

technique



# the PreStart forming a strate



photo Mike Austen

In our new technique series, we take you round the race course in a progressive sequence that will give you all the tools you need to transform your tactical sailing. Mark Rushall kicks off the series by looking at the importance of preparing for the race before the starting gun is fired.



photo Kos/Kos Picture Source

## Why bother with a strategy?

*Tom Sniddleback was the first to peel onto port tack, having made a conservative start near the port end of the line. Ducking three transoms, he continues on port for ten minutes. He reacts to a five-degree port header by tacking back onto starboard. Five boats continue on port tack toward the starboard lay line. The wind continues to lift on starboard, giving Tom an advantage over the majority of the fleet, now to leeward. Tom flicks back onto port, narrowing the gap on the boats to windward. Some are now on starboard and look to be right on the layline, slightly ahead.*

*Tom tacks back onto starboard, below but bow-forward of the leaders, some 3 boats lengths below the layline. "Land's moving right" calls Tom's crew, who has taken a transit from the windward mark to the shore. "Tide's taking us up there, ease a touch" is the reply.*

*Tom rounds the mark first, comfortably ahead of the pack of boats on the left of the course, who missed the persistent right hand shift. The boats on the layline misjudged the tide and have reached down to fall in line behind his transom.*

Another lucky beat: or good **PreStart** discipline? Here is Tom's observation:

"We tracked the wind direction for the half hour before the start, and found that it was shifting back and forth through five to ten degrees. The average wind heading moved progressively right, which matched this morning's forecast."

"We monitored the tide at the pin end: it was flowing from left to right and slightly over the line. Our tidal atlas indicated that this would continue for several hours."

"Though the line was very port biased when we checked it, we decided to start in a gap some way from the pin so we could tack onto port on the first shift. We picked up a safe transit, as we were concerned that the tide might take us over the line. I'm surprised that the boats we ducked weren't OCS!"

Tom clearly used the time available before the race's starting sequence to build a picture of the race conditions. Using this picture helped him to plan the first beat and the start, and react instinctively to wind, tide, and other boats.

This pre-race observation and planning can turn occasional race winners into consistent ones. Depending on the regatta venue and type, the available (and appropriate!) time varies from minutes to hours.

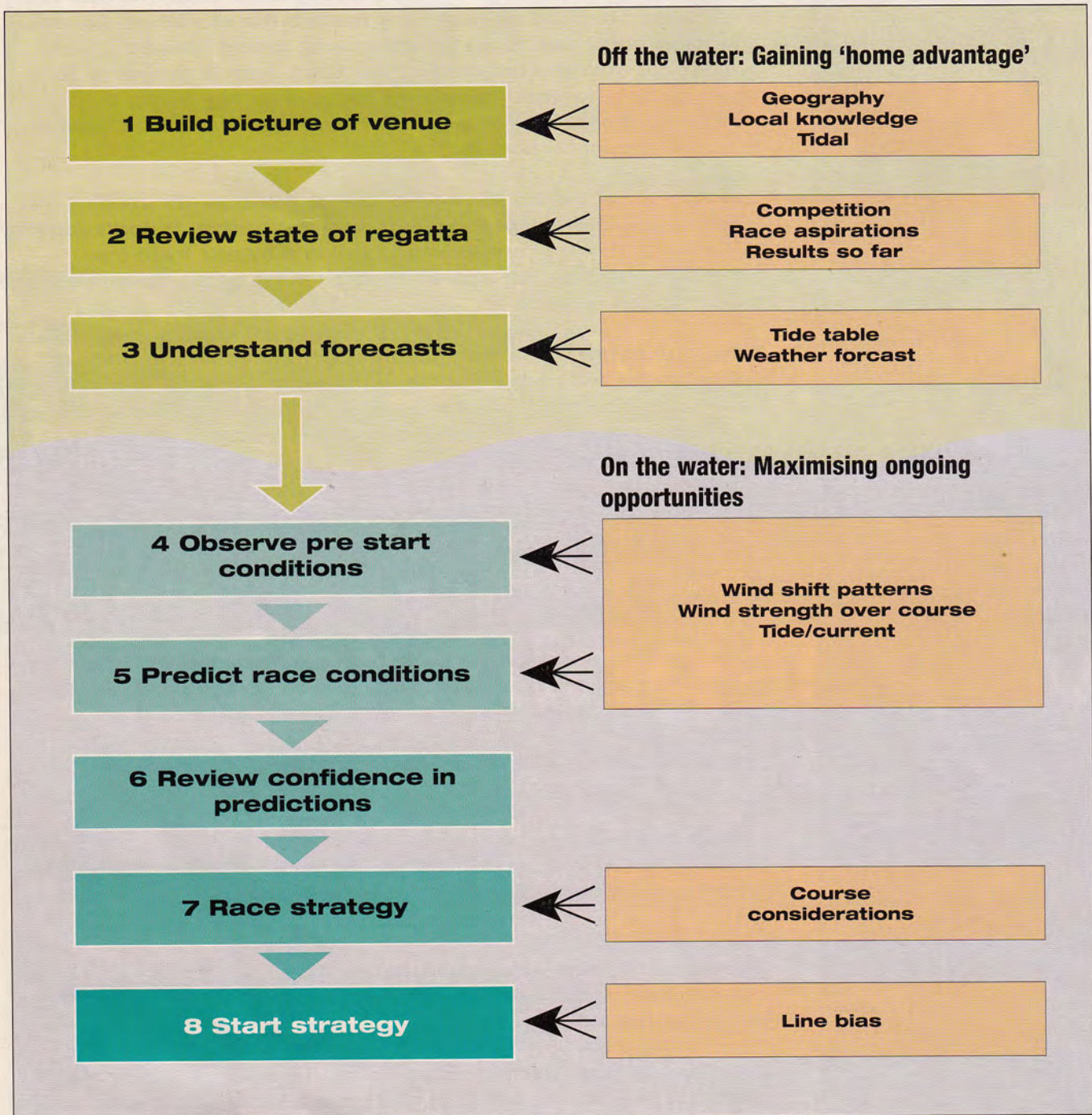


photo SailRacer

For the purposes of this discussion, it's assumed that the standard pre-race affairs: -sailing instructions, courses, boat preparation, rig set up, sail choice, clothing choice, refreshments - are dealt with.

We will concentrate on the factors that play a part in decisions made on the racecourse.

**Fig. 1 The steps that enable organised sailors to form winning strategies**

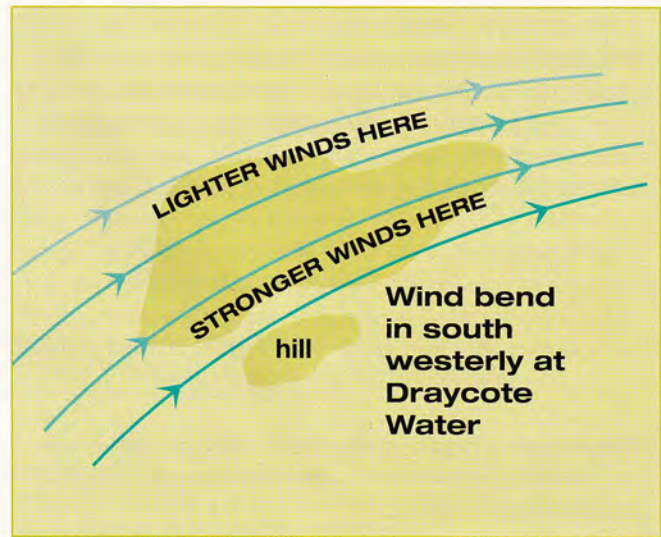




### 1 Build a picture

**Figs 2 and 3** show two examples of classic conditions at classic venues. Collecting this type of background information increases the confidence level of any on-the-water judgements.

- The prevailing southwesterly wind at Draycote Water bends around the hill behind the clubhouse. Additionally there is often more wind on the left. Sailing the left hand side of the course is likely to make the most of both wind bend and increased breeze.
- Frustrating conditions at Torbay come with a northwesterly breeze. The hills behind Paignton and Torbay magnify both oscillating shifts, and puffs and lulls. Getting in-phase with the shifts upwind, and staying in the gusts downwind, are likely to be winning strategies.
- A sea breeze in the afternoon at Torbay, following clear skies and light westerly breeze in the morning. The wind moves persistently to the right during the afternoon, indicating that the right hand side of the beat will pay.



**Fig. 2** Draycote Water

"I am looking to gain an understanding of any local phenomena: for example, what direction does the sea breeze blow from, do any nearby cliffs or headlands cause a bend in a certain wind direction, are there any complex tidal flows?"

This information will add to my own on-the-water observations, to help build a clear picture of the critical factors affecting my race strategy."

Some of this information can be gleaned from charts, tide steam atlases, and land contour maps. An understanding of the causes of wind and tide patterns helps. (Fernhurst books by David Houghton and David Arnold are recommended reading). Simpler sources of information come from sailors who have raced at the venue before, and dedicated venue guides such as Jim Saltonstall's Insider Knowledge series in SailRacer.

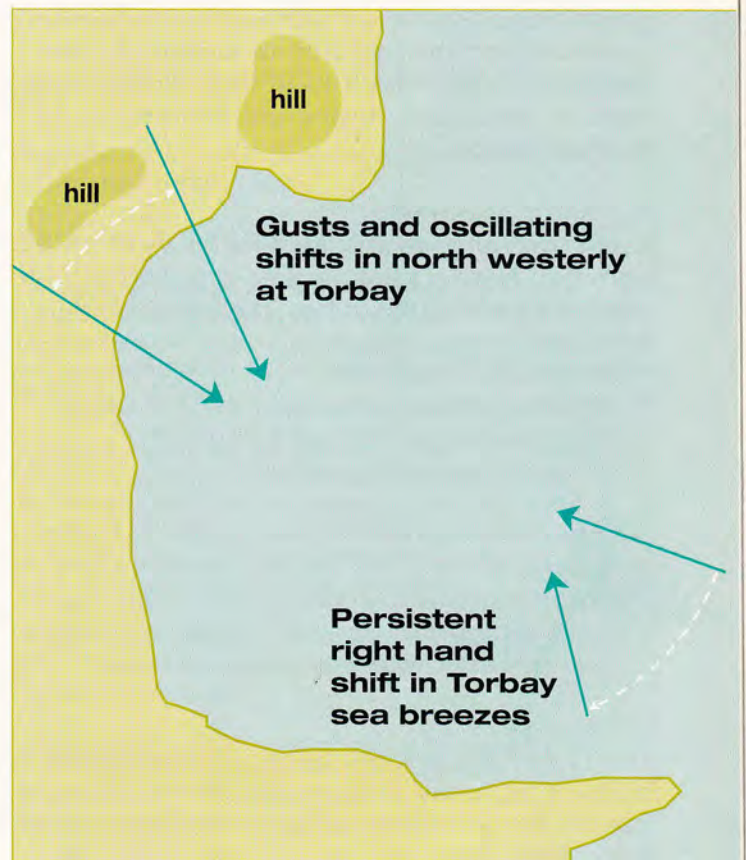
### 2 State of regatta

This directly affects race strategy. An honest appraisal of the results so far, the level of competition, and overall aspirations, before leaving the shore, eliminates another distraction from clear on-the-water thinking.

"If it's the first day of a long series, I may set my goal as a top five position. If it's the Britannia Cup which the owner will give anything to win just that one race, I may choose a different strategy."

### 3 Analyse the forecasts

Converting published weather forecasts and tide into a forecast relevant to the racecourse can seem a mythical grail which even the millionaires at the Americas Cup can't buy. However intelligent comparison of forecast and tide tables with venue background will reduce the risk of surprise. As with all parts of sailing, improvement comes with practice.



**Fig. 3** Torbay

"I look at the forecast and say...how might that affect me? Then if the forecast front does come through, or the thermal kicks in, I understand what is happening and can react appropriately."

photo SailRacer

## 4 Analyse conditions

**Wind shifts:** After an hour of tracking wind direction in the course area, a pattern for the prevailing wind shift conditions usually begins to form. Shift patterns to look for are wind bends, oscillating shifts, and persistent shifts. SailRacer will look in detail at ways to track and record wind directions, and how to interpret the data, in later editions.

“The type of wind shift pattern is fundamental to setting my race strategy. I’m looking for data to back up the information I brought with me. Real time observations are always more valuable than forecasts, and if there is any conflict, I generally trust my on the water observations.”

**Wind strength:** A practice beat and run will indicate variations in wind strength across the course, and from which side, if any, the gusts predominantly appear.

**Current:** this can be checked against expectations, visually at an anchored mark, or more formally by dropping a weed stick or banana skin (don’t forget to pick it up afterwards) near the mark. Looking up the course, if wind is against tide, the strongest tide is likely to be indicated by the roughest water, or if wind is with tide, the smoothest water.

## 5 Race predictions

It’s now time to put off-the-water intelligence together with pre race observations. As well as a prediction, a feel for the confidence in this prediction will affect the race strategy. The major questions to answer are:

- How is the wind going to shift?
- Will there be any tidal advantage on any part of the course?
- Will there be more wind in any part of the course?
- Is the beat square, or mostly one tack?

“In order to make my plan, I’m trying to use all the information I have collected so far to build a model for what is likely to happen during the race. To help form my strategy I need to prioritise competing factors, for example will gaining on the shifts be more critical than avoiding adverse tide?”

## 6 Race strategy

Pulling together race predictions, the level of confidence in these predictions, and the state of the competition, forms the basis for the race plan. Race strategies for a variety of conditions will be covered in more detail in later editions of SailRacer. Here are some basic rules used to form a race strategy:

- In oscillating wind patterns, get onto the lifted tack as soon as possible after the start. Tack on the shifts to minimise upwind distance sailed. If the shifts are gradual, rather than instantaneous, tack when headed below the average upwind course.
- In a persistent shift, take the heading tack first, i.e. sail towards the new wind direction.
- Sailing toward the inside of a wind bend will give the shorter course.
- If the wind is oscillating but the average direction is moving one way, use the shifts to work to this side of the course. Similarly, use the favourable oscillations to work towards the inside of a bend.
- If there is no clear pattern, sail the longest tack first and watch what happens.
- Sail to maximise favourable and minimise unfavourable tide. If the tide direction varies over the course this needs careful preparation.

“If I’m really confident about the conditions, or I’ve decided to accept some risk to achieve a certain result, I’ll use a more extreme strategy. If I’m not so certain, or want to be more conservative, I’ll follow the same rules but hedge by keeping closer to the fleet or the middle of the course.”

## 7 Start strategy

Part of the pre-start routine involves checking the start line conditions including line length, bias, local tide, and availability of transits. However, the “best” start may prevent implementation of the race strategy:

“Sailing from Torbole in classic Lake Garda conditions, the Race Committee often sets a highly starboard biased start line. I have made the perfect committee boat start, with the whole fleet looking dead and buried behind my jib. Ten minutes later, we are all still on starboard, but all the top pin end starters have popped out in front of the jib as they hit the “escalator” under the cliffs on the left.

“In Cowes Week, even with a heavily port biased line, we have started at the starboard end and tacked immediately onto port into slack water, making big gains over the pin end starters who are prevented from following their strategy of tacking straight onto port, by the boats to windward”

The objective of the starting strategy is to make best use of start line conditions while providing a platform for launching the race strategy.



## the **PreStart** developing a routine

### PreStart checklist

So much for planning! With so much research and observation to worry about before the start, it could be easy to get bogged down in theory and miss the opportunity to get in tune with wind and waves, check boat tune, and prepare for the actual starting sequence. There is more to the pre-start than being a weatherman!

" My pre-start check list helps me to make most use of the short time before the start. For an evening club race, we miss out some of the steps, but the list still does the same job, it helps us to focus on what's important, and ignore things which are out of our control."

- Practice beat** I'm sailing hard up the beat in race mode, getting a feel for the wind and wave conditions. Questions I am asking myself are: is the rig set right for the conditions? Do I have the right jib on?
- Practice run** Again, I'm protecting against surprises. Will we be in "soaking" or surfing mode? Which spinnaker should we use? A couple of practice gybes gets the whole crew in racing mind-set. It's also easier to spot wind channels and bends sailing back down the course, rather than beating through them.
- Wind patterns** By now I should have a reasonable feel for the wind shift patterns and be thinking about my strategy
- Tide/current** Have I checked the current in the starting area and up the course? Does it match predictions?
- Course** Are we 100% confident of the course? Can we spot any marks? Which spinnaker will we use first/which bag should it be in?
- Beat strategy** It's time to commit: how would we ideally play the beat?
- Line transit** Hopefully by now the line is laid. Depending on the line length, I like to get a transit putting the bow around two boats lengths behind the flag on the committee boat. The same transit will be 1 boat length behind the line halfway down, and pretty useless any closer to the pin. For that reason, if possible, I look for a similar transit from the pin end as well.
- Line bias** I like to be able to re check the bias right up to the last minute. Once I have a transit, I sail down it, reading the line bearing from the compass. Add 90 (or subtract 90 if we were sailing up the line on port!) to get a line perpendicular. Then any place, any time, I can luff to this number. If I'm between head to wind and port tack, the line is port biased, starboard, its starboard biased. If I can't tell, it's too close to call, but if the sails are filling, it's very biased!
- Starting objective** Now I can decide what my starting plan is, making the most of any line advantage but still able to follow my race strategy. The plan will develop around the other boats, but it's still a plan!
- Weed check, boat check** One last chance to check for weed, and get any double ended control lines down to the port side (so they are even when I pull on the vang on the start approach). Also any specifics like lining up the prop. If they are on my list, they will get done! Are we wearing the right kit? Last chance to put it right or put up.
- Ready for the warning signal** Boat is set, mind is set. We are happy with the plan and can't wait to try it out. Unfortunately the warning signal is not until next month's edition!

## newtoracing?

The easiest way to get into racing is to crew for someone at the local club. At first racing can appear very complicated, but in fact, as long as you have a clear understanding of a few principles, then it is straight forward and a lot of fun.

Racing newcomers should focus their pre-start efforts on getting clear information about the course and starting procedures, and on understanding the key racing rules. That will be enough to get you up and running, and you can build on this base once you get more experience.

Races are run in accordance with sailing instructions, which are usually pinned on the board at the local club. These will explain the following:

- where a description (or diagram) of the course will be displayed;
- where the start line is, and what is used to form the line;
- what the start sequence and order is (for more than one start);
- what the start signals are (flags and sounds);
- other relevant information such as start times, finishing lines, safety rules and local rules. (such as any requirement to sign on and off on an entry sheet).

As well as these local rules, racing is run to the standard ISAF rules, which can seem a bit daunting at first. However, you just need to understand a few key rules to get you up and racing. I would suggest that you understand the following:

- port tack gives way to starboard;
- windward boat gives way to any leeward boats;
- also look at the rules when going around marks - approach windward marks on starboard and give water (room) to any boat inside you at a downwind mark.

Try looking at any of the guides to starting racing or the RYA video "Better Sailing" to understand these in more detail.

Once on the water, learn to stop your boat, either in a 'hove-to' position, or become confident sailing at very slow speeds. This will give you the time to find marks, watch the start signals and check the course before the start.

Remember everyone has had a first race so just ask if you do not understand any aspect and enjoy the start of your racing career.



photo Kos Picture Source



Mark Rushall, project manager, marine consultant, and coach, is one of the UK's leading small boat sailors having won major championships in a wide range of performance dinghy & keelboat classes, including Mirror, Firefly, Lark, Fireball, Laser 5000, and 1720.