

**INTERNATIONAL ONE METRE  
INTERNATIONAL CLASS ASSOCIATION**

# **A User's Guide to HMS 2002**

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## **Understanding the Heat Management System 2002**

*Note: this article is intended for sailors and race committees without prior exposure to 'equal opportunity racing'.*

The beauty of an equal opportunity system is that the result of each race is in the sailor's hands. Each sailor has a chance to win every 'race'. And here we really do mean race and not just one heat of a race. Everyone has an 'equal opportunity' as far as his own abilities permit. The system will not enable anyone to win a race unless he has the right skills but, most importantly, it will not prevent anyone from winning a heat if they do have the right skills. This is accomplished in the following way in the RSD approved Heat Management System. It is based on the general idea of sailing heats in 'reverse order' and allowing a certain number of boats that do well in a lower heat to be promoted to the next higher one in the same race.

### **1. Race 1**

First the regatta entry list is split into heats of mixed ability, and each boat sails in one of those 'seeding heats'. HMS calls this group of heats 'Race 1'. Based on the results, each boat earns her assignment for the ranked heats in the next race. Your score for Race 1 does count towards your final score and it is also eligible as a discard or throw-out.

### **2. After Race 1, dividing the fleet into ranked heats**

After Race 1, the entry list is divided into a number of ranked heats based on the results of the 'seeding heats' in Race 1. This ranking forms the basis for heat assignments for the second race, with the lowest heat starting first. The better you did in Race 1, the better your heat assignment for Race 2.

### **3. The basics of promotion**

Because the heats in each race are completed in 'reverse order', that is, 'lowest heat sails first', the top four boats in the heat can earn promotion, and sail in the next higher heat of the very same race. This is the key to achieving the principle of equal opportunity. This opportunity is not a one off case. By finishing in the top four of each subsequent heat, a boat which may have started in the lowest heat in that race can, in theory, win the A heat provided the sailor has the skill to continue to be promoted.

#### **4. An example**

Here is an example of how this might work when the fleet is large enough to require 3 heats. Heats are conventionally labelled A, B, and C, etc. (Sometimes the heats are referred to as 'fleets').

Heat assignments for Race 2 and onwards, using the tables in HMS and based on finishes in the previous race, will generally list four more boats in the C heat than in A or B heats. For example, there might be 16 boats listed in the C heat, 12 boats in the B heat, and 12 boats in the A heat. The lowest ranked 'C' heat sails first. The first four boats to finish in the C heat are not scored in that heat, but compete in the B heat. Those four boats get 'promoted'. Now you can see that the reason for the larger number of boats scheduled in the lowest heat is to keep the number of boats on the water in each heat roughly the same after promotion has taken place.

After the C heat has finished, the B heat starts. The four boats which advanced from the C heat now have a chance to compete again for the top four spots in the B heat and advance further. After the end of the B heat, the first four finishers in the B fleet are not yet scored but instead advance to the A heat. The sailors advancing from the B fleet now have a chance to win the A heat and thus the race as a whole. After the A heat finishes, all the boats in the race have earned their best place and resultant score. Thus every sailor gets a chance to win each race.

What you have to remember (for each race): first 4 boats; immediate promotion to race in the next heat. This means that you should always have enough battery capacity to sail several heats in a row.

#### **5. A caveat on the assignments for Race 2**

Race 2, the first race where boats can be promoted, is a bit unusual. Although heat assignments are based on the results of the previous race, that previous race -- Race 1 -- resulted in a number of boats getting a first place, a number of boats getting second, etc. For example, there will be as many first places as there were heats in Race 1. Therefore boats are assigned to heats for Race 2 based on a special table for that race only, with the result that all boats that achieved a given place in Race 1 are in the same heat in Race 2. It would not be fair otherwise. For Race 3 and on, the consideration above for Race 2 does not apply.

Heat assignment works as follows.

#### **6. Places and scoring the completed race:**

First the scorekeeper arranges all the boats in a single sequential order:

A Heat  
B Heat,  
C Heat  
, etc.

This gives the boats' place in the race as a whole. Within each heat boats are placed in the following order

As finishing places  
did not finish (DNF),  
retired (RAF),  
over the starting line at the start and did not return (OCS),  
did not start (DNS),  
disqualified (DSQ)  
non-discardable DSQ (DND)

From the list of placings, heat assignments are made for the next race based on the HMS heat assignment tables that list the number of boats to be scheduled in each heat. Remember; heat assignments are based on 'place', not 'score'.

Scores however are needed to compute the overall standings. This is done by assigning a numerical score for each 'finishing place' in the race. Most sailing events use one of the systems described in Appendix A of the RRS to assign that score. HMS employs the 'low point system', with a few slight changes to adapt it to heat racing. For example, in HMS 2002, even though a boat disqualified is given a place at the bottom of the heat in which it sailed, it is given a points score equivalent to "last place in race +1".

When the event is finished, the scorekeeper will add all of the individual scores for each race, discard the worst scores for each boat according to the provisions of HMS, and arrive at a final score for the event, and from that, rank the final finish order. Breaking of ties at the end of an event is described later.

## **7. Demotions for the next race**

If boats were continually promoted without a compensating factor, heat sizes would quickly become unbalanced. Heat size is generally held constant by demoting the last four boats in each heat to the next lower heat in the upcoming race. The rest of the boats stayed in the highest heat that they were able to progress to in the previous race.

## **8. More on keeping heat sizes constant**

HMS keeps heat sizes relatively constant by use of the tables previously mentioned to make heat assignments based on how well the sailor did in the race just completed. Although in most cases the last four boats in a heat 'go down', there may be exceptions.

Referring back to the example of a three heat race (A, B and C), the last four boats to finish in the B heat will most likely begin the next race in the C fleet. If on the other hand, a boat was disqualified from the A or the B heat, when the boats are ranked for distribution to heats for the next race, one of the last 4 may be able to stay in the B heat after all.

The race committee will notify heat assignments for the next race. Frequently this is done by arranging boat numbers on a race-board that has columns for each heat. Be sure to check it rather than relying on 'four up and four down', because there may be disqualifications, withdrawals, or even re-sizing of heats should enough boats retire. Besides listing the boats scheduled in each heat, the race committee should also move those boats that have earned promotion to the proper heat as the racing progresses, so that the board accurately reflects which boats should be on the water. That makes it easy for the sailors!

## **9. Some additional details**

If you are given redress, this affects your score, but not your position. If you finished in the last four, you will probably still get demoted even though this was no fault of your own. There is one exception. If you were placed in the last four and the incident for which you are granted redress was on the last leg of the heat, that is after you had passed the last mark, and if it was that incident which caused your finishing position to be made worse, then your 'place' may be amended by the jury. So, you may find you can be promoted or remain in the same heat even though you finished outside the top four or in the bottom four respectively.

At large events, expect that each heat in which you sail may involve as many as 20 boats.

There are no time-outs or time limits for Race 1. Only races after Race 1 have time-outs. In these following races, there are two time-out periods. First, no heat may take longer than 30 minutes for

the first boat to finish. Second, given that the first boat does finish within the 30-minute time limit, all the other boats have approximately 50% more time to finish themselves. The exact value is given in a table in HMS 2002.

If a protest involves a boat which might be promoted, that protest will be heard immediately, and racing will be postponed until the protest is resolved. If a protest involves a boat which might be demoted, that protest will be heard in due course but racing will continue. Of course, if the protest still isn't resolved by the time the relevant heat of the next race arrives, then racing will be postponed.

When HMS is used in more relaxed club settings, promoted boats often 'stay on the water' and await the launching of the other boats in their new heat. For national and international events, the race committee will usually require every boat to be recovered from a heat, even those that have earned promotion. Promoted boats may only launch again when the race officer calls the next heat, along with the other boats in that heat.

If you are tied for a place at the end of the event, the tie is broken disregarding Race 1 points. Only if the tie remains will Race 1 points be taken into account. Also, if you are given calculated points for redress, the calculation usually ignores Race 1 points.

You will be able to discard points, including Race 1 points if you wish, after 4, then 9, and then 18 races. For longer events, after every 9th race thereafter.

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