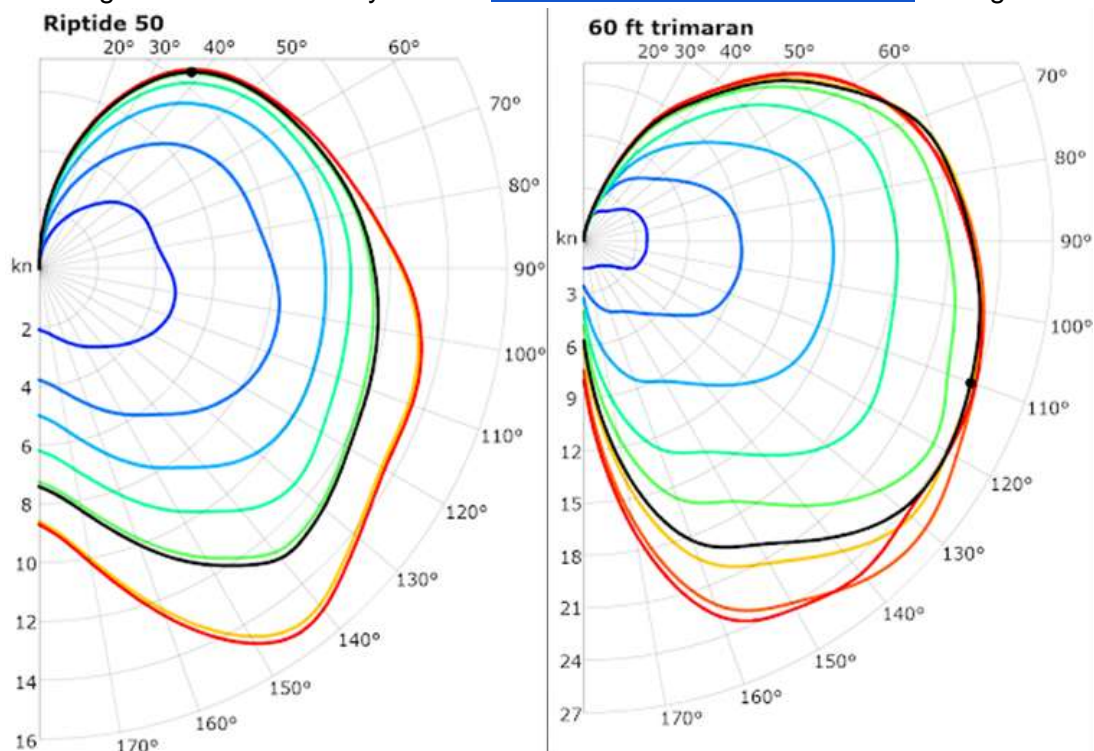


## PIC Coastal Classic Yacht Race 2019

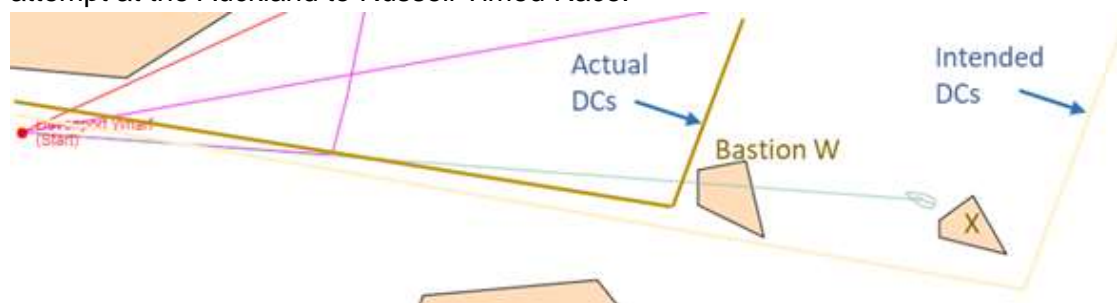
When I first entered this race, I was struck by the route's familiarity in that it seemed similar to something I sailed earlier this year: the [Auckland to Russell Timed Race](#) in August.



In the Auckland to Russell Timed Race, we were given the Riptide 50s. In this race, the 60ft Trimarans were used instead. While the Riptides do have some advantages (faster at many TWAs in windholes; also able to sail closer to the wind, especially headwind), the Trimarans are superior in boat speed when winds exceed ~5 knots.

In the Auckland to Russell Timed Race, I remember many of us waiting for that one day (out of 14) where the winds not only came from the southeast, but was at 20+ knots all the way to the coast of North Island, thereby justifying the geometric route to get to Russell. My 4th and 5th attempts were made on that day; they were by far my two fastest attempts for that race.

Of course, in this Fleet Race, there is no waiting for the winds to align to your liking; whatever the Wx shows at 9pm UTC on 25 October is what you sail in. Which, thankfully, wasn't all that bad; southwest winds averaging 15 knots meant that the long stretch from North Head to Cape Brett Light could be sailed quickly. These winds were similar to my 2nd attempt at the Auckland to Russell Timed Race.



But first, I attempted the Practice Race a few hours before the race start. Actually, this Practice Race effectively started before 6pm UTC for me, as I was trying to round Waiheke Island the long way, and nearly ran out of time to get back to the Devonport Wharf to actually start the Practice Race. Unfortunately, my DCs were slightly off, so instead of passing south of Island X, I BBQ'd on West Bastion before the remaining DCs brought me north of Island X and hence resulting in a DSQ. Yes, someone did manage to SLI-jump West Bastion in the

race but even if that happened for me, it would *still* be a DSQ since my DCs didn't include provisions for the 360° penalty that would follow.

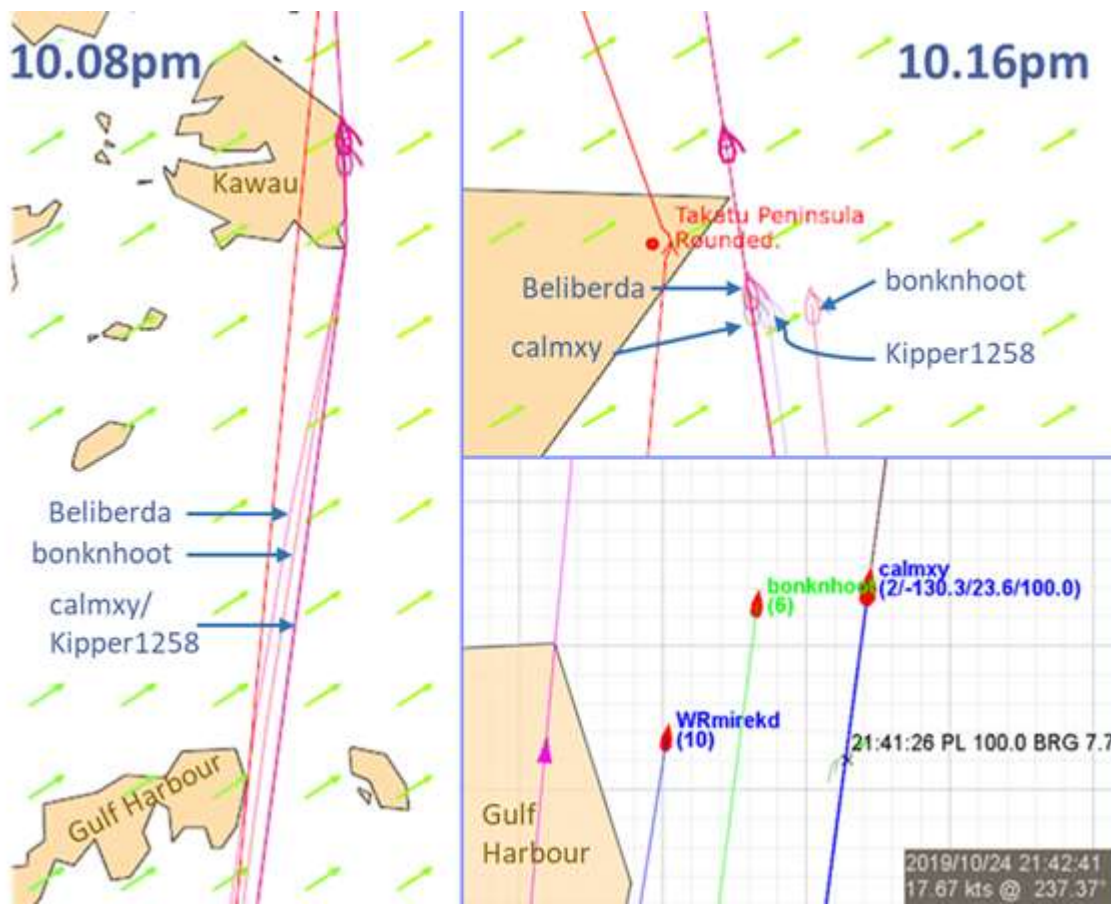
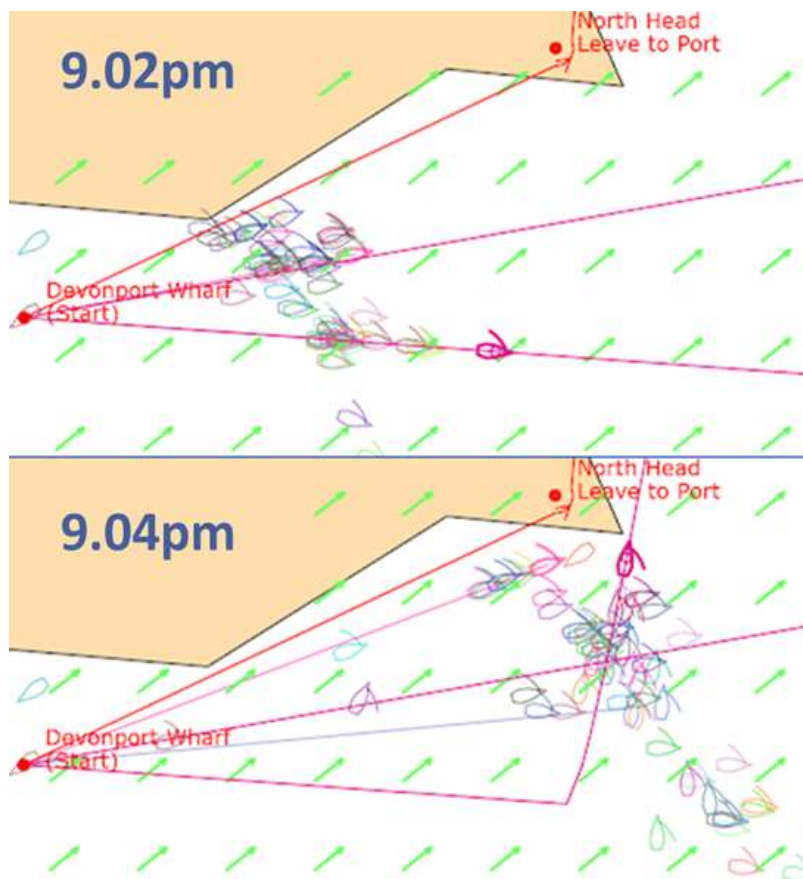
The first nautical mile to North Head was quite chaotic. Note that the first command gets 100% performance (both Fleet and Timed races), but obviously this won't last for long with this course layout.

Some sailed TWA 140° approx., which with appropriate measures to minimise performance loss to 93% was the best option (setting TWA to -179.99° for one server jump at the point of gybe).

Some sailed TWA 155° approx., which may have been best for those who gybed directly towards North Head. The VMG to the tailwind was only slightly less than that of TWA 140°, but the resulting performance loss would be less with a direct gybe at TWA 155°.

Some sailed COG 69° (~TWA 165°), presumably because it's easier to set and the distance to be covered was short. But this was definitely not optimal, as the boat speed would be much slower and outweigh any performance loss avoided from gybe, even over this short distance (this applies to both Trimaran and Riptide).

It was initially difficult to tell who had done this best, but a few minutes later, I found myself at the front with Beliberda, bonknhoot and Kipper1258; the next boats were some 0.2-0.3nm behind. Surprisingly, WRmirekd wasn't in the leading group this time.

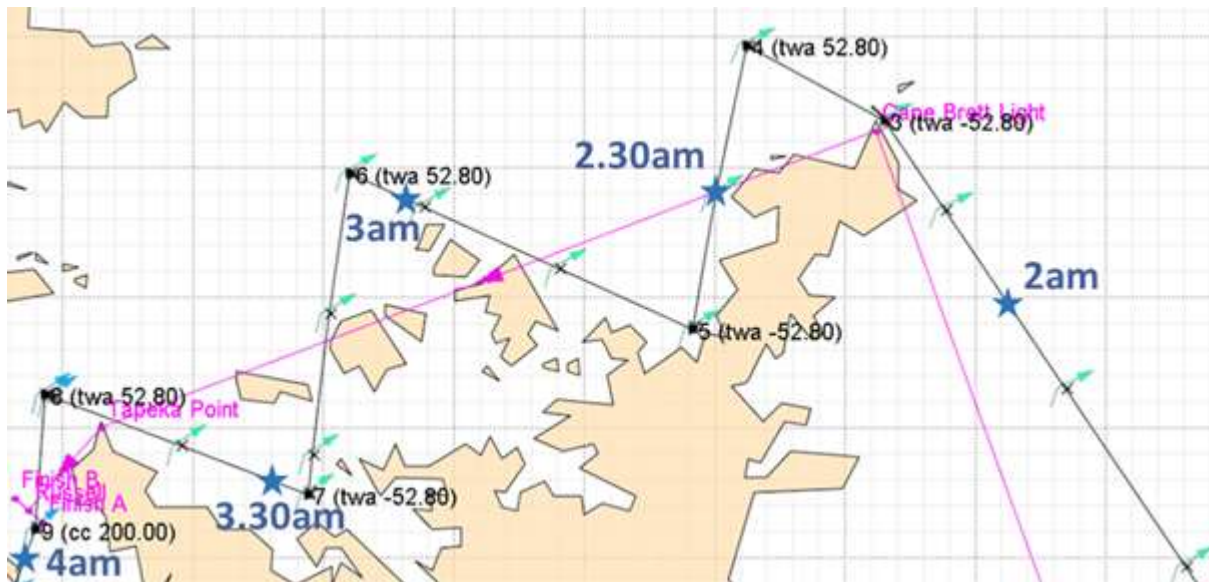


The next hour brought relatively little action; everyone generally sailed the geometric route to Takatu Peninsula. Both the TWA  $-131^\circ$  and COG  $7.67^\circ$  paths took around an hour to reach Kawau Island and, with the correct commands, a further 12 mins to Takatu Peninsula.



However, the stretch from Takatu Peninsula to Cape Brett Light was less straightforward in terms of decision-making. This can be tackled in many ways, but the main routes are: following the rhumb line and keeping close to North Island's coast (Route A), turning on the east coast of Taranga Island and passing between Mauitaha and Lady Alice Islands (Route B) or keeping even further offshore and turning on the east coast of Coppermine Island (Route C). For Routes B and C, some curvature may be added to keep in the strong offshore winds for longer. All these routes (and then some) were tried.

In the Auckland to Russell Timed Race, I remember that almost all successful attempts used Routes A or B depending on how strong the winds were close to the shore, so I initially set commands for Route B. When I saw that bonknhoot continued going straight after Takatu Peninsula, I thought that maybe it's one of the rare occasions where he forgot to set the DC to turn. But after another 5 mins, I noticed that Kipper1258 and Beliberda also seemed to head on Route C. That was too much of a coincidence, so I decided to check using Kipper's tool and sure enough, Route C was faster by 2-3 min. Lesson learnt: consider the entire polar of each boat, what works for one boat (Riptide 50) may not be the optimal solution for a different boat (60ft Trimaran) even under the same wind conditions.



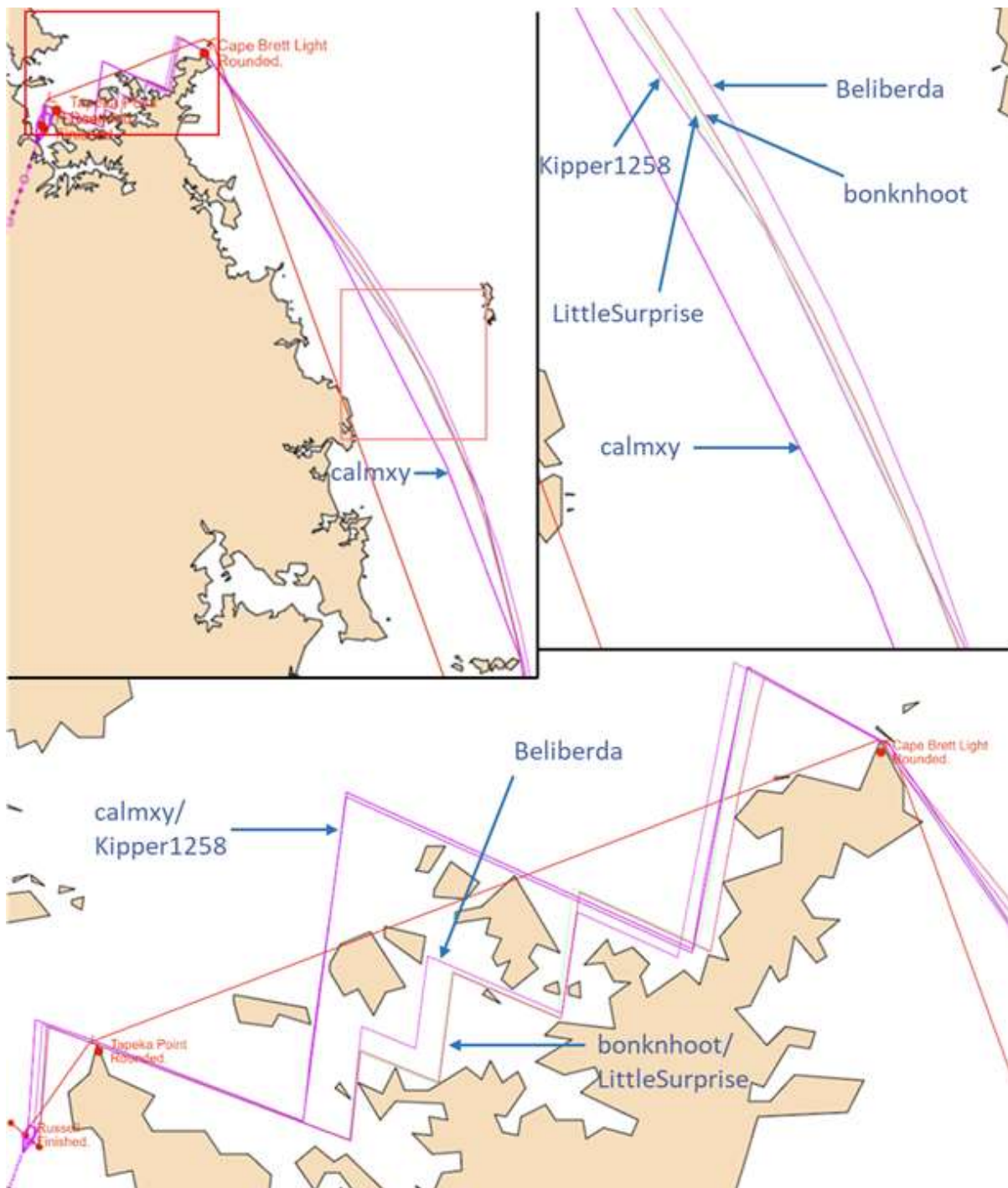
I had to leave for work at just before reaching Coppermine Island, so I had to set DCs for the remainder of the race. The bright side was that the expected finish time was around 4am UTC, so at least I would work with known Wx all the way to the finish. There were two components to this: the choice of curve (or straight line) from Coppermine to Cape Brett Light, and the choice of tacks from Cape Brett Light onwards.

The first part did not pose a risk of BBQ except at the end, and the following DCs were set for the curve:

2019/10/24 23:32:30	cc	339
2019/10/25 00:16:00	cc	333
2019/10/25 01:15:00	cc	326

The second part approached many more islands, and the DCs are shown in the diagram. I was aware that going through the islands and keeping further south with more tacks could well have been faster, but I didn't even test that route. This is because there's a chance that the DCs could fire one server jump early, and going through tight channels would increase the probability of a BBQ and hence finishing the race. Indeed, I was reminded of that risk with the earlier Practice Race's DSQ. In hindsight, I should have set that final command to point back to the finish line a couple minutes after expected finish in case I somehow missed it (even though it didn't matter in this case)..

All I could do now was to hope that not too many boats would overtake me. Which, surprisingly enough, came true! When I checked back in the evening (Singapore time), I found that I had lost more time to the podium and probably the rest of the top 10, but close as it was, I somehow managed to retain rank 4 at the finish. Naturally, I was curious as to how my group (and Little Surprise, who finished just one second after me) sailed the rest of the course.



Based on the boat traces, my curve was insufficient to get the most out of the stronger offshore winds (the distance between my boat trace and that of the others was over 1nm at some points!), and LittleSurprise may actually have gotten to Cape Brett Light before me. Also, as expected, that southern route from Cape Brett Light onwards was taken. Unfortunately, the performance loss of those additional tacks meant that bonknhoot lost a few seconds to Kipper1258 and likewise, may also have been a factor in finishing just before LittleSurprise.

Congrats to all for a wonderful race!

calmxy / October 2019