Lake Champlain Yacht Club
Primary Race Officer Manual

Introduction and Credits

This manual is meant to be an aid to those who volunteer to manage races at the Lake Champlain Yacht Club. The manual was envisioned and created by Dale Hyerstay who built it up over the years adding carefully thought-out aids and advice for Primary Race Officers managing races at LCYC. Credit is also due to the U.S. Sailing association. Much of the material is derived from their publications, notably their Racing Rules of Sailing and their Race Management Handbook.

Table of Contents

Equipment List

LCYC Stuff Aboard Dinse:

- Boat hook
- Binoculars
- Clipboard
- Countdown Timer – Automatic
- Display board – Class courses & laps
- Display board – Windward Mark & Compass Bearing
- Display inserts – Letters & numbers
- First-aid kit
- Flags:
  - Race Committee flag
  - Class flags
  - Starting flags
  - Special circumstance flags
- Flashlight
- Hand-held compass
- Hand-held GPS
- Hand-held wind indicator
- Horn – Electric, mounted on boat
- Horns – Handhelds: compressed air & mouth
- Mark boat flags & hand-held radio, horn/whistle, & clipboard
- Notebook – Dinse Log
- Notebook – PRO Manual
- Notebook – Dinse check sheets/ Racer check-in sheets / Score sheets
- Notebook – NORs & SIs
- PFDs for all on board
- Sanitizer lotion
- Searchlight
- Shotgun & black-powder shells (for shortening broad-lake courses)
- Tape recorder
- Toolbox
- VHF radios – Hand-held (2); Mounted (2)

Race Committee's Own Stuff: (Suggested/Optional)

- Watch: digital is best, or analogue with sweep second hand and minute/second marks (WWV – 303-499-7111 or GPS for atomic clock time)
- Food & water/soda (alcoholic beverages are not allowed aboard)
- Sunglasses
- Warm clothes & gloves
- Foul weather gear

Master Check List

(*Consult relevant sections of this manual for more details*)
[Alcoholic beverages are not allowed aboard any LCYC boat]

Beforehand

– Line up helpers. It takes four other people to help you run a good race, three in a pinch – timer; sounder; line-sighter; spotter/recorder. Assign and explain duties.
– Check weather and wind – forecast and observed.
– Check all RC equipment; get it ready to use.
– Decide on official timepiece – use GPS/cell phone for atomic clock time, official timepiece must show seconds.
– Review course options; if possible **discuss with knowledgeable others**.

Skippers Meeting

– Have spotter/recorder there with sign-up sheet; encourage registration.
– Provide handouts, if any.
– Review special protocols, if any.
– **Do not** make any unauthorized changes to published Instructions or Notices.
– State probable start mark/location; do not need to commit at this time.
– Take questions.
– Give sign-up reminder.
– Give time check from official timepiece.

Before Departing

– Go thru pre-race checklist.
– Raise RC flag on center/upper position on RC boat.
– Make sure you have everything and everyone.

On Way to Start Area

– Check wind direction & speed; consider course options. Talk with knowledgeable others onboard or by radio if you need discussion assistance. Decide on course(s).
– Review individual duties with all listening, so they can know what each is to do.
– Check weather forecast again.

At Start Area

- Determine length of line based on number of boats in largest class. See: **Length of Line**: Pg:15**Length of Line**:
- Anchor.
- Read wind direction, average oscillations.
- Adjust scope to *make line perpendicular to the wind* [see 'The Start' for other options].
- Post course(s) – might be different by class; display "O" if using offset.
- Post letter for first mark; if first mark is drop mark, include bearing to drop mark.
- Review duties; focus on procedures; **control distractions**.
- Prepare flags, automatic starter, backup horn, radio, timepiece.
- Continue spotting/recording starters.
- One minute before beginning countdown, drop RC flag and mount orange start-line flag.

Start

– Timer calls countdown times and related procedures/actions.
– Raise and lower start signals sharply.
– At start signal, at least one line-sighter watches down start line for premature starters; have over-early signal and horn ready. If any over early, make one sound and raise signal immediately; you may attempt to notify by hail or radio. Radio announcement is not required. If conditions warrant a general recall, make two sounds and raise signal.
– At each successful start count boats in that class, compare with number recorded.

During Race

– Raise RC flag. Stow start signals. Remove 'start line' flag until needed again for finish.
– Spectate if conditions allow. If follow the fleet, allow time to return and anchor before fastest boat might finish.
– Monitor wind speed and racers' progress; consider need to shorten course; review shorten-course procedures. Be aware of official time limit; know what to do if...

Before Finish

– Review assigned duties: line sighter(s), sounder, timer, recorder.
– Determine proper RC boat position in relation to finish mark and final leg of course. Finish line usually should be shorter than start line. See: **The Finish** Pg:30.
– Anchor.
– Prepare sound maker, hand-held recorder, video camera, finish-time record sheet, video camera

Finish

– Note approaching boats (their #s/names), in what sequence they might cross line. Talk to each other so there are no surprises.
– Note 'hour' and 'minute' of probable finish time so can focus on 'seconds'.
– Review definition of "finish" with all. Line-sighter call crisp "hark" as boat or its relevant equipment crosses line.
– Record finish of boats and times sequentially **in exact order of finish**.
– Compare finisher counts to starter counts to know if all starters are accounted for.
– Ensure that boat names, numbers, finish times and finish sequences correlate without doubt. **Write legibly**.

If a Boat has a Protest

– Make written note of protestor boat and protestee boat on finish time record sheet; if possible note and record if protestor is flying protest flag.
– Notify Protest Committee chair if possible – this is not required of RC; onus is on protestor.

If the Race Committee has a Protest

– Review and refer to "RC Pertinent Race Rules" [see 'The Finish']

Post Finish

– Review finish sheets for accuracy and for legibility.
– Get finish sheets to scorer.
– Stow equipment in proper places. Pickup & deflate finish-line drop mark, if any. Pick up and deflate any race mark if mark-boat cannot do that. At dock, follow and complete boat close-up protocols.

Getting Ready

Assemble Your Group

Contact members of your RC at least a week before the event that you are scheduled to run. Know how many people will be coming in addition to the Racer Volunteer that has signed up to help you. Remind them to bring appropriate clothing for probable weather and temp conditions.

For weeknight night races, locate the mark boat steward and discuss procedures and probable courses, make sure they have a VHF, test the VHF communications from RC boat to mark boat, discuss drop marks required, make sure appropriate flags are on mark boat.

Make sure that all members are aware of when the RC boat will leave the dock.

Weeknights nights: 45 minutes prior to first warning.
Weekends: One hour prior to first warning.

RC Duties

This chart lists tasks necessary to properly run a race, and suggested assignments. Some tasks occur at different times, so a person may perform more than one task.

Four volunteers are the optimum number in addition to the PRO and Mark Boat Steward. If fewer are present, assign tasks to make efficient use of everyone.

Function	PRO	Signaler	Sounder	Timer	Recorder	Mark Steward
Drive the boat	x				x	
Set and retrieve the anchor			x			
Timer	x			x		
Visual signals		x				
Visual signal assist					x	
Sounds			x			
Radio talk with fleet	x					
Radio talk with mark steward.	x					
Recorder 1					x	
Recorder 2			x			
Line Sighter(s)	x		x			
Mark Setter						x

Before Race Day

Check weather forecasts for the time of your race. Try to make sure that all members of your committee are aware of weather considerations.

If you are conducting a weekend race, confirm that if there are to be revised Sailing Instructions (changing the SI in the printed Race Manual) that handout copies are printed and ready to be made available at the skippers meeting.

On Race Day

Arrive early: Weeknights: An hour-and-a-half prior to first warning.
Weekends: One-half hour before skippers meeting.

In appropriate sequence:
– Open RC boat, find RC notebooks, proceed with doing check-off items.
– Check wind direction and speed – forecast and observed.
– Review course options; if possible consult with knowledgeable others.
– Make sure Mark Boat Steward inflates needed marks and has mark boat ready to go.
– Conduct skippers meeting if Notice of Race calls for it. Have LCYC Race Manual SI & NOR ready in case racers have questions; **Do not make any unauthorized changes.**

Leaving The Dock

Leave the dock **not later than 45 minutes before** the first warning on weeknights, or one hour before the first Warning on Weekend Races. The earlier you leave the better – the longer you study wind and weather conditions the more informed you'll be and the easier it will be to set the race course.

When leaving the dock for the racing area, normally use the fairway to leave rather than cutting through the mooring field; this is more visible to all racers.

Communications With The Fleet (PRO preferably, or someone with a good radio voice)

Radio communications with fleet should be made using **VHF channel 72**. If possible, the fleet should hear the same voice at all times. The following info should be given once you are anchored on station:

– **Your location**: *"Good morning/afternoon/evening LCYC racers. This is the Race Committee. We are on station at the south end of the bay near the C mark."*

– **Course to first mark** & **weather mark letter**, once the weather mark has been set and the course established: *"This is the Race Committee. Our weather mark is the S mark. The magnetic course to the mark is 357 degrees. Courses for all fleets are posted on the committee boat."*

– **Info about the upcoming start sequence**: (a) You expect to be on schedule; or (b) you expect to be under postponement. *(a) "This is the Race Committee. At the word 'mark' we have 1755 as the official time…'mark'. We are on schedule for a first warning at 1810, all other classes to follow."* Or *(b) "This is the Race Committee. At the word 'mark' we have 1755 as the official time. Due to present wind conditions (or thunderstorms in the area, or any other reason) it is our intention to postpone."*

Limit the pre-start information to the above three. Try not to be over-talkative. Also, normally avoid getting into a two-way conversation with any boat – the entire fleet can hear this, and soon there will

be a chat group going that will only serve to distract you from your pre-start duties for which you need to be very focused.

Use your discretion in answering any question from a racer for which the answer is in official manuals/documents they should have aboard, or that was discussed at the skippers meeting they probably missed (perhaps for good reason), or that is posted on the boat. Race Committee staff are under no obligation to respond to any non-emergency question the answer to which are already in an official source available to all racers. Politely and briefly refer them to the appropriate official info source, or even, if no emergency is apparent, politely ignore the question.

Use channel 77 on the second VHF radio for communications with other RC boats, mark boats or assistants (including a 'knowledgeable other'). These communications are not meant to be heard by the fleet and may be spoken by anyone on the RC that is working with mark boats setting marks, etc.

For radio communication between the RC boat and the mark boat the following are clearly understood and distinctive, and for consistency they should be used uniformly by all RCs:

RC Boat — 'Houston'
Mark Boat — 'Apollo'

The Start

AT THE START AREA

Determine Where The Start Line Will Be

The first leg of the race should normally be a beat to windward. The only exceptions are the Schuyler Island, Macdonough and Hot Ruddered Bum races that are traditional set courses that start at the C mark regardless of the wind direction, as outlined in their Notices of Race.

On Wednesday nights, determine which part of the bay is the leeward quadrant – the side of the bay that is furthest away from the direction of the wind. That will be the starting area. If possible, use the permanent mark in that area for the pin end of the starting line (S, E, C, W). You may have to use a drop mark for the pin end in order to stay square to the wind.

[**For various options for setting the length and angle** of an appropriate starting line see the next section of this manual.]

Once the starting area is determined, decide what to use as the windward mark. If possible this mark should be directly to windward of the center of the start line. If a permanent mark, C,S,E or W, lines up, use it. If not, use a drop mark and direct the mark boat by radio where to place it.
Post letter of the windward mark on the stern. If it is a drop mark, also post the bearing to the drop mark on the stern.

For weekend races choose a course from the "Broad Lake Course" section of this manual. First determine the wind direction, go to that section of the course list, then decide which start location provides the best course option for the race. For example, if you have a SW wind you can choose to start at the B mark off the Burlington breakwater, the E mark in the east bay, or the P mark off Shelburne Pt., each of which offers different course configurations, lengths, and probable elapsed times.

Anchoring The Boat For a Windward Start [See **Setting the Start Line** Pg: 13]

From the approximate spot where the RC boat should end up, (the pin approx 90 degrees to port) point the boat into the wind and motor ahead far enough to provide at least 3 to 1 scope, especially if strong wind and waves are expected. Stop the boat, lower the anchor, back down to a point where the starting line will be square to the wind. After the anchor is set and the boat settles, refine the angle of the line to the wind according to the desired starting line strategy by letting out or taking up anchor line using one of the windlass controls, either on the foredeck or near the helm. When taking in anchor rode, assist the windlass with forward prop thrust to take the load off the windlass motor. Again, make sure that the anchor is set.

Wind & Course Length/Duration Considerations

For **Wednesday nights** the optimum length of time to be racing is approx 1.5 hours. For **weekend fleet races**, the optimum race duration is 2.5 to 4 hours. For **Etchells and Sportboat races** a format of 45 minute races is preferred, as many as time permits.

For **Wednesday and weekend fleet races** it is usually better to select a longer course and shorten than to have a great breeze and have the fleet in too early because the course was too short. However, be ready to shorten course whenever it looks like the wind is going to die out. After starting a weekend fleet race it is prudent to pick up anchor and motor out into the lake to monitor wind conditions and the fleet's progress. Know where and how to shorten should the wind go light.

[**See the "After the Start" section of this manual** for guidelines on accounting for the fleet, changing course after the start, shortening course, and abandoning the race.]

Course Selection

On **Wednesday nights** the Windward/Leeward (WL) course option is used most often, followed by Triangle (T), Triangle Windward Leeward (TWL), and sometimes only Windward (W) for very light conditions.

Courses for One-Design Races are typically windward-leeward with one to two nautical mile legs. A **table of course length options** is located behind/after the Broad Lake Courses in the **"Lake Courses"** section of this manual. This table helps with choosing the appropriate course length and number of legs based on probable boat speed.

Weekend Race courses are chosen from the Broad Lake Courses in the **"Lake Courses"** section of this manual. The course data in this section is highly detailed to help the RC select the best of the many course options. To use this listing of course options requires good information of existing or probable wind direction and wind speed. (There is a succinct course listing for racers on the LCYC website under 'Racing' / 'Documents'.)

The **'NM Sailed'** column shows the nautical miles of each leg, including a 'tacking factor' for increased distance sailed to windward. The **'Total NM'** column shows two total distances for each course, the full course distance, and a shortened course distance. The **'Time@5 knots'** column shows the total course time for the full course, and for a shortened course, for a boat sailing an average speed of 5 knots.

To choose a course from among the many options, first go to the segment for the existing or expected wind direction. Then, using the known or expected wind speed to judge the ability of slow- to mid-speed boats to average 5 knots in that wind, peruse the 'Ttl NM' and 'Time@5knts' numbers for each course option for that wind direction to eliminate courses that would be either too short or too long in time or distance. From among the remaining possible courses choose one or two that would provide whatever 'character' of race that might be desired by either the RC or the racers. Limited course options might even be presented to racers at the skippers meeting for their opinions – if this is done, get opinions from more than the typically vocal few. **Do not create a course that is not a printed and posted option** except as noted on the next page.

Posting The Course

For **Wednesday races,** class and course information is displayed on the side of the RC boat opposite the starting line. Consult LCYC Race Manual for course board description and how to display class and course information. Display the letter for the first mark – S, C, E, W, P or D (drop) – on the stern of the RC boat. If the first mark is a drop mark, also display the bearing to the drop mark on the stern. Broadcast this same information to racers on VHF channel 72.

For **normal weekend races** post the course number on side of the RC boat opposite the starting line.

Changing the Course

If you have designated the course and then need to change it, what you need to do depends on where you are in the starting sequence. Whatever you do, be sure that the competitors have an adequate opportunity to see the new course designation. (A course change might be the same marks but more or fewer legs.)

If it is **before the warning signal**, RRS rule 27.1 permits the replacement of one course signal with another. By LCYC rule 3.2, if a standard course has already been posted and the RC wants to change to another standard course, or if the RC wants to designate an alternate non-standard course (permitted only on the water), it may do so before the warning signal of the first class to start. The new standard or alternate non-standard course will be announced as follows: (1) Raise the 'L' signal with one sound; (2) The new course will be orally communicated to each boat and displayed on the starboard side of the RC boat; (3) After all boats have been notified the 'L' signal will be lowered. Boats may be notified by radio to come by the RC boat to obtain the new course information. Lowering flag L is done without a signal and is not a timed event. If the start sequence had not begun, or if the start was under Postponement, normal starting procedures for the respective situation would ensue when appropriate.

If a course change is needed **after the warning signal but before the start**, first postpone, then follow the above procedure.

Mark Boat And Setting Course Marks

A Race Steward (RS) is provided to assist in setting marks for weeknight races. The RS's designation on the race course is "Apollo". The RS is responsible for setting all of the following marks if needed:

- Drop weather mark
- The offset mark
- A wing mark (or reach mark) in triangle courses
- A starting line/rounding mark
- A finish line drop mark

The **mark boat** procedure for establishing the weather mark is as follows:

Load up the mark boat with the following items:
- An RC flag and finish line flag (in case RS must serve as a finish line RC boat)
- Appropriate marks with anchors and rodes
- Handheld VHF tuned to channel 77
- Boat anchor and rode

Proceed to the weather mark area appropriate for the wind direction:
- North winds: Go to the S mark area
- South winds: Go to the C mark area
- West winds: Go to the W mark area
- East winds: Go to the E mark area

Make radio contact with the RC boat (usually on Ch 77) to tell them you are on station. Once the RC boat is anchored, position yourself so that you are directly upwind of an imaginary spot just to the right of the RC boat. This should approximate the center of the starting line. Take your time. Double-check your setting. Once you are satisfied with your location drop the anchor with the rode and mark attached. Be sure that you have not drifted too far downwind. In higher winds you will drift quickly, so you may have to go back upwind and start again. Most importantly, move away from the mark and line it up with something on shore to be sure that it is not drifting. Let the RC know when the mark is set.

Proceed back to RC only if they need you or ask you to come there. Otherwise stay near the weather mark, but clear of race course, to be available for a last-minute change of mark location due to a persistent wind shift.

Instructions for setting an offset mark are found on page 25.

Drop Marks you may need
- A large mark with anchor and rode for windward mark
- A mark with anchor and rode for start line pin end
- A mark for offset mark
- A mark for finish line end

Setting the Start Line
General:

No duty or function of a race committee is as important as setting a good starting line. A poor starting line can cause infractions of the racing rules, premature starts, or the need for a general recall, and can prejudice competitors by depriving them of their right to an equal opportunity to start properly.

However, **perfection is not always practical**. Time should not be wasted trying to make the angle of the line perfect if normal oscillations are likely to nullify the attempt. Set the line on the average wind direction. Strive for perfection, but do not insist upon it to the detriment of getting the race started on time.

Setting a Square Line:
The perfect line is one that a yacht can cross and be in an equally favorable position with every other yacht along the line. In most situations the line should be set perpendicular (90°) to the wind. See pages 20-21 for special situations.

Good racing skippers are quick to size up a line and take any advantage it offers. If boats bunch up at one end, there is a certain advantage to that end. When setting up the line, think as a competitor would and, if you are to favor one end or the other, slightly favor the less desirable end, if there is one. Seeking advice from knowledgeable others in the race fleet (ex. Experienced PROs, fleet captains, etc) can help you set a good starting line.

To set a good starting line it is necessary to know:
(a) Average direction of the true wind;
(b) Length of line needed to accommodate the yachts in existing wind and sea conditions (pages 18-19).
(c) Whether there will be a tendency for the fleet to favor one end of a line set 90° to the wind due to tactical considerations (such as whether the first mark is to the right or left of the center of the starting line, whether the port or starboard tack will be favored up the course, etc.).

In most LCYC racing situations the mark end of the line will be already set and the start line will be set by positioning the Race Committee boat. To do this, first determine the length the line should be (see page 15), and then anchor with enough scope so you can let out or take up anchor rode such that the starting line between the mark and the starting line flag is at the desired orientation to the wind or the course.

Prior to starting the countdown, periodically check to make sure (a) that the wind has not shifted more than was the normal oscillation when you first set the line, and (b) that you are not dragging. If the wind has shifted, or if you are dragging, you may have to delay the start.

Moving a Starting Mark:
The RC boat is considered a starting mark and cannot be moved after the preparatory signal.

If the Sailing Instructions call for starts at 5-minute intervals (or less), and **you get a wind shift** after the first preparatory signal, you have **several alternatives**:
– Postpone, and then restart
– Abandon prior to the start, and then restart
– General Recall after the start if there are unidentified premature starters, then restarts
– Abandon after the start, and then restart

The most commonly used alternative is to **postpone and restart**. On the other hand, if the wind shift is **within a couple of minutes** of the start, you may wait until the start to see whether the line has caused boats to start prematurely and, if so, then using a **general recall** allows time to adjust the starting line and to prepare the signal for any of several starting penalties that may apply to the re-start.

If the wind shift is **closer to five minutes** prior to the start, you gain little by waiting until after the start to use a general recall.

Wind Direction:

Wind either **shifts** (tends right, "clocking" or "veering" - or left, "backing"), or **oscillates** (back and forth). Oscillations may be large, so it is important to **establish a mean wind direction** by taking and recording wind direction over a period of time. Begin taking wind readings before you anchor, every 10 minutes while waiting to start a countdown, then every 5 minutes before the first warning signal. These periodic checks will reveal any gradual veering or backing shift of the mean wind direction.

The most reliable combination of equipment for determining wind direction is a hand-bearing or boat-mounted compass and the Windex mounted on the mast.

Length of Line**:**

The **proper length** of the starting line depends on a combination of the number and length of yachts racing, velocity of wind, height of seas, and type of racing (see table on pages 18-19).

The starting line should be long enough so there will be no crowding. **A line that is too long encourages barging**. If one end of the line is a "favored," the longer the line the more favored that end is. If there is any error in the length of the line **it is best to err on the short side**.

As a rule of thumb **in moderate air**, set the line at least as long as the aggregate length of the longest class expected to start. For example, 20 yachts, each 30 feet long, require about 600 feet for a clear start; the same line will accommodate 40 yachts 15 feet long. **In heavy air and steep seas**, set the line as much as 1.5 times the aggregate length of the competing boats; **in very light air**, reduce it.

To set a line using a GPS, first decide whether to anchor the RC boat and then set the pin end mark, or to first set the pin end mark and then anchor the RC boat. (See page 15 for instructions on using the GPS "Man Overboard" function for this purpose.)

Assuming you anchor the RC boat first, the mark-setting boat would approach close to the RC boat, press the "Man Overboard" button on the GPS, and motor toward the desired pin position until the chosen distance shows on the GPS, then anchor the mark using standard anchoring procedures.

Assuming the pin end is set first, at slow speed pass the RC boat close by the pin mark and press the "Man Overboard" button on the GPS when the helmsman is abeam of the pin mark; continue toward the desired RC boat position, turning sharply to windward when the desired distance shows on the GPS, then proceed with normal anchoring procedures.

Use the charts on the pages 18 & 19 to select the line length based on the number of boats in the largest class – the chart uses 1.5 times the number of boats and an average boat length of 30 feet.

Using a GPS to set the Start Line Length

To Activate the GPS and To Set a 'MOB' Waypoint:

– Turn on (Press button with red symbol – wait for screen to activate);
– Press 'PAGE' to continue;

– Wait for GPS to acquire satellites (shadow satellite bars will turn solid when locked in).

– Press 'PAGE' once (this screen format is too small), so
– Press 'PAGE' once more (The top part of this screen will show large digits)

– Press and hold 'NAV' to activate 'MOB' (Man Overboard). Usually the screen will show a small bit of footage even if GPS is not moving – this is normal … no GPS reading is exact. Once the GPS begins to move the screen will show the decimal feet it has moved from the point where MOB was activated.

To Set the Length of a Starting Line or Windward Leg:

(A) To Set the Committee Boat in Relation to the Pin Mark:

When the location of the start-line-flag pole is in line with the line side of the pin mark activate the 'MOB' button. Motor at right angle to the wind as slowly as possible in the direction of the Committee-Boat end of the line until the requisite line length in feet or decimal NM shows on the GPS screen, then turn to windward and motor upwind to the appropriate location to drop anchor.

(B) To Set the Pin Mark in Relation to the Committee Boat:

With the GPS aboard the Mark Boat, activate the 'MOB' button while immediately adjacent to the line-side of the Committee Boat and motor the Mark Boat at right angle to the wind in the direction of the pin-mark end of the start line until the requisite length in feet or decimal NM shows on the GPS screen, then turn into the wind and motor upwind to the appropriate location to drop the pin-mark anchor.

(C) To Set the Windward (Leeward) Mark in Relation to the Start Line:

With the GPS aboard the Mark Boat, when the Mark Boat is in the middle of and on the start line activate the 'MOB' button and motor directly into the wind until the designated distance shows on the GPS screen. Contact the Committee Boat by radio for directions in refining the mark location in relation to the wind direction, then drop the mark anchor as instructed.

To locate a Leeward Mark follow the above directions, only directly to leeward.

(D) To Set a Triangle Wing Mark:

With the GPS aboard the Mark Boat, when the Mark Boat is in the middle of and on the start line motor directly into the wind until reaching the midpoint of the distance from the start line to the windward mark (use GPS if desired); with any prior MOB waypoint cleared, press the 'MOB' button while turning 90° to port and motor until the designated distance shows on the GPS screen and drop the mark anchor.

To Remove the MOB Waypoint from the List of Waypoints:

– Press QUIT to exit the MOB page.

– Press MENU two times to get to Main Menu:

– Use round direction key to move the selection bar to ‘Points’;
– Press ENTER to open ‘Points’ menu;

– Move selection bar (if necessary) to ‘Waypoints’;
– Press ENTER to open ‘Nearest Waypoints’ menu;

– Move selection bar (if necessary) to ‘MOB MARK’;
– Press ENTER to open data sheet for ‘MOB’;

–At bottom of page move selector bar to ‘Delete’;
– Press ENTER to activate ‘Delete’;
– Question will appear ‘Do you really want to delete waypoint MOB?
– ‘Yes” should be pre-selected. Press ENTER activate ‘Delete’;

– ‘Nearest Waypoint’ listing will appear with ‘MOB MARK deleted.

To Shut Down the GPS:

– Press and hold button with red symbol.

START-LINE LENGTH OPTIONS in FEET

Average boat length = 30 ft

Line Length in Feet at 1.0 and 1.5 times Number of Boats

Boats		x 1.0	x 1.5
3	=	90	135
4	=	120	180
5	=	150	225
6	=	180	270
7	=	210	315
8	=	240	360
9	=	270	405
10	=	300	450
11	=	330	495
12	=	360	540
13	=	390	585
14	=	420	630
15	=	450	675
16	=	480	720
17	=	510	765
18	=	540	810
19	=	570	855
20	=	600	900
21	=	630	945
22	=	600	990
23	=	690	1035
24	=	720	1080
25	=	750	1125
26	=	780	1170
27	=	810	1215
28	=	840	1260
29	=	870	1305
30	=	900	1350
31	=	930	1395
32	=	960	1440
33	=	990	1485
34	=	1020	1530
35	=	1050	1575
36	=	1080	1620
37	=	1110	1665
38	=	1140	1710
39	=	1170	1755
40	=	1200	1800

Boats		x 1.0	x 1.5
41	=	1230	1845
42	=	1260	1890
43	=	1290	1935
44	=	1320	1980
45	=	1350	2025
46	=	1380	2070
47	=	1410	2115
48	=	1440	2160
49	=	1470	2205
50	=	1500	2250
51	=	1530	2295
52	=	1560	2340
53	=	1590	2385
54	=	1620	2430
55	=	1650	2475
56	=	1680	2520
57	=	1710	2565
58	=	1740	2610
59	=	1770	2655
60	=	1800	2700
61	=	1830	2745
62	=	1860	2790
63	=	1890	2835
64	=	1920	2880
65	=	1950	2925
66	=	1980	2970
67	=	2010	3015
68	=	2040	3060
69	=	2070	3105
70	=	2100	3150
71	=	2130	3195
72	=	2160	3240
73	=	2190	3285
74	=	2220	3330
75	=	2250	3375
76	=	2280	3420
77	=	2310	3465
78	=	2340	3510
79	=	2370	3555
80	=	2400	3600

START-LINE LENGTH OPTIONS in NM

1 ft = 0.00016457883 nm
30 ft = 0.004937365 nm (1.0 boat length)
45 ft = 0.0074060475 nm (1.5 boat lengths)

Line Length in Nautical Miles at 1.0 and 1.5 times Number of Boats

Boats		x 1.0	x 1.5	Boats		x 1.0	x 1.5
3	=	0.015	0.022	41	=	0.202	0.304
4	=	0.020	0.030	42	=	0.207	0.311
5	=	0.025	0.037	43	=	0.212	0.318
6	=	0.030	0.044	44	=	0.217	0.326
7	=	0.035	0.052	45	=	0.222	0.333
8	=	0.039	0.059	46	=	0.227	0.341
9	=	0.044	0.067	47	=	0.232	0.348
10	=	0.049	0.074	48	=	0.237	0.355
11	=	0.045	0.081	49	=	0.242	0.363
12	=	0.059	0.089	50	=	0.247	0.370
13	=	0.064	0.096	51	=	0.252	0.378
14	=	0.069	0.104	52	=	0.257	0.385
15	=	0.074	0.111	53	=	0.262	0.393
16	=	0.079	0.118	54	=	0.267	0.400
17	=	0.084	0.126	55	=	0.272	0.407
18	=	0.089	0.133	56	=	0.276	0.415
19	=	0.094	0.141	57	=	0.281	0.422
20	=	0.099	0.148	58	=	0.286	0.430
21	=	0.104	0.156	59	=	0.291	0.437
22	=	0.109	0.163	60	=	0.296	0.444
23	=	0.114	0.170	61	=	0.301	0.452
24	=	0.118	0.178	62	=	0.306	0.459
25	=	0.123	0.185	63	=	0.311	0.467
26	=	0.128	0.193	64	=	0.316	0.474
27	=	0.133	0.200	65	=	0.321	0.481
28	=	0.138	0.207	66	=	0.326	0.489
29	=	0.143	0.215	67	=	0.311	0.496
30	=	0.148	0.222	68	=	0.336	0.504
31	=	0.153	0.230	69	=	0.341	0.511
32	=	0.158	0.237	70	=	0.346	0.518
33	=	0.163	0.244	71	=	0.351	0.526
34	=	0.168	0.252	72	=	0.355	0.533
35	=	0.173	0.259	73	=	0.360	0.541
36	=	0.178	0.267	74	=	0.365	0.548
37	=	0.183	0.274	75	=	0.370	0.555
38	=	0.188	0.281	76	=	0.375	0.563
39	=	0.193	0.289	77	=	0.380	0.570
40	=	0.197	0.296	78	=	0.385	0.578
				79	=	0.390	0.585
				80	=	0.395	0.592

Windward Starts:

On a windward start the line should be set **square to the average direction of the wind** rather than relative to the first mark of the course.

The line should be **angled, if necessary**, to encourage the fleet to spread evenly down the line. Usually, favoring the port end by 3° is sufficient, even in large fleets. But the shorter the first leg, and the longer the starting line, the more it becomes necessary to favor one end of the line over the other.

If there are no shore, wind, current or tactical considerations, and **if the port tack is the long tack**, competitors may prefer the starboard end to minimize risk of being carried past the port layline; therefore, any favoring should be for the port end of the line. The opposite is true **if starboard tack is the long tack**. With marks you set, try to achieve equal time on each tack going to weather. If both tacks are approximately equal, beware of overly favoring one end or another. Overly favoring one end will cause competitors to abandon other tactics for the favored end.

Downwind Starts:

Offwind starts for most closed-course racing have not been used in recent years. Three possible exceptions for us are the **Commodore Macdonough**, the **Schuyler Island** and the **Hot Ruddered Bum** races, each of which starts at the 'C' mark regardless of the wind direction.

If you do have to set a downwind start, the **first rule of thumb** is to **set the line square to the direction to the first mark**, and **make the line long enough** to give everyone a chance for clear air.

You may find, however, that a line square to the first downwind mark, especially if it is also square to the wind, will cause everyone to want to start on starboard jibe. Since the rules on "barging" come into play, the pin end of the line may see more action than desired.

A solution is to **favor the starboard end** of the line. How much to favor depends on the type of start. If the first mark is directly downwind, the port end of the line may be set as much a 10° to 20° further upwind than the starboard end of the line. For example, if the heading to the first mark is 180° from the center of the line, a square line would have the port end of the starting line bearing 090° from the RC boat at the starboard end. Instead, you might wish to have the port end bear 080°, 075°, or even 070°. Some experiments have shown that it was necessary to favor the starboard end by approximately 20° before boats were interested in using the entire lane. If everyone wants to be at the port end, then you may need to favor the starboard end even more. Some boats will always want to start at the port end, then jibe to get clear air on port jibe, rather than being blanketed by starboard tack boats.

Reaching Starts**:**

If a start is a reach **you may wish to favor the leeward end** so that the boats starting to leeward can sail a closer reach although they risk being blanketed by the windward boats. Favoring the leeward end tends to equalize the benefits to the yachts starting at various points along the line – trading off closer reaching for windward position.

If the wind is forward of the beam you may not have to favor the leeward end of the starting line as much as if the wind is aft of the beam. For example, if the true wind is 70° to the left or right of the course to the first mark, you may have to favor the leeward end by 20°. But if the true wind is 120° you may have to favor the leeward end by as much as 30°.

Except for a dead downwind start, **also consider** whether the rhumb line course will be sailed on starboard or port tack, and how this affects pre-start maneuvering. If the leg will be sailed on port, it may be possible to favor the starboard end of the line enough to entice starters to use the whole line, but not enough to enable a lone yacht to run the line on starboard.

Checking In The Fleet
Because we have printed rosters of registered boats, racers are not required to check in with the committee boat. Before the start, the 'Recorder' of the RC should obtain a list of all registered competitors. This list should be in a notebook on board the RC boat. On the water before the start use this list to record each sail number seen in the vicinity of the RC boat.

Verbal Communications From The RC Boat
Communications from the RC boat to the fleet should be made on VHF channel 72, and normally should be made only the PRO. Try not to be over-talkative. Repeat advisements as necessary or advisable. Also try to avoid discussions back and forth as this distracts you from the jobs at hand, duties for which you need to be very focused.

Use your discretion in answering any questions from racers for which the answer is in official manuals/documents they should have aboard, or that was discussed at the skippers meeting they probably missed (perhaps for good reason), or that is posted on the boat. Briefly refer them to the appropriate LCYC Race Manual that contains the Sailing Instructions and applicable Notice of Race.

Do not take advice from competitors. Your response as PRO should simply be " Thanks we'll take that under advisement". If you have questions about any aspect of the race, there will likely be another PRO that is racing. Contact him or her on Channel 72 and request that they go to the "Alternate Channel" for discussion. The alternate channel is 77, and is to be used for any race organization talks.

Use channel 77 for communications with other RC boats, mark boats or assistants. These communications are not meant to be heard by the fleet and may be spoken by anyone on the RC that is working with mark boats, setting marks etc. RC boat is 'Houston'; mark boat is 'Apollo'.

Postponement
The AP (Answering Pennant) is your best friend. If for any reason something goes wrong – you're not ready; no wind when the first warning is scheduled; wind shifts; mark moves; ducks on the starting line – you may postpone as needed by raising flag AP accompanied by 2 sounds. You may do this anytime up until the starting signal for a class. You may not postpone once the start signal is put up. The proper procedure after that start would be Abandonment, discussed later.

The AP may stay up for any amount of time. After a long postponement, to alert boats that a race will begin soon, the orange starting line flag will be displayed with repetitive sounds at least four minutes before the AP signal is lowered. The Warning signal for the next class will be made one minute after the AP has been lowered.

You may also postpone in between starts if the wind shifts enough to make the line badly favored at one end or the other.

If you postpone a race, the specified time limit for finishing the race remains the same.

Safety Concerns - Code Flag Y [See RRS Rule 40]
The Regatta Committee has determined that the RC shall not be responsible for deciding whether or not competitors wear PFDs while racing. RRS 4 states: "The responsibility for a boat's decision to participate in a race or to continue to race is hers alone." And RRS 1.2 specifies that: "A boat shall carry adequate life-saving equipment for all persons on board . . ." and that "Each competitor is individually responsible for wearing a personal flotation device adequate for the conditions." Therefore code flag Y will not be used in LCYC races conducted by its RC.

The Start Sequence
Races are started using RRS rule 26 unless otherwise specified in the Notice of Race.

Individual Recalls [See RRS Rule 29.1]
If, at the starting signal, any part of the hull, crew, or equipment of a boat is on the course side (OCS) of the starting line, or she must comply with rule 30.1, the following procedures apply:

1 – Promptly display flag X with one sound. [This is the only required notification - radio alert is an RC courtesy.] The flag should remain displayed until each OCS boat is completely on the pre-start side of the starting line or its extensions, and has complied with rule 30.1 if it applies, but no later than four minutes after the starting signal or one minute before any later starting signal, whichever is earlier.
2 – Write down the sail numbers.
3 – You may attempt to notify OCS boats by stating their sail numbers clearly and succinctly on channel 72 – repeat the numbers a second time.
4 – Once a boat is completely on the pre-start side of the starting line or its extensions, and has complied with rule 30.1 if it applies, you may state on the radio that it is clear.
5 – When all such boats have cleared or complied, or four minutes after the starting signal or one minute before an later starting signal, whichever is earlier, flag X comes down with no sound.
6 – Boats that do not restart properly shall be scored as OCS.
7 – Attempting to inform the fleet "all clear" may cause confusion. If no boat is OCS, the RC should make no announcement.

General Recalls [See RRS Rule 29.2]
If at the starting signal you are unable to identify boats that are on the course side (OCS) of the starting line or to which rule 30.1 applies, or if there has been and error in the starting sequence, you may signal a general recall. If you choose this action, the following procedures apply:

1 – Display the First Substitute with 2 sounds.
2 – When you determine that all boats are aware of the General Recall, lower the First Substitute with 1 sound. Exactly one minute after this signal is lowered, proceed with the warning signal for the next scheduled class.
3 – Immediately after the last scheduled class has started, the recalled classes will start in the order that they were recalled.

General

In highly competitive starts, or for aggressive fleets, the RC may institute one of the following to help avoid repeated general recalls. What reduces general recalls is that good starts continue to be rewarded, while OCS boats' starts are penalized more severely. A boat that is recalled finds itself behind almost every other boat.

Extreme care must be taken by the RC not to use these rules where the reason for recalls may be the fault of the race committee itself (such as a line that is not square or is too short, or a wind shift shortly before the starting signal that will cause the line to be biased and boats to be early). Be alert! If you see such a situation developing, you should postpone or abandon the race *before* the starting signal.

Round-an-End Rule [See RRS Rule 30.1]

This rule is invoked by displaying flag I as the preparatory signal. If any part of a boat's hull, crew, or equipment is on the course side of the starting line or its extensions during the minute before her starting signal, she shall thereafter sail from the course side across an extension to the pre-start side before starting.

It is very important that the RC record the sail numbers of those boats that fall under this rule and watch carefully that they actually sail around and end and start properly.

20% Penalty Rule [See RRS Rule 30.2]

This rule is invoked by displaying flag Z as the preparatory signal. No part of a boat's hull, crew or equipment shall be in the triangle formed the ends of the starting line and the first mark during the minute before her starting signal. If a boat breaks this rule and is identified, she shall receive, without a hearing, a 20% scoring penalty calculated as stated in rule 44.3(c). She shall be penalized even if the race is restarted, resailed or rescheduled, but not if it is postponed or abandoned before the starting signal. This rule may be used in conjunction with rule 30.1; only those in the triangle are given the 20% penalty.

This rule is a very effective way to control large fleets.

Black Flag Rule [See RRS Rule 30.3]

This rule is invoked by displaying a black flag as the preparatory signal. The criteria for this rule are the same as for the 20% rule, but the penalty is that the boat is disqualified without a hearing. If rule 30.3 applies, rule 29.1 does not.

This harsh rule is recommended only for a large fleet of a one-design class that has a history of repeated general recalls. The rule is unpopular even with the fleets in which it is used and for good reason. It has in many instances been used by race committees as a substitute for good race management techniques, to the serious disadvantage of the competitors and the event.

Offset Mark:

At LCYC, use of an offset mark is optional and would be used only at the windward mark of a windward/leeward course and only on weeknight races.

If used, the offset mark must be passed after rounding the windward mark. The purpose of the offset is to create a short reach that allows boats to clear some of the fleet approaching the windward mark on the layline and to prevent gybe sets at the windward mark, which are slow and somewhat dangerous in larger fleets.

The offset mark is set 5 to 6 boat-lengths* to port of the windward mark, at an angle approximately 90° to 110° to the course.

The RC will announce the use an offset mark by displaying the letter “O” on the course board.

Leeward Gate:

At LCYC use of a leeward gate is optional and would be used only at the leeward end of a windward/leeward course and only on weeknight night races.

A leeward gate consists of two marks between which boats must pass. The marks of the gate should be square to the wind and should be 6 to 8 boat lengths* apart to avoid problems with three-boat-length zones for right-of-way at a mark rounding. For very large (more than 25-60 boats depending on boat size) one design fleets, or multi-hulls, the gate should be somewhat wider.

Leeward gates are set in place of the leeward mark. The boats must pass through the gate, but may then round either of the gate marks.

Leeward gates give tactical options otherwise unavailable to a boat that is fast, but trailing. Because the boat has a choice, she will attempt to determine which mark is favored. The wind may favor one mark, and yet the boat may wish to be on the opposite side of the course proceeding up the next beat.

Leeward gates have an additional advantage since they afford an opportunity to round either of two marks. If the gate is properly set, there are fewer boats rounding the same mark, and generally fewer protests.

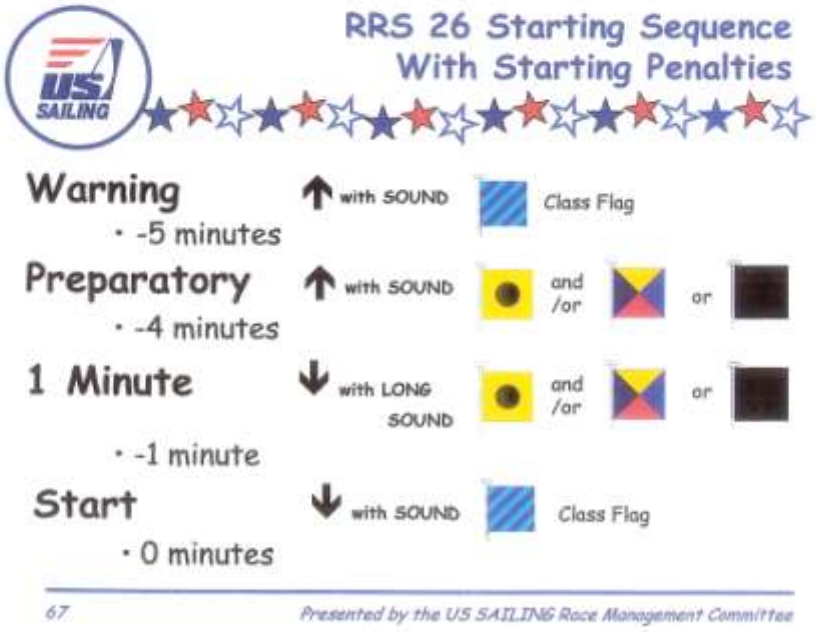
Should the RC need to shorten the course, the gate could also be used as the finish line.

The RC will announce the use of a gate by displaying the letter “G” on the coarse board.

* For LCYC purposes, an average boat length is considered to be 30 feet.

Countdowns

Starting Sequence Signals



Common Race Signals

Preparatory Signals

↑• ↓—

P Preparatory signal.

↑• ↓—

I Rule 30.1 is in effect.

↑• ↓—

Z Rule 30.2 is in effect.

↑• ↓—

Black flag. Rule 30.3 is in effect.

Recall Signals

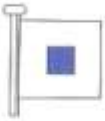
↑•

X Individual recall.

↑•• ↓•

First Substitute General recall. The warning signal will be made 1 minute after removal.

Shortened Course



↑••

S The course has been shortened. Rule 32.2 is in effect.

Changing the Next Leg

- - - - -

C The position of the next *mark* has been changed:

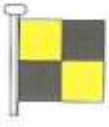
to starboard;

to port;

to decrease the length of the leg;

to increase the length of the leg.

Other Signals



↑•

L Ashore: A notice to competitors has been posted.

Afloat: Come within hail or follow this boat.

- - - - -

M The object displaying this signal replaces a missing *mark*.

↑•

Y Wear a personal flotation device.

(no sound)

Blue flag or shape. This race committee boat is in position at the finishing line.

The flag is the official signal; the racers will set their own watches from this signal, so it must be raised and lowered sharply at the precise time. The person on the clock should keep the flag handlers informed of the progression of time, and during the minute before a signal should say the quarter minutes, then should count clearly the last ten seconds, marking the precise zero count with the word “HARK” or “MARK.”

The horn is not mandatory and might be absent — its sole purpose is to call attention to the flag signal being raised. Another sound signal (usually an air horn) may be used if the horn fails or is not available, and should be at hand.

After The Start

Accounting for the fleet:

- Note number starting with each class and total boats starting;
- Reconcile with sign-in sheet or check-off roster.
- Note boats switching classes, starting with wrong class, came to start area but did not start.
- Observe and record dropouts. They should report to you but often do not.

Changing course after the start: [see RRS 33]

- There are provisions in the rules to do this. Generally, though, don't do it unless there is strong reason to do so, such as a major wind shift, and you have capability to effect the change.
- Follow the rules.
- **Post "C" flag with repetitive sounds. Signal all boats.**
- Display new compass bearing or a green triangular flag/board for change to starboard or a red rectangular flag/board for change to port.

Shortening Course: [see RRS 32]

- Objective is fair race with finish for all classes
- Shorten so that there is a high probability that slowest boats will finish within time limit.
- When in doubt, shorten.
- Try to get people to burger burns before it gets too late.
- When winds are light or expected to drop, pick a course that is easy to shorten.
- Keep track of the fleet's progress but stay in position to establish a finish line before first boat gets there. Be aware of committee boat speed limitations.
- Shorten at a mark of the designated course on side to be rounded if sailing complete course.
- **Signal two sounds and display "S" flag. [See Note below.]** Signal when lead boats are within range to hear it.
- Signal as early as possible (while proceeding to shorten-finish mark is okay).
- Watch your wake; shortening is likeliest in light winds when wakes are most damaging.
- Allow time to set finish line before first boats arrive.

Abandoning: [see RRS 32]

- Abandon before start if there is no wind after reasonable postponement.
- Abandon after start if the wind dies and boats will not finish within time limit even if course is shortened.
- Abandon for sudden storm conditions per your judgement. Generally, heavier displacement keel boats can ride out most anything, whereas lighter keel boats and racing dinghies have high wind and heavy weather limits.
- In a one-design regatta with many races it is appropriate to abandon if a major wind shift screws up the course. Otherwise, generally don't abandon for wind shifts.
- **Signal three sounds and display "N" flag. [See Note below.]**

[**Note – For broad-lake courses, gunshots are recommended as signals** because the sound and smoke have a higher probability of reaching more of the scattered fleet. A horn is equally valid, but the sound range is severely limited.]
[RRS = Racing Rules of Sailing 2009-2012]

The Finish

The Finish Line

Finish Line Angle:

For an **upwind finish**, there are **two schools of thought** as to how the line should be set. (1) Some prefer a finish line at **right angles to the wind**, particularly where the direction from the last mark is within 30° of the wind direction. (2) Others believe that, since wind direction is virtually never constant, the chance of setting an inaccurate line is magnified and that the line should be set at **right angles to the direction from the previous mark**. When in doubt, as when the wind is constantly oscillating, choose the latter.

For a **downwind or reaching finish** set the finish line at right angles to the direction from the previous rounding or passing mark.

Finish Line Length:
The finish line **should be short**, generally **about four to six boat lengths**. A short line enables sail numbers to be more easily read and reduces the effect of any bias in the line angle. Even with a large fleet a long line is undesirable.

Mark & RC Boat Locations:
It is preferable, though not required under the rules, that the buoy end of the finish line be left on the same side as rounding marks of the course, or, if the course has marks left on different sides, the same side as the last mark rounded before the finish.

Finish Lines:
Weekend Races – The finish line will be between a staff displaying an orange flag on the Race Committee boat or its mast if no orange flag is shown and the adjacent finishing mark.

Wednesday Races – Finish to Leeward – The finish line will be between a staff displaying a blue flag on the Race Committee boat or its mast if no blue flag is shown and the adjacent finishing mark.

Wednesday Races – Finish to Windward – The finish line will be between a staff displaying an orange flag on the Race Committee boat or its mast if no orange flag is shown and the adjacent finishing mark.

If the course is being shortened, the RC boat should anchor such that the mark end of the finish line will be left on the same side as it would have been rounded.

Finish Signals:

Wednesday Evenings: All finishers get a horn

Weekends: For finishes in the broad lake, first-to-finish in each class may get a gun or horn, others get a horn. For finishes in the bay, all finishers get a horn.

By club rule, the **Macdonough is an exception**: Out of respect for bay area sleepers, finishes will be signaled by horn or whistle; first-to-finish in each class will receive two horns or whistles close together.

Source: *Race Management Handbook* of US Sailing and LCYC Race Manual

Finishing Rules

From RRS Definitions: "*Finish* A boat *finishes* when any part of her hull, or crew or equipment in normal position, crosses the finishing line in the direction of the course from the last *mark*, either for the first time or after taking a penalty under rule 44.2 or, after correcting an error made at the finishing line, under rule 28.1."

From RRS 28.1: "A boat shall *start*, leave each *mark* on the required side in the correct order, and *finish*, so that a string representing her track after *starting* and until *finishing* would when drawn taut, . . . (b) touch each rounding *mark, and . . ..* She may correct any errors to comply with this rule. After *finishing* she need not cross the finishing line completely."

From RRS 31: "While *racing*, a boat shall not touch . . . a finishing *mark* after *finishing*."

From RRS 35: "If one boat sails the course as required by Rule 28.1 and *finishes* within the time limit, if any, all boats that *finish* shall be scored according to their finishing places unless the race is *abandoned*. If no boat *finishes* within the time limit, the race committee shall *abandon* the race."

From RRS 44.1 "A boat may take . . . a One-Turn Penalty when she may have broken Rule 31."

From RRS 44.2 "After getting well clear of other boats as soon after the incident as possible, a boat takes a . . . One-Turn . . . Penalty by promptly making the required number of turns in the same direction, each turn including one tack and one gybe. When a boat takes the penalty at or near the finishing line, she shall sail completely to the course side of the line before *finishing*."

From RRS 44.3(a) "A boat takes a Scoring Penalty by displaying a yellow flag at the first reasonable opportunity after the incident. (b) When a boat has taken a Scoring Penalty, she shall keep the yellow flag displayed until *finishing* and call the race committee's attention to it at the finishing line. At that time she shall also inform the race committee of the identity of the other boat involved in the incident. If this is impracticable, she shall do so at the first reasonable opportunity and within the time limit for *protests*."

RRS A5: "A boat that did not *start*, comply with rule 30.2 or 30.3, or *finish*, or that takes a penalty under rule 44.3(a) or retires after *finishing*, shall be scored accordingly by the race committee without a hearing. Only the protest committee may take other scoring actions that worsen a boat's score."

From RRS A9: "For a series that is held over a period of time longer than a regatta, a boat that came to the starting area but did not *start*, did not *finish*, retired after *finishing* or was disqualified shall be

scored points for the finishing place one more than the number of boats that came to the starting area. A boat that did not come to the starting area shall be scored points for the finishing place one more than the number of boats entered in the series."

From RRS A11 "Scoring Abbreviations [pertinent to RC – see A11 for others]

DNC Did not *start*; did not come to the starting area
DNS Did not *start*, (other than DNC and OCS)
OCS Did not *start*; on the course side at her starting signal and failed to *start*, or broke rule 30.1
SCP Took a Scoring Penalty under rule 44.3(a)
DNF Did not *finish*

Recording Results

Recording must be legible and accurate with any inconsistencies explained so that your hand-written finish results can be correctly understood by the scorer.

- Organize before finishing begins: (okay to combine Spotter/Timer or Timer/Sounder)

– Spotter – Sights line and calls out "Mark/Hark" at finish of each boat along with boat name/sail #.
– Timer – Calls out Hours (24 hour) / Minutes / Seconds of finish times.
– Sounder – Wednesday Evenings: All finishers get a horn
Weekends: For finishes in the broad lake, first-to-finish in each class may get a gun or horn, others get a horn. For finishes in the bay, all finishers get a horn.
By club rule, the **Macdonough is an exception**: Out of respect for bay area sleepers, finishes will be signaled by horn or whistle; first-to-finish in each class will receive two horns or whistles close together.
– Recorder – Writes, **in order of finish**, sail #, boat name, finish time (24-hour local clock hours, minutes, seconds).

- Talk among yourselves to:
  – Identify approaching boats; speculate on probable order of finishing;
  – Identify first in class (weekend races) for appropriate finish sounds;
  – Clarify correct finish times when/after a cluster of boats crosses closely together;
  – Use voice recorder and/or video recorder when appropriate to assist accurate recollection in close finishes.
- Use printed recording sheets.
- **Record in order of finish** (this is very important in clarifying discrepancies during the scoring phase after the race, perhaps hours or days later).
- **Record in 24-hour local clock time, not elapsed time.**
- Record DNS (checked in before race but did not start), OCS (on course side – over early), DNF (did not finish) for applicable boats – this is important, particularly for series races, as each gets a numeric score that is better than if they did not come out at all.
- Compare multiple recording sheets (if any) and resolve differences.
- Compare written times from first to last for sequence consistency. If a boat is recorded out of sequence but their time is correct, make that clear.

- Complete all data fields at top of recording sheet (race name, date, PRO, all members of the race committee, courses, average wind direction & speed (see next page), and first warning and start times in 24-hour local clock time).
- Note any intent to protest, or intent to take a Scoring Penalty, hailed by a finisher. Make note also if they were flying a red protest flag (protest) or a yellow flag (scoring penalty) and which boat(s) they are protesting (protest) or fouled (scoring penalty). As soon as practicable or once ashore, give this information to the Protest Committee Chair or RC Chair.
- Submit score sheet to scorer or courier, or follow other specified directions.

STOWAGE OF GEAR

- Retrieve and de-inflate marks, or arrange for mark steward to do so.
- Stow all gear neatly. Mark steward will quite often help with this, but make sure he/she is aware of what needs to be done.
- Report any missing or inoperable race or boat equipment to Keith or Dale.

AVERAGE WIND SPEED

For scoring 'time-on-time' results the scoring program uses a rating adjustment factor based on average wind speed for the race.

There are **three wind-speed brackets**: under ten / ten to fifteen / over fifteen.

In entering the average wind speed on the finishing-order sheet that you give to the scorer, getting the average wind in the proper bracket is more important for fair scoring than determining the actual average.

To help determine the average, during the race you should periodically glance at the wind speed showing on the wind instrument on the dashboard, perhaps even jotting it down, with the time of entry, on the scratch sheet, of which there are plenty in the back of the data sheet notebook aboard the Dinse.

RACE RESULT SHEET

Race Name: _____ Race Date: _____

Race PRO: _____

RC: _____

Average Wind Direction: _____

Average Wind Speed: [ ] < 10 [ ] >10 and < 15 [ ] > 15

Courses: Etchells: _____ JAM: _____ Spin: _____

Class: _____ Warning: _____ Start: _____

Class: _____ Warning: _____ Start: _____

Class: _____ Warning: _____ Start: _____

Class: _____ Warning: _____ Start: _____

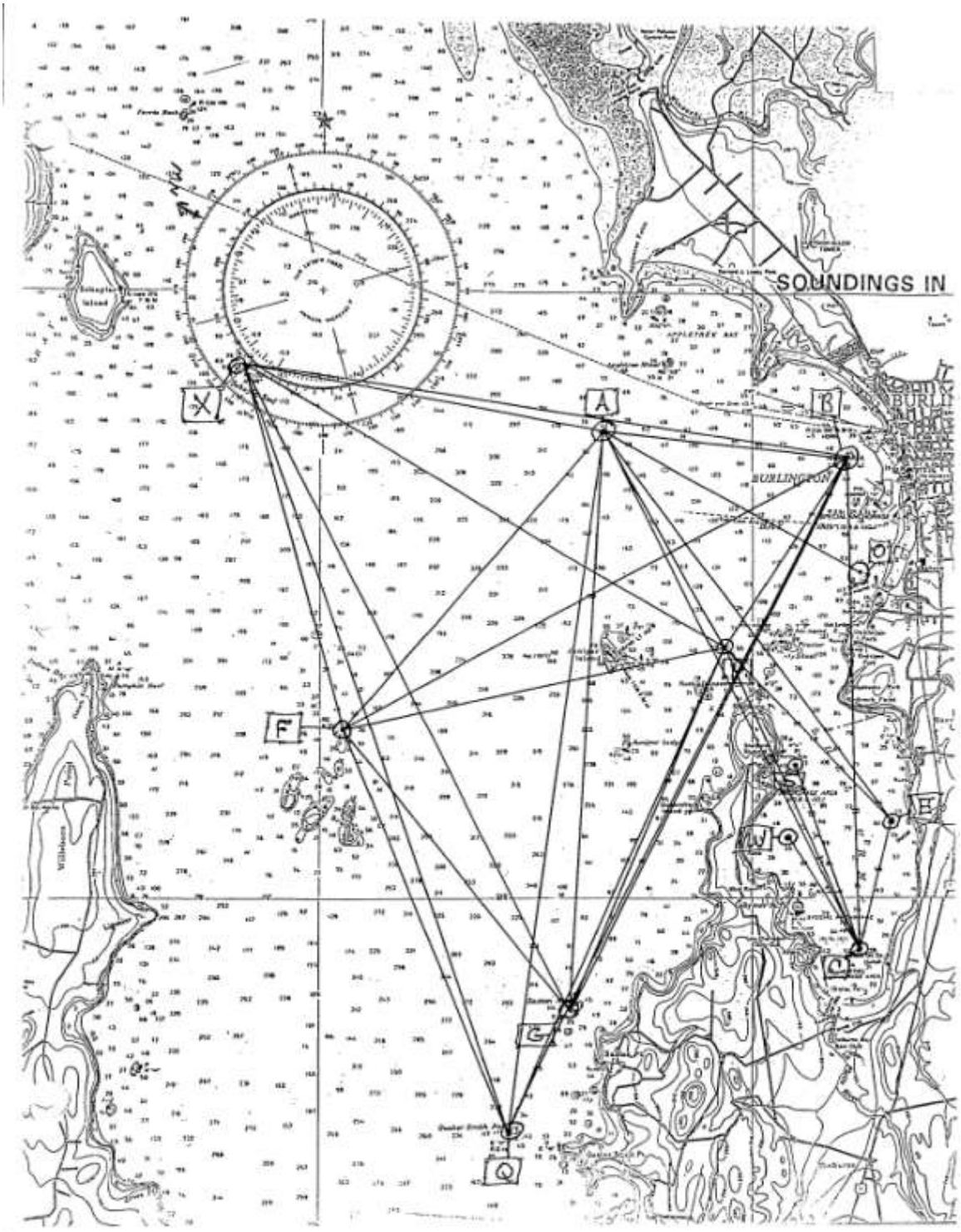
Race Name: _____ Race Date: _____

Race PRO: _____

Boat Name	Sail #	Hrs	Min	Sec		Boat Name	Sail #	Hrs	Min	Sec

Broad Lake Courses

Chart With Race Marks



BROAD-LAKE COURSES

Courses are: **– *Grouped* by wind direction**, beginning with NE, moving counter clockwise;
– *Sub-grouped* by start mark, alphabetically:
– *Sequenced* from shortest to longest, by NM Sailed/Time@5knots
Always pass north of RN2 Shelburne Point

NORTHEAST	**[Start at P mark]**		NM Sailed		Ttl NM	Time@5knts
Course 13 - 2WL	NE wind		7.6 nm RLD (Rhumb Line Distance)			
P mark	Proctor	Start				
B mark	Breakwater	to port	1.9x1.4=	2.7		
P mark	Proctor	to port		1.9		
B mark	Breakwater	to port	1.9x1.4	2.7	7.3 nm	1.5 hrs
P mark	Proctor	Finish		1.9	9.2 nm	1.8 hrs
Course 14 - 2WL/W	NE wind		9.5 nm RLD			
P mark	Proctor	Start				
B mark	Breakwater	to port	1.9x1.4=	2.7		
P mark	Proctor	to port		1.9		
B mark	Breakwater	to port	1.9x1.4	2.7		
P mark	Proctor	to port		1.9	9.2 nm	1.8 hrs
B mark	Breakwater	Finish	1.9x1.4	2.7	11.9 nm	2.4 hrs
Course 15 - 2Triangles	NE wind		12.6 nm RLD			
P mark	Proctor	Start				
B mark	Breakwater	to port	1.9x1.4=	2.7		
A mark	Appletree	to port		2.1		
P mark	Proctor	to port		2.3	7.1 nm	1.4 hrs
B mark	Breakwater	to port	1.9x1.4	2.7		
A mark	Appletree	to port		2.1		
P mark	Proctor	Finish		2.3	14.2 nm	2.8 hrs

NORTH-NE	**[Start at C mark]**		NM Sailed		Ttl NM	Time@5knts
Course 16 - W/L	NNE wind		8.0 nm RLD			
C mark	Off LCYC	Start				
B mark	Breakwater	to port	4.0x1.4=	5.6	5.6 nm	1.1 hrs
C mark	Off LCYC	Finish		4.0	9.6 nm	1.9 hrs

NORTH	**[Start at C mark]**		NM Sailed		Ttl NM	Time@5knts
Course 17 - W/L	N wind		9.6 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7	6.7 nm	1.3 hrs
C mark	Off LCYC	Finish		4.8	11.5 nm	2.3 hrs

Course 18 - W/L	N wind		14.2 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7		
P mark	Proctor	to port		2.3		
A mark	Appletree	to port	2.3x1.4=	3.2	12.2 nm	2.4 hrs
P mark	Proctor	to port		2.3	14.5 nm	2.9 hrs
C mark	Off LCYC	Finish		2.5	17.0 nm	3.4 hrs
Course 19 - Triangle+	N wind		16.9 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7		
F mark	Four Bros	to port		3.3		
G mark	Saxton Reef	to port		3.0	13.0 nm	2.6 hrs
P mark	Proctor	to stbd	3.3x1.4=	4.6	17.6 nm	3.5 hrs
C mark	Off LCYC	Finish		2.5	20.1 nm	4.0 hrs
Course 20 - W/L+	N wind		17.6 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7		
Q mark	Quaker Smith	to port		5.9	12.6 nm	2.5 hrs
P mark	Proctor	to stbd	4.4x1.4	6.2	18.8 nm	3.8 hrs
C mark	Off LCYC	Finish		2.5	21.3 nm	4.3 hrs
Course 21 - Triangle+	N wind		18.6 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7		
F mark	Four Bros	to port		3.3		
Q mark	Quaker Smith	to port		3.6	13.6 nm	2.7 hrs
P mark	Proctor	to stbd	4.4x1.4=	6.2	19.8 nm	4.0 hrs
C mark	Off LCYC	Finish		2.5	22.3 nm	4.5 hrs
Course 22 - W/L+	N wind		19.2 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7		
G mark	Saxton Reef	to port		4.8	11.5 nm	2.3 hrs
A mark	Appletree	to stbd	4.8x1.4=	6.7	18.2 nm	3.6 hrs
P mark	Proctor	to port		2.3	20.5 nm	4.1 hrs
C mark	Off LCYC	Finish		2.5	23.0 nm	4.6 hrs
Course 23 - Triangle+	N wind		26.5 nm RLD			
C mark	Off LCYC	Start				
A mark	Appletree	to port	4.8x1.4=	6.7		
F mark	Four Bros	to port		3.3		
G mark	Saxton Reef	to port		3.0	13.0 nm	2.6 hrs
A mark	Appletree	to port	4.8x1.4=	6.7	19.7 nm	3.9 hrs
G mark	Saxton Reef	to port		4.8	24.5 nm	4.9 hrs
P mark	Proctor	to stbd	3.3x1.4=	4.6	29.1 nm	5.8 hrs
C mark	Off LCYC	Finish		2.5	31.6 nm	6.3 hrs

NORTH	**[Start at E mark]**		NM Sailed		Ttl NM	Time@5knts
Course 24 - W/L	N wind		8.0 nm RLD			
E mark	East Bay	Start				
A mark	Appletree	to port	4.0x1.4=	5.6	5.6 nm	1.1 hrs
E mark	East Bay	Finish		4.0	9.6 nm	1.9 hrs
Course 25 - W/L+	N wind		9.0 nm RLD			
E mark	East Bay	Start				
A mark	Appletree	to port	4.0x1.4=	5.6		
E mark	East Bay	to stbd		4.0	9.6 nm	1.9 hrs
C mark	Off LCYC	Finish		1.0	10.6 nm	2.1 hrs

NORTH	**[Start at P mark]**		NM Sailed		Ttl NM	Time@5knts
Course 26 - W/L	N wind		9.2 nm RLD			
P mark	Proctor	Start				
A mark	Appletree	to port	2.3x1.4=	3.2		
P mark	Proctor	to port		2.3	5.5 nm	1.1 hrs
A mark	Appletree	to port	2.3x1.4=	3.2		
P mark	Proctor	Finish		2.3	11.0 nm	2.2 hrs
Course 27 - W/L	N wind		11.7 nm RLD			
P mark	Proctor	Start				
A mark	Appletree	to port	2.3x1.4=	3.2		
P mark	Proctor	to port		2.3		
A mark	Appletree	to port	2.3x1.4=	3.2		
P mark	Proctor	to port		2.3	11.0 nm	2.2 hrs
C mark	Off LCYC	Finish		2.5	13.5 nm	2.7 hrs
Course 28 - Triangle+	N wind		14.4 nm RLD			
P mark	Proctor	Start				
A mark	Appletree	to port	2.3x1.4=	3.2		
F mark	Four Bros	to port		3.3		
G mark	Saxton Reef	to port		3.0		
P mark	Proctor	to stbd	3.3x1.4=	4.6	14.1 nm	2.8 hrs
C mark	Off LCYC	Finish		2.5	16.6 nm	3.3 hrs
Course 29 - Triangle+	N wind		16.1 nm RLD			
P mark	Proctor	Start				
A mark	Appletree	to port	2.3x1.4=	3.2		
F mark	Four Bros	to port		3.3		
Q mark	Quaker Smith	to port		3.6	10.1 nm	2.0 hrs
P mark	Proctor	to stbd	4.4x1.4=	6.2	16.3 nm	3.3 hrs
C mark	Off LCYC	Finish		2.5	18.8 nm	3.8 hrs

NORTHWEST	**[Start at E mark]**		NM Sailed		Ttl NM	Time@5knts
Course 30 - W/L+	NW wind		9.0 nm RLD			
E mark	East Bay	Start				
A mark	Appletree	to port	4.0x1.4	5.6		
E mark	East Bay	to stbd		4.0	9.6 nm	1.9 hrs
C mark	Off LCYC	Finish		1.0	10.6 nm	2.1 hrs
Course 31 - W/L	NW wind		13.2 nm RLD			
E mark	East Bay	Start				
P mark	Proctor	to port	1.8x1.4=	2.5		
X mark	Schuyler Reef	to port	4.8x1.4=	6.7		
P mark	Proctor	to stbd		4.8	14.0 nm	2.8 hrs
E mark	East Bay	Finish		1.8	15.8 nm	3.2 hrs
Course 32 - Triangle+	NW wind		13.7 nm RLD			
E mark	East Bay	Start				
P mark	Proctor	to port	1.8x1.4=	2.5		
X mark	Schuyler Reef	to stbd	4.8x1.4=	6.7		
A mark	Appletree	to stbd		3.0		
P mark	Proctor	to port		2.3	14.5 nm	2.9 hrs
E mark	East Bay	Finish		1.8	16.3 nm	3.3 hrs
Course 33 - Triangle+	NW wind		15.0 nm RLD			
E mark	East Bay	Start				
P mark	Proctor	to port	1.8x1.4=	2.5		
X mark	Schuyler Reef	to port	4.8x1.4=	6.7		
F mark	Four Bros	to port		3.2	12.4 nm	2.5 hrs
P mark	Proctor	to stbd		3.4	15.8 nm	3.2 hrs
E mark	East Bay	Finish		1.8	17.6 nm	3.6 hrs
Course 34 - Triangle+	NW wind		17.7 nm RLD			
E mark	East Bay	Start				
P mark	Proctor	to port	1.8x1.4=	2.5		
X mark	Schuyler Reef	to port	4.8x1.4=	6.7		
G mark	Saxton Reef	to port		6.0	15.2 nm	3.0 hrs
P mark	Proctor	to stbd	3.3x1.4=	4.6	19.8 nm	4.0 hrs
E mark	East Bay	Finish		1.8	21.6 nm	4.3 hrs

NORTHWEST	**[Start at O mark]**		NM Sailed		Ttl NM	Time@5knts
Course 35 - 2WL	NW wind		9.6 nm RLD			
O mark	Blodgett	Start				
A mark	Appletree	to port	2.4x1.4	3.4		
O mark	Blodgett	to port		2.4		
A mark	Appletree	to port	2.4x1.4	3.4	9.2 nm	1.8 hrs
O mark	Blodgett	Finish		2.4	11.6 nm	2.3 hrs

NORTHWEST	**[Start at P mark]**		NM Sailed		Ttl NM	Time@5knts
Course 36 - W/L	NW wind		9.6 nm RLD			
P mark	Proctor	Start				
X mark	Schuyler Reef	to port	4.8x1.4=	6.7	6.7 nm	1.3 hrs
P mark	Proctor	Finish		4.8	11.5 nm	2.3 hrs
Course 37 - Triangle	NW wind		11.4 nm RLD			
P mark	Proctor	Start				
X mark	Schuyler Reef	to port	4.8x1.4=	6.7		
F mark	Four Bros	to port		3.2	9.9 nm	2.0 hrs
P mark	Proctor	Finish		3.4	13.3 nm	2.7 hrs
Course 38 - W/L+	NW wind		11.4 nm RLD			
P mark	Proctor	Start				
X mark	Schuyler Reef	to port	4.8x1.4=	6.7		
P mark	Proctor	to stbd		4.8	11.5 nm	2.3 hrs
E mark	East Bay	Finish		1.8	13.3 nm	2.7 hrs
Course 39 - Triangle+	NW wind		11.9 nm RLD			
P mark	Proctor	Start				
X mark	Schuyler Reef	to stbd	4.8x1.4=	6.7		
A mark	Appletree	to stbd		3.0		
P mark	Proctor	to port		2.3	12.0 nm	2.4 hrs
E mark	East Bay	Finish		1.8	13.8 nm	2.8 hrs
Course 40- Triangle+	NW wind		13.2 nm RLD			
P mark	Proctor	Start				
X mark	Schuyler Reef	to port	4.8x1.4=	6.7		
F mark	Four Bros	to port		3.2		
P mark	Proctor	to stbd		3.4	13.3 nm	2.7 hrs
E mark	East Bay	Finish		1.8	15.1 nm	3.0 hrs

WEST-NW	**[Start at A mark]**		NM Sailed		Ttl NM	Time@5knts
Course 41 - 2WL	WNW wind		20.4 nm RLD			
A mark	Appletree	Start				
X mark	Schuyler Reef	to port	3.0x1.4	4.2		
B mark	Breakwater	to port		5.1	9.3 nm	1.9 hrs
X mark	Schuyler Reef	to port	5.1x1.4	7.1	16.4 nm	3.3 hrs
B mark	Breakwater	to port		5.1	21.5 nm	4.3 hrs
A mark	Appletree	Finish		2.1	23.6 nm	4.7 hrs

WEST-NW	**[Start at B mark]**		NM Sailed		Ttl NM	Time@5knts
Course 42 - 2WL	WNW wind		8.4 nm RLD			
B mark	Breakwater	Start				
A mark	Appletree	to port	2.1x1.4	2.9		
B mark	Breakwater	to port		2.1		
A mark	Appletree	to port	2.1x1.4	2.9	7.9 nm	1.6 hrs
B mark	Breakwater	Finish		2.1	10.0 nm	2.0 hrs
Course 43 - W/L/W	WNW wind		12.3 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
B mark	Breakwater	to port		5.1	12.2 nm	2.4 hrs
A mark	Appletree	Finish	2.1x1.4	2.9	15.1 nm	3.0 hrs
Course 44 - Triangle	WNW wind		13.1 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
F mark	Four Brothers	to port		3.2	10.3 nm	2.1 hrs
B mark	Breakwater	Finish		4.8	15.1 nm	3.0 hrs
Course 45 - Triangle+	WNW wind		13.5 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
F mark	Four Brothers	to port		3.2		
P mark	Proctor mark	to stbd		3.4	13.7 nm	2.7 hrs
E mark	East Bay	Finish		1.8	15.5 nm	3.1 hrs
Course 46 - Triangle	WNW wind		13.6 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
F mark	Four Brothers	to port		3.2		
P mark	Proctor mark	to port		3.4	13.7 nm	2.7 hrs
B mark	Breakwater	Finish		1.9	15.6 nm	3.2 hrs
Course 47 - Triangle	WNW wind		16.2 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
G mark	Saxton Reef	to port		6.0	13.1 nm	2.6 hrs
B mark	Breakwater	Finish		5.1	18.2 nm	3.6 hrs
Course 48 - Triangle	WNW wind		16.2 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
G mark	Saxton Reef	to port		6.0	13.1 nm	2.6 hrs
P mark	Proctor mark	to stbd		3.3	16.4 nm	3.3 hrs
E mark	East Bay	Finish		1.8	18.2 nm	3.6 hrs

Course 49 - Triangle	WNW wind		16.3 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
G mark	Saxton Reef	to port		6.0	13.1 nm	2.6 hrs
P mark	Proctor mark	to stbd		3.3	16.4 nm	3.3 hrs
B mark	Breakwater	Finish		1.9	18.3 nm	3.7 hrs
Course 50 - Triangle	WNW wind		18.0 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
Q mark	Quaker Smith	to port		6.7	13.8 nm	2.8 hrs
B mark	Breakwater	Finish		6.2	20.0 nm	4.0 hrs
Course 51 - Triangle+	WNW wind		18.0 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
Q mark	Quaker Smith	to port		6.7	13.8 nm	2.8 hrs
P mark	Proctor mark	to stbd		4.4	18.2 nm	3.6 hrs
E mark	East Bay	Finish		1.8	20.0 nm	4.0 hrs
Course 52 - Triangle	WNW wind		18.1 nm RLD			
B mark	Breakwater	Start				
X mark	Schuyler Reef	to port	5.1x1.4	7.1		
Q mark	Quaker Smith	to port		6.7	13.8 nm	2.8 hrs
P mark	Proctor mark	to stbd		4.4	18.2 nm	3.6 hrs
B mark	Breakwater	Finish		1.9	20.1 nm	4.0 hrs
WEST	**[Start at P mark]**		NM Sailed		Ttl NM	Time@5knts
Course 53 - W/L+	W wind		8.6 nm RLD			
P mark	Proctor	Start				
F mark	Four Bros	to port	3.4x1.4=	4.8		
P mark	Proctor	to stbd		3.4	8.2 nm	1.6 hrs
E mark	East Bay	Finish		1.8	10.0 nm	2.0 hrs
Course 54 - Triangle+	W wind		11.5 nm RLD			
P mark	Proctor	Start				
F mark	Four Bros	to port	3.4x1.4=	4.8		
G mark	Saxton Reef	to port		3.0		
P mark	Proctor	to stbd		3.3	11.1 nm	2.2 hrs
E mark	East Bay	Finish		1.8	12.9 nm	2.6 hrs

SOUTHWEST	**[Start at B mark]**		NM Sailed		Ttl NM	Time@5knts
Course 55 - Triangle	SW wind		6.3 nm RLD			
B mark	Breakwater	Start				
P mark	Proctor	to stbd	1.9x1.4=	2.7		
A mark	Appletree	to stbd		2.3	5.0 nm	1.0 hrs
B mark	Breakwater	Finish		2.1	7.1 nm	1.4 hrs
Course 56 - W/L	SW wind		10.2 nm RLD			
B mark	Breakwater	Start				
G mark	Saxton Reef	to port	5.1x1.4=	7.1	7.1 nm	1.4 hrs
B mark	Breakwater	Finish		5.1	12.2 nm	2.4 hrs
Course 57 - 2Triangles	SW wind		12.6 nm RLD			
B mark	Breakwater	Start				
P mark	Proctor	to stbd	1.9x1.4=	2.7		
A mark	Appletree	to stbd		2.3		
B mark	Breakwater	to stbd		2.1	7.1 nm	1.4 hrs
P mark	Proctor	to stbd	1.9x1.4=	2.7		
A mark	Appletree	to stbd		2.3		
B mark	Breakwater	Finish		2.1	14.2 nm	2.8 hrs
Course 58 - Triangle	SW wind		12.9 nm RLD			
B mark	Breakwater	Start				
G mark	Saxton Reef	to stbd	5.1x1.4=	7.1		
F mark	Four Bros	to stbd		3.0	10.1 nm	2.0 hrs
B mark	Breakwater	Finish		4.8	14.9 nm	3.0 hrs
Course 59 - W/L	SW wind		12.4 nm RLD			
B mark	Breakwater	Start				
Q mark	Quaker Smith	to port	6.2x1.4=	8.7	8.7 nm	1.7 hrs
B mark	Breakwater	Finish		6.2	14.9 nm	3.0 hrs
Course 60 - 2Triangs+	SW wind		12.6 nm RLD			
B mark	Breakwater	Start				
P mark	Proctor	to stbd	1.9x1.4=	2.7		
A mark	Appletree	to stbd		2.3		
B mark	Breakwater	to stbd		2.1	7.1 nm	1.4 hrs
P mark	Proctor	to stbd	1.9x1.4=	2.7		
A mark	Appletree	to stbd		2.3		
B mark	Breakwater	to stbd		2.1	14.2 nm	2.8 hrs
P mark	Proctor	Finish	1.9x1.4=	2.7	16.9 nm	3.4 hrs
Course 61 - Triangle	SW wind		14.6 nm RLD			
B mark	Breakwater	Start				
Q mark	Quaker Smith	to stbd	6.2x1.4=	8.7		
F mark	Four Bros	to stbd		3.6	12.3 nm	2.5 hrs
B mark	Breakwater	Finish		4.8	17.1 nm	3.4 hrs

SOUTHWEST	**[Start at E mark]**		NM Sailed		Ttl NM	Time@5knts
Course 62 - W/L+	SW wind		12.6 nm RLD			
E mark	East Bay	Start				
C mark	Off LCYC	to stbd	1.0x1.4=	1.4		
P mark	Proctor	to port		2.5		
G mark	Saxton Reef	to port	3.3x1.4=	4.6		
P mark	Proctor	to stbd		3.3	11.8 nm	2.4 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	15.3 nm	3.1 hrs
Course 63 - Triangle+	SW wind		15.0 nm RLD			
E mark	East Bay	Start				
C mark	Off LCYC	to stbd	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8		
F mark	Four Bros	to port	3.3x1.4=	4.6	10.8 nm	2.2 hrs
P mark	Proctor	to stbd		3.4	14.2 nm	2.8 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	17.7 nm	3.5 hrs
Course 64 - Triangle+	SW wind		17.2 nm RLD			
E mark	East Bay	Start				
C mark	Off LCYC	to stbd	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8		
F mark	Four Bros	to port	3.3x1.4=	4.6	10.8 nm	2.2 hrs
A mark	Appletree	to stbd		3.3	14.1 nm	2.8 hrs
P mark	Proctor	to port	2.3x1.4	3.2	17.3 nm	3.5 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	20.8 nm	4.2 hrs

SOUTHWEST	**[Start at P mark]**		NM Sailed		Ttl NM	Time@5knts
Course 65 - W/L	SW wind		6.6 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to port	3.3x1.4=	4.6	4.6 nm	0.9 hrs
P mark	Proctor	Finish		3.3	7.9 nm	1.6 hrs
Course 66 - W/L+	SW wind		9.1 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to port	3.3x1.4=	4.6		
P mark	Proctor	to stbd		3.3	7.9 nm	1.6 hrs
C mark	Off LCYC	Finish		2.5	10.4 nm	2.1 hrs
Course 67 - W/L	SW wind		8.8 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to port	4.4x1.4=	6.2	6.2 nm	1.2 hrs
P mark	Proctor	Finish		4.4	10.6 nm	2.1 hrs
Course 68 - Triangle	SW wind		9.7 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to stbd	3.3x1.4=	4.6		
F mark	Four Bros	to stbd		3.0	7.6 nm	1.5 hrs
P mark	Proctor	Finish		3.4	11.0 nm	2.2 hrs

Course 69 - W/L/W	SW wind		10.3 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to port	3.3x1.4=	4.6		
B mark	Breakwater	to port		5.1	9.7 nm	1.9 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	12.4 nm	2.5 hrs
Course 70 - W/L/W	SW wind		10.3 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to port	3.3x1.4=	4.6		
P mark	Proctor	to port		3.3	7.9 nm	1.6 hrs
B mark	Breakwater	to port		1.9	9.8 nm	1.9 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	12.5 nm	2.5 hrs
Course 71 - Triangle	SW wind		11.4 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to stbd	4.4x1.4=	6.2		
F mark	Four Bros	to stbd		3.6	9.8 nm	2.0 hrs
P mark	Proctor	Finish		3.4	13.2 nm	2.6 hrs
Course 72 - Triangle+	SW wind		12.2 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to stbd	3.3x1.4=	4.6		
F mark	Four Bros	to stbd		3.0		
P mark	Proctor	to stbd		3.4	11.0 nm	2.2 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	14.5 nm	2.9 hrs
Course 73 - Tria/W	SW wind		13.0 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to stbd	3.3x1.4=	4.6		
F mark	Four Brothers	to stbd		3.0		
B mark	Breakwater	to stbd		4.8	12.4 nm	2.5 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	15.1 nm	3.0 hrs
Course 74 - W/L/W	SW wind		12.5 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to port	4.4x1.4=	6.2		
B mark	Breakwater	to port		6.2	12.4 nm	2.5 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	15.1 nm	3.0 hrs
Course 75 - 2WL	SW wind		13.2 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to port	3.3x1.4=	4.6		
P mark	Proctor	to port		3.3	7.9 nm	1.6 hrs
G mark	Saxton Reef	to port	3.3x1.4=	4.6	12.5 nm	2.5 hrs
P mark	Proctor	Finish		3.3	15.8 nm	3.2 hrs

Course 76 - Triangle+	SW wind		13.9 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to stbd	4.4x1.4=	6.2		
F mark	Four Bros	to stbd		3.6		
P mark	Proctor	to stbd		3.4	13.2 nm	2.6 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	16.7 nm	3.3 hrs
Course 77 - W/L+	SW wind		14.1 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to port	3.3x1.4=	4.6		
B mark	Breakwater	to port		5.1		
P mark	Proctor	to port	1.9x1.4	2.7	12.4 nm	2.5 hrs
B mark	Breakwater	to port		1.9	14.3 nm	2.9 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	17.0 nm	3.4 hrs
Course 78 - Tria/W	SW wind		12.5 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to stbd	4.4x1.4=	6.2		
F mark	Four Brothers	to stbd		3.6		
B mark	Breakwater	to stbd		4.8	14.6 nm	2.9 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	17.3 nm	3.5 hrs
Course 79 - Tria-W/L	SW wind		16.3 nm RLD			
P mark	Proctor	Start				
G mark	Saxton Reef	to stbd	3.3x1.4=	4.6		
F mark	Four Brothers	to stbd		3.0		
P mark	Proctor	to stbd		3.4	11.0 nm	2.2 hrs
G mark	Saxton Reef	to stbd	3.3x1.4=	4.6	15.6 nm	3.1 hrs
P mark	Proctor	Finish		3.3	18.9 nm	3.8 hrs
Course 80 - W/L+	SW wind		16.3 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to port	4.4x1.4=	6.2		
B mark	Breakwater	to port		6.2	12.4 nm	2.5 hrs
P mark	Proctor	to port	1.9x1.4	2.7	15.1 nm	3.0 hrs
B mark	Breakwater	to port		1.9	17.0 nm	3.4 hrs
P mark	Proctor	Finish	1.9x1.4	2.7	19.7 nm	3.9 hrs
Course 81 - Tria/W	SW wind		16.1 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to stbd	4.4x1.4=	6.2		
F mark	Four Bros	to stbd		3.6		
A mark	Appletree	to stbd		3.3	13.1 nm	2.6 hrs
C mark	Off LCYC	Finish	4.8x1.4=	6.7	19.8 nm	4.0 hrs

Course 82 - Triangle+	SW wind		16.1 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to stbd	4.4x1.4=	6.2		
F mark	Four Bros	to stbd		3.6		
A mark	Appletree	to stbd		3.3	13.1 nm	2.6 hrs
P mark	Proctor	to port	2.3x1.4=	3.2	16.3 nm	3.3 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	19.8 nm	4.0 hrs
Course 83 - Tria-W/L	SW wind		18.0 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to stbd	4.4x1.4=	6.2		
F mark	Four Bros	to stbd		3.6		
P mark	Proctor	to stbd		3.4	13.2 nm	2.6 hrs
G mark	Saxton Reef	to stbd	3.3x1.4=	4.6	17.8 nm	3.6 hrs
P mark	Proctor	Finish		3.3	21.1 nm	4.2 hrs
Course 84 - 2WL	SW wind		17.6 nm RLD			
P mark	Proctor	Start				
Q mark	Quaker Smith	to port	4.4x1.4=	6.2		
P mark	Proctor	Finish		4.4	10.6 nm	2.1 hrs
Q mark	Quaker Smith	to port	4.4x1.4=	6.2	16.8 nm	3.4 hrs
P mark	Proctor	Finish		4.4	21.2 nm	4.2 hrs
SOUTH	**[Start at S mark]**		NM Sailed		Ttl NM	Time@5knts
Course 85 - W/L	S wind		11.2 nm RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4=	2.2		
A mark	Appletree	to port		4.8		
C mark	Off LCYC	Finish	4.8x1.4=	6.7	13.7 nm	2.7 hrs
Course 86 - W/L	S wind		11.2 nm RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4=	2.2		
A mark	Appletree	to port		4.8		
P mark	Proctor	to port	2.3x1.4=	3.2	10.2 nm	2.0 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	13.7 nm	2.7 hrs
Course 87 - W/L	S wind		15.8 nm RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4	2.2		
A mark	Appletree	to port		4.8		
P mark	Proctor	to port	2.3x1.4=	3.2	10.2 nm	2.0 hrs
A mark	Appletree	to port		2.3		
P mark	Proctor	to port	2.3x1.4=	3.2	15.7 nm	3.1 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	19.2 nm	3.8 hrs

Course 88 - Triangle+	S wind		17.0 nm RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4=	2.2		
A mark	Appletree	to port		4.8		
G mark	Saxton Reef	to port	4.8x1.4=	6.7	13.7 nm	2.7 hrs
P mark	Proctor	to stbd		3.3	17.0 nm	3.4 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	20.5 nm	4.1 hrs

Course 89 - Triangle+	S wind		19.2 nm RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4=	2.2		
A mark	Appletree	to port		4.8		
Q mark	Quaker Smith	to port	5.9x1.4=	8.3	15.3 nm	3.1 hrs
P mark	Proctor	to stbd		4.4	19.7 nm	3.9 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	23.2 nm	4.6 hrs

Course 90 - Triangle+	S wind		20.2 RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4=	2.2		
A mark	Appletree	to port		4.8		
F mark	Four Bros	to port	3.3x1.4=	4.6	11.6 nm	2.3 hrs
Q mark	Quaker Smith	to port	3.6x1.4=	5.0	16.6 nm	3.3 hrs
P mark	Proctor	to stbd		4.4	21.0 nm	4.2 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	24.5 nm	4.9 hrs

Course 91 - Triangle+	S wind		20.8 nm RLD			
S mark	Shipyard	Start				
C mark	Off LCYC	to port	1.6x1.4=	2.2		
A mark	Appletree	to port		4.8		
G mark	Saxton Reef	to port	4.8x1.4=	6.7	13.7 nm	2.7 hrs
A mark	Appletree	to stbd		4.8	18.5 nm	3.7 hrs
P mark	Proctor	to port	2.3x1.4=	3.2	21.7 nm	4.3 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	25.2 nm	5.0 hrs

SOUTHEAST	**[Start at P mark]**		NM Sailed		Ttl NM	Time@5knts
Course 92 - W/L	SE wind		10.2 nm RLD			
P mark	Proctor	Start				
E mark	East Bay	to port	2.0x1.4=	2.8		
A mark	Appletree	to port		4.1	6.9 nm	1.4 hrs
E mark	East Bay	Finish	4.1x1.4=	5.7	11.8 nm	2.4 hrs

Course 93 - W/L	SE wind		12.2 nm RLD			
P mark	Proctor	Start				
E mark	East Bay	to port	2.0x1.4	2.8		
A mark	Appletree	to port		4.1	6.9	1.4 hrs
P mark	Proctor	to port	2.3x1.4=	3.2	10.1 nm	2.0 hrs
E mark	East Bay	Finish	2.0x1.4	2.8	12.9 nm	2.6 hrs

SOUTHEAST	**[Start at W mark]**		NM Sailed		Ttl NM	Time@5knts
Course 94 - W/L	SE wind		10.6 nm RLD			
W mark	Sledrunner Bay	Start				
C mark	Off LCYC	to port	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8	6.2 nm	1.2 hrs
C mark	Off LCYC	Finish	4.8x1.4=	6.7	12.9 nm	2.6 hrs
Course 95 - W/L	SE wind		15.2 nm RLD			
W mark	Sledrunner Bay	Start				
C mark	Off LCYC	to port	1.0x1.4	1.4		
A mark	Appletree	to port		4.8		
P mark	Proctor	to port	2.3x1.4=	3.2	9.4 nm	1.9 hrs
A mark	Appletree	to port		2.3	11.7 nm	2.3 hrs
P mark	Proctor	to port	2.3x1.4=	3.2	14.9 nm	3.0 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	18.4 nm	3.7 hrs
Course 96 - Triangle+	SE wind		16.4 nm RLD			
W mark	Sledrunner Bay	Start				
C mark	Off LCYC	to port	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8		
G mark	Saxton Reef	to port	4.8x1.4=	6.7	12.9 nm	2.6 hrs
P mark	Proctor	to stbd		3.3	16.2 nm	3.2 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	19.7 nm	3.9 hrs
Course 97 - Triangle+	SE wind		18.6 nm RLD			
W mark	Sledrunner Bay	Start				
C mark	Off LCYC	to port	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8		
Q mark	Quaker Smith	to port	5.9x1.4=	8.3	14.5 nm	2.9 hrs
P mark	Proctor	to stbd		4.4	18.9 nm	3.8 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	22.4 nm	4.5 hrs
Course 98 - Triangle+	SE wind		19.6 nm RLD			
W mark	Sledrunner Bay	Start				
C mark	Off LCYC	to port	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8		
F mark	Four Bros	to port	3.3x1.4=	4.6	10.8 nm	2.2 hrs
Q mark	Quaker Smith	to port	3.6x1.4=	5.0	15.8 nm	3.2 hrs
P mark	Proctor	to stbd		4.4	20.2 nm	4.0 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	23.7 nm	4.7 hrs
Course 99 - Triangle+	SE wind		20.2 nm RLD			
W mark	Sledrunner Bay	Start				
C mark	Off LCYC	to port	1.0x1.4=	1.4		
A mark	Appletree	to port		4.8		
G mark	Saxton Reef	to port	4.8x1.4=	6.7	12.9 nm	2.6 hrs
A mark	Appletree	to stbd		4.8	17.7 nm	3.5 hrs
P mark	Proctor	to port	2.3x1.4=	3.2	20.9 nm	4.2 hrs
C mark	Off LCYC	Finish	2.5x1.4=	3.5	24.4 nm	4.9 hrs

WINDWARD/LEEWARD COURSE LENGTH OPTIONS

RLD = Rhumb Line Distance in nautical miles
DSF = Distance Sailed Factor: 1.4 upwind; 1.0 downwind
NMS = Nautical Miles Sailed on that leg
CNMS = Cumulative Nautical Miles Sailed

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	0.75	x	1.4	=	1.05		0:16	0:14	0:13	0:11	0:11
2	0.75	x	1.0	=	0.75	1.8	0:27	0:24	0:22	0:20	0:18
3	0.75	x	1.4	=	1.05	2.9	0:44	0:38	0:35	0:32	0:29
4	0.75	x	1.0	=	0.75	3.6	0:54	0:48	0:43	0:39	0:36
5	0.75	x	1.4	=	1.05	4.7	1:11	1:02	0:56	0:51	0:47

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	1.0	x	1.4	=	1.4		0:21	0:19	0:17	0:15	0:14
2	1.0	x	1.0	=	1.0	2.4	0:36	0:32	0:29	0:26	0:24
3	1.0	x	1.4	=	1.4	3.8	0:57	0:50	0:46	0:41	0:38
4	1.0	x	1.0	=	1.0	4.8	1:12	1:06	1:00	0:54	0:48
5	1.0	x	1.4	=	1.4	6.2	1:36	1:24	1:12	1:06	1:00

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	1.3	x	1.4	=	1.8		0:27	0:24	0:22	0:20	0:18
2	1.3	x	1.0	=	1.3	3.1	0:47	0:41	0:37	0:34	0:31
3	1.3	x	1.4	=	1.8	4.9	1:12	1:06	1:00	0:54	0:48
4	1.3	x	1.0	=	1.3	6.2	1:36	1:24	1:12	1:06	1:00
5	1.3	x	1.4	=	1.8	8.0	2:00	1:48	1:36	1:30	1:18

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	1.5	x	1.4	=	2.1		0:32	0:28	0:25	0:23	0:21
2	1.5	x	1.0	=	1.5	3.6	0:54	0:48	0:43	0:39	0:36
3	1.5	x	1.4	=	2.1	5.7	1:24	1:18	1:06	1:00	1:00
4	1.5	x	1.0	=	1.5	7.2	1:48	1:36	1:24	1:18	1:12
5	1.5	x	1.4	=	2.1	9.3	2:18	2:06	1:54	1:42	1:36

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	1.7	x	1.4	=	2.4		0:36	0:32	0:29	0:26	0:24
2	1.7	x	1.0	=	1.7	4.1	1:02	0:55	0:49	0:45	0:41
3	1.7	x	1.4	=	2.4	6.5	1:36	1:24	1:18	1:12	1:06
4	1.7	x	1.0	=	1.7	8.2	2:06	1:48	1:36	1:30	1:24
5	1.7	x	1.4	=	2.4	10.6	2:42	2:24	2:06	1:54	1:48

RLD = Rhumb Line Distance in nautical miles
DSF = Distance Sailed Factor: 1.4 upwind; 1.0 downwind
NMS = Nautical Miles Sailed on that leg
CNMS = Cumulative Nautical Miles Sailed

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	2.0	x	1.4	=	2.8		0:42	0:37	0:34	0:31	0:28
2	2.0	x	1.0	=	2.0	4.8	1:12	1:04	0:58	0:52	0:48
3	2.0	x	1.4	=	2.8	7.6	1:54	1:42	1:30	1:24	1:18
4	2.0	x	1.0	=	2.0	9.6	2:24	2:06	1:54	1:42	1:36
5	2.0	x	1.4	=	2.8	12.4	3:06	2:48	2:30	2:18	2:06

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	2.3	x	1.4	=	3.2		0:48	0:43	0:38	0:35	0:32
2	2.3	x	1.0	=	2.3	5.5	1:24	1:12	1:06	1:00	0:55
3	2.3	x	1.4	=	3.2	8.7	2:12	1:54	1:42	1:36	1:30
4	2.3	x	1.0	=	2.3	11.0	2:48	2:24	2:12	2:00	1:48
5	2.3	x	1.4	=	3.2	14.2	3:36	3:12	2:48	2:36	2:24

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	2.5	x	1.4	=	3.5		0:53	0:47	0:42	0:38	0:35
2	2.5	x	1.0	=	2.5	6.0	1:30	1:18	1:12	1:06	1:00
3	2.5	x	1.4	=	3.5	9.5	2:24	2:06	1:54	1:42	1:36
4	2.5	x	1.0	=	2.5	12.0	3:00	2:42	2:24	2:12	2:00
5	2.5	x	1.4	=	3.5	15.5	3:54	3:24	3:06	2:48	2:36

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	2.7	x	1.4	=	3.8		0:57	0:50	0:46	0:41	0:38
2	2.7	x	1.0	=	2.7	6.5	1:36	1:24	1:18	1:12	1:06
3	2.7	x	1.4	=	3.8	10.3	2:36	2:18	2:06	1:54	1:42
4	2.7	x	1.0	=	2.7	13.0	3:18	2:54	2:36	2:24	2:12
5	2.7	x	1.4	=	3.8	16.8	4:12	3:42	3:24	3:06	2:48

							Elapsed Time in Hours:Mins per Ave Speed in Knots				
Leg	RLD		DSF		NMS	CNMS	@ 4.0	@ 4.5	@ 5.0	@ 5.5	@ 6.0
1	3.0	x	1.4	=	4.2		1:03	0:56	0:50	0:46	0:42
2	3.0	x	1.0	=	3.0	7.2	1:48	1:36	1:24	1:18	1:12
3	3.0	x	1.4	=	4.2	11.4	2:54	2:30	2:18	2:06	1:54
4	3.0	x	1.0	=	3.0	14.4	3:36	3:12	2:54	2:36	2:24
5	3.0	x	1.4	=	4.2	18.6	4:42	4:06	3:42	3:24	3:06

Brief Race Histories

DOUBLE HANDED RACE

The 28th Consecutive Running in 2013

This race was created in 1986 by Regatta Chair Peter Phillips to be a revival of an earlier race for short-handed crew. In 1972 Regatta Co-Chairs Hal Greig and Bob Vitali created the Single Handed Race, which, after declining participation, was last raced in 1978 – a few high-wind races produced some scary tales, and the Regatta Committee of the time decided the race was too risky to continue. Phillips rightly guessed that a race for two would be safer and more acceptable than a race for one, yet would offer a similar challenge.

There were no traveling trophies for this event until 2012. There are now two trophies for first-to-finish on corrected time, one for JaM boats and one for the Spinnaker boats.

HOT RUDDERED BUM RACE

The 40th Consecutive Running in 2013

First run October 6, 1974, this race was conceived in 1973 by Commodore Robert W. Henshaw and Regatta Chair Dale Hyerstay as an informal finish to the racing and social seasons, combining a race of the hot-ruddered bums with hot buttered rum for racers and non-racers alike around a cozy fire in the clubhouse fireplace.

There have never been any traveling trophies for this event.

LADY SKIPPER RACE

The 41st Consecutive Running in 2013

This race was created in 1973 by Regatta Co-Chairs Chuck Bowen and William C. Brown III. A woman must skipper the boat from pre-start to finish.

There are traveling trophies for Jib & Main Classes A & B, and for Spinnaker Classes A, B, & C.

LADIES CUP RACE

• THE LADIES CUP •

1888-1938 – First LCYC Boat to Finish on Corrected Time
1955-61 – Winner Criteria Unknown
1962-91 – First LCYC Boat to Finish
1992-After – First LCYC Boat to Finish on Corrected Time

Run 21 times in 51 years 1888-1938
Not run 17 years 1939-1954
Run 7 years by Chamber of Commerce, 1955-61
2013 - 59th consecutive running since 1955
2013 - 80th running in 126 years

The Ladies Cup is a richly ornamented sterling silver punch-bowl, with a fine engraving of the harbor of Burlington on the outside, the bottom rim consisting of a sculpted depiction of the rugged stone breakwater. It was made by Tiffany in 1887 or 1888 at a cost of $500, and was presented to the club by the ladies of Burlington. We do not know for sure who the "ladies" were, but it is presumed that they were the wives of the founding members of the club. The cup was first raced for in 1888.

From an article by Frederic W. Mather, "Lake Champlain Yacht Club," published in *Yachting* Magazine in 1888:

"According to the rules of the club, "the Ladies' Cup" shall be a perpetual challenge, and shall be sailed for each year by the yachts belonging to the members of the club at their annual regatta. The course shall be about ten miles, and the sailing allowances, etc., shall be governed by such rules of the club, as from time to time may obtain. The course, etc., may be changed from time to time by the regatta committee as the exigencies of the club may require.

"They or their successors in office, are made custodians of the cup for the club, and shall award the same each year to the successful yacht; which yacht shall have its name and the date of the regatta engraved on the cup by the committee, and shall hold it until the next annual regatta, giving bonds to the committee in the sum of $600 for the safe keeping of the same.

"Any damage or loss to the cup while in the possession of a yacht shall be appraised and deducted by the committee from the bond on the return of the cup, which shall be one week before the next annual meeting. Owners of yachts failing to return the cup at the time specified, shall sacrifice their bonds and cease to be members of the club.

"A yacht holding the cup and not competing for its possession is considered as having competed and lost. In all races, at least three yachts must start or no race, unless a race has been postponed; but

should the yacht which is in possession of the cup be a competitor, she may sail the course, without this limit as to the number starting."

In 1934 the last of the club's three Burlington waterfront clubhouses had to be abandoned, and the membership tried to keep active at several temporary locations in Shelburne Bay and Mallets Bay. But the last of the depression and the coming of war caused the club to become inactive. The last Ladies Cup event of that era, a power boat race, was in 1938, won by the Eva May, owned by a man named Appleyard, the beloved step-son of Bob Thompson, Commodore 1948-1954.

In 1955, in an effort to help revive the waterfront, the Burlington Chamber of Commerce sponsored a 'Northeastern Waterama.' John Dinse remembers it as a broad-based city event, of which boat races were a minor part featuring mostly powerboats. Although inactive, LCYC still existed as a corporation, with a printed log listing 87 members. The Board agreed to conduct a Ladies Cup race as one of the Waterama events, the first race for the cup since 1938. The winner was *Royal Savage*, owned by member Paul D. Raine. The Chamber of Commerce permitted Raine to take the cup home. The next year the custodial Board of Governors determined that the cup was too unique and valuable and voted that the club would henceforth retain the Ladies Cup in its possession, ending forever allowing the winner to 'hold' the cup for any period of time.

Ladies Cup races were a feature of the Waterama from 1955 through 1961, and club records show that all of those were won by members of record: Ted Brooks won four in *Kid*, a 6 Meter; Raine won one; and Bill Freeman in *Corlear* won one; another was won by 'Camp Red Cloud' in *Eleanor*, presumed to be owned by a member.

In the first race in 1888, and presumably in subsequent years until the club's demise in 1938, the winner was decided on the basis of corrected time. Nothing is presently known about the scoring criteria used during the Wateramas of 1955-61. However, beginning in 1962, when the club was reactivated, the winner was the first boat to finish without regard to corrected time. Later, in 1992, the Board of Governors voted to return to the original and traditional criteria that the winner of the Ladies Cup shall be decided on the basis of first-to-finish on corrected time, thus re-opening to all LCYC competitors the possibility of winning the cup.

Beginning with the first race 1888, also since 1963, and perhaps in all races since the inception of the race, there is only one start for all boats contending for the Ladies Cup. For the three years 1994-96, a period of active recruitment of new LCYC racers, there was a separate start for non-spinnaker boats to reduce the intimidation of a single mass start, the presumption being that they would not be contenders in any case. In 1997 the now-seasoned non-spinnaker racers asked that the separate start be eliminated so that they could fully contend for the Cup on an equal basis with spinnaker boats.

In 1994 the Regatta Committee decided that any special individual non-spinnaker handicap rating adjustment factors would not be included in the ratings used to handicap boats contending for the Ladies' Cup. However, to compensate for their lack of a spinnaker the Committee initiated a 12 sec/mile rating adjustment for all competing non-spinnaker boats.

Before the 2010 season, the membership considered the question of opening competition for the cup to non-member racers, but while all agreed that non-members were most welcome to race for all

other trophies awarded in the regatta, the members voted to retain the original restriction limiting competition for the Ladies Cup itself to LCYC members.

COMMODORE MACDONOUGH RACE

The 46th Consecutive Running in 2013

In 1968 John A. Williams, then Commodore of LCYC, in conjunction with the Lake Champlain Racing Conference, organized a 73.6 nm race to commemorate the victory of an American fleet commanded by Commodore Thomas Macdonough over a British fleet on September 11, 1814 at Plattsburg Bay. The original race course, still used for Classes A & B, consisted of only two marks, the HBN at La Roche Reef to the north and Diamond Island to the south. In the late 1970s a shorter course of 48.2 nm was created for other classes; this course rounds Valcour Island instead of La Roche Reef HBN.

In 1971, John Williams conceived a unique trophy to be awarded annually to the winner of this race on corrected time. The trophy consists of a section of the actual rib of the USS Saratoga, Commodore Macdonough's flagship in the battle, and an American 12 pound cannon ball retrieved from the lakebed in Plattsburgh Bay. These two most appropriate objects are securely fastened to a modern wooden base resulting in a trophy that combines abstract beauty and historical symbolism appreciated by Lake Champlain sailors.

The currently-known best elapsed time of 11:08:12 for the 73.6 nm course was set in 1999 by Frankly Scarlett, a Soverel 33 skippered by Dave Powlison and John Harris. Present club records go back only to 1996.

[This text, slightly modified to reflect the current courses, was first published in the 1972 LCYC Log.]

ODZIOZO RACE

The 32nd Consecutive Running in 2013

This race was created in 1982 by Commodore Bob Dunn and Regatta Chair Bob Penniman to be one of the two Lake Champlain Racing Conference races sponsored by LCYC (the Macdonough being the other). Since 1968, when LCRC was formed, the Ladies Cup Regatta had doubled as an LCRC race, with a second race a day later to provide the two-race LCRC format. But in 1982 the Board of Governors decided that the Ladies Cup Regatta should henceforth be a stand-alone event, and the need for a new two-race LCRC race came about. The Odziozo series was the result.

Until 2001 the regatta was a two-day format. One day featured a single race, usually mostly or totally in the broad-lake, using LCYC racing marks, government marks, or both The other day featured two races, one in the morning, a short break for lunch, followed by an afternoon race. These two races were traditionally windward/leeward, usually using a windward drop mark controlled by a chase boat to ensure windward/leeward legs, with the length of the legs and the number of times around the course determined based on the winds at the time.

In 2001, after years of declining participation, the LCRC format for organized lake-wide racing ended. The club decided to keep the race in its schedule as a one-day race with racers from other clubs invited to participate in the hope that the race would continue in its intended purpose to foster cross-club competition.

There never have been any class trophies for this race. The original traveling trophy was for first-to-finish on corrected time. In 2012 that award was designated for Spinnaker boats and a separate trophy was created for JaM boats.

SCHUYLER ISLAND RACE

The 46th Consecutive Running in 2013

First run Sept. 7, 1968 as the Schuyler Reef Race, renamed the Schuyler Island Race the following year, it was one of four races created by Commodore John A. Williams (The other three races were around Appletree Shoal, all Four Brothers Islands, and Juniper Island.) John conceived this race as a figure 8, leaving Schuyler Reef buoy to port, the island to starboard, and the Reef buoy again to port. In the mid-1980s the return reef rounding was eliminated when the buoy was moved from the deeper south end of the reef to the shallower north end, making rounding inside of it too risky. The race became the traditional last race of the year, which it remained until 1974 when the Hot Ruddered Bum Race was created and made the season-ender.

Until 2012 there were never any trophies for this race. For many years the traditional prizes, awarded in the clubhouse soon after the end of the race, were a bottle of wine for first in each class, a six-pack of beer for second, and a liter of ginger ale for third. It was also a tradition that none of the awards left the clubhouse, having been shared among all racers gathered around the warmth of a cozy fire in the club fireplace. In 2012 trophies were created for the first-boat-to-finish on corrected time in the Spinnaker and JaM fleets.