BAYRAIDER: 6.05m (19ft 10in) dayboat **PRICE:** from £12,995 (glassfibre version); £16,995 (epoxy plywood)

A different sort of

Good performance, plenty of space, and a water-ballast tank that can be filled when you want self-righting ability – the BayRaider offers all this and much more besides, as David Harding discovers

PBO BOAT TEST

Show some sailors a dayboat that has cream or tan sails, a sprit or a boomkin, and they'll run a mile: anything with these trademarks of tradition might look quaint but won't sail fast enough to get out of its own way – or so they believe.

At the opposite end of the spectrum are those who have no interest in the white and shiny; of efficient austerity in plastic and stainless. Give them a boat with character any day.

Time was when rarely the twain would meet, though a few traditional-style dayboats, such as the Memory and Devon Yawl, have shown that simulated clinker hulls, mizzen masts and low-peaked gaffs don't stop them fizzing along nicely when pointed in the right direction by people who know which strings to pull. And recently we have seen an even greater convergence of the quick and the traditional with the introduction of the Rustler 24 (formerly the Piper) and the Tofinou range from France.

Another newcomer that's likely to turn a few heads as it slips past is Swallow Boats' BayRaider – a 6m (20ft) three-quarter-decked design that, like the Devon Yawl, is strictly speaking a ketch (because of the transom-hung rudder), but to all intents and purposes is a yawl.

Where she differs from most of her competitors is in being substantially lighter for her length: her weight of a modest 330kg (728lb) makes her easy to trail, launch and recover and allows use of an un-braked trailer to keep the cost down.

The light weight, however, is not at the expense of stability. The combination of her relatively low rig and hard turn to the bilge means that she's comfortably steady even in lively conditions: I've tested her in 25 knots of wind under full sail and she's satisfyingly quick yet remarkably docile. If you want the ultimate in safety and don't mind sacrificing a knot or two, you can open the bung in the ballast tank beneath the sole and let in 300kg (660lb) of water. When the tank's full the boat becomes as stiff as a church and has an angle of vanishing stability (AVS) of 125°, which is better than that of many yachts. We tried capsizing her with the ballast tank full and it wasn't easy, as the photo sequence (top right) shows. The ballast can be emptied through

CAPSIZE TEST

To demonstrate the BayRaider's self-righting ability with the water-ballast tank full, Matt Newland, the builder, had to get the boat over to 90°. Even in a fresh breeze it proved to be a challenge.

1 Matt swings outboard on the spinnaker halyard with the sails sheeted in...

2 ...but the righting moment means that the BayRaider is still reluctant to be pulled over

3 Eventually Matt gets the mast horizontal. Note how high the boat floats

4 As soon as he releases the halyard she bobs straight back up, scooping just a few gallons of water aboard in the process

dayboat

self-bailers if you're moving at 4 knots or more, so you can switch between ballasted and un-ballasted modes under way.

Safety first

Making the boat safe – and easily recovered in the unlikely event of a capsize – has been a high priority in the design of the BayRaider.

She comes with more than 1,000kg (2,200lb) of buoyancy in separate, sealed compartments. The masts, with external halyards, are hollow and sealed to provide buoyancy and help prevent inversion if the boat is knocked down. Should she invert, yet another safety feature comes into play: a tank floods under the deck on the port side, so she soon settles at an angle of about 160° rather than a fully-inverted 180°.

This makes it far easier to complete the righting process by moving the hull away from the point of high inverted stability and giving the crew significantly more leverage on the centreplate. Then, when she's back upright, gravity empties the tank and off you sail. As the cockpit sole is above the waterline, any water in the boat should drain out automatically.

Given her inherent stability, you would have to be out in some pretty wild conditions – or pushing things extremely hard – to turn her over at all, especially since it's easy enough to reef the mainsail or, if you want a bigger reduction, simply to drop it completely. Under jib and mizzen she'll carry on quite happily in almost any weather, and with the ballast tank full and the sprayhood up even the most nervous crew wouldn't have much to worry about.

An emphasis on safety can be off-putting to those who enjoy good performance, yet there's no reason why a boat shouldn't combine both – and the BayRaider certainly does. Throw up all the sails – including the asymmetric spinnaker – and, with the ballast tank empty, she'll give a pretty good account of herself even though the sail area isn't massive in relation to her wetted area. During my test sails we clocked speeds in the mid-5s upwind in fresh conditions (though she won't point quite as high as a racing dayboat) and comfortably hit 7s and 8s off-wind. During the first sail we had started to fill the ballast tank to see how it affected her handling when, with the tank about half full, a squall blew up. Deciding that it would be more fun to see what the boat could really do, we put the bung back in, opened the bailers to start emptying the water out again, and bore away on to a reach. With the wind gusting to around 25 knots she quickly hopped up on to the plane and happily made her way across the harbour with around 11 knots showing on the GPS – and a few hundred pounds of water still in the tank. It wasn't exactly a white-knuckle ride, but showed that the BayRaider is capable of providing entertainment downwind under full control when the wind picks up. With the tank empty there's no reason why she shouldn't really get up and go.

Making way

Upwind in those conditions is just like sailing most other boats: a bit of feathering into the gusts and playing the mainsheet when necessary. We only got the gunwale anywhere near the water when we were really trying – and with the ballast tank full (we eventually resisted the temptation to have fun and started behaving sensibly) it was even harder.

We went through the exercise of reefing and of sailing under jib and mizzen to see how she performed. Predictably, the answer was rather more sedately.

There's no doubt in my mind that the mizzen is a great feature on a boat like this, and not only because it makes reducing sail so easy. When you're lowering, reefing or hoisting the mainsail under way, you can leave the jib flapping and the mizzen sheeted in to keep the boat pointing into the wind. If you're at anchor it can be used as a steadying sail, and under way it's a wonderful aid to balance. A yawl is a versatile rig and often more efficient than a ketch (which is less likely to be practical on a dinghy or dayboat anyway) because the mizzen is small enough not to take much area out of the mainsail, and far enough aft not to be back-winded to the same extent.

What's more, because it's well abaft the centre of lateral resistance, small adjustments to the sheet make a big difference to the boat's balance. You will soon know if you forget to ease it when trying to bear away, though the BayRaider's rudder is big enough to make sure that she answers the helm in most situations.

Just for the exercise we tried lifting the rudder completely (it swings up through almost 180°, where it can be left for trailing) and sailed the boat by sail trim and shifting our weight. After a while we had her going quite nicely.

Rigging the mizzen, which is sleeved around a windsurfer's mast. The step in the rudder allows boarding from the water; the assembly is engineered to take the weight

Flexible plastic fairing strips help to reduce turbulence in the outboard well

The mast (painted carbon/glass in this case) is stepped in a tabernacle. A self-tacking jib is optional

Swinging the bow

A further use for the mizzen is if you get stuck in irons. It's hard to back the jib with the optional self-tacker (a minimal-overlap jib is standard) but sheeting the mizzen to one side soon brings the bow round. It's an incredibly useful tool, and easily controlled by the helmsman because, like the jib sheet, it's led to a cleat amidships on each side – or at least it was on our test boat. Sheeting arrangements can be modified on request.

Also within easy reach are the uphaul and downhaul for the glassfibre centreboard (which contains just enough lead to give it negative buoyancy). The board is a good depth, providing plenty of bite for upwind performance, and it's a NACA profile for a good lift/drag ratio as opposed to the flat plate you find on some dayboats.

Given the boat's hull shape and deep centreboard, tacking is a surprisingly sedate process. This is nothing to do with the underwater profile; it's simply because the tiller's arc is limited to about 30% either side of the centreline by the decking beneath the mizzen mast, so she manoeuvres more like a long-keeler.

My only other criticism of any note was the lack of a slot gasket for the centreboard case. This led to a good deal of water sloshing around in the case and, at speeds of over 10 knots or so, a small fountain shot up into the boat. A slot gasket, as found on most dinghies, should solve that.

In similar vein, boats built after our test model have a modification to the plastic fairing strips that help to fill the aperture through which the outboard motor hinges down. The good thing about having a well some way forward like this is that you gain manoeuvrability under power from the prop-wash over the rudder. The prop will stay immersed in a seaway, too. A 2.5-4hp motor is more than adequate.

> When you look at everything this boat offers, there's not a lot missing

Design details

For helming comfort I would choose to have the tiller rather lower. It's high enough to clear the biggest engine anyone might want – about 6hp – though that would be overkill in my opinion.

Dinghy sailors will want a tiller extension and, if you're keen, you can have hiking straps. Those who prefer the more sedate approach can sit inboard on the full-length seats, beneath which are a couple of large lockers. One small stowage bin has a water-tight lid, for valuables such as phones and car keys; otherwise keeping things dry means using dry-bags. The rest of the under-seat space is devoted to buoyancy.

A 4:1 mainsheet is taken to a fixed point just abaft the centreboard case, where a GPS/plotter can also be mounted.

Forward of the helmsman is room for plenty of crew: six wouldn't be a crowd on the BayRaider. Extra kit can be stowed under the foredeck, and with the optional sprayhood raised there's plenty of shelter. You can even sleep aboard if you like. The options list includes a table that doubles as an infill between the seats, and a full cockpit cover rigged between the masts (the gunter rig with its sprit boom doesn't lend itself to a boom-tent in quite the same way as a conventional Bermudan rig).

Gunter was chosen partly because the lower section of the mast is short enough to stay in its tabernacle when lowered for trailing, and that saves time rigging and de-rigging. The mainsail is sleeved around the topmast, which is made from a combination of carbon and glassfibre. An alternative topmast with a higher carbon content to save weight is on the extras list, as is a carbon/glass lower section instead of the standard wooden one. The mizzen comes from a windsurfer and, again, is a carbon/glass composite.

Matt Newland, developer and builder of the BayRaider, currently has a cabin version on the drawing board. The BayCruiser will have a Bermudan rig, because the cabin will restrict access to the base of the mast, and he's considering offering a Bermudan option on the original, open version of the boat. This should allow greater scope for tuning the mainsail.

The cabin version will be built in epoxy-plywood with a triple-chined hull. Open boats are built in double-chine epoxy-ply or, like our test model, in glassfibre. Matt offers the choice and has sold a roughly equal number of each. Glassfibre gives a more rounded appearance at the expense of extra weight: at 400kg (880lb), it's about 70kg (155lb) heavier than the wooden boat.

Rigged and ready

Compared with a conventional trailer-sailer of similar length, the BayRaider is a doddle to launch,

Sailed single-handed and un-ballasted in a fresh breeze – fast but still steady

rig and recover. With the benefit of plenty of practice, Matt has been sailing away within 10 minutes of driving up to the slipway with the boat on the trailer.

For trailing, the rudder can be left in position (blade hinged up and tiller lashed), the outboard hinged up in its well and the bowsprit rigged with jib attached. To slide the boat off her road trailer you hardly even need to get the tyres wet, then it's a matter of raising the mast (you only need one hand), stepping the mizzen, releasing the rudder and tiller, and you're almost ready to go.

Winching the boat back on the trailer doesn't take much more effort unless you've left the water ballast in the tank.

PBO's verdict

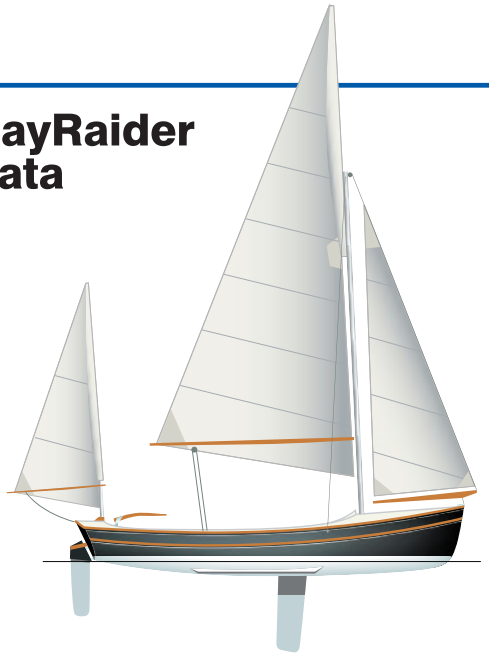
There's nothing else quite like the BayRaider. In the morning you can take the family for a potter around the harbour or estuary, sailing under jib and mizzen with the sprayhood up and ballast tank full – and then, in the afternoon, you can switch to go-fast mode if you fancy a little more action. Drop the hood, empty the tank, put all the sails up – including the asymmetric off the wind – and the performance is transformed.

When you look at everything this boat offers, there's not a lot missing: she combines good sailing ability with stacks of room, reassuring stability, an impressive list of safety features, an extremely versatile rig, careful attention to detail, scope for customisation, and remarkably simple launching and recovery.

If you've had reservations about the performance of dayboats with sprits and mizzens, but don't fancy what some traditionalists would dismiss as a plastic fantastic, the BayRaider might be just what you're looking for.

■ **See the BayRaider at the London Boat Show on the *Classic Boat* stand in the North Hall**

BayRaider data



LOA	6.05m (19ft 10in)
LWL	5.48m (18ft)
Beam	2.06m (6ft 9in)
Draught – centreboard up – centreboard down	0.25m (10in) 1.41m (4ft 8in)
Weight (unballasted)	330kg (728lb)
Water ballast	300kg (660lb)
Trailing weight (boat and trailer)	approx. 500kg (1,102lb)
Sail area	17sq m (183sq ft)
RCD category	C

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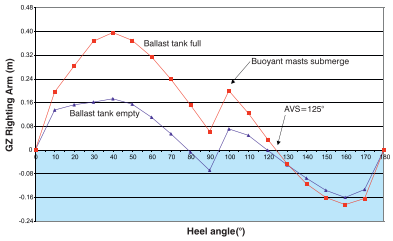

With the ballast tank full, the maximum righting moment is at 40° and the AVS (angle of vanishing stability) at 125°. Note the effect as the buoyant masts submerge at 90°

Other boats to look at

Hawk 20

PRICE: £20,010

■ **Another self-righting, self-draining, planing dayboat that's easily trailed and now also available with the option of a small cabin. Fast and functional; makes no concessions to tradition.**

www.hawk20.co.uk

Drascombe Lugger

PRICE: FROM £9,823

■ **Designed by John Watkinson and introduced in 1968, she has become one of the most popular daysailers of her type. Open-decked with simulated lapstrake hull, boomkin and loose-footed mainsail.**

www.drascombe.org.uk

Jeanneau Sun 2000

PRICE: FROM £20,000

■ **A less obvious competitor in some ways, but similar in length and only a little more expensive. More of a weekender and less of a trailer-sailer, with a cabin and a ballasted swing keel.**

www.jeanneau.com

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