



The Sea Shepherd group is an international, non-profit, direct-action organisation dedicated to the protection and conservation of marine life

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## Sea Shepherd Italia takes the long view on conservation with Raymarine's help

*Raymarine systems are a key component in volunteers' ongoing battle to protect marine ecosystems from the literally devastating consequences of illegal fishing*

'If the oceans die, we die.' The Sea Shepherd group, an international, non-profit, direct-action organisation dedicated to the protection and conservation of marine life, is well used to laying out hard truths in the bluntest terms possible to get its message across.

The group's Italian arm, Sea Shepherd Italia Onlus, was founded in July 2010. Since then, its volunteers have been tirelessly involved in safeguarding the biodiversity of the rich marine ecosystems which surround Italy's 7,000km of coastline, a mission which – to borrow Sea Shepherd's own phraseology – requires 'courage, commitment, respect, determination and precision.'

It also requires the most rugged, reliable, user-friendly, high-performance technical equipment available. To this end, Sea Shepherd Italia has struck up a partnership with Raymarine, attracted by the company's trusted reputation as a world-leading provider of innovative marine electronics.

### **Situational awareness**

Raymarine's involvement with Sea Shepherd Italia began in 2019 when the company equipped the Italian organisation's 7m RIB with an Axiom 9 RV multifunction display (MFD), a Quantum CHIRP Pulse Compression radar with Doppler collision-avoidance functionality, an AIS700 Class B AIS transceiver, and an M232 thermal camera with ClearCruise AR (augmented reality) technology. Last year, Raymarine stepped up again to equip Sea Shepherd Italia's 17m catamaran Conrad with an M346C LR thermal camera, an AR200 Augmented Reality Stabilisation Module and an Axiom 12 Pro MFD. An eS127 MFD was already on board, which has now been replaced with a second Axiom 12 Pro.

The new equipment was chosen carefully to form an integrated system that would maximise situational awareness and crew safety in all conditions, as the volunteers go about their duties. "We chose Raymarine because they offer the best visual navigation information and technology on the market," explains Erica Varaia, Italian media coordinator and Sea Shepherd Italia volunteer, who started on board Conrad in 2020.

Expert knowledge from the Raymarine team in Italy ensured that the Sea Shepherd vessels received the equipment best suited to their needs. "Both Conrad and the 7m RIB are about to set off on missions over the summer around the Aeolian Islands," says Carlo Baj, Country Manager, Maritime, Raymarine Italia. "The work often involves night operations, for instance, to remove illegal fishing nets or to check if there are fishing boats without licences in forbidden zones, so a thermal camera is vital in this respect.

"The M346C LR is a long-range thermal camera with a very powerful 30x

optical zoom. It also features two-axis mechanical stabilisation, so even when the boat is pitching, this movement is compensated for by the mechanical motion of the camera.”

## **Clear understanding**

Carlo Baj also points out the advantages of integrating the thermal camera with the Axiom 12 MFD. “It means that volunteers can navigate easily on their night missions just looking at the thermal camera display because it enables a lot of additional information to be overlaid – everything from AIS targets to waypoints. The thermal image can also be very helpful during the day if a target boat is behind a promontory or another vessel, or if it’s cloudy, or if there’s anything else that prevents the crew from seeing it clearly.

“The technology gives users a clear understanding of what is surrounding them in their sailing area. It’s a very useful safety feature, and we are the only electronics provider offering this kind of technology for maritime systems.”

The ability to definitively identify suspect vessels and discover whether unlawful fishing activities are being carried out is central to Sea Shepherd’s missions, and the Raymarine equipment on the Italian fleet is proving indispensable for ongoing initiatives such as Operation Siso. This campaign aims to protect the waters around the Aeolian Islands from illegal, unreported and unregulated fishing, with a particular focus on the use of illegal FADs (fish aggregating devices).

The statistics are sobering. By the tail-end of 2019, it was estimated that there were up to 10,000 illegal FADs in use in the Tyrrhenian Sea alone. The problem is compounded by the fact that illegal FADs are often discarded in the sea. The scale of the consequent plastic pollution is alarming: figures suggest that around 1.5 million FADs have been abandoned to float in the Mediterranean.

## **Recognise and Respond**

The Sea Shepherd volunteers are passionate about their work, with an inexhaustible drive to protect and conserve marine ecosystems for future generations to enjoy. There are no grey areas, and this clarity of purpose is reflected in their choice of Raymarine systems to assist them on their

missions.

“Our Raymarine equipment has been instrumental in mapping and saving the locations of illegal fishing methods,” explains Erica Varaia. “It has also been used to photograph and record at times when an operator could not intervene. By providing an extra eye on the horizon, the technology has proved an invaluable companion for the crew of the M/Y Conrad and the fast craft Hunter.”

The augmented reality features offered by ClearCruise, such as Recognize and Respond functionality, are of particular value. The thermal camera has two lenses that combine visible camera details with thermal imaging, making it much easier to see and identify floating objects, as well as other vessels, which appear as colour overlays within the thermal picture.

“Raymarine’s technical support gave assistance at all times, helping us to install and set up all the additional components of the navigation system,” continues Varaia. “They made it clear that we would be able to benefit from their full customer support system and that was the case, making it possible to troubleshoot, install and set up the technology smoothly and correctly.

“The technology has proven to be consistently reliable,” she concludes. “The crew relies on it fearlessly, saving positions, photographing at night and using it daily.”

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