THE RYA PORTSMOUTH YARDSTICK SCHEME

Pursuit Racing

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PURSUIT RACING

OBJECTIVE
The objective of a pursuit race is that, if boats of different classes are sailed by crews of equal ability, they should all cross the finishing line together, having started at different times related to the *Portsmouth Number* of their boats.

RACE DURATION (RD)
The race has to be for a fixed duration and this needs to be decided upon early enough to facilitate the calculation of the different starting times for the different boats in the fleet.

Choosing RD, whether it be for the slowest, the fastest or a class near the middle of the fleet needs careful consideration. A 2 hour race for a Bosun is about 3 hours for an Optimist and only about 1.5 hours for a Laser 5000. What is considered a good RD for one class may be too short or too long for other classes. About 1.5 hours has been found to be a reasonable RD for a dinghy fleet.

Try to know your entry before making the decision.

LENGTH OF COURSE
It is preferable that a lap should be long enough to avoid too many early starters on their second lap getting mixed up with later starters embarking on their first lap.

STARTING TIMES
Starting times are calculated for a particular race duration (RD).

If 1.5 hours (90 minutes) is chosen as the RD related to boat X with a PN of 1200 then the expected RD for boat Y with a PN of 1000 would be 75 minutes and for boat Z with a PN of 1400, 105 minutes. These times are simple ratios i.e. 1200/90 = 1000/75 = 1400/105.

Boat Ys start time would be 75-90 = -15 minutes i.e. 15 minutes after boat X.

Boat Zs start time would be 105-90 = +15 minutes i.e. 15 minutes before boat X.

STARTS
With more than a handful of classes, it is hard to stick to recommended starting procedures. It can be difficult even to give each start, let alone each class, a separate flag. It may be necessary for sound signals to govern. For example, after a five minute warning, four minute preparatory, one-minute and first start signal, sound signals could be made every minute, with a flag every fifth minute.

Perhaps the easiest system is numerical, showing on large cards the actual number of minutes elapsed since the first start, which are changed as each minute sound signal is made. (It may occasionally be necessary to give 1/2 minute sound signals: no visual signal need accompany them.)

Large fleets may benefit from a restricted starting area, into which no boat is allowed to sail until a certain time before her start. It may be worthwhile having a marshalling officer, telling the competitors which class is next to start, which may move into the restricted area, and perhaps also hailing premature starters. Do not, however, promise such a service in the Sailing Instructions.

It is, of course, disastrous to have a general recall of any but the first start. Since it is only fair to proper starters not to let premature starters get away with it, you must have enough officials to cope with the numbers involved.

FINISHES
Since starting times will be calculated for a particular race duration (RD), the race must finish at or near the end of the RD, wherever on the course the leading boat happens to be.

In order that a race should finish at a predetermined time, there are usually only two methods for finishing the race.

The first method is to drop a buoy a short distance ahead of the leading boat a few seconds before the end of the RD, and form a finishing line with it.
The second method, which is designed to ensure that the race finishes on the club's usual line, is for a motor boat to shadow the leading boat before the end of the RD and, when the race officer guesses that it will take all the remaining time to sail directly from that point to the finishing line, passing no other buoys, he drops a mark, preferably either red or green, so that the leader rounds the buoy leaving it to port or starboard as indicated by its colour in a direction which takes him out of the path of the following boats and towards the club finishing line. This method takes practice and needs a brave, experienced and decisive Race Officer.

The positions of boats when the RD time elapses are the finishing places, but these are almost impossible to define. Various clubs have tried: (1) asking each helmsmen to note, at the end of the RD, the boat in front of and behind him; (2) having committee boats which start from the front and back of the fleet respectively, and roar towards each other, noting positions, until they meet; (3) allowing the fleet to continue until all have crossed the finishing line; (4) as (3), but timing their finishes and applying retrospectively a correction factor to determine where they were when the finishing signal was made.

Method 1 gives the fairest results but is difficult to operate particularly if the finishing leg is a beat. Method 3 seems to be the simplest to operate and most readily understood.

PORTSMOUTH NUMBER ADJUSTMENT
Portsmouth Numbers (PN) used for a conventional, mass start, PY race will not produce the same results for a pursuit race. This is because PNs have mostly been produced from conventional PY racing, in which the fastest boats are soon sailing in clear wind while the slower boats sail in disturbed air throughout the race. In pursuit races, the slowest boats sail in clear air until, theoretically, they are overtaken near the finishing line, while the faster boats have to try to overtake a succession of only slightly slower boats. Small boats, therefore, do not need as much start as their regular PN would indicate and big boats need a little help.

The precise assessment of PN adjustment needs to take into account the total number of entrants, the relative size of the various starts and the size of the course.

If twelve GP14s are starting immediately before a single Enterprise in a two hour race, then in theory the Enterprise should start one minute after the GP14s. In fact, it will be extremely hard for the Enterprise to get through. If one GP14 precedes 12 Enterprises, then it is probable that the GP will be swallowed up on the first beat.

All these factors should be taken into account in considering PN adjustment. Ideally, they will only be fixed when not only the location, but also the size and composition of the fleet, and the wind and current strengths and directions are known. For a fleet to be prepared to enter for a race blind, so to speak, demands tradition and/or confidence in the handicapper; it is, however, taking the wrong way out simply to adhere to the published *Numbers*, without careful consideration.

NOTICE OF RACE
Under ISAF rules, you must state the intended system of handicapping. If you intend to use unmodified PNs, you should say so; you could say that handicaps will be issued to entrants on such and such a date; if you are prepared to decide the figures on the day, then that must be stated. You must estimate a figure for a boat or class without a published PN and race it accordingly. You may, however, limit a fleet to boats with a PN of over or under a certain figure, published or estimated.

HELP FROM THE RYA. HELP TO THE RYA

If you run any PY event you should *Return* to the RYA the PNs which you have found equitable: you should also do so if you run a pursuit event, but please indicate on the *Return* that it relates to such an event.
If a club wants any help in running a pursuit event, an amplified version of this article is available from the RYA Technical Department.

For further assistance on any aspect of the RYA Portsmouth Yardstick Scheme contact the RYA Technical Department on
Tel: 0845 345 0383 or email: technical@rya.org.uk
or visit the RYA web site on www.rya.org.uk