

ALTERNATIVE SCORING SYSTEMS FOR LONG SERIES

On this web page US SAILING provides information about scoring systems for long series, such as a season championship spanning several weeks or months. The material presented here is the material referred to in the 'US SAILING Note' at the end of Appendix A in the 2001-2004 US SAILING edition of The Racing Rules of Sailing. It includes an updated version of Appendix AA that appeared in the 1997-2000 edition of The Racing Rules of Sailing.

A "regatta" is generally a series of races held in the same place on contiguous days. It is rarely more than a week long. When an "event," such as a season championship, is a series longer than a regatta, one of the usual regatta scoring systems may not be the best choice.

Appendix A of the *Racing Rules of Sailing* contains two scoring systems, the Low Point Scoring System and the Bonus Point Scoring System, that are appropriate for regattas. The systems in Appendix A can also be used for scoring a series of races held over a longer period of time. When one of the Appendix A systems is used for such a long series, rule A9 applies and changes rule A4.2.

Rule A9 (Appendix A, paragraph 9) introduces the concept of boats "coming to the starting area" for a race. Under rule A9, boats that came to the starting area for a race but are DNS, DNF, RAF or DSQ, are scored points for the finishing place one more than the number of boats that came to the starting area. Boats that do not come to the starting area are scored points for the finishing place one more than the number of boats entered in the series (frequently a much larger number). Unless the sailing instructions change the series scoring, a boat's worst score is excluded from her series score.

Using rule A9 heavily penalizes a boat that does not come to the starting area, since the number of boats entered in the series may be much larger than the number of boats that come to the starting area for any one race. The simplest way to fix this problem is to include in a boat's series score only a specific number of races. This number is usually about 75% of the number of races scheduled in the series. In order to implement this approach, include something like the following in the notice of race and the sailing instructions (Z is a predetermined number):

Rule A2 is replaced with: Each boat's series score shall be the total of her best Z race scores. The boat with the lowest series score wins, and others shall be ranked accordingly.

One benefit of this approach is that a boat can never make her series score worse by sailing in another race, so participation is encouraged.

Another way to implement this is to increase the number of races that are excluded from a boat's series score.

A boat's series score shall be the total of her race scores, excluding her worst X races.

If the number of races actually run may differ significantly from the number scheduled, you can change "her best Z race scores" to "her best Z race scores, where Z is 75% (truncated to an integer) of the races actually run in the series." If you are increasing the number of races excluded to accomplish the same purpose, use "A boat's series score shall be the total of her race scores, excluding one race for each Y races completed." [Using a table to explain this is a good idea.]

Series "qualification" is another way to encourage boats to participate in a long series by requiring participation in a minimum number or percentage of the races in order to be included in the final series results. Language such as the following will do this:

Series Qualification: To qualify for inclusion in the series results, a boat shall come to the starting area for at least Z races [or X% of the races].

Using either the Low Point or Bonus Point scoring systems of Appendix A for scoring a long series can be perceived as inequitable because a boat's race score is based on how many boats finished ahead of her. Thus first place in a race with only a few boats is equivalent to a first place when there are many boats competing. Solutions to this problem include high-point scoring and the Cox-Sprague scoring system. Both are described in the US SAILING *Race Management Handbook*, Chapter 14.

More Complex Systems

There are numerous ways to combine these ideas into a scoring system tailored to fit the requirements of any long series. Two examples are described in detail below. They are the High-Point Percentage and the Low-Point Averaged scoring systems. When using any system involving averaging, it is important to also include a qualification requirement, as described above.

The scoring systems in Appendix A assign a race score to each boat for each race in the series, even if a boat does not compete in one or more races. Both the High-Point Percentage System and the Low-Point Averaged System assign a race score to a boat only for those races in which she competes. Under each of these two systems, she can miss some of the races without penalty provided she sails in sufficient races to qualify for the series. Therefore, she is not placed at a disadvantage if she cannot compete in all the races. Under the High-Point Percentage System, a boat's series score is the percentage of the boats that she competes against that she defeats. A boat's series score under this system is

similar to a baseball player's batting average. Each time the boat races against another boat in a race, that event is equivalent to an 'at bat' in baseball. If she finishes ahead of an opponent, that is equivalent to a 'hit', and if she finishes behind an opponent that is equivalent to an 'out'. Under the Low-Point Averaged System, a boat's series score is simply the average of her race scores.

Advantages and Disadvantages of the Systems

Appendix A Scoring Systems

Advantages: The Appendix A systems are simpler and more familiar than either the High-Point Percentage or the Low-Point Averaged System. If a club or fleet has a regatta scoring computer program for the Appendix A systems, it will require only minor modification to implement rule A9's modification of rule A4.2.

Disadvantages: Both Appendix A scoring systems place a boat that does not compete (scores DNC) in one or more races at a substantial disadvantage to another boat that sails in more races. The simple techniques described above can reduce that disadvantage.

High-Point Percentage Scoring System

Advantages: This system has two substantial advantages over the Appendix A Scoring Systems and one substantial advantage over the Low-Point Averaged Scoring System. Over the course of a long series, many entrants in a series will, for any of a variety of reasons, find that they must miss one or even several races in the series. Under the High-Point Percentage System, a boat 'qualifies' for a series if she sails 75% of the races in the series. Her series score is based only on the races in which she competes, and therefore, provided she sails in sufficient races to qualify for the series, she is not placed at a disadvantage if she misses some races. Neither of the unmodified Appendix A systems has this feature. Also, the High-Point Percentage System has the advantage that a boat that wins a race in which a large number of boats compete is rewarded more handsomely than a boat that wins a race against a smaller number of competitors. The Low-Point Averaged System and the Appendix A systems do not have this feature.

Disadvantages: The High-Point Percentage System is the most complex of the systems presented here. However, anyone familiar with baseball's batting averages will easily understand the system. Implementing it may require a scoring program to be written, since most existing scoring programs do not include the High-Point Percentage System as an option.

Low-Point Averaged Scoring System

Advantages: Like the High-Point Percentage System, the Low-Point Averaged System's series scores are based only on the races in which boats compete, and therefore boats that must miss some races are not placed at a disadvantage. Series scores under the Low-Point Averaged System are somewhat easier to calculate than series scores under the High-Point Percentage System.

Disadvantages: Under the Low-Point Percentage System, if a boat wins a race when only a few boats compete, the effect of that win on her series score is the same as if she had won when many boats were competing. This does not seem as equitable as the way in which fleet size is treated under the High-Point Percentage System. Implementing it may require a scoring program to be written or modified, since most existing scoring programs do not include the Low-Point Averaged System as an option.

Sailing Instructions to Implement Each System

Sailing Instructions to implement these systems are given below. If a system is modified as provided in one of the numbered Notes, include the modification.

APPENDIX A SCORING SYSTEMS (with a default of one race excluded)

1. X races are scheduled. Y races are required to be completed to constitute a series.
2. The Low Point [or Bonus Point] Scoring System in Appendix A of the racing rules will be used. Rule A9 will apply.

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APPENDIX A SCORING SYSTEMS (including only a fixed number of races)

1. X races are scheduled. Y races are required to be completed to constitute a series.
2. The Low Point [or Bonus Point] Scoring System in Appendix A of the racing rules will be used, as changed below. Rule A9 will apply.
3. Rule A2 is replaced with: Each boat's series score shall be the total of her best N race scores. The boat with the lowest series score wins, and others shall be ranked accordingly.

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APPENDIX A SCORING SYSTEMS (with additional races excluded)

1. X races are scheduled. Y races are required to be completed to constitute a series.
2. The Low Point [or Bonus Point] Scoring System in Appendix A of the racing rules will be used. Rule A9 will apply.
3. Each boat's series score shall be the total of her race scores, excluding her Z worst scores.

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APPENDIX A SCORING SYSTEMS (with a minimum number of races required to qualify for the series)

1. X races are scheduled. Y races are required to be completed to constitute a series.
2. The Low Point [or Bonus Point] Scoring System in Appendix A of the racing rules will be used. Rule A9 will apply.
3. To qualify for inclusion in the series results, a boat shall come to the starting area for at least N races [or M% of the races].

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HIGH-POINT PERCENTAGE SCORING SYSTEM

1 RACES TO COUNT AND MINIMUM REQUIRED

The series will consist of the following races _____. To qualify for inclusion in the final series results a boat shall compete in (i.e., come to the starting area for) at least 75 percent¹ of the races completed.

¹ *Note: The sailing instructions may state that a different percentage of races, or a minimum number of races, will be required.*

2 RACE SCORES

Define 'N' to be the number of boats that compete in a particular race. Each boat finishing that race and not thereafter retiring or being disqualified will be scored as follows:

<u>Finishing place</u>	<u>Score</u>
First	N
Second	N-1
Third	N-2
Fourth	N-3
and so on.	

All other boats that compete in that race, including any that finish and thereafter retire or are disqualified, will score 0 points. Boats that do not compete in that race (DNC) will not be scored.

3 SERIES SCORES

The series score for each boat will be a percentage calculated as follows: divide the sum of her race scores by the sum of the points she would have scored if she had placed first in every race in which she competed; multiply the result by 100.² The qualified boat with the highest series score is the winner, and others are ranked accordingly.

² *Note: When one or more race scores are to be excluded, add: 'Exclude her _____ worst score(s). An excluded race counts as a race to qualify a boat for a series score, but not as one of her scored races.'*

4 TIES AND OTHER RULES

Race ties will be broken using rule A7. Series ties will be broken using rules A8.1 and A8.2. Rules A1, A3, A5, A6, A10 and A11 also apply.

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THE LOW-POINT AVERAGED SCORING SYSTEM

This is an updated version of Appendix AA that appeared in the 1997-2000 edition of The Racing Rules of Sailing.

1 RACES TO COUNT AND MINIMUM REQUIRED

The series will consist of the following races _____. To qualify for inclusion in the final series results a boat shall compete in (i.e., come to the starting area for) at least 75 percent¹ of the races completed.

¹ *Note: The sailing instructions may state that a different percentage of races, or a minimum number of races, will be required.*

2 RACE SCORES

Each boat finishing a race and not thereafter retiring or being disqualified will be scored as follows:

<u>Finishing place</u>	<u>Score</u>
First	1
Second	2
Third	3
Fourth	4
and so on.	

All other boats that compete in that race, including any that finish and thereafter retire or are disqualified, will receive the score for the finishing place one more than the number of boats competing in that race. Boats that do not compete in that race (DNC), i.e. that do not come to the starting area, will not be scored.

3 SERIES SCORES

The series score for each boat will be the sum of her race scores divided by the number of races for which she is scored.² The qualified boat with the lowest series score is the winner, and others shall be ranked accordingly.

² *Note: When one or more race scores are to be excluded, add: ‘, excluding her ___ worst score(s). An excluded race counts as a race to qualify a boat for a series score, but not as one of her scored races.’*

4 TIES AND OTHER RULES

Race ties will be broken using rule A7. Series ties will be broken using rules A8.1 and A8.2. Rules A1, A3, A5, A6, A10 and A11 also apply.

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