A Beginner's Guide
to
The Frostbite Series

The Frostbite Series consists of six distance (around government buoys), pursuit-start races held during the otherwise inactive part of the Club's race season. These distance races have been created to provide a less intense sailboat race experience for beginners and non-racers. The competitors meet in the Clubhouse at 11:00, discuss which race course to sail, and receive an explanation of the start and race procedure. The race typically starts around 12:00 at buoy S 20. After the race, the group meets in the Clubhouse for Club-supplied soup or chili. (adult beverages may be present-byo). As with all the 'distance' races, there usually will be a mixture of members who don't race in the Keelboat or the Centerboard fleets as well as some members who do.

Interested…Here's what you do…

✦ Since you are reading this document, you have probably visited the event page on the Club website. You should download and print the *Buoy and Course List*, *Lake Map*, and the *Sailing Instructions*.

✦ Arrive at the Club early enough to prepare your boat BEFORE the scheduled skippers' meeting of 11:00. You want to be able to head out to S 20 for the race start immediately after the skippers' meeting.

✦ At the skippers' meeting you will check in with Rick. He'll ask you what kind of boat you will race, and (after the group decides which Course to race) will assign you your "***delay time***" (more on *delay time* later in this document)

✦ The procedure of the pursuit start will be explained, as will how to navigate the race course. If you are new to this, no worries; it is not difficult, and any questions you might have will be explained.

✦ After the skippers' meeting, proceed to the start area (buoy S 20), await your *delay time*. When your *delay time* comes up, start your race.

✦ After completing the course, return to the Clubhouse for hot chili or soup, and great comradery with those who have shared a sailing experience on the lake.

If you are still interested, the next section of this document explains how boats of different sizes and designs are able to compete fairly, and why all the boats do not start at the same time. You don't really need to know that stuff to race. However, you will need to understand the procedures explained in the section "Sailing A Frostbite Race".

"But his boat is faster than mine…" (background stuff)

When sailboats of the same design race, there is little difficulty in determining which boat has competed the best: the boat that crosses the finish line first is the winner. The next boat that crosses the finish line places second, and so on for the remainder of the competitors. However, when sailboats of different designs race, some method of determining a handicap for each design is necessary, as one boat design might be capable of better performance than another. The purpose of the race, after all, is to determine which skipper and crew performed the best, not which design is fastest. To that end, the sailing community has developed several rating (handicap) systems for determining a boat design's performance potential. The system most often used is called PHRF (Performance Handicap Racing Fleet). PHRF assigns each boat design a handicap number. The design's rating (handicap) is expressed in seconds-per-mile raced. In a nut shell, the faster-rated boat 'owes' the slower-rated boat some amount of time. The amount of time owed is determined by the difference in ratings between the boats and the length of the race course. The time that is owed is added to the *elapsed time* (time that was required to sail the course) of the faster-rated boat.

Pursuit Start Races (or"…to start or not to start…") (background stuff)

In almost all sailboat racing, the boats start at the same time, technically when the Class Flag is lowered at the end of the 5-minute starting sequence. If boats of different designs are racing, each boat's *elapsed time* is recorded as she crosses the finish line, and that time is mathematically adjusted (according to her handicap), after the race is completed, to yield her *corrected time*. The boat with the smallest *corrected time* is the winner, the boat with the second smallest *corrected time* places second, and so on.

In a **pursuit start** race, that 'extra' time owed by the faster boat (based on handicap and racecourse length) is calculated **before** the race begins, and a boat will start before or after other boats based on the relative handicaps between the boats racing. In other words, differences in handicap are dealt with by having the slower-rated boats start **before** the faster-rated boats. At the end of the race, a boat's finish position is ranked in the order she crosses the finish line.

We like the *pursuit start* race for three reasons:

1-There are <u>fewer</u> boats on the start line at any given moment. This reduces anxiety for novice racers. Other than boats with the same rating, each boat will have her own starting time.

2-As boats approach the finish line, there is no doubt about you 'correcting out' with faster or slower boats. If you cross the line ahead of a boat, you beat her. If you cross the finish line behind another boat, she beat you. The finishes can be exciting if you are approaching the finish line in close proximity to another boat.

3-The entire fleet of boats is more likely to finish the race near the same time. This allows the fleet to return to the Club at about the same time for that most important aspect of sailboat racing-the after-race party.

The races of the Frostbite Series will employ a *pursuit start*.

Sailing A Frostbite Race
(You really need to know this stuff)

How do I know what my start time is?

Boats with different ratings will have different start times. At the skippers' meeting, Race Committee will determine when each boat will be allowed to start, based on the boat's PHRF handicap and the length of the race course. Each boat will be given a number (minutes and seconds) that she will have to wait, after the start signal, before she is allowed to start. This is called "***delay time***". Boats that are considered faster designs will have a greater *delay tine*; boats that are considered slower designs will have a smaller *delay time*. In other words, slower designs get a 'head start' over faster designs.

This brings us to the "***delay time clock***". This is any timepiece used to count up (like a stopwatch). It starts at 00:00 and counts up in minutes and seconds. Race Committee will have such a timepiece, and **so should each race boat**. For a pursuit start to be functional, all the clocks (RC and competitors) must start counting up at the same instant. This results in every clock showing the same time. The approximate time of the start of the *delay time clock* will be announced at the skippers' meeting. All boats should be in the vicinity of the start area (buoy S 20) before the stated time, as each boat will need to start their *delay time clock* in unison with RC. RC will sound several short blasts of the

horn to get the racers' attention. Approximately 5-10 seconds later, the 'snowman' flag

will be raised with one long blast of the horn. This marks one minute **before** the starting of the *delay time clock*.

The **START** of the *delay time* clock will be signaled by **LOWERING** the 'snowman' flag and sounding one blast of the horn. At that instant, **each** boat should start their **clock**. The clock will start at 00:00, and will count up. **When your clock counts up to your boat's *delay time*, you are allowed to cross the starting line.** If your boat is on or past the starting line (on the course side of the line) before your *delay time* comes up, you have started too early. RC will announce by radio (VHF ch 71) if you have started too early. To correct the mistake of starting too early, you are required to sail back such that your boat is completely on the start side of the line. Then you may restart.

Sailing the course

The course to be raced was announced at the skippers' meeting. To know which buoys you must sail to, consult the *Buoy and Course List*. This list shows <u>which</u> buoys must be passed, the <u>order</u> in which the buoys are to be passed, and the <u>side</u> (of the <u>boat</u>) on which <u>the buoy is to be left</u>. You may notice some trends. A buoy that was left to port while sailing down towards the dam will be left to starboard when sailing back towards the finish. You may notice that the buoys are always passed on their 'shoreward' side; boats sail on the east side of the red buoys (with the exception of 26A T-S) and sail on the west side of the green buoys. This is to allow a manageable way to shorten the race when (ugh, I mean if) the wind fails. More information follows about shortening the race.

Many skippers who participate in the Club distance races have entered the race buoys' coordinates into their boat's GPS unit or their phones. It can make navigating to the correct buoy more efficient.

Let's look at the *Buoy and Course List* on the following page.

WCSC Distance Course Race   Buoy and Course List (rev Nov 2019)

Buoy #	Most Distant Buoy (<u>rounding mark</u>) for Course:	Lat-Long (approximate)		Approximate full-pool depth at buoy
S 20	**(Start and Finish for all courses)**	N 34° 30.31'	W 082° 48.19'	53 ft.
S 19	B	N 34° 30.05'	W 082° 48.87'	48 ft.
S 15	C	N 34° 29.44'	W 082° 49.70'	40 ft.
S 10	D	N 34° 28.03'	W 082° 49.84'	51 ft.
S 6	E	N 34° 27.31'	W 082° 50.28'	59 ft.
26A T-S	F	N 34° 26.89'	W 082° 51.26'	74 ft.
21	G	N 34° 25.88'	W 082° 51.49'	43 ft.
18	H	N 34° 25.09'	W 082° 50.74'	49 ft.
14	i	N 34° 24.12'	W 082° 50.28'	52 ft.
11	J	N 34° 23.75'	W 082° 51.07'	42 ft.

For each course, the <u>underlined</u> mark is the rounding mark for that course; all other marks for that course are passing marks.

Course "**B**" (1.2 m)   Start → **<u>S 19 (port)</u>** → Fin

Course "**C**" (3.0 m)   Start → S 19 (port) → **<u>S 15 (port)</u>** → S 19 (stb) → Fin

Course "**D**" (5.8 m)   Start → S 19 (port) → S 15 (port) → **<u>S 10 (stb)</u>** → S 15 (stb) → S 19 (stb) → Fin

Course "**E**" (7.4 m)   Start → S 19 (port) → S 15 (port) → S 10 (stb) → **<u>S 6 (stb)</u>** → S 10 (port) → S 15 (stb) → S 19 (stb) → Fin

Course "**F**" (9.2 m)   Start → S 19 (port) → S 15 (port) → S 10 (stb) → S 6 (stb) → **<u>26A T-S (port)</u>** → S 6 (port) → S 10 (port) → S 15 (stb) → S 19 (stb) → Fin

Course "**G**" (11.2 m)   Start → S 19 (port) → S 15 (port) → S 10 (stb) → S 6 (stb) → 26A T-S (port) → **<u>21 (port)</u>** → 26A T-S (stb) → S 6 (port) → S 10 (port) → S 15 (stb) → S 19 (stb) → Fin

Course "**H**" (13.2 m)   Start → S 19 (port) → S 15 (port) → S 10 (stb) → S 6 (stb) → 26A T-S (port) → 21 (port) → **<u>18 (stb)</u>** → 21 (stb) → 26A T-S (stb) → S 6 (port) → S 10 (port) → S 15 (stb) → S 19 (stb) → Fin

Course "**i**" (15.2 m)   Start → S 19 (port) → S 15 (port) → S 10 (stb) → S 6 (stb) → 26A T-S (port) → 21 (port) → 18 (stb) → **<u>14 (stb)</u>** → 18 (port) → 21 (stb) → 26A T-S (stb) → S 6 (port) → S 10 (port) → S 15 (stb) → S 19 (stb) → Fin

Course "**J**" (16.8 m)   Start → S 19 (port) → S 15 (port) → S 10 (stb) → S 6 (stb) → 26A T-S (port) → 21 (port) → 18 (stb) → 14 (stb) → **<u>11 (port)</u>** → 14 (port) → 18 (port) → 21 (stb) → 26A T-S (stb) → S 6 (port) → S 10 (port) → S 15 (stb) → S 19 (stb) → Fin

We will use course "E" for an example. A boat starts the race by crossing the start line (between the RC boat and buoy S 20). From there she will sail to buoy S 19 and pass that buoy by leaving it on the boat's port side. (in racing, this is known as leaving the mark to port) Next, the boat will sail to buoy S 15, and pass that buoy by leaving it on the boat's port side. Next, the boat will sail to buoy S 10, and pass that buoy by leaving it on the boat's starboard side. Next, the boat sails to buoy S 6, and rounds that buoy by leaving it on the boat's starboard side. We used the term "rounds" because buoy S 6 is the most distant mark on this race course (Course E). A boat now continues the race by sailing back towards the finish (the start line and the finish line are the same). The *Buoy and Course List* shows the next mark to be buoy S 10. The boat passes this buoy by leaving it to port (buoy on the boat's port side). The next mark to pass is buoy S 15, which the boat leaves to starboard (buoy on the boat's starboard side). The next mark to pass is buoy S 19, which the boat leaves to starboard (buoy on the boat's starboard side). From there, the race is completed by sailing across the finish line, between the RC boat and buoy S 20. At this point, you have beaten any boats that have not yet finished!

Oh, snap! The wind is dying…

Race Committee has selected the course to be sailed based on the observed and expected wind; less wind, shorter course; more wind, longer course. If, during the race, RC believes the boats will not be able to finish the race at a reasonable time (hot soup or chili is waiting), RC will shorten the race. This is done by positioning the RC boat near a **mark of the course** that the boats are required to pass, but

haven't gotten to yet. RC will display the "S" (shorten) flag

and sound two horns as the boats approach. This becomes the 'new' finish line. The boats finish the race by sailing between the RC boat and the adjacent mark of the race course. RC will make an attempt to inform the fleet by radio (VHF ch 69) if the course is shortened.

Shortening the course will allow the boats to use their engines (**after** finishing) to more quickly return to the Club (did I mention the post-race soup or chili?) Shortening the course will also require recalculating the corrected finish times of the boats. This means that boats might not be ranked in order of their finish.

Glossary

Corrected time   A boat's *elapsed time* <u>after</u> being adjusted for rating by a scoring program

Delay time   Delay time is the amount of time (in minutes and seconds) that a boat must wait after the start of the delay time clock before she can cross the starting line to begin a pursuit start race.

Delay time clock   This is a time piece that counts up from 00:00 (mm:ss), starting when the

'Snow Man' flag is <u>lowered</u> at the beginning of a pursuit start race.

Elapsed Time   The amount of time that transpires between the start of a race and when a boat crosses the finish line.

Pursuit start   A method of starting a sailboat race in which slower boats start proportionately sooner than faster boats so that boats are scored in the order of their finish.