

Crystal Sea. Image MacDuff

NEW BOAT

CRYSTAL SEA

CRYSTAL SEA ARRIVES HOME TO NEWLYN

Latest build from Macduff signed over to Stevens family

After completing sea trials in January, the new *Crystal Sea SS 118* was recently signed over by Macduff Shipyards Limited to owner David Stevens and his two sons, skippers David and Alec. Leaving the yard on Tuesday, February 11—sheltering in North Shields and Brixham from weather along the way—the new *Crystal Sea* arrived home in Newlyn on February 14.

The largest new build for Newlyn since the late 1970s, the new Macduff build replaces the St Ives family's previous fishing

vessel of the same name, which was built by the yard back in 2008. In fact, the new *Crystal Sea* is the fourth vessel by the same name from Macduff for the Stevens — the first, the 1974 built *Crystal Sea* bought in the late 1980s, followed in 2009 by a 1989 built vessel and in 2016, by the 2008 built 21m vessel the new *Crystal Sea* has replaced.

From a long line of fishermen and boats—fishermen in Ireland might remember the 1952 built *Sweet Promise SS 95*, fished by David and Alec's great-grandfather, grandfather and great uncle and one of the first UK boats to adopt purse seining when they fished for herring in Dunmore East in the 1950s—the vessel's registration SS 118 is the same their grandfather's first boat, the J&G Forbes of Sandhaven built *Rose of Sharon*, bore.

A long ways from the lines of that 1964 built vessel, the new twin-rigger has an overall length of 24.50 m, a beam of 7.60m and a depth of 4.30 m. Based on a new hull design, which evolved from the yard's previous 24.00m model and was developed to reduce resistance and thus improve fuel efficiency and running speed, CFD technology was used at the first

stage to measure the resistance of the new hull against the previous design and to identify areas where further improvements could be made.

Following this, the hull was then faired by Macduff Ship Design who then used the virtual model to produce a detailed set of kit construction plans and assess the stability. The kit was then cut in house by Macduff Profilers, a division of the yard, and the vessel was fabricated, engineered and

fully fit-out in the yard's main building hall at Macduff, before carrying out sea trials in the Moray Firth.

Apart from the wheelhouse and masts, the hull is built completely from steel and features a double chine hull form, transom stern and soft nose bulbous bow which is faired gently into the main hull body. In terms of layout, below deck features the cabins, engine room, fish hold and a large freshwater tank forward of the



Arranged for twin rigging. Image Larry Hartwell

collision bulkhead, while situated above deck are aft shelter, galley/mess and side passage area, fish processing area and then a winch room forward where three split winches are sited.

Fabricated by the yard themselves, the vessel's bespoke deck machinery package comprises three split winches, two split net drums, two split sweep winches, two small gear handling winches and a dedicated anchor windlass. The hydraulic system was also designed and installed by the yard. A pull master Gilson winch was supplied by MacGregor Ltd along with the fishing crane and landing crane. Main hydraulic power is provided by a dedicated Caterpillar C12 engine, with secondary hydraulic power provided by two electric motors each with an output of 45 kW.

Based on a setup which has become quite common in Macduff's recent build, the vessels propulsion package features a Caterpillar C32 main engine rated at 660 hp @ 1800 rpm coupled to a Masson Marine gearbox with a reduction ratio of 9.077:1, driving a 2500 mm diameter propeller fitted within a nozzle — both of which were supplied by Wartsila. Remaining stern gear elements were designed and manufactured by Macduff Engineering, a division of the yard, on CNC operated machines.

This is the fifth propulsion

system of this design to be fitted by the yard and has been noted to perform very well, operating smoothly and quietly, while taking advantage of the C32 engine's flexibility to extract full power whilst both steaming and trawling.

Two Beta Marine generators fitted are based on a Cummins 6BT5.9D2(M) engine with Mecc Alte alternators, each with an output of 81.6 kW. The electrical system onboard was designed and installed by R D Downie of Fraserburgh who installed the system to their usual high standard and built the switchboards in house. Wheelhouse electronics onboard were supplied by Woodsons of Fraserburgh.

With room for 700 boxes in the fishroom, the refrigeration system and ice machine onboard were supplied by Premier Refrigeration. Two sets of scraper nets were supplied by Faithlie Trawls, with sweeps and chandlery supplied by Marine Co.

No rest for the Stevens, since arriving home, the new *Crystal Sea*, which has been insured by Sunderland Marine, has already started fishing off the south coast of England, targeting a mixture of whitefish which will be sold via Plymouth Trawler Agents.

The Skipper team would like to wish David, his sons, family and crew every success and safe fishing with the new Crystal Sea.



Short trip home into Newlyn before heading out to sea. Image Larry Hartwell



Wheelhouse. Image MacDuff



“The **Macduff team** have been delighted to work with the **Stevens family** and crew of the **Crystal Sea.**”

It has been a fantastic project for the yard, we are very grateful for the order and hope the vessel serves them well for many years.”

www.macduffshipyards.com

FAITHLIE TRAWL

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Best Wishes to the Stevens family & crew on your new vessel *Crystal Sea*. Safe fishing from Faithlie Trawl.

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Congratulations and good fishing to the Stevens family, *Crystal Sea Fishing Ltd* and crew on their new vessel *Crystal Sea SS118*.

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