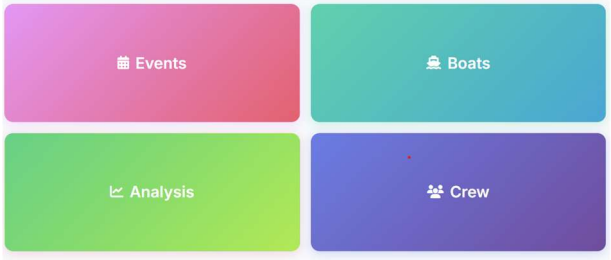
Don’t show up “ready to sail” show up “prepared to perform”

Regatta- Playbook.com

Refrence Manual



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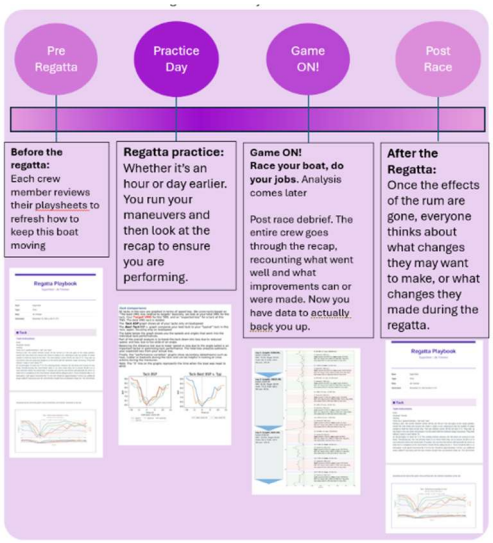
Regatta Playbook – An Introduction

Don't show up "ready to sail" show up "prepared to perform"

Sailboat racing is very much a team sport, and as with any team, preparing is a key part of being successful. Our mission at Regatta-Playbook is to help you prepare, perform and even reform your techniques by analyzing the data many of you have been looking at for years. We do not aim to make you better sailors, chances are you already are good sailors, We aim to help you become a more efficient team.

This is not the type of tool you use on the water in real time. There are already great tools for that purpose, and you are probably using some of them already. We are a near post-race tool. One you use in your debrief to be able to have data driven discussions about your performance. At regatta-playbook, our goal is to transform how and when you review your performance to drive concrete improvements in team performance.

Goals of Regatta-Playbook



Ultimately, we want to help you change how the crew prepares for and executes a race. We believe that helping define and share your best practices, you will get better results.

Get Near Real-Time Insights: We deliver comprehensive performance evaluations to each crew member shortly after practices and races, just in time for your "post race debrief".

Optimize the people flow: Optimize and record each team members actions using "best maneuver" data.

Enhance your Performance: We let you develop insights derived from multiple events to drive concrete improvements in team performance.

What's in the box?

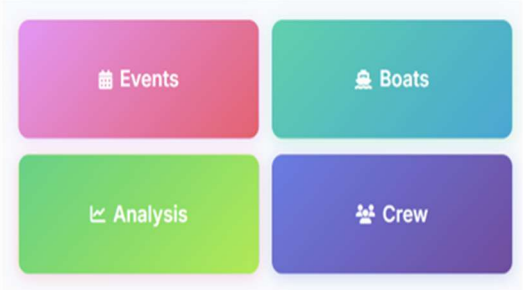
Everybody loves a good "out of box" experience. This however is a website, and our site is that "box" We enable you to set specific performance goals and then perform analysis on those goals using your sailing data in near real time. So rather than focusing on how nice the foam packing is. In our "Box" we give you the following:

EVENT Organizer: home of the Race Report

ANALYSIS Visualizer: of maneuvers and performance

CREW Manager: define who's on the bus, what do they do and Playsheets for how and when do they do it.

BOAT expectations: performance targets and settings



The Regatta-Playbook landing page

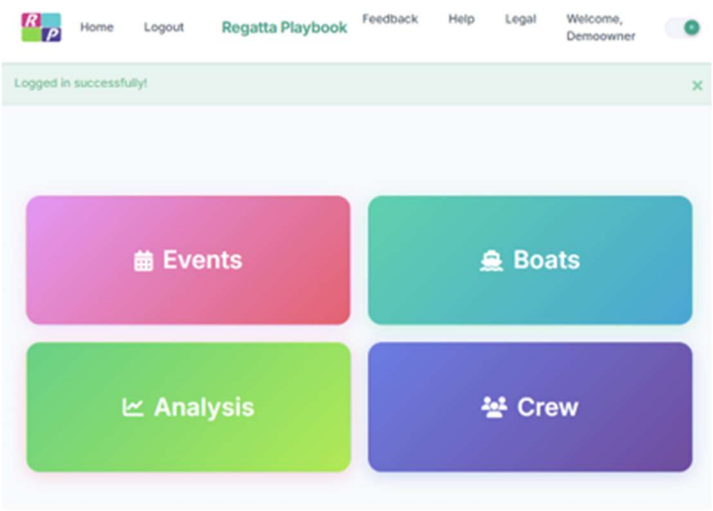
The site is divided into 4 basic functions:

Events: Contains all the information about your races

Analysis: lets you interact with your data across multiple races and events, gaining insights as to how you and your boat perform

Boats: Information about your boat, your performance expectations and how to process your data.

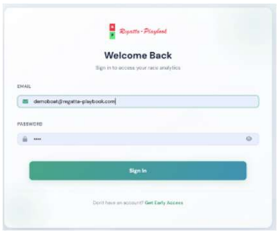
Crew: who's on board, what do they do and how do they do it? Find it all here



First and foremost, clicking on the icon in the upper left corner will always get you back to the navigation page.

There are additional links on the top ribbon bar to view your account, view the help resources and pour through all the legal stuff.

Of course to do any of this, you must login. Which is the link at the top, clicking it brings you to this screen. No worries if you have forgotten your password, just click the reset link on the login page. You will know you are logged in when your name appears in the upper right corner of the ribbon bar along the top of every page.



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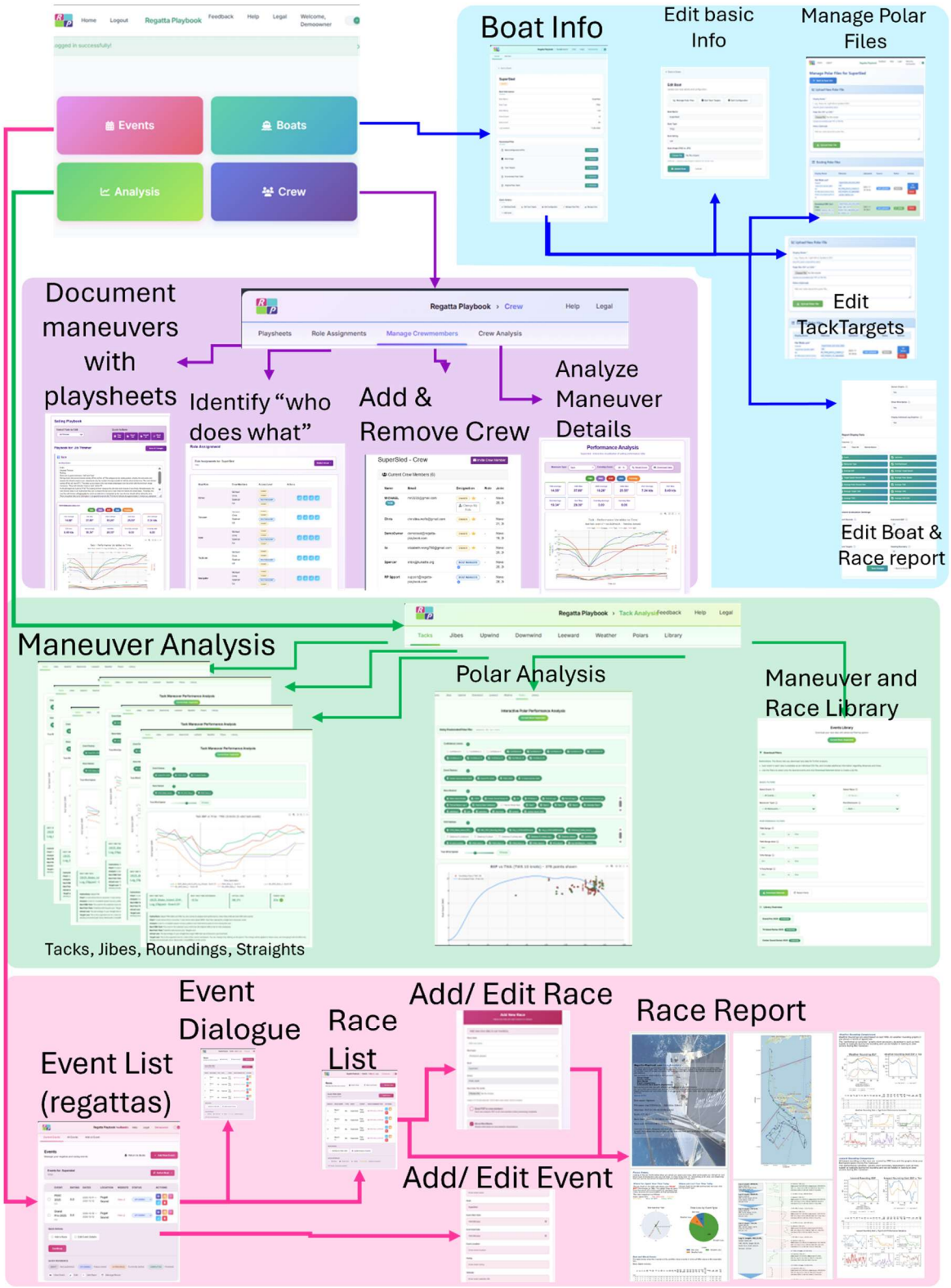
Regatta-Playbook Site Map

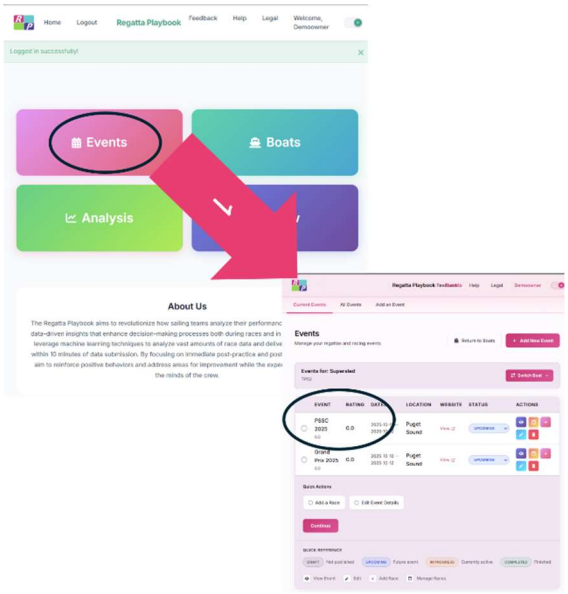


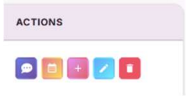
EVENTS

Events allow you to organize your races. They can be formal events, like Big Boat Series in San Francisco or the Thursday night beercans. You can even have an entire event simply called "practice" where you put all your practice files. It's up to you, we don't judge.

The EVENTS List

The default tab is "**Current Events**" Those are the ones that are either upcoming or in progress. You can see all of your past events in the "All Events" tab.



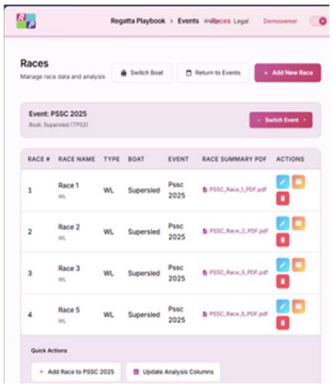


The quick actions buttons let you manage the event or even have a discussion, see the legend for details.

The "status" indicator shows whether the event is completed or not. When you select completed, it moves it to the "ALL EVENTS" tab, so look in all events when you are "missing an event"

To look at an existing event, just click on it's name. That will present you with the **RaceList**.

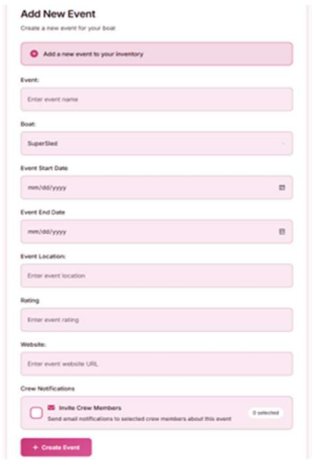
Viewing an Event: The Race List



The Race List has all of the details about any race with an event that has been run. It contains a link to it's Race Report as well as other actions such as adding a race, deleting one or modifying one.

There you will see each race with a link to it's Race Report. There are also a set of "quick actions" related to each race, just hover over them for more info.

Adding an Event



To create a new event, click the "EVENTS" tile, then the "ADD AN EVENT" button. It will land you on the page to add a new event.

The form will ask for some basic info about the event, like it's name, dates, results website and a link to the rating cert for the event.

Click CREATE EVENT when you are done.

Adding a Race

The process is very straightforward

Name the race and choose the file. *

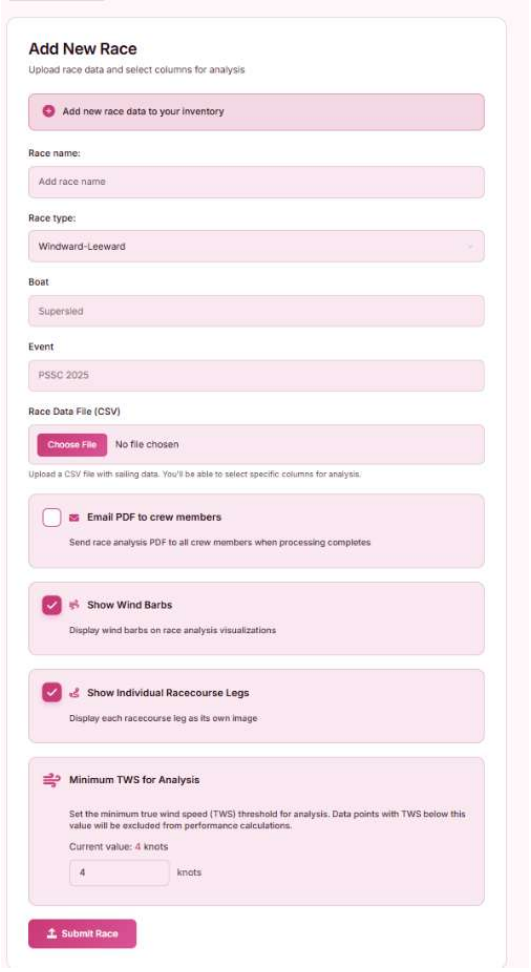
There are a couple of options you can select

Email PDF to Crew: Do you want this report sent to the entire crew as soon as it's completed?

Show Wind Barbs: Do you want wind barbs to show up on your race course. For long courses sometimes they may clutter the path.

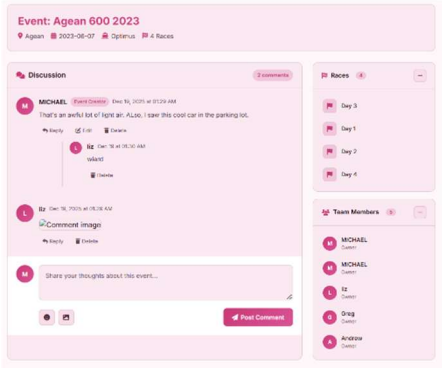
Minimum TWS for analysis: When the wind is very light, and especially if there is current, the Wind information can be quite misleading, Add to that the fact that polar data is generally not done below 4kts of TWS and you can get very unpredictable results. You can lower this number if you wish, but it may not look as good as you are thinking.

* Note on data: We do not accept "raw" expedition logs. They must be exported to be useable. The export process also gives you the opportunity to trim the length of the log to the actual race. Expedition 12.5.4 is generally considered to be the minimum version which exports a rich enough dataset. The maximum size is 16mb, which, properly trimmed, will get you a full 24 hours



Event Discussions

Sometimes comments and discussions about the race or event need to happen. We provide a place for you to do this. Anything from preliminary discussions about changes to pictured of things that need maintenance before the next event can be documented here. The entire record of the discussions regarding the event are stored with the event and available as a PDF. Especially handy if the boat captain somehow skipped this event and needs to be told about a "thing or two"



To create of edit a note, simply press the purple "comment" bubble link next to the event.

This will bring you into the event discussion thread. Say your piece, and hit "notify" which will send notices out to everyone that you need help.

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Quick Path: Adding a race & getting a Race Report

- Click the Events tile, (1)
- Click on the Event Name you want to add the race to (2)
- Click on the ADD A RACE button (3)
- Name the race, add the Extracted expedition file
- Check if you want to email it to the crew
- Click SUBMIT at the bottom and you're done

You're done.

Submitting Data to Regatta-Playbook

Regatta-Playbook relies on reasonably high quality data, representing just your race and at a moderately high frequency. (once per second) Further, since our goal is for you to be reviewing your race report within minutes, not hours, after your race, the data needs to readily accessible and manipulable by you. We do not accept "raw" NMEA2000 or NMEA0183 data because you will have just as much trouble finding your race in it as we would. We also do not accept "raw" expedition logs for pretty much the same reason, but there are simple ways to get the data out.

Data Accepted

The ideal data for us is data you are already using during the race. Our preferred format is that which Expedition creates through it's " Data Extraction" facility. This allows you to choose your race data using methods you currently use every race and can be accomplished quickly.

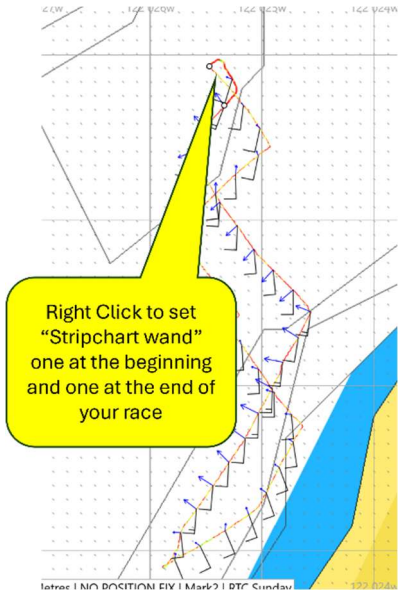
If you are using a different system, including our Android app, go to the end of this section for more information.

Exporting Your Expedition Log File

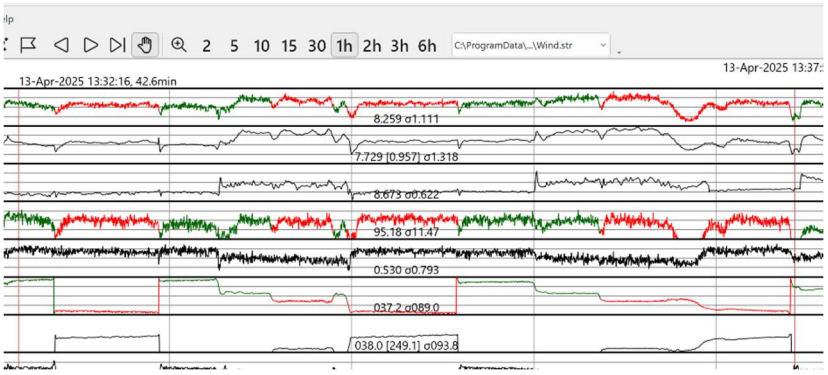
We do not accept "raw" expedition logs. They must be exported to be useable. The export process also gives you the opportunity to trim the length of the log to the actual race length. One thing to know: Due to hosting security requirements, we have a hard limit of 16mb for any file upload.

Step 0– Build the log.: Run Expedition for the entire race, If the course is easy to visualize, you can simply **set a stripchart wand near the start and finish**. Being super precise isn't that important. If it's been a day of windward lewards over the same course, it's best to use the stripchart application to find the beginning and end of the races.

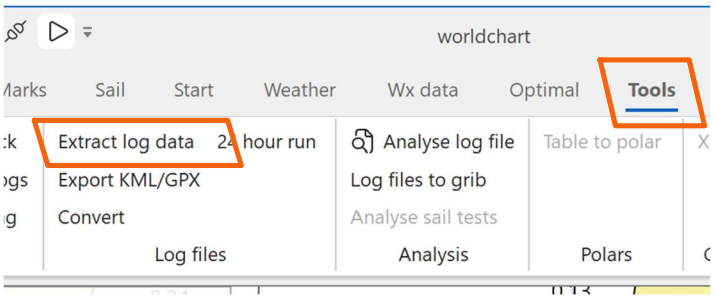
Step 1 Set wands near the race beginning and end



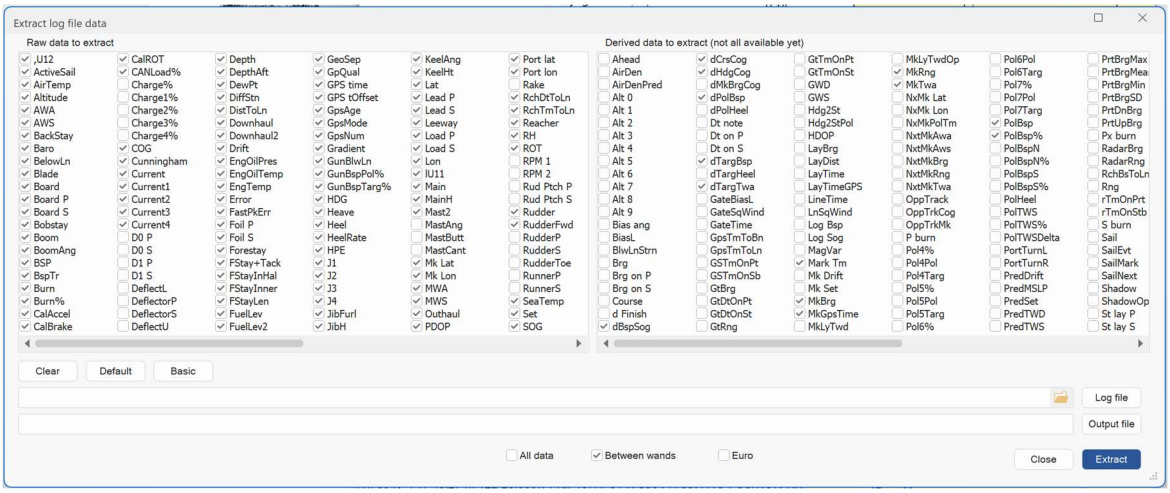
Set wands near the beginning and end of the race in stripchart. The export process will use these to time box the file. **Only have 2 wands showing**, like this:



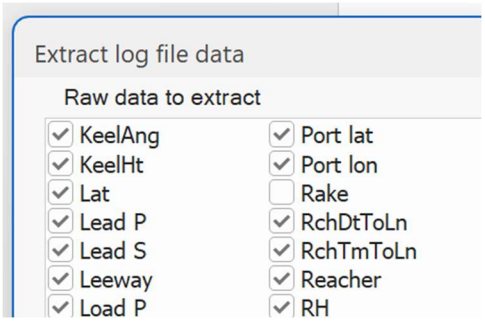
Step 2: In Expedition, select **TOOLS** -> then **EXTRACT LOG DATA**



Step 3a: Selecting Data to extract. A panel will open up, asking which data to extract from the log.



Step 3a: Selecting Raw Data to Extract:

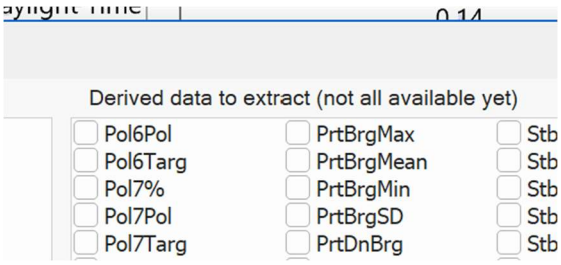


Pick as much as you like, but we do require the following:

AWA	AWS	BSP	COG	GPSTime	HDG	LAT
	LON	SOG	SOG	TWA	TWD	TWS

This is a MINIMUM list. You should also polar and target information. If you have sensor like rake, forestay, rudder, heel or mast rotation select those as well. Select as many as you like. If you have been racing for 24 hours, you may want to pare the data back to get it to 16mb, but it will work

Step 3b: Select Derived Data to extract.



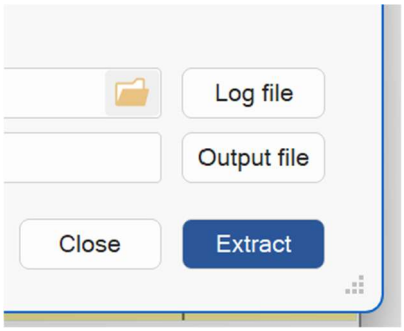
Also pick as many as you like, but there are some REQUIRED fields here as well.

dBspSog	dHdgCog	dPolBsp
dTargBsp	dTargTwa	PolBsp
PolBsp%	TargBsp	TargTwa
TargBsp%	VMG	VMG%

This is also a MINIMUM list. If you have other polar files such as Heel polars loaded, include that data as well.

Step 3c Select BETWEEN WANDS at the bottom of the panel so we only get the race data.

Step 3d Select the log file you want extract.



It's generally the current expedition log file and it must be the log file that is up in stripchart if you want the wands to work out.

Step 3e: Select **an output file** name.

Step 3f: Select EXTRACT If you skip this step, your output file will only have header row

Does the file really have to be from Expedition? No, but we expect the same column names as Expedition uses.

Data Requirements

We are looking for a comma Separated Values (.CSV) file type that meets the following general requirements:

- Each record represents all data at a particular timestamp
- The record frequency should be approximately 60 records per second.
- The file should begin at approximately the beginning of the race and end at about the end
- The position of the data in the record does not matter, but the LABELS DO Matter
- The following MINIMUM data MUST be in the file:
  - Time BSP AWA AWS HDG Lat Lon COG SOG
- More data is better, but this is the minimum. To analyze boathandling better, you need:
  - HEEL, RUDDER

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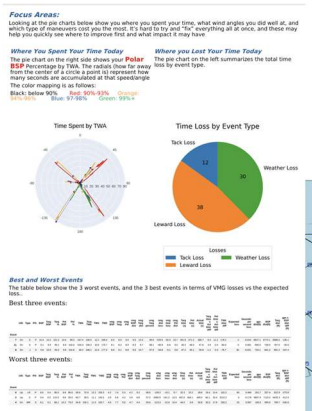
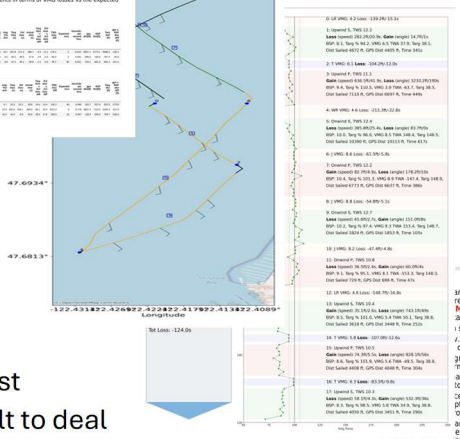
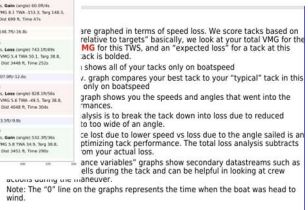
The Race Report

The Race Report is the post race tool to help debrief after a race. The goal of the Race Report is to help you get to those “Critical few” things to address quickly using facts and data, instead of just “it felt” analysis. The goal is to use it, take the lessons learned and use them tomorrow. Here’s what’s in it:

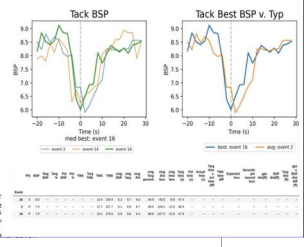
- **Focus Areas**
- **Course Performance**
- **Race Recap**
- **Tack Comparisons**
- **Jibe Comparisons**
- **Rounding Comparisons**
- **Instrument QA**
- **Leg Details**

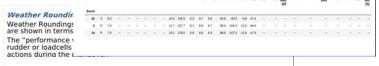


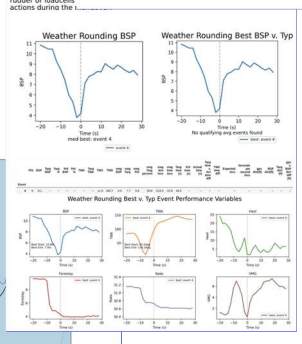


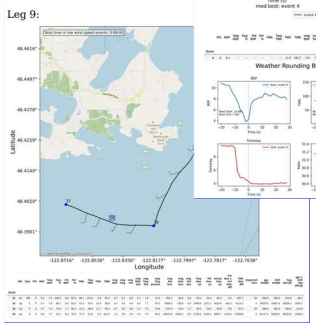


A note on how we process your data: Our focus is on team performance. This is not a perfect process. This is an automated system that tries to figure what happening by just looking at the data. Some conditions are difficult to deal with, and we do our best but ultimately recognize that in those conditions the data is not informative and is may be a hinderance to your performance. We don't know your actual racecourse, so we make it up from the data. This means that the recap you see is not always perfect. While the numbers we give you are quite reliable, sometimes the data sees things as significant that are not. Most of these events may be interesting to the navigator but they are not actionable by the team. Our focus is on team performance, not navigational efficiency so we by and large ignore these events. Combine that with some distracted driving, a huge duck or a penalty turn and sometimes we create events such as roundings that "big picture" aren't really mark roundings. Here are some of our list of event triggers and reasons we may ignore them:









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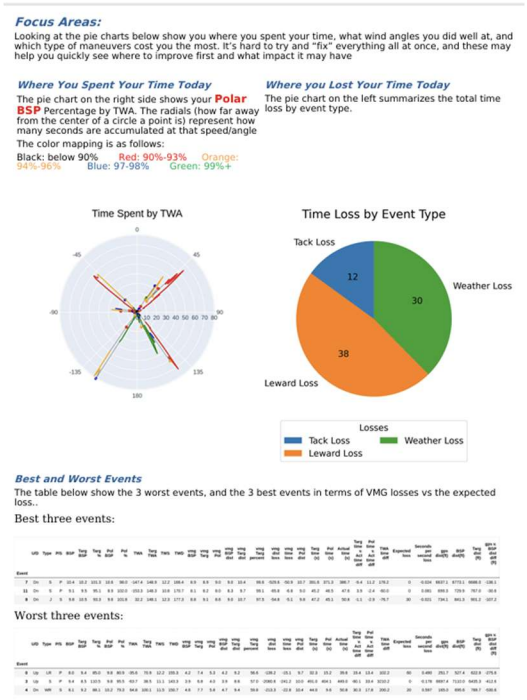
Section 1: Focus Areas

The left chart shows you where you spent your time today, colored by polar BSP performance. Were you slow on stbd today upwind? This sums it up for you.

The right chart shows you where you lost your time today by the type of maneuver. In this case, the leeward roundings need some attention.

Finally, the “best and worst” events tables show what was working well, and what wasn’t.



Section 2: Course Performance

Your race tracks are shown along with each event number and where it occurred in the race. If you are beating or VMG running, the track is colored based on your TARGET BSP%. If you are navigating to a mark, we switch to using POLAR BSP% The tracks are colored as follows:

Black: below 90%

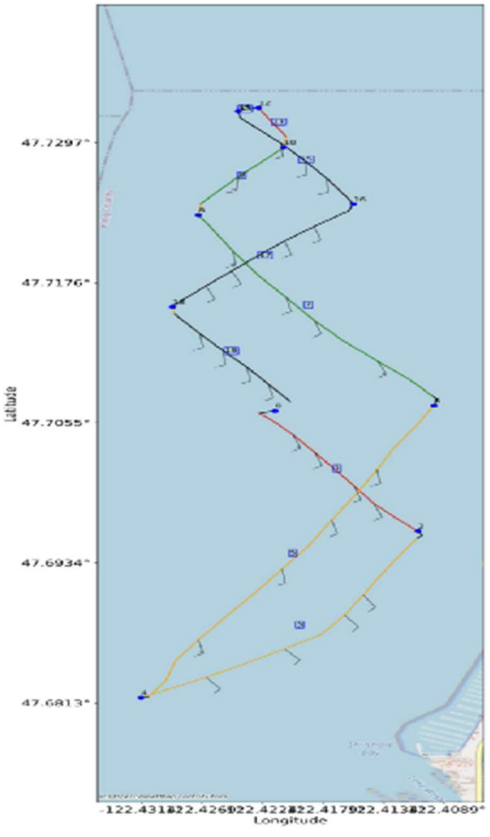
Red: 90%-93%

Orange: 94% - 96%

Blue: 97-98%

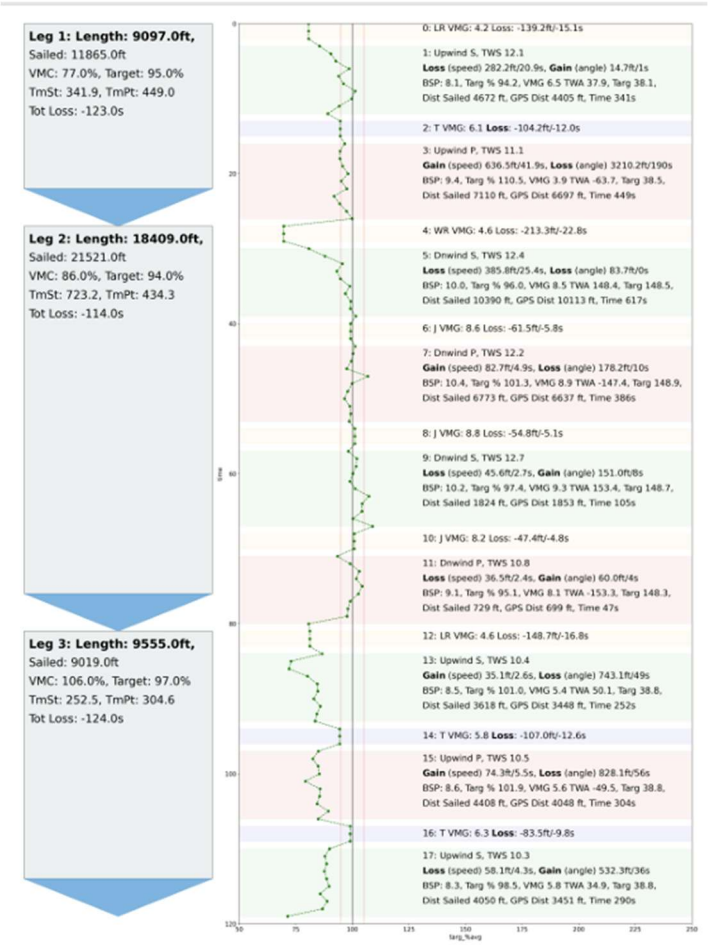
Green: 99%+

If selected, wind barbs are shown along the course. This guide is a useful reference when looking at events to help you remember where on the course you were during a specific event.



Section 3: The Race Recap

The Race Recap is our way of showing you your total race performance in a simple to understand way. **Everything is measured against a goal (the black vertical line) and you are either ahead of that goal (right of the line) or behind it (left of the line)** In Race Recap, races are broken down into events i.e. tacks, jibes, roundings, straight lines and each event is measured against the expected results for your boat. Each event type is a different color. On the left side, you will see a grey vertical strip showing statistics for the individual legs The straight black vertical line represents your 100% performance. The thin red lines are 95% and 105% performance respectively.



Special terms we use in Race Recap

We have added some data elements to help you in your analysis. These Include: **Event number and type:** The event number correlates to the number on the course graphic. Upwind or Downwind is pretty obvious, Next are the various "types" that indicate you were doing. T= Tacks (light purple background) J= Jibes (yellow background).(also spelled GYBES for you proper English speakers) S= Straight lines (red is port, green is starboard) WR*= Weather Roundings (light yellow) LR*=Leeward Roundings The final field in this group is what board you are on P(green background) or S=Starboard (red background).

Loss/Gain (Speed): & Loss/Gain (Angle): These 2 elements are found only in straight line events and show where the losses or gains are relative to your target speed and angle. Loss (Speed) is the absolute speed difference between target and actual speed translated into seconds and distance (ft/M). Loss (angle) is the difference between your target angle and your TWA, also translated into seconds as well as distance(Ft/M). This allows you to investigate where tradeoffs might be advantageous. The values are built "per second" and the translation uses your target speed as a part of the conversion. Negative numbers are losses. Expected Time: Expected time is found in all non straight line events and is your benchmark loss in seconds for each different maneuver type at a given windspeed. If your time loss in the maneuver is higher than this value, it is considered a loss.

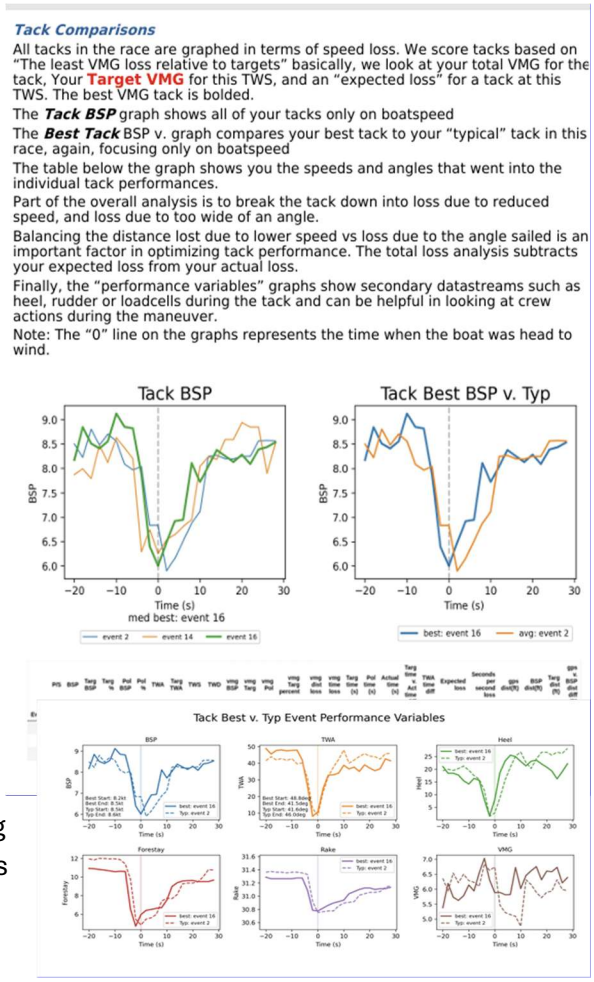
Dist Sailed and GPS Dist: GPS Distance is the "as the crow flies" distance between the beginning and eld of the straight line event. Distnce Sailed is BSP translated into distance for the duration of that event. The difference between these two may indicate extra distance sailed or the influences of current on your speed. *Note: we determine that a rounding has occurred when the boat passes through 90 degrees and then proceeds to go upwind or downwind. There are occasions when you may do this, such as an extreme wind shift, overstanding a mark or even a bad takedown. We can't predict every abnormal situation you get yourself into, so when you see these, take note that something happened and then ignore the rounding

Tack Losses Explained

We measure your tack loss using 3 different types of measures: the primary measure is using lost VMG. We essentially use your TARGET VMG and compare it to your ACTUAL VMG for the entire tack. If you normally sail below your target VMG, that loss will also included in your tack loss. It is expressed as both distance and time for your convenience. The second measure looks specifically at your BSP and TWA during the tack, and breaks down how much real distance you lost because of reduced boatspeed and how much distance you lost to leeward due to varying from your target TWA. These 2 components will not magically add up to the VMG loss as they are not VMG factored numbers, but that's not their job. What they can help you with is in understanding the tradeoffs between accelerating to your target speed vs the penalty for being wider than your target angle. You can look at the different tacks you executed, and look to see where your tradeoffs were for the best VMG.

Section 4: Maneuver Comparisons

All tacks in the race are graphed in terms of speed loss. We score tacks based on "The least VMG loss relative to targets" basically, we look at your total VMG for the tack, Your Target VMG for this TWS, and an "expected loss" for a tack at this TWS. The best VMG tack is bolded. The Tack BSP graph shows all of your tacks only on boatspeed The Best Tack BSP v. graph compares your best tack to your "typical" tack in this race, again, focusing only on boatspeed The table below the graph shows you the speeds and angles that went into the individual tack performances. Part of the overall analysis is to break the tack down into loss due to reduced speed, and loss due to too wide of an angle. Balancing the distance lost due to lower speed vs loss due to the angle sailed is an important factor in optimizing tack performance. The total loss analysis subtracts your expected loss from your actual loss. Finally, the "performance variables" graphs show secondary datastreams such as heel, rudder or loadcells during the tack and can be helpful in looking at crew actions during the maneuver. Note: The "0" line on the graphs represents the time when the boat was head to wind



Same comparisons are there for jibes, roundings and straights as well.

Section 6: Instrument QA

Everything we do is based on the instruments recording what actually happened. The data quality section helps you understand the overall level of confidence you should have in your data. It helps in understanding your real wind speeds and angles vs those reported, and what changes might be warranted to make them better in the future. The first tables looks at straight line data just prior and just after the tack events. This is typically around 15 seconds prior to the tack and 30 seconds after the tack and depends on your performance settings. The data is sorted by wind speed. This base data can be used to evaluate TWA correction tables, Wand offsets or compass issues.

The rounding table below presents your rounding data only The first table is an average of all qualifying events, while the table below it shows each event individually. Roundings are a good opportunity to look for wind speed changes due to upwash or incorrect TWA corrections.

Instrument Data Quality Assessment

The following tables look at straight line data just prior and just after the tack events. This is typically around 20 seconds prior to the tack and 40 seconds after the tack and depends on your performance settings. The data is sorted by wind speed. This base data can be used to evaluate TWA correction tables, Wand offsets or compass issues.

Upwind Data

The tables below presents your upwind data only The first table is an average of all qualifying tacks, while the table below it shows each tack individually. Tacks present a good opportunity to evaluate your masthead unit offset (MWA), TWA BSP and HDG calibrations

	TWA In	TWA Out	dHdgCog In	dHdgCog Out
Port	-53.8	40.0	-9.1	1.3
Starboard	45.5	-43.2	-0.6	-9.6

	Event # in	Event # out	TWS In	TWS Out	TWA In	TWA Out	TWA Diff	MWA In	MWA Out	HDG In	HDG Out	HDG Tack Angle	dHdgCog In	dHdgCog Out	TWA Tack Angle	Angle Difference	TWD In	TWD Out	TWD Shift
0	1	3	7.8	10.9	52.2	-50.8	103.0	22.5	24.9	93.1	162.0	68.9	-4.0	-10.0	103.0	-34.1	140.3	113.2	27.1
1	13	15	9.2	10.7	-59.1	41.2	100.3	25.4	19.4	164.7	82.8	82.0	-11.0	1.3	100.3	-18.4	106.9	119.2	-12.3
2	11	13	11.2	10.3	47.7	-42.7	90.3	22.4	23.3	79.8	154.5	74.7	3.3	-6.2	90.3	-15.6	122.3	112.2	10.1
3	15	17	11.3	12.9	39.2	-41.6	80.8	17.0	20.1	90.8	157.8	67.0	-0.7	-9.8	80.8	-13.8	125.8	117.7	8.1
4	23	25	11.5	13.9	-48.4	38.7	87.2	21.2	21.0	171.1	103.7	67.3	-7.2	1.3	87.2	-19.8	124.8	137.1	-12.3
5	25	27	12.7	10.9	42.9	-37.8	80.7	23.5	20.0	101.7	167.9	66.2	-0.9	-12.6	80.7	-14.6	139.5	135.6	3.9

Downwind Data

The tables below presents your downwind data only The first table is an average of all qualifying jibes, while the table below it shows each jibe individually. Jibes present a good opportunity to evaluate your TWA, BSP and HDG calibrations

	TWA In	TWA Out	dHdgCog In	dHdgCog Out
Port	-153.5	153.4	6.2	-79.6
Starboard	140.7	-145.5	-321.3	8.1

	Event # in	Event # out	TWS In	TWS Out	TWA In	TWA Out	TWA Diff	HDG In	HDG Out	HDG Jibe Angle	dHdgCog In	dHdgCog Out	TWA Jibe Angle	Angle Difference	TWD In	TWD Out	TWD Shift
0	17	19	10.6	10.1	140.7	-145.5	286.1	30.4	275.2	115.2	-321.3	8.1	73.9	41.3	146.5	131.5	15.0
1	19	21	13.8	17.6	-152.3	151.6	303.8	274.2	179.7	94.5	6.1	-167.6	56.2	38.3	125.6	152.1	-26.5
2	7	9	14.5	11.0	-154.7	155.1	309.8	287.0	347.7	60.7	6.2	8.3	50.2	10.5	134.7	147.6	-12.9

Rounding Data

The tables below presents your rounding data only The first table is an average of all qualifying events, while the table below it shows each event individually. Roundings are a good opportunity to look for wind speed changes due to upwash or incorrect TWA corrections.

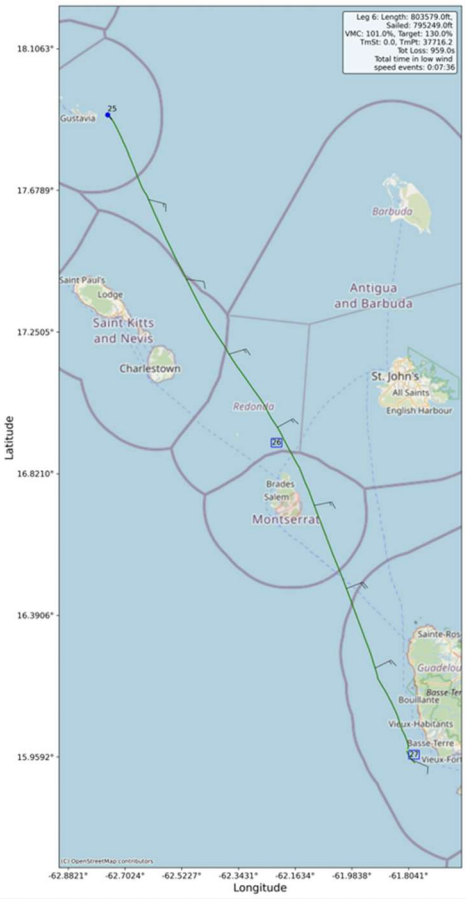
	TWS In	TWS Out	dHdgCog In	dHdgCog Out
Port	9.8	10.3	-7.5	-42.6
Starboard	11.5	10.6	-4.1	0.6

	Event # in	Event # out	TWS In	TWS Out	Type	dHdgCog In	dHdgCog Out	TWD In	TWD Out	TWD Shift	BSP In	SOG In	dBspSog In	BSP Out	SOG Out	DBspSog Out
4	21	23	9.2	10.3	LR	10.7	0.2	133.4	126.5	6.9	6.6	6.5	-0.1	7.8	6.7	-1.1
1	0	1	9.8	9.9	LR	-14.8	-42.8	113.8	130.2	-16.4	5.4	5.2	-0.2	8.2	8.7	0.5
0	3	5	10.4	10.3	WR	-25.6	-85.5	111.9	135.6	-23.7	8.2	7.5	-0.7	8.7	8.8	0.1
2	5	7	11.9	11.6	LR	2.4	44.1	146.6	138.0	8.6	8.9	9.1	0.2	7.2	7.5	0.3
3	9	11	12.7	10.2	LR	0.1	0.5	149.5	118.5	31.0	9.3	9.6	0.3	6.8	6.5	-0.3

Section 7: Individual leg data

Sometimes getting a closer look at the individual legs can help understand specific issues. This is especially true when you have a multi lap course and the tracks all overlay. This view breaks down each leg and the performance of each event within it. Each leg contains a summary table for that leg and leg level data within the graphic

Leg 6:



Event	U/D	Type	P/S	BSP	Targ BSP	Targ %	Pol BSP	Pol %	TWA	Targ TWA	TWS	TWD	vmg BSP	vmg Targ	vmg Pol	vmg BSP dist	vmg Targ percent	vmg dist loss	vmg time loss	Targ time (s)	Pol time (s)	Actual time (s)	TWA time diff	Expected loss	gps dist(ft)	BSP dist(ft)	Targ dist (ft)
25	Up	WR	P	9.8	6.3	154.6	7.6	129.4	-77.2	55.3	8.1	77.0	10.0	19.5	8.1	50.3	51.3	1672.7	52.4	485.1	578.3	453.3	3289.0	20	7383.6	7494.0	4847.5
26	Up	S	P	12.7	10.8	117.7	12.3	103.1	-90.4	85.0	12.1	79.3	15.7	35.9	15.1	79.0	43.8	180630.4	3338.2	37582.8	37026.0	36488.9	359410.2	0	768582.1	780845.8	663223.0
27	Up	S	P	9.4	8.0	117.5	7.5	125.7	-47.6	51.6	10.1	108.2	31.1	25.2	24.3	156.5	123.3	28344.8	702.8	1263.6	1523.8	1227.2	-958.1	0	19283.7	19517.9	16609.1

ANALYSIS

The analysis tool lets you review your performance across races and events. Here you may find trends and best practices. Analysis has a number of tabs that ley you navigate through the various functions. These areas include:

- Maneuver Analysis
  - Tacks
  - Jibes
  - Upwind Straights
  - Downwind Straights
  - Leward Roundings
  - Weather Roundings
- Polar performance Analysis
- The Library

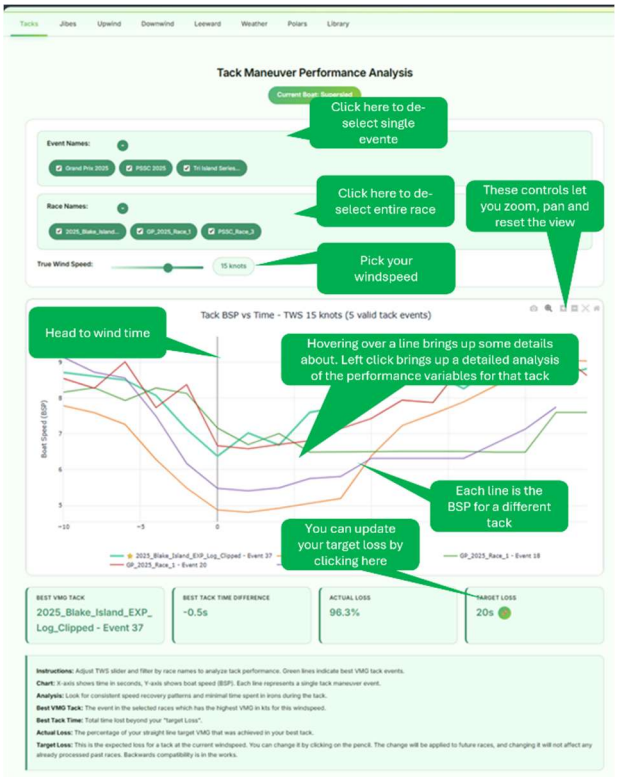
Maneuver Analysis

All of the event analysis functions follow a similar pattern, so we will just focus on Tack analysis here.

The Green ovals represent events which have a maneuver at this TWS. Clicking them turns on/off those events. You can do it for single events, entire races, entire regattas or every race you have ever done.

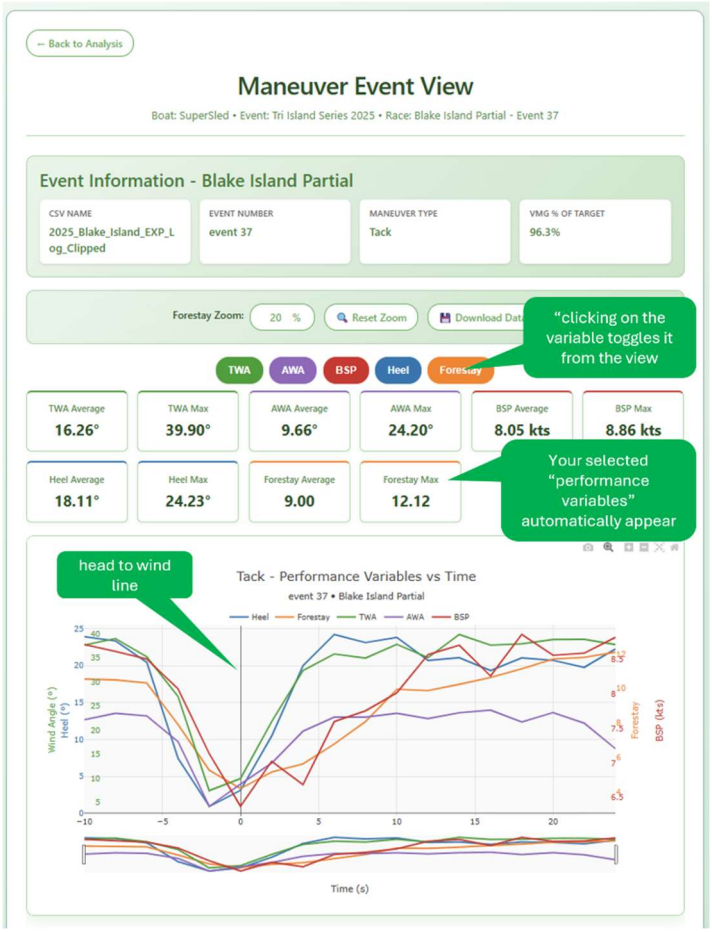
The TWS control lets you change the windspeed at which you are looking at these maneuvers

Highlighting on any particular event bring up some details about it. Right clicking on it brings up the **Maneuver Event Viewer**



Maneuver Event Viewer

The Maneuver Event Viewer lets you see the details of the particular event. You can see the interplay of the "performance variables" you selected in your boat configuration. This is where you see the effects of things like heel and forestay load on heel and boatspeed. When looking at playsheets, the "best" maneuver is used as the benchmark for crew activities. You can look at those differences to improve the maneuver consistency and tease out improvements.



Polars

The polar tab lets you look at your on the water performance relative to any polar file you have uploaded. You can have many polar files available, but only one may be “active” at a time.

The controls are almost the same as the those found in the Maneuver Analysis tool. With the addition of a “confidence level” selector. The Green Selector boxes represent this Confidence Level: The higher the number, the more stable the wind conditions were at the time. The minimum of 3 means the TWS/TWA did not change for 3 seconds, 5 is 5 seconds and so on. Typically on 1 record in 3,000 will get to a confidence level of 3.

The orange selectors let you pick the races or even events you want to include. If you don’t see a race or event, there are no records meeting the criteria.

The blue line is the projected polar boatspeed for this given windspeed. The dots represent BSP points. Red is port, Green is starboard. Hovering over the dot tells you which event generated it.

The red line is your VMG for this windspeed. The highest speeds upwind and downwind represent your Targets for this windspeed. Those are represented by the blacked dashed lines The panel below the graphic lets you update your “tackTargets” table from from this screen, either for a single TWS or for all of them

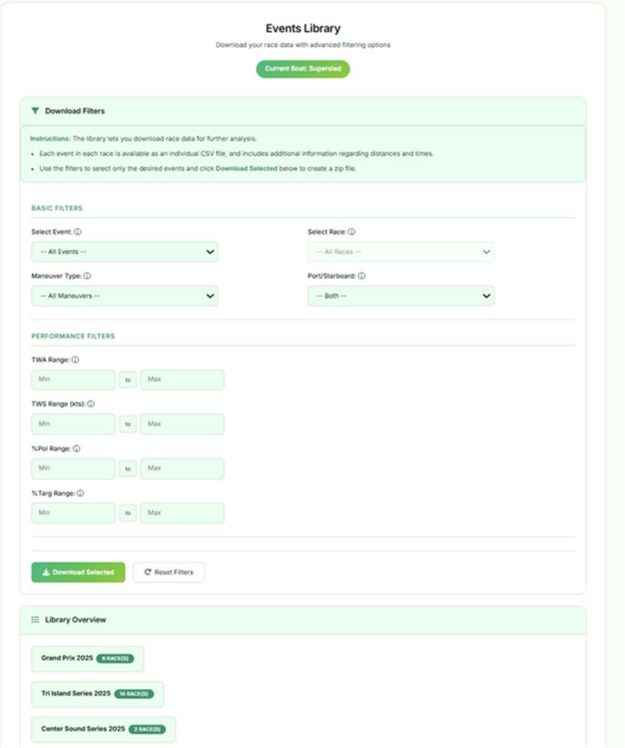
It’s good to have multiple polar files. One that you use on the water to let the crew know that they are performing up to expectations. Another one should be based on your rating. Most rating systems offer a VPP table for your boat. Unless you are a one design boat, your biggest competitor is in fact this VPP. It’s good to understand how you perform against this table, and if there are deficiencies, you should look to address them.

Note1: all polar files follow the “Expedition” polar file format.

Note2: We do not have a polar file editor. Expedition has a great tool for improving your polars and targets.

The Library

if you want to dig even deeper to any aspect of your sailing, we give you the “library” It is a searchable database of pretty much anything we have on your boat. Do you want all of your tacks from 2024 as individual CSV files trimmed to the same length with the same TWA crossover? Come here. You can even download the log file you uploaded. Additionally, every graphic we generate to make your race report is available there as well,



Downloading Events:

You can also download all the original files you uploaded on an event-by-event basis. Just click the button next to the Event name. The file that ends with “DF_FINAL” is an Expedition formatted Log file (PRE name-value pair) with a significant amount of data we add. See the table below for more info.

File Format:

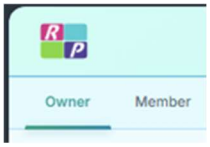
All of the detailed files we create are saved in the file format found in Expedition 11, (not the current name-value pair layout) Ours is a fixed field CSV format. These files can be opened up directly in expedition (including stripchart) as a “log” file or used in Excel. In addition, we populate some of our data into the USER fields (1 to 31).

User 0	User 0	**User 16**	VMG_BSP_dist
User 1	dBspSog	**User 17**	VMG_targ_dist
User 2	dHdgCog	**User 18**	VMG_polar_dist
User 3	PolBsp	**User 19**	PS
User 4	PolBsp%	**User 20**	UpDn
User 5	record_Duration	**User 21**	angle_loss_distance
User 6	actual_Distance	**User 22**	angle_time_loss
User 7	SOG_Distance	**User 23**	speed_distance_lost_target
User 8	UTC_date	**User 24**	speed_distance_lost_polar
User 9	UTC_time	**User 25**	speed_time_lost_target
User 10	polar_Distance	**User 26**	speed_time_lost_polar
User 11	targ_Distance	**User 27**	maneuver_type
User12	VMG_BSP	**User 28**	event_num
User 13	VMG_targ	**User 29**	pol_rec
User 14	TargVMG%	**User 30**	leg_num
User 15	VMG_polar	**User 31**	csv_name

BOATS

The Boats section is where you view set up your boat, build it's performance characteristics and define how to process and what you want to see on your race reports.

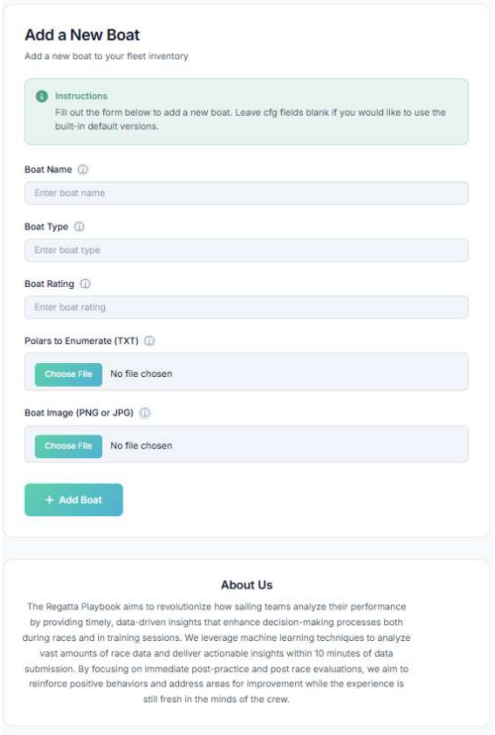
There are different tabs for boats you "own" and boats you are a member of. Boat ownership has it's privileges, with one of the biggest ones to us is that only the boat owner may delete the boat and all its data.



Setting up your Boat and Race Report

Establishing a BOAT

The process is very straightforward and starts by going to BOATS and then clicking "ADD A NEW BOAT"



Once there, this form will pop up: The information at this point is pretty basic. Name, type, rating. You can link to your ORC or IRC cert or just put in your numeric rating.

Polar File: An **expedition formatted polar file** for your analysis comparisons

Boat Image: a cool image to use on the cover of your race report. If you don't select an image, you will get a nice image of our lead developers kitty (her full name is yuzu princess honey lemon, on yuzu for short) as your front page, which is also nice.

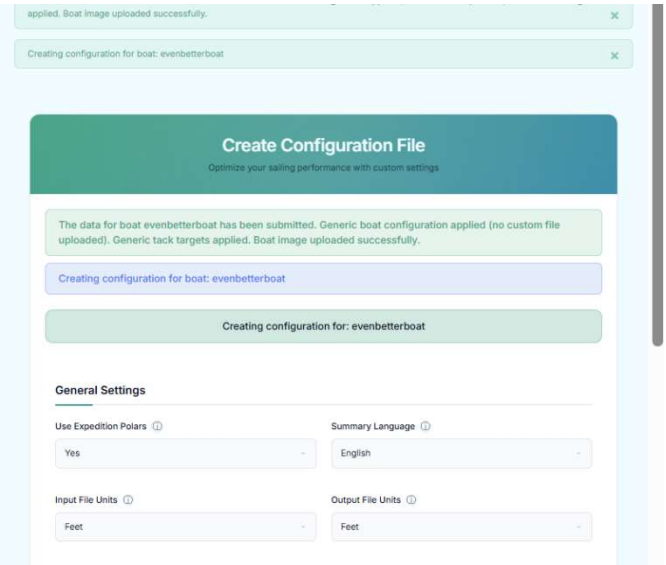
When you're done, just hit submit.

The next page is where you will be setting up your race report.

Detailing the boats configuration.

This page addresses the specifics of the data you have, how your boat behaves, how we process it and what level of detail you want to see in your reports. It is OK to accept the defaults and just create a configuration…. OR…you can configure it to your specific needs.

Section 1: General Settings. The small "Information bubble" explains each field if you need more info. Here's the fields:



Use Expedition Polars? Your exported log contains polar and target data. It's best to use it unless you're experimenting with it.

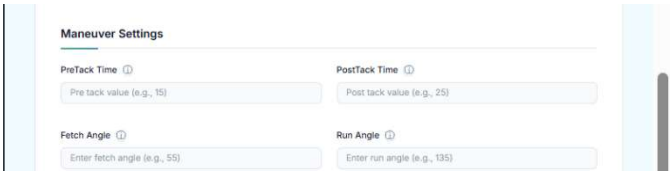
Summary Language: English. Sorry, there's no others at this moment, but if there are specific requests we will consider it.

Input File Units: The default for logging is feet, so unless you KNOW it's different, keep it this way

Output File Units: We will convert to Meters if you want.

Auto Fill Data: In general you want to say yes, as any missing data, even for a second in any required field will abandon the processing of the file.

Section 2: Maneuver Settings: This section addresses how quickly your boat goes through maneuvers. Tacks, Jibes etc. it's a good idea to look at a couple of tacks to get a good idea of what the times will be, as it is the basis of your analysis. The times shown are a good start for most modern race boats.



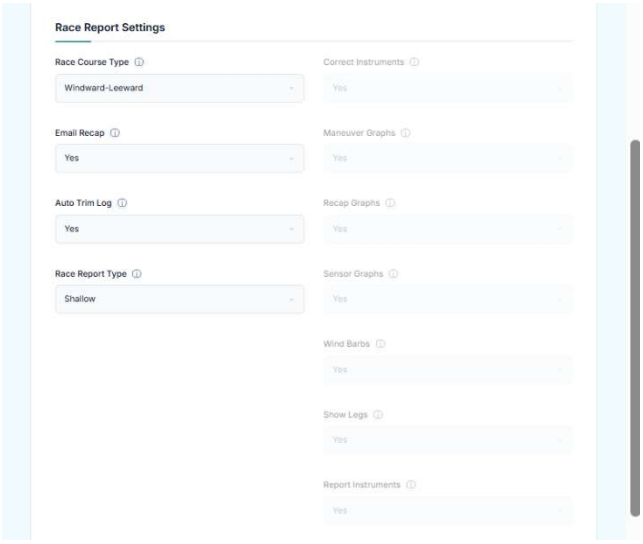
PreTack Time: This is the time before head to wind you want to include. This time should still have the boat at speed and at a normal upwind speed and trim. 10 seconds is typical

PostTack Time:. This is the time that your boat takes to get back into full upwind trim. 20 seconds is probably too low for most, and 40 is probably too much. Less is better here but it still needs to be long enough to be at full speed. We would recommend 25 as a baseline.

Fetch Angle: Normally, we do our scoring based on your TARGET speed and angle. However, at some point you're not going for best VMG and are just sailing to a mark. At this point, we change over to using POLAR speed. The TWA we use to determine this is called the "Fetch angle" It's typically 5 degrees or more than your widest target TWA. For most, 55 covers it, some could use 50.

Run Angle: This is the downwind version of fetch angle. 135 is safe.

Section 3: Race Report Settings: This section addresses the distribution, scope and complexity of your Race Reports.



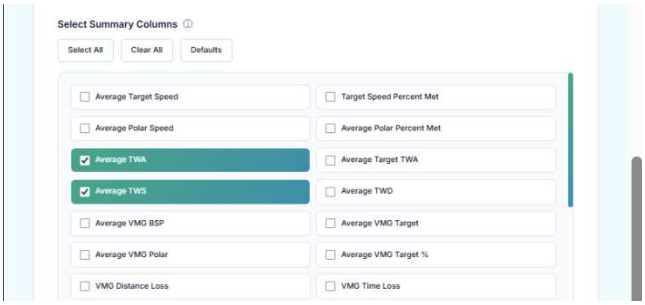
R**ace Course Type:** This is just the default and is also selectable at race file upload time

Email Recap: Do you want to send this to the crew when it's processes, or is it still a "secret"

A**uto Trim Logfile:** This actually has a large impact on how the file is processed. It tries to figure out when your race has started and when it is finished using things like your polar performance and TWA management, and it's easy for it to guess wrong. It is much better if you trim the file to length yourself. Default to NO.

Race Report Type: We have 2 basic "pre selections" Shallow, which is a basic race report, and "Deep" which has all 8 components selected. Selecting Shallow only allows the 2 sections. Selecting Deep allows you to pick any or all. Start with all options selected, and remove those that aren't useful as you gain experience.

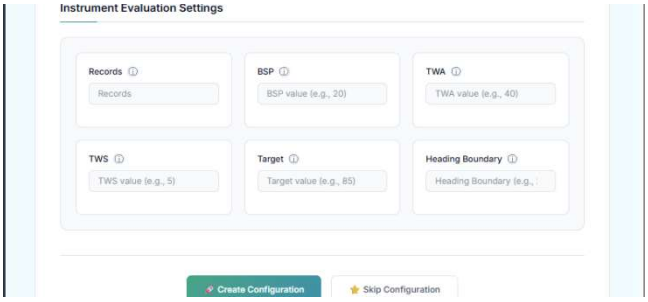
Section 4: Race Report Display Data.



These are the "summary tables "you see in the report that generally back up the graphics. The "narrow basics" would generally be the minimum you would want to see, It includes things the wind information, VMG, target and polar performance information

Everything beyond this is useful for identifying issues during maneuvers, and can get to specifics. You can look at a number of time and distance lost fields and comparisons to your polars and targets. Generally, start with a "wide" field and narrow it A detailed description of these fields is at the end of this section.

Section 5: Instrument Evaluation Settings.



Generally, we use maneuvers to QA the data. Things like checking for tack symmetry and HDG changes to see if the TWA is correct. Occur during these events. These parameters are used to "qualify" those events and to ensure the data is not misleading. Generally, they limit the records and events we use when reporting on the data.

Records: This field represents the number of records we use before and after events such as tacks to determine things like the actual tack angle and actual TWA. 15 is the default, which in normal flat water is good. Fewer records can give you a more fine grained result, but also introduce more "noise" Too many makes then subject to external factors such as wind shifts.

BSP: this is the percentage difference in BSP between the leading event and trailing event A good tack will have you at a similar speed after the tack as before the tack, and a smaller number here means you only want to review the maneuvers where you are more "identical" coming out as when you went in. The default is 20% difference in BSP. Which is fairly large.

TWA: this is the minimum TWA below which we will not bother with an analysis. This should be a couple of degrees less that your target TWA.

TWS: This is the minimum TWS under which we will not bother with an analysis as there is very little wind stability under about 4 kts. The default is 5.

Target: This is the target BSP % under which we will not bother with an analysis, as it's clear that something is different than it was 30 seconds ago.

Heading Boundary: We use passing through 90 degrees as the first indicator that you have rounded a mark, but if you have been reaching around with a TWA of 90 then it's not very helpful. This field indicated the minimum heading change associated with passing through 90. Generally 20 works well, although if the TWS is particularly light, more may be needed. Too small will give you too many legs, to big will give you too few. 20 is the default.

Summary Table – Data Columns Explained

When we read your file, we add a lot of data to it, most of which is related to times and distances at various vectors.

Field	Example Value	Definition	How we sue it
event	event 0	Sequential number starting at 0. Every maneuver, including going straight is an event.	Event numbers are how we track what's going on. When you tack, the straight prior to the tack is an event, the tack is another event, and the straight after is an event.
up_down	Up	Upwind or Downwind	TWA less than 90 is upwind, 90 and higher is downwind Used extensively in determining events. It is the primary indicator for determining if you are ending a leg and rounding a mark.
maneuver type	LR	Type of event. S=Straight, T=tack, J=jibe, WR=weather rounding, LR=leward rounding	This is what type of maneuver we believe this event data belongs to. It is based on some complex logic using TWA, BSP TWS and HDG.
port_starboard	P	P is port, S is starboard. (negative numbers on TWA are wind from port)	Used on polar presentation and in instrument evaluation
avg_BSP	7.03	STW based speed averaged for the entire event	We track 2 speeds. Your SOG (GPS reported speed) and BSP, which is your "speed through the water" used in instrument evaluation and straight efficiency measurement
avg_target_speed	9.91	Target BSP, accumulated for each record and then averaged for the entire event	the preferred source for this is the Expedition file, If it's not present we will pull it from your target table.
target_speed_percent_met	70.88	percent of target speed for the entire event. Uses STW	Used in loss/gain calcs
avg_polar_speed	10.13	Polar BSP averaged for the entire event	the preferred source for this is the Expedition file, If it's not present we will pull it from your polar table
avg_polar_percent_met	69.36	percent of polar speed for the entire event. Uses STW	Used in loss/gain calcs
avg_TWA	-17.12	TWA averaged for the entire event	negative numbers are port wind, positive are starboard wind
avg_Targ_TWA	67.03	Target TWA averaged for the entire event	the preferred source for this is the Expedition file, If it's not present we will pull it from your target table
avg_TWS	15.89	TWS averaged for the entire event	True Wind Speed

avg_TWD	138.01	TWD averaged for the entire event	True Wind Direction. Mostly used during the instrument assessment
avg_VMG_BSP	3.74	averaged VMG based on BSP	the preferred source for this is the Expedition file, If it's not present we will calculate it
avg_VMG_targ	7.71	averaged VMG based on Target BSP	the preferred source for this is the Expedition file, If it's not present we will calculate it
avg_VMG_targ_ percent	48.48	averaged VMG as a percent of BSP	Same as above
avg_VMG_polar	5.59	averaged VMG as a percent of POLAR BSP	Same as above
avg_VMG_BSP_dist	3.80	accumulated actual VMG distance	The distance you travelled to weather using VMG
avg_VMG_targ_dist	9.65	target speed projected distance	The distance you travelled to weather using VMG if you were at target speed and angle
avg_VMG_polar_dist	9.87	polar speed projected distance	The distance you travelled to weather using VMG if you were at polar speed and angle
VMG_distance_loss	-133.01	this is the distance between you being at 100%vmg and the event actual VMG	This is the basis of the S event loss
VMG_time_loss	-13.78	this is the time difference between you being at 100%vmg and the event actual VMG	VMG_distance_loss expressed in seconds @ target speed
gps_distance (ft)	136.87	the distance between the beginning and end of the event.	for straights, this is the minimum distance you could have covered, and we report it as such
actual_distance (ft)	379.85	the distance traveled using BSP, not SOG	this is the distance basis for all of our calculations
target_distance (ft)	537.52	target speed projected distance	we actually accumulate this for each record, then sum it all up for the event.
diff_btwn_gps_ actual_dist (ft)	-242.98	Distance between your position at the beginning of the event and the end minus the BSP distance accumulated.	This reveals the “efficiency” of your straight line. May also indicate current or BSP calibration issue
target_time (s)	18.79	time to travel this distance at target speed	Used in loss calculations
polar_time (s)	8.00	time to travel this distance at polar speed	Used for loss calculations when you are between your fetch and run angles
actual_time (s)	32.49	time in seconds elapsed during this event	

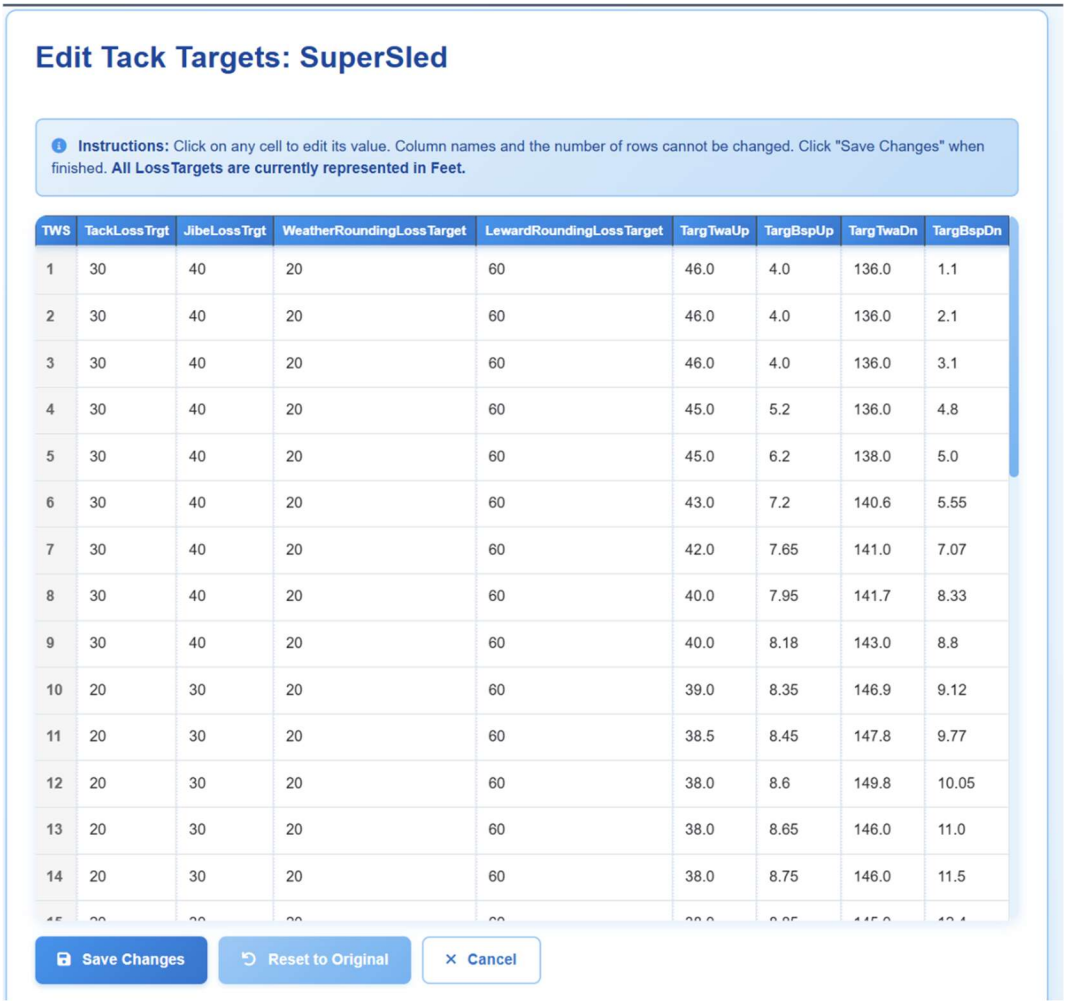
diff_btwn_targ_time _act_time_test	22.44	Time this should have taken at target speed and the actual time	
diff_btwn_pol_time _actual_time (s)	-24.48	Time this should have taken at polar speed and the actual time	
diff_btwn_pol_time _actual_time_test	17.42	Not useful at this time	
TWA_angle_loss_time (s)	4.43	If you are in VMG mode, this is the time lost or gained by deviating from your target TWA	Useful when looking at BSP vs TWA tradeoffs. Not used in any calculations for loss but an indicator as to whether running deeper or pointing higher was useful.
TWA_angle_loss_ distance	79.27	Above expressed as distance	
expected_man_loss	60	Expected maneuver loss from tack targets table	This is how we set up “expectations” for maneuvers and it is added to your maneuver time loss to give you a net gain/loss relative to expectations.
seconds_per_second _loss	0.690699	Gains/losses divided by the number of seconds in the event.	

Targets Table Explained

One of the things we do differently here at regatta-playbook is measure you against expectations. For straight lines those expectations can come directly from your polars, and hopefully directly from your Expedition data file. However, sometimes it can't, and even Expedition doesn't capture other elements. To solve this we have created the "targets table" It contains our "expectations" for your performance and is used as the baseline performance measures, so it's important that is up to date.

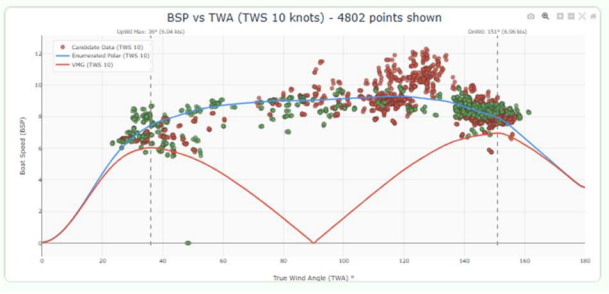
The table is organized by TWS, and has expected "losses" for each type of maneuver. Currently, it's entered in feet, so sorry you Si fans. Additionally, it has target BSP and TWA entries in case your system doesn't provide them.

To edit the file, simple select BOATS->QUICK ACTIONS..EDIT TACK TARGETS. The table can also be updated using the data from "Polar" graphic in the analysis section. ANALYSIS->POLAR



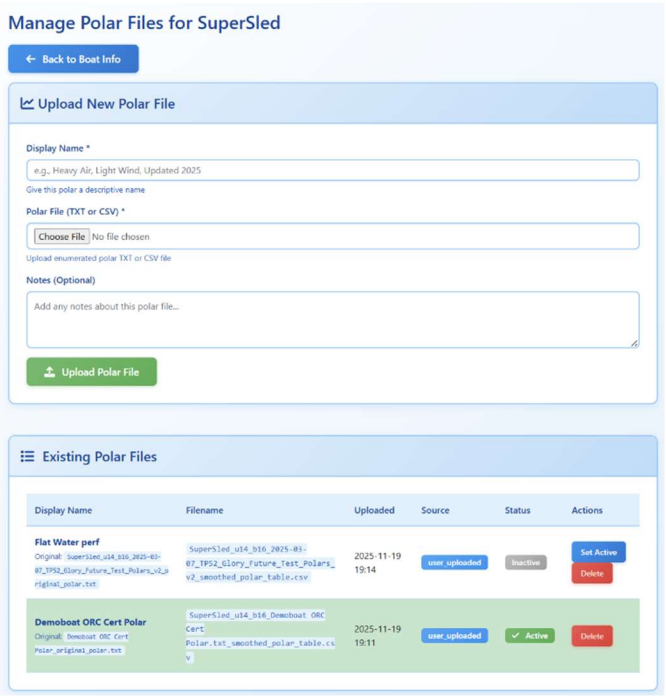
TWS	TackLossTrgt	JibeLossTrgt	WeatherRoundingLossTarget	LewardRoundingLossTarget	TargTwaUp	TargBspUp	TargTwaDn	TargBspDn
1	30	40	20	60	46.0	4.0	136.0	1.1
2	30	40	20	60	46.0	4.0	136.0	2.1
3	30	40	20	60	46.0	4.0	136.0	3.1
4	30	40	20	60	45.0	5.2	136.0	4.8
5	30	40	20	60	45.0	6.2	138.0	5.0
6	30	40	20	60	43.0	7.2	140.6	5.55
7	30	40	20	60	42.0	7.65	141.0	7.07
8	30	40	20	60	40.0	7.95	141.7	8.33
9	30	40	20	60	40.0	8.18	143.0	8.8
10	20	30	20	60	39.0	8.35	146.9	9.12
11	20	30	20	60	38.5	8.45	147.8	9.77
12	20	30	20	60	38.0	8.6	149.8	10.05
13	20	30	20	60	38.0	8.65	146.0	11.0
14	20	30	20	60	38.0	8.75	146.0	11.5

Polar Files: How and Why we have them



If you use Expedition, that data generally contains polar performance data, and when we build a Race Report we use this data. If not we use the data you loaded when you defined your boat. However in our ANALYSIS tool, we allow you to look at your performance relative to any polar file you might have. To do this we need to actually have access to a polar file. The file format we use is identical to the one Expedition uses. We support having multiple files available and toggling between them during analysis. This is especially useful if you are an IRC/ORC boat as it's easy to turn your certificate info into a polar. Once you have this, you can see how you are doing relative to your rating, and where you need to improve against your rating to stay ahead. Also, if for some reason your race data does not have polar performance data in it, we will use the active polar file to generate your polar speed

Uploading a new polar File



Choose the file from your computer and click the upload button" Once the file is uploaded, we determine the Upwind and downwind Target VMG speed and angle from that file. You can choose to apply this information to your TackTargets table at this time if you wish. You would generally only update the target VMG number from your performance polar and not your rating polar.

Managing your Polar files:

To manage the file, simple select BOATS->QUICK ACTIONS..MANAGE POLAR FILES. This screen will appear.

The upper half references allows you to upload a new file.

The lower half lets you select which one is being used. To do this simply click the "SET ACTIVE" button.

CREW

Don't show up "ready to sail" show up "**prepared to perform**"

Having the right people on board is the biggest challenge of any organization, and racing is no different. Our CREW function helps you document "who does what" and helps them understand what they need to do when

Our aim is not to tell the crew how to sail. Instead we are like that person assigned to show you around the shop floor on your first day of work. Where do you stand when the overhead crane is moving, what's the path to my workstation, and where is the better coffee in the morning. We prepare you for your day. It's up to you to do it well.

To do this, you create your crewlist, assign possible positions and document your crew's choreography, we help bring them "up to speed" before they get to the dock. This lets them bring their knowledge to you already having "learned how you do it"

Managing crew members

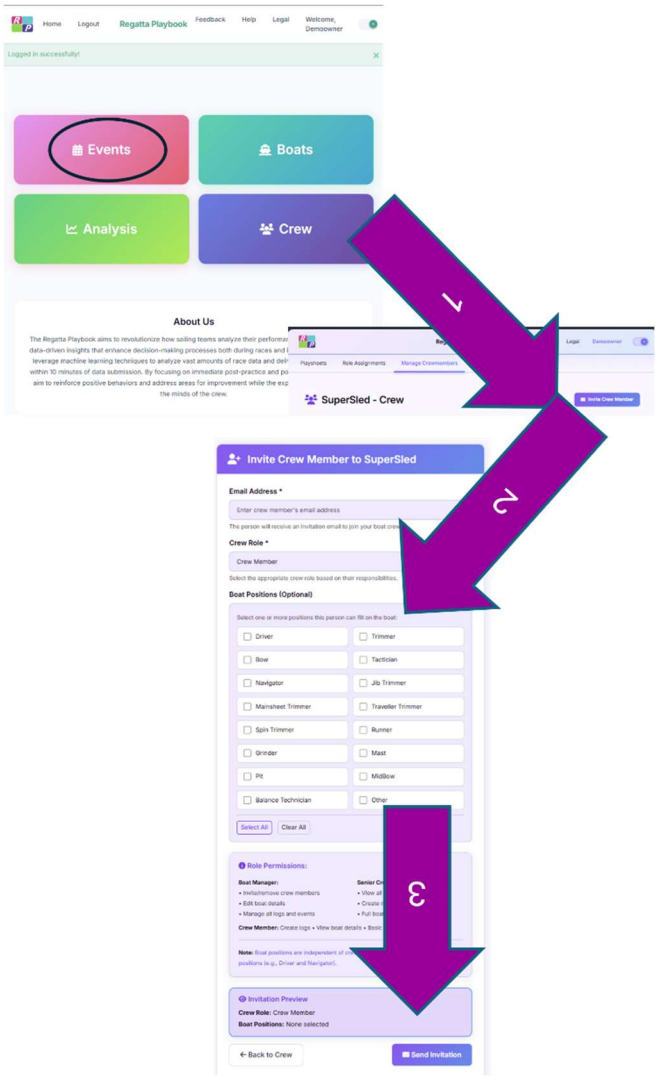
The first step in making sure everyone is "on the bus". The crewmember panel lets you identify the people and assign them a role and position. TO us, ROLES are for access control, POSITIONS are for sailing.

To invite a new person follow these steps:

- Click the CREW tile, (1)
- Click the "Invite Crew Member" button (2)
- Fill out their email, select a ROLE and position.
- Click Send (3)

Notes:

- Once sent, invitations must be accepted within a week as they expire.
- You can check the status of your crew and invitations on the "MANAGE CREWMEMBERS" tab



Role Assignments:

At Regatta-Playbook, we use ROLES as an access control method. After all, if you borrow a crew member for a day from your main competitor, you might not want them being able to do a total performance evaluation or change the crew choreography.

Crew Member:

- View boat details
- Basic crew activities

Senior Crew Member

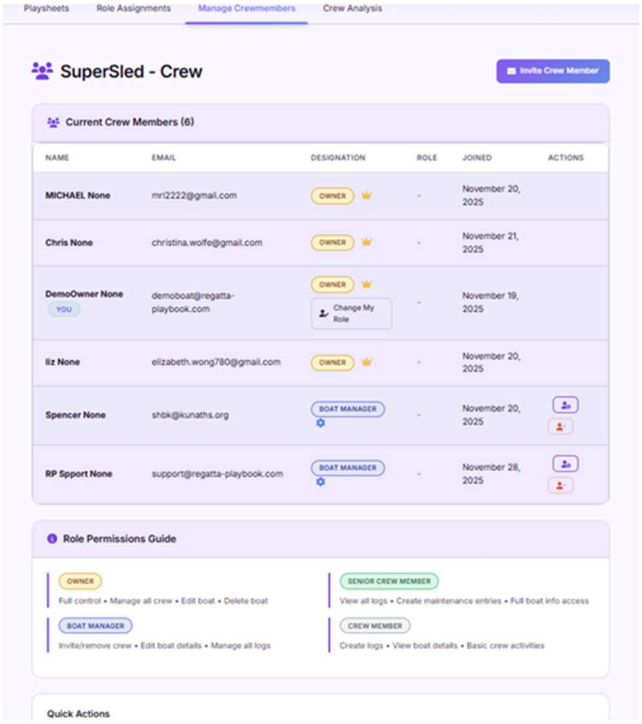
- Run Analysis
- Add races
- Assign positions
- Create maintenance entries
- Full boat info access

Boat Manager

- Everything except delete a boat
- Removing crewmembers
- Changing role assignments

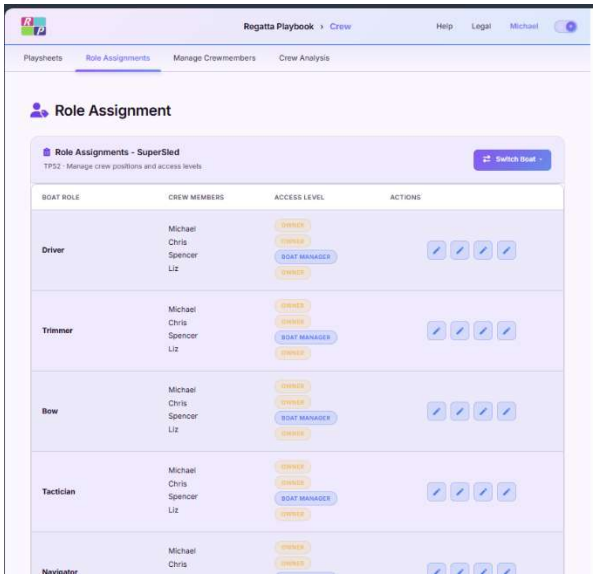
Owner

- Everything including deleting the boat



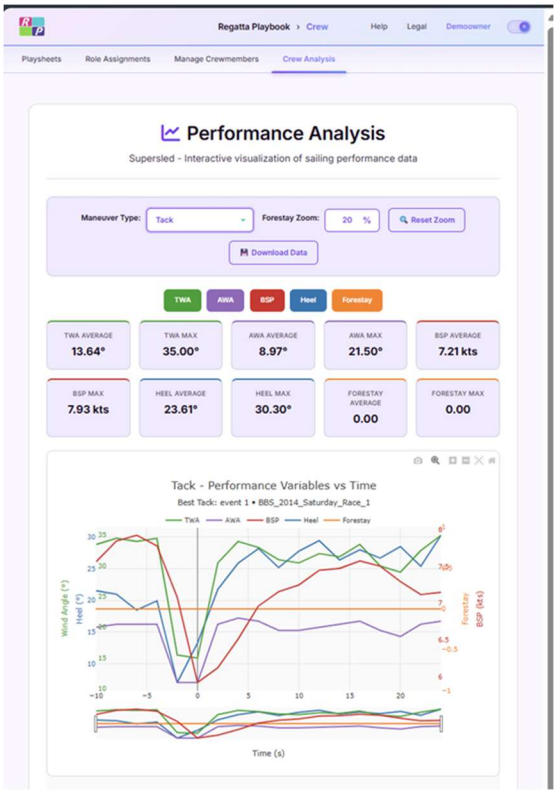
Sailing Positions

At Regatta-Playbook, we use Positions to identify what you do on the boat. POSITIONS are related to PlaySheets and the playbook. Assigning the position can be done by all roles except “crew member” Many of the common positions have some default text written them which you can replace or modify as you see fit.



Crew Performance Analysis

The CREW ANALYSIS tab let's you examine your "best" maneuver by type in detail. You can look for insights into why this particular time you did better than all of the others. The controls let you toggle on and off different variables.



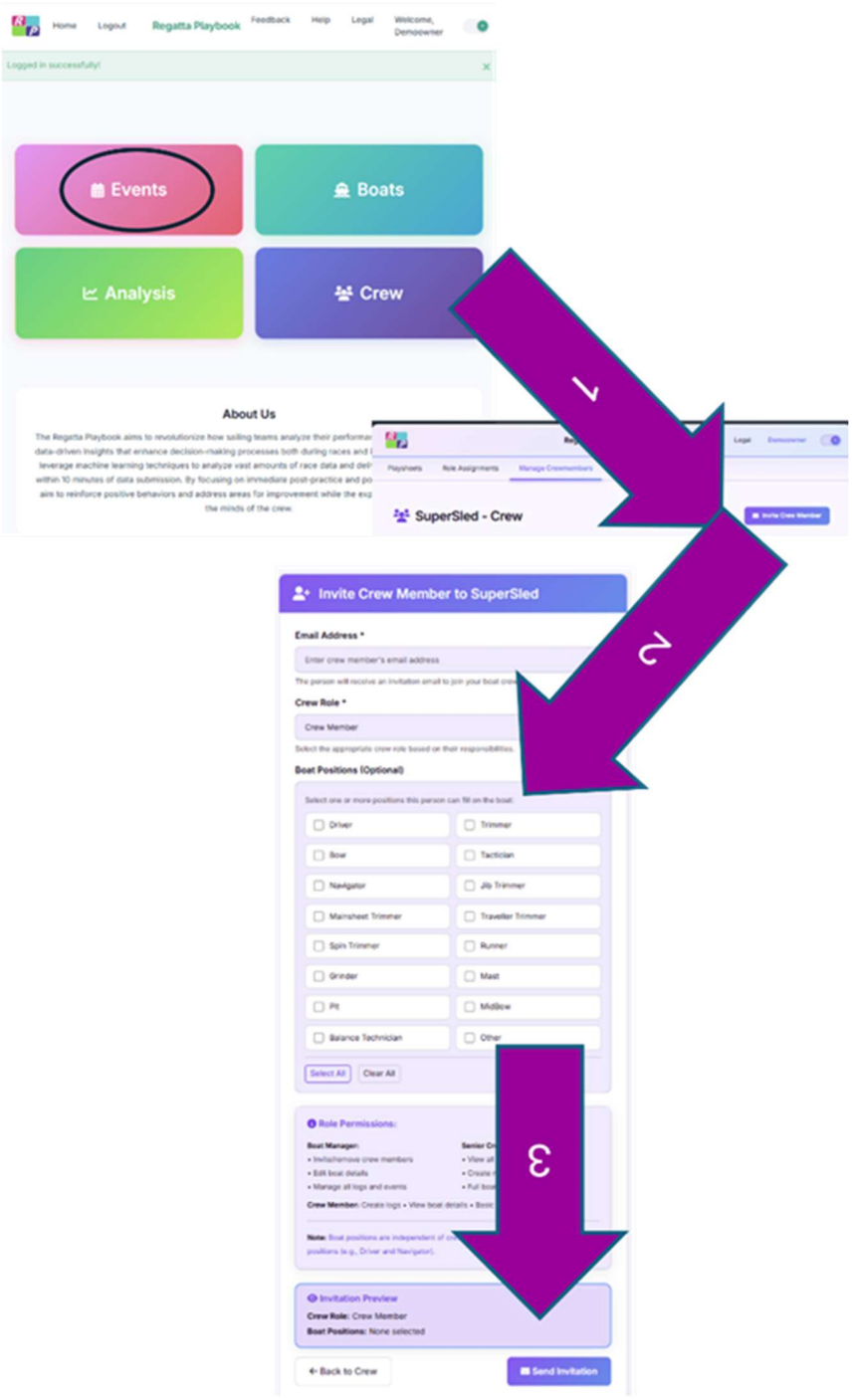
Building and managing your PlayBook

Playbook functions allow you to develop written actions to be taken by each identified position during tacks, jibes and other Maneuvers. These actions will include milestones related to specific data elements that this position affects, such as heel, rudder movement or AWA, things the crew can see and feel. This is accomplished by looking at the Graph below and then relating activities and other settings (traveler position for example). The "instructions" box allows you to document exactly what needs to happen when during this maneuver type.

Once completed, a PDF of this 'PlaySheet" or all of the PlayS heets, called a "playbook" can be created and distributed using the buttons near the top of the page.

Quick Path: Adding a Crew Member

- Click the CREW tile, (1)
- Click the “Invite Crew Member” button (2)
- Fill out their email, select a ROLE and position.
- Click Send (3)



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