5.4 0653 0.8 TU 1302 5.5 ● 1858 0.9	27 0011 5.7 0634 0.4 W 1241 5.9 O 1854 0.6	12 0558 0.8 1205 5.5 TU 1805 1.0	27 0521 0.5 1133 5.7 W 1746 0.7 2350 5.7	12 0020 5.5 0632 0.6 F 1242 5.6 ● 1842 0.8	27 0011 5.9 0641 0.1 SA 1242 6.0 O 1854 0.5	13 0005 5.4 0620 0.9 SU 1233 5.5 ● 1833 0.9	28 0550 0.8 1206 5.6 M 1818 0.7 O	13 0111 5.5 0728 0.7 W 1337 5.5 1932 0.8	28 0058 5.9 0725 0.2 TH 1327 6.0 1939 0.5	13 0013 5.4 0633 0.7 W 1241 5.5 1839 0.9	28 0618 0.3 1221 6.0 TH 1835 0.5 O	13 0052 5.6 0703 0.6 SA 1311 5.6 1912 0.8	28 0056 6.0 0724 0.1 SU 1323 6.0 1936 0.4	14 0047 5.5 0703 0.8 M 1315 5.5 1912 0.8	29 0028 5.7 0643 0.6 TU 1255 5.8 1906 0.6	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0049 5.5 0704 0.6 TH 1313 5.6 ● 1910 0.8	29 0036 5.9 0706 0.1 F 1306 6.1 1919 0.4	14 0124 5.6 0734 0.5 SU 1340 5.7 1942 0.7	29 0138 6.1 0804 0.1 M 1403 6.0 2016 0.4	15 0126 5.5 0742 0.7 TU 1353 5.5 1948 0.9	30 0114 5.8 0735 0.4 W 1342 5.9 1952 0.6	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0121 5.6 0734 0.5 F 1342 5.6 1940 0.8	30 0119 6.1 0750 -0.1 SA 1348 6.1 2000 0.4	15 0154 5.6 0806 0.5 M 1410 5.7 2012 0.8	30 0221 6.0 0842 0.3 TU 1443 5.8 2054 0.5	31 0159 5.9 0824 0.2 TH 1428 6.0 2037 0.6				31 0201 6.1 0831 0.0 SU 1428 6.1 2039 0.4											
3 0254 5.7 0915 0.4 TH 1525 5.7 2129 0.8	18 0309 5.4 0917 0.8 F 1535 5.2 2120 1.1	3 0411 5.7 1037 0.3 SU 1644 5.6 2240 0.9	18 0346 5.3 0955 0.8 M 1609 5.2 2149 1.1	3 0306 6.0 0935 0.0 SU 1534 5.9 2138 0.6	18 0250 5.5 0902 0.6 M 1507 5.5 2100 0.9	3 0408 5.6 1017 0.7 W 1629 5.3 2223 0.9	18 0329 5.3 0933 1.0 TH 1548 5.3 2136 1.0	4 0341 5.6 1004 0.5 F 1614 5.6 2215 1.0	19 0342 5.2 0947 0.8 SA 1608 5.1 2150 1.2	4 0459 5.5 1120 0.5 M 1734 5.3 2324 1.1	19 0417 5.1 1025 0.9 TU 1645 5.0 2218 1.3	4 0348 5.9 1012 0.3 M 1616 5.6 2213 0.8	19 0319 5.4 0929 0.7 TU 1538 5.4 2122 1.0	4 0457 5.3 1057 1.1 TH 1717 5.0 2308 1.2	19 0409 5.1 1006 1.2 F 1632 5.0 2219 1.1	5 0430 5.5 1055 0.5 SA 1707 5.4 2305 1.1	20 0416 5.1 1022 0.9 SU 1644 5.0 2224 1.4	5 0553 5.3 1210 0.8 TU 1831 5.0	20 0455 5.0 1100 1.1 W 1729 4.8 2300 1.4	5 0432 5.6 1048 0.6 TU 1701 5.3 2250 1.0	20 0349 5.2 0954 0.9 W 1612 5.2 2148 1.1	5 0558 4.9 1152 1.5 F 1819 4.6	20 0500 4.9 1057 1.4 SA 1728 4.8 2323 1.2	6 0524 5.3 1149 0.7 SU 1805 5.2	21 0454 4.9 1102 1.0 M 1726 4.8 2304 1.5	6 0019 1.3 0657 5.0 W 1313 1.1 1936 4.8	21 0544 4.7 1151 1.3 TH 1827 4.7	6 0523 5.3 1130 0.9 W 1752 5.0 2338 1.2	21 0426 5.1 1023 1.1 TH 1654 5.0 2228 1.2	6 0019 1.4 0717 4.6 SA 1319 1.7 1939 4.5	21 0609 4.8 1219 1.6 SU 1845 4.6	7 0001 1.3 0625 5.2 M 1250 0.8 1908 5.1	22 0539 4.8 1150 1.2 TU 1817 4.7 2356 1.7	7 0132 1.4 0813 4.9 TH 1428 1.2 2049 4.8	22 0003 1.6 0655 4.6 F 1314 1.5 1944 4.6	7 0625 4.9 1229 1.3 TH 1856 4.7	22 0514 4.9 1111 1.3 F 1750 4.7 2330 1.4	7 0212 1.5 0846 4.7 SU 1453 1.7 2105 4.6	22 0056 1.3 0736 4.8 M 1400 1.5 2012 4.8	8 0105 1.4 0733 5.1 TU 1356 0.9 2016 5.0	23 0637 4.6 1253 1.3 W 1921 4.6	8 0259 1.4 0932 4.9 F 1544 1.2 2201 4.9	23 0139 1.6 0824 4.6 SA 1455 1.4 2106 4.8	8 0052 1.4 0745 4.7 F 1354 1.5 2015 4.6	23 0622 4.6 1233 1.6 SA 1907 4.6	8 0341 1.2 1001 4.9 M 1605 1.4 2213 4.9	23 0234 1.0 0902 5.0 TU 1518 1.2 2129 5.1	9 0215 1.4 0843 5.1 W 1505 1.0 2123 5.1	24 0107 1.7 0751 4.6 TH 1415 1.4 2033 4.7	9 0422 1.2 1042 5.1 SA 1649 1.2 2302 5.1	24 0319 1.4 0947 4.9 SU 1609 1.2 2219 5.1	9 0237 1.5 0914 4.7 SA 1522 1.5 2137 4.7	24 0105 1.5 0754 4.6 SU 1425 1.5 2036 4.7	9 0442 1.0 1054 5.2 TU 1657 1.2 2303 5.2	24 0352 0.7 1012 5.4 W 1623 1.0 2232 5.4	10 0327 1.3 0951 5.2 TH 1610 1.0 2224 5.2	25 0237 1.7 0907 4.7 F 1532 1.2 2142 5.0	10 0526 1.0 1138 5.3 SU 1740 1.1 2352 5.3	25 0433 1.0 1055 5.3 M 1710 0.9 2319 5.4	10 0410 1.3 1027 5.0 SU 1633 1.3 2243 5.0	25 0254 1.3 0925 4.9 M 1545 1.2 2155 5.0	10 0526 0.8 1136 5.4 W 1737 1.0 2344 5.4	25 0458 0.4 1109 5.7 TH 1720 0.8 2324 5.7	11 0434 1.2 1053 5.3 F 1705 0.9 2318 5.3	26 0352 1.4 1014 5.0 SA 1633 1.0 2244 5.2	11 0614 0.9 1223 5.4 M 1822 1.0	26 0537 0.7 1151 5.6 TU 1805 0.7	11 0513 1.0 1122 5.3 M 1725 1.1 2333 5.2	26 0414 0.9 1036 5.4 TU 1650 0.9 2257 5.4	11 0601 0.7 1211 5.5 TH 1811 0.9	26 0554 0.2 1158 5.9 F 1809 0.6	12 0531 1.0 1146 5.4 SA 1752 0.9	27 0454 1.1 1113 5.3 SU 1728 0.9 2338 5.5	12 0034 5.4 0653 0.8 TU 1302 5.5 ● 1858 0.9	27 0011 5.7 0634 0.4 W 1241 5.9 O 1854 0.6	12 0558 0.8 1205 5.5 TU 1805 1.0	27 0521 0.5 1133 5.7 W 1746 0.7 2350 5.7	12 0020 5.5 0632 0.6 F 1242 5.6 ● 1842 0.8	27 0011 5.9 0641 0.1 SA 1242 6.0 O 1854 0.5	13 0005 5.4 0620 0.9 SU 1233 5.5 ● 1833 0.9	28 0550 0.8 1206 5.6 M 1818 0.7 O	13 0111 5.5 0728 0.7 W 1337 5.5 1932 0.8	28 0058 5.9 0725 0.2 TH 1327 6.0 1939 0.5	13 0013 5.4 0633 0.7 W 1241 5.5 1839 0.9	28 0618 0.3 1221 6.0 TH 1835 0.5 O	13 0052 5.6 0703 0.6 SA 1311 5.6 1912 0.8	28 0056 6.0 0724 0.1 SU 1323 6.0 1936 0.4	14 0047 5.5 0703 0.8 M 1315 5.5 1912 0.8	29 0028 5.7 0643 0.6 TU 1255 5.8 1906 0.6	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0049 5.5 0704 0.6 TH 1313 5.6 ● 1910 0.8	29 0036 5.9 0706 0.1 F 1306 6.1 1919 0.4	14 0124 5.6 0734 0.5 SU 1340 5.7 1942 0.7	29 0138 6.1 0804 0.1 M 1403 6.0 2016 0.4	15 0126 5.5 0742 0.7 TU 1353 5.5 1948 0.9	30 0114 5.8 0735 0.4 W 1342 5.9 1952 0.6	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0121 5.6 0734 0.5 F 1342 5.6 1940 0.8	30 0119 6.1 0750 -0.1 SA 1348 6.1 2000 0.4	15 0154 5.6 0806 0.5 M 1410 5.7 2012 0.8	30 0221 6.0 0842 0.3 TU 1443 5.8 2054 0.5	31 0159 5.9 0824 0.2 TH 1428 6.0 2037 0.6				31 0201 6.1 0831 0.0 SU 1428 6.1 2039 0.4																			
4 0341 5.6 1004 0.5 F 1614 5.6 2215 1.0	19 0342 5.2 0947 0.8 SA 1608 5.1 2150 1.2	4 0459 5.5 1120 0.5 M 1734 5.3 2324 1.1	19 0417 5.1 1025 0.9 TU 1645 5.0 2218 1.3	4 0348 5.9 1012 0.3 M 1616 5.6 2213 0.8	19 0319 5.4 0929 0.7 TU 1538 5.4 2122 1.0	4 0457 5.3 1057 1.1 TH 1717 5.0 2308 1.2	19 0409 5.1 1006 1.2 F 1632 5.0 2219 1.1	5 0430 5.5 1055 0.5 SA 1707 5.4 2305 1.1	20 0416 5.1 1022 0.9 SU 1644 5.0 2224 1.4	5 0553 5.3 1210 0.8 TU 1831 5.0	20 0455 5.0 1100 1.1 W 1729 4.8 2300 1.4	5 0432 5.6 1048 0.6 TU 1701 5.3 2250 1.0	20 0349 5.2 0954 0.9 W 1612 5.2 2148 1.1	5 0558 4.9 1152 1.5 F 1819 4.6	20 0500 4.9 1057 1.4 SA 1728 4.8 2323 1.2	6 0524 5.3 1149 0.7 SU 1805 5.2	21 0454 4.9 1102 1.0 M 1726 4.8 2304 1.5	6 0019 1.3 0657 5.0 W 1313 1.1 1936 4.8	21 0544 4.7 1151 1.3 TH 1827 4.7	6 0523 5.3 1130 0.9 W 1752 5.0 2338 1.2	21 0426 5.1 1023 1.1 TH 1654 5.0 2228 1.2	6 0019 1.4 0717 4.6 SA 1319 1.7 1939 4.5	21 0609 4.8 1219 1.6 SU 1845 4.6	7 0001 1.3 0625 5.2 M 1250 0.8 1908 5.1	22 0539 4.8 1150 1.2 TU 1817 4.7 2356 1.7	7 0132 1.4 0813 4.9 TH 1428 1.2 2049 4.8	22 0003 1.6 0655 4.6 F 1314 1.5 1944 4.6	7 0625 4.9 1229 1.3 TH 1856 4.7	22 0514 4.9 1111 1.3 F 1750 4.7 2330 1.4	7 0212 1.5 0846 4.7 SU 1453 1.7 2105 4.6	22 0056 1.3 0736 4.8 M 1400 1.5 2012 4.8	8 0105 1.4 0733 5.1 TU 1356 0.9 2016 5.0	23 0637 4.6 1253 1.3 W 1921 4.6	8 0259 1.4 0932 4.9 F 1544 1.2 2201 4.9	23 0139 1.6 0824 4.6 SA 1455 1.4 2106 4.8	8 0052 1.4 0745 4.7 F 1354 1.5 2015 4.6	23 0622 4.6 1233 1.6 SA 1907 4.6	8 0341 1.2 1001 4.9 M 1605 1.4 2213 4.9	23 0234 1.0 0902 5.0 TU 1518 1.2 2129 5.1	9 0215 1.4 0843 5.1 W 1505 1.0 2123 5.1	24 0107 1.7 0751 4.6 TH 1415 1.4 2033 4.7	9 0422 1.2 1042 5.1 SA 1649 1.2 2302 5.1	24 0319 1.4 0947 4.9 SU 1609 1.2 2219 5.1	9 0237 1.5 0914 4.7 SA 1522 1.5 2137 4.7	24 0105 1.5 0754 4.6 SU 1425 1.5 2036 4.7	9 0442 1.0 1054 5.2 TU 1657 1.2 2303 5.2	24 0352 0.7 1012 5.4 W 1623 1.0 2232 5.4	10 0327 1.3 0951 5.2 TH 1610 1.0 2224 5.2	25 0237 1.7 0907 4.7 F 1532 1.2 2142 5.0	10 0526 1.0 1138 5.3 SU 1740 1.1 2352 5.3	25 0433 1.0 1055 5.3 M 1710 0.9 2319 5.4	10 0410 1.3 1027 5.0 SU 1633 1.3 2243 5.0	25 0254 1.3 0925 4.9 M 1545 1.2 2155 5.0	10 0526 0.8 1136 5.4 W 1737 1.0 2344 5.4	25 0458 0.4 1109 5.7 TH 1720 0.8 2324 5.7	11 0434 1.2 1053 5.3 F 1705 0.9 2318 5.3	26 0352 1.4 1014 5.0 SA 1633 1.0 2244 5.2	11 0614 0.9 1223 5.4 M 1822 1.0	26 0537 0.7 1151 5.6 TU 1805 0.7	11 0513 1.0 1122 5.3 M 1725 1.1 2333 5.2	26 0414 0.9 1036 5.4 TU 1650 0.9 2257 5.4	11 0601 0.7 1211 5.5 TH 1811 0.9	26 0554 0.2 1158 5.9 F 1809 0.6	12 0531 1.0 1146 5.4 SA 1752 0.9	27 0454 1.1 1113 5.3 SU 1728 0.9 2338 5.5	12 0034 5.4 0653 0.8 TU 1302 5.5 ● 1858 0.9	27 0011 5.7 0634 0.4 W 1241 5.9 O 1854 0.6	12 0558 0.8 1205 5.5 TU 1805 1.0	27 0521 0.5 1133 5.7 W 1746 0.7 2350 5.7	12 0020 5.5 0632 0.6 F 1242 5.6 ● 1842 0.8	27 0011 5.9 0641 0.1 SA 1242 6.0 O 1854 0.5	13 0005 5.4 0620 0.9 SU 1233 5.5 ● 1833 0.9	28 0550 0.8 1206 5.6 M 1818 0.7 O	13 0111 5.5 0728 0.7 W 1337 5.5 1932 0.8	28 0058 5.9 0725 0.2 TH 1327 6.0 1939 0.5	13 0013 5.4 0633 0.7 W 1241 5.5 1839 0.9	28 0618 0.3 1221 6.0 TH 1835 0.5 O	13 0052 5.6 0703 0.6 SA 1311 5.6 1912 0.8	28 0056 6.0 0724 0.1 SU 1323 6.0 1936 0.4	14 0047 5.5 0703 0.8 M 1315 5.5 1912 0.8	29 0028 5.7 0643 0.6 TU 1255 5.8 1906 0.6	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0049 5.5 0704 0.6 TH 1313 5.6 ● 1910 0.8	29 0036 5.9 0706 0.1 F 1306 6.1 1919 0.4	14 0124 5.6 0734 0.5 SU 1340 5.7 1942 0.7	29 0138 6.1 0804 0.1 M 1403 6.0 2016 0.4	15 0126 5.5 0742 0.7 TU 1353 5.5 1948 0.9	30 0114 5.8 0735 0.4 W 1342 5.9 1952 0.6	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0121 5.6 0734 0.5 F 1342 5.6 1940 0.8	30 0119 6.1 0750 -0.1 SA 1348 6.1 2000 0.4	15 0154 5.6 0806 0.5 M 1410 5.7 2012 0.8	30 0221 6.0 0842 0.3 TU 1443 5.8 2054 0.5	31 0159 5.9 0824 0.2 TH 1428 6.0 2037 0.6				31 0201 6.1 0831 0.0 SU 1428 6.1 2039 0.4																											
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11 0434 1.2 1053 5.3 F 1705 0.9 2318 5.3	26 0352 1.4 1014 5.0 SA 1633 1.0 2244 5.2	11 0614 0.9 1223 5.4 M 1822 1.0	26 0537 0.7 1151 5.6 TU 1805 0.7	11 0513 1.0 1122 5.3 M 1725 1.1 2333 5.2	26 0414 0.9 1036 5.4 TU 1650 0.9 2257 5.4	11 0601 0.7 1211 5.5 TH 1811 0.9	26 0554 0.2 1158 5.9 F 1809 0.6	12 0531 1.0 1146 5.4 SA 1752 0.9	27 0454 1.1 1113 5.3 SU 1728 0.9 2338 5.5	12 0034 5.4 0653 0.8 TU 1302 5.5 ● 1858 0.9	27 0011 5.7 0634 0.4 W 1241 5.9 O 1854 0.6	12 0558 0.8 1205 5.5 TU 1805 1.0	27 0521 0.5 1133 5.7 W 1746 0.7 2350 5.7	12 0020 5.5 0632 0.6 F 1242 5.6 ● 1842 0.8	27 0011 5.9 0641 0.1 SA 1242 6.0 O 1854 0.5	13 0005 5.4 0620 0.9 SU 1233 5.5 ● 1833 0.9	28 0550 0.8 1206 5.6 M 1818 0.7 O	13 0111 5.5 0728 0.7 W 1337 5.5 1932 0.8	28 0058 5.9 0725 0.2 TH 1327 6.0 1939 0.5	13 0013 5.4 0633 0.7 W 1241 5.5 1839 0.9	28 0618 0.3 1221 6.0 TH 1835 0.5 O	13 0052 5.6 0703 0.6 SA 1311 5.6 1912 0.8	28 0056 6.0 0724 0.1 SU 1323 6.0 1936 0.4	14 0047 5.5 0703 0.8 M 1315 5.5 1912 0.8	29 0028 5.7 0643 0.6 TU 1255 5.8 1906 0.6	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0145 5.6 0800 0.6 TH 1408 5.5 2003 0.8	14 0049 5.5 0704 0.6 TH 1313 5.6 ● 1910 0.8	29 0036 5.9 0706 0.1 F 1306 6.1 1919 0.4	14 0124 5.6 0734 0.5 SU 1340 5.7 1942 0.7	29 0138 6.1 0804 0.1 M 1403 6.0 2016 0.4	15 0126 5.5 0742 0.7 TU 1353 5.5 1948 0.9	30 0114 5.8 0735 0.4 W 1342 5.9 1952 0.6	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0216 5.6 0829 0.6 F 1438 5.5 2032 0.9	15 0121 5.6 0734 0.5 F 1342 5.6 1940 0.8	30 0119 6.1 0750 -0.1 SA 1348 6.1 2000 0.4	15 0154 5.6 0806 0.5 M 1410 5.7 2012 0.8	30 0221 6.0 0842 0.3 TU 1443 5.8 2054 0.5	31 0159 5.9 0824 0.2 TH 1428 6.0 2037 0.6				31 0201 6.1 0831 0.0 SU 1428 6.1 2039 0.4																																																																																			
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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

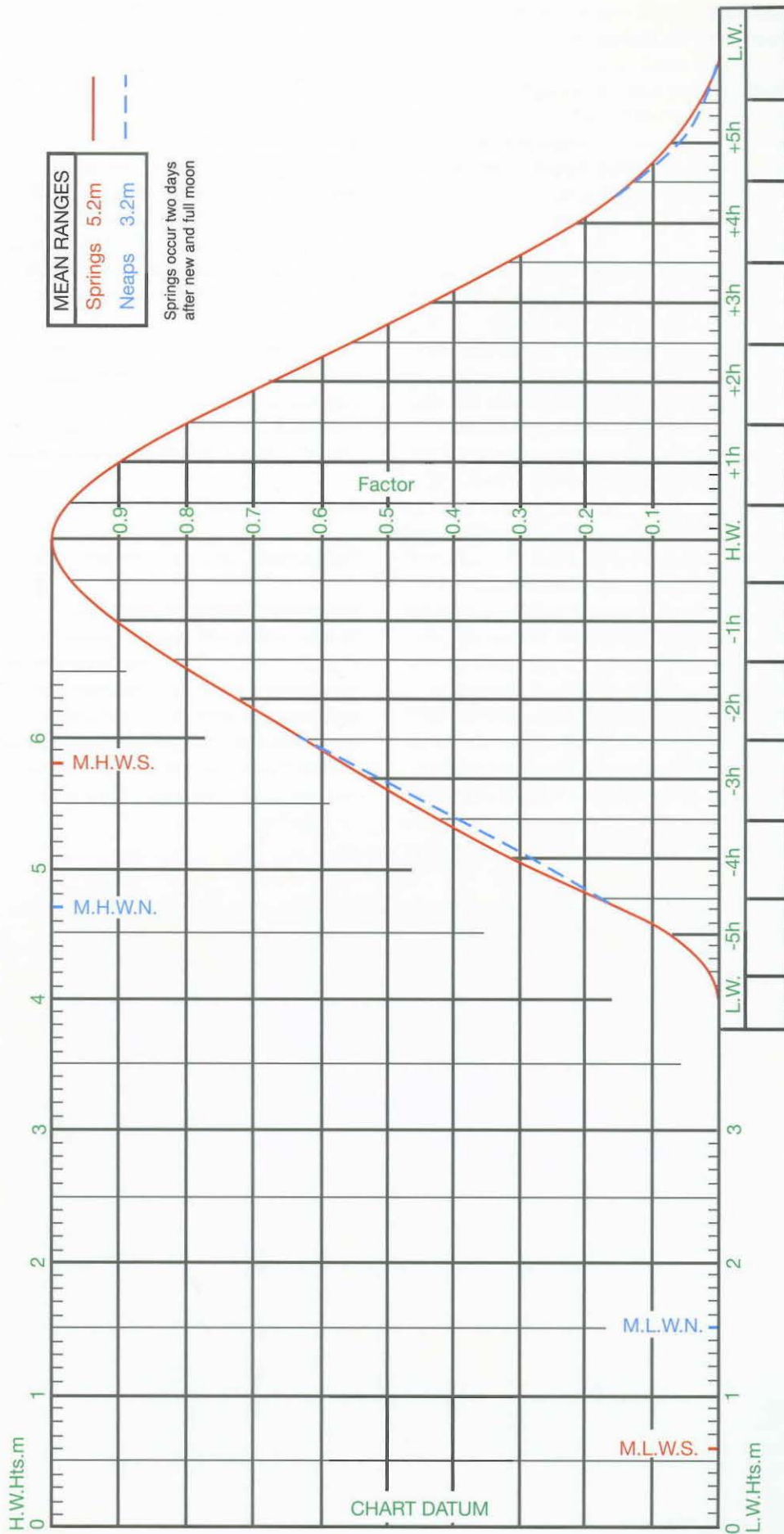
MAY			JUNE			JULY			AUGUST		
Time	m		Time	m		Time	m		Time	m	
1 0304 5.8 0917 0.6 W 1522 5.6 2130 0.7	16 0239 5.5 0848 0.8 TH 1455 5.5 2059 0.8		1 0418 5.2 1007 1.3 SA 1626 5.0 2231 1.0	16 0400 5.4 1004 1.0 SU 1617 5.3 2236 0.7		1 0436 5.0 1019 1.4 M 1643 5.0 2250 1.0	16 0441 5.5 1042 1.0 TU 1656 5.4 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 O 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 O		9 0532 0.9 1142 5.5 TU 1752 1.0	24 0016 5.5 0621 0.9 W 1232 5.5 O 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 5.5 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 1857 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 5.9 1020 0.7 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			

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 0604 4.7 1143 1.7 SU 1830 4.6		16 0124 1.6 0744 4.7 M 1410 1.6 2043 4.8		1 0004 1.8 0635 4.6 TU 1235 1.7 1921 4.6		16 0230 1.8 0839 4.7 W 1523 1.3 2137 5.0		1 0243 1.5 0855 5.1 F 1518 1.0 2139 5.3		16 0354 1.5 1005 5.1 SA 1624 1.0 2240 5.2		1 0309 1.3 0926 5.3 SU 1550 0.7 2206 5.5		16 0349 1.6 1005 5.0 M 1617 1.1 2231 5.1	
2 0049 1.7 0715 4.6 M 1313 1.8 1957 4.5		17 0257 1.6 0909 4.8 TU 1548 1.3 2203 5.1		2 0154 1.8 0805 4.7 W 1427 1.5 2055 4.8		17 0345 1.6 0951 5.0 TH 1626 1.1 2235 5.3		2 0349 1.2 1000 5.4 SA 1624 0.7 2238 5.7		17 0439 1.3 1050 5.3 SU 1703 0.9 2317 5.4		2 0409 1.1 1024 5.6 M 1650 0.6 2300 5.7		17 0436 1.4 1052 5.2 TU 1701 0.9 2312 5.3	
3 0232 1.6 0839 4.7 TU 1458 1.6 2124 4.8		18 0413 1.5 1020 5.1 W 1657 1.0 2303 5.4		3 0319 1.5 0927 5.0 TH 1547 1.1 2209 5.3		18 0440 1.4 1045 5.3 F 1712 0.9 2320 5.5		3 0445 1.0 1054 5.7 SU 1721 0.4 2328 5.9		18 0517 1.2 1129 5.5 M 1738 0.8 2350 5.5		3 0506 0.9 1117 5.8 TU 1743 0.5 2349 5.8		18 0518 1.2 1134 5.4 W 1741 0.9 2352 5.5	
4 0348 1.4 0955 5.1 W 1613 1.2 2234 5.2		19 0510 1.3 1114 5.3 TH 1745 0.9 2349 5.6		4 0422 1.2 1031 5.4 F 1652 0.7 2307 5.7		19 0521 1.2 1128 5.5 SA 1747 0.8 2356 5.6		4 0537 0.8 1142 6.0 M 1811 0.3 ●		19 0552 1.1 1204 5.6 TU 1812 0.8 ●		4 0558 0.8 1206 5.9 W 1830 0.5 ●		19 0557 1.1 1214 5.4 TH 1820 0.8 O	
5 0448 1.1 1057 5.4 TH 1715 0.8 2331 5.6		20 0552 1.1 1158 5.5 F 1822 0.8		5 0518 0.9 1124 5.8 SA 1749 0.4 2356 6.0		20 0555 1.1 1204 5.6 SU 1818 0.8		5 0014 6.0 0623 0.7 TU 1228 6.1 1856 0.3		20 0022 5.6 0624 1.0 W 1239 5.6 O 1845 0.7		5 0034 5.8 0646 0.7 TH 1255 5.9 1914 0.5		20 0030 5.6 0635 0.9 F 1253 5.5 1857 0.8	
6 0542 0.9 1149 5.7 F 1811 0.5		21 0027 5.6 0626 1.0 SA 1235 5.6 O 1853 0.7		6 0607 0.8 1210 6.0 SU 1839 0.3 ●		21 0027 5.6 0626 1.0 M 1237 5.7 O 1847 0.7		6 0057 6.0 0708 0.6 W 1312 6.1 1938 0.3		21 0054 5.7 0657 0.9 TH 1312 5.6 1919 0.8		6 0118 5.8 0733 0.6 F 1341 5.9 1956 0.6		21 0108 5.6 0713 0.8 SA 1331 5.5 1935 0.8	
7 0020 5.9 0631 0.7 SA 1236 5.9 ● 1902 0.3		22 0100 5.7 0657 1.0 SU 1308 5.7 1922 0.7		7 0041 6.1 0652 0.7 M 1254 6.1 1924 0.1		22 0056 5.7 0655 0.9 TU 1308 5.7 1917 0.7		7 0139 6.0 0750 0.6 TH 1356 6.1 2018 0.5		22 0127 5.7 0730 0.9 F 1346 5.6 1953 0.8		7 0201 5.7 0818 0.7 SA 1428 5.8 2036 0.8		22 0146 5.6 0753 0.8 SU 1410 5.5 2013 0.9	
8 0105 6.0 0716 0.6 SU 1320 6.0 1949 0.1		23 0129 5.7 0727 0.9 M 1338 5.7 1951 0.6		8 0123 6.2 0734 0.6 TU 1336 6.2 2006 0.1		23 0124 5.7 0725 0.9 W 1338 5.7 1948 0.7		8 0220 5.9 0831 0.7 F 1441 5.9 2056 0.7		23 0201 5.6 0804 0.9 SA 1421 5.5 2027 0.9		8 0244 5.6 0901 0.8 SU 1514 5.6 2114 1.1		23 0225 5.5 0835 0.7 M 1450 5.5 2052 0.9	
9 0148 6.1 0759 0.6 M 1401 6.1 2032 0.1		24 0157 5.7 0756 0.9 TU 1408 5.7 2020 0.6		9 0204 6.1 0814 0.6 W 1417 6.2 2046 0.3		24 0153 5.7 0754 0.9 TH 1409 5.6 2018 0.8		9 0301 5.6 0910 0.8 SA 1527 5.7 2133 1.0		24 0235 5.5 0838 1.0 SU 1458 5.4 2100 1.1		9 0326 5.4 0940 0.9 M 1601 5.3 2151 1.4		24 0305 5.4 0918 0.7 TU 1534 5.4 2132 1.1	
10 0230 6.1 0840 0.6 TU 1442 6.1 2113 0.1		25 0224 5.6 0822 1.0 W 1436 5.6 2048 0.7		10 0244 6.0 0852 0.7 TH 1500 6.0 2122 0.5		25 0223 5.6 0822 1.0 F 1439 5.5 2048 0.9		10 0344 5.4 0949 1.0 SU 1617 5.3 2212 1.4		25 0313 5.4 0914 1.0 M 1539 5.3 2137 1.3		10 0410 5.1 1020 1.1 TU 1650 5.0 2232 1.6		25 0348 5.3 1004 0.8 W 1621 5.3 2217 1.2	
11 0311 6.0 0917 0.7 W 1523 6.0 2151 0.3		26 0253 5.6 0847 1.1 TH 1505 5.5 2115 0.9		11 0325 5.7 0928 0.9 F 1544 5.8 2158 0.9		26 0255 5.5 0849 1.1 SA 1512 5.3 2116 1.1		11 0431 5.1 1033 1.2 M 1714 5.0 2301 1.7		26 0355 5.2 0958 1.1 TU 1628 5.1 2223 1.4		11 0459 4.9 1107 1.2 W 1742 4.8 2323 1.8		26 0436 5.2 1054 0.8 TH 1714 5.2 2308 1.3	
12 0352 5.8 0953 0.9 TH 1607 5.8 2228 0.6		27 0323 5.4 0910 1.2 F 1535 5.3 2142 1.1		12 0407 5.4 1005 1.1 SA 1634 5.4 2238 1.2		27 0329 5.3 0918 1.2 SU 1549 5.2 2146 1.3		12 0528 4.8 1135 1.4 TU 1821 4.7		27 0447 5.0 1055 1.2 W 1727 5.0 2327 1.6		12 0555 4.7 1209 1.3 TH 1841 4.6		27 0531 5.1 1151 0.9 F 1814 5.1	
13 0436 5.5 1030 1.0 F 1656 5.5 2308 1.0		28 0355 5.3 0935 1.3 SA 1609 5.1 2210 1.3		13 0456 5.1 1050 1.3 SU 1734 5.0 2331 1.6		28 0409 5.1 0957 1.3 M 1636 5.0 2231 1.5		13 0013 1.9 0638 4.6 W 1311 1.5 1937 4.7		28 0551 4.9 1208 1.2 TH 1838 4.9		13 0031 1.9 0659 4.6 F 1322 1.4 1946 4.6		28 0008 1.4 0633 5.0 SA 1257 0.9 1921 5.0	
14 0526 5.1 1116 1.3 SA 1756 5.1		29 0434 5.1 1011 1.4 SU 1653 4.9 2252 1.5		14 0556 4.8 1159 1.5 M 1851 4.8		29 0500 4.9 1055 1.4 TU 1737 4.8 2341 1.7		14 0142 1.9 0756 4.6 TH 1434 1.4 2052 4.8		29 0045 1.6 0705 4.9 F 1330 1.1 1954 5.0		14 0147 1.9 0808 4.7 SA 1430 1.3 2050 4.7		29 0117 1.4 0743 5.1 SU 1407 0.9 2030 5.1	
15 0003 1.3 0627 4.8 SU 1225 1.5 1913 4.8		30 0525 4.8 1107 1.6 M 1755 4.7		15 0053 1.9 0714 4.6 TU 1351 1.6 2018 4.8		30 0609 4.7 1218 1.5 W 1859 4.7		15 0256 1.8 0908 4.8 F 1535 1.2 2153 5.0		30 0202 1.5 0820 5.1 SA 1444 0.9 2105 5.3		15 0253 1.7 0911 4.8 SU 1527 1.2 2145 4.9		30 0227 1.4 0853 5.2 M 1517 0.8 2135 5.2	
				31 0119 1.8 0735 4.8 TH 1359 1.3 2025 5.0								31 0336 1.2 0959 5.3 TU 1622 0.8 2236 5.3			



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 and S Edenfield at all states of the tide.

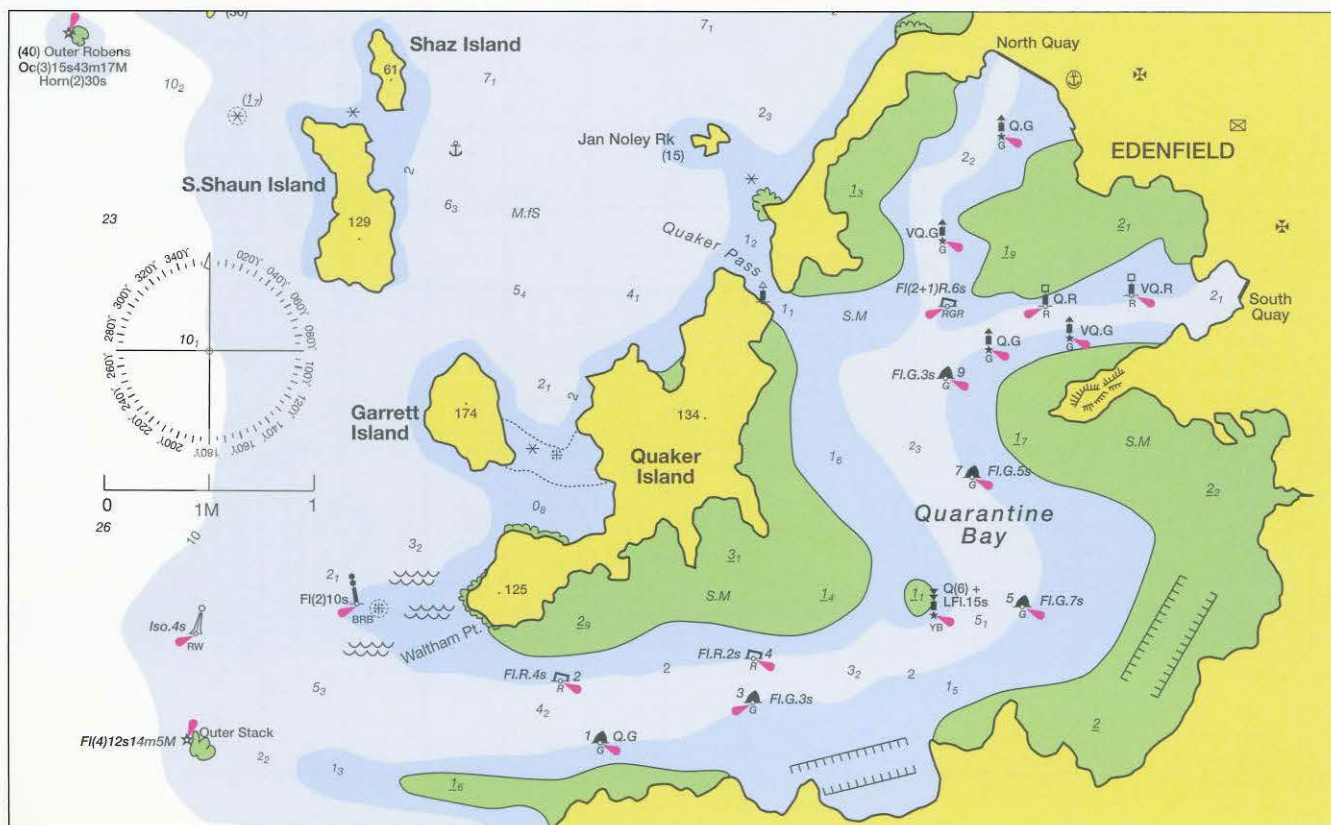
LIGHTS AND MARKS. Outer Stack Lt [Fl(4)12s14m5M] and the SWM [Iso.4s] 1M W of Quaker I. mark the entry into Quarantine Bay. The first reach is well lit with port and starboard hand buoys. The channel is only lit on the stbd side after the SCM until the PCM is reached.

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.



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

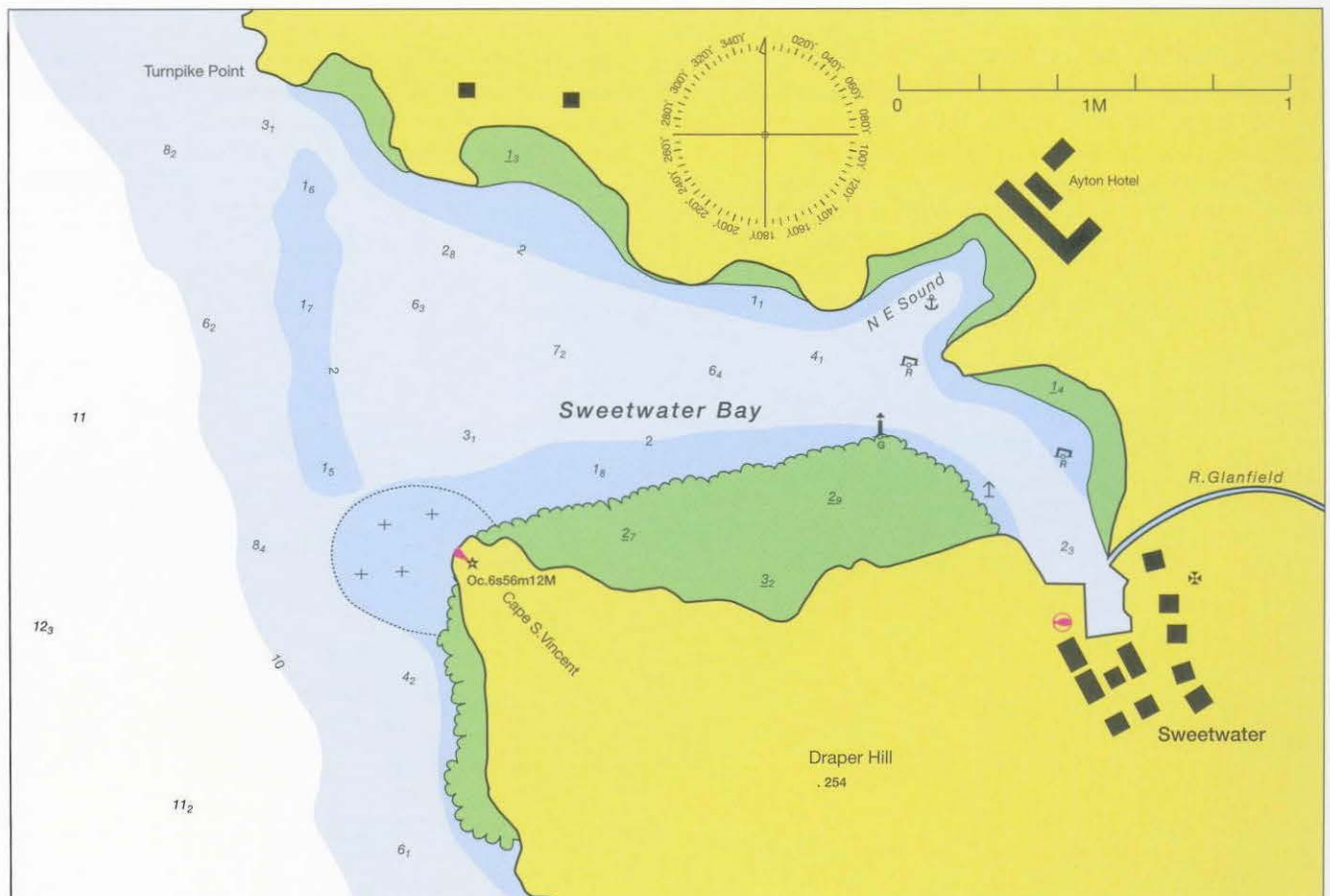
or SW'lies this is a far less lively passage compared to the seaward route due to the (temporary) shelter provided by the reef. Rocks extend 4ca off Cape S. Vincent. The bar which virtually straddles the entrance is dangerous at LW when a westerly swell is running. Near LW a 2m swell offshore will generate 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.



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 uses 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 Peninsula. W breakwater entrance, [Q.G.6m3M & Q.R.7m3M]. E entrance, [Oc.G.10s6m4M & 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.

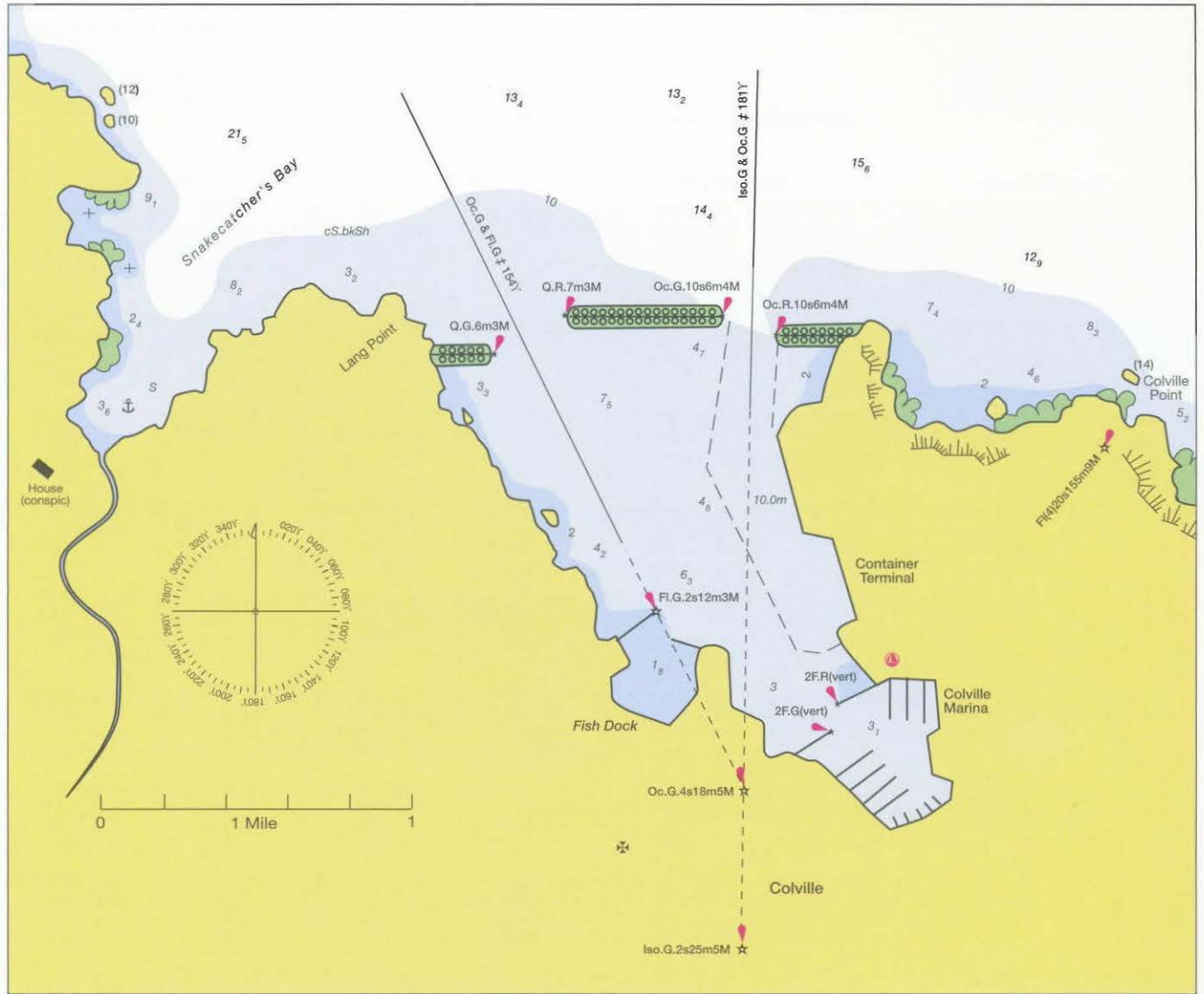
VHF RADIO. Colville VTS VHF Ch 12. Colville Marina VHF Ch 80.

FACILITIES. FW, AC, D, P, BY, C (10 tonnes), BH (25 tonnes), ME, EI, Slip, Divers, Gas, Gaz, SM, YC, Bar.

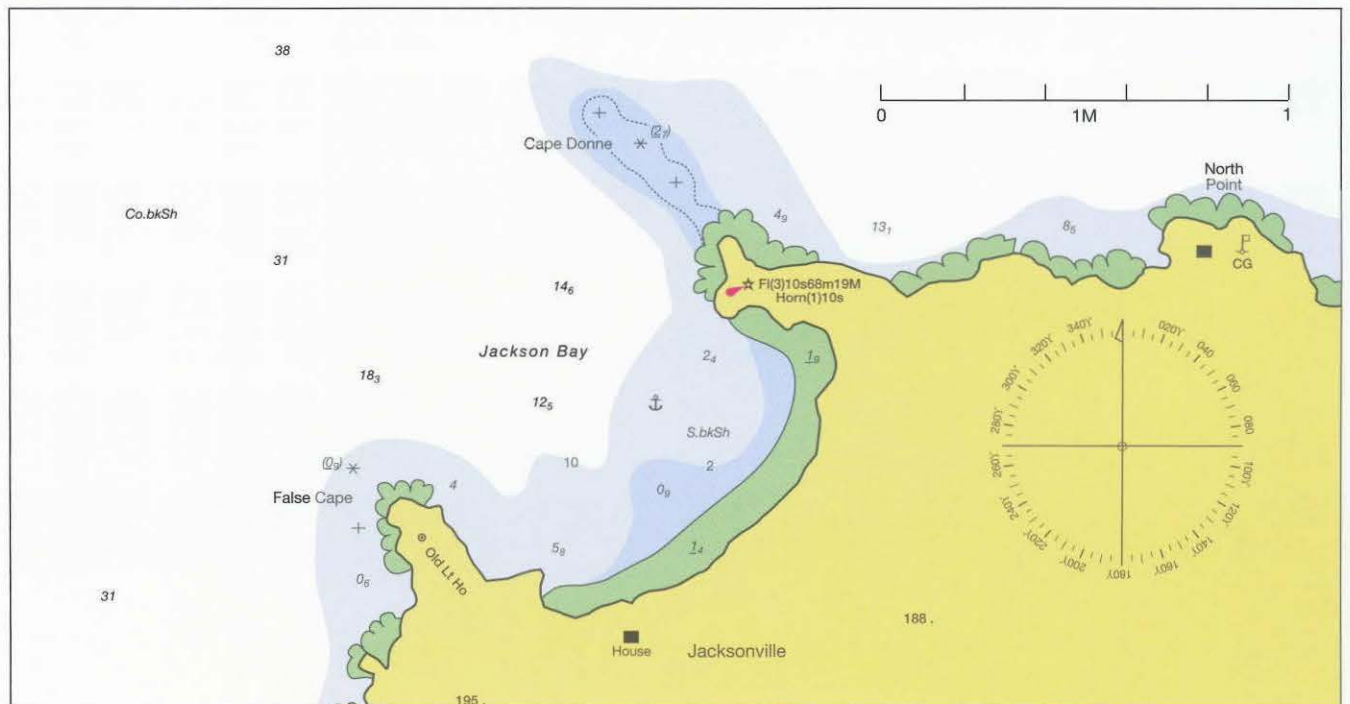
ADJACENT MINOR ANCHORAGES.

Jackson Bay. A small but useful anchorage at the north-western 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. One 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



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
1 0236 4.7 0846 0.6 W 1453 4.5 2108 0.6	16 0202 4.4 0812 0.8 TH 1414 4.3 2040 0.7	1 0352 4.2 0944 1.2 SA 1557 4.2 2228 1.0	16 0332 4.4 0933 1.1 SU 1539 4.3 2218 0.8	1 0412 4.1 1000 1.3 M 1613 4.2 2246 1.1	16 0414 4.5 1011 1.1 TU 1616 4.5 2300 0.7	1 0452 4.0 1052 1.4 TH 1652 4.1 2328 1.2	16 0532 4.2 1134 1.3 F 1745 4.3
2 0320 4.5 0925 0.9 TH 1534 4.3 2151 0.8	17 0245 4.3 0852 1.0 F 1456 4.2 2127 0.8	2 0443 4.0 1033 1.4 SU 1650 4.0 2326 1.1	17 0431 4.3 1029 1.2 M 1637 4.2 2320 0.8	2 0500 4.0 1048 1.4 TU 1702 4.0 2336 1.1	17 0510 4.4 1107 1.2 W 1713 4.4 2359 0.8	2 0545 3.9 1144 1.5 F 1750 3.9	17 0026 1.1 0634 4.0 SA 1248 1.4 1857 4.1
3 0409 4.3 1008 1.2 F 1621 4.1 2244 1.1	18 0335 4.2 0941 1.1 SA 1547 4.1 2222 0.9	3 0542 3.9 1135 1.6 M 1751 3.9	18 0535 4.2 1132 1.3 TU 1742 4.1	3 0553 3.9 1143 1.5 W 1759 3.9	18 0610 4.2 1208 1.3 TH 1816 4.3	3 0024 1.3 0648 3.9 SA 1247 1.6 1900 3.8	18 0143 1.3 0748 4.0 SU 1416 1.4 2025 4.0
4 0506 4.0 1104 1.5 SA 1720 3.8 2357 1.3	19 0437 4.1 1039 1.3 SU 1650 3.9 2329 1.0	4 0033 1.2 0646 3.8 TU 1248 1.6 1856 3.8	19 0028 0.8 0642 4.2 W 1242 1.3 1849 4.2	4 0032 1.2 0649 3.9 TH 1245 1.5 1859 3.9	19 0104 0.9 0713 4.2 F 1320 1.3 1925 4.2	4 0137 1.4 0755 3.9 SU 1405 1.5 2013 3.9	19 0256 1.3 0906 4.0 M 1531 1.3 2148 4.1
5 0615 3.8 1224 1.7 SU 1830 3.7	20 0550 4.0 1151 1.4 M 1804 3.9	5 0140 1.2 0750 3.9 W 1358 1.5 1959 3.9	20 0136 0.8 0749 4.2 TH 1353 1.2 1957 4.2	5 0133 1.2 0747 3.9 F 1351 1.5 1959 3.9	20 0212 0.9 0820 4.1 SA 1435 1.3 2040 4.2	5 0250 1.4 0900 4.0 M 1517 1.4 2121 4.0	20 0357 1.3 1012 4.2 TU 1634 1.0 2251 4.4
6 0129 1.3 0738 3.8 M 1356 1.6 1948 3.7	21 0048 1.0 0707 4.1 TU 1313 1.4 1921 4.0	6 0237 1.1 0848 4.0 TH 1456 1.4 2056 4.0	21 0239 0.7 0851 4.3 F 1458 1.1 2103 4.3	6 0232 1.2 0844 4.0 SA 1454 1.4 2057 4.0	21 0315 0.9 0926 4.2 SU 1542 1.1 2152 4.3	6 0351 1.2 0958 4.2 TU 1618 1.2 2221 4.3	21 0448 1.2 1104 4.4 W 1726 0.8 2342 4.5
7 0241 1.1 0853 3.9 TU 1501 1.5 2058 3.9	22 0204 0.8 0819 4.2 W 1426 1.2 2031 4.2	7 0326 1.0 0938 4.1 F 1544 1.2 2146 4.1	22 0336 0.6 0950 4.4 SA 1557 0.9 2205 4.4	7 0328 1.1 0938 4.1 SU 1550 1.2 2152 4.1	22 0412 0.9 1025 4.3 M 1641 1.0 2255 4.4	7 0443 1.1 1050 4.4 W 1710 0.9 2315 4.5	22 0532 1.1 1149 4.6 TH 1811 0.7 O
8 0334 1.0 0947 4.1 W 1550 1.2 2151 4.1	23 0306 0.6 0921 4.4 TH 1525 1.0 2132 4.4	8 0410 0.9 1021 4.2 SA 1627 1.0 2230 4.2	23 0429 0.6 1043 4.5 SU 1652 0.8 2303 4.5	8 0419 1.0 1027 4.3 M 1641 1.0 2243 4.3	23 0502 0.9 1118 4.4 TU 1735 0.8 2350 4.5	8 0529 1.0 1136 4.6 TH 1758 0.7	23 0025 4.6 0611 1.1 F 1228 4.7 1851 0.7
9 0416 0.8 1030 4.3 TH 1630 1.1 2235 4.2	24 0401 0.4 1016 4.6 F 1618 0.8 2227 4.5	9 0451 0.8 1100 4.3 SU 1708 0.9 2312 4.3	24 0519 0.6 1133 4.5 M 1744 0.7 O 2356 4.6	9 0505 0.9 1112 4.4 TU 1728 0.9 2331 4.4	24 0548 0.9 1204 4.5 W 1824 0.7 O	9 0004 4.7 0611 0.9 F 1219 4.7 1844 0.6	24 0104 4.6 0645 1.1 SA 1302 4.7 1925 0.7
10 0453 0.7 1107 4.3 F 1705 0.9 2312 4.3	25 0451 0.3 1106 4.6 SA 1708 0.7 2319 4.6	10 0531 0.8 1138 4.4 M 1749 0.8 ● 2351 4.3	25 0605 0.6 1218 4.6 TU 1834 0.6	10 0548 0.9 1154 4.5 W 1813 0.8 ●	25 0037 4.6 0629 0.9 TH 1245 4.6 1908 0.7	10 0050 4.8 0652 0.9 SA 1259 4.8 1929 0.4	25 0135 4.5 0716 1.1 SU 1331 4.6 1954 0.8
11 0527 0.7 1139 4.4 SA 1739 0.8 2345 4.3	26 0538 0.3 1153 4.7 SU 1757 0.6 O	11 0608 0.8 1214 4.4 TU 1829 0.7	26 0044 4.6 0647 0.7 W 1259 4.6 1920 0.6	11 0016 4.5 0628 0.9 TH 1235 4.5 1858 0.6	26 0119 4.6 0707 1.0 F 1321 4.6 1948 0.7	11 0135 4.9 0734 0.9 SU 1340 4.9 2014 0.4	26 0200 4.4 0748 1.0 M 1357 4.6 2022 0.8
12 0600 0.7 1208 4.4 SU 1813 0.8 ●	27 0008 4.7 0623 0.3 M 1236 4.7 1845 0.5	12 0031 4.4 0644 0.8 W 1250 4.4 1909 0.7	27 0129 4.6 0726 0.8 TH 1338 4.5 2004 0.6	12 0102 4.6 0708 0.9 F 1314 4.6 1942 0.6	27 0156 4.5 0741 1.1 SA 1354 4.6 2023 0.8	12 0219 4.9 0817 0.9 M 1421 4.9 2058 0.4	27 0224 4.4 0820 1.0 TU 1423 4.5 2051 0.9
13 0018 4.3 0633 0.7 M 1238 4.4 1847 0.7	28 0055 4.7 0706 0.4 TU 1317 4.6 1931 0.5	13 0112 4.5 0721 0.8 TH 1326 4.4 1950 0.7	28 0210 4.5 0804 0.9 F 1414 4.5 2044 0.7	13 0147 4.7 0750 0.9 SA 1355 4.6 2028 0.5	28 0229 4.4 0815 1.1 SU 1426 4.5 2055 0.8	13 0303 4.8 0902 0.9 TU 1505 4.8 2143 0.5	28 0249 4.3 0855 1.1 W 1450 4.5 2122 0.9
14 0051 4.4 0705 0.7 TU 1308 4.4 1923 0.7	29 0139 4.7 0746 0.6 W 1355 4.6 2014 0.5	14 0155 4.5 0800 0.9 F 1405 4.4 2035 0.7	29 0250 4.4 0840 1.1 SA 1451 4.4 2123 0.8	14 0233 4.7 0834 1.0 SU 1438 4.6 2116 0.5	29 0300 4.3 0849 1.1 M 1457 4.4 2128 0.9	14 0348 4.6 0948 1.0 W 1552 4.7 2230 0.6	29 0318 4.3 0931 1.1 TH 1522 4.4 2155 1.0
15 0125 4.4 0738 0.8 W 1339 4.4 2000 0.7	30 0222 4.6 0824 0.8 TH 1433 4.5 2057 0.7	15 0241 4.4 0844 1.0 SA 1449 4.3 2124 0.7	30 0330 4.3 0918 1.2 SU 1530 4.3 2202 0.9	15 0322 4.6 0921 1.0 M 1525 4.6 2206 0.6	30 0333 4.2 0927 1.2 TU 1530 4.3 2203 1.0	15 0437 4.4 1037 1.1 TH 1644 4.5 2322 0.9	30 0353 4.2 1011 1.2 F 1601 4.2 2234 1.2
	31 0306 4.4 0902 1.0 F 1513 4.3 2140 0.8				31 0409 4.1 1007 1.3 W 1607 4.2 2242 1.1		31 0437 4.0 1059 1.4 SA 1653 4.0 2324 1.4

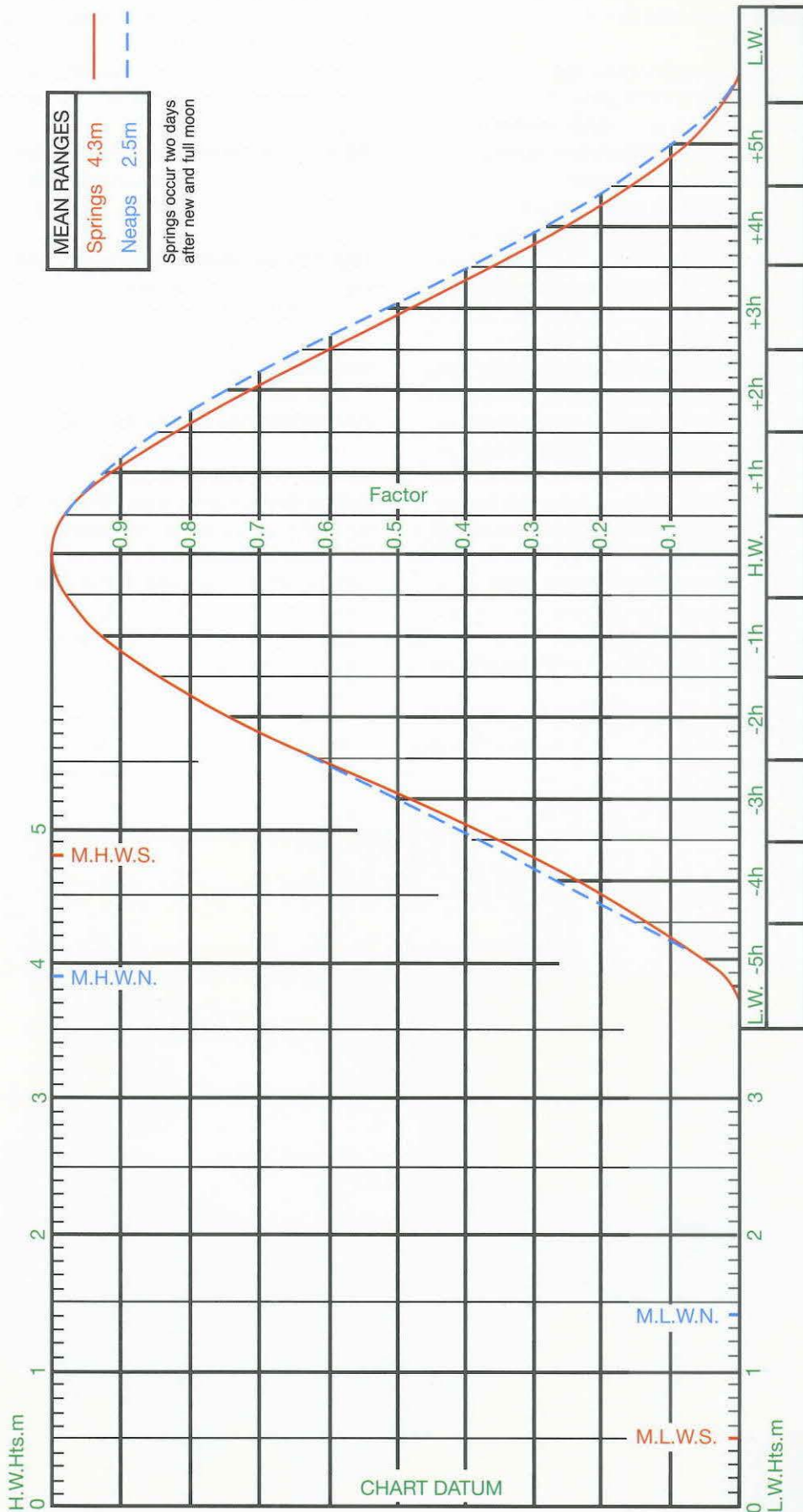
COLVILLE – Standard Port

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

SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m	Time	m
1 0541 1158 SU 1806	3.9 1.6 3.8	16 0113 0716 M 1401 2017	1.6 3.8 1.5 3.9	1 0620 1247 TU 1910	3.7 1.6 3.8	16 0215 0816 W 1500 2117	1.8 3.9 1.2 4.1	1 0221 0830 F 1501 2116	1.5 4.1 1.0 4.4	16 0335 0933 SA 1604 2215	1.4 4.2 1.0 4.3	1 0246 0852 SU 1527 2140	1.3 4.4 0.7 4.5	16 0328 0928 M 1556 2205	1.4 4.1 1.1 4.2
2 0034 0706 M 1320 1936	1.6 3.8 1.6 3.8	17 0238 0846 TU 1521 2140	1.6 3.9 1.3 4.1	2 0134 0753 W 1423 2035	1.7 3.8 1.4 4.0	17 0320 0925 TH 1557 2212	1.5 4.1 1.0 4.3	2 0322 0928 SA 1557 2210	1.3 4.4 0.7 4.6	17 0417 1018 SU 1642 2252	1.2 4.3 0.9 4.4	2 0344 0949 M 1620 2232	1.0 4.5 0.6 4.6	17 0413 1014 TU 1638 2244	1.2 4.2 1.0 4.3
3 0214 0826 TU 1450 2056	1.6 3.9 1.5 4.0	18 0342 0954 W 1621 2238	1.5 4.2 1.0 4.4	3 0259 0904 TH 1532 2143	1.5 4.1 1.1 4.4	18 0409 1016 F 1642 2255	1.3 4.4 0.8 4.5	3 0412 1019 SU 1646 2259	1.0 4.6 0.5 4.8	18 0453 1056 M 1716 2324	1.1 4.4 0.9 4.4	3 0437 1043 TU 1710 2321	0.9 4.7 0.5 4.7	18 0454 1056 W 1717 2321	1.1 4.3 1.0 4.3
4 0327 0933 W 1556 2203	1.4 4.1 1.2 4.3	19 0432 1045 TH 1709 2324	1.3 4.5 0.8 4.6	4 0355 1001 F 1626 2237	1.3 4.4 0.8 4.7	19 0449 1058 SA 1720 2333	1.1 4.5 0.8 4.6	4 0459 1106 M 1733 ● 2344	0.8 4.8 0.4 4.9	19 0526 1130 TU 1748 2352	1.0 4.4 0.9 4.4	4 0529 1135 W 1757 ●	0.7 4.8 0.5 ●	19 0534 1135 TH 1754 O 2356	1.0 4.3 0.9 4.4
5 0421 1028 TH 1651 2259	1.2 4.4 0.9 4.6	20 0514 1128 F 1750	1.1 4.6 0.7	5 0441 1049 SA 1714 2325	1.0 4.7 0.5 4.9	20 0524 1134 SU 1752	1.0 4.6 0.8	5 0546 1153 TU 1818	0.7 4.9 0.3	20 0558 1201 W 1819 O	0.9 4.4 0.9	5 0006 0618 TH 1225 1842	4.7 0.6 4.8 0.6	20 0613 1213 F 1829	0.9 4.4 1.0
6 0507 1115 F 1739 2348	1.1 4.7 0.6 4.8	21 0004 0549 SA 1205 O 1825	4.6 1.1 4.7 0.7	6 0525 1133 SU 1759 ●	0.9 4.9 0.4 ●	21 0004 0555 M 1205 O 1821	4.5 1.0 4.5 0.8	6 0027 0632 W 1239 1901	4.9 0.6 5.0 0.4	21 0020 0631 TH 1233 1849	4.4 0.9 4.4 0.9	6 0049 0707 F 1313 1924	4.7 0.6 4.8 0.7	21 0029 0651 SA 1251 1902	4.5 0.8 4.5 1.0
7 0550 1158 SA 1824 ●	0.9 4.8 0.4 ●	22 0038 0621 SU 1236 1854	4.6 1.0 4.6 0.8	7 0009 0608 M 1216 1843	5.0 0.7 5.0 0.3	22 0029 0624 TU 1232 1848	4.5 0.9 4.5 0.8	7 0108 0718 TH 1324 1943	4.8 0.6 5.0 0.5	22 0048 0706 F 1305 1919	4.4 0.8 4.4 0.9	7 0129 0754 SA 1359 2004	4.7 0.6 4.7 0.8	22 0103 0731 SU 1330 1937	4.5 0.8 4.5 1.0
8 0032 0631 SU 1240 1908	5.0 0.8 5.0 0.3	23 0105 0651 M 1303 1921	4.5 1.0 4.6 0.8	8 0052 0651 TU 1258 1925	5.0 0.6 5.1 0.3	23 0051 0655 W 1258 1916	4.4 0.9 4.5 0.8	8 0147 0803 F 1409 2023	4.8 0.6 4.9 0.7	23 0117 0742 SA 1340 1950	4.4 0.8 4.4 1.0	8 0209 0840 SU 1444 2044	4.6 0.7 4.6 1.0	23 0139 0812 M 1412 2016	4.5 0.8 4.5 1.1
9 0116 0714 M 1320 1951	5.0 0.8 5.0 0.3	24 0126 0721 TU 1327 1948	4.4 1.0 4.5 0.8	9 0132 0735 W 1341 2006	4.9 0.6 5.1 0.4	24 0114 0727 TH 1326 1944	4.4 0.9 4.4 0.9	9 0227 0848 SA 1455 2102	4.6 0.7 4.7 0.9	24 0149 0820 SU 1419 2027	4.4 0.9 4.4 1.1	9 0250 0925 M 1531 2124	4.5 0.8 4.4 1.3	24 0218 0857 TU 1458 2100	4.4 0.8 4.4 1.1
10 0157 0756 TU 1401 2033	5.0 0.7 5.0 0.3	25 0147 0753 W 1352 2016	4.4 0.9 4.5 0.8	10 0211 0818 TH 1424 2046	4.8 0.6 5.0 0.5	25 0139 0800 F 1355 2013	4.4 0.9 4.4 0.9	10 0309 0934 SU 1546 2146	4.4 0.9 4.4 1.3	25 0226 0904 M 1504 2110	4.3 0.9 4.3 1.2	10 0335 1014 TU 1622 2210	4.3 1.0 4.1 1.5	25 0303 0946 W 1549 2151	4.4 0.8 4.3 1.2
11 0237 0839 W 1443 2114	4.9 0.8 5.0 0.5	26 0210 0826 TH 1419 2045	4.4 0.9 4.5 0.9	11 0250 0902 F 1509 2126	4.7 0.7 4.8 0.8	26 0208 0836 SA 1429 2046	4.4 0.9 4.4 1.1	11 0358 1028 M 1644 2239	4.2 1.1 4.1 1.6	26 0312 0954 TU 1559 2204	4.2 1.1 4.1 1.4	11 0426 1109 W 1719 2306	4.1 1.2 3.9 1.7	26 0355 1040 TH 1647 2247	4.3 0.9 4.2 1.3
12 0319 0923 TH 1528 2156	4.7 0.8 4.8 0.7	27 0237 0901 F 1450 2116	4.4 1.0 4.4 1.0	12 0333 0947 SA 1600 2210	4.4 0.9 4.5 1.2	27 0242 0916 SU 1511 2126	4.3 1.0 4.2 1.2	12 0457 1139 TU 1754 2353	4.0 1.3 3.9 1.8	27 0410 1054 W 1707 2307	4.1 1.1 4.0 1.5	12 0527 1212 TH 1822	4.0 1.3 3.8	27 0454 1140 F 1752 2348	4.2 0.9 4.1 1.4
13 0403 1009 F 1619 2243	4.5 1.0 4.5 1.0	28 0310 0939 SA 1529 2154	4.3 1.1 4.3 1.2	13 0423 1041 SU 1700 2307	4.2 1.2 4.1 1.5	28 0326 1005 M 1605 2219	4.1 1.2 4.0 1.5	13 0608 1308 W 1919	3.8 1.4 3.8	28 0520 1203 TH 1824	4.0 1.1 4.0	13 0013 0632 F 1319 1927	1.8 3.9 1.3 3.8	28 0600 1245 SA 1900	4.2 0.9 4.1
14 0454 1103 SA 1719 2344	4.2 1.3 4.2 1.4	29 0353 1026 SU 1620 2244	4.1 1.3 4.0 1.4	14 0525 1158 M 1817	3.9 1.4 3.9	29 0425 1106 TU 1720 2326	3.9 1.4 3.9 1.7	14 0131 0728 TH 1423 2034	1.8 3.9 1.2 4.0	29 0020 0637 F 1319 1938	1.6 4.0 1.0 4.1	14 0129 0736 SA 1419 2028	1.7 3.9 1.2 3.9	29 0057 0708 SU 1354 2007	1.4 4.2 0.9 4.2
15 0557 1218 SU 1835	3.9 1.5 3.9	30 0451 1126 M 1734 2352	3.9 1.5 3.8 1.7	15 0038 0644 TU 1343 1959	1.8 3.8 1.4 3.9	30 0547 1224 W 1848	3.8 1.4 3.9	15 0243 0839 F 1519 2130	1.6 4.0 1.1 4.2	30 0138 0749 SA 1428 2043	1.5 4.2 0.9 4.3	15 0235 0836 SU 1511 2120	1.6 4.0 1.2 4.0	30 0210 0817 M 1500 2110	1.3 4.3 0.8 4.2
31 0053 0716 TH 1352 2010	1.7 3.9 1.2 4.1													31 0319 0925 TU 1559 2210	1.2 4.4 0.8 4.3



45°53'.14N 006°05'.85W

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 SANDQUAY

-0010	-0006	-0006	-0006	+0.4	-0.1	+0.2	+0.2
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DESCRIPTION. A small fishing port protected with breakwaters that provide good shelter. The approach is not recommended in strong easterly gales. In these conditions, the seas reflecting off the breakwaters render the harbour entrance dangerous; vessels should divert to S. Kilda or Colville. A few AB for pleasure craft either on the northernmost floating pontoon or alongside the wall. Note spring range 4.5m; allow plenty of scope on mooring warps. The larger of the two pontoons is reserved for FVs. Good anchorage in Sandquay Bay (M.Sh.) in offshore winds.

APPROACH WAYPOINT. 45°53'.06N 006°04'.77W.

PILOTAGE NOTES. The aptly named 'Danger Point' (unlit) some 2M to the E of the breakwaters has rocks extending some 4ca to the N of the point and therefore requires due navigational vigilance. Beware of the rky patch (dries 2.3m) extending from the N shore 1ca outside the bkwr.

TIDAL STREAM AND HEIGHTS. Access at all states of the tides. Least depth on the quay is 2.1m. Tidal streams are weak within the breakwaters.

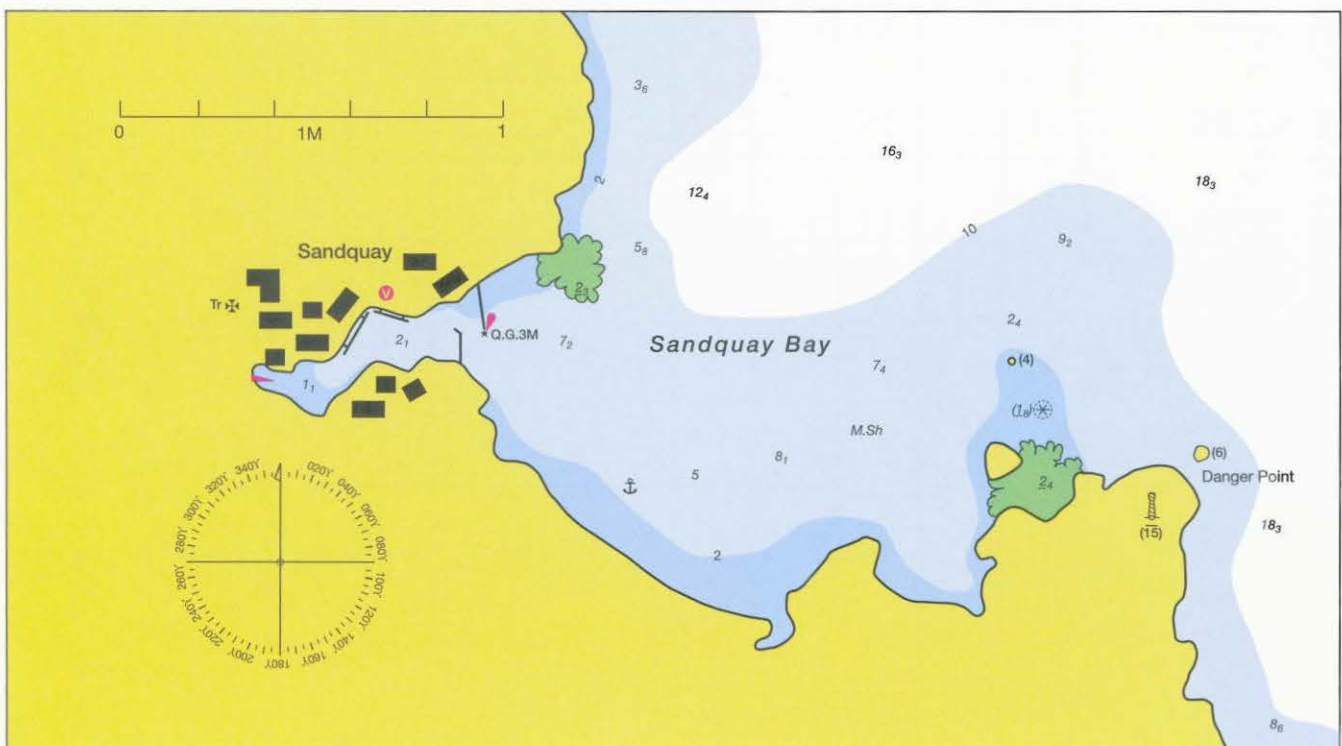
LIGHTS AND MARKS. Danger Point Mon and Sandquay ch twr are both conspic landmarks. N breakwater light [Q.G.6m3M] is the only navigational mark in the area.

VHF RADIO. None.

FACILITIES. Slip, D, FW, Bar, R, C (6 tonnes).

ADJACENT ANCHORAGES.

Ensign Bay. Excellent shelter in offshore winds. Tides are -0005 and -0.2m on Sandquay. Good holding in cS. There are no navigational marks or lights in the bay. The conspic Ch spire is a useful landmark. N.B. Do not confuse Sandquay Ch tower with Ensign Bay Ch spire.



45°48'.20N 006°02'.49W
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 S. KILDA

-0018	-0010	-0012	-0008	+0.1	+0.3	+0.9	0.0
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DESCRIPTION. S. Kilda is a commercial harbour and is the centre of ore distribution for the Southern Peninsula. The harbour is not particularly busy, dealing with, on average, four bulk carrier movements each week. Excellent shelter within the marina, situated in the NW corner of the bay. Access at all states of the tides into S. Kilda Bay, access into marina LW ± 1 . There are visitors' berths on the southern hammerhead. Speed limit upstream of the bridge is 6kn.

APPROACH WAYPOINT. 45°48'.96N 006°00'.21W.

PILOTAGE NOTES. S. Kilda Bay is set between Red Hill (289m) and S. Kilda Hill (283m). A straightforward approach into the harbour for Small Craft. Beware of Taunton Rk 0.5ca off Taunton Point and strong cross tides at the entrance, esp at sp. The harbour has two sets of leading lights to assist with pilotage. A moiré-effect light is mounted (R \square W stripe)

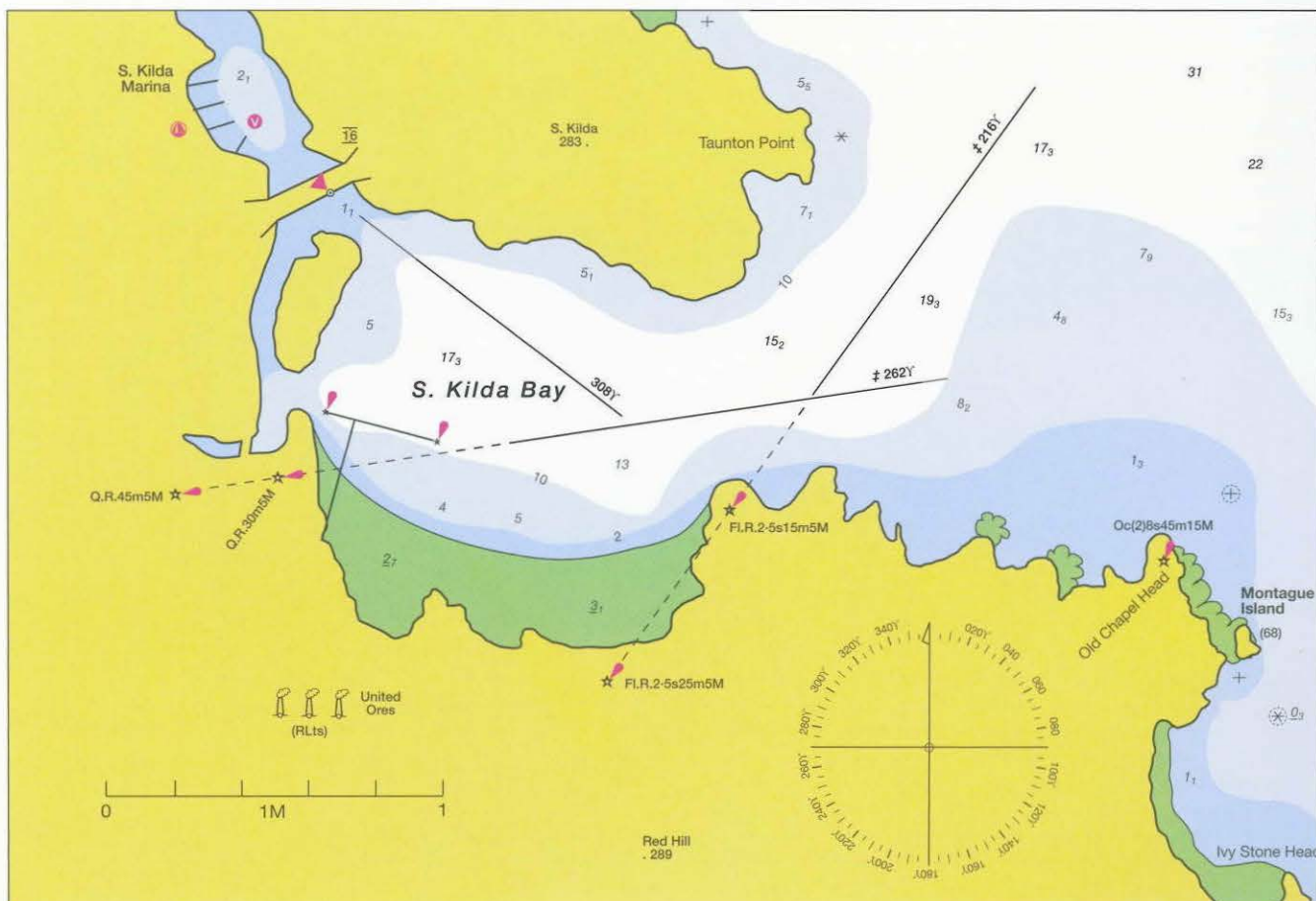
centrally on the bridge for the approach to the marina. Bridge vertical clearance 16m.

TIDAL STREAMS AND HEIGHTS. The S. Kilda River originates some miles N of the harbour in the highlands of Creech Barrow. When in spate the river has a major influence on the water movement in the marina. S. Kilda Marina office will give present conditions on request. The tidal stream within S. Kilda Bay tends to be weak and circulatory in nature, with a clockwise circulation when the main tidal stream is flowing SE and anti-clockwise when the stream is flowing NW. Shallowest depth on approach 1.1m on the southern side of the bridge. The marina is dredged to 2.0m.

LIGHTS AND MARKS. The conspicuous chimneys of 'United Ores' are a useful pilotage aid both during daylight hours and with their array of vertical red lights at night. The harbour has two sets of leading marks and lights. Both sets of leading marks are R \square W vert stripe, mounted on framework twrs. The first set of ldg lts are 216° [Fl.R.2.5s15&25m5M]. The inner ldg lts are 262° [Q.R.30&45m5M]. A moiré-effect light (308°), visible day and night, is fitted to the underside of the bridge and leads through the narrow approaches. The light is fixed to a red \square with a vert W stripe.

VHF RADIO. VHF Ch 12, 16. S. Kilda Marina Ch 80.

FACILITIES. Slip, FW, D, P, ME, EI, CH, SM, C (10 tonnes), BH (25 tonnes).



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.

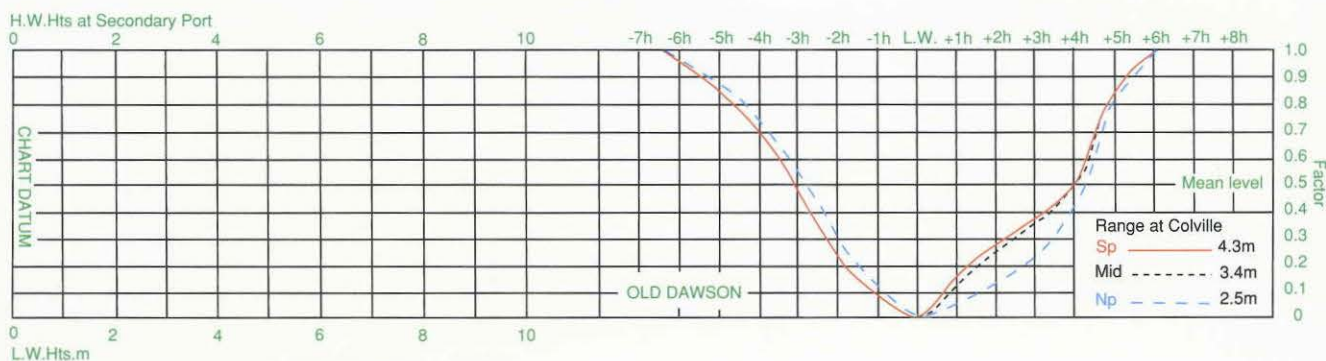
TIDAL HEIGHT ANOMALY IN DAWSON BAY. Two factors contribute to an unusually large tidal range in Dawson Bay. Initially the SE-going flood builds up in the narrow Neptune Channel, between Slade Island and Beauty Point. This creates a restriction that increases the sea height locally and causes the strong 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.

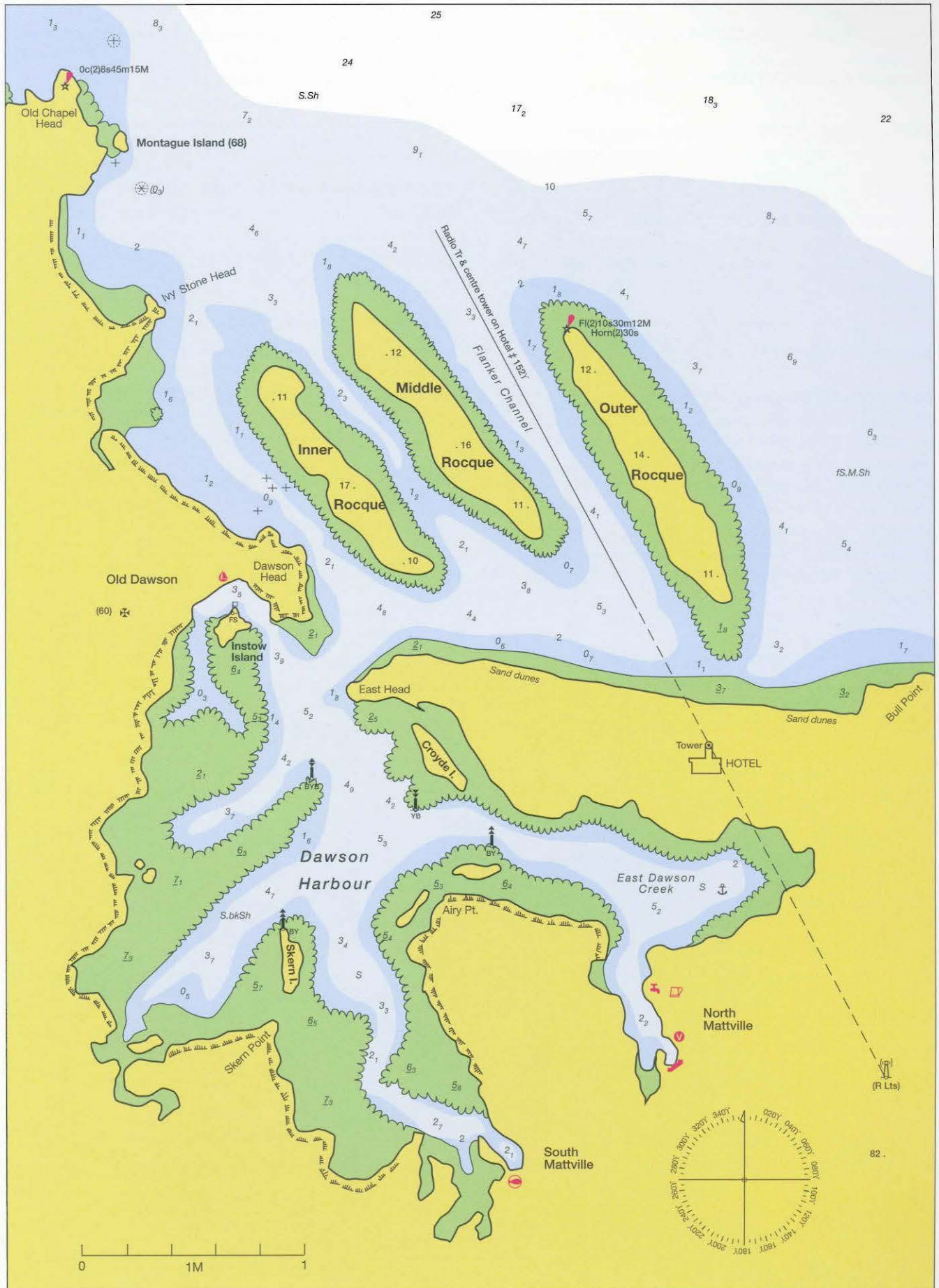
Note: The 5m and 2m charted contours around the Rocques and within the harbour itself are approximated, and should be used with caution.

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.





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 69 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 and No 9 SHM or if approaching from the E

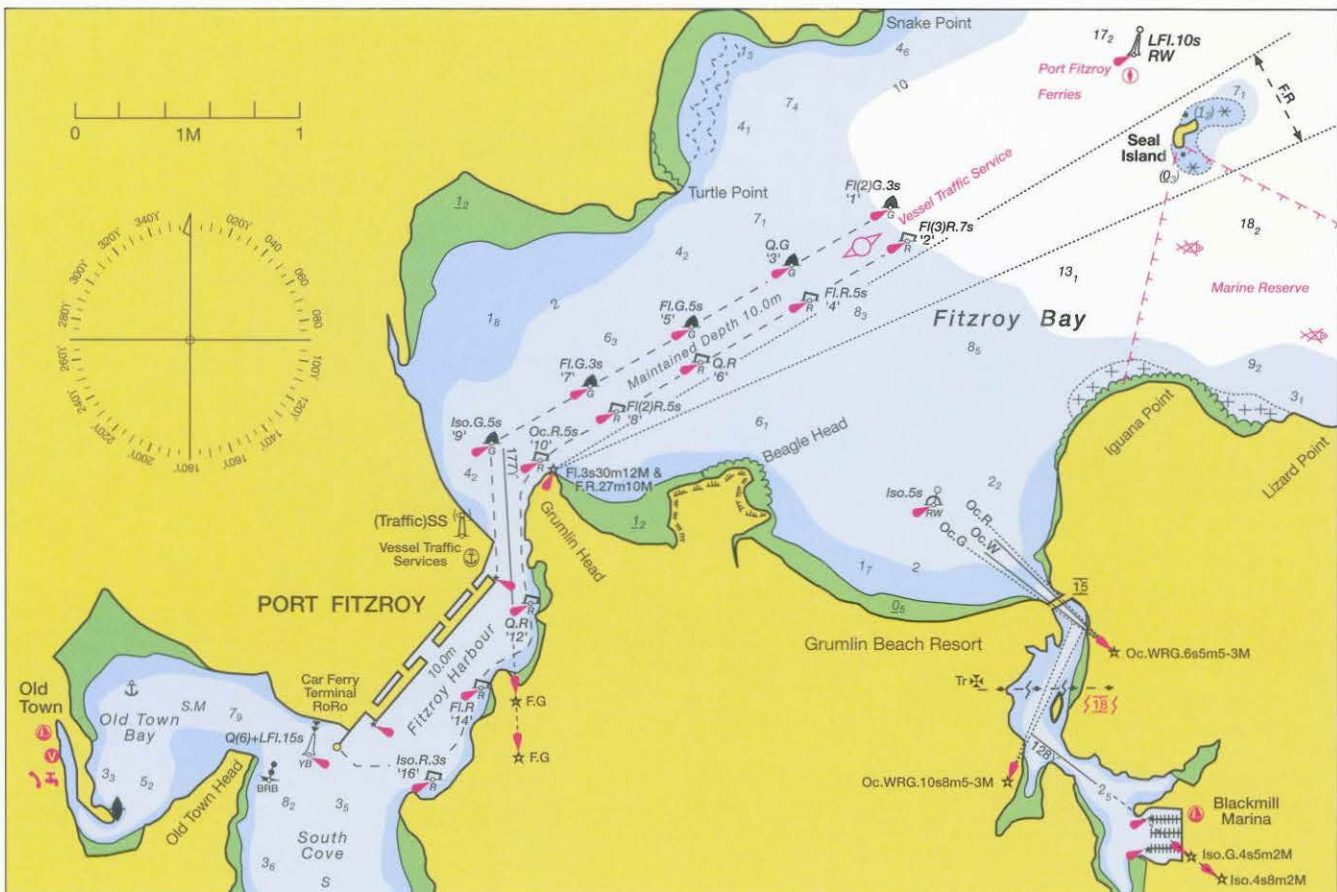
between No 8 and No 10 PHM. Vessels intending to leave Old Town must receive permission before slipping and once clear of the heads must exit the main chan between PHM No 10 and No 8. Seal I. is unlit but covered by the F.R. light of Grumlin Head Lt Ho. Shipping channel is well marked with buoyage and 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.



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	
1 0156 6.3			1 0311 6.5			1 0210 6.7			1 0313 6.8		
0824 0.6		16 0229 6.0	0952 0.2		16 0310 6.0	0852 0.0		16 0219 6.0	16 0252 6.1		
TU 1420 6.5		W 1457 6.0	F 1542 6.8		SA 1537 6.0	F 1438 7.0		SA 1439 6.1	TU 1512 6.2		
2033 0.9		W 2055 1.0	2149 0.6		SA 2126 0.9	2057 0.4		2042 0.8	M 1541 6.7		16 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		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
1044 0.5		1017 1.0	1149 0.6		1041 0.9	1044 6.2		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		20 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 0103 6.6	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		0744 -0.1	0745 0.6		0744 -0.1	0812 0.7		0843 0.1
M 1341 6.2		TU 1320 6.5	TH 1438 6.1		F 1333 7.0	TH 1343 6.2		F 1954 0.4	SU 1410 6.1		M 1437 6.7
1951 0.9		1939 0.8	2038 1.0			● 1947 0.8			2018 0.8		2059 0.3
15 0155 6.1		30 0143 6.4	15 0242 6.0		30 0148 6.8	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		0829 -0.2	0817 0.6		0829 -0.2	0836 0.8		0919 0.2
TU 1421 6.1		W 1408 6.7	F 1507 6.0		SA 1417 7.0	F 1412 6.1		SA 1417 7.0	M 1439 6.2		TU 1517 6.5
2025 1.0		2026 0.7	2102 1.0		2038 0.3	2017 0.9		2038 0.3	2045 0.8		2136 0.4
		31 0228 6.5									
		0907 0.2									
		TH 1455 6.8									
		2109 0.6									
						31 0231 6.9					
						SU 0909 -0.1					
						SU 1500 6.9					
						2118 0.3					

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	16 0311	6.1	1 0448	5.8	16 0435	6.2	1 0509	5.7	16 0513	6.3	1 0550	5.6	16 0010	0.8
W 0952	0.5	TH 0909	0.9	SA 1036	1.3	SU 1028	1.1	M 1048	1.3	TU 1110	1.0	TH 1133	1.4	F 0632	5.8
W 1555	6.2	TH 1529	6.0	SA 1651	5.6	SU 1648	5.8	M 1709	5.6	TU 1724	6.0	TH 1759	5.6	F 1223	1.2
2210	0.6	2137	0.8	2307	1.1	2314	0.8	2325	1.1	2353	0.6			F 1846	5.7
2 0418	6.3	17 0353	6.1	2 0537	5.5	17 0527	6.0	2 0552	5.5	17 0606	6.1	2 0002	1.2	17 0103	1.1
TH 1024	0.8	TH 0943	1.0	W 1116	1.5	M 1118	1.2	2 1129	1.5	17 1158	1.1	2 0637	5.4	17 0736	5.4
TH 1633	5.9	F 1610	5.9	SU 1738	5.4	M 1741	5.7	TU 1755	5.5	W 1817	5.9	F 1227	1.5	SA 1324	1.5
2242	0.9	2215	0.9	2354	1.3							1852	5.3	SA 2000	5.4
3 0505	5.9	18 0440	6.0	3 0633	5.3	18 0008	0.8	3 0009	1.2	18 0043	0.8	3 0102	1.4	18 0212	1.4
1059	1.2	1024	1.2	1209	1.7	0626	5.9	0640	5.4	0705	5.8	0734	5.3	0850	5.3
F 1714	5.5	SA 1657	5.6	M 1837	5.2	TU 1218	1.4	W 1221	1.6	TH 1254	1.3	SA 1338	1.7	SU 1440	1.6
2321	1.2	2303	1.0			1842	5.6	1849	5.3	1919	5.7	1954	5.2	2122	5.4
4 0559	5.5	19 0534	5.7	4 0054	1.4	19 0112	0.9	4 0104	1.3	19 0143	0.9	4 0218	1.5	19 0335	1.5
1146	1.6	1118	1.4	0738	5.2	0732	5.8	0736	5.3	0810	5.7	0842	5.2	1001	5.4
SA 1805	5.2	SU 1753	5.4	TU 1317	1.8	W 1326	1.4	TH 1324	1.6	F 1358	1.4	SU 1450	1.6	M 1629	1.5
				1948	5.1	1949	5.6	1950	5.3	2028	5.6	2107	5.2	2234	5.6
5 0018	1.5	20 0009	1.2	5 0202	1.4	20 0223	0.9	5 0206	1.3	20 0254	1.1	5 0330	1.5	20 0455	1.4
SU 0711	5.1	M 0637	5.6	W 0842	5.3	0840	5.8	0838	5.3	0917	5.6	0954	5.4	1105	5.7
SU 1254	1.9	M 1231	1.6	W 1424	1.7	TH 1437	1.4	F 1428	1.6	SA 1513	1.4	M 1558	1.5	TU 1745	1.1
1922	4.9	1900	5.3	2056	5.2	2057	5.7	2056	5.3	2138	5.6	2220	5.4	2336	5.9
6 0135	1.6	21 0132	1.2	6 0307	1.3	21 0336	0.8	6 0309	1.3	21 0410	1.1	6 0436	1.3	21 0553	1.2
0830	5.1	0751	5.6	0940	5.5	0944	5.9	0939	5.4	1021	5.7	1059	5.7	1200	6.0
M 1413	1.9	TU 1356	1.6	TH 1527	1.5	F 1551	1.2	SA 1530	1.5	SU 1639	1.3	TU 1703	1.2	W 1839	0.8
2046	5.0	2015	5.4	2155	5.4	2202	5.9	2159	5.4	2245	5.8	2323	5.8		
7 0302	1.5	22 0256	1.0	7 0407	1.1	22 0442	0.7	7 0410	1.2	22 0515	1.0	7 0536	1.1	22 0029	6.2
0937	5.3	0906	5.8	1032	5.7	1044	6.1	1036	5.6	1120	5.9	1153	6.0	0640	1.0
TU 1530	1.7	W 1516	1.4	F 1623	1.3	SA 1701	1.0	SU 1630	1.3	M 1750	1.0	W 1806	0.9	TH 1247	6.1
2152	5.2	2126	5.6	2248	5.6	2302	6.1	2256	5.6	2345	6.0			O 1925	0.7
8 0418	1.2	23 0410	0.7	8 0500	1.0	23 0539	0.6	8 0507	1.1	23 0609	0.9	8 0016	6.1	23 0115	6.3
1033	5.7	1012	6.1	1118	5.9	1139	6.3	1128	5.9	1214	6.1	0630	1.0	0722	0.9
W 1634	1.4	TH 1627	1.1	SA 1714	1.1	SU 1802	0.8	M 1727	1.1	TU 1847	0.8	TH 1242	6.2	F 1329	6.2
2246	5.6	2229	6.0	2334	5.8	2357	6.2	2348	5.9			● 1905	0.7	2005	0.6
9 0510	1.0	24 0512	0.4	9 0546	0.9	24 0629	0.5	9 0559	1.0	24 0039	6.2	9 0105	6.4	24 0156	6.3
1120	5.9	1109	6.4	1201	6.0	1229	6.3	1215	6.0	0656	0.9	0720	0.9	0801	0.9
TH 1723	1.1	F 1728	0.8	SU 1801	0.9	O 1856	0.7	TU 1822	0.9	W 1302	6.2	F 1327	6.3	SA 1405	6.2
2333	5.8	2324	6.2							O 1937	0.7	1959	0.5	2041	0.7
10 0552	0.8	25 0605	0.2	10 0017	6.0	25 0048	6.3	10 0035	6.1	25 0128	6.3	10 0152	6.6	25 0231	6.2
1201	6.1	1200	6.6	0629	0.8	0714	0.6	0647	0.9	0739	0.9	0808	0.8	0837	1.0
F 1804	0.9	SA 1822	0.6	M 1241	6.1	TU 1315	6.3	W 1300	6.2	TH 1345	6.2	SA 1410	6.4	SU 1435	6.1
				● 1845	0.8	1945	0.6	● 1915	0.8	2022	0.7	2049	0.3	2112	0.7
11 0013	5.9	26 0016	6.4	11 0058	6.1	26 0138	6.4	11 0122	6.3	26 0212	6.2	11 0237	6.7	26 0301	6.1
0630	0.7	0652	0.2	0709	0.8	0757	0.7	0733	0.9	0820	0.9	0853	0.7	0907	1.0
SA 1237	6.2	SU 1248	6.6	TU 1319	6.2	W 1359	6.3	TH 1343	6.2	F 1424	6.1	SU 1452	6.5	M 1503	6.0
1841	0.8	O 1912	0.5	1930	0.8	2032	0.6	2007	0.7	2102	0.7	2134	0.2	2137	0.8
12 0050	6.0	27 0104	6.6	12 0138	6.1	27 0224	6.3	12 0207	6.4	27 0252	6.2	12 0321	6.7	27 0329	6.0
0705	0.7	0737	0.2	0748	0.9	0836	0.8	0818	0.9	0856	1.0	0835	0.7	0932	1.1
SU 1310	6.2	M 1333	6.6	W 1358	6.1	TH 1439	6.1	F 1426	6.2	SA 1458	6.0	M 1534	6.5	TU 1531	6.0
● 1917	0.8	1959	0.5	2015	0.8	2113	0.7	2057	0.6	2136	0.8	2215	0.2	2157	0.9
13 0124	6.0	28 0151	6.6	13 0219	6.2	28 0307	6.2	13 0252	6.5	28 0328	6.0	13 0406	6.7	28 0357	6.0
0738	0.8	0818	0.3	0826	0.9	0913	0.9	0902	0.9	0928	1.1	1015	0.7	0954	1.1
M 1342	6.2	TU 1416	6.5	TH 1437	6.1	F 1516	6.0	SA 1508	6.2	SU 1530	6.0	TU 1616	6.5	W 1602	6.0
1952	0.8	2043	0.5	2059	0.7	2149	0.8	2144	0.5	2203	0.9	2252	0.3	2214	0.9
14 0158	6.1	29 0236	6.5	14 0302	6.3	29 0348	6.0	14 0337	6.5	29 0401	5.9	14 0451	6.5	29 0430	5.9
0809	0.8	0856	0.5	0905	0.9	0945	1.1	0944	0.9	0955	1.1	1053	0.8	1020	1.1
TU 1416	6.2	W 1456	6.3	F 1518	6.0	SA 1552	5.9	SU 1551	6.2	M 1602	5.9	W 1700	6.3	TH 1637	5.9
2027	0.8	2123	0.6	2142	0.7	2221	0.9	2227	0.5	2228	0.9	2328	0.5	2235	1.0
15 0233	6.1	30 0320	6.4	15 0346	6.2	30 0428	5.9	15 0424	6.4	30 0434	5.8	15 0539	6.1	30 0507	5.8
0838	0.9	0931	0.8	0945	1.0	1015	1.2	1026	0.9	1021	1.2	1134	1.0	1051	1.2
W 1451	6.1	TH 1534	6.1	SA 1601	6.0	SU 1629	5.8	M 1636	6.2	TU 1636	5.9	TH 1748	6.1	F 1718	5.7
2102	0.8	2158	0.7	2226	0.7	2251	1.0	2310	0.5	2252	1.0			2305	1.2
		31 0404	6.1							31 0510	5.7			31 0550	5.5
		F 1003	1.0							W 1053	1.2			1132	1.5
		F 1611	5.9							W 1715	5.7			SA 1807	5.4
		2231	0.9							2321	1.1			2350	1.4

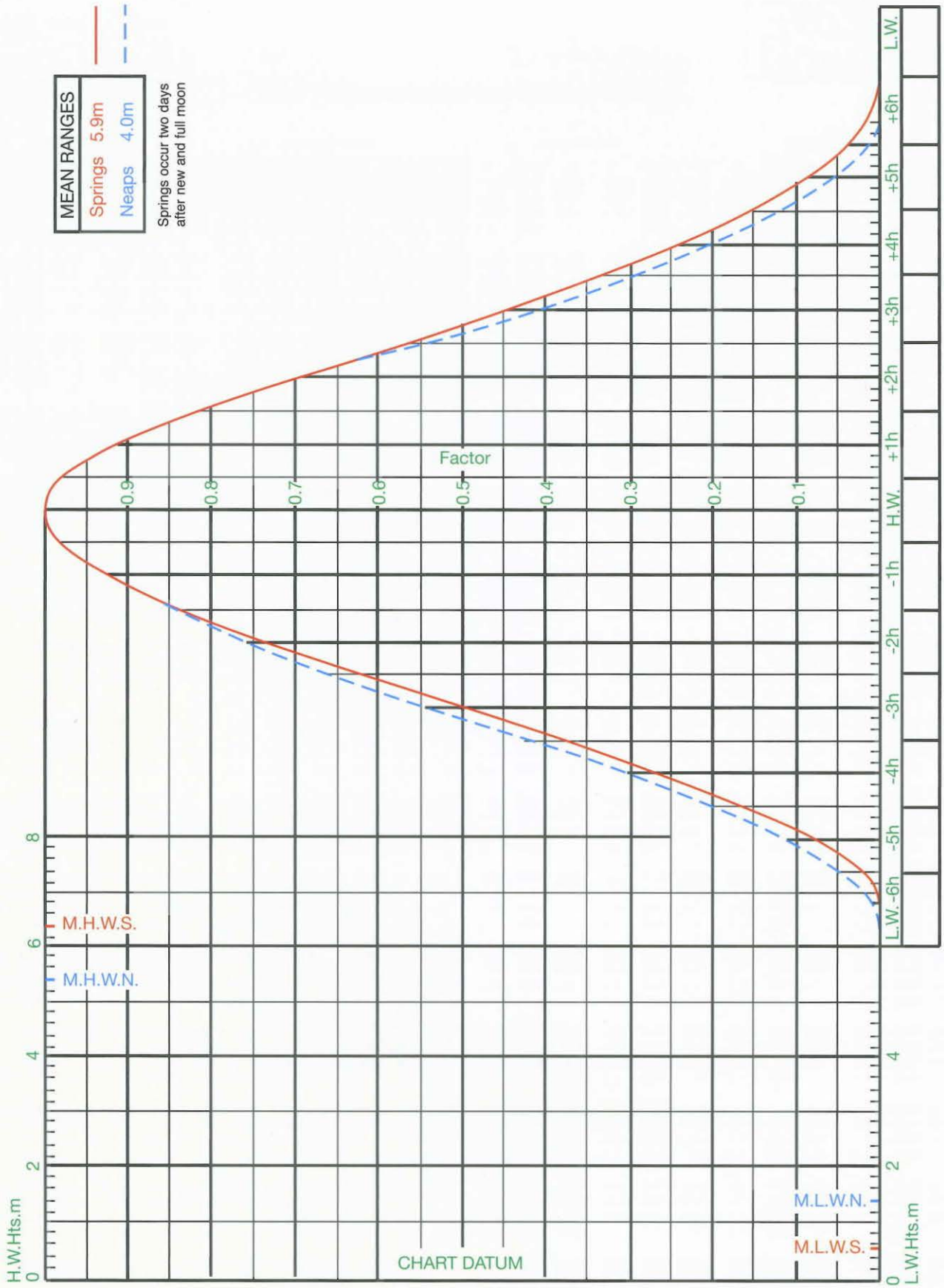
TIME ZONE -0100
 Subtract 1 hour for UT.
 For Summer Time add ONE
 hour in **non-shaded areas**

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	5.3	16 0137	1.8	1 0016	1.9	16 0231	2.1	1 0308	1.7	16 0416	1.6	1 0338	1.4	16 0359	1.5	
1240	1.7	0822	5.0	0709	5.0	0913	5.0	0921	5.4	1030	5.6	0951	5.8	1029	5.5	
SU 1907	5.2	M 1418	1.7	TU 1348	1.8	W 1556	1.6	F 1603	1.0	SA 1659	1.1	SU 1635	0.7	M 1644	1.2	
		2108	5.2	1950	5.1	2156	5.5	2206	5.9	2303	5.9	2234	6.1	M 2300	5.7	
2 0112	1.7	17 0304	1.9	2 0218	2.0	17 0401	1.8	2 0420	1.4	17 0508	1.3	2 0448	1.1	17 0454	1.3	
0749	5.1	0941	5.1	0832	5.0	1018	5.4	1026	5.8	1116	5.8	1049	6.1	1117	5.7	
M 1417	1.8	TU 1624	1.5	W 1514	1.6	TH 1700	1.2	SA 1707	0.7	SU 1740	0.9	M 1733	0.5	TU 1730	1.1	
2021	5.1	2221	5.5	2119	5.3	2255	5.8	2305	6.3	2345	6.1	2329	6.4	2343	5.9	
3 0255	1.8	18 0435	1.6	3 0344	1.7	18 0503	1.4	3 0521	1.0	18 0551	1.1	3 0548	0.9	18 0542	1.1	
0911	5.1	1046	5.5	0958	5.4	1111	5.8	1120	6.2	1157	6.0	1143	6.4	1200	5.9	
TU 1535	1.6	W 1731	1.1	TH 1629	1.2	F 1746	0.9	SU 1802	0.4	M 1818	0.8	TU 1825	0.4	W 1812	1.0	
2148	5.3	2321	5.9	2236	5.8	2343	6.2	2355	6.6							
4 0411	1.5	19 0533	1.3	4 0452	1.3	19 0550	1.1	4 0615	0.8	19 0022	6.1	4 0018	6.5	19 0023	6.0	
1030	5.5	1140	5.9	1101	5.9	1156	6.1	1208	6.5	0628	0.9	0642	0.7	0626	0.9	
W 1647	1.2	TH 1819	0.8	F 1734	0.7	SA 1825	0.7	M 1852	0.2	TU 1234	6.0	W 1234	6.5	TH 1241	6.0	
2300	5.8			2333	6.3			●		1853	0.9	●	1911	0.4	O 1851	1.0
5 0516	1.3	20 0011	6.2	5 0550	1.0	20 0025	6.3	5 0042	6.8	20 0055	6.1	5 0106	6.5	20 0101	6.1	
1130	5.9	0619	1.1	1151	6.3	0630	0.9	0705	0.6	0703	0.9	0733	0.6	0709	0.9	
TH 1753	0.8	F 1226	6.2	SA 1829	0.4	SU 1235	6.2	TU 1255	6.7	W 1307	6.1	TH 1323	6.6	F 1320	6.1	
2356	6.2	1900	0.6			1900	0.7	1937	0.2	O 1925	0.9	1955	0.5	F 1928	1.0	
6 0613	1.0	21 0055	6.4	6 0022	6.7	21 0100	6.3	6 0127	6.8	21 0126	6.1	6 0150	6.5	21 0138	6.1	
1219	6.2	0700	0.9	0641	0.8	0707	0.9	0752	0.5	0737	0.9	0821	0.6	0752	0.8	
F 1851	0.5	SA 1306	6.2	SU 1237	6.6	M 1308	6.2	W 1341	6.8	TH 1340	6.1	F 1411	6.6	SA 1359	6.1	
		O 1937	0.6	●	1919	0.2	O 1933	0.7	2019	0.2	1953	1.0	2036	0.6	2004	1.0
7 0045	6.6	22 0132	6.4	7 0108	6.9	22 0129	6.2	7 0210	6.7	22 0156	6.1	7 0232	6.3	22 0215	6.0	
0704	0.8	0738	0.9	0729	0.6	0740	0.9	0837	0.5	0810	0.9	0906	0.6	0835	0.8	
SA 1305	6.5	SU 1339	6.2	M 1321	6.7	TU 1337	6.1	TH 1426	6.8	F 1414	6.1	SA 1457	6.5	SU 1439	6.2	
●	1943	2010	0.6	2005	0.1	2003	0.8	2058	0.4	2020	1.0	2114	0.8	2040	1.0	
8 0132	6.8	23 0203	6.2	8 0152	6.9	23 0155	6.1	8 0252	6.5	23 0229	6.1	8 0313	6.2	23 0252	6.0	
0752	0.7	0812	0.9	0815	0.5	0810	0.9	0919	0.6	0844	0.9	0947	0.7	0917	0.8	
SU 1347	6.6	M 1407	6.1	TU 1404	6.8	W 1405	6.1	F 1511	6.6	SA 1450	6.1	SU 1544	6.3	M 1521	6.2	
2031	0.1	2039	0.8	2047	0.1	2027	0.9	2134	0.6	2049	1.1	2148	1.0	2117	1.1	
9 0216	6.9	24 0229	6.1	9 0235	6.9	24 0222	6.1	9 0332	6.3	24 0304	6.0	9 0352	5.9	24 0331	6.0	
0837	0.6	0841	1.0	0857	0.5	0836	1.0	0957	0.7	0918	1.0	1025	0.9	0959	0.9	
M 1429	6.7	TU 1433	6.0	W 1447	6.8	TH 1434	6.1	SA 1556	6.4	SU 1530	6.0	M 1630	6.0	TU 1606	6.1	
2114	0.1	2104	0.9	2125	0.2	2046	1.0	2208	0.9	2120	1.1	2222	1.3	2156	1.1	
10 0300	6.9	25 0254	6.1	10 0316	6.7	25 0251	6.1	10 0412	6.0	25 0342	5.9	10 0432	5.7	25 0414	5.9	
0918	0.6	0905	1.0	0937	0.5	0901	1.0	1035	1.0	0953	1.1	1103	1.1	1042	0.9	
TU 1511	6.7	W 1501	6.0	TH 1529	6.7	F 1507	6.1	SU 1645	6.0	M 1614	5.9	TU 1719	5.7	W 1654	6.0	
2152	0.1	2121	0.9	2159	0.4	2106	1.0	2243	1.3	2157	1.3	2259	1.5	2239	1.2	
11 0342	6.8	26 0322	6.1	11 0357	6.4	26 0324	6.1	11 0453	5.6	26 0424	5.7	11 0517	5.5	26 0501	5.8	
0957	0.6	0926	1.0	1013	0.7	0927	1.1	M 1117	1.2	1036	1.2	1147	1.3	1129	0.9	
W 1552	6.7	TH 1531	6.0	F 1613	6.5	SA 1543	6.0	M 1740	5.6	TU 1704	5.8	W 1813	5.4	TH 1747	5.9	
2226	0.3	2135	1.0	2231	0.7	2131	1.1	2327	1.6	2243	1.4	2344	1.7	2328	1.3	
12 0424	6.5	27 0353	6.0	12 0437	6.0	27 0400	5.9	12 0543	5.2	27 0514	5.5	12 0612	5.2	27 0555	5.6	
1033	0.7	0949	1.1	1050	0.9	0956	1.2	1214	1.5	1135	1.3	1242	1.5	1224	1.0	
TH 1635	6.5	F 1606	6.0	SA 1700	6.1	SU 1626	5.8	TU 1851	5.2	W 1802	5.6	TH 1915	5.2	F 1846	5.7	
2259	0.6	2157	1.0	2308	1.1	2204	1.3			2343	1.6					
13 0508	6.1	28 0429	5.9	13 0520	5.6	28 0442	5.6	13 0027	1.9	28 0616	5.3	13 0043	1.9	28 0027	1.4	
1110	0.9	1016	1.2	1133	1.3	1035	1.4	0702	5.0	1253	1.3	0722	5.1	0657	5.5	
F 1721	6.1	SA 1646	5.8	SU 1756	5.6	M 1715	5.6	W 1329	1.7	TH 1910	5.5	F 1345	1.5	SA 1330	1.1	
2337	1.0	2226	1.2	2356	1.6	2249	1.5	2009	5.2			2018	5.2	1952	5.6	
14 0555	5.7	29 0511	5.6	14 0616	5.1	29 0534	5.3	14 0145	2.1	29 0100	1.7	14 0151	1.9	29 0136	1.5	
1155	1.3	1053	1.4	1235	1.6	1135	1.6	0829	5.0	0729	5.3	0833	5.1	0807	5.5	
SA 1817	5.6	SU 1735	5.5	M 1919	5.2	TU 1816	5.3	TH 1458	1.6	F 1414	1.2	SA 1449	1.5	SU 1443	1.0	
		2308	1.5			2354	1.8	2117	5.3	2023	5.6	2117	5.3	2100	5.7	
15 0027	1.4	30 0603	5.3	15 0105	2.0	30 0639	5.1	15 0306	1.9	30 0222	1.6	15 0257	1.7	30 0250	1.4	
0656	5.2	1151	1.7	0750	4.9	1320	1.7	0935	5.3	0844	5.5	0935	5.3	0917	5.7	
SU 1257	1.6	M 1836	5.2	TU 1400	1.8	W 1929	5.2	F 1609	1.3	SA 1528	1.0	SU 1550	1.3	M 1559	1.0	
1938	5.2			2046	5.2			2214	5.6	2133	5.8	2211	5.5	2205	5.8	
				31 0136	2.0									31 0412	1.3	
				0759	5.1									1023	5.9	
				TH 1449	1.4									TU 1705	0.8	
				2052	5.4									2305	6.0	

PORT FITZROY – mean spring and neap curves



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 the marina. Approach difficult in NW winds > F6 in narrow entrance; alternative shelter should be sought.

APPROACH WAYPOINT. 45°38'.91N 005°49'.87W.

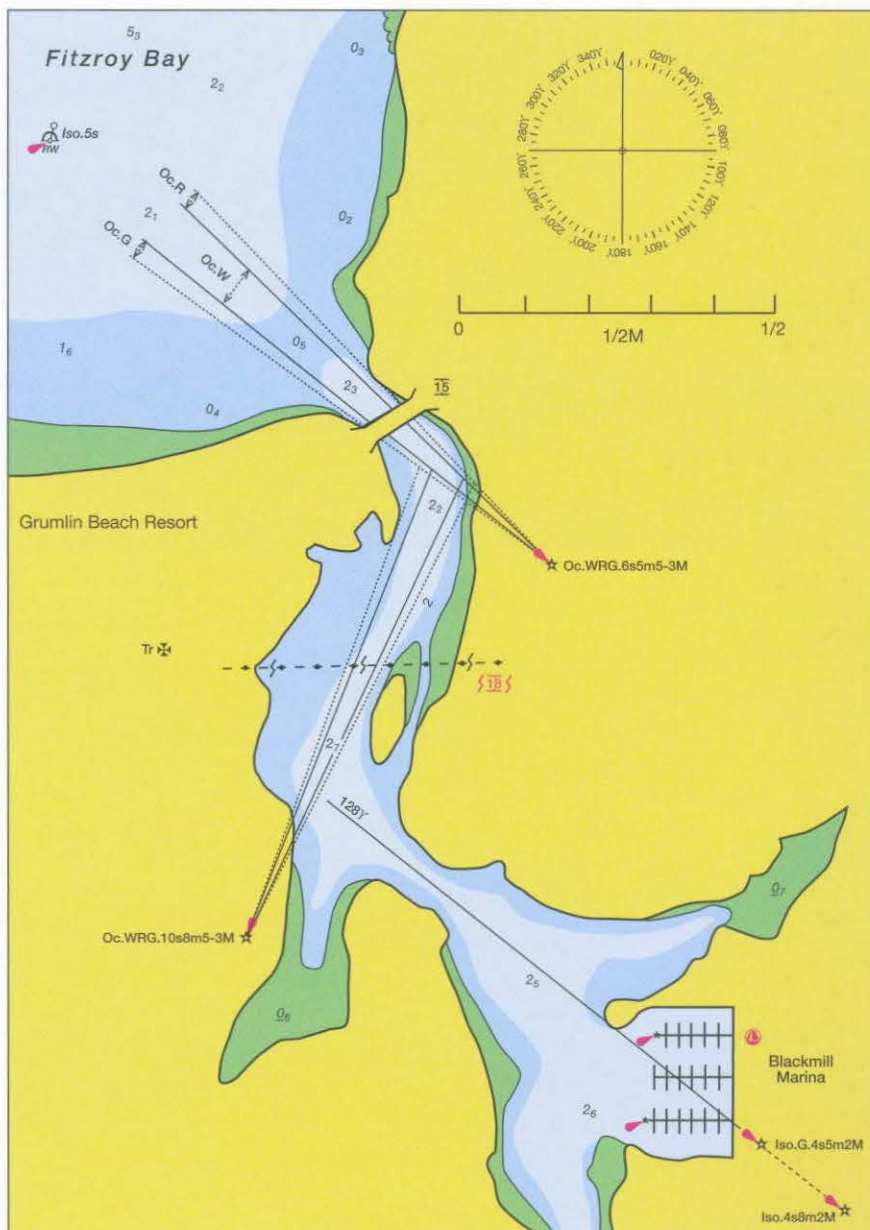
PILOTAGE NOTES. Vessels making for Blackmill must keep clear of the buoyed approach channel to Port Fitzroy (see also the pilotage notes for Port Fitzroy re. the approach to Fitzroy Bay). Seal Island is unlit but covered by the F.R. It of Grumlin Head Lt Ho. If approaching from the E, beware of the unmarked South and Tower rocks. An SWM (Iso.5s) is situated 7ca NW of the narrow entrance. Two sets of sectored lights lead through the narrow passes. With both sectored 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, EI, BH (10 tonnes), C (5 tonnes), Bar, R.



The Neptune Islands are a group of over 20 islands extending in an E-W chain some 12M. At their 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 off-lying 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 towards sea level, giving the saddle appearance. Slade Island has two major lights; Christopher Point Lt Ho (R&W striped O twr) [FI(4)WRG.15s87m25-18M] and Linards Point Lt Ho (R&W chequered twr) [FI.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	FI(4)WRG.15s87m25-18M
Jenna Rks Bn	YB bn	VQ(6)+LFI.10s5M
Linards Point Lt Ho	R&W chequered twr	FI.R.5s52m9M

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 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 (R&W striped \circ twr) [FI(4) WRG.15s87m25-18M] is situated at the northernmost point of the island. Linards Point Lt Ho (RW chequered \circ twr) [F.L.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.

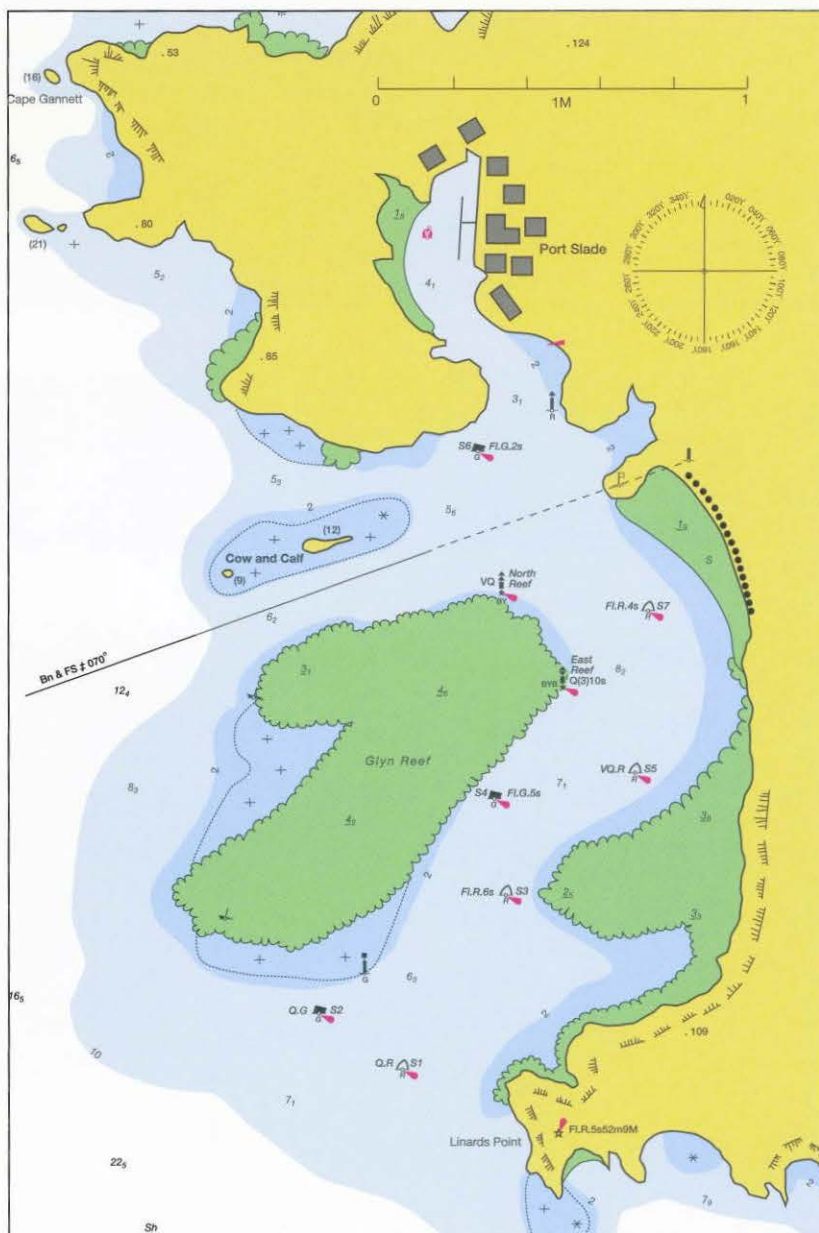
FACILITIES. Slip, FW, D, P, ME.

ADJACENT ANCHORAGES.

Ladye Bay and Sand Bay. Both anchorages, although picturesque, are ringed with rocks and require local knowledge or a large-scale chart (N 03) before attempting pilotage.

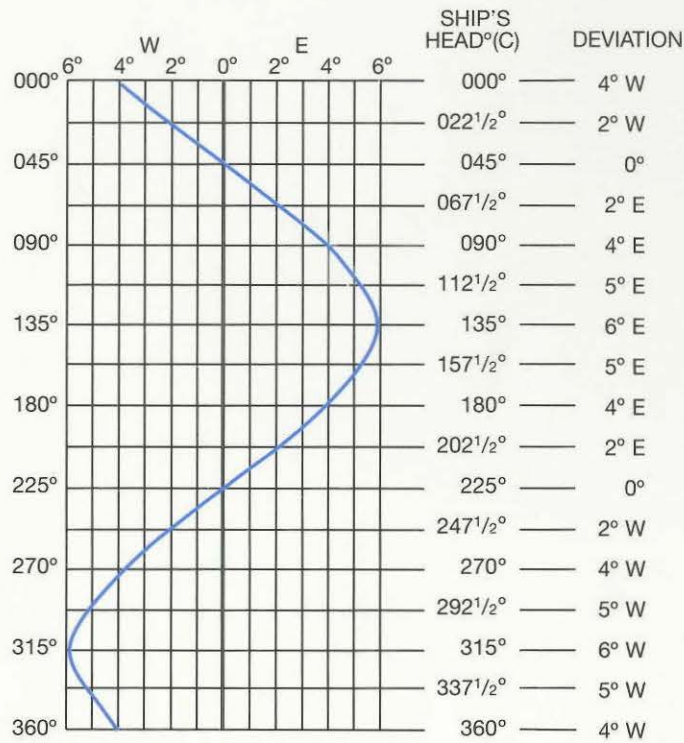
SPECIAL NOTES FOR THE NEPTUNE ISLANDS.

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		metres	Height of eye									
metres	feet		1	2	3	4	5	6	7	8	9	10
		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										



Training Almanac

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