



# Marchwood Yacht Club

## Handicap System Guidelines ver 3

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# Introduction – Ratings & Handicap Systems

Handicap racing is the generic term used to describe races in which boats (either dinghies or yachts) of different speeds compete against each other and, through subsequent mathematical calculation, their true positions in the race attributable to the skill of the crew is determined by negating the physical speed effects of the boats. These determinations on which crew beat which are calculated by correcting the actual time it took each boat to complete the race by a numerical measure of the boat speed - its handicap.

Handicaps come in two general types:

- 1) **RATINGS** - A Rating is a numerical measure of a boat's speed determined by calculation using physical parameters of the boat - length, beam, displacement (weight), sail area etc. A Rating is wholly objective as it addresses the performance of just the boat.
- 2) **EMPIRICAL HANDICAPS** - An Empirical handicap (commonly called just handicap) is a numerical measure of a boat's speed based on the past performance of the boat in previous races. A handicap without further adjustment is thus a measure of the performance of both the boat and the crew.

Up to the end of the 2018 sailing season, MYC have been using a purely empirical handicap system to attempt to adjust the handicap of individual boats according to their performance in races, in order to benefit intrinsically slower boats and peg back the faster ones; in effect to try to create a 'level playing field'.

## 1. New Handicap System for MYC in 2019 Season

The present MYC handicap system has served reasonably well for a number of years despite the tendency for some anomalies to creep in, which is not uncommon for empirical systems. However, there is one major disadvantage with the MYC system in that it is not compatible or comparable with the systems used by other local clubs.

Why is this relevant? Simply put, the General Committee are of the opinion that it would be of benefit to the club if we could invite boats from other local clubs to take part in our club events, for example The Regatta, Midsummer Madness, Todd's Double, etc., and if MYC boats could take part in events organised by other clubs. This interaction can only work reasonably seamlessly if MYC are using a compatible or comparable handicap system.

The RYA used to offer an empirical handicap for yachts that was similar to its Portsmouth Yardstick system for dinghies but about 5 years ago this was replaced by a new **National Handicap scheme for Cruisers**, giving clubs a uniform scheme that can be easily adopted for their racing. This new NHC scheme was developed with the cooperation of the RORC Rating Office and uses base Time Correction Factors (TCFs) obtained from IRC ratings, with a base list covering some 1200 different yachts. Under the RYA NHC these base TCFs are then adjusted by clubs from their race results, which introduces a degree of empirical handicapping but starting from an objective rating.

Why change systems then? The **existing MYC handicap system** uses the following simple arithmetic to convert a boat elapsed time to the corrected time:

Corrected time = (elapsed time *divided* by handicap number) x 1000 (times in seconds)

However, under the **RYA NHC and RORC IRC systems**

Corrected time = elapsed time *multiplied* by a Time Correction Factor (times in seconds)

It will be evident from the above that, to achieve the same corrected time, the handicaps for the two systems are numerically different and cannot be directly compared. Furthermore, the MYC handicaps correct times to that of one of the smallest yachts in our fleet whereas the NHC and IRC systems correct times to one of our largest yachts so even corrected times cannot be directly compared.

In the course of our research into handicap systems we became aware that the Hamble River Sailing Club uses the RYA database for its starting handicaps (making periodic small empirical adjustments), and that the Royal Southampton Yacht Club uses the IRC rating system; therefore, if MYC adopts the RYA National Handicap for Cruisers system, we would be able to directly compare MYC ratings with both RSYC and HRSC.

It is also worth noting that the Round the Island Race assesses all results by using a TCF; some TCFs are IRC certificated ratings whereas others are ISC ratings awarded by the Island Sailing Club.

On the above basis, it should then be possible to organise participation of boats from other clubs in MYC racing events, and similarly, participation of MYC boats in events organised by others as well as dealing with anomalies that may have crept into MYC's existing handicaps.

In line with the above rationale, we have taken the step of introducing the new handicap system for the 2019 season.

## 2. Implementation of the New MYC System

It is proposed to start this seasons racing using the RYA's NHC base TCFs; however, in line with the RYA rules for their system, any club yachts with a valid IRC certificate may use their own TCF in preference to the one given in the database for their boat type/model.

The Sailing Committee are currently assigning new handicaps to all of the club boats directly from the RYA database; where there are no direct ratings available, the RYA are able to give a one-off rating based on calculation using certain major parameters/characteristics of the particular boat. (We will publish a table of all club boat handicaps in Pennant before the season's racing events start, to enable all competitors to gauge their relative performance on the water. The RYA database and rules will also be posted on the MYC website.)

Under the RYA system, the club event results are processed by the RYA after every race to adjust the handicaps of those boats racing according to their finishing positions/times, and thereby issue a new set of handicaps for use at the next event.

These empirical adjustments will take account of both the configuration of the boat compared to that in the RYA base list; e.g. keel arrangement, propeller type or sails carried; and the sailing skill including short-handed crewing but assessed over a series under differing wind conditions.

As this process is carried out over a series of races, the effect is to apply a series of iterations with relatively coarse adjustments at first, but these will quickly settle down to progressively finer corrections as the handicaps result in closer bunching of corrected times.

It is anticipated that the handicaps for most boats will be sufficiently finely tuned by the end of the season such that any further adjustments can be carried less frequently, say at mid and end of season only.

## 2.1 How to Calculate Race Results

A boat's handicap is expressed as a multiplier number based about 1.000.

To calculate the corrected time, the simple calculation below is used:

Corrected time = Elapsed Time x Time Correction Factor (TCF) (note: the elapsed time is first converted to total seconds)

It is evident from the above that for such a boat with a TCF of 1.000, the corrected time will be the same as the elapsed time. Therefore, for inherently slower types of boat, the starting handicap from the RYA database will be a TCF which results in the corrected time being *less* than the elapsed time, e.g. 0.980.

Similarly, for less experienced crews in the same type of boat, the rating will be adjusted empirically (following analysis of actual race result), such that it results in a further decrease in the corrected time.

In order to encourage better sailing and avoid unduly penalising the better crews, most handicap adjustments will be to slower boats, in order to bring them up to the faster ones; however, the system does allow for downgrading a faster boat if it is judged to be winning too easily in all circumstances.

As previously stated, a table showing the ratings of all club boats will be posted at the start of the season in Pennant, and also be available on the website showing the following data:

- Boat Name;
- Boat Model/Manufacturer/Type;
- Boat LOA;
- Starting Rating (either from RYA database or a valid IRC Rating);

The table will be updated at mid and end of season to show the handicap adjustments that have been applied; In showing the full data as above, we hope to promote full transparency of how the handicap system is working. However, if club members wish to see an immediate update of their handicap they may look on the MYC website, which will be updated 2-3 days after each event. *(Note: due to IT limitations of the website, the handicap will be displayed x1000; e.g. a TCF of 0.982 will be displayed as 982, and a TCF of 1.011 will be displayed as 1011.)*

## 2.2 Starting Handicaps

The starting handicaps for MYC club boats will be taken from the RYA database, a copy of which will be available on the MYC website. For boat types that do not appear on the list, a starting handicap can be requested from the RYA; in order for them to assign the handicap number, they will need the following data regarding your boat:

- Boat Manufacturer;
- Boat Model;
- Year of Manufacture;
- LOA;
- LWL;
- Draft;
- Beam;
- Displacement;
- Type of keel;
- Engine Model;
- Propeller type;

- Headsail and mainsail details;
- Details of downwind sails;
- Steering – tiller or wheel.

If your boat is not listed in the table at the end of this document and you wish to take part in any club racing events, then you will need to send the above information to [sailingsec@marchwoodyc.org.uk](mailto:sailingsec@marchwoodyc.org.uk) and we will request a starting handicap from the RYA.

As previously stated, boats with a valid IRC certificate may use their rating as the starting handicap; this is because the RYA starting handicaps are based on actual IRC ratings. However, once the racing programme commences, IRC ratings will be subject to the empirical adjustments in the same way as boats starting with an RYA number, depending on race times.

### 3. General System Operation

In racing fleets comprising a wide range of yacht types, i.e. light and heavy displacement, cruiser, racer, sportsboat etc., a set of single number handicaps is never precisely correct for all boats in a particular race because relative competitiveness, i.e. relative speed round the course, will vary depending on the wind conditions, whereas in a class that contains similar style boats, consistently closer corrected times are more likely. Nonetheless in either scenario over a race series, consistent performance and good sailing should be rewarded.

The Club Handicap list will be used for the Wednesday Evening Series racing, plus all other club events involving racing, such as The Regatta, Midsummer Madness, Todd's Double, the Autumn Series, and Rallies.

It is anticipated that at the start of this season's racing, there will be more disparities in performance across the MYC fleet before any empirical adjustments have been made. Therefore, the first set of adjustments will be made following the shakedown race on the 17<sup>th</sup> April which will hopefully remove some major disparities before the start of the races which count for club silverware.

The RYA system is intended to be effective across different wind directions and strengths, and promote fairer racing in any subsequent races, encourage continued participation and improvement, but also not over-penalise good sailing which is to be encouraged. A poorly performing yacht may be given a downward adjustment to encourage further participation, while a yacht, or yachts, winning too easily and too often in most conditions can expect upward adjustments. An overall win in a tightly contested series may only warrant a small adjustment, if any. Competitors should note it could be decided that no adjustments are necessary.

For club yachts that do not take part in the evening races, but only in events such as The Regatta, or rallies, there will obviously be less data available for analysis. However, we will still make the adjustments on such data that is available.

The evening series will normally have a 'fast fleet' and a 'slow fleet'; this is to tailor the race distances to be conducive for both fleets to finish in similar elapsed times.

The administration of the system requires the Sailing Committee to remain attentive and informed to gauge the satisfaction of the competitors with the racing and results. Competitor feedback to the Sailing Committee can be sent to the Sailing Secretary at [sailing sec@Marchwoodyc.co.uk](mailto:sailingsec@Marchwoodyc.co.uk).

A newly arrived yacht joining the fleet will be given a starting RYA handicap which will be subject to the same adjustment regime after each race that it competes in.

Although split into racing classes, handicaps across the entire fleet should be reasonably accurately related to facilitate all-in racing, including start times for pursuit-type races.

## 4. Race Results and Prizegiving

Race results on the day will make no distinction between MYC and non-MYC boats and all placings will be recorded, (although the boats will be identified as MYC or non-MYC); It is intended that small prizes will be awarded on the day, purely on placings (e.g. bottles of wine or suchlike). Unfortunately, the MYC website will only show MYC boats and placings due to IT system limitations.

However, for the purposes of awarding club trophies at the end of the year, only MYC boat placings will be considered.

# Handicaps of MYC Boats as of April 2019

MYC Handicaps for 2019 Season		01/04/2019		
Boat	Type	Starting HC	Mid Season	End Season
Adelie	X332	0.993		
Amaya	Oyster 37	0.939		
AmyLou	Maxi 1100	0.967		
Asuno	Jeanneau Sun Oddesey 37	0.965		
Aswas	Fulmar	0.909		
Atuona	Endurance 38	0.970		
Bambino	Beneteau 361 (Oceanis)	0.988		
Bayna	Dufour 28	0.890		
Bolero	1/4 Ton design	0.849		
Boogie Nights	Dehler 36 CWS	0.950		
Caol Rona	Nicholson 39	0.862		
Cariad	Sadler 290	0.922		
Cava	Maxi 1000	0.934		
Chuckle	Mirage 28	0.830		
Dreamer	Starlight 35	0.935		
Eumenides	Rustler 31	0.858		
General Kaos	Westerley GK29	0.865		
Ghost	Mirage 28 Mkii	0.830		
Golden Dragon	Moody 36	0.931		
Gwennol	Westerley Griffon II	0.848		
Gypsy Star	Southern Cross	0.982		
Harvard	Rustler 36	0.894		
Hydra	First 33.7	0.938		
Jackdaw	J92	0.959		
Jarramas	Folkboat	0.799		
Jumanah	Dufour 365	0.959		
Kari	Dehler 35	0.958		
Kind of Blue	Offshore 8m (Van da Stadt)	0.814		
Kojan	Dehler 39JV	1.010		
Kokomo	Jeanneau Arcadia 29.6	0.856		
Kusi	GK29 (Fin, Folding x2)	0.865		
Lady Catherine	Colvic Countess (28)	0.856		
Lady Richford	Mirage 28	0.830		
L'Horizon	Moody 31	0.908		
Liberty	Beneteau Oceanis 350	0.927		
L'Obsession	Ecume d'mer	0.811		
Macavity	Hunter 30	0.889		
Mad Fish	Moody S38	0.948		
Magic Sky	Nayad 331	0.925		
March Hare	Bavaria 38	0.998		
Matkaya	She 9.5	0.857		
Maybee 4	Jeanneau Sun Fast 35	1.003		
Moonabout	Sigma 36	0.944		
Nita	Sadler 34	0.923		
Pastime of Hamble	She 36	0.886		
Peccadillo	Jeanneau 36i (Sun Odyssey)	0.982		
Prodigal	Dufour 31	0.862		
Psyche [Lewry]	Sigma 33	0.909		

## MYC Handicap System

MYC Handicaps for 2019 Season		01/04/2019		
Boat	Type	Starting HC	Mid Season	End Season
Quincy	Contessa 26	0.815		
Revelation III	Jeanneau 28 (Sun Odyssey)	0.899		
Rime and Reason	Westerley GK29	0.865		
Rosinis	Rustler 36	0.894		
Sapphire	Sadler 34	0.923		
Sara Anne	Beneteau Oceanis 331	0.946		
Scare	Sigma 36	0.944		
Scottfree	Bavaria 30 Cruiser	0.916		
Sealegs IV	Moody 346	0.964		
Shadowfax	Verl 33	0.892		
Silence	Sadler 25	0.836		
Silver Shamrock II	Hallberg Rassey 342	0.923		
Simons Star	Bavaria 36	0.979		
Skua III	Hallberg Rassy 31	0.900		
Snoopy	GK24	0.854		
Spread Eagle of Hamble	Fulmar	0.909		
St Brigid	Rival 32	0.846		
Toucan	Trapper 240	0.866		
Trickster	Sigma 33 OOD	0.909		
Unchained Melody	Hunter 23 (Sonata)	0.831		
Unreal	Bavaria 33 Cruiser	0.956		
Valerie	Rival 32	0.846		
Valsa	Westerly Fulmar	0.909		
Zingerella	Etap (23)	0.832		