

GRYC Mixed Fleet Ratings Policy

September 2020

A: Background

For many years the Goolwa Regatta Yacht Club has applied a “class based” or “yardstick” rating to determine mixed fleet race results between yachts of different classes, modified yachts and One-of-a-Kind (“OAK”) yachts. These ratings are now called the **GRYC Mixed Fleet Ratings** or the shortened acronym “**MFR**”. The MFR’s are intended to reflect the relative potential performance of yachts in a racing fleet if they were in top racing condition and that they are sailed well and to their full potential.

The methodology used to determine the MFR’s is called the “**GRYC Mixed Fleet Rating methodology**” or the shortened title, the “**MFR Methodology**”.

The principle aim of the MFR Methodology, along with GRYC’s Race Program, is to provide a mixed class and/or yacht based rating system, insofar as it is practicable to do so given the nature of a particular race or series, to ensure that each yacht when sailed to its full potential has an equal opportunity of winning each race or race series (the “**Principle Aim**”).

GRYC recognises that to achieve this Principle Aim the MFR Methodology must take into account the unique sailing conditions in “**Goolwa Waters**” (adjacent River Murray and Lower Lakes) which are fresh waters and, subject to sometime rougher conditions in the Lower Lakes, Goolwa Waters are generally flatter waters rather than open waters, the waters are shallow and the channels are narrow. In these conditions it is almost always impracticable to set windward/leeward and/or Olympic style courses.

Previously, for each yacht class GRYC based its ratings on the “Class Based Handicap” (“CBH”) ratings set under the Australian Trailable Yacht and Sports Boat Rule (“ATYSBR”) adopted by Australian Sailing but GRYC modified the ratings, using an earlier version of the MFR Methodology, where it considered modification necessary to provide for fair racing in Goolwa Waters.

For modified yachts and OAK yachts that didn’t have an ATYSBR CBH, GRYC determined ratings for these yachts using the same earlier version of the MFR Methodology.

The ATYSBR CBH ratings are based on a calculation under the Junior Offshore Group (JOG) measurement system which involves a complex theoretical calculation taking account factors such as hull shape, weight, righting moment, rig and sail area. The calculated result is then adjusted on the basis of available performance information (ie race results) and other available empirical evidence to determine a CBH in an attempt to provide a fair system of rating the potential performance of yachts. The ATYSBR CHH ratings are subject to annual review and adjustment based on actual race results.

In racing at GRYC:

- (1) It has become apparent from race results that the ATYSBR CBH’s do not adequately assess the relative potential performance of each class to provide for fair racing in Goolwa Waters for a number of reasons including the unique nature of the Goolwa Waters, unmeasured changes to a yachts configuration under Class Rules, improvements in rigging and sail technology etc;

- (2) For many classes of yachts, the ATYSBR CBH's have not been the subject of annual adjustment based on race results whereas some CBH's have been adjusted and, in Goolwa Waters, this has led to further distortion in the ability of CBH's to measure relative potential performance;
- (3) Most of the yachts in the GRYC fleets are modified in some way or are OAK yachts and they do not have a CBH rating; and
- (4) GRYC needs to have a fair and easily applied rating methodology to determine fair ratings quickly and which responds to address modifications and anomalies in ratings quickly without the cost or need for detailed measurements and long term historical race results and submissions to an external body.

Further, Australian Sailing (AS) has advised GRYC that:

- (1) *"Race organisers should not allocate to a boat, or class of boat, or a modified boat, a CBH that is not listed in a current version of ATYSBR Appendix A"; and*
- (2) *The Club "should apply a personal handicap system for those boats not covered by the official Class Based Handicaps and that these boats should compete in separate divisions to boats with an ATYSBR CBH".*

The consequence of adhering to these directives would mean that approximately 2/3 of the fleets in GRYC's Twilight Series, Summer Series, Christmas Twilight Series and Winter Series races and more than half the fleet in the Milang-Goolwa Freshwater Classic would not be eligible for a "yardstick" result.

GRYC considers that:

- (1) Compliance with these directives would cause too many classes and all modified yachts and OAK yachts (unless they had previously obtained a CBH) to be excluded from obtaining a "yardstick" result;
- (2) it is impracticable and undesirable for racing at GRYC to have 2 or more additional race divisions for most races; and
- (3) the likely outcome of compliance with such directives would be to materially discourage participation in racing at GRYC contrary to a fundamental objective of GRYC.

For these reasons GRYC has upgraded the MFR Methodology to provide a comprehensive "yardstick" yacht based handicap or rating system to determine Mixed Fleet Ratings (MFR's) which reflect the relative potential performance of each class, modified yacht and OAK yacht in the conditions experienced in Goolwa Waters. These MFR's are to be used to determine results in all races conducted by GRYC.

GRYC will also use a personal handicap rating system in addition to the "yardstick" rating to determine results which means that there will be both "yardstick" and "PHS" results in races conducted by GRYC.

B: The GRYC Mixed Fleet Rating Policy

To implement this decision GRYC has established this "GRYC Mixed Fleet Rating Policy" (the "GRYC MFR Policy") to provide a ***potential performance rating*** for every class, modified yacht and OAK yacht raced at GRYC.

This Policy sets out the methodology for determining the GRYC Mixed Fleet Ratings (MFR's) and how they will be set, managed and reviewed in the future.

1. MFR Methodology

The GRYC Mixed Fleet Rating for a class, modified yacht or an OAK Yacht is determined by the Handicap Committee based on an assessment of all of the available relevant information and the exercise of a discretion (similar to other rating systems) to determine insofar as is practicable a fair relative potential performance rating; ie a MFR.

By the GRYC Methodology for each class, modified yacht or OAK yacht being rated:

- (1) consideration is given to:
 - (a) direct comparison with other similar yachts with a GRYC Mixed Fleet Rating over at least 15 races; and
 - (b) current or past ATYSBR and YSA CBH ratings and ratings applied at other clubs;
 - (c) for the initial setting of all Mixed Fleet Ratings and, where the Handicap Committee considers it appropriate during an Annual review of the Ratings, an assessment Notional Mixed Fleet Rating for the class or yacht determined by using the GRYC BCH Methodology (refer to Appendix A);
 - (d) the observations and experience of the members of the Handicap Committee; and
- (2) after considering the above factors, the Handicap Committee will exercise a discretion to set the rating for each class, modified yacht or OAK yacht , insofar as it is practicable to do so, to ensure that when sailed to its full potential each yacht has an equal opportunity of winning each race and race series; and
- (3) each year prior to the commencement of the Summer Season, the Handicap Committee will review each MFR according to the methodology set out in paragraphs (1) and (2) above and set the MFR for each class, modified yacht and OAK yacht for the next Summer and Winter Seasons (the “**Annual Review of MFR’s**”).

The comparison with other yachts may require measurement of physical parameters of the yachts such as waterline length, hull shape (including keel and rudder), righting moment, displacement, distribution of weight, rig type and dimensions, sail area, sail material, sail configuration and anything else that might cause differences in potential performance.

Whilst this methodology is in some respects is different to some of the other official rating systems, it avoids the majority of the complexities, anomalies and costs associated with obtaining a formal rating under the ATYSBR or other measuring systems and it will provide as fair as practicable mixed fleet ratings for sailing in Goolwa Waters.

As the MFR is based in part on an assessment of the relative performance of a Class, modified yacht or OAK yacht against the fleet in the Spinnaker Division or Non-Spinnaker Division, as the case maybe, the rating set will be for races in that fleet. This means that a class, modified yacht or OAK yacht may have a different rating for races in the Spinnaker Division and in the Non-Spinnaker Division.

The intention of the Annual Review of MFR's is to ensure that improvements in potential performance since the MFR was set are addressed in revised MFR's so that the ratings used at GRYC continue to achieve the Principle Aim of the MFR Methodology which is to provide a mixed class and/or yacht based rating system, insofar as it is practicable to do so given the nature of a particular race or series, to ensure that each yacht when sailed to its full potential has an equal opportunity of winning each race or race series.

If there are less than 15 usable race results for a yacht in any sailing year or when the Handicap Committee considers it appropriate to do so to achieve the Principle Aim, when undertaking the Annual review of a yacht's MFR, the Handicap Committee may consider race results from the previous sailing year.

2. Procedure for Determining a Mixed Fleet Rating

If a yacht meets the criteria to be considered as "within a class" (a "**class yacht**") and there is a Mixed Fleet Rating for the relevant class, then the yacht will be given the class Mixed Fleet Rating.

Whether or not a yacht is within a class will be determined by the Handicap Committee by considering the class measurements and specifications for the class including in relation to the hull (including for the keel and rudder and their assemblies), the mast (including the mast type), the rigging and the sails.

If there is not an applicable class rating for a yacht or the yacht is a modified yacht or an OAK yacht, the GRYC Mixed Fleet Rating will be determined by the Handicap Committee for the class or the particular yacht by following the following 3 step procedure:

- (1) initially set an Interim Mixed Fleet Rating;
- (2) after about 6 races set a Provisional Mixed Fleet Rating; and
- (3) after at least 15 races but using all relevant races sailed prior to the Annual Review of MFR's, set a Mixed Fleet Rating.

These steps reflect increasing confidence in the accuracy of the rating applied and are explained in more detail below.

Once an Interim Mixed Fleet Rating, Provisional Mixed Fleet Rating or a Mixed Fleet rating is set by the Handicap Committee it will be published in the List of Goolwa Mixed Fleet ratings under the Racing Tab on GRYC's Website.

2.1 Interim Mixed Fleet Rating

The Handicap Committee will estimate a conservative Interim Mixed Fleet Rating for a class or modified yacht or OAK yacht based primarily on a comparison with similar yachts and the knowledge and experience of the members of the Handicap Committee as well as what relevant race data is available.

An Interim Mixed Fleet Rating will generally only apply for up to a maximum of 6 races only while the Handicap Committee can assess a yacht's actual potential performance in Goolwa Waters.

An Interim Mixed Fleet Rating may be adjusted during this time as race data becomes available. If the Interim Rating is adjusted during a series of races the results for previous races will be recalculated using the adjusted rating for the series result.

2.2 Provisional Mixed Fleet Rating

After the Handicap Committee is satisfied that it has enough information, including of actual performance of the yacht in Goolwa Waters, the Handicap Committee will set a Provisional Mixed Fleet Rating which is the Handicap Committee's best estimate of the potential performance of the class, modified yacht or OAK yacht under consideration relative to other classes and yachts.

A Provisional Mixed Fleet Rating will necessarily also be a conservative rating and will be based primarily on a preliminary physical comparison with similar yachts, the limited race data of races in Goolwa Waters that is available and the application of the knowledge and experience of the members of the Handicap Committee.

Generally, a Provisional Mixed Fleet Rating will not be altered once it has been set until the Mixed Fleet Rating is determined. However, the Handicap Committee has a discretion to vary a Provisional Mixed Fleet Rating if, in its opinion, a Provisional Mixed Fleet Rating is unfair to a class, a modified yacht or and/or an OAK yacht.

2.3 Mixed Fleet Rating

At the first Annual Review of Ratings (ie prior to the Commencement to the Summer Season each year) after the yacht under consideration has completed at least 15 races, the Handicap Committee will determine the Mixed Fleet Rating for the class, modified yacht or OAK yacht as the case may be.

Except during the Annual Review of MFR's, once set, a Mixed Fleet Rating applicable to a yacht will not be altered unless:

- the yacht has been modified or adjusted (outside of class rules if applicable or otherwise) in a way that may influence its potential performance; or
- in the opinion of the Handicap Committee there is clear evidence that a class of yacht, a modified yacht or an OAK yacht is being materially advantaged or disadvantaged by the current Mixed Fleet Rating.

Except in relation to Permitted Modifications which are listed in this Policy, it is a fundamental obligation of skippers or owners of a yacht to notify the Handicap Committee in writing of any modifications to their yacht regardless of when the modification was made.

2.4 Appeal against rating decision

There is no appeal against the setting of an Interim Mixed Fleet Rating.

If a skipper or class representative (an "appellant") considers that a particular Provisional Mixed Fleet Rating, a Mixed fleet Rating or an Annually Reviewed Mixed Fleet Rating applicable to his or her class

or yacht or to any other class or yacht is unreasonable, the appellant may appeal to the Handicap Committee to review the Mixed Fleet rating by making a written submission putting the appellant's case as to why the rating is unreasonable in their view.

Such a written submission must contain or have appended to it all of the information and evidence upon which the appellant relies in making the appeal.

The Handicap Committee will consider the written submission and the information and evidence provided by the appellant and make a determination of the appeal. Subject only to the terms of the GRYC Mixed Fleet Rating Policy such a determination of the appeal by the Handicap Committee will be final and there will not be any further right of appeal.

However, if an appellant considers that the Handicap Committee has failed to provide natural justice or has acted improperly in making its determination of the appeal, it may make a written complaint to the General Committee. In such an event the General Committee's processes for considering complaints will apply.

3. Modifications

3.1 Permitted Modifications

GRYC has, among other things, as objects the encouragement of participation in yacht racing and the facilitation of participation in racing by "older sailors" and inexperienced sailors. Therefore GRYC has decided that modifications that make it easier and/or safer to carry out crew work and which don't have a material impact on the potential performance of a yacht should be permitted without any rating adjustment.

It is not intended to provide a comprehensive list of modifications to a yacht within a class or to a modified yacht or an OAK yacht that will not result in a rating adjustment.

However, the following modifications (when not already standard) will be permitted without any rating adjustment:

- (1) fitting of an electric keel winch;
- (2) fitting of a jib furler;
- (3) except for the Non-Spinnaker Division, the use of a continuous furler to facilitate the change of a foresail;
- (4) provided that the tack is not projected beyond the bow of a yacht on a prodder or other device (whether retractable or not) and the sail areas do not exceed the sail area of the symmetrical spinnaker for the class or as previously advised to the Handicap Committee, the use of code sails or asymmetric spinnakers.

3.2 Modifications Requiring Notification and Potentially Resulting in an MFR Adjustment

Unless a modification is a permitted modification under this Policy and the modification might improve the potential performance of the yacht, the skipper or owner of a yacht must notify the

Handicap Committee in writing of the modification and provide full details of the modification prior to participating in any races.

Failure to notify the Handicap Committee of any modifications other than Permitted Modifications may lead to disqualification from a race and/or series.

As has been noted above, some class rules are not much more than a list of measurements but other class rules are very prescriptive and therefore relying on class rules to determine whether a yacht is a class yacht is very likely to be unfair to some yachts as the lack of prescription in class rules will allow unmeasured modifications that improve potential performance in some classes but not in other classes. This may distort the relative potential performance reflected in the Mixed Fleet Ratings set.

For this reason and because the GRYC Mixed Fleet Rating Methodology relies on actual race results to determine the relative potential performance of classes and yachts (as does the ATYSBR), GRYC has determined that any modification to a yacht's configuration that is made after a Mixed Fleet Rating has been set for that yacht (whether it is a class Mixed Fleet Rating or an individual Mixed Fleet Rating) and that modification might improve the potential performance of the yacht, the modification must be considered by the Handicap Committee and the Handicap Committee must determine whether or not a Mixed Fleet Rating should be adjusted and, if so, what the adjusted Mixed Fleet Rating should be.

For example, any of the following modifications made after a Mixed Fleet Rating has been set will result in a ratings review for the yacht:

- 3.2.1 Hull: any changes to the hull, keel and/or rudder, changes to the flow of water across or over the hull, keel or rudder, including changing a propeller, changes to the waterline length, weight, distribution of weight, righting moment, addition of flaps over a keel opening, fibreglass sheathing of a wooden hull, gel coating the hull when it was previously antifouled, etc;
- 3.2.2 Mast: any changes to the size, type and/or flexibility of the mast (eg addition of a taller mast, a change from a rigid untapered mast to a flexible and tapered mast etc);
- 3.2.3 Rigging: any changes to the rigging dimensions including the fore and aft rigging triangles, length of the boom, the addition and/or use of a mast head spinnaker etc;
- 3.2.4 Sails: any changes to the sail material and/or dimensions and/or hoisting position of a jib, genoa, code sail, asymmetric spinnaker, spinnaker; and
- 3.2.6 Technological improvements: ie in anything done to the yacht that might improve the potential performance of the yacht since the Mixed Fleet Rating was set other than Permitted Modifications.

Appendix A: GRYC Back Calculated Handicap Methodology (the “GRYC BCH Methodology”)

The GRYC BCH Methodology uses actual race results conducted by GRYC in Goolwa Waters to determine a “Notional Mixed Fleet Rating” (**Notional MFR**) for a class, modified yacht or an OAK yacht, as the case may be.

Races where there are less than 5 entrants, some or all of the fleet have been becalmed and races where the average wind speed has been greater than 22 knots for substantial periods are excluded from consideration. Races which do not reflect the potential performance of the class or yacht being considered are also excluded from consideration; eg races where the yacht ran aground for a substantial period or had some problem that caused a poor performance or their or other yachts’ passage was interrupted by another boat such that the result is an unreliable indicator of potential performance or the Notional MFR for a particular race is so low that it is reasonably unlikely to reflect the relative potential performance of the yacht in the race.

All other race results of the yacht under consideration in the Twilight Series, the Summer Series and the Winter Series are used to determine the Notional Mixed fleet rating and these races are referred to as the “**Rating Races**”.

Where a class is being rated, the results in the Rating Races of the best performing yacht within the class over the period being considered are to be used.

For classes and yachts for which an initial Mixed Fleet rating is being set, the results of at least 15 Rating Races and all Rating Races sailed in GRYC events are to be considered in determining the Notional Mixed fleet Rating.

During an Annual Review of Ratings, the results of all Rating Races sailed since the last Annual Review are to be used in determining the Notional Mixed Fleet rating and, if the Handicap Committee considers it appropriate to achieve the Principle Aim, the Handicap Committee may consider reliable race results from the previous sailing year.

These periods referred to in the preceding 2 paragraphs are referred to as the “**Rating Period**”.

To calculate the Notional Mixed fleet Rating for a class or a particular yacht, the GRYC BCH Methodology is as follows.

1. Identify the yacht to be used to rate the class by determining the best performing yacht within the class over the Rating Period or which modified yacht or OAK yacht is to be rated;
2. For each Rating Race:
 - 1.1 Identify the number of finishers in each race;
 - 1.2 Calculate the number of finishers equal to 40% of the finishers in each race and round up that number (“the Top 40% Number”);
 - 1.3 identify the corrected time results for the Top 40 % Number of finishers in the race excluding the yacht or class under consideration (“the Top 40% Results”);
 - 1.4 calculate the average corrected time result of the Top 40 % Results (“the Top 40% Average”);
 - 1.5 identify the actual elapsed time of the yacht under consideration;
 - 1.6 divide the Top 40% Average by the yacht under consideration’s elapsed time; and
 - 1.7 the result is the yacht under consideration’s Notional Mixed Fleet Rating for that race;
3. then Calculate the average of the Notional Mixed Fleet Ratings for each Rating Race in the Rating Period and the result is the Notional Mixed Fleet Rating for the class or yacht under consideration.