

Starting a PHRF® Fleet

1) ORGANIZATION OF A PHRF® FLEET

A. NEED

The first and perhaps trivial step in the formation of a PHRF® fleet and handicapping organization is the establishment of a need. Up to the present time most common “need” had to do with the perception that there were major flaws in the existing handicapping in a given area. The existing handicapping could be a measurement rule. In many cases, this may be a manifestation of the grass being greener on the other side of the fence. However, since sailing is a recreational sport, it is important that the participants think that the “system” is giving them a fair shake.

A second need for a PHRF® fleet to come into existence would be consolidation or dispersion. If, within an area that has considerable yacht traffic for invitational races, a number of independent fleets have developed, it may be better to combine the fleets into a single fleet and have uniform physical resources to do a better job of handicapping. The uniformity of handicaps within a sailing area reduces confusion and aids in the operations at invitational races. Distances in travel can be a major problem in communication. Therefore, it sometimes is advisable to split an existing group into geographically smaller units. Although this advice has merits, it seldom seems to happen. Usually the procedure is to establish area subcommittees which handle local affairs with the original overextended fleet structure retaining administrative and oversight control.

The third and most interesting new PHRF® fleet organization is the establishment of a fleet where there is no existing racing tradition. The comparative ease of the generation of an initial set of handicaps make PHRF an attractive vehicle to use for the establishment of a racing fleet in a new area. This trend has been greatly facilitated by the generosity of the established fleets in making their lists and expertise readily available to fledgling fleets

B. SPONSORSHIP

In the initial stages of organization, a PHRF® fleet needs a sponsor to grant it a charter to operate. The sponsor could be as simple as a single racing fleet which decides that it will race with the PHRF® system and then authorizes the fleet officers to establish handicaps. More commonly the sponsor would be a group of sailing fleets in an area or a Sailing Association which has organizational authority in an area.

It is far better, if possible, to have more than one fleet involved since the broader the base of operations the fewer the problems of having to assign handicaps to direct competitors. Although direct and confrontational knowledge is very important in the handicapping process, it is also important to have the opinion of observers who are not directly involved in a particular class group.

After the first couple of seasons of operation, a PHRF® fleet becomes relatively independent of sponsorship. If it was initially established as an independent group which obtained recognition, it can then operate as an organization which supplies a service to sailors. In the most favorable environment, PHRF® is one of several possible handicapping rules and the local sailors can make a free choice among the possible systems. This freedom of choice is important to be maintained if at all possible since it is far preferable to have sailors participate in races under the PHRF® handicapping, or any other handicapping system, because they choose to rather than because they have to.

If the PHRF® fleet was initially established as a committee of a Sailing Association or sailing fleet, it remains under the umbrella of that organization. This organizational relationship has functioned well in many areas; however, it can inhibit the access to PHRF® handicapping of new groups which are not part of the umbrella organization.

C. THE HANDICAPPING COMMITTEE

Clearly the heart of a performance handicapping fleet is the handicapping committee. The committee is important both in what it does in terms of the handicaps that it assigns and also in its image. So long as the sailors perceive that the handicapping committee is handicapping without bias and is making progress toward Nirvana of true performance handicaps, allowances will be made for differences in opinion. If it is perceived that the committee is not even-handed, then unrest can grow in the general sailing population and handicaps and handicapping can become an irritant. This then detracts from the main purpose of sailboat races which should be making the boat sail faster to win races.

The makeup of the handicapping committee to include a number of different points of view is important. The committee should contain experienced sailors from all of the different types of groups and sizes of yachts which will be handicapped. It is helpful to have a handicap committee member who understands the technical aspects of what makes a boat go fast. It is also very important that handicappers be listeners and not talkers outside the handicapping committee. Any handicapper is prone to be beseeched by those who would find fault with others rather than themselves. It is important to listen and console but not to agree beyond the obvious facts. The proper place for discussion of the merits of handicaps is in the handicap committee.

There are a number of organizational plans in effective use for handicapping committees. On one extreme there are PHRF® organizations where essentially all of the handicapping is done by a single chief handicapper with very little detail being actually done by the committee. The other extreme is with almost all of the handicapping being done in committee with the individual handicappers making very few unilateral determinations. An intermediate option is very popular in geographically large areas where local handicappers do temporary handicapping for a few clubs in their physical vicinity where they are familiar with the yachts. However, it is usually required that all handicaps be finalized by a central committee before they become generally valid and accepted.

D. FINANCIAL

Most PHRF® fleets operate on annual membership fee basis. In general this is applied to the owner so that in change of ownership the new owner must apply and the old owner has his membership carried to a new yacht. The membership fees go to cover office expenses usually including part-time secretarial assistance and support for handicappers meetings. As a general rule, the handicappers receive a meal at dinner meetings but other expenses such as travel are not covered. The organization will generally purchase books and other information sources. Some fleets support computers or computer access for record maintenance and race analysis.

2) TYPICAL CLASS RULES FOR A PHRF® FLEET

Purpose of Class Rules and General Outline

Every PHRF® fleet should have a set of class rules which will:

- A) Describe in general terms the types of boats which will be handicapped and the types of boats which will not be handicapped.
- B) Explain what the handicaps are and give basic philosophies used for handicapping.
- C) Describe and define such things as “base boat,” penalties, credits, one-design classes, etc. which affect handicaps.
- D) Briefly explain processes and procedures for arriving at handicaps.

These items are to be included in the class rules so that every skipper of a boat will understand just where his boat’s handicap comes from and what it means.

Other aspects of PHRF® fleet operations may be included such as membership in the handicapper’s council, annual dues, etc. These matters are more commonly included in the fleet’s by-laws rather than in the class rules which involve primarily boats rather than people.

The following typical class rules, for a mythical fleet, are intended to be guidelines. While a new fleet can comfortably adopt them and operate successfully using them, experience will dictate what changes may be made to meet local interests and conditions.

The commentary following each section includes some of the considerations that might come under future discussion.

SAMPLE CLASS RULES

Lake Looney PHRF (LL-PHRF)

I. Class Requirements

- A) PHRF handicaps on Lake Looney, for use in club and inter-club racing are available for “cruising/racing” auxiliary sail yachts.
- B) Yachts must be self-righting monohulls. (Ref. ORC Special Regulations 1.1 and 5.2).
- C) Unless class rules, club rules, or requirements for a race specify otherwise, each yacht is expected to meet the minimum accommodation and equipment requirements, as specified in the Offshore Racing Council (ORC) Special Regulations Governing Minimum Equipment and Accommodation Standards (available from US SAILING), and applicable State and Federal requirements.

*Commentary: This general statement describes the type of boat racing in the fleet. While multihulls are invariably excluded from PHRF® handicaps, existing fleets differ on the types of monohulls that are allowed. Will your fleet, for example, include “open boats” like Solings? Boats without engines? Boats without galleys or berths? “Unconventional” rigs, such as fully-battened cat ketches? The statement as written above generally represents what most PHRF® fleets allow.

II. Handicaps

A) Handicaps in seconds per nautical mile are assigned to each boat, and represent a “base handicap” with “adjustments.”

1. Standard hull, interior, keel, rudder, rig, as originally designed and built.
 2. All sails shall be cut in accordance with the latest ORC; this includes girths of mainsails, headsails, and spinnakers.
 3. Jib overlap (LP) no greater than between 150% and 155% of foretriangle base (J).
 4. Spinnaker pole length (SPL) no longer than J.
 5. Spinnaker maximum width (SMW) no greater than 180% of SPL.
 6. Spinnaker luff (SL) no greater than .95 .
 7. Either a folding prop, a retracted outboard, or a two-blade solid prop in an aperture.
 8. A handicap may be assigned to a yacht which does not conform to all of the above assumptions but does meet sail plan requirements of a recognized one-design class.
9. If the boat class standard configuration includes sail sizes other than the above mentioned, then handicap the boat in that configuration. It is help to put ODR (for One Design Rig) after the boat designation to note boats with other than the standard base boat rig/sails.

B) Base handicaps can be changed at any meeting of the handicapper’s council, by a majority vote of the handicappers present. Any member of LL-PHRF may appeal the base handicap of any class of boat, in writing. Such appeals, when accompanied by supporting evidence will be considered at the first subsequent meeting of the handicapper’s council and decided by a majority vote of the handicappers present.

*Commentary: This is a generally accepted definition of base handicaps. Some fleets may want to vary in specifics, but a fleet should have good reason for deviating from this norm for PHRF®.

Note the statement that handicaps are “based on US-PHRF data, race experience, ... etc.” A fleet should not exaggerate the methods used. If, for example, you simply follow the US SAILING PHRF® book and do no substantial race analysis, you should so state.

Some fleets may want to elaborate on the appeals procedure, perhaps making it a separate section later in the class rules. On the other hand, the statement as written above has served adequately for some fleets. In experienced fleets may want to further define basic terms such as I, J, P, E, LP, SPL, SMW, etc., or refer to standard ORC definitions.

C) Adjustments. Penalties and credits, in seconds per nautical mile, are applied to base handicaps for variations or modifications to standard boats. Specifically:

1. Modifications. All modifications to hull, keel and rudder are handled on a case by case basis. Owners must report all such modifications to the chief handicapper. LL-PHRF generally assumes that all modifications are made to increase boat speed. Penalties, or credits, are in three sec/mile increments.

When modifications become too extensive, LL-PHRF will declare that the boat is a new class and will establish a new base handicap different from the boat's original class.

Suggestions for numerical adjustments to base handicaps can be found in the US-PHRF Fleet Handbook. Adjustments for changes in LP, SPL, SMW, SL, I, P, E and perhaps propulsion need to be specifically stated.

*Commentary: While this list of penalties and credits is typical, there will undoubtedly be difference of opinion on exact figures to be used. Whatever the fleet decides, the figures should be quite precise and quite stable so that, for example, no sailor would feel compelled to have his jibs re-cut to optimize his boat.

In establishing the schedule of penalties and credits, the fleet should be careful to strike a balance, recognizing that all boats are not affected identically and that the adjustments are necessarily "compromise" or "approximate" figures. The schedule should aim at avoiding needless and unwarranted complexity.

III. Sail and Rig Limitations

Normally, US SAILING and ORC limitations and restrictions apply regarding sails, methods of trimming and so forth.

*Commentary: There needs to be some limitations and rules on sail types and sail handling, since "anything goes" could lead to chaos in handicapping. But experience and new developments such as unstayed masts, asymmetrical spinnakers, and so forth are taking place rapidly and a new fleet should be prepared to say what will be permitted and what won't.

IV. Rig and Sail Verification

Since handicaps are based on "standard" rigs and sails, the verification of rig and sail dimensions by physical measurement is considered to be necessary to assure the uniform application of handicaps.

The fleet will accept the following as verification:

1. Any current or still accurate measurement handicap certificate, such as IOR, IMS, MORC or other.
2. Physical measurement by a fleet handicapper.
3. Physical measurement certified as accurate by the owner.

Changes must be reported to the chief handicapper. If sails or rigs are protested through normal procedures, the fleet reserves the right to require actual measurement by a fleet handicapper.

*Commentary: Fleets may want to accept the owner's word regarding such things as genoa size, pole length, etc. However, experience shows that differences often exist between boats which were believed to be identical. Some fleets find that verification through measuring is necessary for fair handicapping. The procedure described above is workable, but fleets may want to be more or less detailed. For example, it may be necessary to describe how sails are measured. To avoid over-regimentation many fleets do not absolutely require measurement. However, to encourage verification of the dimensions of a yacht a six or seven second penalty may be applied to unmeasured yachts. Seven seconds is used to make this type of penalty easy to recognize.

V. Exceptions

PHRF® handicaps are intended to provide equitable time allowances for yachts of different designs racing against each other. Notwithstanding any of the foregoing rules, the fleet reserves the right to declare any yachts "exceptional" and either not provide a handicap or handicap it outside the normal class rules. Such a decision can be made only by the chief handicapper and a majority of the handicappers present at any meeting.

*Commentary: The class rules should contain some “catch-all” statement like this, to handle any unforeseen problems. It is best to date class rules so that sailors will know if they’re dealing with an up-to-date copy.

3) TYPICAL HANDICAPPING PROCESS

An example of one approach to the handicapping process is the Following:

A. To handicap a “Standard Production Yacht” – defined for this purpose as a yacht previously handicapped by PHRF and found in a current publication.

1. Consult (1) the local Fleet’s current Valid List, (2) any published addenda, and (3) minutes of any subsequent Handicapping Meetings. Consider the proper LP of the yacht and any listed modifications in hull or rig from standard, such as new keel, tall mast, model (i.e., Mk.II). If a yacht is not listed or if each modification is not listed, proceed to step 2.
2. Consult current US SAILING PHRF® Fleet Handbook with proper LP and modifications as above. If yacht is not listed or if each modification is not listed with its handicap, boat is not a “Standard Production Yacht” by this definition.

B. To handicap a “Modified Production Yacht” – defined here as one whose Standard handicap is listed but modification(s) in hull are not.

1. Handicaps must be judicially adjusted for each unlisted modification such as shoal draft keel, pole exceeding J measurement, addition of a bowsprit, or any change in standard rig or hull. Note each modification in terms of seconds per mile adjustment. Because of the subjective nature of this handicap process, adjustments should be made to favor the faster handicap. As a policy, when the amount of adjustment is in question, guard against the “easy” handicap.
2. Local knowledge of the yacht’s performance relative to other boats on the race course is a valuable factor in determining handicap adjustment. Judicial observation must consider and compare how well each boat is sailed and the condition of the hull and sails.
3. The Chief Handicapper must be contacted for advice before a provisional handicap can be assigned. If he is unavailable, another Fleet Handicapper may be consulted for review of the proposed adjustment.
4. Handicaps for Modified Production Yachts, even after ratification, should be flagged for frequent re-examination in light of additional racing experience – even from the single isolated yacht if no broader experience is available. The Fleet Handicapper is responsible for advising the Board of the quality of additional experience which must be carefully evaluated to determine if re-adjustment of handicap is advisable.

C. To handicap a “Custom or Unrated Production Yacht” – defined here as one not found in a current Handicap List or its addenda; may belong to a production class but has not been handicapped as such by PHRF®.

1. The input of local knowledge from a keen and dispassionate observer is often essential to an accurate handicap for this boat. It can be a determining and sometimes overriding factor in anticipating performance relative to other boats comparably sailed, equipped and maintained.
2. Analyze and compare hull lines and specifications to similar yachts with known PHRF® handicaps, expressing differences in terms of seconds per mile speed. Centerboards usually handicap slightly slower than comparable fin keel designs. Wing keels are usually substantially slower than fin keels.
3. Compare rig and sail measurement, again noting differences in terms of handicap. The sloop rig is generally considered to be somewhat faster than the comparable yawl which is slightly faster than the ketch.

4. Isolate one or more similarly designed yachts with known PHRF® handicaps whose specifications indicate a somewhat faster performance.
5. Isolate one or more similarly designed yachts with known PHRF handicaps whose specifications indicate a somewhat slower performance.
6. By judicial analysis, interpolate the anticipated difference between the two opposing ranges found in steps 4 and 5.
7. The designer's reputation and record for producing high performance boats, while not definitive, can provide a valuable clue to anticipated performance.
8. Model year and year of design are useful facts to consider in determining a handicap.
9. Again, the Chief Handicapper must be contacted before handicap can be assigned. If unavailable, another Fleet Handicapper may be consulted to review the findings for this provisional handicap which must be well documented before the Board of Handicappers. Conclusion: A philosophy of the PHRF® system is that the skipper/crew element should not be a factor in the process of handicap boat speed. As nearly as is possible, therefore, this element is to be minimized as a handicap determinant. Each PHRF® handicap will then reflect a challenge for that yacht to sail to her highest possible performance.

6) YACHT MODIFICATIONS – SUGGESTED ADJUSTMENTS

The base handicaps in PHRF® are designed to be applied to a Standard Yacht equipped and manned for racing. Deviations from this concept can lead to adjustments in the handicap of a yacht relative to its base handicap. There are three distinct types of variations which are approached differently insofar as handicap adjustments are concerned. The two categories are:

- A) Changes to sails or spars. These modifications from the standard yacht are generally compensated for by a standard formula which is generally proportional to the change in sail area.
- B) Modifications to the hull, keel, rudder or forestay termination. Modifications of this type are normally adjusted on a case-by-case basis. Although there are often guidelines within a PHRF® fleet, there are generally no fixed adjustments.

The increments in seconds/mile which are employed by various PHRF® fleets vary from 1 sec/mile in some areas, to areas with they of US-PHRF to encourage the use of 3 seconds/mile. The use of 1 second intervals introduces a complexity that is not consistent with achievable results. It is not our expectation that existing groups will immediately change their handicapping policies. It is hoped that as new groups form, or established groups modify their handicap procedures, there will be a tendency to move toward the most common adjustment basis of 3 seconds/mile multiples.

Penalties – Simple System

LP: 3 sec/mile for the first increment over the base boat; 3 sec/mile for the second increment starting at 165-170%. Some fleets may give a credit for smaller headsails. 135% or less is probably a good place to start to give credit.

Rig Height: 3 seconds for each 2 or 3% increase in rig height (and all appropriate sails); Proportional adjustments for changes in individual sails.

Spinnaker Pole and Width: Two alternatives are in common use:

- a) Three seconds penalty for each up to 5% or 10% paired increase in pole and spinnaker width, (or either one alone);
- b) Separate penalties for spinnaker and pole with each one incurring penalties of 3 seconds for up to 10%.

Asymmetrical Spinnakers: If the boat comes standard with an asymmetric spinnaker, handicap the boat that way. If an asymmetric spinnaker is added to a boat handicapped with symmetric spinnakers, a handicap adjustment is usually made as this obviously done to gain a speed advantage. The reverse is also true if a boat with an asymmetric spinnaker adds a symmetric spinnaker and pole.

Other changes incurring penalties by the handicapping committees with typical adjustments being:

Approximately 6-9 seconds difference in handicap between inboard and outboard configurations of the same class.

3-9 seconds bonus for shallow draft.

6-12 seconds for wing keels

3-9 seconds penalty for modified keels.

Roller Furling Adjustments: Some fleets give credit if a boat has working, above deck roller furling for the jib. Some may place additional restrictions on sail material and the number of sails allowed in the inventory. Six seconds is a typical adjustment given.

- See more at: <http://www.ussailing.org/racing/offshore-big-boats/phrf/starting-a-phrf-fleet/#sthash.y6hiAytL.dpuf>