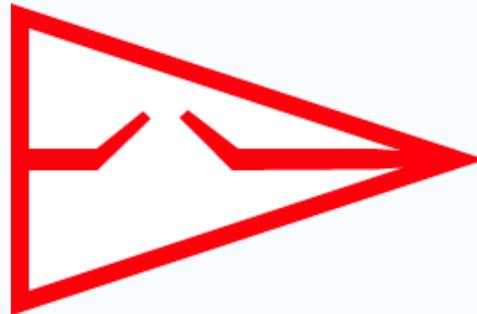


EASTPORT YACHT CLUB



Handicaps & Ratings

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HANDICAPS & RATINGS

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- PHRF ToT
- Converting PHRF ToD to PHRF ToT
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Disclaimers

- I am NOT a PHRF handicapper
- This presentation was developed to help explain EYC's use of handicapping systems and ratings, and variations within the system
- Questions about your rating and/or how it was developed should be addressed to the appropriate handicapper



Overview

- Unless EVERYONE competes in a one-design class, a handicapping system is needed to allow dissimilar boats to race and compete against each other
- There are many different handicapping systems
 - ❖ IRC = International Rating Certificate
 - ❖ ORC = Offshore Racing Congress
 - ❖ ORR = Offshore Racing Rule
 - ❖ PHRF = Performance Handicap Rating Formula



Overview

- All systems require measurements of the specific boat
 - ❖ Some systems require more details than others
 - ❖ Some require a formal, paid measurement by a certified official, while others rely upon honest & accurate reporting by the boat owner
 - ❖ All systems include a set of assumptions; e.g., a clean hull, proficient crew, etc.
- Now it starts to get complicated
 - ❖ Course configuration adjustments, such as the Circular Random/Random Course (CR/RC) factors
 - ❖ Time-over-Distance (ToD) versus Time-on-Time (ToT) ratings
 - ❖ Wind-indexed ratings



Overview

- EYC uses the PHRF system, with ratings assigned by PHRF of the Chesapeake (PHRF-C)
 - ❖ A valid PHRF-C certificate is required to compete in a handicap class across all EYC events
 - ❖ Except...
 - Charity Events: PHRF-C allows EYC to provide one-day provisional ratings to boats that do not have a certificate.
 - One-Design Events: No handicap adjustments are needed in one-design racing.
 - Formal CRCA Events: CRCA entries are scored to either an ORRez certificate or to their Assigned Rating Class number.
 - A2B Race: The Annapolis to Bermuda Race is a separate entity from EYC's Race Committee. They offer multiple scoring options for this biennial event.



Overview

- Through the end of the 2017 season, EYC scored races based on the PHRF ToD rating
- In 2017, EYC adopted the PHRF Circular Random/Random Course (CR/RC) rating adjustment
 - ❖ The baseline PHRF rating assumes Windward-Leeward (W/L) courses
 - ❖ However, point-to-point races (e.g., Miles River Race Back) or circular courses (e.g., CRAB Cup) may/will include significant distances with off-the-wind points of sail
 - ❖ Some boat & sail plan designs gain significant advantage on reaching legs – which are not accounted for in a handicap oriented to W/L courses
 - ❖ The CR/RC adjustment seeks to address this variation
- Beginning in 2018, EYC switched to the PHRF ToT approach, and continued to use the CR/RC adjustment



Overview

- Wind indexing is another method to account for performance differences between competing boats
 - ❖ Some boats perform better in light conditions, while others are best in heavier conditions
- Wind indexing provides each boat with ratings across multiple windspeed ranges
- How/when it is invoked/declared should be specified in the Sailing Instructions
- Who uses wind indexing?
 - ❖ EYC RC does not currently score to wind indexing
 - ❖ CRCA uses wind indexing under ORR-EZ



Overview

➤ Wind indexing examples

	WINDSPEED (knots)						NOTES
	1-10		11-15		16-20		
	ToD	ToT	ToD	ToT	ToD	ToT	
Boat A	87	1.0204	90	1.0156	96	1.0062	As windspeed increases, this boat is expected to get <u>slower</u>
Boat B	87	1.0204	84	1.0252	81	1.0301	As windspeed increases, this boat is expected to get <u>faster</u>
Boat C	180	0.8904	186	0.8832	189	0.8796	As windspeed increases, this boat is expected to get <u>slower</u>
Boat D	180	0.8904	174	0.8978	174	0.8978	As windspeed increases, this boat is expected to get <u>faster</u>



PHRF ToD

➤ How Does It Work?

- ❖ Each boat receives a rating from a local handicapper
- ❖ Corrected Time = Elapsed Time – (Distance * Rating)

➤ Pros

- ❖ The adjustment is easy to calculate
- ❖ You can evaluate your position at almost any point within a race
- ❖ Competitors can calculate time deltas prior to the start of a race

➤ Cons

- ❖ Does not account for changing conditions after some boats have finished
- ❖ Errors in measuring course length degrade the corrected time calculations



PHRF ToT

➤ How Does It Work?

- ❖ Each boat has a Time Correction Factor (TCF), which is derived from its ToD rating
- ❖ Corrected Time = Elapsed Time * TCF

➤ Pros

- ❖ Does a better job of accounting for changing conditions after some boats have finished
- ❖ Distance is irrelevant when calculating the results

➤ Cons

- ❖ Not easy to calculate your corrected time
 - Very difficult to determine your standing relative to other competitors while racing



Converting PHRF ToD to PHRF ToT

➤ A PHRF certificate provides only a boat's ToD rating

➤ The ToT TCF is a function of the ToD rating:

$$TCF = A / (B + ToD)$$

➤ US Sailing recommends:

❖ $A = 650$

❖ $B = 550$, as representative of “average” conditions

$$TCF = 650 / (550 + ToD)$$

➤ This is the calculation used by both EYC and AYC



Converting PHRF ToD to PHRF ToT

➤ Dufour F31

❖ ToD = 183

❖ ToT = 0.8868

➤ Melges 32

❖ ToD = 24 (spin); 30 (non-spin)

❖ ToT = 1.1324 (spin); 1.1207 (non-spin)

- Most scoring programs (e.g., Javascor, Yacht Scoring) require entry of only the ToD rating, then calculate ToT TCF behind the scenes



CRCA: ORR-EZ Certificate

➤ From the ORR-EZ website:

“ORR-EZ is the ORA handicapping rule that has been created for entry level and local competition. The initial expense and annual certificate fee to the boat owner are significantly lower than for a full measurement rule like ORR. It is also less accurate. Primary speed factors are determined from existing measurement databases of production boats and ORR certificates and simple sail measurements.”

➤ Certificate includes both ToD and ToT ratings

➤ There is an initial application fee, plus an annual renewal fee

❖ \$100 for the initial certificate

❖ \$75 for “revalidation”

***Fees Source:**
Scuttlebutt interview
of 28 March 2017*



CRCA: Assigned Ratings Class

- This is a PHRF-like rating based on measurements specific to each yacht
- CRCA calculates this rating for yachts that want to race under the CRCA, but do not have an ORR-EZ certificate



Dual Scoring

- What Is Dual Scoring?
 - ❖ Dual scoring is when a boat is scored in more than one rating system in the same event/regatta
 - ❖ A requirement is that the boat must have a valid certificate for each rating system in which it is entered
- Do I Have To Pay An Additional Entry Fee for Dual Scoring?
 - ❖ This is specified in the NoR, but typically, the answer is “no.”
- Can I Win More Than 1 Award in the Same Event?
 - ❖ Absolutely; a boat could correct into 2nd under one scoring system, and into 1st under the other

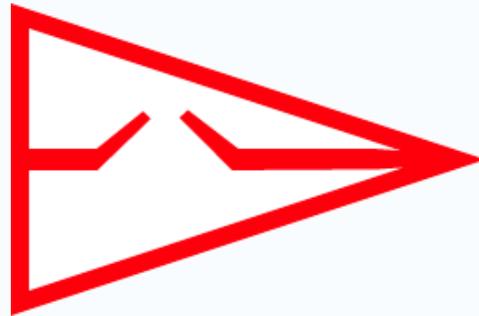


Dual Scoring

- EYC RC does not currently implement dual scoring...except for the A2B Race
 - ❖ Which, as we noted earlier, is a separate entity from the Friday Night Beer Cans and weekend events run by EYC RC
- Definitions of the scoring approach & an explanation of prizes should be clearly stated in the NoR



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Questions?

Thank you for attending!

