7 - SEABED CLEANING MISSIONS

Activity A.T4.1: Seabed cleaning actions

The "***Seabed cleaning missions***" aim at removing ALDFG (***Abandoned, Lost or Discarded Fishing Gears***) from the most impacted areas of the three sub-regions which have been, in a more consistent way, characterized by the presence of nets or stranded fishing gears or lying on the outcrops; on the sidelines of the seabed recovery and cleaning operations, qualitative and quantitative information has been collected on the density and type of these wastes, as well as their real role in exercising ghost fishing.

Lost fishing gears continue to fish and indiscriminately they kill marine life. This is the reason why it is called "*ghost gear*". Marine life captured in ghost gear can die and become bait for other animals which are attracted as a food source. By consequence, a huge amount of marine mammals are injured or die, as a direct cause of such ghost gears.

The decomposition of modern synthetic fishing gear at sea releases toxins and/or enters in the food chain causing additional impacts on sea life. Besides these environmental costs, lost gears cause economic losses for fishermen and a reputational damage.

Ghost gears can kill wildlife indiscriminately. Even by gear modifications that allows the escape of marine life, lost gears continue to fish for a period of time. This can damage commercial fish stocks and many other marine species.

In addition, ropes that are lost can cause entanglement threats to all marine species. Pollution resulting from the decomposition of lost fishing gears can also cause significant harms to wildlife.

Until a few years ago, all fishing gears were made from natural material like wood, hemp, and cotton.

The gears were biodegradable and eventually they could be decomposed into harmless elements. Today's nylon, styrofoam and plastic gear takes a long time to break down, by consequence it decomposes into fairly toxic components.

ALDFG approach and management is generally based on two types of interventions: preventive and mandatory actions.

The preventive actions, considering the complex domains (economic, social, environmental) and the public bodies (maritime and local authorities, on a municipal, regional and national level), although recognized internationally, as well as the only ones able to effectively contrast the phenomenon of ALDFG accumulation into sea, they have indeed limited possibilities to operate on these local issues, which have at the same time global environmental impacts.

Most of the international experience is based on actions of mandatory type, which objective is the removal of lost and/or abandoned nets and other gears from the sea and ocean beds.

Such removal activities, although obviously they are not definitive solutions, can however contribute not only to mitigate, temporarily or partially, specific environmental emergencies caused by this type of pollution, but they can also provide additional knowledge useful to understand the reasons concerning ALDFG loss or abandonment. In particular these actions are useful to mitigate the local and global effects of their presence on the biological communities of the affected areas.

Anyway, it should not be forgotten that the removal actions, which are very expensive in terms of resources and time, are carried out occasionally in limited areas thanks to the intervention of a large number of scuba diving volunteers, motivated by the aim of cleaning up the sea.

These are undoubtedly effective activities which encourage citizens' awareness on this particular environmental problem, thanks to the great mass media coverage that they generally receive from the local press.

The aim of **Activity A.T4.1** *"Seabed cleaning actions in the 3 countries"* and **Deliverable D.T4.1.1** ***"Seabed cleaning mission"*** has been the complete removal of any **ALDFG** from the most impacted areas in the **Gulf of Herceg Novi** ***(17 locations)***, in **Castro Bay (*3 locations*)** and in **Vlore Bay (*5 locations*)** that have been identified and mapped in the preparatory **Activity A.T2.2** "*Survey and GPS mapping*", in order to identify fishing routes and places where gears – nets, traps and longlines are supposed to be abandoned, as well as to tackle 'ghost fishing'.

ALDFG removal has been planned and performed through the procedures set up in preparatory **Activity A.T2.2**, which has been performed as follow:

1. survey - together with local fishermen's communities, to identify fishing routes and places where gears, traps and longlines are supposed to be abandoned;
2. GPS maps - GPS mapping has been set out and represents the basis for the sea cleaning campaign previewed in WP T4 and for further possible ones;
3. schedule planning removal;
4. ALDFG transfer on the land-based area.

Hergceg Novi: from March 4th 2019 to May 2nd 2019, 14 recovery days have been performed and a total of 140 ALDFG have been retrieved. The total weight has been approximately **1.2 tonnes**.

Castro: from June 6th 2019 to September 4th 2019, 15 recovery days have been performed. The total weight has been approximately **200 kilos**.

Vlore: from September 3rd 2020 to September 9th 2020, 11 recovery days have been performed. The total weight has been approximately **1.2 tonnes.**

The seabed cleaning missions have improved the conditions of the most heavily affected areas. They have been partially cleaned up and we hope that further retrieval projects will follow.

Moreover, we hope that preventive measures, such as RFID nets marking, which are a part of ADRINET project, will help to reduce the ghost fishing and pollution caused by ALDFG.

SEABED CLEANING MISSIONS - REMOVING ALDFG