



Performance Handicapping:-a Sailor's-Guide

PHS in this document means "Performance Handicap System". It relates to a handicap system that adjusts a boat's handicap after each race based on the "performance" of that boat relative to another boat(s) in that fleet.

From the TopYacht point of view, PHS is the mathematics used to calculate the new handicap for a boat after each race. TopYacht provides over 20 parameters that the club can adjust to calculate the next handicap.

"Measured Boat" Handicapping.

Measured boat handicapping is where a number of dimensions and criteria such as weight of a boat are measured and these are input into a special computer formula. The formula will then provide a handicap figure that is designed to make this boat as 'equivalent' as possible to other measured boats. Measured boat handicapping is not the topic of this paper.

"Performance" Handicapping (PHS).

Measured performance strives to provide handicaps for all competitors by comparing their performance with the performance of other competitors. Note the deliberately used term "competitor". Under this system the boat along with its skipper and crew are being compared with other "competitors". The same boat with a different crew may perform somewhat differently. Measured performance handicapping makes no attempt to distinguish whether the performance is due to the boat or her crew but rather they are considered as a single entity called a "competitor".

PHS means Different Things to Different Users.

At one end of the spectrum some clubs believe that PHS is a "revolving door" i.e. all boats will take it in turn to be the winner and the loser.

At the other end of the spectrum are clubs who treat PHS as a quasi-measurement system i.e. a boat is given what is deemed to be a "fair" handicap for that type of boat and this will not be varied much over the duration of a Series. This tends to provide a consistent set of winners very similar to say IRC or AMS rating systems and the measured performance of the boat AND crew has only a small influence on the handicap development over a Series.

Most clubs sit somewhere in the middle of these two extremes. How can the maths provide such a range of outcomes?

For most clubs the premise is quite simple; to take into account the difference in measured performances of each boat/crew, a handicap is allocated to each boat.

In a perfect world if each boat sailed exactly to their handicap then all boats would have the same handicap corrected time.

Click [here](#) for a detailed description of how a Performance Handicap System works.

Some Observations

Why don't the Very Bottom Boats Move Much at all?

This is usually because the club has chosen some CBCH clamping parameters to reduce the effects of people sandbagging. Often the upper and lower clamps are set to different values to stop a boat having a large handicap drop after a particularly poor performance. If the performance is particularly bad, the CBCH may be such that it is not used in the next projection.

To Adjust Quickly or Slowly

More and more clubs are moving to Exponential handicapping because of the advantages it offers. In this case the speed of handicap adjustment is dependent on the Gain and the Clamps.

Smaller gain = faster change [and conversely]. Smaller clamps = slower change [and conversely].

Some clubs like to have the handicap adjust quickly to catch changes in the boat eg new sails, new crew etc. Other clubs prefer the handicap to change very slowly as they believe it is basically based on the design on the boat. These clubs are using less "performance" in making the next race adjustments. Which is better? This is up to the philosophy of your club.

Some Common Myths

Myth

Your place determines your handicap for the next race.

Reality

In Performance handicapping it is the boat's **performance** not their **place** that adjusts their next race handicap.

For example, a boat can win by 1 second, 1 minute or 30 minutes. If their handicap is just adjusted just by the fact that came first, then this is not reflecting their "performance".

Your relative place is an indicator of whether your next race handicap is likely to go up or down; and the closer you are to the top of the Winners List (or bottom of the Tail End Charlie's List), the more your handicap is likely to be adjusted (because you performed well above or well below your current handicap).

E.g. in a fleet of 20 boats:

If you are mid fleet then you are considered to have sailed to your handicap and your handicap will change very little for the following race. So those in places 8, 9, 10, 11, 12 will see little handicap change. Places 1, 2, 3 are likely to see larger changes – not because of place but because to be in that place, they performed well above their handicap. Ditto those towards the bottom end of the fleet.

Myth

The same boats wins on handicap every year – THEREFORE the handicap system is broken!

Reality

Many folks forget that if they don't sail often, then their Series points are weighed down by many DNC scores. This is NOT caused by poor handicap maths!

Myth

My PHS handicap at my club is 0.820 and it will be the same at other clubs/events!

Reality

An IRC or AMS measurement handicap, and is constant irrespective of where you sail. This is NOT true of a PHS handicap. A performance handicap evolves within a particular group of boats AND is based on an arbitrary starting value decided by your club. If you then go to another club or event, the mix of boats and/or arbitrary starting point may be significantly different. Further, it is **not** possible to transfer a handicap from one TopYacht **group** to another and expect it to produce meaningful outcomes.

Myth

Boats sail exactly to their handicap for every race.

Reality

Boat's performance varies race-by-race by upwards of +/-3%.

Example: A boats handicap will progressively deteriorate as the bottom grows weed.

Further Reading:

TopYacht Technical Articles

[Handicap Drift Over a Season ~ Detecting it and Correcting it](#)

[Handicapping: Two Less Desirable Handicapping Methods](#)

[How the Next Handicap is Calculated.](#)

[What Do You Want Your Handicap System to do?](#)