

WCNA Portsmouth Project

10/28/2025

The Big Picture

Weta Portsmouth Current Numbers:

-1 Up > Calculated D-PN = 83.

-2 Up > Calculated D-PN = 89.

The Details

In late 2023, WCNA began collecting race data to evaluate the Portsmouth estimated numbers commonly used. Historically, the commonly used numbers were 83 for 1-Up, 86 for 2-Up. The original Portsmouth estimates were partially based on French and Australian ratings of the Weta. In the current process we are using the [North American Portsmouth Yardstick Handbook](#), which has comparative calculations for US Sailing defined Yardsticks to generate a Portsmouth Number (D-PN) for a Trial boat. In our case the Trial boat is the Weta. Yardsticks are sailboats that have had extensive data collection and are deemed by US Sailing to have the more accurate D-PN's. Reference paragraph III.B.2 of the Yardstick Handbook for more information. This process compares Weta performance against other boats in real world racing. To date we have 83 races that meet the criteria for 1-up calculations outlined in the Handbook (25 races for 2-up).

The way the overall Portsmouth number is calculated is by comparison to Yardstick boats in different wind conditions. An average of the handicap for each wind condition is then combined in a weighted average to get the overall D-PN. For each race we use only the fastest (lowest elapsed time) of each Yardstick Class and the Fastest Weta. We do it this way to more closely approximate the D-PN calculation goal of comparing boats that raced a "perfect" race.

With the data we have so far, we have a **Weta 1-Up D-PN of 83.18**. At this juncture any new data in Beaufort Scale 1 or less for 1-Up races is likely to influence the total calculation disproportionately due to the limited data we've collected in that range. Additionally for 1-Up, there are no races in our database currently in Beaufort 5 or above.

The current calculations for 2-Up are most often compared against 1-Up Wetas. There are a few races with true "Yardstick" boats. The 2-Up data thus far definitely reveals a dramatically different relationship between 1-Up and 2-Up Portsmouth numbers than previously estimated.

With just 25 races, however, there is a lot of variability in the data. Our current **2-Up** data suggests a **D-PN of 89.32**.

We need more data in multi-class races to continue to validate these numbers. Specifically we have very limited data 1-Up in less than 3 knots of wind and in greater than 17 kts of wind. We also have very limited data for 2-up racing across the board. It will be beneficial to the quality of the results to get a wide variety of sailors in all regions. The data required is:

1. Boats need to have the same start time and sail the same course. Start time (including seconds) is needed if you are not providing elapsed time in paragraph 2 (that is only finish time is provided).
2. Will need elapsed time for each boat or the finish time (including seconds). At a minimum, we need the elapsed time or the finish time (including seconds) of the fastest boat in each class.
3. **Wind speed should be measured at the beginning, middle, and end of each race. Some more advanced anemometers can measure and average over the entire race period. That is ok, too, but make sure you only get the race period and not the down time between races.**
4. If a Yardstick boat deviates from the standard (such as crew size), that should be annotated.
5. It is good to have the skipper of each boat's name.
6. If a Weta is racing 2-up, please annotate that.
7. Send data to wetahandicaproject@gmail.com. A picture of each data sheet that contains the appropriate data is fine.

WIND CORRECTED HANDICAPS

Some Clubs use wind-corrected handicaps during multi-class racing. This is a more accurate way to compare the Weta to most other boats given its planing characteristics compared to most Yardsticks.

Our Wind Corrected Portsmouth ratings calculations for Weta 1-Up (as of today) are:

DPN1 = 92.51

DPN2 = 84.1

DPN3 = 70.9

DPN4 = No Data

Our Wind Corrected Portsmouth ratings calculations for Weta 2-Up (as of today) are:

Insufficient Data

Wind Corrected Portsmouth numbers are used when the average of three wind readings during the race (beginning, middle, and end) are:

0-3 kts use DPN1

4-10 kts use DPN2

11-16 kts use DPN3

>17 kts use DPN4