

Protector sails north

In June this year HMS *Protector* (A173) was within the Arctic Circle in a position north of 80 degrees latitude carrying out ice ramming trials to ascertain the correct Polar Code rating following a recent refit.

Protector is the Royal Navy's Ice Patrol Ship, and has recently completed a five- yearly refit and subsequent Operational Sea Training package.

One of the most versatile ships in the Royal Navy, *Protector* will later this year deploy to the Antarctic where she will carry out work supporting the UK's obligations as one of the signatories to the Antarctic Treaties. In addition, the ship will support partner agencies within HM Government and work with others to develop understanding and further the natural preservation of the continent.

On 17 June while deployed in the Arctic, *Protector's* hydrographic specialists conducted ROV (Remotely Operated Vehicle) training, practising driving skills and getting a unique underwater perspective of the ice.

Protector steamed through polar ice to within 1,050 kilometres of the pole as she gathered data about the ocean and environment.

Only submarines – such as HMS *Trenchant*, which surfaced through the ice at the pole in 2018 – can travel further north than the position the Plymouth-based *Protector* reached: 80°41.5' North in the Greenland Sea.

Protector completed the most extensive overhaul in her decade-long career in the Royal Navy in January, since when she has been conducting extensive trials and training – all with the goal of deploying to Antarctica in the autumn.

Having been nowhere near the ice in more than two years, the ship tested the power of her engines using a specialist bollard pull in Flekkefjord, southern Norway, then began icebreaking in earnest in the Fram Strait – between Greenland and the Norwegian island chain of Svalbard.

The ship tested herself against various depths and types of ice, assisted by scientists, engineers and advisors including from the Ministry of Defence and the British Antarctic Survey.

Protector carries a SEABOTIX LBV300-5 ROV consisting of a control box with screen and joystick and as well as two cameras and has a sonar with about 20m range. Typically, these devices would be used at up to 50m depth for nearshore seabed surveys, wreck investigation, jetty survey or hull inspection.

In the remote parts of the world with below freezing sea temperatures where *Protector* operates, the ROV provides these capabilities where divers would be restricted.

Images taken on 19 June will be used for a panorama showing the coast of Svalbard made of ten joined images taken from *Protector*. Contrast and clarity of these when enhanced show geographical features to be sent to the UK Hydrographic Office (UKHO) for publication in Sailing Directions.

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The SEABOTIX LBV300-5 ROV carried by Protector.