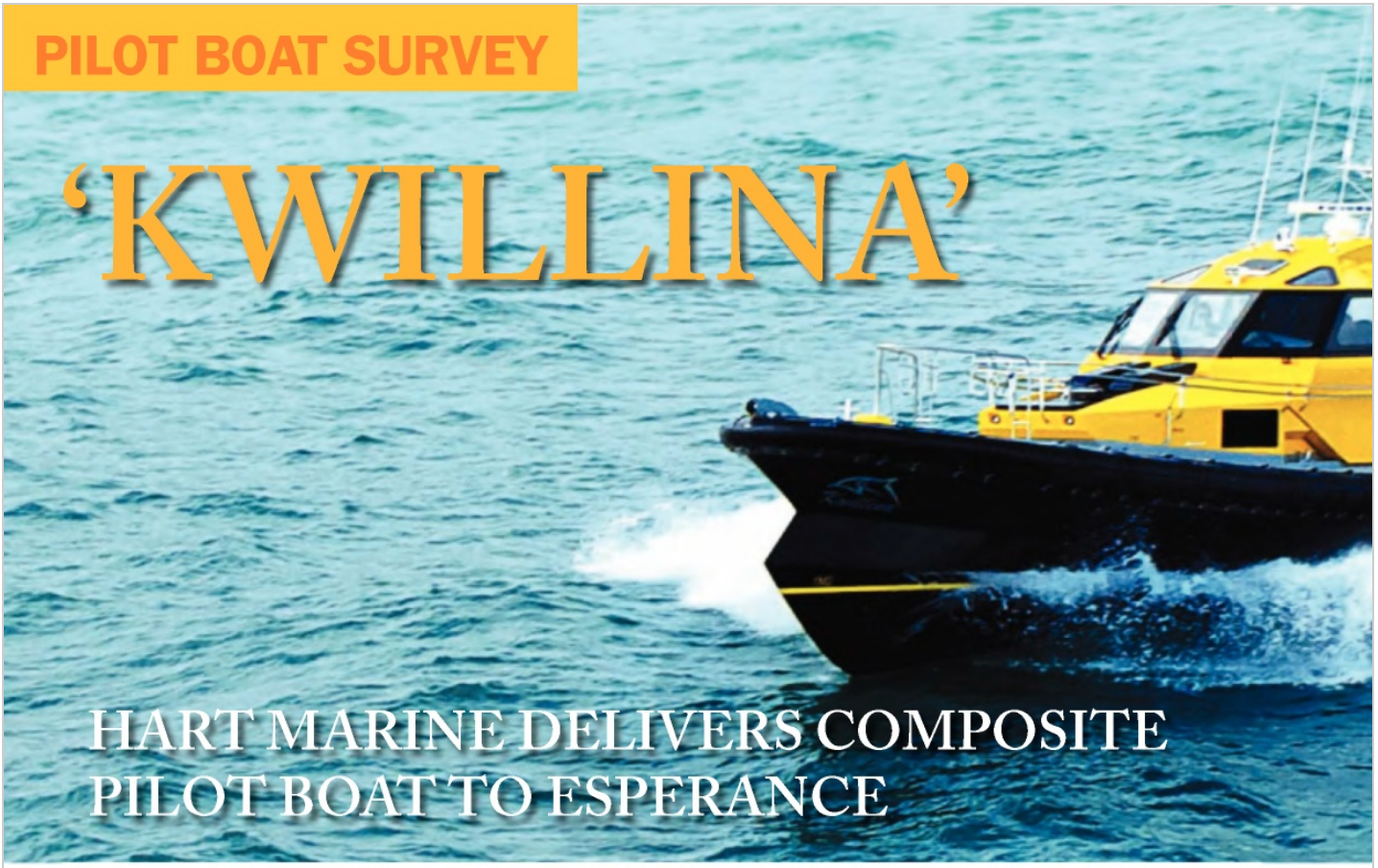
PILOT BOAT SURVEY

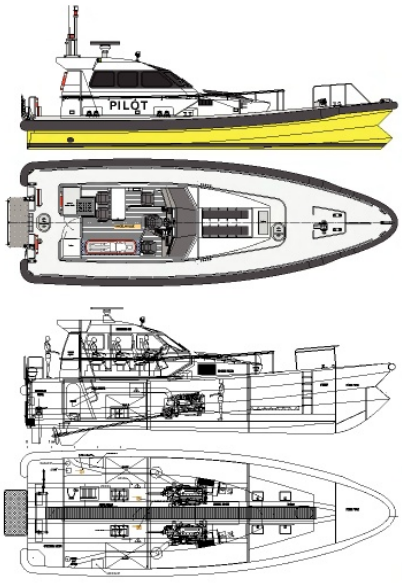
'KWILLINA'



HART MARINE DELIVERS COMPOSITE PILOT BOAT TO ESPERANCE

Victoria-based boat builder Hart Marine has recently delivered the FRP composite pilot boat 'Kwillina' to the Esperance Port Authority in Western Australia.

Based on the ORC-series of pilot boats from French naval architect Pantocarene, the vessel measures 16 metres in length overall, with a beam of 5.4 metres and a draught of 1.4 metres. Featuring Pantocarene's distinctive hull shape, the vessel's hull form reduces the "venturi effect", a phenomenon that can suck a pilot boat hull alongside a ship's slab-sided hull whilst both vessels are at speed.



According to Hart Marine, the vessel's hull form features beamier than typical dimensions at the waterline to enhance hull stability. This has been combined with a range of added subtleties of the hull form, which supply inherent roll damping and minimal drag qualities when the vessel is piercing waves during a transfer run.

Following the hull form, the vessel's deep beak bow is the most visible and significant feature. In a head sea, it works by piercing through a wave rather than going over it and reducing vertical accelerations. In a following sea, it gives early increase in buoyancy when the bow dips, inhibiting broaching tendencies.

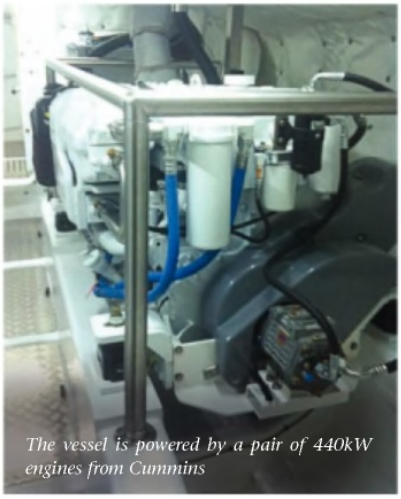
The vessel's beamier waterline width also allows for wider side decks, making the pilot's take-off and landing safer and more convenient. For added manoeuvrability, the 'Kwillina' has also been fitted with oversized rudders.

The 'Kwillina' replaces an admittedly aged and tired boat, which suffered a broken back after coming off an exceptionally large wave. Taking delivery of the vessel in April, the Esperance Port Authority intends for the vessel to function as both a pilot boat and a search-and-rescue vessel. This dual-role will see the vessel regularly face the heavy swells, tides and winds that frequently buffet the Western Australia coast. The ORC-series is optimised for such conditions, and will handle bad weather and rough sea states with poise.

By MIKE BROWN

The delivery procedure for the 'Kwillina' illustrates the lengths to which Hart Marine will go to prove its products. As well as the usual extensive sea trials on Port Phillip and in Bass Strait, the builder used the delivery voyage to Western Australia as an additional sea trial. With an Esperance coxswain accompanying the delivery crew, the voyage was completed in three legs, the final one traversing 600 nautical miles across the Great Australian Bight.

According to Hart Marine, the performance of the 'Kwillina' was "beyond expectations". Throughout the voyage, she maintained 20 knots at 1,700rpm, the twin 440kW Cummins engines achieving a creditable combined fuel consumption of 100 litres per hour. This gives the 'Kwillina' a projected range of well over 800 nautical miles, as well as a maximum speed of 28 knots and a cruising speed of 25 knots.



The vessel is powered by a pair of 440kW engines from Cummins

Hart Marine put significant emphasis into the ride quality and comfort for the vessel's future crew and personnel. By isolating the entire superstructure on resilient mounts, Hart Marine imbued the boat's structure with noise-reducing characteristics. The vessel was then outfitted with individual suspension seats for added comfort, and the builder also installed a forward-raked windscreen to minimise heat gain.

With extensive experience designing pilot vessels for Victoria's tumultuous Bass Strait for Port Phillip Sea Pilots, Hart Marine is well accustomed to building vessels for frequently appalling sea conditions and heavy weather. A builder of commercial vessels for well over a decade, the company is adept in carbon-epoxy and FRP fabrication, with Hart Marine applying the technology to projects as diverse as ocean racing yachts, bicycle wheels, and prototype car components.

As ships grow larger and pilotage runs lengthen, both pilots and pilot boat crews are spending more time underway. Pilots need to board ships in good shape, crews need to be protected from cumulative fatigue, and good transit speeds should be sustainable. Hart Marine-built ORC vessels address all of these needs, providing a liveable and seaworthy craft that remains decades ahead of its time.

For further information contact:
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'Kwillina'

SPECIFICATIONS

Type of vessel:	Pilot boat
In survey to:	NSCV/VSL/B.V
Home port:	Esperance, WA
Owner:	Esperance Port Authority, Western Australia
Operator	Esperance Ports Sea and Land, Western Australia
Designer:	Pantocarene Naval Architects, France
Builder:	Hart Marine, Victoria
Construction material:	Composite FRP
Length overall:	16 metres
Beam:	5.4 metres
Draught:	1.4 metres
Depth:	2.1 metres
Displacement:	22 tonnes (fully loaded)
Main engines:	2 x Cummins; each 440KW
Gearboxes:	2 x ZF
Propulsion:	2 x FPP
Maximum speed:	28 knots
Cruising speed:	25 knots
Radar:	Furuno 4KW
Depth sounder:	Furuno
Radio:	Sailor
Compass:	Silva
GPS:	Furuno T2
Plotters:	Furuno NN30
AIS:	Furuno
Winches/capstan:	Line Star Marine
Windows:	G JAMES
Seating:	KAB
Fuel capacity:	2,400 litres
Freshwater capacity:	100 litres
Crew:	2
Passengers:	8 pilots