

# History of the MAST Scoring System

This is an explanation of how the current MAST handicapping system was selected, how it works, and what some of the criteria were for choosing it. We have a wide variety of yachts in MAST racing, a wide variety of racing experience and some different perspectives on what MAST racing is supposed to be. Some folks are experienced racers, others are just starting out and learning how to race, and still others are just out to enjoy a competitive and friendly evening on the water with their family and friends.

One of the race committee's jobs was to come up with a scoring system that would encompass all these differences, and provide competitive racing throughout the season. In 1996, a number of different groups were contacted via the Internet to see how they were scoring their club racing. That information and the MAST racing data from that year were entered into a spreadsheet. The idea was to look at different scoring systems to see how they would affect the results from that year. Evaluations were made of straight PHRF ratings with no change, the 9-6-3-0-2 system that we ended up choosing, as well as systems with smaller and larger modifications.

Overall, there was no difference in the results until you went to very large modifications. Other folks had reported similar findings, and the reason is that most racing at the club level is not that close. The average margin of victory is 1 - 2 minutes and gets larger as the wind gets less. It takes a large rating modification to change the outcome of a race.

Having done that, we felt we could be somewhat flexible in choosing a system. We wanted to encourage the folks who race 'for fun' as well as those new to racing to come out every week and race. At the same time we wanted to present a sufficient challenge to those who were experienced racers to do their best. Since everyone who races enjoys the competition, it was also important for the program as a whole, that there be good competition throughout the season.

The 9-6-3-0-2 system seemed to address all these points. It starts out rating all the yachts at their PHRF rating. This was something everyone seemed to favor. Once the initial rating is established, it and the elapsed time are used in a time-on-time formula to yield the corrected time. After each race the ratings are adjusted based on how a yacht placed in the race.

The adjustments are as follows: Every time a yacht races and doesn't finish in the top 4 in its division, the system increases the yacht's rating by 2 seconds. This is done to encourage folks to come out and race. Wherever you are in the standings, there's someone close to you with whom you're competing. Even if you don't finish high in a race, your rating improves a little if you come out and race. So you have a little better chance with the next race.

If you don't come out and race, your rating stays the same. So it pays to come out and race. Every time a yacht finishes 1, 2, or 3, its rating is reduced by 9, 6, or 3 seconds respectively.

The system assumes that since the yacht placed well, it's either faster, or sailed better (or maybe both) than other yachts. Since it's now going to be a little more difficult to get the same result, this reduction challenges the better skippers/yachts to continue to try to improve. A fourth place finish results in no change.

Week to week, the competition and adjustments are only within each division. After the adjustment process has started, comparing a Division 1 boat to a Division 2 boat isn't meaningful. Since the yachts don't compete head to head it is comparing apples and oranges. The only meaningful comparison of ratings is within a division. If a yacht is giving time to another yacht, it's because it started with a lower rating and/or placed better than the other yacht in one or more races.

The number of races needed to qualify for the standings is based on  $\frac{1}{2}$  the races, rounded down, + 2. For 14 races that would be 9; 13, 8; 12, 8, etc. There are a lot of throw outs if you do all the races, and this again is an incentive to come out and race. Since the number of 'best' races needed to qualify for the standings is small, finishing 1, 2, or 3 in any particular race is like money in the bank.

The hope was that the rating adjustments, both up and down, would result in good competition throughout the season. In the last several years this has been the case. Most trophy positions were decided in the final race of the season.