



Getting Fast and Accurate Results at a Regatta

Introduction

Results at a Regatta can take in inordinate length of time to produce. Ask any sailor!!

The data entry into the computer and race processing in the computer is probably the easiest and quickest part of producing results for a Regatta. So what's going wrong??

The Race Committee and the competitors want the results virtually before the last competitor is off the water. Often the pressure is put on the computer operator / results person. I believe this is unfair / unjust and accounts for the great reluctance of most people to take on that job.

Provided that the computer operator has **ALL** the relevant information **and** there is a sensible structure in place, then it is not a difficult task to provide quick, accurate results.

Where are the Delays/Problems???

We have worked with many clubs for club events and in particular for Regattas. These Regattas have varied in size from as small as a 20 boat Regattas up to a recent Regatta with over 300 hundred boats. This later Regatta had 16 Series. The 16 different Series were all running the same area and at the same time, often finishing at a common finish boat. Some results were by Handicap corrected time, some were on position, and others were on Class Handicap / Yardstick. Many boats were given multiple results under different HC systems for any one race. Some boats were competing in a race the finish times from which were being used in several totally different Series. But the race number in each of these Series was different as was the mix of competitors in each Series.

What Useful Ideas can we pass on from These Clubs / Regattas?

The two key issues stand out. Both relate to data management.

1. **The Process:** There must be a clearly defined and clearly understood process in place to cope with the collection of all the necessary data both prior to and during the Regatta. Similarly a clearly defined system needs to be in place for responding to competitors' queries about the results. These processes must have easily visible "audit" trails so that it is simple to check on things that were done "the day before". Both processes must have easy to follow, colour coded forms.
2. **The People:** The team of volunteers doing all the jobs in the data management must be trained and experienced. For example, the finish boat team must be experienced in the kind of finishing that they are undertaking. Further, every task needs continuity from one day to the next. Either all the same people each day / race or a least a sub set of each team must have been involved the previous day so that lessons learnt are then implemented.

Some Detailed Suggestions.

Caveat

This is **NOT** a light read. Only proceed if you really want to consider a “boots and all” solution. Remember that producing sensible results is a multi-step process. Break one link in that chain and it can all come apart.

- **When setting up the Regatta Database, accurate data must be available for various items.** What follows may seem obvious, but time and again this information is **NOT** properly provided and this puts unfair pressure on the computer operator / results person to provide sensible results when the necessary data is simply not available.
 1. Sail Number **as displayed on the mainsail** of the boat.
 2. Boat Name [for Keel / Trailable events]
 3. **Accurate, confirmed** handicap value for handicap based racing.
 4. For events needing Class related handicaps / Yardsticks / Class Marks / CBHs, it is essential that the class name provided for each boat is a **class that is recognised within the computer** program so that an appropriate yardstick can be provided. So “HobieCat” is a meaningless class name as there are many variants of “HobieCat”. One effective solution is force competitors to select a class name from a supplied list. No class name = no results!

- **It is Essential to Confirm Data Accuracy and Legibility.**

At registration time all the above details **must be checked and confirmed by the persons accepting registrations**. Further, it is essential that the handwriting is checked as being totally legible. This pre check **must** be done while the sailor is to hand and is available for any necessary clarification and **before** the data (i.e. entry forms) is passed on for computer entry. A properly laid out form goes a long way to solving this problem. TopYacht provides a printable example of such a form.

For users with an ‘Enhanced License’, TopYacht has developed a Spread-Sheet for loading competitors into the TopYacht Database. This spread-sheet has a drop-down list of all TopYacht recognised classes. Download it from [here](#).

Alternatively, TES (TopYacht Entry System, a separately licensed online utility) handles all the registration (including a payment gateway) that interfaces directly with TopYacht for the import of competitors.

By far the least attractive option is to manually load each competitor from the hand-written form.

- **Event Data!!**

To set up the event it is essential that the computer operator has access to **ALL** the necessary information needed to score the races. This includes the scoring system, penalty score system, whether results are to be by class or division or fleet, whether results are to be on position, finish time, yardstick corrected time of handicap corrected time etc. TopYacht provides a printable form within the product to allow the collection of that data **prior** to the event. [This data should be available from the Sailing Instructions.]

Given this information the “Series Setup” within the software should be able to be set up before the actual event. This is a smart move because it frees the computer person and the Race Officer from having to do this on the day(s) of the event when so much else is happening.

Once the first race is set up, the next step is to enter competitors. Don’t forget to enter them into the relevant Series(s) and Result Groups. You will need to manually enter appropriate handicap figures if needed.

Within this Series allocate the boat classes/types to Divisions. [These are needed for start times

and some results.]

Note: Set up the First Race, Run it, Process the Results, then verify the results. Then (and only then) set-up the next race.

Creating races in advance will cause allocated performance handicap rolling forward to the next race to be incorrect.

If needed "Sign On" sheets can now be printed.

NOW RUN THE RACE

Recording Finish Times: Some Suggestions...

- Record all times in time-of-day format.
- If possible, switch clocks to 24-hour mode.
- Purchase a printing stopwatch. A Seiko S149 is ideal. It can be programmed to print out Time of Day.
- Synchronise all the watches on board to the second with the GPS. If you propose to use the computer Stop Watch, synchronise the computer as well.
- If the logistics and environment permit, use an on-board computer, and switch it to 24 hour mode.
 - You may need an inverter or other battery saver
 - A broad-band mobile-phone dongle helps speed things up
- If an on-board laptop is not feasible, take a mobile phone, photograph the finish sheets, and SMS them ashore periodically, or
- Call the finishers ashore via 2-way radio. Record the finish times ashore
- Record all finish times on the boat manually in parallel as well (the printing stopwatch should suffice).
- Use the computer / Stopwatch to run the start.
- Placement of the finish boat.

For an upwind or a downwind finish there are no alternatives to choose between.

For a reaching finish, position the finish boat on the downwind side of the line. This makes it much easier to read sail numbers both at the time of finishing and as they approach the line.

BUT, this means that the boats will pass over the finish boat's anchor line. If it is rope, it is essential to slid that a suitable weight down the anchor line to a depth of say 2 metres (beneath the water's surface). This will hold the anchor rope close to the bow of committee boat, below the surface away from centre-boards. Use steel, and not a concrete weight

A Successful System for Recording the Finish Times.

For a Regatta where there is the likelihood of many boats finishing in a very short space of time it is essential that the finish team know exactly what they are expected to do before it all starts to happen!!

Under most normally accepted systems, one person "calls" the sail numbers out loud. This is recorded on a hand held tape recorder (**this is essential!!!**)

The "called" sail number is written down, preferably by two separate "finish time" scribes. (Legible hand writing is essential!)

A third scribe is the "finishing position" scribe.

The "finishing position" scribe ignores the caller and concentrates on recording the sail numbers **in the order** in which they finish **as they see it** noting times where possible, but the emphasis is on finish order.

The “finish time” scribes concentrates on recording finishing times but also records the sail numbers against these times where possible (should be vast majority of boats).

The time is commonly taken from a watch/clock attached to the clip board used by the “finish time” scribe. Record “Time of Day” rather than elapsed time. This has been repeatedly shown to provide valuable “extra” information for solving various disputes.

It is valuable if the caller calls out the time after every few finishers so these times are also recorded on the tape so it can be better matched to the written record.

The finish order is provided by the voice of the ‘caller’ so the scribes never have to look up at the boats.

Many experienced teams use a system where by the caller says....

“... approaching sail number AUS 1332, approaching sail number AUS 223, finishing AUS 1332 NOW, approaching AUS 3378, finishing ASU223 NOW....”etc. This allows the time scribe to record the sail numbers as the boats approach then just add the finish time (as the boat finished) rather than having to write down sail number and times at the same instant.

This finish time system has one major, potential flaw, **if** everything is taken from the one caller. So some teams then use a fourth person to do one of three things; either to...

- also call quietly onto another tape;
- Write sail numbers down in finish order but constantly glancing up at the boats instead of listening to the caller (i.e. the “finish positions” scribe); or,
- Stand behind the caller and making sure that **all** sail numbers are called and that they are called **correctly**.

You may choose to use TopYacht’s Computer Stop Watch. See [Appendix 1](#)

Further Reading: See [Entering Finish Times](#)

So the Finish Boat Now Has All The Sail Numbers And Times, What To Do Next???

Confirming the data.

IF there is now a long enough lull till the next finish (ie the end of the *next* race) then it is very sensible for the finish team to compare their written records to produce one ‘agreed to’ list of finish times before it is sent ashore for entry into the computer. (Remember the tape is also available.)

Further, it is then **essential** that the finish team check all finishers’ sail numbers against a list of race entrants and make sure the sail numbers on the finish sheet agree with known entrants and if not use their collective recollections to try to account for all the sail numbers. This will **have** to be done **before** results can be produced on the computer. So it is far better to do it now, immediately after the finishing, rather than many hours later when the sailors are clamouring for results and the finish boat teams are tired and just want to go home (or to the bar??)

TopYacht will accept shortened versions of sail numbers providing that the number (and/or letters) written down are the last numbers. So for the Laser 1234567, TopYacht can accept the whole number or 34567 or even just 567. The latter is dangerous if there is another boat with the same end to her sail number. This same principle applies with AUS567. The AUS can be ignored unless there is also JPN4567.¹

A very useful tool for the finish boat is to know exactly how many boats actually started the race. The boats can often be seen from the finish boat either as they start or as they round a mark for the first time. At either point the number can be noted. This then provides a target as to how many should appear on the finish sheet. If this counting cannot be done from the finish boat then ask the start boat or another patrol boat to do it. (This information should be being recorded for safety reasons anyway.)

At this time **the finish team need to obtain the start information** i.e. start times for each division and the course for each division. This is obtained from the start boat. Also obtain any OCS details and add it to the

¹ TopYacht has a stripping utility for removing user-selectable characters from sail numbers.

“note” column on the finish sheet. The finish team should also obtain the average wind speed and course bearing.

What's next?

- If the computer is on the finish boat, and all the data is loaded,
 - Process the Results
 - Publish them

Getting the Data Ashore.

If the sail number confirmation check mentioned above is not carried out on the finish boat then they should be done by another team on land before attempting to enter them into the computer. It is a rather futile exercise trying to input a complete list of sail numbers many/most of which are not recognised in the computer.

Once the finish times are available they need to be sent to the computer/results person on land. This is done differently by different clubs; some...send the written list(s) ashore in a “courier” boat; some use a mobile telephone to send the data ashore either to a scribe or better still to a hand held tape recorder for transcribing; some clubs have the facility to fax the sheets ashore; others record the data on an on boat computer and Email it ashore. [TopYacht has an ‘add on’ module to import finish times from a csv file directly into a race.]

If the data is transmitted by voice then it is **most important** to check the data in the computer against the original finish sheets from the finish boat when those sheets become available. Further, it is important that the person receiving the information via the telephone is briefed as to exactly what is expected of them.

Why Don't We Just Record Finish Order and Forget Times?

My experience is that recording times on the finish sheet adds little time in the recording process. It is unusual to find a finish that is so fast and involves so many boats as to make it totally impossible to record times. It may be that many times are recorded and the one time that is not written down must later be “manufactured”. This manufacturing is easy when listening back to the tape.

“Times” offer several advantages.

- If there are several consecutive finish sheets then the times provide total proof of the finish order.
- Occasionally a boat finishes without being recorded on the finish boat. For longer races the sailor can usually say “we finished at about 5:30. This gives you a starting place to try to figure out where the boat is to fit in the finish list.
- Providing results with finish times provides better feedback to the sailors about their relative sailing skills. I.e. “We finish 2 seconds behind him” vs “We finished 2 minutes behind him” vs “We finished behind him”.
- If just positions are input into the computer then any alterations/corrections to a competitor's position means that many other positions must also to be adjusted. This is extremely messy where different classes/divisions are being recorded on one single finish sheet then input into the computer. Then later a place is altered for a boat. If a finish time is altered then nothing needs to be done to other competitors.

In What Format Should We Record Finish Times???

- Time-of-Day format leads to the least possibility of miscalculations by race officers or sailors. I.e. no calculations of offset times are needed when tracking down an event that was noted during the race. The sailors are using wrist watches for timing; not stop watches.
- If a sailor notes an event as having happen at a particular time then it is very easy to fit it into the races time frame.

- This means that results can meaningfully display start and finish times. This is valued by the sailors as a quick and easy way to make sure that the records are sensible.
- This is the easiest system for the computer operator to use. There is no need to work out offset for start times or finish times.

Other Data Needed For The Computer.

To provide results by times it is essential that the computer operator be informed as to the start time(s) of each race. ***This should be on the same form as the finish times so that all the data is together rather than spread across several forms that have to be gathered to generate the results.***

Likewise is important that any OCSs, DNFs, etc also be recorded on the finish sheet against the appropriate sail number so they can be input at the time the finish times are input into the computer. This avoids double handling of data entry, processing and providing results printouts.

The mechanism for getting these additional pieces of data onto the finish sheet before it reaches the computer operator needs to be determined ***before*** the event, then rigorously adhered to for each race.

TopYacht have evolved a form that provides places for ***all*** the above mentioned data to be recorded as well as course and weather information. The later information can be input into TY and is displayed on the results sheet. This “added” information is appreciated by sailors , particularly those looking at the results on the Internet. The “Finish Times Form” (and many others) can be printed from within TopYacht.

Data Entry into the Computer.

It is essential that the results be accurate not only for the reputation of the host club but also to ensure that the correct sailor(s) is awarded the prize(s).

Therefore as part of the entry of finish times it is essential that the values in the computer reflect what is on the finish sheet.

The TY Finish Sheet provides as column headed “E/C”.

As each time is entered (the “E” in the heading), a forward slash (/) is drawn in the E/C box for that competitor.

When all times have been entered into the computer they must be checked (the “C” in the heading) against the finish sheet. As each time is checked a back slash (\) is put in the same box. So each competitor should end up with a box with the two slashes superimposed to form an X. This clearly indicates that the competitor is in the computer with a time confirmed from the finish sheet.

Entering finish times is best accomplished by one person reading the times and another typing at the keyboard. This is should be done in a ***quite environment with no distractions***. This quietness becomes particularly important if this data entry team then have to do some heavy thinking/detective work to hunt down an unmatchable sail number.

Competitor’s Requests for Information about Published Results.

For most large Regattas there is a mechanism for competitors to query results.

I strongly believe that competitors should not have direct access to the Results person nor to the PRO. They both have enough on their plate without interruptions from competitors. Instead a “Regatta Office” and/or Regatta liaison officer should be the point of contact for competitors. Any queries are then forwarded on in a written form to be dealt with when convenient.

This works well if there is a complete sequence put in place as per the following example.

Competitors see that he is marked as a DNC on the results. He did in fact finish and wants the results to reflect this.

- The competitor obtains a “Request for Review of Results” form from the regatta office. This should be totally separate to the computer operator/results person or they will often be interrupted at crucial times.
- The form is completed and returned to the regatta office.
- The form has a “received time” written on it and is given a unique number which is recorded on a Results Query log sheet (in the regatta office) with the time it was handed in.
- A person from the regatta office hands the form(s) to the computer operator/results person for examination as soon as results duties permit.
- If the request is for a change of spelling or some other thing that will not affect published results then the results person makes the change in the computer.
 - The request form is then annotated by the results person showing what action was taken and a time and date and signature added.
 - This action is also logged by the results person on their Results Query log. (This saves the potential of attempting to solve the same problem several times over!!)
 - The form then must be sighted and signed off by the Principal Race Officer.
 - When the form is totally dealt with, a mark should be made in an appropriate box at the top of the form showing this form has been dealt with.
- If the request is for a change of handicap or for an altered finish time or a change of class or anything else that will affect the results then it should go to the PRO.
 - The PRO then decides what action needs to be taken. This action is clearly spelt out on the form which is then passed back to the results person.
 - When the nominated changes have taken place then results person marks the form and log as above and marks the top box as above.
 - If the change will affect results then that race will need to be reprocessed and the amended results posted.
 - It is most helpful if the results person has a log/table pre-prepared in which the time/date of each posting of results for each race is recorded. This is updated whenever a change is implemented that affects the published results.
- The form having passed through the PRO and the results person is now returned to Regatta office and either pinned on a display board for all competitors to see or stored for the competitor to retrieve and find the outcome of his query.

While such detailed logging of each request may seem overkill, it may save considerable time wasting and leaves a clear audit trail for the race officers and competitors as the Regatta progresses. The larger the Regatta the more important the audit trail.

Some Final Useful Ideas.

- If the above concepts seem good but you just don't have the resources to implement them, then consider how best to achieve these ends with the resources available
- The blank forms mentioned above are available from TopYacht's website for download. See https://topyacht.net.au/results/shared/event_management/
- Use different coloured paper for different forms. This save heaps of time!!
- Have one accepted method for competitors to change Sail Numbers / crew etc. [TY provides a sample form.]

There are doubtless other options that can be added to the above document and/or alternative methods. We would be happy to add alternate ideas to this document provided that they provide the same depth of accuracy and audit trail.

Appendix 1:

The Computer Stop Watch.

This utility is ideally used in real time.

Screen Shot of the Computer Stop Watch.

- The computer operator enters the sail number as the boat approaches the finish
- Press enter when the boat passes through the line.

- ❖ The Left Hand Panel shows the sail numbers and finish time stamps.
- ❖ The Right Hand Panel lists the race entrants
- ❖ The back-ground colour of each row changes to yellow for each match
- ❖ The sail number / finish time stamps turn red if there are duplicates.
- ❖ Unmatched finish time stamps / sail numbers (Left Hand Panel) means that someone has borrowed someone-else's sail or have not registered.
- ❖ Unmatched Right Hand Panel means that boats have not finished (or even started)
- ❖ DNF, DNS, OCS etc are entered in the "DID NOT" column for that sail number. The background turns blue.