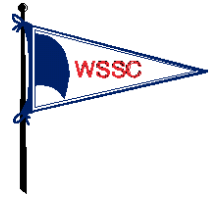


West Shore Sail Club



Presents

2008

Wednesday Night At the Races

Sailing Instructions

Spring Series

| Afterglow | |
|-----------|------|
| May 21 | GIYC |
| May 28 | GIYC |
| June 4 | GIYC |
| June 11 | GIYC |

Summer Series

| Afterglow | |
|-----------|-----|
| June 18 | FYC |
| June 25 | FYC |
| July 2 | FYC |
| July 9 | FYC |

Fall Series

| Afterglow | |
|-----------|------|
| July 30 | FYC |
| August 13 | FYC |
| August 27 | GIYC |
| Sept 3 | GIYC |

Make up Dates: July 16 / Sept 10

2008 West Shore Sail Club Race Committee

| WNATR Co-Chairmen | | |
|-------------------------------|---------------------|---------------------|
| Dan Synowiec | - | Cell (734) 552-9452 |
| Matt Jablonski | Home (734) 283-5510 | - |
| Chris Jablonski | - | Cell (313) 213-0681 |
| Race Committee Members | | |
| Commodore - Jody Larrow | - | Cell (313) 598-6370 |
| Vice Commodore - Fred Krabach | Home (313) 359-3191 | Cell (313) 580-9977 |
| Rear Commodore - Ron Harmon | Home (734) 676-1514 | Cell (734) 664-8173 |
| Secretary - Tina Askins | - | Cell (734) 637-8914 |
| Protest Chariman - Jim Bryan | Home (734) 675-4786 | Cell (313) 680-5719 |
| Doug Howe | Home (734) 675-6133 | Cell (313) 805-2538 |
| Amanda Krabach | Home (313) 359-3191 | Cell (734) 891-6434 |

Races Results will be on our web site – www.westshoresailclub.org

Wednesday Night at the Races – Sailing Instructions



1.0 MANAGEMENT AND RULES

1.1 The races will be under the management of the WEST SHORE SAIL CLUB (WSSC) OFFICERS AND RACE COMMITTEE, which will have full and final authority in establishing the racing articles and in interpreting the rules. The RACING RULES of SAILING (RRS), and the prescriptions of the UNITED STATES SAILING ASSOCIATION except as modified by this program will govern all races. In addition, yachts shall abide by all rules as prescribed by their rating rule (PHRF or JAM). Except as modified by these Instructions.

2.0 ENTRIES

2.1 Entry is open to all monohull sailing auxiliaries that meet the Federal Requirements for Safety and Lighting. The Skipper must ensure that the yacht is well found, thoroughly seaworthy, and that the hull, spars, rigging, sails, and all equipment is properly maintained and stowed and that the crew knows where it is kept and how it is used. The minimum size for any yacht wishing to enter WNATR shall be 20 feet LOA unless it has a valid PHRF certificate.

2.2 All owners of participating yachts will be responsible for having in effect during WNATR the proper liability protection necessary to insure against loss or damage of property and/or life for the safety of other competing yachts-

2.3 Use of **Personal Flotation Devices** or harnesses is recommended.

3.0 SAIL NUMBERS

3.1 Sail numbers must be carried on both sides of mainsail, overlapping headsails, and spinnakers, or in compliance with RRS Appendix H. FINISH TIMES MAY NOT BE TAKEN if sails are not numbered as registered.

4.0 RATINGS

4.1 Yachts racing in PHRF classes will be rated based on the handicap indicated by -PERFORMANCE HANDICAP RACING FLEET- LAKE ERIE [PHRF-LE] or MORC certificate.

4.2 Yachts racing in JAM classes will be rated based on the handicap indicated by LAKE ERIE-PERFORMANCE HANDICAP RACING FLEET NON-SPINNAKER [PHRF-LE]

4.3 Any rating change will go into effect Seven [7] days after the designated Chairman receives it. There can be only one [1] change per series. A yacht may not change classes until the end of a series.

4.4 Entries not having an official rating certificate will be assessed a rating at the discretion of the WSSC Race Committee.

5.0 COURSES AND MARKS

5.1 All races will be sailed utilizing the WSSC BUOYS. The Race Committee will display a course direction flag as indicated on the course direction section of these instructions before the first warning signal is hoisted. The courses listed include the

marks, which are to be rounded, in the order, which they are to be rounded, and the side on which each is to be passed, an "s" denoting mark is to be left to starboard, and "p" meaning mark is to be left to port.

5.2 The COURSE DIAGRAM is for REFERENCE ONLY. All course headings and distances are **APPROXIMATE** and ARE NOT TO BE USED FOR NAVIGATION.

5.3 All Marks will be a cylindrical form, white in color with orange reflective tape around the identification letter, and additional orange tape as required. A round white or orange inflatable buoy may replace a missing mark. A missing mark which has not been replaced by an inflatable buoy will cause the race to be abandoned, and will be re-sailed on the make-up night, at the race committee's discretion, this may be subject to rule 5.5

5.4 Changes to the Sailing Instructions will be announced prior to implementation, and will be posted at Grosse Ile Yacht Club and Ford Yacht Club, the date that any changes are to go into effect will be listed on the official notice of change.

5.5 If a make up race is necessary for a series due to a cancellation for the entire fleet, the race will be tentatively scheduled for one of the make up dates. A series must contain three races for scoring purposes or no flags will be awarded for that series. A series that has less than three races will take precedence for the make-up dates. Should a single race in two or more series be cancelled, the series with the first cancellation will take precedence to the make up date. If an individual class needs to sail a make up race it will be sailed on the make up date at the race committee's discretion. The first make up date is for the spring and summer series. The second make up date is for the fall series provided there were enough races in the spring and summer series to constitute a series.

6.0 SIGNALS

6.1 Signals shall be hoisted in accordance with RRS Rule 26.

6.2 In the event a race is cancelled, Code Flag "N" will be hoisted. Code Flag "N" is a blue and white-checked flag.

7.0 PENNANTS

7.1 Backstay Pennants will be distributed to each class and must be flown from the aftermost backstay approximately six (6) feet above the deck. Yachts NOT FLYING their class pennant shall be subject to protest and MAY NOT BE SCORED.

8.0 RESTRICTED AREA

8.1 The restricted area is an oval whose imaginary boundary is Fifty (50) yards away from both sides and both ends of the start/finish line. Each yacht must KEEP CLEAR of the restricted area, and the first leg of the course until the warning signal, 5 minutes before its class start.

8.2 DO NOT CROSS THRU THE START/FINISH LINE EXCEPT WHEN STARTING OR FINISHING. VIOLATION OF THESE RESTRICTIONS WILL BE RECORDED BY THE COMMITTEE BOAT AND REPORTED TO THE PROTEST COMMITTEE, AND MAY BE GROUNDS FOR PROTEST.

Wednesday Night at the Races – Sailing Instructions



9.0 START

- 9.1 Races will be started using RRS rule 26, with classes starting as listed on the starting sequence list on the back of these instructions.
- 9.2 The starting line will be marked by the mast of the committee boat, or a staff displaying an orange flag on the committee boat, and the WSSC "C" buoy approximately fifty yards from the committee boat.
- 9.3 The committee boat may utilize a protection buoy. This buoy is considered to be an extension of the Committee boat. No yacht may properly start between the protection buoy and the committee boat.
- 9.4 IF A YACHT PASSES BETWEEN THE COMMITTEE BOAT AND THE PROTECTION BUOY ANYTIME PREVIOUS TO ITS FIVE-MINUTE SIGNAL, IT WILL BE SUBJECT TO DISQUALIFICATION. IF ANY YACHT PASSES BETWEEN THE PROTECTION BUOY AND THE COMMITTEE BOAT, OR MAKES CONTACT WITH THE PROTECTION BUOY, AFTER ITS FIVE MINUTE WARNING SIGNAL, IT MUST PROPERLY START, THEN DO A 360° TURN OR BE SUBJECT TO DISQUALIFICATION. IF THIS OCCURS, THE RACE COMMITTEE BOAT WILL RECORD THE FINISH TIME OF THE OFFENDING YACHT, THEN NOTIFY THE PROTEST COMMITTEE, WHO MAY INITIATE PROTEST AGAINST THE YACHT.
- 9.5 The committee boat will attempt to acknowledge any boats on the course side (OCS) of the starting line at her starting signal by the following: displaying code flag X (white with blue cross) along with a sound signal, and hailing the sail number or boat name. An attempt may also be made to hail the sail numbers of any boats OCS on VHF channel 71. Failure of a boat to observe these signals will not excuse a premature start. It is the responsibility of each yacht to make a proper start.
- 9.6 CONTACT WITH THE COMMITTEE BOAT MEANS AUTOMATIC DISQUALIFICATION WITHOUT APPEAL!!!

10.0 FINISH

- 10.1 The finish line will be marked by the mast of the committee boat, or a staff displaying an orange flag on the committee boat, and the C buoy, approximately fifty yards from the committee boat.
- 10.2 To assure the best possible accuracy in timekeeping, after dark, call out your sail number and illuminate your sail as you approach the finish line. It is the responsibility of each yacht to know the time you finish and the yachts finishing before and after you. KEEP A RECORD AND CONTACT THE RACE COMMITTEE IF YOU FIND A DISCREPANCY.
- 10.3 The committee boat will display a yellow anti-collision strobe light and its anchor light after dark, if possible.
- 10.4 The race committee boat will remain on station until 2200 hours GPS time (10:00 PM). The committee boat will not take times of any yacht finishing after this. One yacht finishing in a class before the time limit expires constitutes a valid race for that class. Any class not finishing a race shall be scheduled to re-sail the race on the make-up night at the race committee's discretion, this maybe subject to rule 5.5
- 10.5 If a yacht starts with the committee boat to the port, the yacht shall finish with the committee boat to the starboard. Similarly if a yacht starts with the committee boat to starboard, the yacht shall finish with the committee boat to port.

11.0 SCORING

- 11.1 The Low Point Scoring System described in the US Sailing RRS applies. Three series of four races each are scheduled, those being a spring, summer, and fall Series. Series totals are computed by totaling the best three race scores for the series.
- 11.2 Shall a tie occur, the tie breaker will follow US Sailing Tie braking series rule, Appendix A scoring, series ties A8.1.
- 11.3 In the event of only getting 3 races off, there will not be a throw out.
- 11.4 A boat that does not start (DNS) will be scored a point total of the number of boats registered for that start. A boat that starts but does not finish (DNF) will be scored the number of boats that finish, plus one. A boat that is disqualified (DSQ) is scored the number of boats registered for the series, plus one.
- 11.5 Committee boats are selected from WSSC members or volunteers on a rotating basis. The skipper responsible for Committee boat duty must supply and serve on the committee boat, and has one of two options available for scoring purposes:
 - a. Inform the race committee that he will have his boat sailed in the race by a competent crew, and score the yacht's actual finish position for that race.
 - b. Take the best score he has received from the other three races for that series, and allow that score to be used for committee boat duty.
- 11.6 Skippers that do not reasonably follow instructions that are supplied in committee boat box, shall be considered not following committee boat duties. They shall be subject to protest hearing with potential penalties of not receiving the best score for the series, or potentially a DNS.

12.0 RADIO COMMUNICATION

- 12.1 VHF Channel 71 will be used for communication and courtesy broadcasts, as well as for notification of a race being cancelled due to severe weather conditions.
- 12.2 Any yacht that retires from a race shall contact the committee boat. This may be done on channel 71.

13.0 WNATR AWARDS

- 13.1 First, second, and third place awards will be given in each class for spring, summer, and fall series – See 11.1
- 13.2 A trophy will be awarded to the yacht that finishes first in each class for the year, taking the best nine of twelve scores.
- 13.3 West Shore Sail Club will award Boat of the Year trophies to the yacht in the PHRF and JAM classes accumulating the best point record using the Cox-Sprague scoring system from the following races:

| | |
|------------------------------------|-------------------|
| 8 Best WNATR Races | FYC Fall Classic |
| GIYC Day Race | FYC Regatta |
| FYC Night Race | GIYC Trans-Erie |
| GIYC Downriver Race | WSSC Port to Port |
| CIYC Labour Day Regatta | |
| WSSC Regatta/ Lighthouse Challenge | |

Wednesday Night at the Races – Sailing Instructions



The WSSC Regatta may be counted twice. Only the best 11 of the 17 counter races are applied to the BOAT OF THE YEAR scoring. If any of the counter races are not held, an additional WNATR race may be included as a counter for boat of the year. You must be a member of WSSC prior to the WSSC Regatta to qualify for WSSC Boat of the Year Awards.

14.0 ENTRIES PER CLASS

14.0 The Race Committee may split the class for purposes of class scoring, at its discretion.

15.0 PROTESTS

15.1 Yachts protesting must follow Part 5, Section A of RRS, except there shall be no charge for filing protest.

15.2 A boat wishing to protest must inform the committee boat of her intention to protest, either by hail or VHF, after finishing, and must inform a member of the RACE COMMITTEE within two (2) hours of her finish (or retiring) of her intent to file protest.

15.3 Protest shall be written on USSA forms (*as described in the RRS*), and lodged with a WSSC race committee representative within forty-eight (48) hours after finishing or retiring from the race.

15.4 The protest committee will use pre-hearings whenever possible to expedite the protest processes. If involved in a protest, you will be notified of the pre-hearing procedure.

15.5 All protests will be heard at a time and place to be determined by the protest committee. Protest procedures as outlined in the RRS will be followed. Competitors will be informed when there is a hearing in which they are an interested party. Failure on the part of any party to a protest, or a representative to attend the hearing may justify the Protest Committee to decide the protest as it deems fit with the evidence available.

15.6 RRS 44.2 is modified such that only a 360° penalty turn which must include one jibe and one tack needs to be performed in order to exonerate a violation of the RRS part 2 rules.

16.0 HOMELAND SECURITY

16.1 Racers should be aware that numerous restrictions on maneuvering and navigation may be in place on waters constituting and adjacent to the racing area- mainly in the Detroit River Shipping channel. Failure to honor these and subsequent delays to racing due to that are NOT grounds for redress.

16.2 Racing boats shall not be entitled to redress due to stoppage or other material interference by law enforcement authorities.

17.0 STARTING SEQUENCE

17.0 The starting sequence will be in the following order:

| | | |
|------|--------|----------------|
| 7:00 | JAM A | Purple Flag |
| 7:05 | JAM B | Green Flag |
| 7:10 | JAM C | Turquoise Flag |
| 7:20 | PHRF A | Blue Flag |
| 7:25 | PHRF B | Grey Flag |
| 7:30 | PHRF C | Yellow Flag |

18.0 MAIL ALL RATING CHANGES TO:

WSSC – WNATR C/O Dan
8417 Renee
Newport Mich. 48166 Phone: (734) 586 8441

19.0 AFTERGLOWS

After each race, WSSC invites all WNATR skippers and crew to join their fellow competitors for food, drink and camaraderie at Grosse Ile Yacht Club or Ford Yacht Club. GIYC will host the first 4 races. FYC will host the following 6, GIYC will host the last 2. Before the first warning signal, the race committee boat shall announce on VHF Ch 71 each week the location of that evening's afterglow. Preliminary race results will be announced as soon as possible after the committee boat is docked. Official race results will be **e-mailed** each week to all competitors. In the event that it gets too late to get results announced they will be e-mailed. If you wish to have a separate paper mailings please notify the WNATR Committee at the above address or phone. A nominal fee will be charged.

Wednesday Night at the Races – Sailing Instructions



2008 WNATR STARTING SEQUENCE

(Note: This starting sequence is in compliance with the 2005-2008 Race Rules of Sailing)

Times are approximate

| | | | |
|---|-------------------------------|---------------------|---|
| 6:55 | JAM A Warning Signal | 1 Sound Signal | Purple Flag (JAM A) Hoisted |
| 6:56 | JAM A Prep Signal | 1 Sound Signal | P Flag (blue/white square) Raised |
| 6:59 | 1 minute to JAM A Start | 1 Long Sound Signal | P Flag Lowered |
| 7:00 | JAM A Start / JAM B Warning | 1 Sound Signal | Purple Flag Lowered / Green Flag (JAM B) Hoisted |
| 7:01 | JAM B Prep Signal | 1 Sound Signal | P Flag Raised |
| 7:04 | 1 minute to JAM B Start | 1 Long Sound Signal | P Flag Lowered |
| 7:05 | JAM B Start / JAM C Warning | 1 Sound Signal | Green Flag Lowered / Turquoise (JAM C) Flag Hoisted |
| 7:06 | JAM C Prep Signal | 1 Sound Signal | P Flag Raised |
| 7:09 | 1 Minute to JAM C Start | 1 Long Sound Signal | P Flag Lowered |
| 7:10 | JAM C Start | 1 Sound Signal | Turquoise Flag Lowered |
| THERE IS A FIVE MINUTE BREAK IN THE SEQUENCE UNTIL PHRF A WARNING SIGNAL | | | |
| 7:15 | PHRF A Warning | 1 Sound Signal | Blue Flag (PHRF A) Hoisted |
| 7:16 | PHRF A Prep Signal | 1 Sound Signal | P Flag Raised |
| 7:19 | 1 minute to PHRF A Start | 1 Long Sound Signal | P Flag Lowered |
| 7:20 | PHRF A start /PHRF B Warning | 1 Sound Signal | Blue Flag Lowered / Grey Flag (PHRF B) Hoisted |
| 7:21 | PHRF B Prep Signal | 1 Sound Signal | P Flag Raised |
| 7:24 | 1 minute to PHRF B Start | 1 Long Sound Signal | P Flag Lowered |
| 7:25 | PHRF B Start / PHRF C Warning | 1 Sound Signal | Grey Flag Lowered / Yellow Flag (PHRF C) Hoisted |
| 7:26 | PHRF C Prep Signal | 1 Sound Signal | P Flag Raised |
| 7:29 | 1 Minute to PHRF C Start | 1 Long Sound Signal | P Flag Lowered |
| 7:30 | PHRF C Start | 1 Sound Signal | Yellow Flag Lowered |

2008 WSSC Wednesday Night at the Races Courses

| <u>Wind Direction</u> | <u>Course</u> | <u>Class</u> | <u>Mark Rounding Sequence</u> | <u>Distance</u> |
|-----------------------|---------------|--------------|------------------------------------|-----------------|
| 0° | N 1 | PHRF | Start C-Np-NWp-SWp-Sp-Np-Finish C | 6.25 NM |
| | | JAM | Start C-Np-Wp-SEp-NEp- Finish C | 6.01 NM |
| 0°/337° | N2 | PHRF | Start C-Np-Sp-SEp-Np-Finish C | 5.96 NM |
| | | JAM | Start C-Np-SWs-Ws-NWs-Finish C | 4.85 NM |
| 0° | N3 | PHRF | Start C-Np-Sp-Np-Finish C | 5.40 NM |
| | | JAM | Start C-Np-Wp-SWp-NWs-Finish C | 5.03 NM |
| 44° | NE 1 | PHRF | Start C-NEp-Np-Wp-SWp-NEp-Finish C | 6.25 NM |
| | | JAM | Start C-NEp-NWp-Sp-Ep-Finish C | 6.01 NM |
| 0°/22° | NE 2 | PHRF | Start C-NEp-SWp-Sp-NEp-Finish C | 5.96 NM |
| | | JAM | Start C-NEp-Ws-NWs-Ns-Finish C | 4.85 NM |
| 44° | NE 3 | PHRF | Start C-NEp-SWp-NEp-Finish C | 5.40 NM |
| | | JAM | Start C-NEp-NWp-Wp-Ns-Finish C | 5.03 NM |
| 90° | E 1 | PHRF | Start C-Ep-NEp-NWp-Wp-Ep-Finish C | 6.25 NM |
| | | JAM | Start C-Ep-Np-SWp-SEp-Finish C | 6.01 NM |
| 90°/67° | E 2 | PHRF | Start C-Ep-Wp-SWp-Ep-Finish C | 5.96 NM |
| | | JAM | Start C-Ep-NWs-Ns-NEs-Finish C | 4.85 NM |
| 90° | E3 | PHRF | Start C-Ep-Wp-Ep-Finish C | 5.40 NM |
| | | JAM | Start C-Ep-Np-NWp-NEs-Finish C | 5.03 NM |
| 135° | SE 1 | PHRF | Start C-SEp-Ep-Np-NWp-SEp-Finish C | 6.25 NM |
| | | JAM | Start C-SEp-NEp-Wp-Sp-Finish C | 6.01 NM |

Wednesday Night at the Races – Sailing Instructions



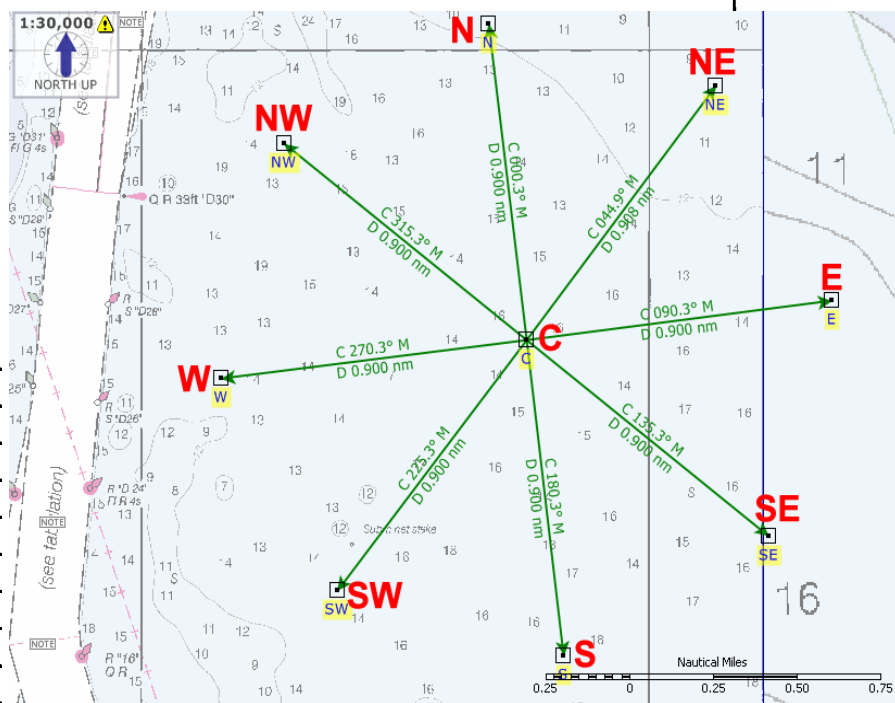
| | | | | |
|-----------|------|-------------|---|--------------------|
| 135°/112° | SE 2 | PHRF JAM | Start C-SEp-NWp-Wp-SEp-Finish C Start C-SEp-Ns-NEs-Es-Finish C | 5.96 NM 4.85 NM |
| 135° | SE 3 | PHRF JAM | Start C-SEp-NWp-SEp-Finish C Start C-SEp-NEp-Np-Es-Finish C | 5.40 NM 5.03 NM |
| 180° | S 1 | PHRF JAM | Start C-Sp-SEp-NEp-Np-Sp-Finish C Start C-Sp-Ep-NWp-SWp-Finish C | 6.25 NM 6.01 NM |
| 180°/157° | S 2 | PHRF JAM | Start C-Sp-Np-NWp-Sp-Finish C StartC-Sp-NEs-Es-SEs-Finish C | 5.96 NM 4.85 NM |
| 180° | S 3 | PHRF JAM | StartC-Sp-Np-Sp-Finish C StartC-Sp-Ep-NEp-SEs-Finish C | 5.40 NM 5.03 NM |
| 225° | SW 1 | PHRF JAM | StartC-SWp-Sp-Ep-NEp-SWp-Finish C StartC-SWp-SEp-Np-Wp-Finish C | 6.25 NM 6.01 NM |
| 225°/202° | SW 2 | PHRF JAM | StartC-SWp-NEp-Np-SWp-Finish C StartC-SWp-Es-SEs-Ss-Finish C | 5.96 NM 4.85 NM |
| 225° | SW 3 | PHRF JAM | StartC-SWp-NEp-SWp-Finish C StartC-SWp-SEp-Ep-Ss-Finish C | 5.40 NM 5.03 NM |
| 270° | W 1 | PHRF JAM | StartC-Wp-SWp-SEp-Ep-Wp-Finish C StartC-Wp-Sp-NEp-NWp-Finish C | 6.25 NM 6.01 NM |
| 270°/247° | W 2 | PHRF JAM | StartC-Wp-Ep-NEp-Wp-Finish C StartC-Wp-SEs-Ss-SWs-Finish C | 5.96 NM 4.85 NM |
| 270° | W3 | PHRF JAM | StartC-Wp-Ep-Wp-Finish C StartC-Wp-Sp-SEp-SWs-Finish C | 5.40 NM 5.03 NM |
| 315° | NW 1 | PHRF JAM | StartC-NWp-Wp-Sp-SEp-NWp-Finish C StartC-NWp-SWp-Ep-Np-Finish C | 6.25 NM 6.01 NM |
| 315°/292° | NW2 | PHRF JAM | StartC-NWp-SEp-Ep-NWp-Finish C StartC-NWp-Ss-SWs-Ws-Finish C | 5.96 NM 4.85 NM |
| 315° | NW3 | PHRF JAM | StartC-NWp-SEp-NWp-Finish C StartC-NWp-SWp-Sp-Ws-Finish C | 5.40 NM 5.03 NM |

Courses with two wind directions indicate the heading of the first and second PHRF upwind legs

Wednesday Night at the Races – Sailing Instructions



**2008 West Shore Sail Club
Wednesday Night at the
Races Course Diagram
(not to be used for navigation)**



| | | |
|-----------|-------------------|--------------------|
| C | N42 01.180 | W083 06.479 |
| E | N42 01.290 | W083 05.277 |
| NE | N42 01.889 | W083 05.733 |
| N | N42 02.073 | W083 06.627 |
| NW | N42 01.734 | W083 07.434 |
| W | N42 01.070 | W083 07.681 |
| SW | N42 00.471 | W083 07.225 |
| S | N42 00.287 | W083 06.331 |
| SE | N42 00.626 | W083 05.525 |

| HEADING | DISTANCE | HEADING | DISTANCE | HEADING | DISTANCE |
|---------|-----------------------|---------|-----------------------|---------|-----------------------|
| N N | 0.00 NM | NE N | 284°T / 292°M 0.69 NM | E N | 307°T / 315°M 1.27 NM |
| N NE | 104°T / 111°M 0.69 NM | NE NE | - 0.00 NM | E NE | 330°T / 338°M 0.69 NM |
| N E | 127°T / 135°M 1.27 NM | NE E | 150°T / 158°M 0.69 NM | E E | - 0.00 NM |
| N SE | 150°T / 157°M 1.67 NM | NE SE | 173°T / 180°M 1.27 NM | E SE | 195°T / 202°M 0.69 NM |
| N S | 172°T / 180°M 1.80 NM | NE S | 195°T / 202°M 1.67 NM | E S | 217°T / 225°M 1.27 NM |
| N SW | 195°T / 202°M 1.67 NM | NE SW | 217°T / 225°M 1.80 NM | E SW | 240°T / 247°M 1.67 NM |
| N W | 217°T / 225°M 1.27 NM | NE W | 240°T / 247°M 1.67 NM | E W | 262°T / 270°M 1.80 NM |
| N NW | 240°T / 247°M 0.69 NM | NE NW | 262°T / 269°M 1.27 NM | E NW | 285°T / 292°M 1.67 NM |
| N C | 172°T / 180°M 0.90 NM | NE C | 217°T / 224°M 0.90 NM | E C | 262°T / 270°M 0.90 NM |
| SE N | 330°T / 337°M 1.67 NM | S N | 352°T / 000°M 1.80 NM | SW N | 015°T / 022°M 1.67 NM |
| SE NE | 353°T / 000°M 1.27 NM | S NE | 015°T / 022°M 1.67 NM | SW NE | 037°T / 045°M 1.80 NM |
| SE E | 015°T / 022°M 0.69 NM | S E | 037°T / 045°M 1.27 NM | SW E | 060°T / 067°M 1.67 NM |
| SE SE | - 0.00 NM | S SE | 060°T / 067°M 0.69 NM | SW SE | 082°T / 090°M 1.27 NM |
| SE S | 240°T / 247°M 0.69 NM | S S | - 0.00 NM | SW S | 105°T / 112°M 0.69 NM |
| SE SW | 263°T / 270°M 1.27 NM | S SW | 285°T / 292°M 0.69 NM | SW SW | - 0.00 NM |
| SE W | 285°T / 292°M 1.67 NM | S W | 307°T / 315°M 1.27 NM | SW W | 330°T / 337°M 0.69 NM |
| SE NW | 308°T / 315°M 1.80 NM | S NW | 330°T / 337°M 1.67 NM | SW NW | 352°T / 000°M 1.27 NM |
| SE C | 308°T / 315°M 0.90 NM | S C | 352°T / 000°M 0.90 NM | SW C | 038°T / 045°M 0.90 NM |
| W N | 037°T / 045°M 1.27 NM | NW N | 060°T / 067°M 0.69 NM | C N | 352°T / 000°M 0.90 NM |
| W NE | 060°T / 067°M 1.67 NM | NW NE | 082°T / 089°M 1.27 NM | C NE | 037°T / 044°M 0.90 NM |
| W E | 082°T / 090°M 1.80 NM | NW E | 105°T / 112°M 1.67 NM | C E | 082°T / 090°M 0.90 NM |
| W SE | 105°T / 112°M 1.67 NM | NW SE | 127°T / 135°M 1.80 NM | C SE | 128°T / 135°M 0.90 NM |
| W S | 127°T / 135°M 1.27 NM | NW S | 150°T / 157°M 1.67 NM | C S | 172°T / 180°M 0.90 NM |
| W SW | 150°T / 157°M 0.69 NM | NW SW | 172°T / 180°M 1.27 NM | C SW | 218°T / 225°M 0.90 NM |
| W W | - 0.00 NM | NW W | 195°T / 202°M 0.69 NM | C W | 262°T / 270°M 0.90 NM |
| W NW | 015°T / 022°M 0.69 NM | NW NW | - 0.00 NM | C NW | 307°T / 315°M 0.90 NM |
| W C | 082°T / 090°M 0.90 NM | NW C | 127°T / 135°M 0.90 NM | C C | - 0.00 NM |