



[#TheEqualChanceToWin](#)

Dublin Bay Meeting

21st October '25

TOPICS

- **ORC Introduction**
- **Purpose of “ORC Study”**
- **Progress to date**
- **Cost of ORC**
- **Proposed Next Steps & Actions**

- **Q & A**

ORC Introduction

- It is the largest measurement-based rating rule system in the world.
- [#TheEqualChanceToWin](#) - refers to how the ORC system can rate nearly every kind of boat in a scientific and unbiased manner to create fair ratings, thus giving all boats an equal chance to win on the race course.
- *There are no secret formulations or hidden insights: in the ORC system everything is published and everyone has the same access to the information*

Purpose

The key objective of the “project” is to:-

- Evaluate ORC (*Club only*) :-
 - Identify process to get ORC ratings
 - Evaluate accuracy of rating (*Polars etc*) – see [here](#)
 - Identify how best to generate results
 - Run trial results

ORC Club - *Measurements*

- Sails measurements for IRC and ORC are pretty close.
- Rig measurements are bit more for ORC than IRC.
- There are more propeller measurements in ORC than in IRC but for ORC Club you need only propeller type and installation.
- Freeboard and stability measurements are needed for ORC International only.

- *Zoran Grubisa (Chief Measurer, ORC)*

- Some designs (one-offs etc) may need to be scanned.

Progress to Date

- **Progress to date**
 - **“Shadow” results for DBSC, D2D, Calves Week,**
 - **ORC Certs**
 - **HalSail**
 - **Handicap Analysis**
 - **Lessons Learnt**

Progress to Date – *Constructed Courses*

- A “Constructed Course” uses the distance and TWA of each leg to calculate the mix of time allowances for each yacht.
- In order to decide what TWS should be used for the time allowance calculation, there is the option of using “Performance Curve Scoring”, where each boat’s elapsed time is compared to its *theoretical* capability (from VPP), and an “Implied Wind” speed is calculated.
- The highest Implied Wind speed of all boats in the race is then taken as a fair average wind speed across the whole race for all competitors.

Progress to Date – Constructed Courses

The screenshot shows a software window titled "Event C:\jk\Priv\Sailing\DBSC- 2024\2025\ORC\DBSC-ORC\DBSC Thu 25 - 100625.orcsc". The interface includes a sidebar with icons for "Save As", "Save", "Add", "Entry List", "Results", "Time Limits", "Heat List", "Update", "Print Setup", and "Import TCFs". The main area contains event details: Title "DBSC Thu - ORC Shadow 2025", Venue "Dublin Bay", Organizer "Dublin ORC Group / DBSC", and Folder "C:\jk\Priv\Sailing\2025\ORC\DBSC-ORC". There are also fields for Start/End times and Time Zone (GMT+01, UTC Offset 3600). A button for "Upload and publish event results on ORC Sailor Services website" is present. Below the details are tabs for "Fleet", "Classes & Races", and "Courses". The "Courses" tab is active, displaying a table with columns: Course Name, Distance, Bearing, TWD, TWS, Current Direction, Current Speed, and Predefined Curve. A yellow circle highlights the first three columns of the table.

Course Name	Distance	Bearing	TWD	TWS	Current Direction	Current Speed	Predefined Curve
E4	1.00	0.0°	0.0°				None
E5	0.71	309.0°	0.0°				None
F4	1.21	239.0°	0.0°				None
N3	1.86	69.0°	0.0°				None
Q3	1.69	227.0°	0.0°				None
Course 6	0.50	0.0°	0.0°				None

Progress to Date – sample DBSC Race

Race 1 24 Apr 2025 18:45:00				
Place	Sail Name	Helm	Finish Corrected	Points
1	29213 Something EL...	Brian Hall	19:55:27 1:10:27	1
2	1242 White Mischief	Richard Goodbody	19:56:27 1:11:40	2
3	8933 Bon Exemple	Colin Byrne	19:57:35 1:13:10	3
4	2160 Chimaera	Barry Cunningham	19:57:53 1:13:19	4
5	1383 Ruth	Tom Shanahan	19:57:54 1:13:25	5
6	811 Raptor	Fintan Cairns	19:59:57 1:15:15	6
7	53196 ReQuest	Nathan Justin Burke	19:58:44 1:15:30	7
8	53222 Riders On Th...	Bobby Kerr	20:01:28 1:16:56	8
9	1129 Jump the Gun	J Kelly/M Monaghan	20:02:39 1:17:48	9
10	9898 Indecision	Declan Hayes	20:05:38 1:20:53	10
11	28898 Powder Monk...	Chris Moore	20:07:13 1:22:23	11
DNC	1095 Dear Prudence	Jonathan Bourke		12
DNC	1206 Joker 2	John Maybury		12
DNC	7778 Gringo	Anthony Fox		(12)

Results from Dublin Bay Sailing Club				
Cruisers 1 ORC		Thursday Overall Shad		
Cruisers 1 ORC, Thursday Overall Shadow				
Rank	Sail Name	Helm	Score	
1	811 Raptor	Fintan Cairns	3	
2	8933 Bon Exemple	Colin Byrne	5	
3	9898 Indecision	Declan Hayes	6	
4	1129 Jump the Gun	J Kelly/M Monaghan	6	
2 races sailed, 2 races counted				
Race 1 24 Apr 2025 18:45:00				
Place	Sail Name	Helm	Finish Corrected	Points
1	8933 Bon Exemple	Colin Byrne	19:57:35 1:19:14	1
2	811 Raptor	Fintan Cairns	19:59:57 1:21:13	2
3	1129 Jump the Gun	J Kelly/M Monaghan	20:02:39 1:25:21	3
4	9898 Indecision	Declan Hayes	20:05:38 1:28:48	4
Race 2 1 May 2025 18:45:00 Cancelled				
Race 3 8 May 2025 18:45:00				

- Corrected time on ORC is 1m 59s - 2m 5s on IRC (1 & 2)

halsail-1e484.kxcdn.com

Progress to Date – IRC Race Analysis

Handicap analysis for Cruisers 1 IRC, Thursday Overall Race_1

Started 24 April 2025 at 18:45:00

[Back to results](#)

Sail number	Name	Type	Handicap used	Elapsed seconds	Corrected seconds	Handicap achieved	Delta
29213	Something Else		1.000	4227	4227	1.053	5% fast
1242	White Mischief		1.003	4287	4300	1.038	3% fast
8933	Bon Exemple		1.008	4355	4390	1.022	1% fast
2160	Chimaera		1.006	4373	4399	1.018	1% fast
1383	Ruth		1.007	4374	4405	1.017	1% fast
811	Raptor		1.004	4497	4515	0.990	1% slow
53196	ReQuest		1.024	4424	4530	1.006	2% slow
53222	Riders On The Storm		1.006	4588	4616	0.970	4% slow
1129	Jump the Gun		1.002	4659	4668	0.955	5% slow
9898	Indecision		1.003	4838	4853	0.920	8% slow
28898	Powder Monkey		1.002	4933	4943	0.902	10% slow

Progress to Date – SHSC

“....As you know we were the first event to use ORC (albeit in it's simplest format) and publish the results during the season just gone. In terms of what we done, working with John Kelly we used a 3 point all purpose handicap as per the US certificate which were input to Halsail. We took our wind readings from the weather station at Sherkin at the mid point of each day's racing. We used Halsail for results generation so no extra admin burden arose. The results generally favoured older designs where the margins were tight from what we could see. On the last day the winners had sufficient margins on the water such that both handicaps produced the same results for 1st place.”

I obviously have an interest in developments in the context of Calves Week 2026 and where ORC might fit in there as we will be issuing the 2026 NOR in the new year. I know that certainly in the Bay from my conversations with John Kelly that the direction of travel is towards constructed courses which is possible as you are operating off course cards etc.

For us constructed courses would be a significant challenge as courses are decided on the day by the PRO and there would be the additional burden of inputting the data into the ORC system for a set up where our admin and results generation capabilities are quite threadbare. We could certainly use the same system as last year and if Halsail is expanded to a 5 all purpose handicap then that would obviously be better than a 3 point one and would use that.....”

Progress to Date – *HYC Autumn Series*

Note - this is the view of one member of the HYC results scoring team and is not an officially endorsed view of the club

HYC Class	ORC Certs	IRC Certs
Class 1	2	5
Class 2	7	9
Class 3	2	5
Class 4 NS	5	6
Class 5 NS	2	1

Progress to Date – HYC Autumn Series

Sep 13 A - Class 2 IRC Fleet

Start: Start 2, Finishes: Finish time, Time: 14.10.00

Rank	Sail	Boat	Entrant	Club	Rating	Start	Finish	Elapsed	Corrected	Points
1	2794	Mata	Wright & De Neve	HYC	0.942	14.10.00	14.47.55	0.37.55	0.35.43	1.0
2	2507	Impetuous	Noonan & Chambers	HYC	0.921	14.10.00	14.48.51	0.38.51	0.35.47	2.0
3	4123	Pepperbox	Cormac Farrelly	HYC	0.919	14.10.00	14.49.27	0.39.27	0.36.15	3.0
4	1551	Mojo	Pat O'Neill	HYC	0.952	14.10.00	14.48.59	0.38.59	0.37.07	4.0
5	17793	Chinook	Brian Skehan	HYC	0.937	14.10.00	14.53.06	0.43.06	0.40.23	5.0
6	260	Jawesome III	Jeremy Beshoff	HYC	0.944	14.10.00	14.55.48	0.45.48	0.43.14	6.0
7	7495	Maximus	Paddy Kyne	HYC	0.920			DNS		8.0

ORC Scorer Event

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Autumn League 2025

Howth Yacht Club

Race Results

Class	Class 2	Race	Race 2	Start	13/09/2025 15:15:00 (13/09/2025 14:15:00)	Distance	3.24 NM	Scoring	PCS - Windward/Leeward	Updated	20/10/2025 10:42:36 (Provisional)	
Overall Pos	Yacht Name	Sail No	Type	Division	Start Time	Finish Time	Elapsed	Delta	Corrected	Overall Pts	TOD	IW
1	JAWSOME III	IRL 260	J-70 ONE DESIGN		15:15:00	+0 15:50:52	00:35:52	00:00:00	00:35:44	1.00	664.2	15.34521
2	MOJO	IRL-1551	J-80 OD		15:15:00	+0 15:50:51	00:35:51	00:00:02	00:35:46	2.00	663.2	15.28174
3	IMPETUOUS	IRL 2507	CORBY 25		15:15:00	+0 15:51:49	00:36:49	00:00:21	00:36:05	3.00	675.2	14.64484
4	CHINOOK	IRL 17793	FIRST 300 SPIRIT		15:15:00	+0 15:58:29	00:43:29	00:07:45	00:43:29	4.00	661.8	9.3511
5	NO EXCUSE	IRL1972	X 302 MK2		15:15:00	DNC				8.00		
5	MAXIMUS	IRL7495	X 302		15:15:00	DNC				8.00		
5	Ghost Raider	IRL985	J-70 ONE DESIGN		15:15:00	DNC				8.00		

Progress to Date – Race Analysis

Race 2 - Sept 13th (2nd Race)

This was a 3.24 NM windward/leeward race. The race committee reported 17 kts TWS and 250 TWD.

Impetuous (Corby 25) and Mojo (J/80) results differ between IRC and ORC:

- On the water, Mojo finished 58 seconds ahead of Impetuous.
- On IRC, Impetuous beat Mojo by 14s
- On ORC, Mojo beat Impetuous by 19s.
- That's a 33s swing to Mojo.

Where does this swing come from?

- On IRC, Mojo gives Impetuous 70s in a 35m race: $((0.952 / 0.921) - 1) * (35 * 60) = 70.684$
- On ORC, 14kts of wind:
 - On the beat, Mojo gives Impetuous 10s (789.2-779.5) per NM.
 - On the run, Mojo gives Impetuous 13s (587.9-575) per NM.
 - Overall, Mojo gives Impetuous roughly $(1.62*10) + (1.61*13) = 37s$ on this course.
- So, the difference between IRC and ORC is roughly $70 - 37 = 33s$

Intuitively, we can assume the J/80 is quite heavily penalised under IRC relative to the Corby because of its reaching and planing abilities, neither of which would help it on this course, and in these moderate conditions.

Progress to Date – Race Analysis

We can see, for example, that if we look at ORC's predictions on the same course in 20 kts of TWS, Mojo would give Impetuous 173s because their downwind VMG in 20 kts is 8.86 kts and 7.07 respectively.

Pos	Yacht Name	Sail No	Type	Division	Start Time	Finish Time	Elapsed	Delta	Corrected	Overall Pts	TOD	IW
1	JAWSOME III	IRL 260	J-70 ONE DESIGN		15:15:00	+0 15:50:52	00:35:52	00:00:00	00:35:44	1.00	664.2	15.34521
2	MOJO	IRL-1551	J-80 OD		15:15:00	+0 15:50:51	00:35:51	00:00:02	00:35:46	2.00	663.2	15.28174
3	IMPETUOUS	IRL 2507	CORBY 25		15:15:00	+0 15:51:49	00:36:49	00:00:21	00:36:05	3.00	675.2	14.64484
4	CHINOOK	IRL 17793	FIRST 300 SPIRIT		15:15:00	+0 15:58:29	00:43:29	00:07:45	00:43:29	4.00	661.8	9.3511
5	NO EXCUSE	IRL1972	X 302 MK2		15:15:00	DNC				8.00		
5	MAXIMUS	IRL7495	X 302		15:15:00	DNC				8.00		
5	Ghost Raider	IRL985	J-70 ONE DESIGN		15:15:00	DNC				8.00		

Rank	Sail	Boat	Entrant	Club	Rating	Start	Finish	Elapsed	Corrected	Points
1	260	Jawesome III	Jeremy Beshoff	HYC	0.944	15.15.00	15.50.52	0.35.52	0.33.51	1.0
2	2507	Impetuous	Noonan & Chambers	HYC	0.921	15.15.00	15.51.49	0.36.49	0.33.54	2.0
3	1551	Mojo	Pat O'Neill	HYC	0.952	15.15.00	15.50.51	0.35.51	0.34.08	3.0
4	4123	Pepperbox	Cormac Farrelly	HYC	0.919	15.15.00	15.52.45	0.37.45	0.34.42	4.0
5	2794	Mata	Wright & De Neve	HYC	0.942	15.15.00	15.53.17	0.38.17	0.36.04	5.0
6	17793	Chinook	Brian Skehan	HYC	0.937	15.15.00	15.58.29	0.43.29	0.40.45	6.0

Progress to Date – HYC Autumn Series

Sep 20 - Class 2 IRC Fleet

Start: Start 2, Finishes: Finish time, Time: 14.15.00

Rank	Sail	Boat	Entrant	Club	Rating	Start	Finish	Elapsed	Corrected	Points
1	7495	Maximus	Paddy Kyne	HYC	0.920	14.15.00	15.38.46	1.23.46	1.17.04	1.0
2	2507	Impetuous	Noonan & Chambers	HYC	0.921	14.15.00	15.39.50	1.24.50	1.18.08	2.0
3	260	Jawesome III	Jeremy Beshoff	HYC	0.944	14.15.00	15.39.13	1.24.13	1.19.30	3.0
4	985	Ghost Raider	Norbert Reilly	HYC	0.944	14.15.00	15.39.35	1.24.35	1.19.51	4.0
5	4123	Pepperbox	Cormac Farrelly	HYC	0.919	14.15.00	15.41.55	1.26.55	1.19.53	5.0
6	2794	Mata	Wright & De Neve	HYC	0.942	14.15.00	15.40.45	1.25.45	1.20.47	6.0
7	1551	Mojo	Pat O'Neill	HYC	0.952	14.15.00	15.42.33	1.27.33		

ORC Scorer Event

#TheEqualChanceToWin

Autumn League 2025

Howth Yacht Club

Race Results

Class	Class 2	Race	Race 3	Start	20/09/2025 14:15:00 (20/09/2025 13:15:00)	Distance	8.26 NM	Scoring	PCS - Constructed Course	Updated	20/10/2025 10:42:36 (Provisional)	
Overall Pos	Yacht Name	Sail No	Type	Division	Start Time	Finish Time	Elapsed	Delta	Corrected	Overall Pts	TOD	TW
1	IMPETUOUS	IRL 2507	CORBY 25		14:15:00	+0 15:39:50	01:24:50	00:00:00	01:18:53	1.00	616.2	17.38531
2	MAXIMUS	IRL7495	X 302		14:15:00	+0 15:38:46	01:23:46	00:00:38	01:19:31	2.00	603.9	16.80426
3	JAWSOME III	IRL 260	J-70 ONE DESIGN		14:15:00	+0 15:39:13	01:24:13	00:05:20	01:24:13	3.00	573.1	15.61926
4	Ghost Raider	IRL985	J-70 ONE DESIGN		14:15:00	+0 15:39:35	01:24:35	00:05:42	01:24:35	4.00	573.1	15.48323
5	MOJO	IRL-1551	J-80 OD		14:15:00	+0 15:42:33	01:27:33	00:07:15	01:26:08	5.00	583.3	13.91669
6	NO EXCUSE	IRL1972	X 302 MK2		14:15:00	DNC				8.00		
6	CHINOOK	IRL 17793	FIRST 300 SPIRIT		14:15:00	DNC				8.00		

Course data

Distance	Bearing	TWD	TWS
0.65	355.0°	355.0°	
0.56	267.0°	355.0°	
2.01	160.0°	355.0°	
2.16	356.0°	355.0°	
2.88	177.0°	355.0°	

Progress to Date – Race Analysis

Race 3 - Sept 20th

This was a 8.26 NM round-the-cans race. The race committee reported 18 knots TWS and 255 TWD.

Impetuous (Corby 25) vs Maximus (X-302) results differ between IRC and ORC:

-
- On the water, Maximus finished 64s ahead of Impetuous.
 - On IRC, Maximus beat Impetuous by 64s.
 - On ORC, Impetuous beat Maximus by 38s.
 - That's a 102s swing to Impetuous.

Where does this swing come from?

- On IRC, they have an almost identical rating. Impetuous gives Maximus roughly 5 seconds in this 85min race.
- On ORC, in 17 kts:
 - 33% of the race was a beat, where Impetuous would give Maximus 14s.
 - 7% of the race was a beam reach, where Maximus would give Impetuous 14s.
 - 60% of the race was a run, where Maximus would give Impetuous 107s.
- So, the difference between IRC and ORC is roughly $107 - 5 = 102s$

Progress to Date – *Race Analysis Conclusion*

Conclusion

The above is quite a limited experiment, but even so it is quite clear that ORC and IRC results can arrive at significantly different outcomes. A difference of almost one minute in a fifty minute race is obviously significant, when competitors worry about losing or gaining boat-lengths.

Looking at individual races, it is also quite clear that ORC's ability to allocate custom time allowances for each race is naturally more fair than IRC's single number system. An ORC time allowance can take into account the sometimes massive performance differences based on different wind angles and wind speeds, whereas under IRC a competitor will have the same time-on-time allowance no matter the race course or conditions.

The mitigating argument for IRC's obvious weakness is that fairness across a series is what really matters - if a race committee runs an appropriate mix of races, things will even themselves out. It might be impossible to sail to your IRC rating this weekend, but next weekend you could find yourself sailing well ahead of your rating. Certainly, a mix of races across a series is desirable in terms of challenging the abilities of competitors, but surely this is no argument against a desire to have each individual race be as level a playing field as possible?

ORC / IRC – *Key Differences*

- **Rating Calculation**

- ORC uses an open VPP system that calculates predicted speeds for specific conditions (wind strength, course angle)
- IRC uses a proprietary formula that produces a single rating number - the exact calculation method is confidential

- **Adaptability to Conditions**

- ORC ratings can vary based on specific race conditions - the handicap adjusts for light/heavy wind and upwind/downwind legs
- IRC provides a fixed rating regardless of conditions, making race outcomes more predictable beforehand

- **Fairness vs. Simplicity**

- ORC is generally considered more scientifically accurate and adaptable to varying conditions, while IRC offers greater simplicity, though with less transparency in how ratings are calculated.

Cost of ORC

- Year 1 is Free
- ORC Levy - €50
- Additional Local cost - *tbc*
- Proposal is to have small representative group (voluntary) for this trial period + one nominated (knowledgeable) administrator (paid @ cost) to manage applications & field enquiries.

2025 ORC – US Sailing Pricing (Price per Foot)

LOA (ft)	ORCi New	ORCi Renewal	ORCi Amend.	ORC Club New	ORC Club Renewal	ORC Club Amend.
0 – 29.99	\$8.97	\$7.65	\$4.99	\$3.42	\$3.24	\$2.18
30 – 39.99	\$10.17	\$8.67	\$5.66	\$4.56	\$4.32	\$2.91
40 – 49.99	\$11.36	\$9.68	\$6.32	\$5.69	\$5.40	\$3.63
50 – 59.99	\$12.55	\$10.76	\$6.99	\$6.83	\$6.48	\$4.36
LOA > 60	\$13.15	\$11.18	\$7.32	\$7.97	\$7.56	\$5.08

Proposed Next Steps & Actions

- ORC Results for '26?
 - Clubs/Classes to decide on formalising results (*as well as IRC & ECHO*)
 - DBSC has indicated that it will do so, if requested by Classes
 - A suggestion from a well-known competitor is to consider using the *Royal Alfred* as the platform for ORC results?
- **IF** decision to proceed :-
 - Certs & Measurements
 - Sail measurements
 - IRC Sail date to be used (*ideally Endorsed Certs*) for existing sails.
 - New / modified sails to be measured to **I(n)H(ouse)C(ertification)** standard (*sailmakers*) – there is a cost to getting older/modified sails measured.
 - Race Management
 - Results Systems
 - ORC representation