

AQUACULTURE SUPPLEMENT INSIDE

PROFESSIONAL *Skipper*

JULY/AUGUST 2020

Blue Revolution
an Australian mussel barge

**Covid
Recovery**



MIDNIGHT OIL

purpose-built fuel service vessel

**INDUSTRY VOICES:
NELSON BLOCKADE!**

\$10.00
INCL. GST
(NZ & AUST)

ISSUE 136





MIDNIGHT OIL

MINI FUEL TANKER

BY KEITH INGRAM

An interesting vessel was spotted being launched at Whakatane by one of our dedicated readers from Matata just prior to lockdown.

Mac is a retiree from Auckland who, with not a lot to do in Matata when not on the beach fishing, tends to spend his time lurking around the Whakatane waterfront and was in time to see *Midnight Oil* being lifted into the river for the first time.

This robust, chunky looking craft with an interesting name was clearly designed and built with a purpose in mind.

She was built by Legacy Marine, the commercial vessel offshoot of Extreme Boats – one of New Zealand’s leading trailer-boat manufacturers, based out of Whakatane.

Legacy Marine was established by Glenn and Di Shaw, who are the owner-operators of Extreme Boats. It operates from a new purpose-built factory adjacent to Extreme Boats in Whakatane.

Extreme Boats began life on Glenn Shaw’s dairy farm over two decades ago when he and his wife Diane decided to go into the marine business after Glenn had built his first aluminium runabout “in a farm shed out the back”.

From these early beginnings, the standards Glenn set in design, workmanship, style, and good old Kiwi ingenuity has



led to Extreme Boats Ltd becoming one of the largest trailer boat building companies in New Zealand (by number of boats) and a leader in the highly competitive aluminium sport fishing boat market.

Today, with the business spread across three large boat building workshops at its Thornton property, Extreme employs 60 staff and produces around 300 boats per year for both the New Zealand and offshore markets.

More recently, Extreme has expanded into the commercial boat market and has built a purpose-designed workshop for large vessels with a gantry crane, a very high stud, and removable front

doors for getting the large projects in and out of the building.

The first vessel to be completed in the commercial workshop was this prototype fuel supply vessel for Hauraki Express. The next boat out of the blocks will be a 70-foot luxury sport fishing boat.

It has been a natural progression for Extreme Boats, and a long-time vision of owner/operator Glenn Shaw to expand into the larger commercial and luxury market.

Legacy Marine was commissioned to develop a design/build project. The brief was for a fuel-compliant delivery vessel capable of delivering 10,000 litres of fuel, with a speed of 20 knots. The result is a 12m aluminium catamaran. *Midnight Oil* is the first custom built new build to emerge from the new larger workshops.

WHO IS HAURAKI EXPRESS?

Hauraki Express is a popular water taxi and fishing charter company, operating out of Auckland. The company recognised that there was a growing demand for a smaller diesel bunkering vessel to service Auckland and the wider Hauraki Gulf.

Hauraki Express currently operates a number of 'Extreme' boats as water taxis and for charter. They've been impressed with the quality and workmanship, "so it was a logical decision to invite them to quote on this new build," said General Manager Stuart Thomas.

Just who is Hauraki Express? The firm was started by Peter Bourke in 2012 – although it could be said that it was started 125 years ago when Rose Bourke, Peter's Great Grandmother, launched the coastal trading vessel, *Shamrock* which was one



The design is a high volume displacement cat

of the famous scows that shipped goods and people around the coast of New Zealand. Her first ship's master was Captain William (Billy) Bourke, Rose's husband and a runaway sailor from the American navy.

Captain Billy's career spanned a further 40 years and he became well-known during the First World War for his part in the daring escape from the prisoner of war camp on Motuihe Island by Count Felix von Luckner and his crew.

Captain Billy was skipper of the trading scow *Moa* when ▶



HAURAKI EXPRESS FUEL DELIVERY SERVICE:

- Purpose built fuel supply vessel carries 10,000 litres of diesel.
- Based in Auckland and servicing the Hauraki Gulf including Great Barrier Island, Kawau Island, Coromandel and the Firth of Thames, as well as the Inner Islands of the Gulf and far reaches of the Waitemata Harbour.
- Competitive fuel cost
- Convenience to vessels that can stay on location.
- Fuel is sourced through Gull Petroleum.
- Fully self contained pump system along with necessary spill equipment.

NEW FAST FUEL SERVICE AFLOAT



For more information give Stuart Thomas a call on 0274104803 or email stuart@haurakiexpress.co.nz

VP5188



Midnight Oil – purpose built fuel tank is fully compliant with its own 11,000 litre bund and safety features

she was pirated by the Germans off Mercury Island and sailed into the Pacific in 1917.

History records a small launch was seen to approach two sailing scows in transit loaded with rimu logs from Tauranga. The crew of the first ship, the timber scow *Rangi*, watched the launch approach the second scow *Moa*. *Rangi*'s master, Captain Jack Francis and his crew, saw the armed launch stop the *Moa* and boarded armed with a rifle, a pistol and hand grenades – then hoisted a German flag made from flour bags. The *Rangi* made for port fast – despite her cargo of logs on deck – to report to the authorities the capture at sea of the *Moa*. They were later told that they had seen Count Felix von Luckner who had escaped from Motuihe Island with nine others in the prison governor's launch, the *Pearl*.

This had started a large search in and around Auckland and the Hauraki Gulf.

Captain Bourke under duress, acted as sailing master for Count von Luckner and the first landfall they made was the Kermadec Islands. While on one of the small islands, Count von Luckner and his men raided a food depot set up by the New Zealand Government for shipwrecked persons.

As he was heading back to the *Moa* after claiming the islands for the Kaiser, smoke was seen on the horizon. It was from His Majesty's Cable Ship, *Iris*, which was searching for von Luckner and the scow *Moa*.

As soon as pursuit was evident, the scow's anchor was hoisted as she tried to escape, but the *Iris* was faster and soon overhauled the *Moa*. von Luckner was re-captured, stripped of his weapons and brought back to Auckland.

The *Moa*, slightly damaged, was towed astern. Count von Luckner was sent to the prison on Ripapa Island in Lyttelton

Harbour. At the end of the Great War in November 1918, he was repatriated to Germany.

Since those early days, the Bourke family has continued its involvement with the Hauraki Gulf, the New Zealand coast, and the sea in general. The name Bourke is synonymous with seafarers and will pop up in the records of the Royal Navy, Royal New Zealand Navy, New Zealand merchant fleet, and in yachting history.

Fast forward to 2015 when Peter was joined by daughter Holly and son George – who all decided to turn what was a part time charter fishing operation into a family business.

This coincided with the launching of *Midnight Express*. Three years later, two more boats, *Midnight Special* and *Midnight Rider*, had been added to the fleet.

With the addition of *Midnight Rider*, with its greater emphasis on passenger comfort than fishing, Hauraki Express created a potential for people moving and tourism experiences. Hauraki Express started its water taxi and tourism operation in the summer of 2017–2018.

THEN THE LIGHTS CAME ON

It was in 2018 when the company directors had a light bulb moment and looked at the potential of hauling fuel by sea, mainly to the commercial fleet, instead of by tanker trucks on the road or through fixed shore-based facilities.

The advantages they could see would be:

- A convenience to service vessels that could stay on location and avoid added costs by eliminating having to relocate to shore based refuelling facilities.
- More efficient fuel delivery where multiple vessels are



Tidy machinery spaces below



The 10,000 litre purpose build tank and delivery system

involved – one fuel supply vessel delivers fuel to a fleet of boats rather than the fleet making their own way to a fuelling station.

- Fuel is able to be supplied to vessels in all sheltered parts of the coast, rather than road-connected wharves. There are many more fuelling locations.
- Fewer tanker trucks on the road. Especially in built-up areas and in remote transport routes.
- Wharves are protected from excessive loading by up to 55 tonne tanker trucks.

Not only do fuel supply vessels transport fuel in bulk, they are self-contained in fuel dispensing with fuel pumps, electronic flow controls, computer-based point of sale equipment and they are made safe against risks to health and safety and the marine environment. Whereas tanker trucks, by comparison, are just bulk fuel carriers whose main purpose is hauling fuel by road throughout New Zealand, where delivery across water remains problematic.

Being able to transport fuel to remote islands and coastal locations, inaccessible (by road) at less cost than current practices is another plus.

The firm's employees are "sea people" who understand their customers' needs, the protection of other vessels, as well as the marine environment. The entire operation of refuelling is done in the maritime jurisdiction and not across the dividing line between maritime and road authorities.

After a brief conversation with Court Kenny of Gull Petroleum, the light bulb glowed even brighter. "Great Idea, when can we start."

Gull has subsequently partnered with Hauraki Express providing a supply pipeline. ▶



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The anchor winch is revealed



The electronic delivery system



A practical helm station

Today, two years on from the light bulb moment, Hauraki Express is ready to get stuck into supplying fuel to the marine market with the launch of this new purpose-built fuel supply vessel *Midnight Oil*.

A NEW VISION

In talking with Peter, their vision is to supply fuel and a bunkering service to the New Zealand commercial and private fleet, *right around* the New Zealand coast. “We are more suited to larger vessels but are certainly flexible enough to provide fuel to fleets of smaller vessels,” he said.

This vessel, their first fuel supply vessel, *Midnight Oil*, is really a prototype. It was based on a payload of 10,000 litres and a requirement to do 20 knots. This would offer a range of up to 150 nautical miles with a decent volume of fuel to be hauled in a day.

“Our thinking was based on a round trip from Auckland to Great Barrier Island and back in a working day,” said Peter. “Anywhere inside that range, e.g. Coromandel and Kawau Island

could be done easily in a day or even twice,” he said.

CONSTRUCTION

Constructed in 5083 marine alloy, ranging in thicknesses from 4mm to 20mm, the vessel follows an in-house design. She is designed to provide a stable platform with good sea-keeping abilities, and a large liquid load carried above deck.

They say, ‘beauty is in the eye of the beholder’. To be fair, *Midnight Oil* is one solid, chunky, but practical-looking workboat. At 12m LOA and a beam of 5.15m, the designer has cut to the chase in maximising the size and volume he could achieve in this vessel.

There’s a walk-round, fully fenced raised foredeck to a step down to the large flush deck with a raised transom containing the main machinery spaces vents. Under the foredeck we find, positioned between the hulls, the anchor spareman leading to a concealed hydraulic anchor winch in a deck locker portside. A spare anchor and warp is stowed in a corresponding locker starboard side.



Refuelling superyachts can be done safely on the berth



Both Kawau and Great Barrier Islands are within easy reach

CONN

Being operated by a crew of two for safety the main conning position is the starboard with a crew space to port. The deckhouse contains the main command station is fitted with hydraulic support helm and crew seats. The crew are afforded excellent vision from dead ahead to two points abaft the beam on both sides. There are two rear facing CCTV cameras that can be displayed in the wheelhouse to cover blind spots aft when manoeuvring.

Separate compartments for the heads, and stowage of loose gear, spill kits etc, are located on opposite sides at the rear of the deck house.

The vessel is fitted with a RayMarine electronic suite with two 12 inch screens. All the main control switches are mounted in the return island dash to port. The vessel's helm and wheel are central in the conning position with both engine controls and the two bow and stern side thruster controls are also at ease of hand just inside the side door. (These are important when getting close and personal with expensive vessels like superyachts.)

The main engine electronic monitoring panels along with ignition start and stop are either side of the helm.

The command station has been well laid out to assist the skipper.

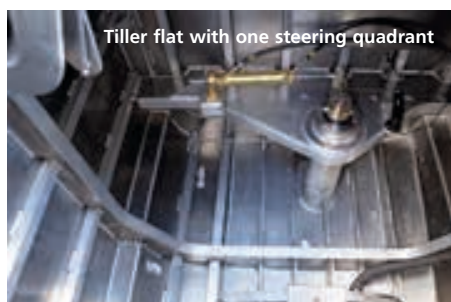
DRIVE

Midnight Oil is powered by twin Cummins 6.7B 485hp marine diesels, with these engines coupled to twin disc transmission. Twin Disc marine transmission technology delivers: a renowned quiet operation with helical gearing and a smooth, fast shifting feature through the hydraulic, oil-cooled clutches. Another key feature is the full power and identical reduction ratios in both forward and reverse. These engines coupled to twin disc transmission are driving a conventional power train to the 28 inch five-bladed props and spade rudders.

Access to the machinery spaces are via a large flush deck watertight hatch either side in the waists by the cargo tank. In the voids ahead we find the vessels domestic fuel tanks with 680 litres aside.

Once underway these engines offer a cruise or service speed of 17 knots @2600rpm with a 60 percent load, burning 45 litres per engine. Push her above this and fuel burn quickly climbs to 60 litres a side. The max speed during sea trials was 21 knots over ground.

With full ships stores and the main cargo tank empty, the vessel draws 1.3m. Laden with 10,000 litres marine diesel and ►



Tiller flat with one steering quadrant



The heads



Rear facing CCTV

weighing 24 tonne pushes her down another 200mm to 1.5m.

The ship is fitted with a hydraulic drive unit to power the anchor winch, bow and stern thrusters, fuel dispensing pump, and hose reel retriever – making these manual tasks much easier on the crew.

CARGO TANK

The cargo fuel tank capsule has been purpose built to be totally isolated and mounted on deck. This includes pumps, pipework, delivery hose, and electronic controls.

The main tank is a baffled 10,000 litres aluminium tank surrounded by an 11,000 litre safety catchment bund or safety wall.

The tank is fully covered with a PVC cover to keep both spray and rainwater out of the bund. All the pump controls, electronic metering, delivery pump and hose reel are mounted in a secure service cabinet at the rear of the tank. This setup, now mounted on the vessel, looks both smart and is fit for purpose.

Peter says, “Sea trials so far have met all our expectations. While she can reach 20 knots quickly and effortlessly, we’ve found the most economic cruising speed is 17 to 18 knots with an economy at around 45 litres per hour per engine. During the delivery voyage she provided a steady platform in even the shortest, sharpest sea that the Colville Channel could throw at us with 25 knots SW and an opposing incoming tide, and still maintained her cruising speed, no worries.”

“With a full load of diesel fuel aboard she sits down about 200mm and is as solid as. The main engines still get her up on the plane easy enough, however, to achieve the economic cruising

speed at 17 to 18 knots, fuel consumption creeps up to 60 plus per side,” he said.

THE FUTURE

We asked what does the future hold now? “We plan to roll out a fleet of these vessels to be located at various ports on the New Zealand coast. We are finalising the design of the next vessel that will tend to go towards a bigger loading capacity and less speed. If it wasn’t for the Covid-19 lockdown and stalling of the economy, we would be into construction now,” he said.

“There have been a lot of hurdles to get over with compliance and approvals. Hauling and dispensing fuel in a marine environment seems to be the crossroads – where all authorities meet. While the processes have been extensive and very thorough, we’ve been really well received by the authorities and as a result, I think we provide a better and safer bunkering solution to the domestic marine sector than has existed until now,” said Peter.



SPECIFICATIONS

LOA	12m
Beam	5.02m
Draft	1.5m laden
Power:	Twin Cummins 6.7B 485hp marine diesels
Service speed	17 knots
Vessel weight	13.2 tonne empty
Displacement	24.0 tonne fully laden
Designer	Manta Marine Design
Builder	Legacy Marine



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