ORCV – Fundamental Navigation 2023

Quiz #01 (during course)

- Why can't you measure distance using degrees of longitude? (yep, it's a trick question)
- How long is a degree of latitude? .... and a minute of latitude?
- Which way do the grid lines on a Mercator chart run?

Exercise #01 (during course)

- Plot the following three positions, what is located there?
- A: 37 56.9S 144 55.6E
- B: 38 06.4S 144 44.2E
- C: 38 11.6S 144 45.4E
- What is the distance between B & C

Exercise #02 (during course)

- You passed Fawkner Beacon at 10am when your GPS stopped working. You keep sailing on a reach when after 2hrs fog sets in. You weren't really keeping track
- The course you have steered, using the magnetic compass was 165°
- The wind is strong, from the West (270 Deg True)
- You expect around 5 ° leeway
- Your boat has been doing 8 knots
- Where are you?

Quiz #02 (during course)

- You're somewhere in the vicinity of Port Phillip Heads in 11m of water
- You take a bearing to the Lonsdale lighthouse of 270° on your hand bearing compass
- You see a white isophasing light just to the left of the Hume Tower

- What is your position in Lat/Long in DD MM?
- What is the light & why?
- What would your bearing be to the light off your hand compass?

Exercise #03 (during course)

- Plot a course from the exit of the Martha Cove Marina at Safety Beach to the entrance of the Queenscliff Cut
- <u>(use the automatic course option)</u>
- Any shallow water issues we need to keep an eye on?
- What are the key marks we will encounter on the passage?
- Are there any conventions we will need to obey along the way?
- What is the key Danger?

Exercise #04 (during course)

- What is the bearing from sea of the Clark's Beacon and Marcus Hill transit on the chart ?
- What does it indicate?
- What would be the bearing when viewed from the land?
- What lights are displayed by the three beacons on Victory Shoal?
- What is the distance between the ORCV Heads Exclusion Zone and the 5m line off Lonsdale platform?

Quiz #03 (during course)

- I am travelling at 6 knots. How far will I go in 36 minutes?
- It is 10.00am and the start line for the race is 5 nm away. What speed do I need to motor/sail at arrive by 10.50am?
- I am located at Mornington Pier. I wish to meet another boat at Fawkner Beacon at noon. What time do I need to leave if i think I can travel at 6.5knots?

Exercise #05

- Plan a course from Port Arlington to Cole Channel Beacon (Swan Point – Queenscliff)
- Review hazards
- Which route

Exercise #06

- We have spent Wednesday 19th July evening at Blairgowrie Yacht Squadron (BYS)
- On Thursday 20th July we're going to sail over to Queenscliff Cruising Yacht Club (QCYC) and spend the night
- Your boat draws 2.4m
- Use the Navionics automatic route option
- You want to arrive at QCYC around slack water
- You will motor through the Sorrento Channel at a boat speed of 5 knots and then hoist sails,
- you expect a 10 – 15 kn southerly
- What time should you leave?
- What are the two main hazards?
- When will you arrive?
-

South Channel, VIC – July 2023 PRINT TABLE

SAT 15 JUL		SUN 16 JUL		MON 17 JUL		TUE 18 JUL		WED 19 JUL		THU 20 JUL		FRI 21 JUL	
LOW	3:41 am 0.37 m	LOW	4:43 am 0.36 m	LOW	5:44 am 0.33 m	LOW	6:39 am 0.31 m	HIGH	12:31 am 0.82 m	HIGH	1:26 am 0.80 m	HIGH	2:20 am 0.79 m
HIGH	11:18 am 0.92 m	HIGH	12:34 pm 0.91 m	HIGH	1:40 pm 0.90 m	HIGH	2:30 pm 0.90 m	LOW	7:27 am 0.28 m	LOW	8:08 am 0.26 m	LOW	8:45 am 0.26 m
LOW	4:19 pm 0.73 m	LOW	5:58 pm 0.73 m	LOW	7:13 pm 0.71 m	LOW	8:03 pm 0.66 m	HIGH	3:09 pm 0.90 m	HIGH	3:41 pm 0.89 m	HIGH	4:09 pm 0.90 m
HIGH	10:01 pm 0.91 m	HIGH	10:49 pm 0.88 m	HIGH	11:39 pm 0.85 m			LOW	8:44 pm 0.61 m	LOW	9:18 pm 0.57 m	LOW	9:51 pm 0.52 m

Queenscliff, VIC – July 2023 PRINT TABLE

SAT 15 JUL		SUN 16 JUL		MON 17 JUL		TUE 18 JUL		WED 19 JUL		THU 20 JUL		FRI 21 JUL	
LOW	3:23 am 0.32 m	LOW	4:20 am 0.32 m	LOW	5:15 am 0.32 m	LOW	6:07 am 0.31 m	HIGH	12:13 am 0.98 m	HIGH	1:02 am 0.98 m	HIGH	1:49 am 0.97 m
HIGH	11:08 am 0.99 m	HIGH	12:20 pm 1.01 m	HIGH	1:25 pm 1.03 m	HIGH	2:17 pm 1.05 m	LOW	6:55 am 0.31 m	LOW	7:40 am 0.31 m	LOW	8:20 am 0.32 m
LOW	3:05 pm 0.77 m	LOW	4:26 pm 0.79 m	LOW	5:48 pm 0.78 m	LOW	6:59 pm 0.75 m	HIGH	3:01 pm 1.06 m	HIGH	3:38 pm 1.06 m	HIGH	4:10 pm 1.06 m
HIGH	9:39 pm 1.01 m	HIGH	10:28 pm 1.00 m	HIGH	11:20 pm 0.98 m			LOW	7:55 pm 0.71 m	LOW	8:39 pm 0.67 m	LOW	9:15 pm 0.62 m

The Rip, VIC – July 2023 PRINT TABLE

SAT 15 JUL			SUN 16 JUL			MON 17 JUL			TUE 18 JUL			WED 19 JUL			THU 20 JUL			FRI 21 JUL		
SLACK	MAXIMUM		SLACK	MAXIMUM		SLACK	MAXIMUM		SLACK	MAXIMUM		SLACK	MAXIMUM		SLACK	MAXIMUM		SLACK	MAXIMUM	
TIME	TIME	RATE	TIME	TIME	RATE	TIME	TIME	RATE	TIME	TIME	RATE	TIME	TIME	RATE	TIME	TIME	RATE	TIME	TIME	RATE
	1:46 am	-5.07		2:45 am	-4.80	12:33 am	3:50 am	-4.64	1:33 am	4:52 am	-4.62		12:33 am	+2.21		1:24 am	+2.51		2:08 am	+2.78
6:20 am	9:08 am	+3.67	7:15 am	10:02 am	+3.75	8:09 am	10:55 am	+3.85	9:01 am	11:45 am	+3.97	2:32 am	5:48 am	-4.70	3:26 am	6:35 am	-4.80	4:16 am	7:18 am	-4.84
1:27 pm	3:33 pm	-2.92	2:33 pm	4:42 pm	-2.92	3:30 pm	5:44 pm	-3.13	4:18 pm	6:34 pm	-3.45	9:50 am	12:33 pm	+4.08	10:33 am	1:16 pm	+4.16	11:13 am	1:57 pm	+4.19
6:33 pm	9:17 pm	+2.06	7:59 pm	10:31 pm	+1.89	9:11 pm	11:35 pm	+1.96	10:08 pm			4:58 pm	7:16 pm	-3.74	5:32 pm	7:53 pm	-3.99	6:00 pm	8:27 pm	-4.20
11:35 pm												10:53 pm			11:32 pm					

- Review the course...
- Depth
- Leg lengths, currents
- Effects of tide
- When do you want to arrive?
- Slack water (Low) is about 5:30pm
- Good to arrive towards the end of the flood .....don't want to enter in the dark or at low water
- **Hazards**
    - Shallow spots in Sorrento Channel
    - QCYC ... depth ?? (2.5m is good but I only know that from local knowledge)
    - Leads in the cut
    - Ferry and other traffic in Queenscliff cut.
    - Ships - you cross the main shipping Channel

Exercise #07
Return Trip via Westcoast after Melbourne to Hobart race

- You are the navigator on a 36ft (2.4m draft) boat which has just completed the Hobart Westcoaster.
- **The skipper has decided that she wants to return to Melbourne via the Westcoast, stopping at Recherche Bay, Strahan and a trip up the Gordan River, then a stopover in Grassy(KI).**
- You and the skipper have raced to Hobart several times but have never had the chance to explore the west coast.
- Sitting in the pub at Kettering on **01/01/2024**, the crew decide that initial plan is to leave the next morning
- Recherche Bay first "its only about 35 NM down the channel and everyone stops there"
- Then round the capes to Macquarie Harbour "about 160 miles"

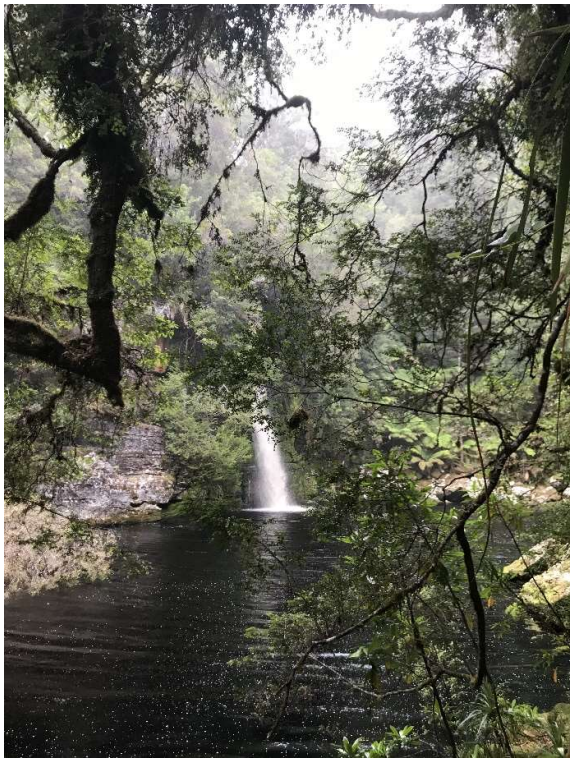
- Let's do a detailed plan including contingencies, red zones.

Recherche Bay Exercise

- The skipper has got you most of the way to Recherche……. Just coming up to Black Reef which is 0.4NM to starboard bearing 130 degrees true.
- Its blowing 20 – 25 kn from the SW.
- Skipper wants to know where to anchor for the night…..and how to get there… what course do I steer please?
- What are the options?
- What's the best spot to anchor?
- Why?
- What course instructions do you give the skipper?

New Harbour Exercise

- You don't have internet connection at Recherche but you get the forecast from TasMaritimeRadio which is for a SSW wind 15 – 25 knots which should be OK once you get past SE Cape.
- But it might go due West before you get to South West Cape. The crew have decided that if this happens – which it does – you will stop overnight at New Harbour which is only about 40NM from Recherche. You will depart at 0600.
- The wind went due West around the time you passed between de Witt and Flat Witch Islands. The swell is only 3m from the WSW but the sea is becoming confused and the crew are cold.
- What's the appropriate procedure for entering New Harbour which you consider to be a Red Zone.
- What are the hazards of concern?
- How do you approach the entrance (detail please)
- What Depths will you anchor in?
- What is your GPS location?
- What do you expect to happen with the tides overnight?



Macquarie Harbour Exercise

- The wind has backed to SSW at 15-25 knots and will remain like that for the next 48hurs
- What time do you leave New Harbour to reach Macquarie Harbour & why?
- What are the dangers with entering through “Hells Gate”?
- You decide to head up the Gordon River to Sir John Falls – what are the potential dangers in doing that.

Strahan Exercise

- After your jaunt up the Gordon River, you head to Strahan for a night out and some re-supplies. You tie up directly opposite the pub. The weather is fining up under the approaching high-pressure system, you expect the MSLP to move from 1008 to 1012 overnight and the wind to slightly abate over the next 48 hours to around 10 to 15 knots Easterly. There is 300mm below your keel.
- You cannot find any tide information for Strahan and you ask a local who mutters something about there only being Barametric tides in Strahan before he stumbles into the pub.
- Will you have enough water under the keel overnight?
- What time will you want to leave as you head to Grassy (KI) & why?

Grassy Exercise

- What are the considerations when entering & exiting Grassy Harbour?
- Your Skipper only wants to transit the heads at slack water, what time to you leave Grassy Harbour?
- By now you are directly under the high and there is no wind and you have to motor @ 7knots.
- Will you have enough fuel? You use 3lt/hour
- The date is 06/01/2024
- What are the potential dangers?
- What are the considerations when transiting the rip?

Exercise #08

Your friend rings you up with an invitation to navigate in the upcoming Fas tnet race
The yacht is a Sunfast3600