

## HOW DOES THE VY PERFORMANCE HANDICAP SYSTEM WORK

Some recent discussion of performance handicap prompted me to offer some explanation of the YV Performance Handicap System and how handicaps are recalculated.

All boats at RBYC have a performance handicap.

By definition this performance handicap indicates the performance of each boat in the Club relative to other boats in the Club.

Please do not confuse a measurement rating (such as AMS or IRC) with a performance handicap. Ratings are calculated from measurements of the boats hull, rig and sails, and once calculated will not change unless changes are made to the boat, whilst a boats performance handicap will probably change after each race.

Performance handicaps are generated and recalculated in accordance with the Yachting Victoria Performance Handicap Rules.

A copy of these Rules are always on the YV website at

[http://www.clubmarineseries.com.au/assoc\\_page.cgi?c=0-10084-0-0-0&sID=308906](http://www.clubmarineseries.com.au/assoc_page.cgi?c=0-10084-0-0-0&sID=308906)

We use a software package called TopYacht.

TopYacht calculates the results of each race and also recalculates the handicap for each boat for the next race.

When a boat enters a club race, it will be allocated a performance handicap for that race, called its Allocated Handicap (AH). This AH will be taken from the TopYacht database or will be supplied by the Club Handicapper).

This performance handicap is a single figure Time Correction Factor (TCF) and is used to convert a boats elapsed race time to a corrected time.

Thus if a boat takes 100 minutes to complete the race and its Performance Handicap (or TCF) was 0.75 the its corrected time (CT) will be 75 minutes (100 x 0.75).

The boat with the lowest corrected time (CT) is the race winner.

After each Club race the TopYacht programme will calculate data for each boat, namely

1. The corrected time (the boat with the lowest CT being the winner).
2. The back calculated handicap (BCH).  
This is the handicap that each boat actually achieved in the race.  
Boats in the top half of the results list will have BCH values above their AH and boats at the bottom half below their AH.
3. The Calculated Handicap (CHC) for each boat.  
This is the handicap for each boat in its next race.

The CHC is calculated as follows

$$CHC = 2/3AH + 1/3 BCH$$

Thus for example if the AH was 0.800 and the BCH was 0.815, then

$$CHC = 0.8 * 2/3 + 0.815 * 1/3 = 805$$

However if you read the YV Handicap Rules, you will note terms such a LBCH, LBCHU, LBCHL and LBCHD.

These are

Abbreviation	Handicap	Clamp
LBCH	Limited Back Calculated Handicap	4%
LBCHU	Limited Back Calculated Handicap Upper	4%
LBCHL	Limited Back Calculated Handicap Lower	4%
LBCHD	Limited Back Calculated Handicap Discard	8%

The YV Rules have recognised that on some occasions other factors come into race results. There could be a drop in wind soon after part of the fleet finishes or some boats could have a problem on the water but choose to finish.

Thus we use "clamps".

Clamps limit the change of the Back Calculated Handicap (BCH) and produce a Limited Back Calculated Handicap (LBCH).

Currently the clamps are 4% on handicaps and 8% on a discard.

Thus if the BCH is greater than 104% or between 96% and 92% the BCH is limited to 104% and 96% respectively (clamping the BCH to 4%).

However if the BCH is less than 92% of the AH then the result is discarded for handicap recalculation purposes and the CHC remains unchanged.

To illustrate how the recalculation system works a RYCV result has been calculated the results for the Wednesday evening race of 2nd February 2013

SAMPLE CALCULATION OF HANDICAPS								
(Wednesday evening race 2nd February 2013)								
		AH	BCH		BCH used			CHC
			Value	%		%	Value	
R727	GALAXY	762	826	108	LBCHU	104%	792	772
R362	DUCKMOBILE	776	814	105	LBCHU	104%	807	786
R6257	MAINSTAY	782	819	105	LBCHU	104%	813	792
R18	MONEYPENNY	783	816	104	BCH	actual	816	794
H6336	THE BOOKMAKER	817	847	104	BCH	actual	847	827
R2	CIRCE	769	784	102	BCH	actual	784	774
1210	MIKA	760	764	101	BCH	actual	764	761
7018	JUST QUIETLY	784	786	100	BCH	actual	786	785
R363	TOP GUN	860	860	100	BCH	actual	860	860
R67	ENESEAY	803	800	100	BCH	actual	800	802
R6198	NEXT MOMENT	819	813	99	BCH	actual	813	817
R880	ALIEN	819	808	99	BCH	actual	808	815
R175	PARAGON	755	734	97	BCH	actual	734	748
R650	THE STIGS AUDI ETC	862	823	95	LBCHL	96%	828	851
H1010	IKON	994	945	95	LBCHL	96%	954	981
R149	COUSIN IT	809	768	95	LBCHL	96%	777	798
H8118	MERLION	842	784	93	LBCHL	96%	808	831
R35	LAURELLE	838	774	92	LBCHL	96%	804	827
R1121	EXECUTIVE DECISION	882	798	90	LBCHD	AH	882	882

This sample calculation illustrates all the workings of the YV Performance handicap calculations, namely

- a. Galaxy, Duckmobile and Mainstay all had BCH values greater than 104%, thus their BCH was clamped at 104%.

- b. Money Penny, The Bookmaker, Circe, Mika, Just Quietly, Top Gun, Eneseay, Next Moment, Alien and Paragon all had BCH values between 96% and 104% and thus their actual BCH was used.
- c. The Stigs Audi, Ikon, Cousin It, Merlion, and Laurelle all had BCH values between 96% and 92% and thus their BCH was clamped at 96%.
- d. Executive Decision had a bad race and the result was discarded because the BCH was less than 92%  
(note, although his CHC was noted as 870 in the results, this was corrected at a later date).

The handicap is recalculated after each race in a series.

This is how the YV Performance System works and how results are recalculated.

On a historical note, performance handicap calculations have changed over the years. In the 1960's boats that came first, second or third had their handicap increased by a fixed %, this later changed to recording the boats last 8 BCH's, discarding the best and two worst results and averaging the remaining 5. The change to the current method (as described above) has been used for about 4 years.

The current recalculation method is more immediately responsive to changes in the boats performance and requires fewer results for a boat to have a valid handicap.

If you have any issues, please contact the club in the first instance and I can usually answer them. The Performance Handicap System has been operating in its current form for about 60 years.

It is not perfect. If it were, we would have all boats tied for first place each race.

Sometimes little things have to change if there is a glaring anomaly.

Please remember this is run by volunteers and a massive amount of time is put into our sport to get people on the water. Everyone does their best.

***Peter Coleman***

RBYC Club Handicapper

YV Performance Handicap Committee