

Tata Steel SC – Calculating the Club Portsmouth Numbers

Summary

In line with current RYA recommendations, Tata Steel SC Committee has agreed to adopt Club Portsmouth Numbers (CPNs) effective from the 2018 Autumn Series for club racing. The purpose of this paper is to describe the process of generating the Club PNs. The main aspects of this process are done via the PYOnline website, the RYA's website for collecting and analysing racing data to develop their consolidated National List (NL) and to assist clubs in preparing their own Club Portsmouth Number (CPN) list.

Uploading Club Data

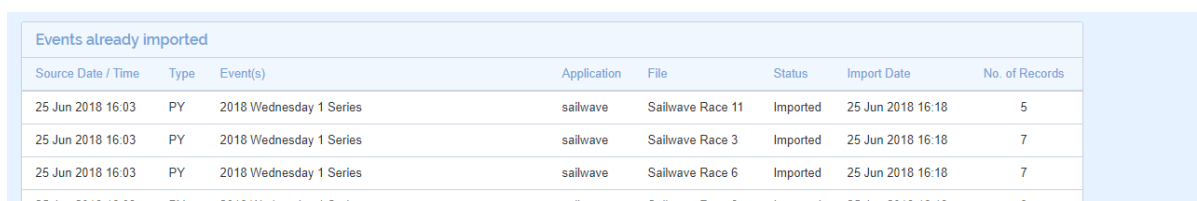
Our club results are entered into Sailwave, probably the pre-eminent sailing results and scoring software available. Results are maintained by series in Sailwave and you can see the Sailwave output on the club's website under Sailing/Results. Sailwave has the facility to upload directly to PYOnline. The club has race data in PYOnline from 2013, 2016, 2017 and 2018.

At present, the data is uploaded at the end of each series. However, prior to upload, the separate fleets' results, currently General Handicap and Solo, are merged. We can do this because the fleets are sailing the same courses and we are recording times for the Solos, therefore with elapsed times it is as if they are competing in the same race to allow the Solo fleet data to be analysed alongside the General Handicap fleet. This also allows PYOnline to generate a greater confidence level in the data and to minimise the ignoring of data. PYOnline ignores the data from races with less than 4 competitors. By combining the fleets we significantly cut down the number of results that are excluded, e.g. with two starts each with 3 boats, both starts are ignored, whereas combining them we get to include 6 results.

As part of the upload process, the class configuration has to be specified. This is simply whether the class is dinghy, keelboat or multihull, the number of crew, the type of rig, una or sloop, and type of spinnaker, conventional, asymmetric or none. This allows for multiple configurations of the same class e.g. the Mirror can be sailed solo or two-up and with or without a conventional spinnaker and be assigned different PNs.

The upload process also allows us to define our own class names. This would allow us to split a class into modern or classic and have differing CPNs for each. An alternative already in force is to split the class names into different rig sizes, such as the RS100 10.2 and RS 100 8.4.

Once uploaded, the data has to be imported into PYOnline. The following is a sample screenshot of how the series data is shown:



Events already imported								
Source Date / Time	Type	Event(s)	Application	File	Status	Import Date	No. of Records	
25 Jun 2018 16:03	PY	2018 Wednesday 1 Series	sailwave	Sailwave Race 11	Imported	25 Jun 2018 16:18	5	
25 Jun 2018 16:03	PY	2018 Wednesday 1 Series	sailwave	Sailwave Race 3	Imported	25 Jun 2018 16:18	7	
25 Jun 2018 16:03	PY	2018 Wednesday 1 Series	sailwave	Sailwave Race 6	Imported	25 Jun 2018 16:18	7	
25 Jun 2018 16:03	PY	2018 Wednesday 1 Series	sailwave	Sailwave Race 8	Imported	25 Jun 2018 16:18	9	

PYOnline Reports

We can run reports on the PYOnline data. Although it is possible to focus in on particular date ranges, individual classes and selected event (series) name, for the purpose of generating the Club PNs we select all results. One other selection option is to choose whether or not to include “Linked” clubs.

One issue with using data only from our own club is that the number of data points per class is relative low statistically and so the confidence level for many of the classes is relatively low or zero. Therefore combining our data with selected other clubs that have a similar mix of classes and similar conditions allows us to improve the confidence level of the data, and by comparing the PNs for our club alone and the PN from ours with the linked clubs, we can check that the combined data reflects what we are seeing at Tata.

The linked clubs we have found that are suitable are:

- Llandegfedd SC
- Draycote Water Sailing Club
- Coniston Sailing Club
- Chew Valley Lake Sailing Club

The following shows a sample of report data:

Report Detail							
Class	Configuration	Races	Appearances	Confidence	PN	Last PN	
12FT SKIFF	2 S A	1	1	0.00	915	0	📄
2.4	1 S 0	1	1	0.00	1253	0	📄
2000	1 S A	3	3	0.00	1107	0	📄
2000	1 U 0	3	3	0.00	1150	0	📄
2000	2 S A	13	18	0.00	1113	0	📄
29er	2 S A	46	48	0.00	924	912	📄
405	2 S A	2	2	0.00	1143	0	📄
420	2 S C	24	24	0.00	1097	1111	📄

You’ll readily see that many of the rows shown are not relevant to us, though these classes are sailed at others of the linked clubs. Even the 420 shown has insufficient race appearances to generate any confidence in the result. The complete list has 206 rows. We download the report and then filter the list to only consider the classes and configuration likely to be relevant to us and that have a confidence level of greater than 0. Confidence levels of 0 mean that we will use the RYA PN as it stands. The filtered report is Appendix A.

Concerns have been expressed in the past that a CPN calculated for a class with only a single participant would be the same as a Personal Handicap for that individual. The confidence level generated for a single individual’s results will be 0. Therefore, in this case, the RYA PN would continue to be used. However, the wider range of data made available by the use of linked clubs means the likelihood of a single participant in a class is significantly lessened.

Using the Report

The report columns are:

- Class.
- Configuration (as described above).
- Appearances and Races – the number of results for boats of this class that are being used in the calculations and the number of races the results are in.
- Last PN is the last PN observed in the races. This information is ignored.
- PN is the observed PN calculated from the data.
- Confidence is a figure between 0 and 1 and is the statistically calculated confidence in the observed PN.

We take the data in the report into an Excel workbook, dropping the columns Appearances, Races and Last PN and adding columns to show the current RYA PN (if there is one), the calculated Adjustment, and the calculated Club PN. If there isn't a current RYA PN for a class sailed at our club, we substitute the best estimate of a PN we can get, first from the historical RYA PN data and failing that, from other clubs or manufacturer's data. The data in this workbook is shown in Appendix B.

The Adjustment for any class is calculated by multiplying the difference between the observed PN and the RYA PN by the Confidence and then applying that to the RYA PN to create the Club PN. Therefore adjustments depend on the data clearly showing the need for the change.

So, for example, the CONTENDER has a Confidence of 0.27, an observed PN of 992 and an RYA PN of 969. The PN difference is 23 and multiplying that by 0.27 gives us 6.21, which rounds to 6 (PNs are always whole numbers) and added to the RYA PN gives a Club PN of 975.

The Laser Radial has a Confidence of 0.79, an observed PN of 1135 and an RYA PN of 1142. The PN difference is -7 and multiplying that by 0.79 gives us -5.53, which rounds to -6 and added to the RYA PN gives a Club PN of 1136.

The upshot of this is that adopting the RYA's preferred method of generating Club PN's where appropriate will provide fairer racing. The RYA preference for this approach is demonstrated by the document symbol on the online report. When tapped, this symbol generates an RYA headed and signed document giving official support for the data used to generate the Club PN. A sample of the document is shown as Appendix C.

Appendix A

Class	Configuration	Races	Appearances	Confidence	PN	Last PN
505	2 S C	33	57	0.02	887	902
CONTENDER	1 U 0	151	169	0.27	992	969
Enterprise	2 S 0	53	77	0.07	1138	0
EUROPE	1 U 0	59	62	0.03	1149	1145
FINN	1 U 0	50	60	0.03	1040	1042
Fireball	2 S C	329	684	0.84	970	961
Flying Fifteen	2 S C	290	806	0.83	1010	1015
International Canoe	1 S 0	191	198	0.37	908	0
Laser	1 U 0	634	2253	0.85	1096	1098
Laser 4.7	1 U 0	51	83	0.08	1212	0
Laser Radial	1 U 0	278	396	0.79	1135	1142
Merlin Rocket	2 S C	37	93	0.11	973	0
MIRROR S/H	1 S 0	127	159	0.27	1388	1371
Optimist	1 U 0	109	169	0.29	1656	1665
OSPREY	2 S C	206	337	0.72	946	928
Phantom	1 U 0	153	221	0.4	1016	999
RS 100 8.4	1 U A	98	188	0.35	996	1008
RS 200	2 S A	402	586	0.83	1051	1047
RS 400	2 S A	157	178	0.28	955	942
RS VAREO	1 S A	250	383	0.8	1073	1052
RS300	1 U 0	559	1040	0.82	980	995
RS600	1 U 0	60	60	0.02	935	0
Solo	1 U 0	782	2543	0.83	1142	1143
TASAR	2 S 0	51	54	0.01	1038	1015
TOPPER	1 U 0	60	88	0.09	1355	1358

Appendix B

Class	Configuration	Confidence	PN	2018 PN	Adjustment	Club PN
505	2 S C	0.02	887	903	-0.32	903
CONTENDER	1 U 0	0.27	992	969	6.21	975
Enterprise	2 S 0	0.07	1138	1116	1.54	1118
EUROPE	1 U 0	0.03	1149	1145	0.12	1145
FINN	1 U 0	0.03	1040	1051	-0.33	1051
Fireball	2 S C	0.84	970	953	14.28	967
Flying Fifteen	2 S C	0.83	1010	1015	-4.15	1011
International Canoe	1 S 0	0.37	908	893	5.55	899
Laser	1 U 0	0.85	1096	1098	-1.7	1096
Laser 4.7	1 U 0	0.08	1212	1207	0.4	1207
Laser Radial	1 U 0	0.79	1135	1142	-5.53	1136
Merlin Rocket	2 S C	0.11	973	980	-0.77	979
MIRROR S/H	1 S 0	0.27	1388	1380	2.16	1382
Optimist	1 U 0	0.29	1656	1655	0.29	1655
OSPREY	2 S C	0.72	946	928	12.96	941
Phantom	1 U 0	0.4	1016	999	6.8	1006
RS 100 8.4	1 U A	0.35	996	1008	-4.2	1004
RS 200	2 S A	0.83	1051	1046	4.15	1050
RS 400	2 S A	0.28	955	942	3.64	946
RS VAREO	1 S A	0.8	1073	1090	-13.6	1076
RS 300	1 U 0	0.82	980	972	6.56	979
RS 600	1 U 0	0.02	935	916	0.38	916
Solo	1 U 0	0.83	1142	1143	-0.83	1142
TASAR	2 S 0	0.01	1038	1015	0.23	1015
TOPPER	1 U 0	0.09	1355	1358	-0.27	1358

For classes not included in the above list, the current PN published by the RYA on their website will be used. If there is no current PN then the best estimate of a PN we can get, first from the historical RYA PN data and failing that, from other clubs or manufacturer's data will be used.

Appendix C



Portsmouth Yardstick - PYS Number Recommendation

The following class & configuration have been recommended a Portsmouth Number by the RYA PY Online analysis website.

Confidence factor is based on the amount of data the club has uploaded to the analysis website. Confidence factor is between 0-1, with 0 being low confidence and 1 being high.

If the class/configuration has received a high confidence factor, the club are strongly recommended to use that number for that class/configurations handicap races within the given club. This high level of data indicates a stable handicap and thus should give fair racing in line with the aim of the Portsmouth Yardstick Scheme.

Tata Steel Sailing Club (Margam)

Class Name	Laser Radial
Suggested PN	1135
Last PN	1142
Number of Races	278
Total Appearances/Starters	398
Confidence Factor	0.79
Date Range	All

Yours faithfully

A handwritten signature in black ink, appearing to read 'Rob Taylor'.

Rob Taylor
RYA Technical Manager