

Lancing (Handicap) Correction Factor (2017 Update)

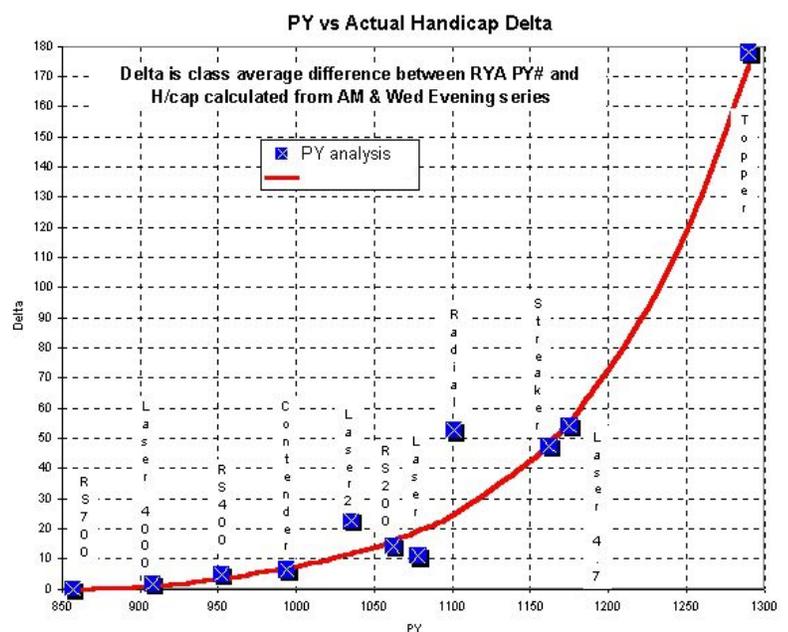
Back in 2007, I wrote "As some of you will recall, I have been muttering about slower boats being unfairly handicapped at Lancing for a good few years now" and then described the theoretical basis for our local handicap modification system (LCF). After a decade it was time for an update...

For perfectly valid reasons, all our handicap racing has used an elapsed time correction system, based on Portsmouth Yardstick numbers (PN). The RYA website has loads of information - see www.rya.org.uk/racing/Pages/portsmouthyardstick.aspx, but all you need to know for now is that the published handicaps are derived from annual 'returns' from sailing clubs all around the country to give a 'fair' handicap for 'average' conditions. Clubs are also encouraged to modify these numbers for their own sailing condition, but, to my knowledge, Lancing has never done this, except for Personal Handicap series, where the owner + boat have their own handicap number, although other clubs do use local variations.

Now as we should all realise, some boats perform better relative to others in strong winds (the Laser >>, for example), and vice versa (the Streaker, perhaps), but there are two, or more, features of Lancing sailing that put it towards one extreme of the UK club's average conditions, and they are all to do with it's location: that is, on an exposed southerly sea coast. This means that we have to cope with tide, waves, and, on average, stronger winds (think sea breeze). The first 2 of these, and especially the first, have a distinctly uneven effect on a boat's progress around the race course, depending upon its flat water speed (which is primarily dependent on its length, weight and sail area).

To illustrate this, consider 2 boats, one capable of sailing at 3 knots (kt) in a 5kt breeze (boat A), and the other 2kt in the same breeze (boat B). Now imagine that they are racing over a simple 'there and back' reaching course, initially with no tide: I hope that you can see that A will complete 1 lap of the course 1.5 times as fast as B. Now let's consider the effect of a 1.5kt tide flowing along the course: now A will make 1.5kt over the ground against the tide, and 4.5kt with it, whereas B will make just 0.5kt against the tide, and 2.5kt with it. The net result is that A will complete a lap 2.7 times as fast as B! (If this is a bit of a mathematical struggle, just imagine what happens when the tide is 2kt, as it is sometimes off Lancing....) The result is that tide can seriously handicap a slower boat: waves can do the same, but in a somewhat different way.

So what do our Lancing series results show? I used to analyse the various handicap series results to try and establish a 'fair' handicap number. As part of this process I attempted to factor out the crew's 'skill factor', the Personal Handicap numbers giving me a good guide, along with performance at open meetings. The result is a graph, much like this one from my 2006 analysis, which shows that the slower the boat (higher its PN) the larger the local correction factor needed for it to race on equal terms with faster boats. The red line represents a 3rd order polynomial curve fit to the data. Where a particular boat lies above the line (e.g. Radial), this indicates that it needs a larger than average correction; when it lies below (e.g. Laser) a smaller correction.



So both a simple theoretical consideration and actual data indicated that some form of local correction to basic PN was required to 'level the playing field'. This was discussed at length in Sailing Committee during 2006, and such corrections were implemented during the 2007 season for the Easter, A&O and Winter Series, plus Pursuit Races, and have been used in subsequent seasons for races where there is just one start ie all classes racing together.

Over the intervening decade, the RYA has slowly improved its on-line service and clubs can now submit race data directly for central analysis, rather than having to calculate locally the suggested PN values. This has resulted in a general relaxation in handicaps (ie higher numbers) for many of the slower classes, and some significant corrections for others. Accordingly the correction provided by LCF has been reduced so as not to under-handicap the slower boats!

It remains a moot point whether sea based clubs should be using the same PN as inland clubs, but the option remains to implement local corrections, provided there is sufficient data to support this (and the clubs are happy: up till now Lancing has not wished to do this on a boat by boat basis).

The current LCF (and PN) values are shown on the LSC website, but for interest I have compared the 2007 and 2017 PN and LCF corrected PN numbers in the following table.

	2007		2017	
	PY	LCF Adjusted	PY	LCF Adjusted
RS700	857	857	847	847
RS400	952	954	942	942
Contender	994	999	970	971
Laser 2	1035	1045	1065	1071
RS200	1059	1073	1047	1052
Laser	1078	1097	1097	1106
Laser Radial	1101	1126	1139	1154
Streaker	1162	1210	1132	1146
Comet	1173	1226	1204	1232
Laser 4.7	1175	1229	1200	1227
Miracle	1178	1233	1210	1238
Topper	1290	1424	1347	1425

Finally, if you want to discuss this with me, I suggest that you send me a PM on the LSC forum.

Mike Croker