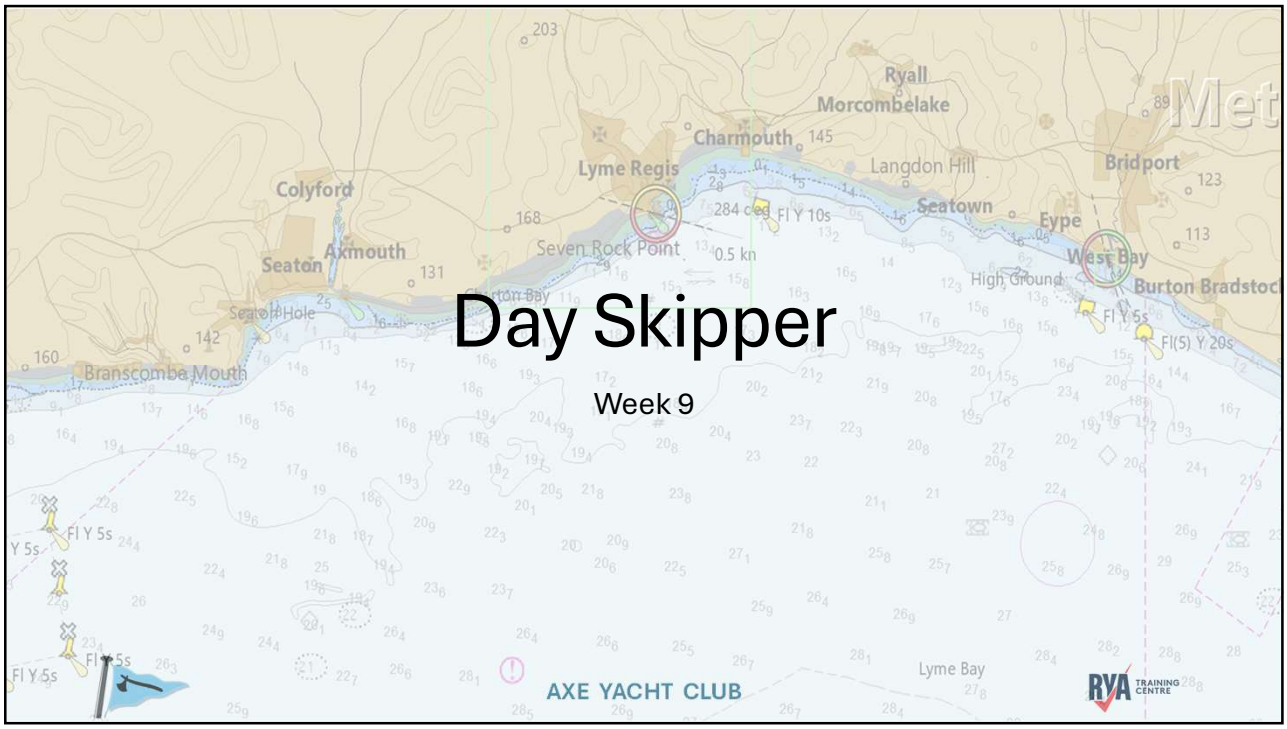
Day Skipper
Week 9
AXE YACHT CLUB
Lyme Bay
Ryall
Morcombelake
Charmouth
Lyme Regis
Langdon Hill
Bridport
Colyford
Seaton
Axmouth
Seven Rock Point
Seatown
Eype
West Bay
High Ground
Burton Bradstock
Branscombe Mouth
Fl Y 10s
Fl Y 5s
Fl(5) Y 20s
0.5 kn

1


Secondary Ports
Tidal Heights
AXE YACHT CLUB
Lyme Bay
Ryall
Morcombelake
Charmouth
Lyme Regis
Langdon Hill
Bridport
Colyford
Seaton
Axmouth
Seven Rock Point
Seatown
Eype
West Bay
High Ground
Burton Bradstock
Branscombe Mouth
Fl Y 10s
Fl Y 5s
Fl(5) Y 20s
0.5 kn

2

“I really must learn about Secondary Port Tidal Heights!”



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3

The Problem

- A yacht, seeking shelter from a SE wind intends to anchor just inside South Point in the Farlow River on Sunday 11 August at 1600 local time.
- What time is HW at Farlow River before 1600?

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4

Information

- Details of the Farlow River are on page 61 of the Training Almanac
- It is a **SECONDARY PORT**.

5

The Differences Table

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

6

Standard Port Information

NAMLEY - Sunday 11 August

HW	1334 UT	4.0 m
LW	1930 UT	0.1 m

NB - Work in zone time until differences have been applied.

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7

Inspect the differences table

NAMLEY - Sunday 11 August

HW	1334 UT	4.0 m
LW	1930 UT	0.1 m

NB - Work in zone time until differences have been applied.

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

AXE YACHT CLUB

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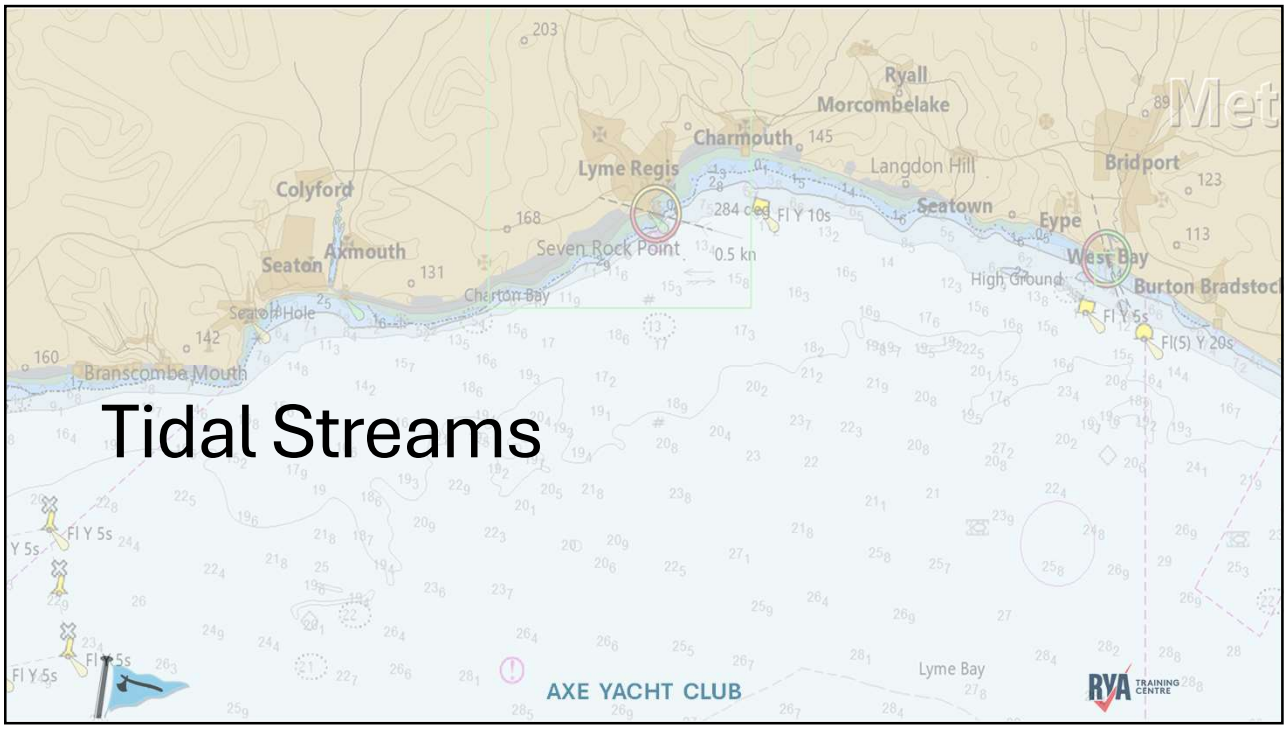
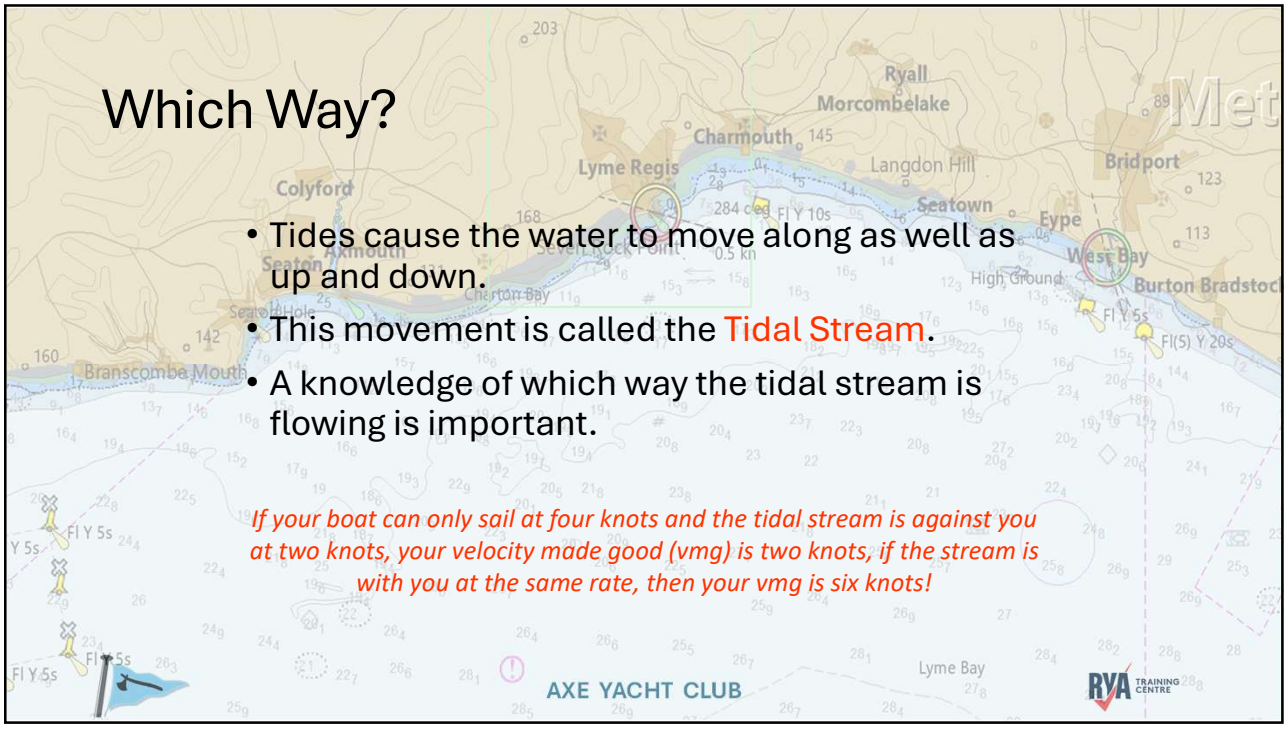

Tidal Streams
AXE YACHT CLUB
RYA TRAINING CENTRE

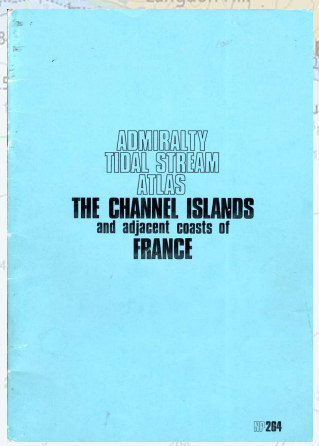
9


Which Way?
• Tides cause the water to move along as well as up and down.
• This movement is called the Tidal Stream.
• A knowledge of which way the tidal stream is flowing is important.
If your boat can only sail at four knots and the tidal stream is against you at two knots, your velocity made good (vmg) is two knots, if the stream is with you at the same rate, then your vmg is six knots!
AXE YACHT CLUB
RYA TRAINING CENTRE

10

Tidal Stream Atlases

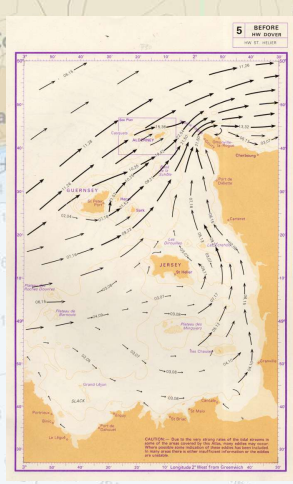
- Tidal Stream Atlases are published by the Admiralty Hydrographic Unit
- They show the direction and rate of the tidal streams at different points for each hour of the tidal cycle and for springs and neaps.



AXE YACHT CLUB

11

Tidal Stream Atlas



- The arrows show the direction of the tidal stream for each hour. The longer and darker the arrow the stronger the stream.
- The two numbers by each arrow give the speed of the tide in tenths of a knot for neap and spring tides.

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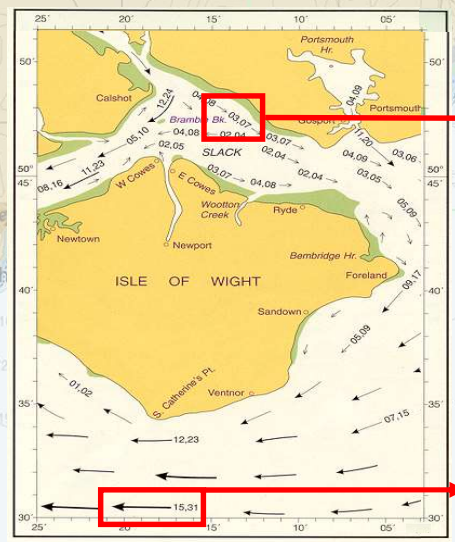
12

TIDAL STREAM ATLAS



03,07 ⟶

Thickness and length of arrow indicate rate of tidal stream

⟵ 15,31

AXE YACHT CLUB

13

TIDAL DIAMONDS & DATUMS

Tidal streams referred to HW at PLYMOUTH

Hours		Geographical Position	A 50°09'·05 N 4 44·95W			B 50°12'·95 N 4 37·00W			C 50°16'·90 N 4 34.80 W			D 50°20'·15 N 4 28·65W			E 50°25'·95 N 4 24·40W			
Before High Water	6	Directions of streams (degrees)	286	Rates at spring tides (knots)	Rates at neap tides (knots)	203	2·2	1·1	206	1·0	0·5	218	1·1	0·6	218	0·8	0·4	−6
	5		290	2·8	1·4	203	2·1	1·1	208	1·2	0·6	226	2·3	1·1	226	0·9	0·5	−5
	4		302	3·2	1·6	192	1·5	0·8	213	1·0	0·5	214	2·3	1·1	214	1·1	0·6	−4
	3		318	2·9	1·5	137	0·7	0·4	235	0·5	0·3	211	1·8	0·9	211	0·6	0·3	−3
	2		323	1·7	0·9	057	2·9	1·4	072	0·3	0·2	290	0·9	0·5	290	0·2	0·1	−2
	1		000	1·0	0·5	043	3·0	1·5	044	0·7	0·3	011	0·3	0·2	011	0·4	0·2	−1
High Water			080	1·3	0·6	046	2·5	1·2	039	1·2	0·6	025	1·1	0·6	025	0·7	0·4	0
After High Water	1		100	2·4	1·2	049	2·2	1·1	031	1·1	0·5	036	1·9	0·9	036	0·7	0·4	+1
	2		111	2·5	1·3	061	1·4	0·7	035	0·8	0·4	043	2·1	1·1	043	0·7	0·4	+2
	3		124	2·6	1·3	137	0·7	0·4	044	0·5	0·2	060	1·9	0·9	060	0·5	0·3	+3
	4		126	1·9	1·0	186	1·5	0·8	046	0·1	0·1	100	1·4	0·7	100	0·2	0·1	+4
	5		148	0·5	0·2	200	2·1	1·0	214	0·5	0·2	125	0·5	0·2	125	0·2	0·1	+5
	6		283	1·1	0·5	202	2·2	1·1	209	0·8	0·4	210	0·7	0·4	210	0·6	0·3	+6

AXE YACHT CLUB

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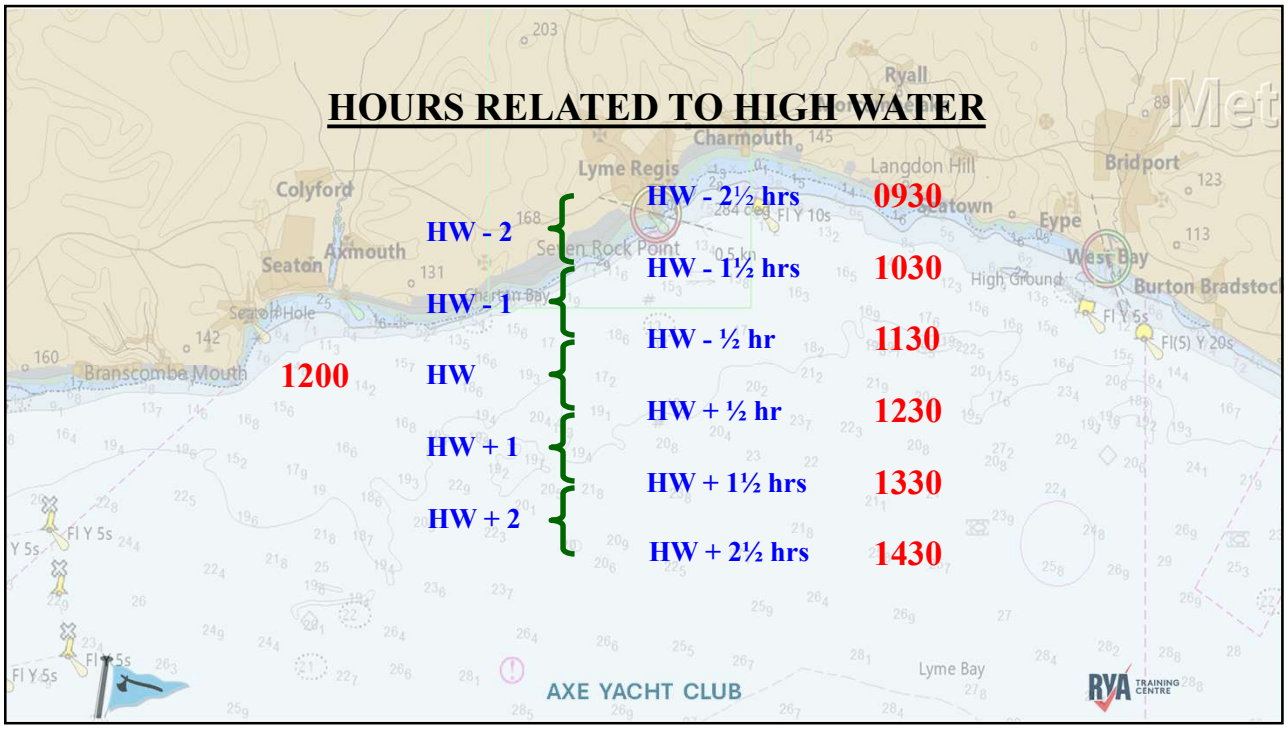
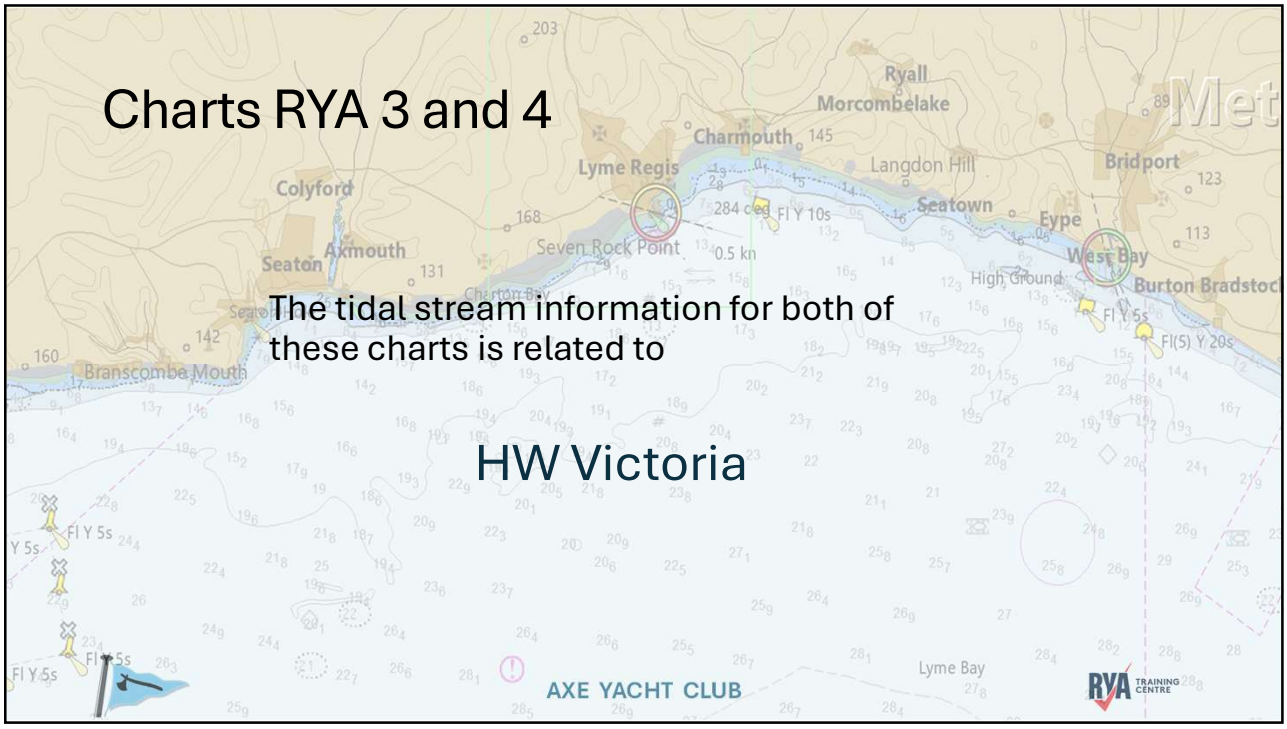

HOURS RELATED TO HIGH WATER
HW - 2
HW - 1
1200
HW
HW + 1
HW + 2
HW - 2½ hrs
0930
HW - 1½ hrs
1030
HW - ½ hr
1130
HW + ½ hr
1230
HW + 1½ hrs
1330
HW + 2½ hrs
1430
AXE YACHT CLUB
Lyme Bay

15


Charts RYA 3 and 4
The tidal stream information for both of these charts is related to
HW Victoria
AXE YACHT CLUB
Lyme Bay

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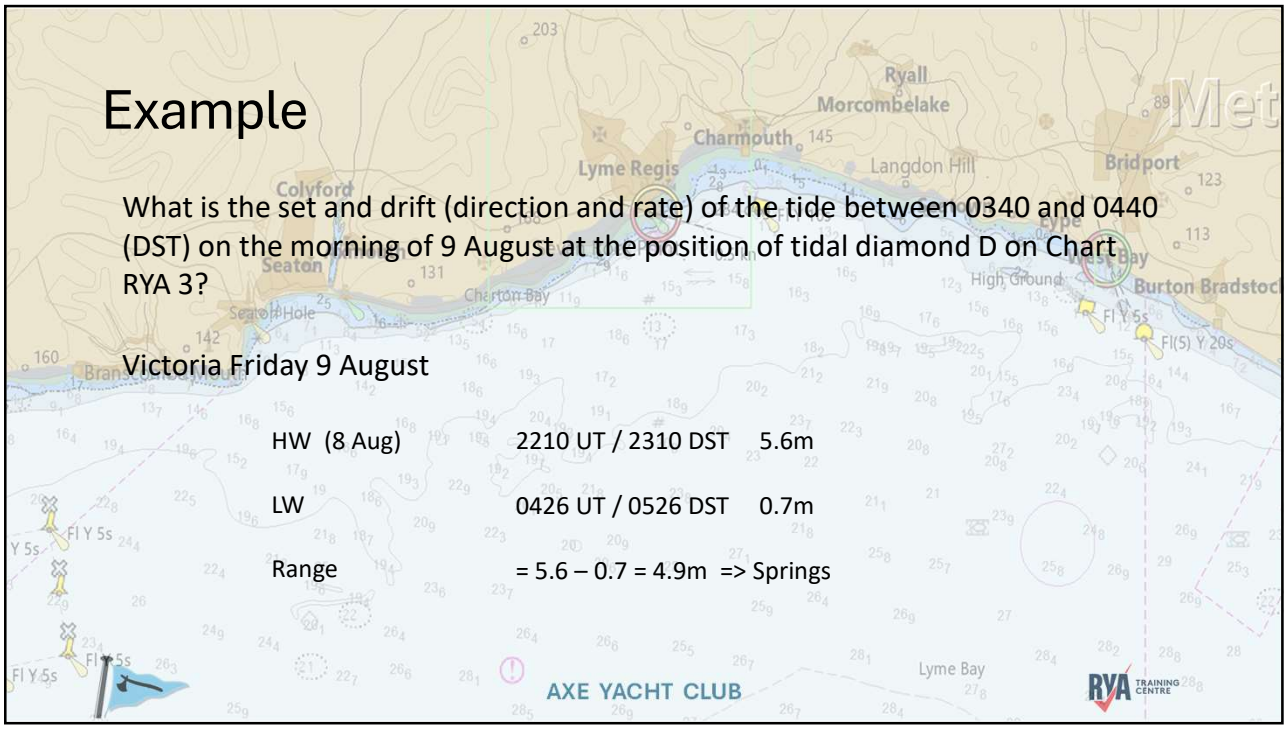
Example

What is the set and drift (direction and rate) of the tide between 0340 and 0440 (DST) on the morning of 9 August at the position of tidal diamond D on Chart RYA 3?

Victoria Friday 9 August

HW (8 Aug)	2210 UT / 2310 DST	5.6m
LW	0426 UT / 0526 DST	0.7m
Range	= 5.6 – 0.7 = 4.9m	=> Springs



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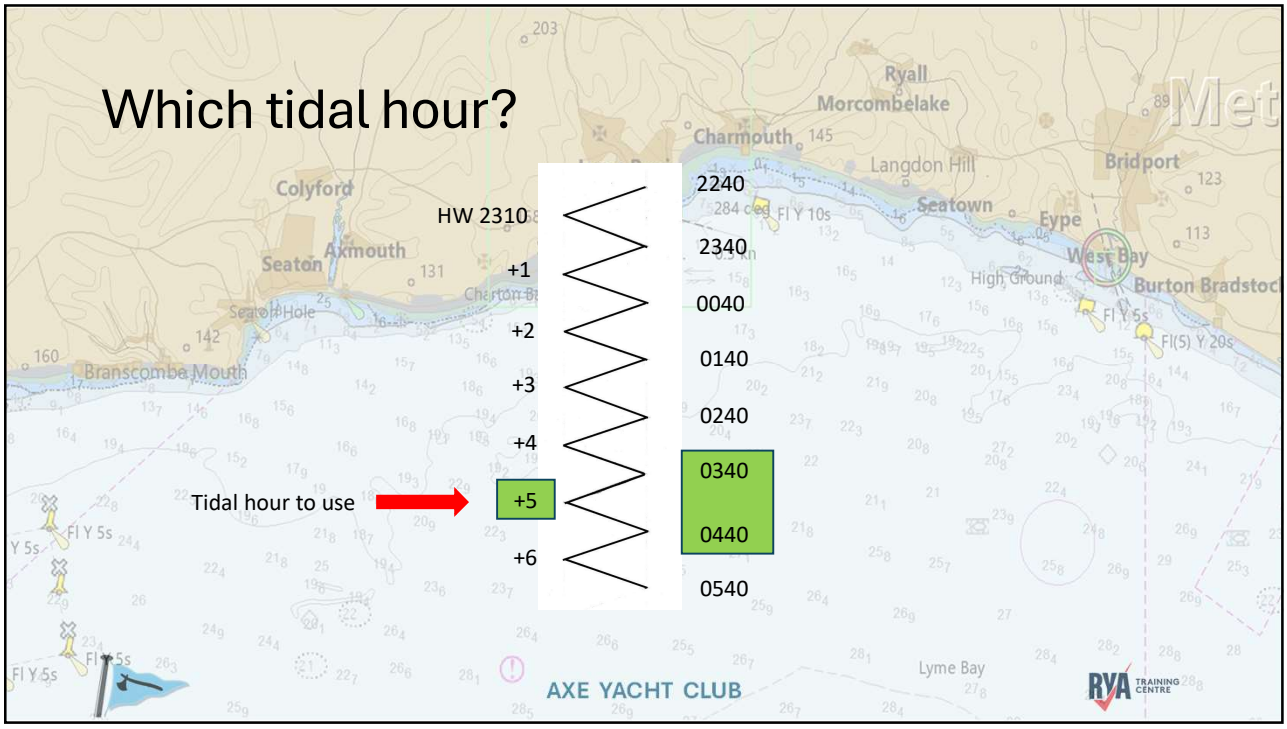
Which tidal hour?



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Using the Tidal Stream table

	A 46°20·5N 5 50·0W		B 46°20·6N 6 18·4W		C 46°11·2N 5 43·2W		D 46°10·6N 5 53·9W		E 46°10·5N 6 16·1W	
-6	110	1·8 0·8	158	1·0 0·6	189	1·7 0·9	216	0·6 0·3	302	1·4 0·7
-5	108	1·0 0·5	153	1·7 0·8	192	1·1 0·6	003	0·8 0·4	144	1·0 0·6
-4	026	0·4 0·2	159	2·8 1·5	290	0·6 0·4	005	1·6 0·8	138	1·9 1·0
-3	297	1·4 0·7	154	3·9 2·0	359	1·5 0·8	008	2·1 1·0	131	3·0 1·5
-2	278	2·0 1·1	165	3·2 1·7	004	1·8 0·9	010	2·0 1·0	124	3·4 1·7
-1	274	1·7 0·8	173	2·4 1·3	007	1·4 0·7	012	1·7 0·8	118	2·9 1·5
0	271	1·1 0·5	186	1·2 0·7	010	0·9 0·5	014	1·2 0·7	115	1·8 0·9
+1	170	0·5 0·3	349	1·1 0·6	173	1·2 0·6	016	0·7 0·4	107	0·8 0·5
+2	111	1·6 0·8	341	3·0 1·6	179	1·6 0·8	199	1·0 0·5	310	1·4 0·7
+3	114	1·8 0·9	338	3·7 1·8	185	1·9 1·0	208	1·4 0·7	307	2·8 1·4
+4	113	2·2 1·2	342	3·9 2·0	187	2·1 1·2	210	1·8 0·9	306	3·6 1·8
+5	112	2·0 1·0	341	2·8 1·5	189	2·0 1·1	212	1·7 0·8	306	3·1 1·6
+6	110	1·8 0·9	355	2·3 1·2	190	1·8 0·9	214	0·9 0·5	304	2·5 1·3

At <>D tidal stream 0340-0440 is 212°T / 1.7 knots

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Example 2

Using the Tidal Stream Atlas, what is the set and drift of the tidal stream between Slade Island and Beauty Point between 1300 and 1400 DST on Saturday 31 August?

Victoria Sat 31 Aug

HW	1533 UT / 1633 DST	4.4m
LW	0915 UT / 1015 DST	2.0m

Range = 4.4 – 2.0 = 2.4m => Neaps

AXE YACHT CLUB

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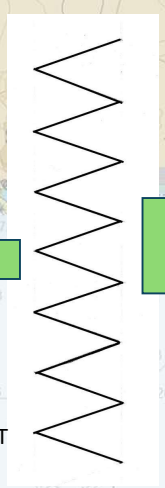
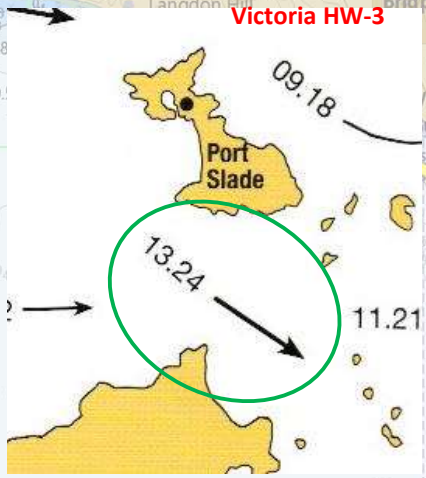
Tidal Hour



Tidal Stream Atlas



Tidal Stream 1300 – 1400 DST is 124°T / 1.3 knots

AXE YACHT CLUB

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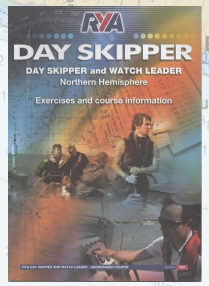
Homework

Tidal Heights and Tidal Streams Exercise

Part C Tidal streams Q1-3



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AXE YACHT CLUB

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