



Establishing Sensible Starting Handicap for a Regatta or New Season

Introduction

Often, handicap prizes are often part of the Prize List at Regattas. In such cases, starting handicaps that make sense are important. But, how are they established?

TopYacht has a utility for ending such dilemmas. While it is acknowledged that there may be different methodologies, this technique has not been challenged yet, and the outcomes accepted.

Method

1. Create a back-up of the database. See the **TopYacht HELP** topic: Backup and Restore
2. When creating a series, create two groups one to be scored on elapsed time¹ and one to be scored on handicap corrected time.

3. In this example, the handicap recipe chosen is PHC1. It is recommended that the recipe setup parameters are set to sensible values. While the TopYacht-supplied recipes will all work, end users may choose to change them according to the ability of the fleet. See [Appendix 1](#) for details.

¹ The Elapsed time series would need to be some form of rating series like Yard-Stick, CBH or SMS for mixed class racing.

- Assuming you have imported the competitors from a CSV list, or have manually entered the competitors into the master list, add all the competitors into the series, using Step 3 on TopYacht's main menu. Enter the competitors into the handicap group by giving each an initial handicap of 1.0.

| Sail No | Boat Name | IN | ADD | First Name | Last Name | Class | HANDICAP |
|---------|-----------------|----|-----|------------|-------------|--------------------|----------|
| 4109 | Snake Bite | ☺ | | Bart | Newman | CadetInternational | 1.000 |
| 4118 | Skeeta | ☺ | | Callum | Wilkinson | CadetInternational | 1.000 |
| 4659 | Red Rocket | ☺ | | Jock | Sinclair | CadetInternational | 1.000 |
| 4664 | Blue Max | ☺ | | Harrison | Gibb | CadetInternational | 1.000 |
| 4690 | Sailmaker | ☺ | | Clare | Blakebrough | CadetInternational | 1.000 |
| 4884 | Jerboa | ☺ | | Glen | Wall | CadetInternational | 1.000 |
| 4891 | Cat Burglar | ☺ | | Zacharie | Elsworthy | CadetInternational | 1.000 |
| 4940 | The Lost Viking | ☺ | | Julian | Warren | CadetInternational | 1.000 |
| 5407 | Viking 11 | ☺ | | Alistair | Dickson | CadetInternational | 1.000 |
| 5479 | Saynonara | ☺ | | Jono | McLean | CadetInternational | 1.000 |
| 5501 | Quantum Leap | ☺ | | Martin | Cooper | CadetInternational | 1.000 |
| 5502 | Encounter | ☺ | | d | s | CadetInternational | 1.000 |
| 5509 | Samaran | ☺ | | Adam | Evans | CadetInternational | 1.000 |
| 5560 | Something Else | ☺ | | Elizabeth | Johnstone | CadetInternational | 1.000 |
| 5612 | Hullabaloo | ☺ | | Joel | Aulich | CadetInternational | 1.000 |
| 5613 | Rebel | ☺ | | Meaghan | Rich | CadetInternational | 1.000 |
| 5616 | Loquacious | ☺ | | Caroline | Theodore | CadetInternational | 1.000 |

- Run the first three (or four) races; suppressing the publication of handicap results. There is no hard-and-fast rule as to the race count at this point. Increasing the number of races statistically improves the accuracy of the point estimate of the true starting handicap. It becomes a play-off of accuracy and being able to award daily trophies.
- Follow the menu sequence: **Admin | View | Handicap Data | Summary Data**.

| SAIL | BOAT | CLASS | DIV | AHC1 | AHC2 | AHC3 | AvAHC | BCH1 | BCH2 | BCH3 | AvBCH | CHC1 | CHC2 | CHC3 | AvCHC |
|------|------------|--------------------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 4109 | Snake Bite | CadetInternational | 1 | 1.000 | 1.010 | 1.023 | 1.011 | 1.041 | 1.069 | 1.111 | 1.074 | 1.010 | 1.023 | 1.039 | 1.024 |
| 4118 | Skeeta | CadetInternational | 1 | 1.000 | 0.990 | 0.988 | 0.993 | 0.944 | 0.990 | 0.946 | 0.960 | 0.990 | 0.988 | 0.975 | 0.984 |
| 4659 | Red Rocket | CadetInternational | 1 | 1.000 | 1.004 | 1.015 | 1.006 | 1.017 | 1.048 | 0.958 | 1.008 | 1.004 | 1.015 | 1.009 | 1.009 |
| 4664 | Blue Max | CadetInternational | 1 | 1.000 | 0.990 | 0.978 | 0.989 | 0.940 | 0.927 | 0.915 | 0.927 | 0.990 | 0.978 | 0.962 | 0.977 |
| 4690 | Sailmaker | CadetInternational | 1 | 1.000 | 1.010 | 1.022 | 1.011 | 1.038 | 1.066 | 1.054 | 1.053 | 1.010 | 1.022 | 1.036 | 1.023 |

This example shows the handicap parameters for each race.

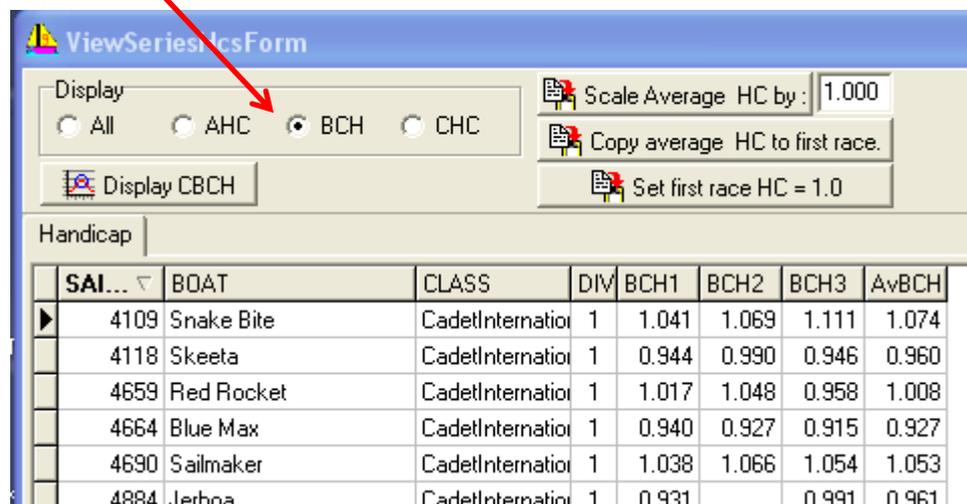
- The columns with headings AHC1, AHC2 are the 'Allocated Handicaps' for each boat in each race..
- The measured performance of each race is the 'Back Calculated Handicap'. These are in the columns BCH1, BCH2 etc.

If we take the average of these BCHs for the first three (or four) races, it should be a reasonable point estimate of the performance of each competitor.

If we were to copy these values back to Race 1 on a boat-by-boat basis as a new initial (starting) handicap, then by reprocess each race in succession, and rolling forward the newly-computed CHC, experience shows this process yields an effective handicap series-score.

This is achieved as follows...

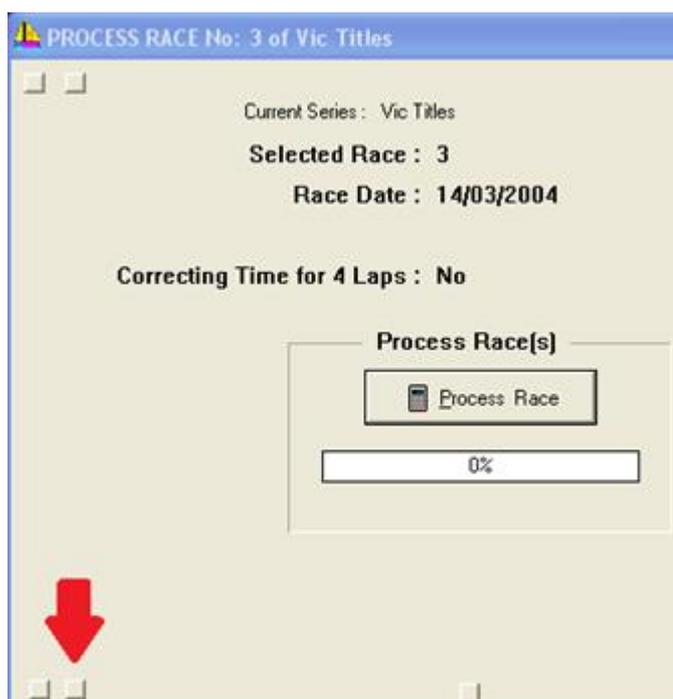
Click the BCH radio button.



This removes all columns except the BCH columns and also provides access to three buttons.

Press the  Copy average HC to first race. button

7. Close this page and return to the main menu.
8. Select the Last Race
9. From main menu select TopYacht Step 10 "Process Race.



Click the button indicated to reprocess all races. This particular button automatically rolls forward the computed handicaps from the previous race.

The other small buttons have different functions, resulting in different outcomes. Hovering the mouse over the button displays some explanatory text.

10. If you really want to finesse this process, repeat steps six to nine, but in step six, press the  button. This uses the clamped, back calculated handicap values from each race and discards any extreme values from an exceptionally good or poor race for the competitor.
11. Run the rest of the races as per normal and publish both the elapsed time and handicap results.

Appendix 1

TopYacht has several handicap built-in recipes when installed. These are known to work. It is recommended that they are **NOT** changed by end users. Please make a clone and name it to suit the local needs.

Menu sequence to access handicap set up page is:

Admin mode | Maintain | Master List | Define Edit Handicaps.

Handicap Definitions

Handicap Name: Club HC

Handicap type:

- Time On Time
- Time On Distance
- Time (pursuit)
- Time

Back Calculated Handicap Reference time is...

1] Average time of first 45 % to 45 %
OR Average times of boats to

2] HC Corrected Time [NOT Elapsed Time]

Computer Calculated HC parameters...

3] Calculate new HC for next race

4] Show Next Race HC on Current Results

5] HCing Maths: ExpoPlaceBiased

6] Percentage Influence (max 99%) 3 BCHs / races

7] BCH clamped at: UPPER 6 % LOWER 4 %

Computer Calculated HC parameters cont'd...

9] Discard lowest and highest BCHs.

10] "Provisional" HC indicated by the letter

11] "Provisional" HCs adjusted more quickly

12] High Limit 50.0 % 13] Low Limit 50.0 %

14] Max Step Size 6 % 15] Min Step Size 0.01 %

16] Restrict Min. HC to -X% of Initial HC %
OR Restrict Min. HC to -X% of Class Mark %

17] Early HCs adjusted more quickly

18] High Precision BCH 18] Gain Bias %

19] Allow Cross Division BCHs calculations

20] Add Place Penalties Anti Creep
Percents 1st % 2nd % 3rd %

21] GP Params

- Use Place/Standings Biased Scale factors
- Standings not Place Biased (>1 = Num Rs)
- Polarity Factor
- Up/Down Scale factors (>1 = x/100 %)

Param 5

For children or other tipsy boats e.g. skiffs, it may be appropriate to adjust parameter one to a figure closer to 50% e.g. 48% to 48%. Similarly for these two groups, it may be sensible to broaden the clamps in step seven, to say plus and minus 6% or even 7%. For definitions of these terms please refer to the help file.

Parameter five as shown above is a Exponential Placed Biased Calculation method². For a long regatta this has been shown to provide very good handicapping.

Alternately you may prefer the exponential average system, where, on a race by race basis, the handicap for the next race will go up if they perform well and go down if they perform poorly. While this is easier for competitors to understand it also leaves the system more open to sandbagging and has been shown to provide slightly less quality handicapping than a weighted running average.

² See: [How the Next Handicap is Calculated..](#) A TopYacht Technical Article