Island YC Race Committee Manual, with Emphasis on Island Nights / Days

Revision 1.0
October 2022

Purpose

This document aspires to provide guidance for the Race Committee at Island YC's "Island Nights" races.

It has two or three audiences.

It should help people who are completely new to Race Committee (and perhaps even new to racing) understand their role and how RC works as a whole. This audience is expected to have minimal prior understanding of RC or racing.

And it should help people with moderate experience on RC, but little or no Principal Race Officer experience, run successful races as the PRO, or even create new events or courses. As a variation on that, it should help people who have done PRO a few times elsewhere but not done RC with us understand more about the way we've been working here. This audience is expected to have taken the US Sailing Basic Race Management Seminar, or have done most of the roles on RC over a dozen or more races.

This document is not intended to handcuff the person running the race! Having worked with many RCs, the author believes that while 95% of what every PRO does is the same, there's about 5% variation around what works best for the individual PRO. Plus it's good to try some new things and keep evolving.

So this is ***a*** way to do things, not ***the*** way to do things.

Opinions and Errors are the author's, who would like to thank the numerous reviewers for their feedback and corrections.

R. A. Reitmeyer, US Sailing CRO
October 2022

What is Race Committee?

Sailboat racing lets skippers learn, practice and perfect high performance sailing and boat handling techniques. And there is an objective benchmark, because boats can compare themselves to each other. Plus there are bragging rights.

The least serious races are "beercan" races where boat owners get a low key chance to take out their boats and go sail. They can use the beercans as a way to recruit and train crew for more serious races, much like the minor leagues help people learn before going to the majors.

Every race, no matter how serious, takes boats around a sequence of marks to be left on a required side, and boats are scored based on their elapsed time + handicap.

But races don't just happen on their own, it takes a team of volunteers to organize and run the race: the Race Committee.

The RC, lead by the principal race officer (PRO):

- Plans the event, from writing the Sailing Instructions to designing the courses
- Puts the marks in place
- Picks the course
- Trains new members of the team
- Records checkins
- Tracks the countdown to each of the activities needed to start the race
- Raises and lowers flags to signal to the racers at very specific times
- Uses sounds to draw attention to the flags and for racers that cannot see the flags.
- Ensures a fair start by catching boats that crossed the start line early
- Records the starters
- Decides if a condition change warrants shortening course
- Records any boats that drop out
- Records the finishes
- Computes the scores
- Announces the results

Some races can be run by race committees with just a few people, but our typical race will require around half a dozen.

Even before creating Sailing Instructions, the Race Committee may work with the club to plan the event and create a Notice of Race.

Planning a Brand-New Event

We'll want to do this a year in advance.

To make a brand-new event, we'll need to get Coast Guard permits and coordinate, through YRA, with other yacht clubs. The goal of all this planning is to ensure that we don't end up with two conflicting events happening in the same bit of water, or on the same VHF channel, at the same time. In the worst case, imagine what would happen if two races sent boats around the same mark at the same time -- in different directions!

There's a bunch of planning meetings that start in August or September and run through October, and the YRA calendar for the upcoming year is printed and distributed (via Latitude 38) in November. Once that's locked down, we may need to wait for next year's planning session -- and our event will be even further out.

Note that this is the responsibility of the club as an organizing authority, as there won't be a race committee appointed yet at this stage.

Making Races for an Event in the YRA Calendar

Create & Publish the Notice of Race

The NOR is the document that has to tell people enough information about the race for them to decide if they want to enter or not. It also needs to include entry requirements and how to enter. US Sailing recommends the NOR identify what rules in the Racing Rules of Sailing will be changed for the event.

Formally, the organizing authority is responsible for creating the NOR, and appointing the Race Committee. It helps if the PRO is involved early enough to help draft the NOR.

Many NORs are created by simply copying the NOR from the prior year. US Sailing encourages us to resist that temptation, because

1) With an additional year of wisdom, we might have ideas for making an even better event
2) The prior year NOR may have had mistakes
3) If the NOR refers to rules in the RRS, the RRS may have changed substantially since the prior year

US Sailing's recommended best practice is to get out a copy of the old NOR, the RRS with Appendix J, and the addendum for RRS appendix K (as K is no longer printed in the RRS books). Look on the US Sailing Website, where it might be KG for "Appendix K Guide." US Sailing has a current NOR template in a few editable formats --- look for it when you look for Appendix K.

That said, if we're in the same 4-year rules cycle and the prior year event looks like it is following the current template, fine. Getting a good-enough NOR out soon, and perhaps revising it, is better than posting a great NOR late.

By following the current template, and checking against Appendix J rule 1, the new NOR will be consistent with all the other NORs the competitors are reading, which makes it easier on them. And the RC.

Check all the rules mentioned in the old NOR: they may have changed, or been given new numbers.

Advice:

- In general, try to minimize changing rules in the RRS in the NOR and SIs.
- Any time we want to change a rule in the NOR or SIs, make sure we're allowed to change it! The RC must follow RRS 86, which is pretty limiting and perhaps not worded as clearly as it might be. The basic principle is that the RC cannot change fundamental rules --- imagine how confusing and dangerous it would be to race in an event where the SIs said port now had right-of-way over starboard!

- When changing a rule in the RRS, list the rule being changed, to meet RRS 85.1.
- Be careful we do not conflict with the RRS! EG, don't write something like "boats shall stay at least 200 feet from the start line before they begin racing at their warning signal" -- the RRS says boats are racing from the preparatory signal, not the warning signal, and if we conflict there's going to be confusion at best.
- Be succinct. In particular, do not repeat the RRS.
- The NOR should say the SIs will be posted no later than ____, which should be several days before the event.
- Give the RC a chance to post changes to the sailing instructions up to two hours before the first warning (or night before, if we are OK limiting the RC further).
- Think about handicapping. Using Time-on-Distance means the markset team has to position the marks in exactly the right spots to get the distances right, otherwise the time correction, and potentially the scoring and prizes, will be wrong. Using Time-on-Time is much more common these days because not only does it take pressure off of markset, it better reflects wind conditions, giving slow boats in light wind races more time.
- Think about the minimum number of races that have to happen to constitute the series, and write it into the NOR.
- Think about throw-outs. If you use the default scoring in RRS Appendix A, there's one throwout no matter how many races are in the series. It might be better to have a rule saying there is one throwout if X races are sailed. Note Jibeset allows this, but it's unclear to the author at this time if jibeset supports an additional "two throwouts if Y races are sailed" rule, so be cautious about that.
- Think about how DNC and DNF should be scored, especially if more boats join the series partway through. In the "old days" on San Francisco Bay (the 1990s) it was common to score DNC worse than DNF on the grounds that at least the DNF boat showed up, and DSQ as worse than both of those because at least those boats had not broken a rule. The US Sailing Race Management Handbook, and classes, advise against this on the belief it just makes everything more complicated (confusing) and doesn't change the who-wins-what-prize at actual events anyway. So for many years the YRA and almost all the local clubs have followed that guidance and just used entries + 1 or starters +1. Follow the advice. If for some reason it's important to do something else be sure to include a good description in the NOR along with the rule(s) being changed.
- Since the recommendation is to use "entries + 1" or "starters + 1", it is important to pick. The author strongly recommends using "starters" instead of "entries" because that's much, much clearer as the season goes on and more boats enter. Nor does it hurt things in a shorter event. So always use starters by saying RRS A5.3 will apply.
- Make sure the NOR cuts off registrations in advance of when fleet assignments must be posted, with enough time for the RC to work out fleet assignments, generate the race in jibeset, and print all the forms. The RC person who has been doing that has asked for at least four hours so it's not a rush to get home to the printer and then out to RC. Padding that a little in case someone else has to do it, to five or six hours, might be wise. For comparison, a weekend regatta run by the YRA often blocks entries on the Wednesday before the event.

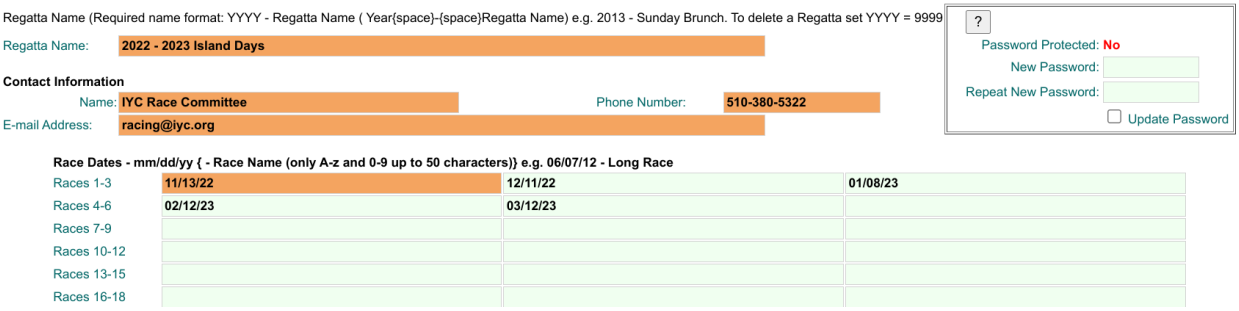
- The NOR must say when the SIs will be posted. As a courtesy, use a date and time several days (4+) ahead of the event. YRA typically uses the Monday five days before a Saturday event.
- The NOR should give the last time for the schedule and number of races could change. For YRA races, often that's the night before the event.
- Be sure to have NOR remind boats that the decision to race is solely up to them, using the standard "legal" language in the US Sailing template.
- Send the draft NOR out for people to review. Give them a deadline to respond, too, because the most common type of feedback is no feedback. A week is reasonable.

When the deadline is up and constructive comments and questions have been addressed, create the event in Jibset and post the NOR. The sooner this can happen, the better. Racers have to plan their schedules too, and their schedules fill up. Making the registration page several months in advance (in an ideal world) helps us get on their calendar before something else does.

Jibeset

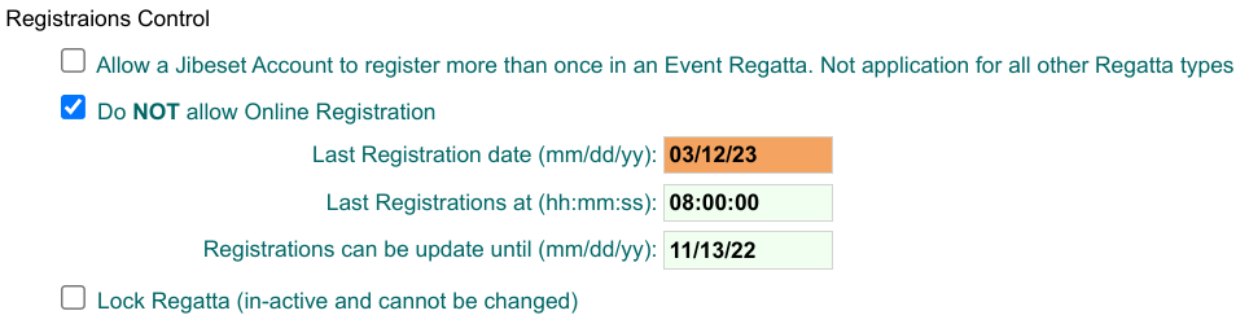
1. Race Committee Home
2. New Regatta - create a new regatta
3. New Regatta - define a new one. Can either clone or start fresh. Looks like this (at the top):

4. The author prefers starting fresh, so stepping through that…
5. Make a "big boat regatta" with PHRF handicaps.
6. Fill out this form, noting the event name MUST start with a four-digit year, then a space, then a hyphen, then a space.

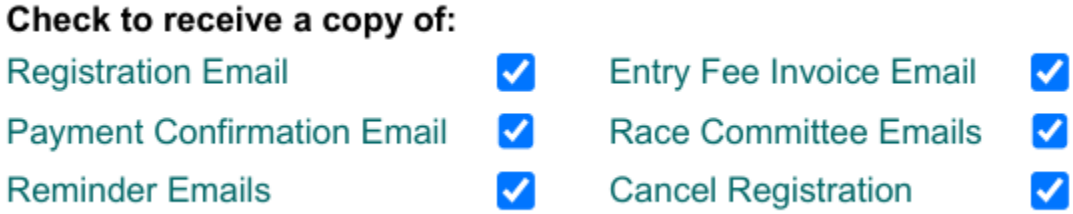


7. Add the dates of each race. Note the ordering: race dates go left to right then down.
8. Further down the form, there are a bunch of "Regatta Options."
9. Require a racing certificate. If you want to require a "current" one, certificates for year N are issued starting December 1 on year N-1, so requiring a 2022 certificate means "Certificate must be issued/uploaded after (mm/dd/yy): 12/01/21"

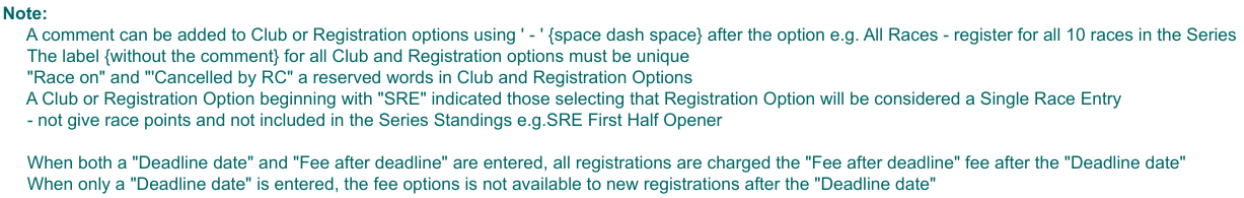
10. Provide the dates for last registration --- noting that in a long running series that should be the date for the last chance to enter a single race.



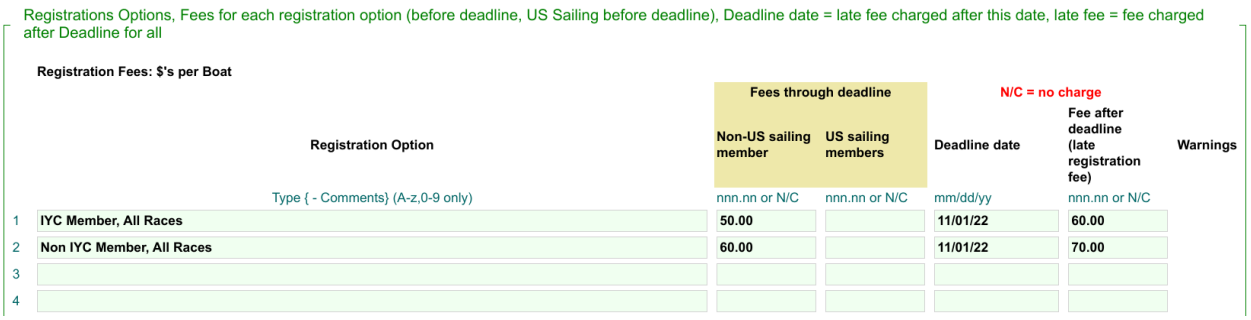
11. Set up the contact email to receive copies of everything sent to the boats.



12. Save
13. Done Back
14. Fees - registration fee structure. Note the jibeset instructions at the top



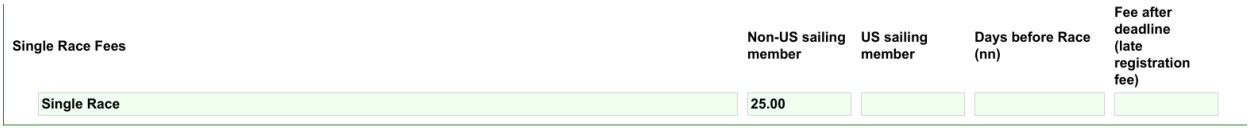
15. At the top is series-entrant pricing.
16. The basic idea is that there are line items people can buy for various categories of entrants for the series, and up to four prices: non-US Sailing members / US Sailing members, and before / after a “early registration” deadline. Note the deadline date is the LAST date to get the lower price. You do not need to fill in all the columns if you don’t care about something.



	Registration Option	Fees through deadline: Non-US sailing member	Fees through deadline: US sailing members	Deadline date	Fee after deadline (late registration fee)	Warnings
	Type { - Comments} (A-z,0-9 only)	nnn.nn or N/C	nnn.nn or N/C	mm/dd/yy	nnn.nn or N/C	
1	IYC Member, All Races	50.00		11/01/22	60.00	
2	Non IYC Member, All Races	60.00		11/01/22	70.00	
3						
4						

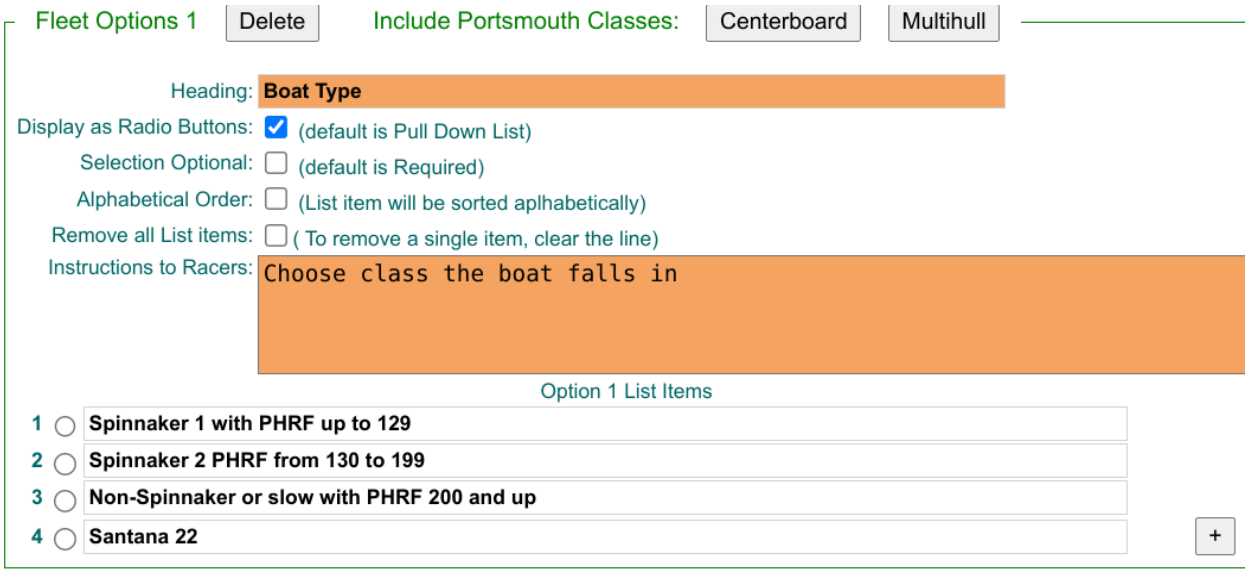
17. Note the top is only for series entrants. To handle single-race fees, go to the bottom where it says “Single Race Fees.” There is only ONE line for this, so you cannot, for

example, have different pricing for members vs non-members entering a single race.



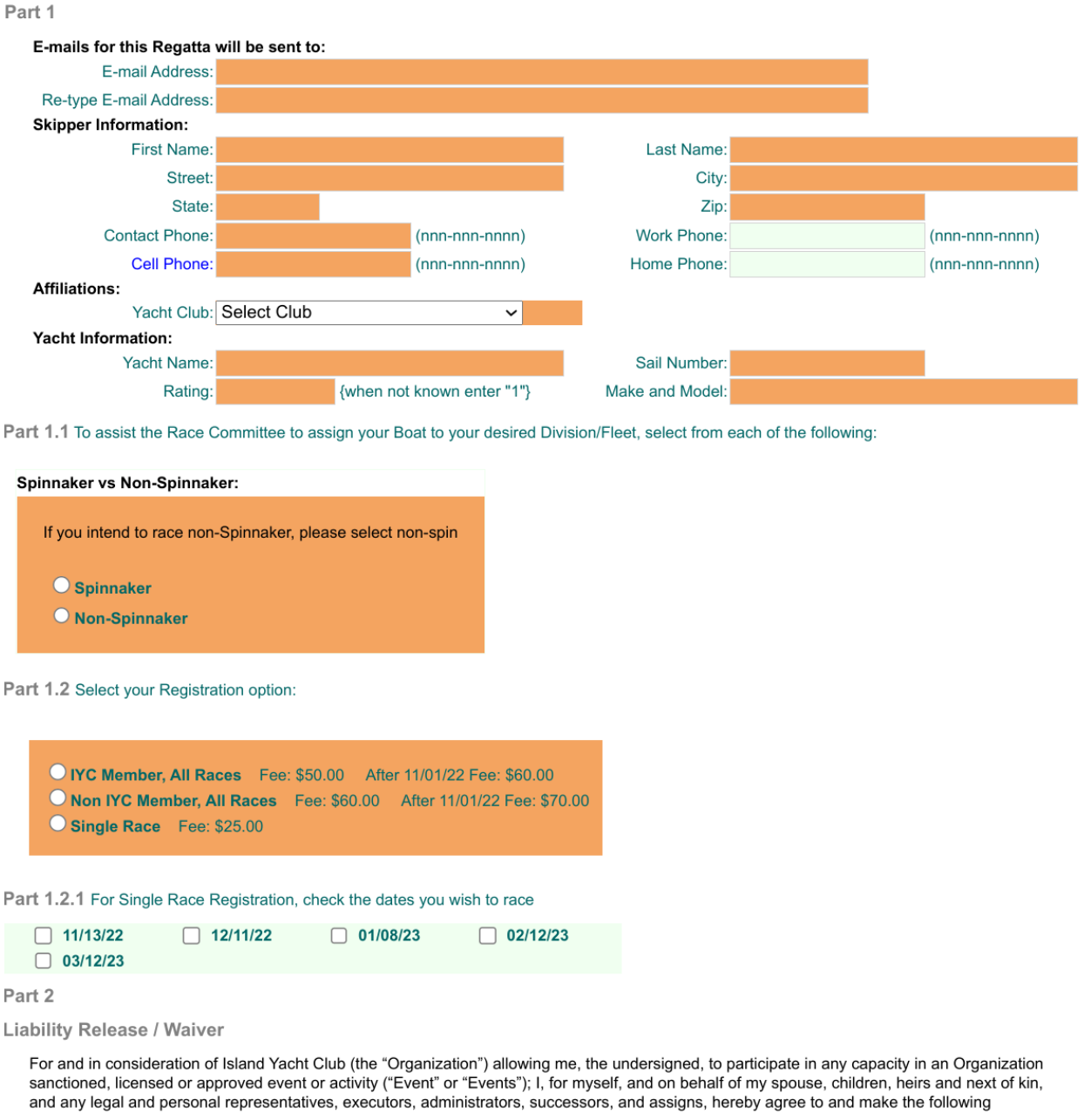
Single Race Fees	Non-US sailing member	US sailing member	Days before Race (nn)	Fee after deadline (late registration fee)
Single Race	25.00			

18. Save
19. Done Back
20. Fleet - Division options.
21. Make appropriate questions for the people entering their boat for the race. Jibeset recommends having a question with one choice per fleet as a set of radio buttons, so for Island Days 2022 - 2023:



22. If there are other questions that should be asked (hull color?), add them.
23. As you fill out the form hit “save” early and often
24. There’s a small preview at the bottom
25. Save (be sure to do this a final time!)
26. Done - Back
27. If it’s appropriate to ask additional questions, go to “Questions - Part 2 of the form” and fill it out. If there are no extra questions, fine.
28. If there are “fleet specific” questions, go to “Fleet/Division specific questions.”

29. Form review



Part 1

E-mails for this Regatta will be sent to:

E-mail Address:

Re-type E-mail Address:

Skipper Information:

First Name: Last Name:

Street: City:

State: Zip:

Contact Phone: (nnn-nnn-nnnn) Work Phone: (nnn-nnn-nnnn)

Cell Phone: (nnn-nnn-nnnn) Home Phone: (nnn-nnn-nnnn)

Affiliations:

Yacht Club: Select Club

Yacht Information:

Yacht Name: Sail Number:

Rating: {when not known enter "1"} Make and Model:

Part 1.1 To assist the Race Committee to assign your Boat to your desired Division/Fleet, select from each of the following:

Spinnaker vs Non-Spinnaker:

If you intend to race non-Spinnaker, please select non-spin

- **Spinnaker**
- **Non-Spinnaker**

Part 1.2 Select your Registration option:

- **IYC Member, All Races** Fee: $50.00 After 11/01/22 Fee: $60.00
- **Non IYC Member, All Races** Fee: $60.00 After 11/01/22 Fee: $70.00
- **Single Race** Fee: $25.00

Part 1.2.1 For Single Race Registration, check the dates you wish to race

- **11/13/22**
- **12/11/22**
- **01/08/23**
- **02/12/23**
- **03/12/23**

Part 2

Liability Release / Waiver

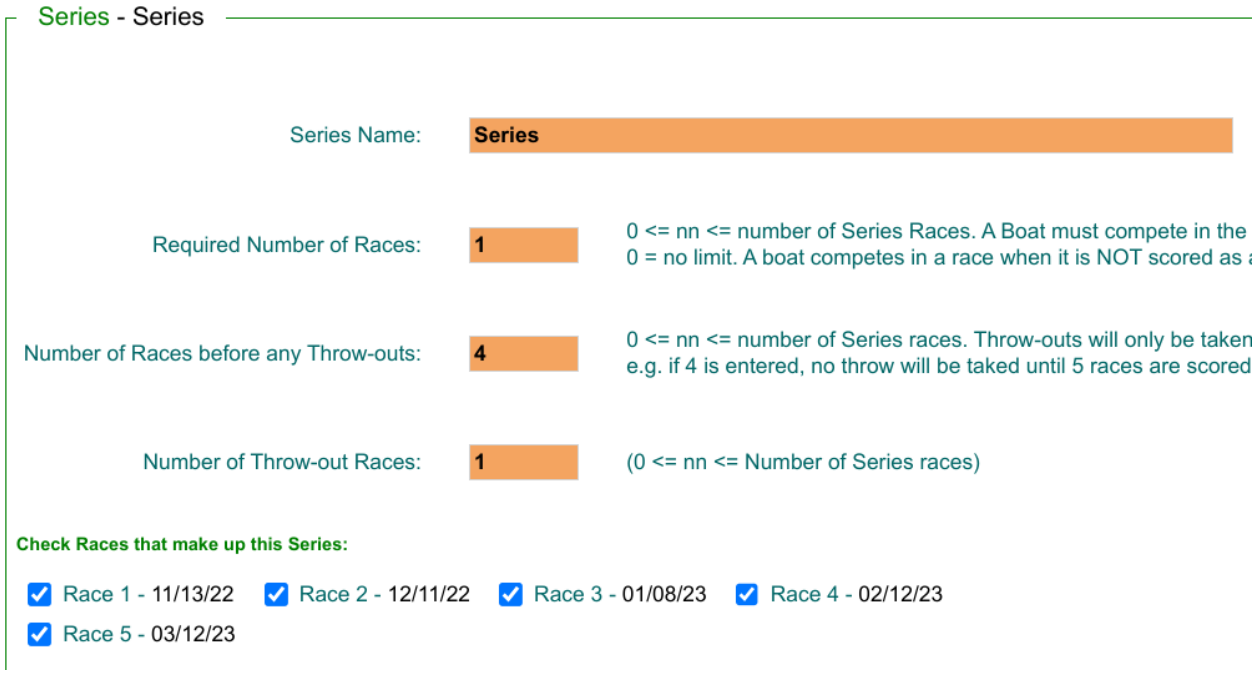
For and in consideration of Island Yacht Club (the "Organization") allowing me, the undersigned, to participate in any capacity in an Organization sanctioned, licensed or approved event or activity ("Event" or "Events"); I, for myself, and on behalf of my spouse, children, heirs and next of kin, and any legal and personal representatives, executors, administrators, successors, and assigns, hereby agree to and make the following

30. Confirm the entry form looks correct
31. Done - Back
32. DNC, DNS…ZFP scoring

33. Fix this to match how various penalties should be scored.

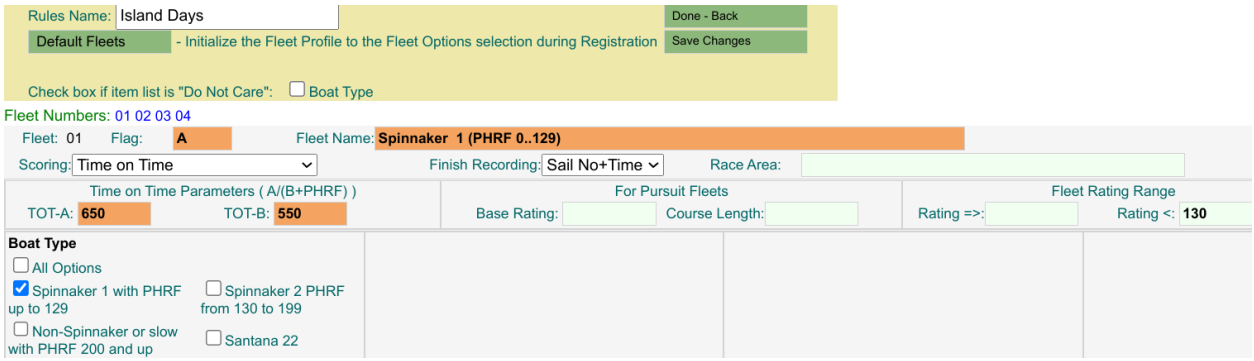
Penality	Base for Adjustment	Points Adjustment	Comments	Excludable
DNC	Start Count	Adjust + 1		
DNS	Start Count	Adjust + 1		
OCS	Start Count	Adjust + 1		
DNF	Start Count	Adjust + 1		
RAF	Start Count	Adjust + 1		
RAF	Start Count	Adjust + 1		
RET	Start Count	Adjust + 1		
NSC	Start Count	Adjust + 1		
TLE	Start Count	Adjust + 1		
DSQ	Start Count	Adjust + 1		
UFD	Start Count	Adjust + 1	DSQ - Rule 30.3	No
BFD	Start Count	Adjust + 1	DSQ - Rule 30.4	No
DNE	Start Count	Adjust + 1	DSQ - not excludable	No
DPI	Start Count	Adjust + 1	Rule 64.1	No
SCP	Start Count		Rule 30.2	
ZFP	Start Count		Scoring Penality under rule 44.3	

34. Save
35. Done - Back
36. Series - set the races that make the series
37. You can have multiple series like a First Half vs Second Half; if you just have one, name it after the regatta.
38. Put in the required number of races, races before any throwouts, etc

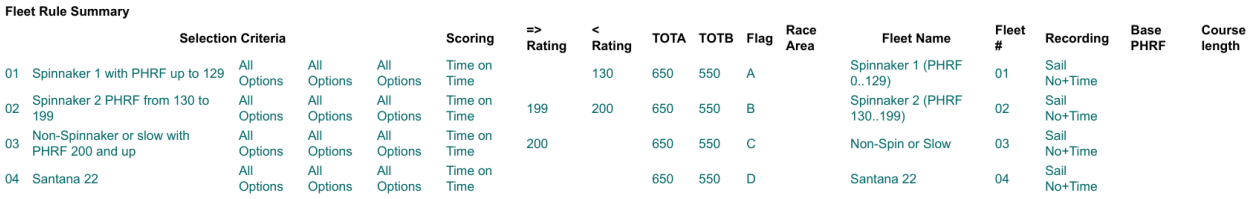


39. Save

40. Done - Back
41. Documents - Standard
42. Pick “Notice of Race:
43. Click “continue”
44. Choose File and upload the NOR (Note the NOR must be a PDF.)
45. Post Document
46. Done Back
47. Race Deck Home
48. Race - Create a Race
49. Fleet Rules
50. Pick the first set of rules.
51. Name the rule after the regatta
52. Fill out the information for the first class: flag, a descriptive name, handicapping system, etc. Jibeset strongly recommends setting fleet criteria from the question the competitor answers when entering about the appropriate class. So for Island Days 2022 - 2023:



53. Save Fleet
54. Add Fleet (only after saving any changes to prior fleet!) to make the next class
55. Repeat for each class
56. Save changes
57. Check the table at the bottom that summarizes the rules



	Selection Criteria				Scoring	=> Rating	< Rating	TOTA	TOTB	Flag	Race Area	Fleet Name	Fleet #	Recording	Base PHRF	Course length
01	Spinnaker 1 with PHRF up to 129	All Options	All Options	All Options	Time on Time		130	650	550	A		Spinnaker 1 (PHRF 0..129)	01	Sail No+Time		
02	Spinnaker 2 PHRF from 130 to 199	All Options	All Options	All Options	Time on Time	199	200	650	550	B		Spinnaker 2 (PHRF 130..199)	02	Sail No+Time		
03	Non-Spinnaker or slow with PHRF 200 and up	All Options	All Options	All Options	Time on Time	200		650	550	C		Non-Spin or Slow	03	Sail No+Time		
04	Santana 22	All Options	All Options	All Options	Time on Time			650	550	D		Santana 22	04	Sail No+Time		

58. Done back
59. At this point things should be pretty well set, without being open to registrations yet.
60. Open a different browser and look at the regatta on jibeset.
61. Confirm everything looks fine, or adust until it does.
62. To open the regatta for registrations --- which should only happen after confirming everything is ok --- pick “Regatta - Update Options”

63. Scroll down to Registrations Control and uncheck the box that says “Do NO allow Online Registration”

64. Save
65. Done Back
66. Confirm registration is now open.
67. If something is wrong, it’s a good idea to go back to Regatta - Update Options and check the box for “Do NOT allow Online Registrations” again until fixes can be made.

Create Sailing Instructions

Making sailing instructions is similar to making the NOR, with the difference that the sailing instructions are supposed to tell racers all the details they need to actually do the race.

As with NORs, above, US Sailing recommends avoiding the temptation to copy last year’s document. Use last year’s document with the RRS Appendix J rule 2, plus the no-longer-printed-in-the-book appendix L, which might be “LG” for “L Guide” on the US Sailing Website, and the current Sailing Instructions template from US Sailing.

The sailing instructions must avoid conflicting with the NOR, as well as the RRS. If something in the NOR is a problem, post an updated NOR --- early enough that RRS 89.2(b) is satisfied. So always have a copy of the NOR handy when working on the SIs to cross-check them.

As with the NOR, be careful with changing the RRS, and ensure any change comply with RRS 85 and 86.

It’s a good idea for the SIs to:

- Specify the a last time for sailing instructions to change “on land.” This is an important way to fix a safety issue or error that competitors bring to the attention of the RC after SIs have been posted. Since this is basically the time for competitors to print out a copy of the SIs (because it could change after they print otherwise), try to balance the need for RC flexibility with the need for competitors to get to the event, etc. (And make changes sparingly!) YRA races typically use the evening before a race.
- Give the RC the option to change the sailing instructions verbally on the water if something comes up at the last minute.
- Say that the RC may identify over-early boats via hail or VHF, but the failure to do so or the order in which it is done is not grounds for redress
- Use discretionary penalties for rules we want boats to follow, but do not want to force someone to be disqualified if they break it (and are successfully protested). For example, if we want people to have radios, but there’s an older sailor who doesn’t own one, do we want his competitors to be able to get him disqualified for that? If the SIs say boats must

check in on VHF channel NN, but someone checks in by sailing by the RC and saying “checking in” instead of using the radio, do we want their competitors to be able to get them disqualified for that?

- There’s an alternate school of thought that says if we don’t want someone disqualified for breaking the rule we’re writing, we should not make the rule and put it in the SIs in the first place. EG if radios are nice have but not having one shouldn’t penalize a boat, there shouldn’t be anything in the SIs about having a radio. If checking can be by radio or sailing by, say that.
- At a beercan race we can be a bit more flexible on the above than a more serious race, but do think about it
- Do not repeat the RRS. That said, at a beercan, it may be appropriate to "draw attention" to parts of the RRS that the RC intends to use but casual racers may be unfamiliar with.
- As of the 2021 rules, items in the NOR are rules and do not need to be repeated in the SIs to be effective in a protest. That said, strive to balance the benefits of terseness and clarity. What racers will need to use on the water is more likely to belong in the SIs, even if it is in the NOR.
- Be sure to call out obstructions explicitly if you want the obstruction rules in the RRS to come into play. Simply saying “the start line is restricted” means a boat can be disqualified (after a successful protest) if it sails through the start line --- but it does not mean another competitor has to give them room to avoid the start line under RRS 19 unless the start line is called an obstruction.
- If someone sails through a restricted line or obstruction, there’s no un-doing that and the boat will be disqualified if someone (successfully) protests them. Is that what we want, or would we rather set things up so they could take a penalty or sail back out and go the right way around the end of the line? As author of the SIs, think about your goals, and options to achieve those goals.
- One of YRA's services in coordinating races is coordinating VHF channels. Go to the YRA master calendar at yra.org to help remember (or find) the VHF channel to put in the SIs.
- Checkins can be distracting when running a start sequence, so it is often a good idea to require all boats check in no later than 2-5 minutes before the first warning.
- If competitors have had problems understanding things at prior events, is there anything that could be changed to help them? For example, if some people struggle to remember their assigned class, could that be because the class assignments lack clear rules, and making clear rules right in the SIs could help? If competitors struggle to identify their class or course from the flag, would it help to put the class flags and course flag next to the classes and courses respectively?

Be sure both the NOR and the SIs remind boats that the decision to race is solely up to them, using the standard "legal" language in the US Sailing template.

Advice for Creating Courses

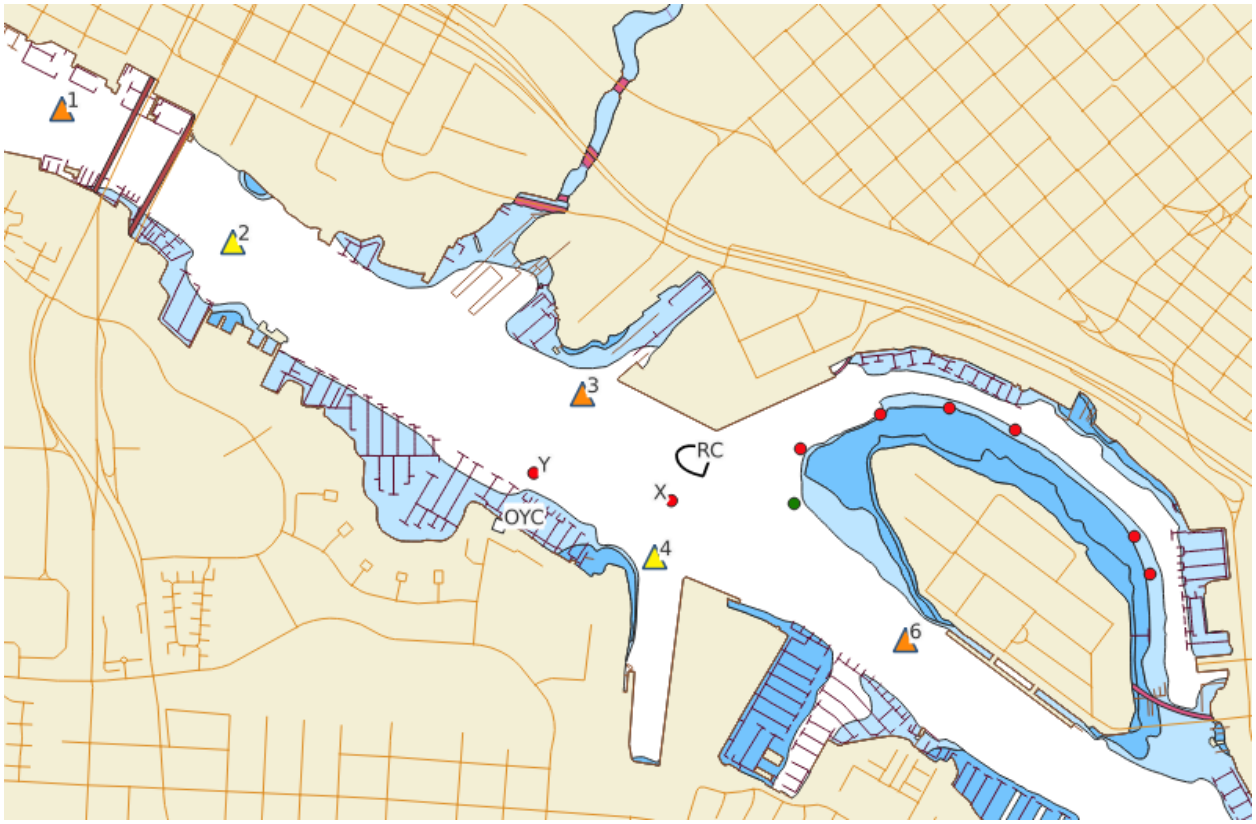
The goal is to have safe courses that let boats and crews compete on skills. And do it all in a reasonable amount of elapsed time, because PROs will often be trying to hit a time target for the race. Starting with safety:

- Look up the draft of the deepest boat expected at the event and check the NOAA chart to confirm there's deep-enough room around the marks, even if the tide goes up or down a bit. Beware NOAA charts don't give depth contours every foot, and so the "prudent mariner" would round their draft up to the next fathom.
- If we expect a lot of boats we'll want more room around marks than if we have fewer.
- If we expect a wide range of boat sizes and handicaps, give extra room for big boats to overtake from astern and go wide of any smaller boats near the mark. Remember the big fast boats are also the deep draft boats.
- The "zone" is three boatlengths. Each mark should be at least that far from any obstructions or the "zone" of another mark, for the biggest boat that will round it. (EG, gates are supposed to be placed 7-9 boat lengths apart to ensure the zones do not overlap.)
- Putting all of the above together, is there a chance a big boat could be overtaking from astern and the prudent mariner on the big boat would have to start yelling about RRS 19 and 20 obstruction rules, while several small boats being overtaken inside started yelling about RRS 18 mark rounding rules? If so, that is a problem and the course should be changed.
- Plot out the marks on a chartlet, and then (mentally) do each course on the chartlet -- do any of the courses call for boats to turn more than ~200 degrees when they round any mark? Buttonhooks like that are dangerous because they push boats approaching and leaving the mark to sail through each other. Change any course like that.
- Be careful with "marks" vs "rounding marks" and the word "rounding." See Appeal 103 and RRS J2.1(4) and the latest template. If a mark is a "rounding mark" and drifts into or over the line connecting the prior and succeding marks, that'll make a buttonhook.
- Do any courses have boats sail one way around a mark on one lap, and a different way on another lap? If so, RC will have to watch out for sending successive classes around that course if they'll arrive at the mark with the leaders going one way and the back of the fleet going the other way.
- Do two courses go around the same mark different ways? If so, RC will have to make sure they don't send boats from different classes on the conflicting courses in a way that they arrive at the same mark at the same time, going different ways.
- Races should almost always start with the first mark as much as possible dead into the apparent wind. That's safer not just because upwind starts are safer, but because it gives the boats a bigger course area. It's also more fun / competitive because there's more opportunities to pass. That's why most serious races use drop marks they can put directly aligned with the apparent wind. If using "fixed" mark locations, try to have courses with a variety of upwind angles. In the Estuary itself, there's only two reasonable angles, up the Estuary or down, so this simplifies into "courses for winds from the west"

and “courses for winds from the east”. Easterlies are rare, but do happen, so make sure there’s at least one course the RC can use if that’s the way the wind is blowing.

- Hitting time targets is important for good racing. Racer will be unhappy if an otherwise great course keeps them out too long. Especially an evening race where they’re out after dark. And they’ll also be unhappy if the race is too short, for example if they spent more time getting to their boat and getting the boat prepared before the race + put away after the race than they spent actually racing. What the time target should be depends on the race and the racers, but a good PRO will almost always have a time target. Mathematically that means adjusting (with moveable marks) or picking (with fixed-location marks) the course length for the boats and the wind. The list of courses should support that goal by giving the PRO a nice mix of different lengths, ideally for different wind directions.
- Work out the distances between the marks and create a table of course lengths.
- Find polars for at least one representative boat, and use the polars to come up with estimated course times in several true wind speeds, say 6, 10, 14 and 20 kts.
- If we mostly will have symmetric spinnakers and boats from (say) PHRF 100 to 240, find polars from a mid-handicap symmetric spinnaker boat, like a J/24. Compute course times from those numbers, and then use the PHRF Time Correction Factor for the polars boat and some other representative boats that will race (TCF = 650/(550+PHRF)) to come up with times for the fast, medium, and slow boats.
- If we’re running an event for asymmetric-spinnaker sportboats like J/105s, J/88s and J/120s, find one of those polars and work from it.
- By default, we should have a table of times for fast, medium, and slow boats with one row per course and one column for wind speed. If each class is different enough that per-class calculations are needed, do that.
- Now look at the table: can RC pick a course that will take a reasonable amount of time, not too long, not too short, for each class of boat, in all the plausible wind speeds?
- Remember the table will have ideal times for a well-sailed boat: the winners. The last boat in the fleet will likely take longer by ~5% if everyone is competitive, and more if there’s a big spread in skill levels.

Just as an example, here’s a chartlet for some proposed Estuary Extravaganza marks. Note it shows mark shape and color, in addition to position, to make things a little easier on the racers.



And here's an example table for some proposed courses (using the above chartlet) for Extravaganza, where we wanted races to last between 30-60 minutes so we could fill an afternoon with three races. The table shows the estimated time for a well-sailed J/24, which rates 168, and then +/- time deltas for boats that rate 60 and 240, at 6, 10 and 14 knot, assuming wind is blowing straight down the Estuary:

Nominal Course Times												
Handicap	168											
True wind (kts)		6	kts			10	kts			14	kts	
Lookup column		1				3				5		
For PHRF 168 +/- other PHRFS		168	60	240		168	60	240		0	60	240
Course	Distance	Time (minutes)	delta	delta		Time (minutes)				Time (minutes)		
p1	2.98	60	-9	6		43	-6	4		37	-6	4
p2	2.38	48	-7	5		34	-5	3		30	-4	3
p3	1.65	33	-5	3		24	-4	2		21	-3	2
p4	2.26	46	-7	5		32	-5	3		28	-4	3
p5	3.91	79	-12	8		56	-8	6		49	-7	5
p6	2.72	55	-8	6		39	-6	4		34	-5	3
p7	4.44	90	-14	9		64	-10	6		55	-8	6
p8	3.83	78	-12	8		55	-8	6		48	-7	5
p9	3.31	67	-10	7		48	-7	5		41	-6	4

There's no need to format a table exactly like this --- the point of the example is simply to show the sort of information that is useful when checking that at each wind speed the RC can pick a reasonable course for each class, and inform the RC which one that is.

Give the RC those tables of estimated times for fast / medium / slow boats on each course at the different wind speeds.

EG, if RC has about an hour left in the day for the last race and wants to start fast boats, PHRF 60-90, in 6 knots of wind, using the above table they'd probably pick courses 2 or 4 depending on how competitive they thought the fleet was.

See the "Counterexample Courses" section below for some examples of course design challenges the PRO will have to watch for when picking courses from the course liat.

Example Course List Design

Here's a short summary of the design process for the Island Days 2022-2023 courses.

Goals:

- Safety: round each mark the same way in each course as much as possible.
- Safety: do not use the green government daymark west of Coast Guard Island: it gets shallow fast for the very biggest fastest boat that sometimes comes out.
- Safety: keep downwind boats away from upwind finishers
- Support time targets from about 35 minutes to 120 minutes for boats from PHRF ~70 to 240 across the plausible 6-20 knot range of wind speeds. Do this in even steps, so the RC is not left thinking "I want a 50 minute course but my choices are 22 minutes, 31 minutes, 83 minutes, 89 minutes, and 105 minutes."
- We did a survey and boats' ideal course had two upwind and two downwind marks, for the vast bulk of responses, with some outliers at 1 and 3. So make as many courses as possible two lap courses.
- Evenings and midwinters have fickle winds. Use multi-lap courses that can be shortened at the RC dock in preference to longer one lap courses that cannot, so if the wind dies it is easier (possible) to shorten.
- The survey showed interest in having an occasional downwind finish, so include one or maybe two like that in the course list.
- The wind does come from the East sometimes, so include at least one or two courses that start to the East.
- Racers cannot undo sailing through a restricted line: they are out. Which is harsh. So let people that realize their oops fix it by using a course mark rather than a restriction, if possible. That's also easier to correctly handle because it's NSC vs a protest.
- Since we do not want to have some boats rounding or finishing one way and some another --- this isn't the Three Bridge Fiasco --- try to mark or separate the courses on the course sheet that do different rounding or finishes. It could help make the PRO, who could be new, slightly less likely to send one class one way and a different class another way.

Constraints:

- Start and finish from the RC dock, which is at Alameda Marina dock 7 usually, but could be 6 or 8 if there are boats end tied on 7.
- For the normal upwind finishes people prefer, we need a mark downwind of the RC. And that shouldn't be very close to the dock, but at least 0.15 or 0.2 nautical miles so people

can potentially pass. Ideally It should be in a wider spot on the Estuary. So: keep the traditional "5" spot.

- Club members have expressed a preference for keeping a mark near Jack London Square, so keep it in the mix. Note it has been 1.9 nautical miles, +/- 0.05, from 5 to 1 depending on exactly where the marks are placed.
- At the time the course list was created, the club waa having a problem getting markset people because of the hassle of dropping and retrieving them. Plus in the very last race of the prior season the engine was hard to start, idling rough, and cut out every time the boat idled. Which meant every mark drop and retrieval required an extra 5-10 minute engine restat. So limit markset requirements to five marks, including the start pin, since that is what we have been setting.
- The club uses a single set of numeric pennants for courses, so have 10 or fewer course numbers.
- In the survey almost half the boats would like to do a Jack London Square out and back in preference to a same distance two lap course --- even though many of the same boats say their preference is for two lap courses. So include out and back to JLS in the course list. On the other hand, more than half wanted a same-distance two lap course, so put that in the course list too.

Taken all together, it's a constrained optimization math problem with both continuous and combinatorial aspects.

The math problem is simplified by saying we will take "east wind" courses out of the list by using a "R" flag to reverse other courses. And the course times can be turned into distances upfront to simplify further. And we can posit locations for marks 1 and 5 at the very outer limits of their relative distance, then redo for the typical distance or inner limit of their distance if needed.

What's left is:

Consider a line of marks up the Estuary (east to west) of 5, X, 3, 2, and 1, with the locations of 5, X and 1 fixed to be at -0.23, 0.0, and 1.72 nautical miles west of the RC dock, respectively. What is the broadest, most even span of course distances on the range of 1.5 to 7.0 nautical miles possible by adjusting the position of marks 2 and 3 on the range (0.1 <= Mark3 <= Mark2 <= 1.6) nmi, and choosing sequences of marks for no more than ten courses, with as many as possible of the courses using two laps? Course must "always" go to 5 next after each rounding of 1, 2, or 3, except for one "downwind finish" course. Courses must also all begin with 1, 2 or 3 and end with 5, except for one "downwind finish" course which must begin with 1, 2 or 3 and must end with mark 1, 2 or 3. No course can have more than three laps, in the sense of having marks from {1,2,3} appear more than three times, and three laps should be used in at most one course. One course should be 1 to 5 to finish, by popular demand, and there should also be a two-lap course of similar distance.

The author's solution, which is not claimed to be optimal, is to put Mark 3 at 0.75 nautical miles up from Mark 5 and Mark 2 at 1.25 nautical miles up from Mark 5, and use these courses:

Flag	#	Marks											Nominal Distance
	0	1p		(note this course finishes downwind)									3.4 NM
	1	3p	Xs	5s									1.5 NM
	2	2p	Xs	5s									2.5 NM
	3	3p	Xs	5s	Xs	3p	Xs	5s					3.0 NM
	4	1p	Xs	5s									3.9 NM
	5	2p	Xs	5s	Xs	3p	Xs	5s					4.0 NM
	6	3p	Xs	5s	Xs	3p	Xs	5s	Xs	3p	Xs	5s	4.5 NM
	7	2p	Xs	5s	Xs	2p	Xs	5s					5.0 NM
	8	1p	Xs	5s	Xs	3p	Xs	5s					5.4 NM
	9	1p	Xs	5s	Xs	2p	Xs	5s					6.4 NM

Note the inclusions of Xs as a traffic separation scheme that is more forgiving, and less hassle to enforce, than making the start line restricted.

Different people may find different optimizations, but this seemed pretty good at the time.

This course list requires the PRO to not send some fleets on course 0 while other fleets go on other courses, which is why course 0 is pulled out of the normal sorting and specifically flagged.

As with any course list allowing both east and west starts, the PRO will need to avoid sending some boats on a course that goes one way and some boats on a course that goes the other. Hopefully that will be a little easier to get right by simply putting up the R flag for no one or everyone.

Review and Post

Once the SIs are done, send them out for people to review. The rear commodore, PRO and the key person / people that will do the heavy lifting on the RC are vital, but it can also be good to loop in anyone with strong opinions. The most common type of feedback is no feedback, however, so set a deadline for feedback, so the review period does not drag on indefinitely. A week should be fine, but if someone asks for more time upfront…

Then post to Jibeset. The sailing instructions must be posted to Jibeset no later than the time given in the NOR. Posting earlier is OK, and might be appropriate if the SIs would warrant extra time for competitors to read and think about. By posting earlier it's possible a competitor could sooner notice a safety issue or error that the RC has to revise the SIs to fix.

Jibeset

Posting SIs is relatively easy.

1. Race Deck Home
2. Existing Regatta
3. Documents - Standard
4. Select “Sailing Instructions”
5. Click continue
6. Choose File (which must be a PDF copy of the SIs)
7. Post document
8. Done - Back
9. Open another browser and confirm it’s there and the right version

Changing NORs or Sailing Instructions

If someone finds a safety problem, fix it! Safety is top priority.

If there’s a error, fix it.

If something is worded badly or mis-numbered or whatever, consider fixing it. Bear in mind the benefits of the fix vs the hassle imposed on the racers who will now have to notice a new version exists and re-read it and print it. It’s almost always possible to make at least a small wording improvement in a multi-page document, and 20 diligent proofreaders will come up with 20 different improvements. A good test is what problem(s) will likely happen if left unfixed.

It is better to save up several small changes and revise fewer times than revise for each small change.

Also be careful about the appearance of bias.

Even answering competitors’ questions is something to be careful about. The Race Management Handbook says

> *Do not discuss the contents of the sailing instructions, except to announce that an amendment has been posted. Do not attempt to “clarify” the sailing instructions, or any amendments, at the competitors’ meeting . Changes to the sailing instructions must be communicated in writing, by posting on the official notice board.*
>
> *If competitors have questions about the sailing instructions, ask them to put the questions in writing and submit them to the race committee. They can then be carefully reviewed by the race committee and, if necessary, the protest committee, before the answer is given. Ordinarily, questions regarding the sailing instructions should be answered only in writing, and posted on the official notice board. List the question, then answer it with a simple “Yes,” or “No,” “See racing [or class] rule… ,” or “See sailing*

instruction… ." Temper your approach to the event. Juniors or novices need more help than seasoned campaigners. Just do what you said in writing you would do.

If there's a problem with the NOR, it must be fixed and re-posted within the "adequate notice" of RRS 89.2(b). That's a bit elastic, because different amounts of notice would be appropriate for different events, and different changes. In club level beercans for a small change, a week's notice is probably plenty. On the other end America's Cup entries might start building custom boats two years in advance, and "adequate notice" of a change to the boat entry criteria would be far longer.

There's no equivalent of RRS 89.2(b) for Sailing Instructions because by default they cannot be changed after the time the NOR says they must be posted. Which is why the NOR or SIs should always have a rule allowing changes up to a specific time like "Changes to Sailing Instructions must be posted by _____." Make sure whatever changes made are posted by that time.

When changing NORs or SIs, add a revision number so competitors know which version they are looking at. As a courtesy so they don't have to re-read the whole thing, use highlighter or text color or changebars to flag what has been changed. Highlighter or text color is usually preferred just in case the SIs have to be changed more than once --- it's not uncommon for Big Boat SIs to have yellow, green and pink highlighter on them to flag what has changed in three different revisions. When using highlighter, do not forget to color the version number(s) in the appropriate highlighter color(s).

If it's not possible to get the change done in time, and if the Sailing Instructions explicitly state the SIs can be changed on the water, do that. This is why it's a good idea to have a SI saying changes can be made on the water.

Do NOT try to change SIs verbally "on land" or outside the ways above!

Jibeset

1. Documents - Standard
2. Select "Sailing Instructions"
3. Click continue
4. Choose File (which must be a PDF copy of the revised SIs)
5. Post document
6. Done - Back
7. Open another browser and confirm it's there and the right version

It's almost always a good idea to send email to all the registered competitors as a courtesy. In jibeset,

1. Race Deck Home

2. Email - Racers in this Race
3. Type up the message in plan text (no formatting!)
4. Attach the new version of the document, or provide a link.
5. Preview
6. Edit and Preview until happy
7. Send

Before Going to the Dock

Enlist Volunteers and Set a Docktime

At IYC we have had a great turnout on the RC dock for Island Nights, and we have not had to work very hard to plan for and solicit volunteers in 2022. Which has been wonderful: almost every other club has problems finding volunteers.

At a bigger event, or if volunteers were harder to find, recruiting them would be worth putting a lot of time into.

If someone asks about volunteering and what skills they need to have, send an encouraging note. Perhaps something like:

> *Race Committee is a great place to learn a little about racing. The most important requirement, like so much of life, is just showing up.*
>
> *I suggest starting with a Friday night if you have a choice. It will be a much simpler race to learn from. And more relaxed.*
>
> *For the Friday races, we meet at the end of dock 7. Try to be there by 5:30 or so, which will give you time to meet people and learn about the roles. It gets increasingly busy as we get toward our first warning at 6:25, and we won't have much chance to explain things as we get busy.*
>
> *Ask questions, but we may ask you to ask them later if we're busy. Starting races is a bit like a crime caper as there are around thirty things that have to happen at exact times.*
>
> *Dress in layers. It can get cold as the evening advances.*
>
> *As a new person, you will probably do a flag at the start. Flags are a vital part of the race starting sequence and they need to go up and down quickly at the right times. And we need several flag people.*

If you want to read a little bit beforehand, I suggest looking at the Racing Rules of Sailing, Rule 26.

US Sailing also has, or had, a "RC 101" slide deck on their website for their members. That might be too much, or might be good material, depending on how interested you are. But only look at that after looking at Rule 26.

Set a docktime for everyone to be on station at the start about an hour before the first warning. At Island Nights the shoreside RC meets at 5:30 for the 6:25 first warning.

The markset boat generally leaves around 4:00 to get all the marks down in time.

Get or Make Table(s) of Time Estimates

See the section on “Creating Courses” above. It’s invaluable for RC to have some sort of table(s) that estimates how long a well-sailed boat will take to get around each course in the expected wind.

With luck, this is something already made when the courses were created and all the RC has to do is find it.

Otherwise, make one.

Make the Race in Jibeset So Boats Can Enter

Until the race is in Jibeset, no boats can enter.

In a series, make the race a week or two in advance. Perhaps just after the prior race is all done.

1. Race Deck Home
2. Race - create it from the registrations
3. Check the Race number
4. Copy the Race checked in the Copy Race List
5. Create Race
6. Done - Back

Post Fleet Assignments, Create “Checkin Forms” and “Scoring Sheets”

Racers need to know what class they will race in. Clear class names like "Santana 22" or "Spinnaker with PHRF <= 102" are really helpful because it means people can follow the rule and not have to look up their specific boat.

Post fleet assignments to Jibeset before the race. Often the SIs will state a no-later-than time; if they do, follow it.

Jibeset Fleet Assignment steps:

1. Race Deck Home
2. Race - create it from the registrations
3. Check the Race number
4. Copy the Race checked in the Copy Race List; select same profile as last race
5. In step 3, select full series, full series IYC, current series, current series ICY, and include boats registered for new race, if any.
6. Create Race
7. Done - Back

Next, generate checkin and scoring sheets. It's best to do this after registrations close and fleet assignments are done. If very late registrations are allowed (EG, Friday night races) print as late as possible.

For checkin and recording starts, RC will need pre-printed forms that identify who has entered, what class they've been assigned.

For finishes, finish sheets are very handy.

Both can be printed from Jibeset.

1. Race Deck Home
2. Select a Regatta
3. Race Forms - print recording forms
4. Forms - Standard long

Note that some people like standard short forms instead of the long ones, and different recorders have different preferences about which forms work best for them.

PRINT AT LEAST TWO COPIES OF ALL THE PAGES. That way whatever the two recorders' preferences are, you'll have them. Single sided printing is preferred.

Look at the Weather Forecast

A few hours before the event, we should figure out the wind we're likely to see, by looking in advance at some favorite weather models.

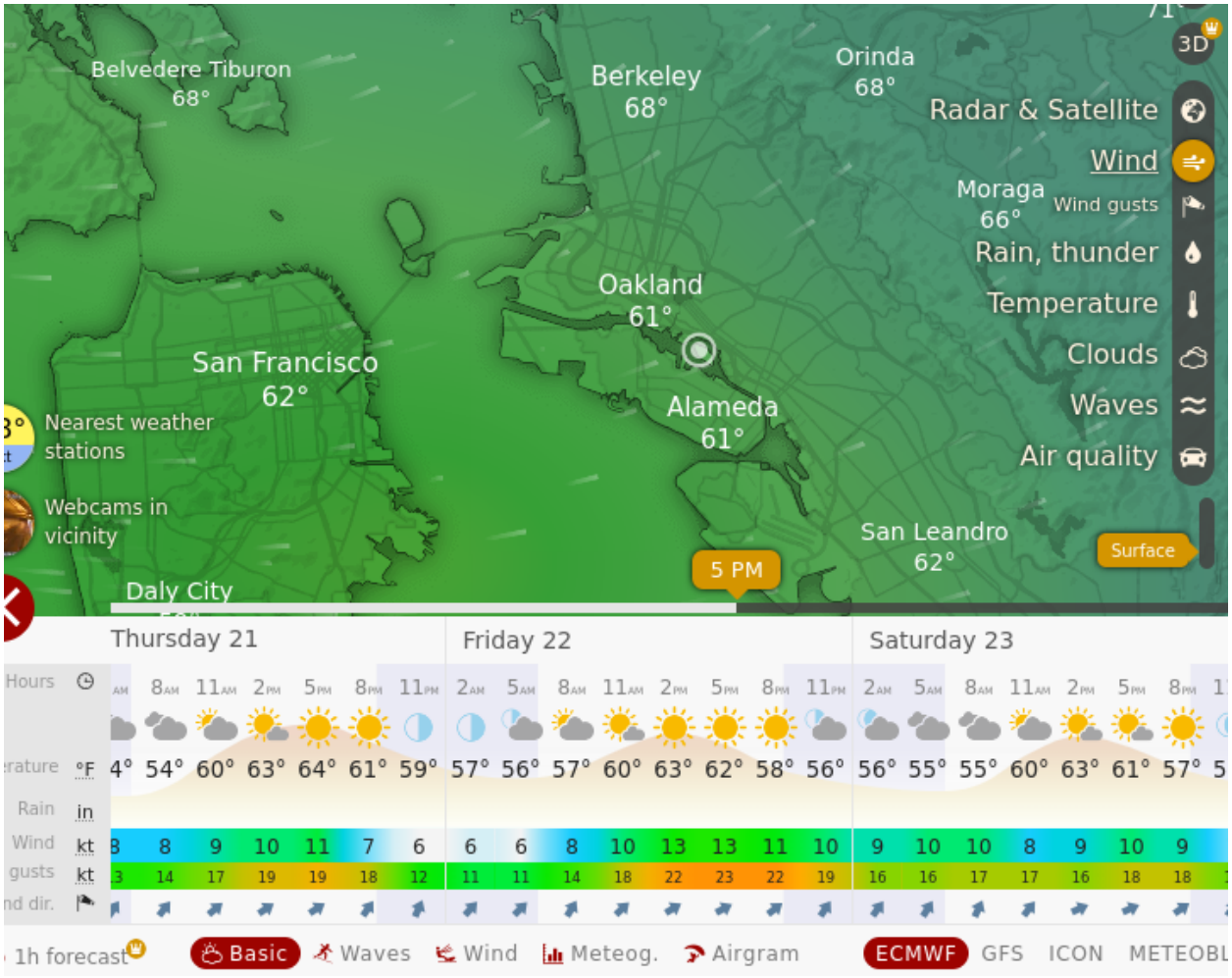
The author likes windy.com right now, and looks at both the ECMWF and HRRR models, so will step through that.

1. Go to windy.com

2. Zoom in on the area of the race
3. Click on the race location to get a little “flag” with the wind speed
4. Adjust the time to be at or before the race --- note that “free” windy.com will allow picking any hour, but only a few of those hours show that-hour predictions. EG, predictions could be for 5 PM and 8 PM, with 6 and 7 PM in the windy UI just repeating the 5 PM numbers.
5. Should see something like the below, which shows the ECMWF model for Friday the 22nd at 5 PM is currently predicting pretty uniform wind over the whole bay, with 13 knots at Coast Guard Island

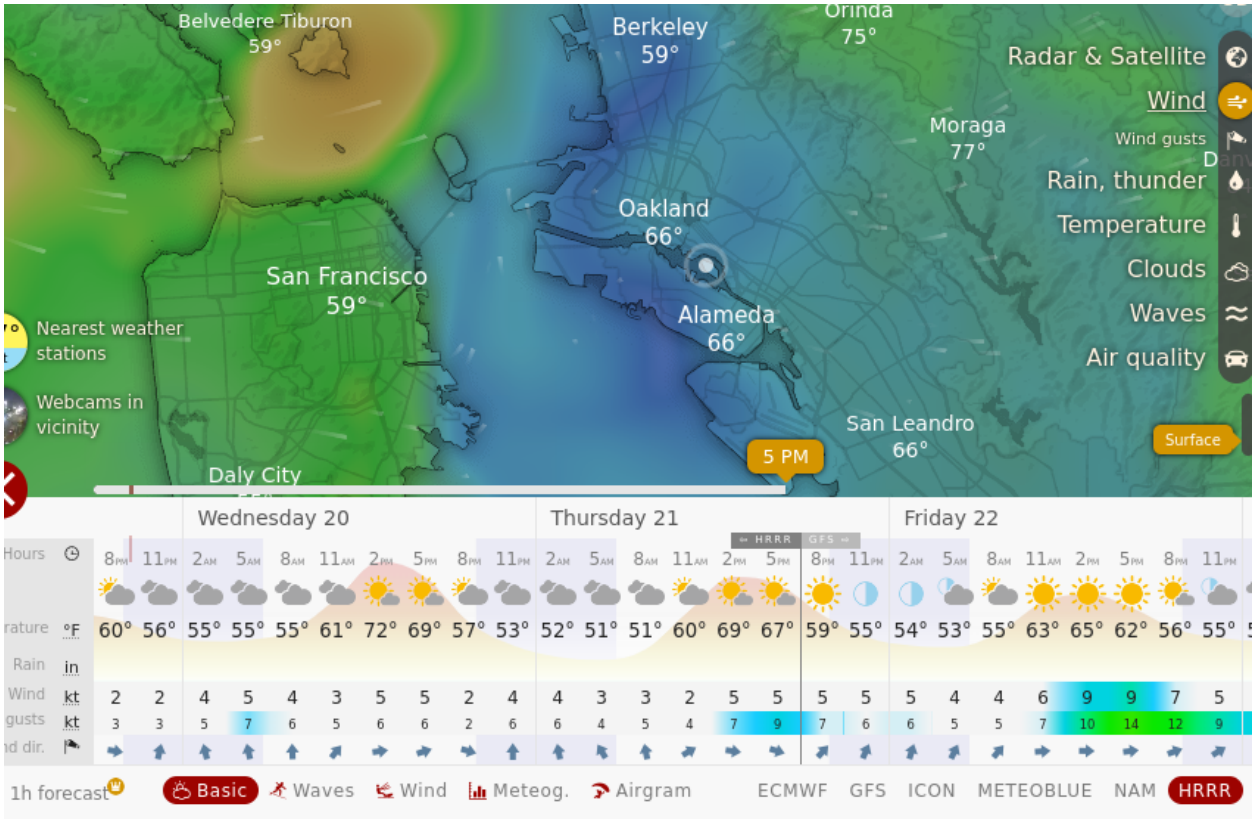
6. Clicking on the down-arrow in the flag shows wind at all the times, and also shows gusts and wind direction. Below we see there are predictions for Friday the 22nd at 5 PM and

8 PM, with wind speeds of 13 kts and 11 kts, and gusts in the low 20s.



7. Looking at a model is good, but models can be wrong, so look at least one other model.
8. Clicking on the HRRR model (bottom left) will show the HRRR predictions. Below we can see that the HRRR model expects mid to high wind over Angel Island and a hole over the East Bay. HRRR also has predictions for 5 and 8 PM on Friday with only 9 and 7

knots of wind predicted at Coast Guard Island, and gusts in the low teens.



9. It's not uncommon for different models to predict different wind speeds like this. Modeling is not easy and it is not perfect. Each person has to decide which model(s) they trust based on personal experience, and what they see at the dock when they get there. (The author leans toward ECMWF right now, followed by HRRR.)
10. Use the prefered model(s) to come up with an expected average wind for the event. The expected wind might not be what we actually get, but it's much better to have an expectation than to go to the race without any idea of what is predicted.

When you get to the race, check the actual wind and that will tell you which model is more trustworthy for the next few hours.

Set Your Watch or Clock to NIST Time

Races should be run on accurate time with starts on minute boundaries, so racers who cannot see or hear the signal can look at their watch. Which means everyone on the race deck dealing with time should be synchronized to the same time as the racers -- GPS time or NIST time, which are the same.

Perhaps surprisingly, this is not always the same as the time on a phone or tablet, even though those clocks are set automatically by the phone company.

The recommendation is to go to https://nist.time.gov and set your watch or clock from that.

Ideally at a high-visibility race, the goal is sub-second accuracy so everyone has the same instant for when 18:29:59 rolls over into 18:30:00. You can't get better than a few tenths of a second, but try to be as close as you can.

For a beercan, don't worry as much about it.

The club has some self-synchronizing "atomic" clocks that should match NIST time via the WWVB radio broadcast from Colorado. Colorado is very far away and the people making cheap atomic clocks are not overly concerned with sub-second accuracy, however, so take the time on those with a grain of salt. Putting two of those clocks side-by-side usually reveals differences.

Usually the self-synchronizing "atomic" clocks are great, but they do have downsides. At one regatta the author attended the clock started off 25-30 seconds off of NIST time, which is not good but would usually have been ok --- consistency between signals is more important than absolute accuracy. But 2 minutes into the start sequence the clock resynchronized with NIST and jumped by 25-30 seconds. Whoops!

So, best practice, set your clocks before the race.

At the Event, Before the Start

Markset

Markset material has been moved to a new document.

Organize the Volunteers, and Train Them

An event like Island Nights needs many volunteers to have a good set of races. One of the things that needs to happen is for the PRO to organize the volunteers by working out who will do what.

The PRO will often need to train people on what they will need to do. At most Friday night races, we're an impromptu group of volunteers, some of who will have never raced or been on an RC before. Those people will generally be given a flag. And if we're rotating people into new roles to broaden their experience, some of the people will have done RC but never the specific job.

Starting from roles:

Recorders to record checkins before the race, starters at the start, who-is-on-which-lap in the middle of the race, and finish times at the end of the race

- One primary recorder person

- One backup recorder person, who can transition to the prep flag if needed
- One tertiary recorder person is probably a not a bad idea when we have multi-lap courses, or when we want to train more people.

Flag people to raise flags and drop them at the right times, holding them up all the while between:

- One course flag person
- One class flag person
- One prep flag person
- An extra person to handle a class flag change when we switch class flag poles is not a bad idea if there is an extra person, or we can have the prep flag person do that and then hand off.

Timer to keep us focused on what is supposed to happen next

- Exactly one person on this. They can do sounds too, but should generally not do more than timer + sounds so they can stay focused on time.

Sound person to make the required noises

- Can be the timer

Line sight person for starts and finishes

- One person comfortable with the rules around over early, definitions of start and finish, and who can be counted on to raise the right flag and make the right sound (or request these) immediately if there's an over-early or general recall
- Should probably have over-early / general recall flags in hand at starts.
- Can be radio person too at starts
- PRO has been taking this role at starts, sometimes at finishes

Radio person to announce things to competitors

- PRO has been taking this role

Scorer to put the finish data into Jibeset post-race

- PRO has been taking this role

Someone to announce results

- PRO has been taking this role

At Island Nights we've often used 5 - 7 people.

For comparison, Encinal YC has stands for flagstaffs, and bungie-driven flags, and a very expensive sound making countdown timer. All that equipment makes EYC successful in their beercans with 3-4 people, and two could do it in a pinch.

We'd like to have people learn and be comfortable in as many roles as possible. So, to that end, so long as a person is competent to do the role, please encourage them to try something they haven't done, or done as much.

The PRO must make sure everyone knows how to do their job. EG, does every flag person know the flag is supposed to move quickly, and finish moving up, or start moving down, at the exact time? Does everyone know which flag they have, and not to raise or drop their flag when some other flag is supposed to move instead?

The US Sailing guidance is for everyone on RC to abstain from alcohol until the race is over. If the PRO is comfortable asking for that, do so.

Call the Coast Guard / VTS

The Coast Guard requires a permit for all sailboat races on San Francisco Bay with more than 10 boats. One of the services YRA provides via the annual planning meeting is getting the Coast Guard permit for each race. To help remember (or find) the permit number assigned for the race, go to the YRA master calendar at yra.org. Note very small races may be covered under a general YRA permit and not have a separate permit of their own.

The permit has a requirement to call the Coast Guard before and after the event.

In actual practice, not every small race on San Francisco Bay calls in, especially for races well outside the shipping channels.

So for IYC Island Nights, in the Estuary well away from commercial ship traffic, we typically do not call.

But for a race like Silver Eagle, which crosses many shipping channels, we need to call.

There are three calls to make: before the start, after the start, and after the race.

The PRO should call Vessel Traffic Service at 415-556-2760, about half an hour before the first warning. Give the Coast Guard some information about the event and what is expected to happen:

- The name of the race and name of the responsible club
- The Coast Guard permit number, though sometimes they do not seem to want it
- The location of the race committee
- The VHF channel the race committee is using
- The number of boats expected to start
- The area the boats will be sailing
- Where the boats are expected to go
- The expected first start and last finish times

The Coast Guard will (almost?) always ask the RC to monitor VTS on VHF channel 14, and sometimes ask the RC to ask all the racers to monitor VHF channel 14.

If it's an ocean race going out on the Pacific past the area bounded by a line drawn south from Duxbury Point and west from Mussel Rock, that is the VTS "offshore area" which uses VHF channel 12.

Once the final class has started, call the Coast Guard VTS back to update the "expected" information with the "actual" information.They sometimes prefer to have you do this over VHF 14 so ships monitoring 14 hear it. If using VHF, hail them as "San Francisco Traffic" to establish a connection, and "Traffic" once you are conversing. Tell them how many boats actually started, and where the actual courses will take them.

Finally, when the race is done, call the Coast Guard VTS to tell them the race is over. They will want to hear that all boats are accounted for: if 85 boats started in the morning, it's important for safety that the RC what happened to all 85 of them.

Position the Start Pin

The PRO will work with the mark set team to get a good start line.

Start lines should usually be about 1.25 to 1.5 times the combined boat lengths of all the boats that will start at the same time. EG, if one start is 4 Santana 22s, then the combined length is 88 feet, and a good start line length for the Santanas is 110 to 132 feet. Since we have several classes, pick the longest length from all the starts. Usually on an Island Nights race, we use a start line length of about 200-250 feet.

On San Francisco Bay, the line should be square to the wind. If there is cross current, the up current side should be moved up the course a bit and the upwind mark should be moved down current a bit. See the Race Management Handbook for details.

In the Estuary, "square to the wind" is almost never square to the Estuary axis. If the wind is coming more than about 20 degrees off the channel axis, it might not be practical to set square to the wind: in worst case it would mean setting a line parallel to the channel. And if the pin is more than about 20 degrees up-channel from the dock, boats will be tempted by the angle to crowd the pin, which is not what we want. So do not skew the line more than about 20 degrees from the channel axis, even if the wind is further off than that.

In the Estuary any current will be coming straight down or straight up the Estuary, which means it has minimal cross-current complications.

We’d rather have a “good enough” line quickly than a “perfect” line that requires a lot of time and attention from everyone. Using “good enough” lets us focus on other tasks, like organizing volunteers and checkins and course selection. It's a beercan, not an olympic feeder race.

Ideally the markset boat will have a VHF radio tuned to the RC channel identified in the sailing instructions for the race.

Often the markset crew does not have a radio. As a fallback, here are some arm signals from the PRO to the markset crew, if not using VHF:

- Arm pointing up the Estuary: please move up the Estuary
- Arm pointing down the Estuary: please move down the Estuary
- Arm pointing down toward the dock: please move closer to the RC dock
- Arm pointing up in the air: please move further away from the RC dock
- Both arms extended, simultaneously pointing up and down the Estuary: great position, drop there, thank you
- Both elbows out, both hands on top of head: please pick up the mark so we can move it again

If the markset boat can do a “streaming drop” of the starting pin, that’s better than setting the starting pin with an “anchor drop.” If not, don’t worry too much about it for a beercan race.

Check the Actual Wind Speed

Once volunteers are organized and the line is set, the PRO should check the actual wind speed.

How does it compare with the model predictions?

In particular, which model looks like it’s done a better job of predicting the actual wind before the start of the race? Assume that model will be better at predicting the wind during the race too.

Pick the Course(s)

The PRO picks the course based on how long the race should last, and which course(s) will be the most fun for the boats.

For Island Nights, we’d like boats to finish and people to be putting their boats away before it gets dark. The RC volunteers do not want to be on the dock to record after dark either. So the first step is to get the time of sunset for Oakland or Alameda. Subtract the time of the first start, and then subtract off 10-20 minutes to account for the fact that the last boat probably won’t be sailing to its polars. That’s the target race time for the first start; do the same math for each subsequent start.

If you’re doing a weekend race, the same notion of a target finish time usually applies. A typical YRA race would want people to finish by 4 PM on a Saturday and 3 PM on a Sunday.

Having looked at the forecasts earlier, and the actual wind now, what single windspeed best represents the “average” for the night?

Then go to the course vs expected time tables that came from the person creating the courses, or own handiwork. Pick the course with the longest time that still fits into the available daylight. Note if the wind is coming cross channel, the time estimates from the polars will be too high, and so it is safe to pick a course that would otherwise be a bit too long.

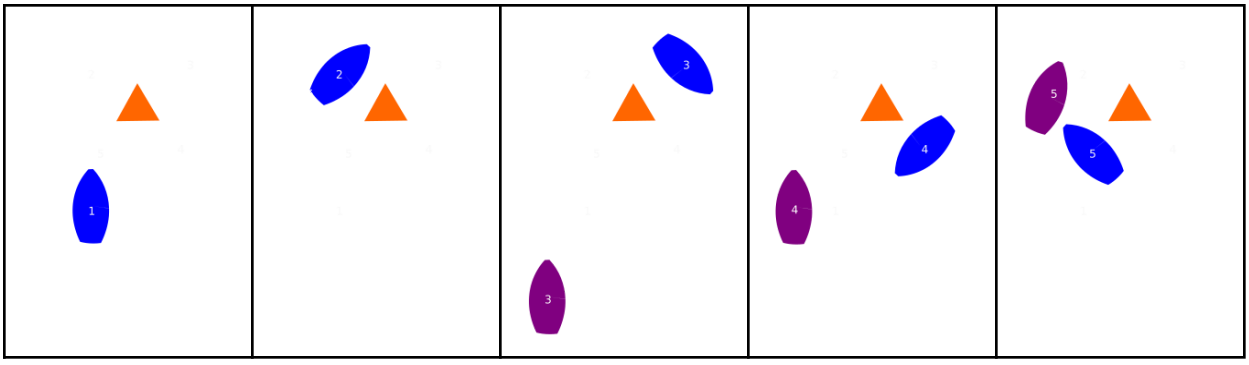
Then do some safety checks:

1) Do any of the courses selected above use the same mark but go around it in different directions at any time? If so, is there any chance that boats from different classes will be at the mark trying to go around it in different directions? If so, don’t use those courses.
2) Is the course encouraging boats to make more than a ~200 degree turn at any mark? If there’s a turn of more than ~200 degrees, pick a different course, because we don’t want boats approaching the mark and leaving the mark to sail through each other.
3) How deep is the deepest-draft boat, and how close are any of the marks of the course to “shallow” water where a prudent mariner would not go? For example, NOAA charts have depth contours in fathoms, so a boat drawing ~9’ of water would be prudent to avoid all the water in the “somewhere between 1-2 fathoms” area, and call for sea-room a 3-4 boatlengths before getting there. Are all such areas well outside the three boat length zone of each mark? If there’s a big mix of boat speeds, the deepest-draft boat is likely to be the biggest and fastest, so they’d more likely than not be overtaking smaller boats from astern at the mark --- which means they’d need to go outside not just the mark, but whatever boats were there. Would a prudent mariner on the big boat start yelling about sea room under RRS 19 and 20 while the inside boats started yelling about mark room under RRS 18? If that is a real risk, pick a different course.

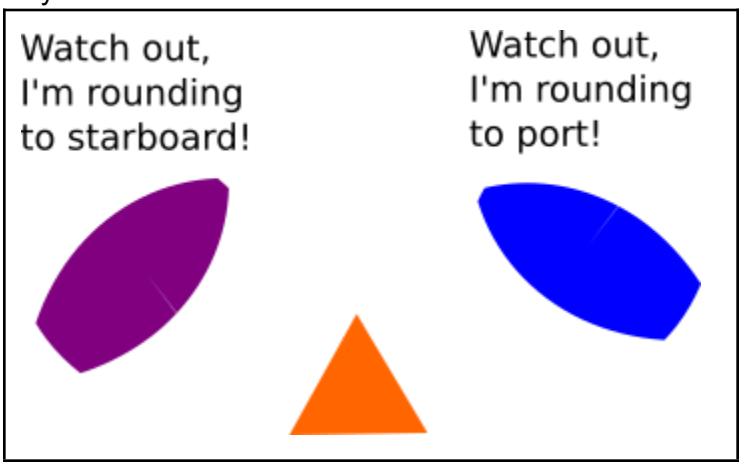
For Island Nights 2022, the author’s recommendation is to use course 1 for the typical westerly wind, course 2 if the wind is light from the west, and course 9 if the wind is from the east.

Example Course Lists

Picture a course that calls for a boat to make a loop around a mark, and imagine this 5-frame “movie” of what can happen:



Or a picture a pair of courses given twontwo classes where the same mark is rounded both ways:



Or a course where boats go aground or have to start arguing about mark room vs sea room.

We want to avoid all of these.

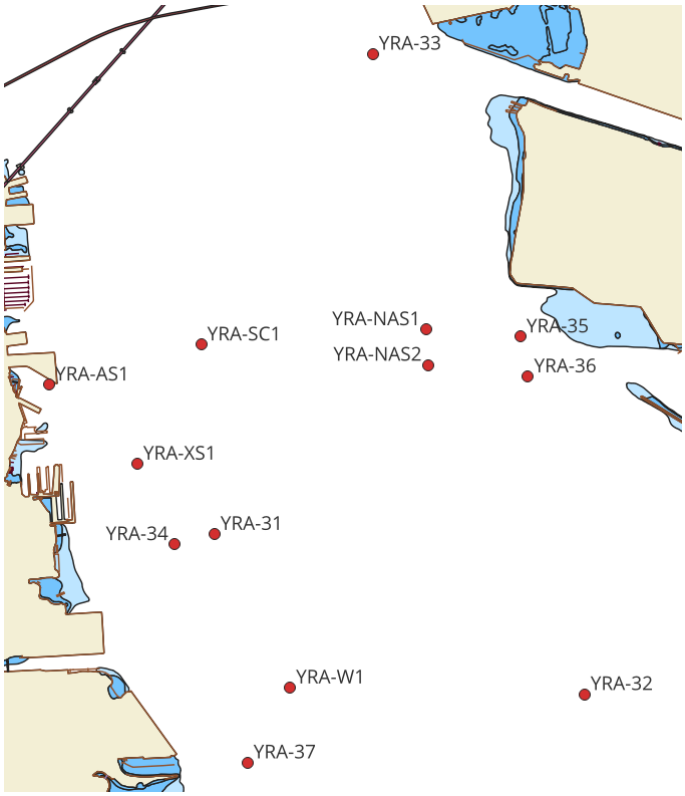
While ideally all the courses in the sailing instructions are well thought out, that is not always the case. And even where they are well thought, out there can be conflicts between them. A typical event will have several starts, with boats spread out a bit along the course(s) picked, which means the PRO will have to confirm the chosen courses all work individually and together.

Let's look at some examples from the as-raced sailing instructions from three 2022 events where the author was on RC. The deepest-draft boat in all three of these races required at least 10.1 feet of water.

Example from August 2022

Course	Start	Mark	Mark	Mark	Mark	Mark	Mark	Mark	Finish
1	NAS1	SC1p	34p	36p	SC1p	36p			NAS1
2	NAS1	SC1s	35s	SC1p	36p				NAS1
3	NAS1	SC1p	36p	35p	SC1p	36p	NAS2p	36p	NAS1
4	NAS1	SC1p	36p	SC1p	36p				NAS1
5	NAS1	33p	37p	36p					NAS1
6	NAS1	34p	37p	SC1p	33p	35s			NAS1

Here's a chartlet of the south bay for context --- note that not every race has a chartlet.



As a self-quiz, look carefully at this and see if you can spot any potential problem(s) with the courses before reading further.

=====

Here's the author's list:

1) Course 6 makes a buttonhook around SC1 or ignores it completely, depending on whether SC1 is a rounding mark or not. Buttonhooks are bad, so the PRO should not use this course!
2) Course 2 goes around SC1 to starboard on the first lap and port on the second lap. The PRO should notice this and not send multiple classes around course 2 or the later boats can be rounding one way while earlier boats are rounding the other way!
3) Course 2 goes around SC1 to starboard on the first lap while other courses go around SC1 to port. The PRO should not send some classes on course 2 and other classes on course 1, 3 or 4!
4) Course 2 and course 5 use 35 to starboard, while course 3 uses 35 to port. The PRO should not send some classes on course 2 or 5 and other classes on course 3!
5) Course 3 creates some crowded water between NAS 1 & 2 and 36 at the end of the race, and if another start is scheduled and boats waiting for their start are circling around NAS 1 & 2, that's not great.

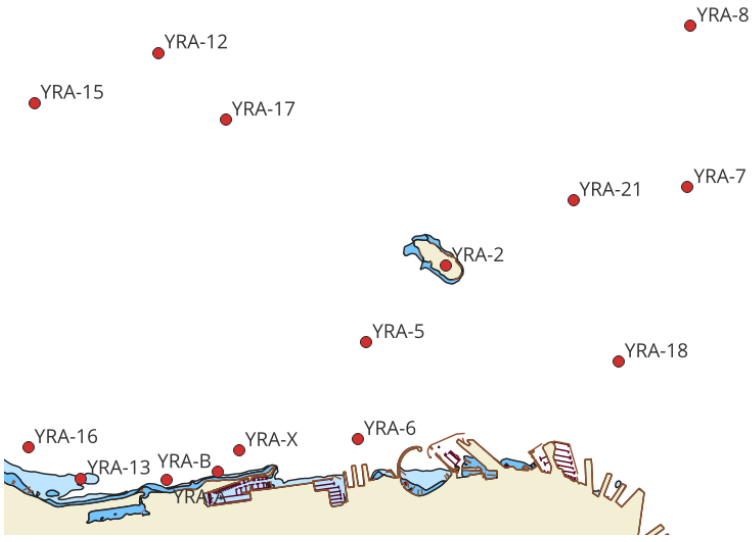
6) So in the typical westerly the only RC choices are courses 1 or 4, which means the RC is only choosing between having or not having a reaching leg.

Example from June 2022

Skipping the first four uninteresting courses:

Course	Start	Mark	Mark	Mark	Mark	Mark	Mark	Finish
5	X	16s	17s	18p				X
6	X	16s	17s	21s				X
7	X	16s	17s	6s				X
8	X	16s	21s					X
9	X	16s	17s	6s	17s	6s		X
10	X	16s	17s	16s	17s	6s		X
11	X	16s	18p	16s	18p			X
12	X	16s	21s	16s	18p			X
13	X	16s	21s	16s	21s			X
14	X	16s	17s	18p	16s	18p		X

Here is a chartlet of the cityfront for context --- note that not every race has a chartlet.



As a self-quiz, look carefully at this and see if you can spot any problem(s) with the courses before reading further.

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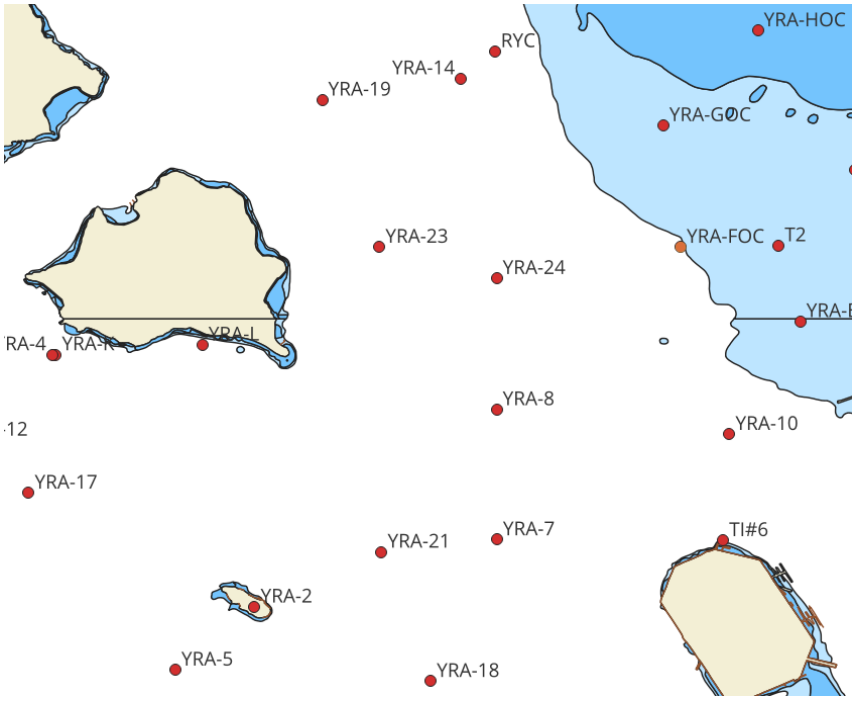
1) By using 16s and 18p, boats moving back and forth along the cityfront in courses 11 and 12 leave the mark going away from the city into open water, which is good in case there is a snarl cleaning up after the rounding. And all the marks are rounded the same way in each course, so there is no risk of people on one course rounding one way and people on another course rounding the other. So that is all really good. But moving from 17 to 18 then back along the cityfront is usually done as a starboard rounding at 18, because that's roughly a 130 degree turn. By using a port rounding instead, courses 5 and 14 require boats to make a 230 degree buttonhook. That's not good because it means boats approaching the mark and leaving it will be sailing through each other. The PRO should not use these courses.

Example from April 2022

Course	Start	Mark	Mark	Mark	Finish
1	FOC	18s	17s	T2s	FOC
2	FOC	17p	18p	T2p	FOC
3	FOC	RYCp	18p		FOC

Here is a chartlet of the central bay for context --- note that not every race has a chartlet.



As a self-quiz, look carefully at this and see if you can spot any problem(s) with the courses before reading further.

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1) Courses 1 and 2 both send boats to mark T2, which is located within the 1-2 fathom depth area, and the biggest boat is at substantial risk of going aground there. (In fact, it was a low tide day and before the warning the owner's wife told the RC the boat could not get to T2 because of depth.) Which means the only course available for the RC is course 3, and that isn't a good choice unless the wind is coming from pretty far north.

Conclusion

When designing courses, or picking courses, it is important to make sure we are sending competitors on courses that are safe.

Having potential conflicts in a course list should be avoided, ideally. But avoiding all possible conflicts creates its own problems, and it is ultimately up to the PRO to double check the courses they will send racers on are safe, compatible with each other, and suitable for the skills and expectations of the racers. (EG, Three Bridge Fiasco.)

Recorders: Handle Checkins

Recording is a vital piece of any successful race. We always want to have two (or more) recorders at the race deck. Recorders need to have legible handwriting.

We need records of who finished, but we also need records of who started, as a safety check that no boat is missing, and if one is, who it is.

Before the first warning the recorders will write down checkins. This lets the RC know who showed up, and is a good first filter for subsequent steps.

For an event with ~25 boats, recorders must have the checkin forms and be ready to take checkins from half an hour before the event. For a bigger race with 50+ boats, an hour is better.

Recorders primarily work with sail numbers, because those are much faster to scribble down when things get busy.

Note that per RRS 77 and RRS Appendix G, rule G1.2, each boat is supposed to have big, readable sail numbers in a color that contrasts with their sails. The boat's sail numbers should be the same on the main, jib and spinnaker.

And they are supposed to match the entry and the checkin forms.

This is not always the case.

The recorders should confirm the boat is on the accepted entry sheet, and confirm we have the correct sail number. If a boat is registered under 1234 but actually has sail number 5678, record this so we can use it during the race and the finish. If a boat has one sail number on the main and a different number on a jib or spinnaker, make a note of that too. We will need to translate what we see back to what jibeset has to use jibeset scoring after the end of the race.

If there is a boat that is not on the official sheets but checks in or otherwise looks like it will race, record them! Perhaps they are a late entrant after the sheets were printed.

Note that sometimes two unrelated boats have the same sail number. When checking in, be sure you are checking in the right boat.

It’s best if the primary recorder has a personal VHF radio, to listen and respond to boats doing radio checkin.

Good radio communication might look like this:

> *Boat: IYC Race Committee, IYC Race Committee, This is Wavey Wishes, sail number one two three four, checking in*

<RC makes a checkmark on a checkin sheet>
RC: Wavey Wishes, this is IYC Race Committee, we have you checked in.

If information is incomplete, or garbled, request it again

Boat: IYC Race Committee, this is Wavey Wishes, checking in
RC: Wavey Wishes, this is IYC Race Committee, what is your sail number?

In the author's opinion, checkin for events with lots of boats works best with a sheet that lists all boats by sail numbers "alphabetically" so that sail number 11 comes before sail number 2.

For event with fewer boats, the "by class" sheets are also fine, and are better in that they will be used at the start to record starters. Especially where the recorders know the boats and the check in sheets so well they know without looking that Wavey Wishes is in class D on page 2.

If recorders have done this a few times and have another system that works for them, great.

Communications with Racers

After checkins are complete, ONLY THE PRO SHOULD COMMUNICATE WITH THE RACERS.

The PRO can delegate some of this, EG to the linesight person for calling over-early boats, but the RC must speak with one voice.

Other members of the RC can wave and say "hi" or "good luck," but we do not want multiple people communicating because it risks causing confusion. Imagine what would happen if a boat hears someone on RC say "all clear" when the line-sighter knows they're not, or "over early" when the line-sighter knows they are ok.

Every time the RC communicates with racers, there's a chance of saying the wrong thing, which can lead to a bad night for the racer(s), and a request for redress (which can lead to a bad night for the RC).

RRS 41 forbids "outside assistance" -- which includes the RC. (See World Sailing Case 118 et al for some of the nuances, if extremely interested.)

Welcome the Racers on the Radio

The PRO should use the VHF to welcome racers to the event about 5 minutes before the scheduled time of the first warning. The welcome should include if the event will start on time, or if the PRO anticipates a delay (perhaps waiting for wind). If there are any other special announcements, this is the best time for them.

Postponing the Start

If there's not enough wind for boats to get clear of the start line on a weekend race, postpone by raising an AP flag with two short sounds. Then wait for the wind, and lower the AP with one short sound, one minute before beginning the warning.

On a Friday night with no wind, it's a tough call because there's a limited amount of daylight.

The Start

Race starts are defined, like everything else, in the RRS. In this case RRS 26.1:

> **Races shall be started by using the following signals. Times shall be taken from the visual signals; the absence of a sound signal shall be disregarded.**

Minutes before starting signal	*Visual Signal*	*Sound Signal*	*Means*
5	Class flag	One (short)	Warning signal
4	P (or I, Z, Z with I, U or black flag)	One (short)	Preparatory signal
1	Preparatory flag removed	One long	One minute
0	Class flag removed	One (short)	Starting Signal

Note that the sailing instructions can change RRS 26.1 -- EG for radio-only starts.

Unless something very unusual happens, we'll only use flag "P" as the Prep signal. The other prep flags in RRS 30 are there for dealing with a class that has had aggressive boats at the start line causing multiple general recalls --- but even a single general recall would be extremely unusual for us.

Our racers want rolling 5-minute starts, which are common on San Francisco Bay races. Rolling starts are a bit more challenging for the RC, because class flags and course flags have to change "instantaneously" at the moment which is both the start for one class and the warning for the next. At IYC we have handheld flagstaffs that can take flags at both ends, so the flag person can just twirl the staff like a baton.

So for Island Nights with four starts A, B, C and D, and first warning at 1825, that would look like this:

RC Intent	**24-hour time**	**Course Flag action**	**Class Flag action**	**Prep Flag action**	**Horn action**

Warning for class A	18:25:00	Course flag for class A up	Class flag A up, reaching top of travel at instant		One short
Prep for class A -- A is now racing.	18:26:00			Prep flag, almost always P, up, reaching top of travel at instant	One short
Class A has one minute until start	18:29:00			Prep flag comes down, starting down at instant	One long
Start for class A, warning for class B	18:30:00	Course flag for class A down, course flag for class B up. If keeping the same course just leave the flag up.	Class flag A down, B up. Since we use two flags on same staff, ideally we'd be halfway through twirl at instant		One short
Prep for class B -- B is now racing	18:31:00			Prep flag, almost always P, up	One short
Class B has one minute until start	18:34:00			Prep flag down	One long
Start for class B, warning for class C	18:35:00	Course flag for class B down, course flag for class C up.	Class flag B down, C up. Since A and B are on one staff and C and D are on another, can't "twirl" this, must lower one staff and raise the other.		One short
Prep for class C -- C is now racing	18:36:00			Prep flag,almost always P, up	One short
Class C has one minute until start	18:39:00			Prep flag down	One long
Start for cllass C, warning for class D	18:40:00	Course flag for class C down, course flag for class D up.	Class flag C down, D up		One short
Prep for class D -- D is now racing	18:41:00			Prep flag, almost always P, up	One short
Class D has one minute until start	18:44:00			Prep flag down	One long
Start for class D	18:45:00		Class flag D down		One short

If there is only one boat present for a start, the PRO should think about “combining” that start with the next one and moving up all subsequent starts by 5 minutes. If there are two boats, we generally keep the separate start and let the two compete with each other at the start, but combining a two boat start with the next start is a reasonable choice too. Note that combining requires displaying BOTH class flags, and that can take a minute to set up on the staff. Combining starts is something the PRO should, just as a courtesy, announce over the VHF radio.

PRO

The PRO has been handling the radio, the line sight, the over early flag, and anything else that has to happen at the start but has not been delegated. And the PRO has to watch the rest of the RC team to ensure they are ready to do the next task(s).

Delegating timer is extremely helpful, so that an over-early boat doesn’t become such a distraction as to impact the next start. And by delegating the timer role, the timer can help keep an eye on if everyone’s ready, and say more about the next task if needed.

Similarly, delegating the line sight is also helpful, but if only delegating one, it seems better to delegate the timer.

Radio

How much to say is entirely up to the PRO, subject to RRS 41. In working and talking with experienced PROs, CROs, RROs and NROs in San Francisco Bay, many of them will say that on the East Coast and higher-level events there is complete radio silence. And then in the next sentence they’ll say that here on the Bay our racers want or appreciate more help.

Our racers appreciate communication over VHF radio to “remind” them of the class that is starting and the course they should sail --- but prefer it to come in the three-minute period that the P flag is up.

So

> *IYC Racers, IYC Racers, IYC Racers, this is the Race Committee. We’re about 3 1/2 minutes from the start for class C, on course 2*.

And not:

> *IYC Racers, IYC Racers, IYC Racers, we’re 20 seconds away from the start of class B on course 4.*

The thought is that the racers are too busy planning their start in the last minute or 90 seconds before they start.

The PRO might also choose to say something right after the prior start, but if there are any over-early boats in the prior start, the PRO (and the radio) will often be too busy with that to get out the courtesy radio message.

Please key the VHF radio microphone so that racers can hear the timer for the last 5 seconds of the countdown, and the sound, at the warning and the start.

Do not key the microphone for the P flag up or P-flag down: that's too much radio for our racers.

All radio communication at the start is a courtesy --- racers should use the flags, though it sometimes seems like many of our racers do not.

Timer

The timer keeps us all focused on the race and aware of what is supposed to happen next. The timer should only do time, and perhaps sounds, to minimize distraction. The Timer should generally be the second-most experienced person on RC after the PRO, because they are really managing a lot of the start.

Since we're often a pick-up group of RC people who haven't done this much, being very vocal with frequent updates from the timer is sometimes important.

2 minutes to course flag up, class flag up and short sound
1 minute to course flag up, class flag up and short sound
30 seconds to course flag up, class flag up and short sound
20 seconds to course flag up, class flag up and short sound
15
10
9
8
7
6
5
4
3
2
1
Nothing should need to be said at the moment proper: there should be a horn going off then anyway.
P flag up and short sound in 30 seconds
20 seconds to P flag up and short sound
15 seconds

10
9
8
7
6
5
4
3
2
1

etc.

Tell us about the next thing we need to do, and the time until we do that thing. The time until the start is just a distraction from what we need to do.

Please call out more times, and speak louder, if the RC team is distracted --- get us back into paying attention. EG, tell us we're supposed to do "P flag down and long sound in 90 seconds" if it looks like our attention has wandered a bit or someone is out of position.

Please call out fewer times, and speak softer, if the RC team is already focused and ready for the next task.

Ideally, the PRO will turn on the VHF microphone and put it near the timer at ~5 seconds to the warning and the starts, leaving the microphone on until the horn. That way all the competitors hear the sound at the same time and get some benefit from the count down.

While it depends on the preference of the PRO, we will typically not broadcast the P flag up or P flag down: that becomes distracting VHF noise.

Sounds

There are two sounds for the start: a "short" sound and a "long" sound.

The short sound happens at the warning (class flag up), the prep (prep flag up) and the start (class flag down / swap class flags).

The short sound can also be needed, on request from the line sight person, just after a start if the line-sight person determines a boat is over early. If this happens, the short sound must be immediate: World Sailing Case 79 says "A race committee should signal 'Individual recall' within a very few seconds of the starting signal."

(It's also possible we could do a general recall, in which case we'd need two distinct short sounds in quick succession. In practice, general recalls are extremely rare. If we screw up the

start, we might have to postpone and restart with two sounds when the AP flag goes up, and one sound when it comes down.)

The long sound is used one minute before the start when the Prep flag comes down.

Please make the short sound very short, 1/3 to 1/2 second. It needs to be heard, but the shorter it is, the more hearing we'll retain when we're older. (And the more life we'll get out of our disposable air horns.)

The long sound should be about 3 times as long as the short sound so it can be clearly distinguished, a second or a second and a half. Again, we'd like to keep as much of our hearing as possible.

If there is something wrong with the horn for the start and you miss doing a start sound at the right time, that is OK --- RRS 26 says "the absence of a sound signal [for the starting sequence] shall be disregarded." But it's important NOT to do the horn at the wrong time! A wrong-time horn is a RC error and the start is supposed to be abandoned (with an AP flag and two sounds) and restarted from the warning if that happens. So if you miss the right time to do the sound, please don't try to squeeze it in later.

Flags

Flags are very important to our races, and we need several people to help with them.

At or before the warning, we need to signal what course the boats will sail, which we do with a numeric pennant (flag), like 1 or 2 or 3. See RRS 27 if interested.

Class flags, which are letters like A or B or C, go up, with a short sound, 5 minutes before the start of the class. This is the "warning" that boats in the class should get ready to race.

The prep flag, which is the "P" flag unless we have had multiple general recalls, goes up, with a short sound, 4 minutes before the start. This flag tells boats to "prepare" for the start. Under the racing rules of sailing, boats begin racing at the prep signal. (The other "prep" flags are used after a couple of general recalls when the RC wants to discourage aggressive crowding at the start. See RRS 30, if interested in reading about the various options in that case.)

The prep flag comes down, with a long sound, one minute before the start. This tells the boat they're within one minute of their start.

Then the class flag comes down, with a short sound, at the start. Since we do "rolling" starts, where the start of one class is the warning for the next, we'll "swap" the class flags. One way we do this is to put the next class flag on the bottom of the staff and "twirl" it like a baton. Or we raise one flagstaff as we lower another.

If we change courses so that some classes get one course and some get another, RRS 27 says we have to have the new course with the warning signal, so we will swap the course flags at the same instant we swap the class flags.

When going up, the flag must be at the top of its travel at the required instant: boats looking to get the time visually get it from the moment the flag stops moving up.

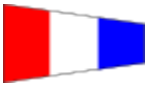
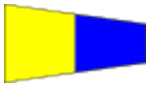
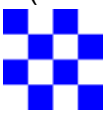
When coming down, the flag should start coming down at the required instant: boats looking to get the time visually get it from when the flag starts moving down.

This is because the top of the hoist is where the flag is most visible.

With flags on both ends of a staff, we'll just twirl the staff rapidly. Try to be halfway though that at the required instant.

Note that a single pole only has two ends, so it is possible to "twirl" from A to B, but going from B to C will require lowering one pole and raising another. It might be best in that case for the prep flag person to raise the new class flag pole and then hand it off.

Here are the flags we are most likely to use:

Course flags	1: 	2: 	3: 	4: 	5: 
	6: 	7: 	8: 	9: 	0: 
Class flags	A: 	B: 	C: 	D: 	E: 
Prep and other flags	P (prep): 	X (individual recall) 	L (come within hail) 	S (shorten course) 	First Substitute (general recall) 
	AP (postpone) 	N (abandon): 			

Line Sighter (often PRO)

The line sighter needs to be familiar with the RRS, quick to recognize which boat is which, decisive, and able to get the over-early flag raised and one sound made if anyone is over early. And in the words of Case 79, this all has to happen “within a very few seconds of the start.”

Note the 2021-2024 RRS changed the definition of ***start*** and so it's the hull and not the equipment (like a bow sprit or a bow anchor) that matters:

> **Start: A boat starts when, her hull having been entirely on the pre-start side of the starting line at or after her starting signal, and having complied with rule 30.1 if it applies, any part of her hull crosses the starting line from the pre-start side to the course side.**

Since at least the mid-1990s, the definition included “or crew or equipment in normal position,” so beware many experienced people may still have the old definition firmly in mind --- the more experienced, the more firmly.

If any identified boats are over early, immediately get the X flag raised and one short sound made, then quickly call out the sail number(s) of the boats that are over early.

The X flag must stay up until the last boat returns completely to the pre-course side of the line, or one minute before the next start, whichever comes first.

The recorders must capture any boats that were over early and did not get all the way back to restart. Make sure they know both the over early boats and the ones that have cleared themselves.

If one or two unidentified boats are over early it may be better to let them go than signal a general recall, which hurts the boats that had good starts. US Sailing's Race Management Handbook and the World Sailing equivalent disagree here, so it is up to the PRO.

But if there are many unidentified boats, call a general recall with the first repeater flag and two sounds.

Note that if someone starts with the wrong class they are not "over early," and would not get an X flag or a sound just for that. Score them as Did Not Start (DNS) unless they come back for their proper start.

If the line sighter is not comfortable making fast, accurate calls, the PRO should do the line sight.

Postponing

If the start sequence goes awry before the start signal, it should be aborted by raising an AP flag and making two short sound signals. Then the RC should get settled, drop the AP with one short sound, and resume the sequence from the warning 60 seconds after the AP comes down.

On a Friday night beercan with a limited amount of daylight, we tend to keep going for smaller errors, and take the chance someone will protest the RC error. But that's up to the PRO.

Recorders: Capture Starters

The author believes checkins work best, at a big event, against a list of all boats sorted by sail number such that 11 is ahead of 2. In a smaller race like the Friday nights, the class sheets are also fine. See the Checkins section. But if we do use a different sheet than the class sheet for checkins, it is helpful to transfer checkin information to the class sheets just before the starts.

Write down the course given to each class, and the start time for each class.

At the start we need to know who started, for safety and fairness. Placing a checkmark or other notation on the by-class starting sheets is the best way to record starters.

Please look for, and write a note on the sheet, if something unusual happens. If someone started with the wrong start 5 minutes early and does not come back, for example, we need to know to score them so they don't have a 5 minute head start on their competitors! If a boat is identified as over early by the line-sight person, note that. If the over early boat clears itself, as determined by the line sight person, note that too.

Please tell the PRO of anything interesting, but do not communicate with boats at the start, or during the race, so the RC can speak with one voice.

Please do not erase things, or thoroughly obliterate them. If something is wrong, write a line through it. Sometimes it turns out that deciding something is wrong is itself wrong, and we will need to read what was originally written.

If we're short-handed, we may pull one of the two recorders to raise and lower the prep flag. The prep flag is down from one minute before the start to one minute after the start, giving that person time to go back and record things at the start.

Finally, count up all the boats that started and transfer that count to the finish sheet --- we will need to compare the counts of starters vs finishers to make sure everyone is safely done racing.

General Recalls

If there are one or two unidentified boats over the line early, consider doing a general recall. It's up to the PRO, though.

Guidance in the US Sailing Race Management Handbook (from 2009) is to consider letting a few boats go without a general recall because general recalls penalize everyone, including boats that started correctly.

Guidance in the World Sailing Race Management Handbook (from 2019) is general recall should always be signaled unless all boats on the course side can be identified.

Perhaps the difference is guidance is simply olympic-class racing vs less demanding racing.

If there are many unidentified boats over early, or the RC has made an error at the start, (EG, sound went at a different time than flag went up), we should signal a general recall and redo that start.

A general recall is done by raising the first repeater flag with two short sounds. The general recall should stay up until the RC is one minute away from wanting to resume from the warning signal. The first repeater flag comes down with one short sound and the warning happens 60 seconds later.

RRS 29.2 says the recalled class is the one to start after the first repeater comes done, so if class B is recalled, we have to delay everyone else until B starts cleanly. Some SIs may change that and move a recalled class to the end of the starting sequence so other classes are not held up. Check the SIs.

Mid-Race

Recorder: Capture Retiring Boats, Laps

It's possible a boat will "retire" during a race. Maybe they were doing badly and want to quit. Maybe the race is running long and someone has a commitment on land. Maybe something broke.

Whatever the reason, we need to record every boat that retires. It helps us know not to wait for them when we are recording finishers. It lets us score them correctly as DNF (Did Not Finish).

Most importantly, it's a safety issue: we need to know they are OK and we don't have to send the Coast Guard out to look for them.

Please write down the sail number, boat name, that they retired, and approximate time they retired somewhere on one of your sheets. The bottom of a finish sheet is ideal, but you can transfer the information there later.

It's possible we could run multi-lap races where racers come through the finish line more than once. In that case it's important to know what lap they are on, so we do not to finish them early!

As of this writing we do not have a preferred way of tracking who is on what lap. Be creative! Be accurate!

One suggestion is to use a checkin sheet and transfer course information, in terms of number of laps, onto it. Then mark down laps as they occur as a simple tally count.

Another idea is to transfer the required number of laps, and then write down the time-of-day they cross the finish line. That's more writing, but has the advantages that a) if we make a mistake who-has-how-many-laps, we still have the finish time; b) it helps the PRO see exactly how long each lap is taking for purposes of perhaps shortening the course.

However it is done, please keep the PRO informed about the first boat in each class for each lap. That is needed for decisions about shortening course.

PRO

Sometimes we could run multi-lap courses that can be shortened. Check the SIs very carefully, and/or dig out RRS 32 noting that we may not have made any of our marks "rounding marks" per RRS J 2.1(4) and Appeal 103.

Our goal with Island Nights is to have all the racers getting their boats away before dark, and the RC off the dock before dark. If the wind dies, and you can shorten under the rules, do so. It's safer.

If the decision is to shorten, it is easiest to do it for all classes before the first boat comes through.

It's potentially very confusing to shorten for some classes but not others, so again, check the SIs. There may be verbiage about that and how to signal it to everyone. If not, the fear is that some people will stop racing early, and some people will keep going --- either of which defeats the purpose and makes racers unhappy when they figure it out.

The Finish

There is a RC saying: "You can redo the start as many times as you like until you get it right, but you only have one try at the finish."

Line Sight

Under the 2021-2024 RRS, the definition of ***finish*** changed, and a boat finishes when her hull crosses the finish line from the direction of the last mark.

> **Finish: A boat finishes when, after starting, any part of her hull crosses the finishing line from the course side. However, she has not finished if after crossing the finishing line she**
> **(a) takes a penalty under rule 44.2,**
> **(b) corrects an error in sailing the course made at the line, or**
> **(c) continues to sail the course.**

For many years, the definition included “or crew or equipment in normal position,” so beware many experienced people may still have the old definition firmly in mind.

The line sighter should stand or sit in position to line up the finish flagpole with the finish pin, and indicate when each boat finishes. They also need to identify which boat finished, by reporting the sail number.

The line sighter is the only person who can be certain who finished first when boats are close, because no one else on the RC will have the right perspective on the line.

We have been most successful by having the finish line sighter call out the sail number (plus boat name when possible) and then blow a whistle, as a single short sharp blast, when the boat crosses.

In contrast, when we had the line sighter call out times as well as sail numbers, that was too many numbers.

Recorders: Capture Finishes

Recorders capture who finished when by writing down finishers on the finish sheets.

If there is concern about capturing, turning on a voice recorder before all the finishes can be helpful as a failsafe. But the goal should be to not need it.

As boats finish, write down the sail number and the time they finished in 24 hour time to the whole second, EG 19:21:04. In the third column, please write the boat name or an abbreviation, because sometimes we have multiple boats with the same sail number, or we mis-identify a sail number by thinking an 8 is a 6 or something.

If a boat is flying a red flag when they finish, note that too. The red flag is a signal the boat is protesting another boat, or perhaps the RC.

We need two recorders because we only have one chance to record finishes, and it is easy to miss something if many boats finish at once.

The way we have found best is to have recorders sit with a good view of the clock we used for starting, and write down the sail number of the next boat to finish as it approaches the line --- the line sighter should call this out, ideally, because they have the best vantage point. Then the recorders keep their eyes on the clock as they listen for the whistle the line sighter blows. When they hear the whistle they write down the time.

Since two recorders can sometimes think the sound came at slightly different times, it can be helpful for the primary recorder to say back the seconds place of the time, to confirm the secondary recorder had the same time. Adjust with a single line through the bad time, and a note of the right time as needed: we'd like agreement between all the recording sheets.

If two boats finish very close together, and we are writing sail numbers as boats approach the finish, it is possible we will write down sail numbers in the wrong order. Do not panic! Please write the correct time for each boat next to its sail number (so times on the finish sheet will go "backwards" on one line) and draw a double headed arrow between the sail numbers to indicate that the "backwards" looking times are indeed correct.

Finish sheets have numbered rows to keep a tally of how many boats we have finished. Keep the PRO informed of how many boats are left to finish toward the end of a race. It is possible we will need to know which boats are "missing," which requires cross checks between the start and finish sheets.

When all done, check that the times always go forward, except where marked with the double arrow for a close finish where we wrote sail numbers down in an order that turned out to be backwards.

Then compare finish sheets to each other. Do they agree? Did we miss something?

Do not erase or thoroughly obliterate anything, even if you think it is wrong. Draw a single line through any error instead, because sometimes the error is thinking something is an error.

Protests and Redress

The RC can protest boats for failing to follow the NOR, sailing instructions, or other rules if it sees the violation. See RRS 60.2 and the definition of ***rules*** in the RRS.

However, sailboat racing is supposed to be a self-policing sport where competitors hold themselves and each other accountable.

So the usual guidance is that while the RC can protest boats, it should do so sparingly -- only when no other competitor was in a position to see the violation.

If the RC does want to protest, the protest must be written down, preferably on a "hearing request" form, describing clearly the incident and the boat(s) involved. The boat must be informed that the RC is protesting, and the written protest must be submitted before the protest time limit. See RRS 61, especially 61.1(b).

The RC should never disqualify a boat --- that is the job of a protest committee, only done after a formal protest.

An RC can also request redress for a boat. For example, if there is good reason to believe that the boat's finish place has been materially impacted by an RC error, it's much more considerate of the RC to bring that to light than make the boat do it. The process is essentially the same: the RC must write down the incident and submit it within the time limit or 2 hours after the incident, whichever is later. See RRS 62.

The RC cannot grant redress. That is something for the protest committee to decide. Then the RC must implement the PC's decision.

Post-Race

Mark Pickup

Make sure the markset does not pick up marks before all the competitors are safely around them!

Handicapping

This material is just here for people to learn how PHRF handicapping works. Jibeset takes care of all of this as soon as we enter the finish times.

Some racing boats are “one design” and are all the same: A J/105, for example, is under strict rules to be just like all the other J/105s so that competitions are about skills, not the boats. In those classes, determining who won is easy because the order boats finish is the order for who won, took second, etc.

But not everyone wants the same boat, and sometimes even a J/105 wants to race against other boats, like an Express 37.

So, much like golf, we “handicap”. There are several handicap systems, but in San Francisco Bay almost all keelboat races use PHRF. The YRA certifies boats annually as “rated” at ____ seconds per mile. An Express 37 rates 72 seconds per mile, and a J/105 rates 78 seconds per mile. (See the YRA part of Jibeset if interested in the complete list of boats and their current handicaps.)

And in the old “time on distance” (ToD) days, that’s how it worked: over a 10 mile course, the Express 37 is rated 6 seconds per mile faster than the J/105, so it has to finish at least a minute ahead to win (or tie).

Here is an example for Expressive vs Jumpin Jack.

Time-on-Distance Math:

Take Expressive’s (Express 37) finish time, down to whole seconds: 19:40:21
Take Expressive’s start time, down to whole seconds: 18:30:00
Subtract to get Expressive’s elapsed time: 1:10:21
Look up Expressive’s handicap: 72 seconds / mile
Compute time-on-distance time allowance as handicap*distance: 72 s/mile * 10 miles = 720 seconds = 12 minutes
Compute corrected time by subtracting allowance from elapsed: 1:10:21 - 12:00 = 58:21

Now do the same with Jumpin Jack (a J/105):
Finish time: 19:41:20
Start time: 18:30:00
Elapsed time: 10:11:20
Handicap: 78 seconds / mile
TIme allowance = 78 s / mile * 10 miles = 780 seconds = 13 minutes
Corrected time: 1:11:20 - 11:00 = 58:20

So Jumpin Jack wins by 1 second on corrected time, even though it finished 59 seconds later in elapsed time.

This worked through the 1990s, but by the early 2000s there was a lot of complaining. When it was a really light-air day and boats moved at 1/2 their normal speed, the “fast” boats had the handicaps work in their favor because everyone took twice as long to sail the course, but the slow boats only got their usual time allowance. And on a windier-than usual day, it worked the other way.

Plus, the course length has to be accurate, or the time allowance is off. For example if a “4.0” mile course is actually 3.8 miles the error is 1.2 seconds between an Express 37 and a J/105, and 32 seconds between an Express 37 and a Santana 22 (which rates 234). The Express can argue that the RC robbed it of 32 seconds! And potentially prizes! And the Express would be right.

So the modern way is “Time on Time” (ToT), which has very similar math, except for the corrected time. ToT assumes that boats are some percentage faster or slower, giving a bigger or smaller allowance based on how fast the race itself was. And because the course length isn't

used, there is more flexibility about being off a bit on the distance. (Marks do have to be where the SIs say they will be, though, or the RC can be protested for redress.)

Time-on-Time Math:

Take Expressive's (Express 37) finish time, down to whole seconds: 19:40:21
Take Expressive's start time, down to whole seconds: 18:30:00
Subtract to get Expressive's elapsed time: 1:10:21
Look up Expressive's handicap: 72 seconds / mile
Compute time correction factor: TCF = 650 / (550 + PHRF) = 1.045
Compute time-on-time corrected time as TCF * Elapsed: 1.045 * 1:10:21= 1:13:31

Now do the same with Jumpin Jack (a J/105):
Finish time: 19:41:20
Start time: 18:30:00
Elapsed time: 10:11:20
Handicap: 78 seconds / mile
TCF: 650/(550 + PHRF) = 1.035
Corrected time: 1.035 * 1:11:20 = 1:13:49

So here the Express 37 wins by 18 seconds.

Notice that boats with PHRF 1..99 have their time adjusted in different directions under ToD vs ToT: the ToD corrected time is less than the elapsed time, but the ToT corrected time is more than the elapsed time. That is a fast way to check which way a race was actually scored.

If a race is handicapped under time on time, it's handy to think in terms of TCFs and seconds per hour, instead of seconds per mile. For example, every hour the Express 37 races the J/105, it needs to be about another 34.7 seconds ahead.

Here's the derivation for those who would like to see the math:

Ca = Cb # corrected times equal
650/(550+Ha) * Ea = 650/(550+Hb) * Eb # expand corrected times
650/(550+Ha) * Ea = 650/(550+Hb) * (Ea + delta) # expressing boat B's elapsed as a delta
(Ea + delta) / Ea = (550 + Hb) / (550 + Ha) # collecting terms
1 + delta / Ea = (550 + Hb) / (550 + Ha) # simplifying
delta = Ea * ((550 + Hb) / (550 + Ha) - 1) # clean expression for delta

Almost no one does ToD or ToT scoring by hand: scoring programs like Jibeset are much more convenient.

Scoring

By entering data into Jibeset it is automatically scored, and easy to publish.

1. Race Deck Home > Race Data - ? enter start ?
2. Enter the starting times and course numbers and distances for all classes.
3. Save all
4. Race Deck Home > Race Data - Complete Race: X > Race - enter / correct finish data for Race: X
5. Enter race data. Note this process takes about 20 mins. Enter each boat's sail number and then the finish time in HHMMSS --- you do not need colons, and jibeset will immediately take your answer after you type the second "seconds" digit. If more than one boat has the same sail number, you'll need to click on the right one
6. Upload your data, confirm you have a good internet connection, and upload.
7. Finish scoring by marking the boats that do not have times --- either they did not come to the race (DNC) or did not finish (DNF).
8. If there are boats that started with a class ahead of where they should have (IE, 5 or 10 minutes early), score those boats as DNS for did not start
9. If there are boats that the line sighter said were over early, and did not clear themselves, mark those as on course side (OCS).
10. If you are positive a boat did not sail the correct course, you can mark them as NSC for did not dail the course. In general, the RC should only do this if the other competitors did not have a chance to see it, because the sport is supposed to be self-policing.
11. If you clicked the wrong thing for a boat and need to "undo" it, try the "CLR" (clear) or "RAC" (still racing) buttons, and then try again.
12. If you have the wrong finish time for a boat, just enter it again. Last entry "wins."
13. Upload your data, confirm you have a good internet connection, and upload.
14. Cross check with the primary recorder by reading down jibeset's list of boats, sorted by finish time, and confirming the boat names and finish times are correct.
15. Cross check with the primary recorder that all boats marked DNC or DNF or OCS really did not come or finish or clear themselves.
16. Go to "post results" and post the preliminary results for the race, and the series.

Announcing Results

After an Island Nights race many of the racers and RC go to the post-race bar. IYC is using the Boathouse, at the corner of Clement and Stanford.

The PRO or the scorer should announce results, and a club officer will hand out prizes.

For Friday nights, we have prizes for the first few boats in each class. Must be present to win!

SOARS

US Sailing wants to have all race work entered in SOARS, and anyone who wants to be certified will be asked if they've been keeping SOARS up to date.

It's the PRO's job to make the event in SOARS, and then everyone on RC can make their own role entries from that event. The PRO should do this within a week of the event

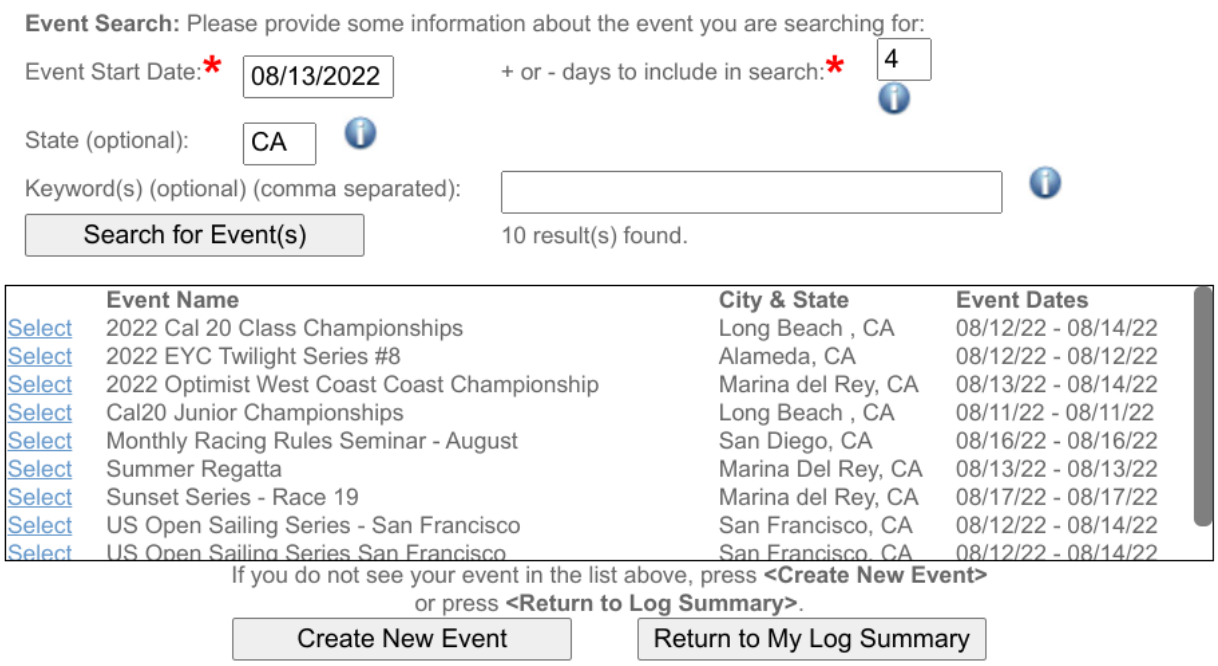
Then other people should record their roles.

Note that other RC members can make the event themselves in a pinch, but that's frowned on and should only happen if the PRO has said they don't want to do it, or still haven't done it weeks after the event.

The steps for the PRO to make the event, and everyone else to record their role, are almost the same.

Finding an Event or Confirming it Doesn't Exist to Make it

1. Go to US Sailing and log in with your member number and password.
2. Click on "SOARS 2.0" on the left hand side menu.
3. Find the "my logbook" link and click on that
4. click on "New Log Entry"
5. That dumps you on this screen, where you search for an existing SOARS entry for the event by specifying the date and the state = CA. (Beware, if someone typed in "California" a search on CA won't find it!)

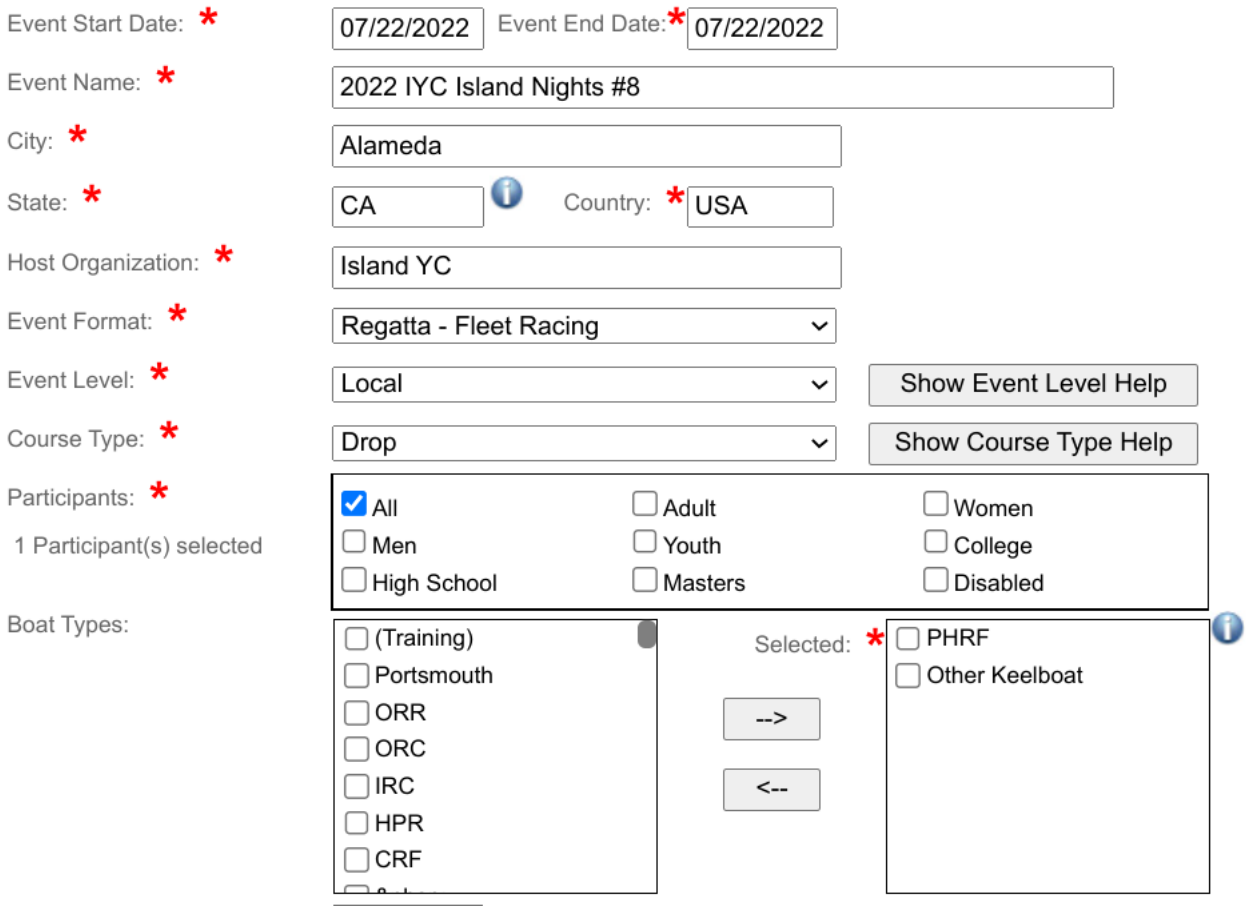


If you're the PRO, this is where you create the event with the instructions immediately below. If you're a volunteer and the PRO has made the event, click on it and jump ahead in this document to the section "Filling in Your Role."

Creating an Event that Does Not Already Exist

If the event is already there, select it and skip ahead to "filling in your role". If not:

1. Use the "Create New Event" button.
2. Start the entry with this information



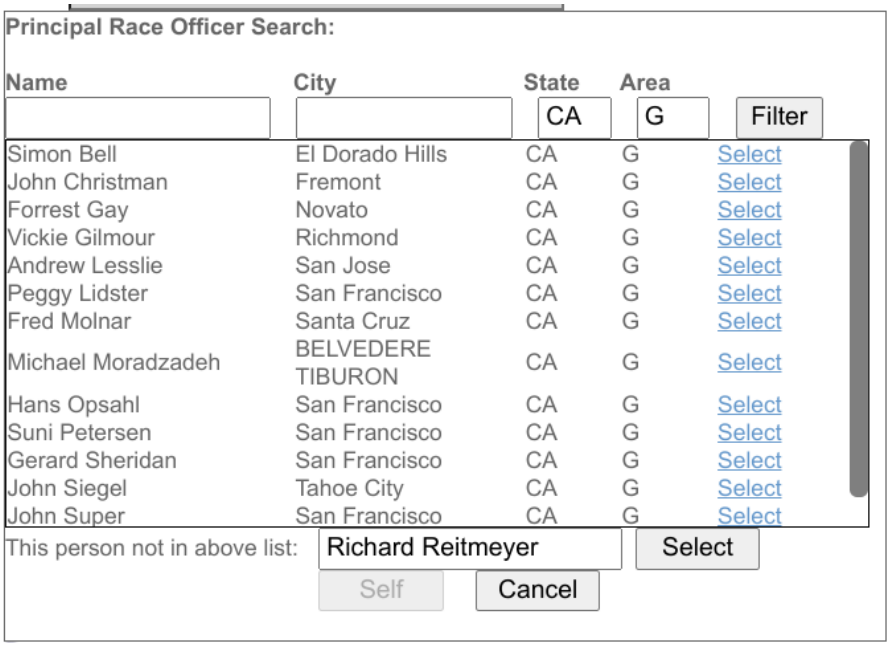
a. It is better to create individual events than long series!
b. Event name should always start with 4-digit year, then the name, and then the event number if it is in a series.
c. Use the city of the host YC
d. Abbreviate the state, because the search does not recognize CA = California.
e. The host org field cannot be very long or you'll get mysterious SOARS errors, so keep it short.
f. Event level is almost always local (with ~90% of boats from one club) or regional (boats from multiple clubs) and not area (boats from all over northern California and Nevada).
g. Course type is "drop" if you use inflatable marks. It's possible that if we use a markset boat to drop marks in the same spot every time that should be "fixed" but the guidance seems to be to use “drop.”
h. For boat types (which is a very slow-to-update part of the UI) select PHRF and all the kinds of boats that are scored separately.

3. To do the middle part, bring up the scoring page in jibeset to get the number of entries and classes.

Number of Entries:	28
Number of Classes:	4
Number of Races:	4
Countries Represented:	1

   a. Entries and classes are pretty straightforward if looking at the scoring results for the race.
   b. The author enters every scored start as a race, so 2 races / class * 5 classes = 10 races, which he thinks clearer when not all classes sail all races. But some other PROs will write "2' here if each class had two races no matter how many classes there were.

4. And the people part. For every role that the race had, like a PRO, click on the magnifying glass to bring up a filterable dialog box of certified race officers.



   a. The dialog can filter by area, state, etc, but the list only shows certified race officers. So if the person is not, type in their name in the "this person not in the list" box and press Select.

5. Press the button to save
6. As soon as you save, the event is in --- and the fields here can ONLY be edited by you, or the Area Race Officer. And you can't delete the event, only the Area Race Officer or US Sailing can.

Filling in Your Role

1. If you haven't already, pick the event and get to the button that lets you fill in your role
2. Pick the date(s) worked
3. Give a helpful burb explaining what you did
4. Pick whether you were on RC, or PC, or both

5. For RC, pick your role. There's PRO, DRO and Signal Staff for people on the dock or signal boat. On markset, there's Markboat Officer for the driver and Markboat Staff for everyone else.
6. Then there's a bunch of "what else did you do" questions.
7. The scorer is the person who computes the scores, not the recorder who writes down finish times. When scoring is done by computer, like jibeset, the scorer is the person who typed it into the computer.
8. It's San Francisco Bay, so current is practically always present, but the author never checks that box because of a guess it's supposed to mean we skewed the course for current, and we usually make boats slog through it.

Keeping Your Own Log

Given the hassles of SOARS and the delays between the event and when it gets entered into SOARS, the author recommends keeping a separate spreadsheet of RC activity. Update that on the day of the event, and then cut and paste from there when filling out SOARS later.

Abbreviations / Glossary

Appeal	US Sailing decision on an important protest, published so that all similar protests in the future will (should) be decided the same way. Effectively an authoritative interpretation of the rules, at the national level.
Appendix A	The appendix in the Racing Rules of Sailing that describes the default scoring system and standard scoring abbreviations.
Appendix J	The appendix in the Racing Rules of Sailing that set the requirements for the Notice of Race (J 1) and Sailing Instructions (J 2)
Case	World Sailing decision on an important protest, published so that all similar protests in the future will (should) be decided the same way. Effectively an authoritative interpretation of the rules, at the international level.
CRO	Club Race Officer, US Sailing's entry certification level for Race Officers
DNC	Did Not Compete (did not come), a standard scoring abbreviation from Appendix A used to mark boats that registered but did not appear in the starting area at the prep signal before their assigned start.
DNF	Did Not Finish, a standard scoring abbreviation from Appendix A used to mark boats that started the race properly but did not complete it.

DNS	Did Not Start, a standard scoring abbreviation from Appendix A used to mark boats that registered and came to the starting area but did not start correctly. Use this for boats that started with a prior class. Also use it with boats that started "too late" is the SIs have a rule limiting how long boats havd after their starting signal to start.
IYC	Island Yacht Club, in Alameda California
Jibeset	The scoring program / website used by IYC and many other clubs in San Francisco Bay. Handles entries, fees, web publication of race documents, calculations of corrected times, scoring and publishing results.
NOR	Notice of Race, the document describing the event enough for people to decide if they want to enter it. Items in the NOR (and SIs) are rules for the event.
NRO	National Race Officer, US Sailing's most advanced certification level for Race Officers
NSC	Did Not Sail Course, a standard scoring abbreviation from Appendix A used to mark boats that started and went through the finish line but where the "string, representing her wake, when pulled taut" did not leave all the marks on the correct side and touch all rounding marks on the required side. (See RRS definition of "sail the course.")
OA	Organizing Authority, the club or other US Sailing affiliated entity that is responsible for appointing the race committee and making the NOR.
OCS	On Course Side, a standard scoring abbreviation from Appendix A used to mark boats that crossed the start line at almost the right time for their assigned start, but were a little early and some or all of the hull was one the course side of the line at the instant of the start.
PC	Protest Committee, the team of judges deciding on protests and requests for redress
PHRF	Performance Handicap Rating Factor, the handicapping used for almost all San Francisco Bay keelboat races to allow different kinds of boats to be scored against each other. Managed by YRA, and expressed as ___ seconds / mile.
PRO	Principal Race Officer, the person in charge of, and responsible for, the race and the RC. Note PRO is a role, not a certification level, and there is no need to be a certified CRO, RRO or NRO to do the PRO role, unless the race organizer wants to make that a requirement.
RC	Race Committee, the team of people running the race

RRO	Regional Race Officer, US Sailing's intermediate certification level for Race Officers
RRS	The Racing Rules of Sailing for the current 4-year period (rules change, sometimes dramatically, every four years after the summer Olympics)
RRS 26	The Racing Rules of Sailing rule for starting races
RRS 32	The Racing Rules of Sailing rule for when and how courses can be shortened
RRS 41	The Racing Rules of Sailing rule prohibiting outside assistance to boat racing
RRS 86	The Racing Rules of Sailing rule that limits what rules can be changed by the NOR or SIs.
SI	Sailing Instruction (a specific rule in the Sailing Instructions)
SIs	Sailing Instructions the document describing the event in enough detail that the competitors can race it. Items in the SIs (and NOR) are rules for the event
ToD	PHRF Time on Distance handicap: if an Express 37 (PHRF 72) races a J/105 (PHRF 78) over a 10 mile course, the Express 37 "owes" the J/105 a minute.
ToT	PHRF Time on Time handicap: if an Express 37 (PHRF 72) races a J/105 (PHRF 78) over an hour, the Express 37 "owes" the J/105 34 seconds.
VHF	Very High Frequency Radio, the channels or device used for marine communication of distances of a few miles. Channel 14 is VTS in the Bay, 16 is the Coast Guard distress channel, and channels 66 through 72 are assigned to different races by the YRA at a yearly planning session to minimize overlap between races.
VTS	The Coast Guard's Vessel Traffic Service on VHF channel 14 ("inshore sector" of San Francisco Bay) and at phone number 415-556-2760. Also VHF channel 12 ("offshore sector") on the Pacific Ocean past the line drawn south from Duxbury Point and west from Mussel Rock. This service keeps commercial ship traffic informed about the movements of other vessels and vice versa.
YRA	The Yacht Racing Association of San Francisco Bay, the regional authority for racing. YRA helps organize and coordinate races so two races from different OAs do not try to use the same bit of water, or same marks, or same VHF channels at the same time. YRA also handles Coast Guard permits.

References

Other material that might be of use:

- The Racing Rules of Sailing is the most essential document for Race Committee, because it dictates how races are to be run. Free with US Sailing membership, or

available as a free PDF download from World Sailing. Note the rules change, sometimes significantly, every four years. If you get the World Sailing PDF, also look for a PDF copy of the US Sailing Prescriptions at US Sailing, because those alter the RRS a little.

- Join the Race Committee Team booklet, about 40 pages of friendly, welcoming material on how to do race committee from US Sailing. $6.95 from US Sailing store, search for "join the race committee team."
- The US Sailing Race Management Handbook is around 350 pages and dates from 2009, but has a wealth of information on everything from sponsorship to scoring systems. A free pdf download from US Sailing if you search for "race management handbook."
- The St Francis Markset Boat Manual is St Francis specific in many places but is a great resource for markset techniques that apply universally. Free pdf download from St Francis YC > Race Committee Resource page as "Markset Manual."
- Australian Sailing Club Race Officer Webinar 2021-2024 are the slides for the Australian equivalent to US Sailing's Basic Race Management Seminar. About 80 slides. Free pdf download by google search.
- US Sailing's Basic Race Management Seminar is a great class on how to run races. It is also a requirement of CRO certification. Note that they do not share slides, even with the people taking the class. See US Sailing > Competition > Rules / Officiating > Race Officers. Then Find a Seminar. Seminars can be hard to find, with most seminars offered over the winter, so if interested start checking the website early and look again every week or two. There are perhaps 20 / year seminars held as instructor-led online classes over three evenings. And perhaps 1-2 / year seminars held in SF Bay in person as one day classes at a local club. Expect the seminar to cost $40 online, perhaps more in person.
- The World Sailing Race Management Handbook mostly duplicates the material in the US Sailing Race Management Handbook, but as of this writing it is newer and offers a slightly different take. EG, the guidance on whether to do a general recall if there are one or two unidentified boats over early is different.