SEA KAYAK SAILING AND SAFETY

By Rob Mercer

With thanks to Andrew Eddy and Mark Sundin for their input and comments. Photos by Shaan Gresser, Andrew Eddy & Rob Mercer

OCEAN PADDLER
THE SEA KAYAKING MAGAZINE

We watched as a lone kayaker clung to their boat, adrift and well offshore. Judging by the sea surface and 2 m waves regularly washing across the helmet camera lens, it was Force 6–7. We watched as one of Australia's most experienced instructors – a remote expeditioner who has covered much of the northern wilderness (most of it under sail) – failed a roll and then a re-enter and roll. We could see the slow inevitable decline into hypothermia. Although we knew this self-rescue bid wasn't going to work, it was compelling and chilling viewing.

The obvious factor impeding the self rescue in those challenging conditions was the sail and rigging that only moments earlier had been propelling the kayaker along the seascape. We had been enjoying long rides on what, up to that point, had been an exhilarating day's paddling at 6–7 knots (peak speeds over 12 knots). I was struck by the complexity of packing away a normally straightforward rig in the bouncy and disorganised sea state, and can only conclude that this was the major mitigating factor in what turned into a very frightening near miss.

Sea kayak sailing has enjoyed a long and continuous tradition in Australian paddling culture. The early Tasmanian epics along the rugged west coast and numerous forays into Bass Strait by pioneers such as Laurie Ford regularly featured long fast days under sail, using the traditional Tassie sail rig. The sails increased the range of sea kayakers in heavy wilderness conditions, where big loads compromised normal boat speed and there was no easy landing in areas almost entirely unpopulated. Essentially, the sails allowed these early paddlers to commit to longer distances completely unsupported.

While sails are ubiquitous in our part of the world, the renewed global interest in kayak sailing piqued by designers such as Mick MacRobb has made it something of a hot topic. I have always considered myself to be a sea kayaker who, on long wilderness trips, has been an avid sailor (as opposed to a sailor who uses a kayak).

The distinction lies in the use of the paddle. For the kayaking sailor, the paddle is the prime mover and the main means of propulsion; anything the wind can give you is a bonus. The closer to the wind you are forced to sail, the more tempted you'll be to turn your efforts back to paddling rather than the challenge of seeing what you can extract from the wind.

The sailing kayaker tends to seek the challenge of the wind and the sail in combination as a measure of their sailing skills. Of course, there is no black and white line between these two polarities and we all gravitate between them to an extent, depending on how much fuel we have left in the tank!

Safety and kayak sailing is a topic argued along regional boundaries here in Australia. Deferring to the venerable Tasmanian kayak sailors, their rigs are characterised by a socket located in the deck within arm's reach. The mast is simply dropped into the socket and held in position by the sheet or boom line cleated to the deck. On a recent trip to Tassie, Mike, Veronica and Jenny (proud advocates of their kayak sailing tradition) showed me just how easily this rig could be dumped with a single deft movement in an emergency or capsize.

Another nice feature of this system is that a tiny storm sail can be used in heavier winds; some even use this as a second sail in an additional socket set behind the seat for light conditions. The two sails are stowed on the foredeck in mesh bags and are very secure and unobtrusive when stowed. As well as being easy to dump, proponents for the Tassie rig believe it can sail closer to the wind.

Despite the above points, I feel the disadvantage of the Tassie set up is that it inhibits a modern forward stroke (not to mention a whole range of blended boat control strokes), especially those forward of the cockpit including rolls. Some innovative local Tassie prototype designs are addressing this by using a mast tensioning system and a very short boom to allow a wider range of strokes. I am keen to test this next generation in the near future.

Meanwhile, back on the mainland, sails have evolved around the concept of a deck mount placed further forwards with the deployment and stowing of the sail requiring a universal joint and an up-haul line. The advantage of this system is that the boat can be paddled with the full range of strokes, as there is no physical barrier to paddling technique. It's sufficiently well forward so that the other obvious difference is that the boat will show a strong tendency for the bow to point downwind when moving fast, and this works well with looser tracking rudder boats as well as skeg boats. As the latter is the system with which I have the most experience, I offer the following points to consider based on this rig.

Gear

As with any other piece of kit, there is a set of gear protocols that you should follow in setting up your rig.
1. Setting the sail, it pays to colour-code the up-haul and sheet lines so you don't pull the wrong one.

2. A common error for people getting into kayak sailing is choosing a first sail that is just too big. Most of my sailing has been done with a 0.75 square-metre sail, and this would be good all-round size for a beginner.

3. When the sail is stowed, be aware that you will need a method for stopping it from filling with water in the surf, breaking waves or during capsize. This is most commonly achieved with a fabric sleeve or a couple of cleated shock cords.

4. Have a system for organising the loose lines which trail from your deck. The last thing you need is a couple of metres of loose braid with the potential to wrap around your paddle or worse.

5. Look at your sail rig in terms of strong points and ensure that there are sufficient reinforcements to protect your deck, but also a number of points in the rest of the system which will fail before your laminate does. Different manufacturers have different solutions to these challenges.

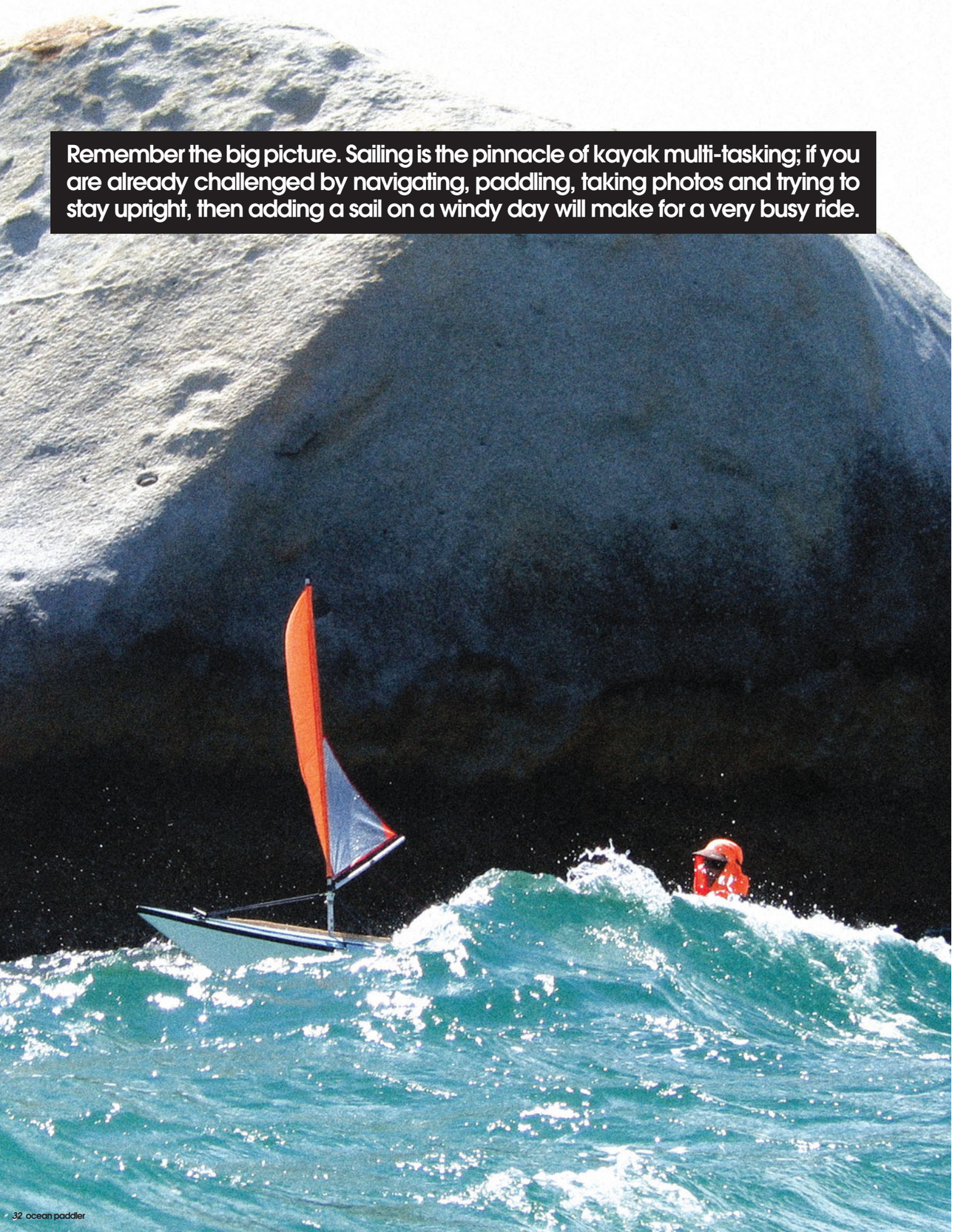
6. Until you are sure of your capabilities, a shock cord in the up-haul and sheet line will act as a safety valve for the shock loads produced by wind gusts. These buffers may cost a little in performance but make for a more relaxed ride.

7. If your sail has a clear panel, ensure that it is in a useful position to allow some gain in visibility (but don't assume it will be much use once the spray starts flying).

8. The use of personal tethers is a controversial issue that is especially relevant for kayak sailors. On the one hand, you are already dealing with extra lines, stays and all the other hardware that a sail entails. Adding a tether is just one more potential entanglement hazard. On the other hand, a tether may help you stay with your boat in the confusing aftermath of an unexpected capsize under sail.

9. Cleats, fairleads and blocks can graze knuckles or snag on you or your paddling partner's gear. Go for low profile with smooth edges and think carefully about placement before reaching for the drill.

10. With few exceptions, the designers and manufacturers who built your boat did not have sails as part of the design brief or product development. Placement of masts, fittings and lines will often clash with existing fit outs and heeling and pitching characteristics will change in ways that the designer could never have imagined. Unless you know someone who has already used your model of boat with your model of sail, then you need to consider yourself as a paddling test pilot (Top Gun or canary in the coal mine, take your pick). ▶



Skills and techniques

There are a separate set of skills that are particular to kayak sailing and they are best practised in a controlled and familiar environment before taking them into more challenging conditions.

1. Never raise the sail in conditions where you have any doubts about your ability to get it down again. It can be worth practising this in a raft with another kayak and in windy conditions blowing towards a safe landing.

2. You need to be able to point the boat into the wind in order to pull the sail down. It sounds simple, but remember that the sail is inherently trying to point the bow downwind. It's worth getting to know how your boat reacts when you release the sheet line and spill the wind from your sail.

3. The sail is exerting downward force on your foredeck, changing the trim of your boat. I tend to only use sails on long, heavily loaded trips. If a downwind day is in the offing I will offset this tendency by packing the boat to trim a little stern-heavy. In moderate to strong winds, even with the stern packed heavy, I still find that the bow dips quite strongly with gusts; in the process, the wind tends to help me catch long ocean runners (even when I am not expecting it).

4. The sail will tend to auto-correct much of the broaching that you would otherwise be managing with edges and stern rudder strokes. There is something distinctly different about being dragged along by a sail at the bow rather than being pulled along by a paddle that provides drive closer to the centre of the boat. Even with a skeg boat, the right combination of skeg and sheet-line settings should allow almost every stroke to be a power stroke or a powerful sweep stroke, maximising your boat speed. I used to paddle a kayak with neither skeg nor rudder on which I used a tiny sail well forward as a way of managing weather-cocking. It was too small to provide much extra speed, but was a great 'air skeg'.

5. Support strokes require great care in orientation of the blades. The last thing you need is a neutral blade diving suddenly and catching heavy water! Similarly, excessive blade angle will produce a lot of drag which not only slows you down, but will inevitably overload your joints. Bear in mind, on a big day you might find yourself holding these strokes for hundreds of metres.

6. Rolling and self rescues need to be thought out far more carefully with the added complication of a sail rig and lines. There are two approaches: the first favours releasing the sheet line and/or sheet line and up-haul underwater and then rolling as normal; the second, which works with small sails and sturdy decks, is simply to roll with the rig fully set. In either situation it makes sense to practise your sail roll slowly and deliberately. It is even better to be able to scull the boat slowly upright so that most of the water drains out of the rig. This can be the difference between a roll and the complication of a swim.

7. When sailing, the reality is that most people get knocked over downwind; most successful rolls from this position will also be downwind. It follows that you should develop a solid and instinctive roll on both sides, so you can always roll up with the wind assisting.

8. Sailing is one skill set where even the most reliable of rollers should take the time to practise not only a standard re-entry and roll, but run through the drill of stowing your entire rig as a precursor to the re-entry and roll. You'll find that in cold water this is a time-consuming and physically draining exercise.

9. It is also worth practising a re-entry and paddle float roll to overcome additional drag if you don't want to spend extra time in the water packing up your sail prior to rolling up.

10. To expedite the clearing of lines during a re-entry or other self rescue, you should always carry a rescue knife and be willing to cut any rigging or fabric that impedes your fast and easy recovery.

11. Attempting a deep high brace against the wind is all but impossible with a sail.

12. It is never a good idea to right a capsized boat under sail in wind of any strength until you're sure the rig is stowed. A kayak with bilge water ballast in the cockpit will sail alarmingly well without you.

13. Remember the big picture. Sailing is the pinnacle of kayak multi-tasking; if you are already challenged by navigating, paddling, taking photos and trying to stay upright, then adding a sail on a windy day will make for a very busy ride. I have watched in awe as one of my mates sailed straight into heavily dumping surf with his head down trying to untangle his sheet line.

Have a plan

After finishing his recent circumnavigation of Australia, Stuart Trueman commented that he had more capsizes (and often in scarier places) when under sail than in the formidable surf zones of the Pacific and Great Southern Oceans. Despite the technical challenges, Stuart remained enthusiastic about his use of the sail throughout his 16-month epic.

Local paddler Matt Bezzina has reflected that, while sailing super-charges our kayaks, it also super-charges the risks. On our recent expedition to the remote North Reef Lighthouse, Mark, Chris and I combined the super-efficient Rockpool Taran with a Flat Earth sail in a region at the time of year beset by strong following and quartering trade winds and steep seas. We took great care to formulate a series of protocols in the event of a capsize, knowing full well the distance that would be quickly covered by our paddling partners away from the capsized boat. We all carried VHF radios on our PFDs. In the event of a capsize, we would implement the following steps.

1. Attempt a roll; if it failed blow loudly on a whistle.

2. Attempt contact on VHF radio.

3. Set off flare (remembering we were more than 100 km offshore with no other boat traffic in visual range).

4. Attempt re-enter and roll followed by paddle float re-enter and roll.

5. If no contact with paddling partners after failed attempts to re-enter, set off EPIRB.

We were all versed in this protocol and kept an extra vigilant eye on one other, especially when the sails were in use. Clearly, the biggest danger we foresaw was the swift separation of the group and the potential for a slow self rescue. You are not afforded the same options when paddling solo, so kayak sailing by yourself requires extremely solid and well-tested skills (including lots of practise at managing capsizes under sail).

In preparing this overview on kayak sailing safety I asked my mate Andrew, the paddler whose near miss is described in the opening paragraph, to comment. As we read through a first draft the most alarming realisation was not how much he had done wrong to get into so much trouble, but quite the opposite! Even with so many of the details covered, a simple capsize under sail nearly cost him his life. Andrew still sails and enjoys the speed and challenge of a big day as much as ever, but he now urges all to learn from his experience and practise everything, including self rescues with a full rig. Practising and honing skills with a clean deck is no guarantee that everything will work the same in heavy weather under sail.

About the Author
Rob is an AC accredited Advanced Sea Kayak Guide and Instructor. He operates a training business; "the Balancedboater" on the open coastline and outer harbour around Sydney. He also runs Expedition Kayaks with fellow instructor and paddling buddy, Mark Sundin. His most recent trip was the North Reef Expedition (2011) but he has also paddled extensively on the Australian East coast, from Tasmania and the Bass Strait all the way up to Cape York and Torres Strait. He lives close to the Sydney beaches with his wife Sharon who is also a kayak instructor and accomplished sea paddler.