

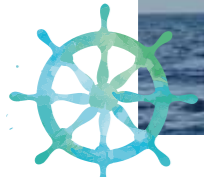
THE THREATS

Every year, more than 200 marine mammals are stranded along the Italian coasts, with a part of these showing clear signs of interaction with fishing activities.

The bottlenose dolphin, being a predominantly coastal species, is exposed to anthropic activities. These, in different ways, contribute to the **degradation of the habitat, to chemical and noise pollution and to the depletion of food resources.**

One of the main threats to the species is commercial fishing, which in the Mediterranean is often the cause of mortality. The dolphins, in attempting to steal the fish in the nets, **can end up seriously injured, or remain entangled in the nets** (bycatch), almost always with lethal results due to drowning. In other cases, the ingestion of pieces of net can lead to the dolphin suffocating and gastrointestinal occlusion resulting in the animal's death.

For this reason, the areas identified by the project display a high rate of interaction between dolphins and commercial fishing. The traditional fishing gear mainly involved concerns driftnets (trammel and gillnets), trawling, floating trawling and purse seines.



THE ACTIONS

LIFE DELFI foresees a series of research and monitoring activities of the dolphins in the different project areas **to study the resident populations and to better understand dolphin behaviour around the fishing gear and their interaction with the fishing activities.** Moreover, the project also plans to **actively involve the fishers** through an information programme of activities at sea and training courses to provide them with incentives to adopt a more sustainable fishing. Finally, thanks to the awareness-raising and information campaigns, LIFE DELFI aims to also involve the wider public regarding the importance of protecting the cetaceans and, more generally, our seas.



Reducing interactions between dolphins and fisheries in the Mediterranean Sea



THE LIFE PROGRAMME

Through the LIFE Programme, set up in 1992, The European Union has made funds available for the financing of projects to safeguard the environment and nature. The aim is to support, at the European level, measures and projects to protect species and habitats at risk, and environmental, awareness-raising and information policies. Thanks to the LIFE Projects, it has been possible to contribute to carrying out the Birds and Habitats Directives, and pursue the EU's objective to halt the loss of our biodiversity. .

THE NATURA 2000 NETWORK

The Natura 2000 Network is the main instrument of the European Union for the conservation of our biodiversity. The sites making up the network are designated to protect areas that play a crucial role, on land and at sea, and to guarantee the long-term survival of the more valuable and threatened species and habitats in Europe, listed in the Bird Directive and in the Habitat Directive..

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Coordinator Beneficiary



Associate Beneficiaries



With the contribution of the EU LIFE Programme

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THE PROJECT

Life Delfi, cofunded by the European Union through the LIFE financial tool, aims to lower the interactions between dolphins (specifically, the bottlenose dolphin - *Tursiops truncatus*) and commercial fishing activities. These interactions have negative consequences for both dolphins and fishers. **The dolphins can be injured or remain entangled in the nets, often with fatal results**, while the fishers can suffer considerable economic losses due to the depredation of the fish, damage to the nets and their reduced catch efficiency. The project is carried out in the following areas: **Punta Campanella, Egadi Islands, Tuscan coast** (Maremma), **Eolie Islands, Tavolara, northern Adriatic coast** (Veneta north of the Po Delta), **central Adriatic coast** (Marche and Abruzzo) **and Croatia** (Istria and Cres).



THE SPECIES

The bottlenose dolphin is one of 8 cetacean species regularly found in the **Mediterranean Sea and belongs to the suborder Odontocetes**. It is a marine mammal able to adapt to different situations, with the coastal zones being its preferred habitat. It has a robust body and can reach 3.5 metres in length, even if the average is about 2.5 metres.

The bottlenose dolphins produce a varied repertoire of acoustic emissions, such as **whistles** and **clicks**. The whistles have a communicative social function, some (signature whistles) containing information on the individual's identity.

Instead, the clicks, short in length and sequence, are used for echolocation, **the complex system of emitting sonar signals** to receive return echoes. In this way, they, like other Odontocetes, are able to orient themselves spatially, identifying prey and gathering surrounding information, even quite distant.



LIFE DELFI: AN INNOVATIVE PROJECT

The actions proposed by LIFE DELFI foresee the use of advanced technological systems. **A new generation of acoustic deterrents (pingers) will be attached to the nets to keep the dolphins away** – this involves systems that activate only when the dolphins approach in response to the clicks they emit.

These deterrents when activated will have 3 effects:

- reduce the potential marine noise from the acoustic system;
- reduce the dolphins “getting used to” the noise;
- guarantee a longer battery life.

Moreover, specific visual deterrents and alternative gear (such as creels) will also be tested.

Hydrophones and drones are to be used to monitor the dolphins near the nets and their movements.

The high-tech level of LIFE DELFI will be further expanded through the development and spreading of a **free App that will allow for registering the sightings of the cetaceans, the beach strandings and the interaction between the dolphins and the fishing gear**.

Another original action of the project is **the creation of a rescue team for dolphins in difficulty or for those stranded**.



THE PARTNERS

Cnr-Irbim (coordinator), Legambiente Onlus, University of Padoa, University of Siena, the Protected Marine Areas of Punta Campanella, Egadi Islands, Tavolara-Punta Coda Cavallo, Torre del Cerrano, Filicudi Wildlife Conservation and the Blue World Institute of Research (Croatia).



TOWARDS A RESPONSIBLE FISHING

LIFE DELFI plans to reduce the potential conflicts between dolphins and fishers thanks to the introduction of technological innovations, the individuation of alternative economic solutions and awareness-raising and citizen science campaigns. In other words, the ultimate goal is **to determine the conditions enabling dolphins and fishers to coexist peacefully**.

The project will involve the participation of research bodies, universities, environmental associations and Protected Marine Areas with a common interest in developing solutions and sustainable management models for the interaction between dolphins and fishing. These solutions will be able to be replicated in other situations thanks to the drawing up of **a Code of Conduct developed through the participation of the fishers**. Those who adopt this code – a sort of manual of good practices – will obtain a special quality label or brand. Therefore, the involvement and cooperation of the fishers, the real project players, will be a key factor in **the transition towards a truly sustainable fishing model for the marine species and for the fishers**.

