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INTEMARES

Life

NATURA 2000

General criteria document for

FISHING FOR LITTER

CALADEROS LIMPIOS

May 2023

LIFE IP INTEMARES

Integrated, Innovative and Participatory Management for Natura 2000 network in the Marine Environment

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C1.2 PROYECTOS DEMOSTRATIVOS PARA LA GESTIÓN DE BASURAS MARINAS

EXPTE. DE CONTRATACIÓN 28-5315

LIFE IP INTEMARES

Integrated, Innovative and Participatory Management for Natura 2000 network in the Marine Environment

Coordination and review:

General Directorate for the Coast and the Sea of the Spanish Ministry for the Ecological Transition (MITECO) and Demographic Challenge

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1. Introduction

Marine litter has its origin in several sources and causes multiple effects on the environment, human health, economy, security and culture. Because of this, it is considered one of the main environmental issues of our time by the United Nations and several international organizations, mandating its inclusion in national action plans as well as from local authorities as a specific issue with an elevated socioeconomic impact over human health and the environment.

The origins of marine litter are multiple and complex. At the global level it is estimated that 80% of marine litter has its origin on land, with the remaining 20% being a result of sea-based activities such as fishing and maritime transport, although no precise data or scientific studies exist that support this ratio.

The following figure shows the most common origins of marine litter:

Figure 1: Marine litter origins. (MITECO, 2022)

Selected source	Activities included
Fishing	All kinds of fishing activities, commercial or recreational, as well as waste production in fishing ports. Includes shell fishing activities in nature with or without a vessel, as well as rod fishing or other styles from the coast.
Aquaculture	All cultivation activities of vertebrates and invertebrates of marine origin (either fishes, crustaceans or mollusks), as well as seaweed cultivation for food or industry. All facilities of hatching and fattening are included, whether at sea or in the coastal area (for instance, shellfish farms), as well as the infrastructures they might employ (for instance, purificators).
Sewage	Litter originating in the outflow from wastewater treatment plants or sewage systems, including overflows.
Beach tourism	Tourism and recreational activities near the coast, water sports at the beach (such as surfing or water skying)
Navigation	Passenger or cargo transportation vessels, as well as recreational navigation. Includes port facilities.
Agriculture	All operations related with the land-based cultivation of vegetables, either on open air or in greenhouses.
Construction & demolition	All waste generated in building, urbanization, demolition, renovation and maintenance works of buildings or infrastructures, as well as public works.
Shopping & hospitality	Flea markets, street vending, waterfront shopping and outdoor seating from beach bars located either at the beach or its environs.
Other land-based sources	Waste generated by any human activity that takes place in a land area different from the ones previously mentioned, for instance, industry or urban waste management. Includes all waste generated in land that can be transported to sea by rivers.
Other sea-based sources	Waste generated by any other human activity that takes place in the maritime area different from the ones previously mentioned, for instance, energy generation, mining, artificial reefs…

The ways of introduction for waste in the marine environment are varied and include factors such as the voluntary or involuntary abandonment (land or sea), the transportation through anthropogenic pathways (sewage, drainage, water treatment plants…) or the transportation through natural pathways (rivers, wind…).

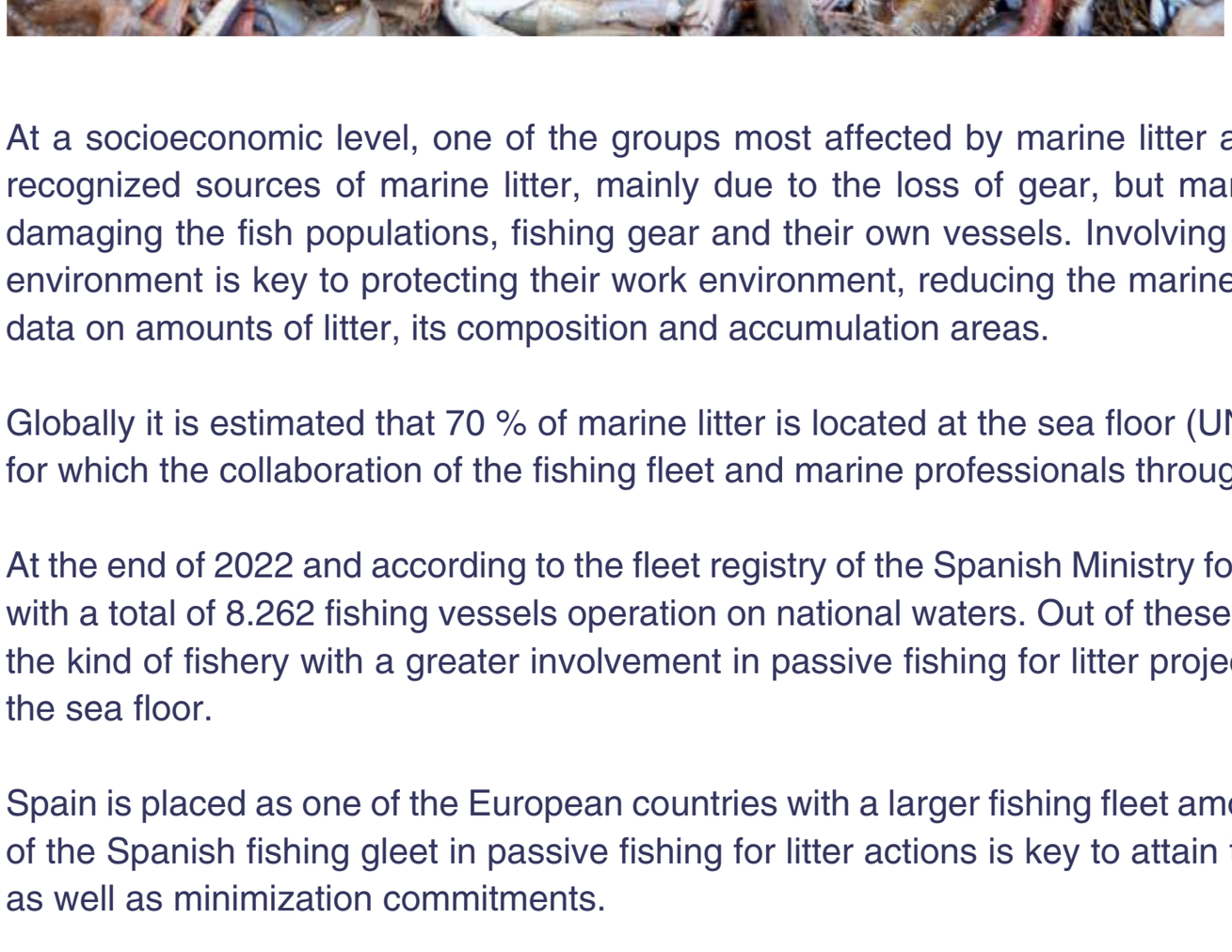
Marine litter is composed of a wide variety of materials, including plastic, metal, wood, rubber, glass and paper. Although relative proportions of these materials vary regionally, clear evidence exist that plastic waste items are, by far, the most abundant kind, representing up to 95 % of waste accumulated in coasts, sea surface and sea floor (Galgani et al. 2015). Plastic bags, fishing gear and food and drink packaging are the most common items and are more than 80 % of the waste that ends up in beaches (Topçu et al. 2013; Thiel et al. 2013). A large part of these materials decomposes slowly or not at all. This phenomenon can also be observed on the sea floor, where 90 % of waste caught by bottom trawler nets is plastic (Galil et al. 1995; Galgani et al.1995, 2000; Ramírez-Llodra et al. 2013).

Most plastics are extremely resistant and persistent materials in the marine environment, with great diversity in their composition and high mobility. Plastics deteriorate and fragment in the environment because of sunlight exposure (photodegradation), as well as physical and chemical degradation, which translates to the production of the so-called microplastics (particles smaller than 5 mm.). Other microplastics can be found in the marine environment already made on that size for its use (for instance, granulated particles employed as abrasives in cosmetics) or as precursors to other products (pellets).

Marine litter is not an exclusively aesthetic problem, but it also produces a significant socioeconomic impact, threatens human health, safety and navigation (Figure 2). It presents as well negative effects on marine organisms and habitats (asphyxiation, introduction of alien species, ghost fishing…). In the work produced by Gall and Thompson (2015) it is placed in 693 the number of affected species by entanglement or ingestion of marine litter. In this list all species of sea turtles are featured, as well as half of marine mammals and 21 % of sea bird species. Generally, around 15 % of the species affected by entanglement or ingestion are featured in the IUCN's Red List, such as the Hawaiian monk seal (Neomonachus schauinslandi), classified as "Endangered" and the Loggerhead Sea turtle (Caretta caretta), classified as "Vulnerable".

Figure 2: Marine litter economic impact estimation (UN Environment, 2017)

Sector	Marine litter impact	Estimated costs & examples
Fishing	Catch reduction due to entangling, ingestion and/or exposition to toxic materials, as well as costs related to damages to vessels.	Total cost of marine litter for the EU's fishing fleet: 81.7 million dollars (61.7 million euros) per year.
Navigation	Marine litter might clutter propulsion or refrigeration systems, provoking a loss of productivity and income, supply interruption and accidents, increasing repair costs, rescue efforts, injuries and loss of life.	Total value of damages caused by marine litter to maritime transportation: 279 million dollars per year.
Tourism	Littered beaches entail less visitors which means job losses for the tourism sector.	Estimated annual costs for the tourism sector in selected areas of the United Kingdom: 2.27-823 million dollars (1.38-500 million Pounds) for the 2010-20100 period.



At a socioeconomic level, one of the groups most affected by marine litter are fishermen. Fishing activities are one of the recognized sources of marine litter, mainly due to the loss of gear, but marine litter also directly affects their way of life, damaging the fish populations, fishing gear and their own vessels. Involving these professionals as wardens of the marine environment is key to protecting their work environment, reducing the marine litter problem in nature and collecting specific data on amounts of litter, its composition and accumulation areas.

Globally it is estimated that 70 % of marine litter is located at the sea floor (UNEP, 2005), which greatly impedes its location, for which the collaboration of the fishing fleet and marine professionals through passive fishing for litter actions is fundamental.

At the end of 2022 and according to the fleet registry of the Spanish Ministry for Agriculture, Fisheries and Food, Spain counts with a total of 8.262 fishing vessels operation on national waters. Out of these fishing vessels, 765 (9 %) are bottom trawlers, the kind of fishery with a greater involvement in passive fishing for litter projects, as it directly acts upon the litter present on the sea floor.

Spain is placed as one of the European countries with a larger fishing fleet amongst trawlers. For this reason, the involvement of the Spanish fishing gleet in passive fishing for litter actions is key to attain the targets set up by the international reporting as well as minimization commitments.

2. Legal Framework

Cooperation at the international level is a fundamental instrument for the protection of the marine environment. Several international agreements exist that contribute to the United Nation's Environment Programme (UNEP) Global Partnership on Marine Litter and to SDG 14[1] . Amongst them, Spain is a contracting party to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean - Barcelona Convention and to the Convention for the Protection of the Marine Environment of the Nort-East Atlantic - OSPAR[3] Convention .

2.1 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean – Barcelona Convention

It is the first regional agreement under the United Nation's Environment Programme (UNEP). This Convention, signed in Barcelona in 1976, constitutes the legal framework for the Action Plan for the Protection and Development of the Mediterranean (MAP).

The geographical scope of the Barcelona convention are the marine and internal waters of the Mediterranean Sea, limited to the west by the meridian that goes through Cape Espartel, and to the east by the limits of the Dardanelles strait, between the lighthouses of Mehmetck and Kumkale.

Some of lines of work undertaken by this Convention are the following:

- Protocol for the Protection of the Mediterranean Sea from Land-based Sources: In this protocol contracting parties put upon themselves the responsa to eliminate land-based sources and activities that cause pollution at sea.

- Programme for the Assessment and Control of Marine Pollution in the Mediterranean (MED POL): It represents the scientific and technical component of the MAP through the creation of a broad, extensive and complex program for the protection of the marine environment in the Mediterranean.

[1] OSDG 14: Conserve and sustainably use the oceans, seas and marine resources. (https://www.un.org/sustainabledevelopment/es/oceans/)
[2] https://wedocs.unep.org/bitstream/handle/20.500.11822/7096/BarcelonaConvention_Consolidated_eng.pdf
[3] https://www.ospar.org/site/assets/files/1290/ospar_convention.pdf

- Regional Plan on Marine Litter Management in the Mediterranean: Approved through Decision IG.21/7 (UNEP/MED, 2013). This plan includes actions that contracting parties are mandated to tackle in order to reduce the amount of Marine Litter and its impact on the marine environment, as well as increasing the knowledge on their origin. This plan was approved through decision IG.22/10 at COP19, held in Athens (UNEP/MAP, 2016). Moreover, the guidelines for fishing for litter in the Mediterranean were also approved, agreeing on baselines through which to evaluate the application of the Regional Plan, a reduction target of 20 % in marine litter found at beaches in 2024 was agreed and the update on the evaluation of the state of litter in the Mediterranean in 2015 was reported. At COP22, held in Antalya in 2021, the Regional Plan on Marine Litter Management in the Mediterranean was modified through amendments collected on Decision IG.25/9, including.

    - **Work Plan with timetable for the implementation of relevant articles of the Regional Plan**, in order to guide and facilitate the work of the Secretariat and the Contracting Parties on priority measures with regards to its implementation and mobilize external resources for this purpose.

    - **Potential Research Topics** to promote and support scientific research by the Contracting Parties and scientific community to fill the knowledge gaps on marine litter sources and impacts as well as to support implementation of relevant measures

    - **2021 Baseline Values and Threshold Values for IMAP Common Indicator 22** to facilitate the assessment of Good Environmental Status in the Mediterranean, under the IMAP Ecological Objective 10 on Marine Litter

- On top of that, during COP XXII (Antalya, 2021) the United Nations Programme for the Environment's Mediterranean Action Plan (UNEP/MAP) Mid Term Strategy was greenlighted through Decision IG.21/1.

- In 2019, through Decision IG.24/11 (UNEP/MED, 2019) directives were elaborated for the Phase-out of Single Use Plastic Bags, Provision of Reception Facilities in Ports and the Delivery of Ship-Generated Wastes, as well as the Application of Charges at Reasonable Costs for the Use of Port Reception Facilities. In the section related to collection and storage of ship-generated wastes it includes "Options for the collection and storage of passively fished waste", and the requirements included by EU Directive 2019/883 on Port Reception Facilities in relation to the collection of ship-generated waste.

2.2 Convention for the Protection of the Marine Environment of the Nort-East Atlantic - OSPAR Convention

The OSPAR Convention, signed in 1992 (OSPAR, 1992) and ratified by Spain in 1994 (BOE June 24th) is ruled by the "North-East Atlantic Environment Strategy 2020 - 2030 (NEAES)[4]".

This Strategy was agreed on October the 1st 2021 in Cascais (Portugal)[4] after a high-level review of the previous strategy for 2010-2020. The Contracting Parties developed an implementation plan to support its entry into force. The plan is a living document that establishes specific actions and tasks in order to achieve the NEAES' targets and will be employed by OSPAR to register and evaluate the advancements in the Strategy's application.

In relation to marine litter, the NEAES has as its **Strategic Objective 4** "Prevent inputs of and significantly reduce marine litter, including microplastics, in the marine environment to reach levels that do not cause adverse effects to the marine and coastal environment with the ultimate aim of eliminating inputs of litter."

The application of the Convention and its Strategy is performed through the adoption of Decisions, Recommendations and other Agreements. Decisions are legally binding, and Recommendations establish the actions to be performed by the Contracting Parties. These measures are completed by Agreements that deal with other important matters, follow-up programs, directives, methodological guides… The OSPAR Commission periodically edits different publications, as well as the results of the data evaluations that the Parties periodically report to OSPAR.

[4] https://www.ospar.org/site/assets/files/1200/north-east_atlantic_environement_strategy_compiled.pdf

In June 2014 the Regional Action Plan for the Prevention and Management of Marine Litter in the North-East Atlantic (OSPAR Agreement 2014-1) was approved. The plan's 1st phase was completed in 2021[5], giving way in 2022 to OSPAR's Second Regional Action Plan for the Prevention and Management of Marine Litter in the North-East Atlantic (RAP-ML2)[6]

RAP-ML2 describes priority thematic areas and defines the key actions in which the OSPAR Commission can contribute better to tackle the challenge of marine litter. Regarding fishing for litter, RAP-ML2 establishes as Action B.4.5; "Raise awareness and improve education in the fishing sector, including the strengthening of the OSPAR recommendations on fishing for litter and on Sustainability Education Programmes for Fishers".

2.3 - European Union measures against marine litter

European regulations made a specific reference to marine litter for the first time in 2008, through the Marine Strategy Framework Directive (Directive 2008/56/CE). In this directive it is established that Member states must adopt necessary measures to achieve or maintain a good environmental status in the marine environment for 2020 as the latest. Through this normative the Marine Strategies were created as a planning tool, in which marine litter is identified as one of the eleven descriptors of good environmental status of marine waters.

The next milestone took place in 2014 with the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Towards a circular economy: A zero waste programme for Europe" (COM 398, 2014) that proposes an indicative target of marine litter reduction for 2020 fixed at 3 % of the ten more common kinds of litter found in beaches and recovered in fishing gear (fishing for litter), adapting that list to each of the five marine regions of the EU (Atlantic, Baltic, Macaronesia, Black Sea and Mediterranean).

Afterwards, the European Commission adopted and proposed to the Council and the European Parliament the "Closing the Loop – An EU Action Plan for the Circular Economy" Communication (COM 614, 2015) and the "A European Strategy for Plastics in a Circular Economy" Communication (COM 28, 2018) with the aim of rethinking and improving the functioning of the value chain of plastic and preparing a strategy in which the challenges that plastics pose throughout the value chain are tackled, taking into account the totality of their life cycle.

In December 2019 the European Commission presented the European Green Deal, in which the 27 member states committed to making Europe the first climate-neutral continent by 2050. In order to achieve it, emissions are expected to be reduced by 55 % from 1990 levels by the year 2030. The European Green Deal sets up 8 policy areas in which to act:

- Climate: with the European Law on Climate an ambitious objective of a net reduction of at least 55 % on greenhouse gas emissions in comparison with 1990 levels by 2030 is established.

- Energy: focusing on the main objective of decarbonisation of the energy system that currently represents more than 75% of greenhouse gas emissions (GGE).

- Agriculture: guaranteeing food security while reducing the environmental footprint, the food system's resilience is reinforced through the Farm to Fork Strategy.

- Industry: a strategy to make the European secondary sector more competitive, ecological and digital.

- Environment and Oceans: amongst the deal's priorities the need to protect biodiversity and ecosystems, reducing air, soil and pollution, promoting the circular economy, improving waste management and working on the sustainability of fisheries is highlighted.

- Transport: being one of the EU's main economic sectors, this target intends that by 2050 a 90 % reduction in transport related GGE emissions is reached.

[5] Evaluation of the Regional Action Plan for Prevention and Management of Marine Litter in the North-East Atlantic (OSPAR Agreement 2014-1) (https://www.ospar.org/documents?v=46422)

[6] The second OSPAR Regional Action Plan on Marine Litter https://www.ospar.org/documents?v=49384

- Finance and Regional Development: cohesion programmes to fight against the abandonment of depopulated areas, so that innovation and help reach everyone equally in accordance with their individual needs.

- Research and Innovation: an innovation model that allows to accelerate and navigate the necessary transitions and, overall, work in making possible to involve citizens so they're part of the process, is looked for.

In the framework of the European Green Deal an "EU Action Plan: Zero pollution for air, water and soil" (COM 400/2021) is established, that intends to set the path for the inclusion of pollution prevention in every EU relevant policy, maximizing synergies in an effective and proportionate way, the intensification of application of compensations and the detection of possible gaps. In order to guide the EU towards the vision for 2050 of a healthy planet for all, this action plan establishes targets for 2030 aimed at reducing:

- In more than 55 % the health repercussions (premature deaths) of air pollution.

- In 30 % the percentage of population that suffers chronic problems from transportation noise.

- In 25 % the EU ecosystems in which biodiversity is threatened by air pollution.

- In 50 % the loss of nutrients, use and risks of chemical pesticides, the use of the most dangerous ones and the sale of antimicrobials for farm and aquaculture animals.

- In 50 % the plastic waste at sea and in 30 % the microplastics discharged to the environment.

- In a significant way the total waste generation and in 50 % municipal waste generation.

Likewise, in 2019 the European Commission published two legal texts that are strategic for fishing for litter, EU Directives 2019/904 and 2019/883. Directive (EU) 2019/904 of the European Parliament and the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment, forbids the entry into the market of several single use plastic and oxo-degradable objects. This directive:

- Promotes the redesign of caps and lids.

- Establishes minimum limits for recycled materials in the composition of PET bottles starting from 2025.

- Determines that the Extended Producer Responsibility schemes must cover the costs of waste management and clean-up of disperse litter generated by different single use plastic products.

- Promotes the creation of Extended Producer Responsibility schemes for fishing gear containing plastic that have been introduced in the market.

- Implements information systems on the amount of gear put into the market and recovered at the end of their life.

On the other hand, Directive (EU) 2019/883 of the European Parliament and the Council of 17 April 2019 on port reception facilities for the delivery of waste from ships, amending Directive 2010/65/EU and repealing Directive 2000/59/EC, incorporates "passively fished waste" to the definition of "waste from ships", distinguishing them from "Cargo residues", establishing the right of delivery of these wastes fished involuntarily at no additional cost for the fishermen.

These international initiatives are reflected at the national level on the way described in the following section.

2.4 - Marine Environment Protection Law – Marine Strategies

The transposition of EU Directive 2008/56/CE to the Spanish legal system is done by Law 41/2010 of December 29th of Protection of the Marine Environment and Royal Decree 957/2018 of July 27th that modifies Annex I of Law 41/2010 of December 29th of Protection of the Marine Environment.

The Marine Strategies have as their target achieving Good Environmental Status (GES) of our seas and are the general framework to which the different sectoral policies and administrative actions with an incidence in the marine environment.

For their application, the Spanish marine environment has been divided in five marine demarcations: North Atlantic, South Atlantic, Strait and Alborán, Levantine-Balearic and Canarian. For each one of the marine demarcations a marine strategy has been developed including the following:

- The evaluation of the marine waters' environmental status.
- The definition of Good Environmental Status.
- The establishment of environmental targets.
- A follow-up program.
- A program of measures to achieve the environmental targets.

The steps to develop the Marine Strategies are shown on Figure 3 and are repeated in 6 year cycles. At present the initial evaluation of the 3rd cycle is being conducted.

Figure 3 Marine Strategies development stages

In 2022, after public consultation and participative development, the new second cycle measure programs were published[7].

A total of 30 measures associated with Descriptor 10 on Marine Litter are included (15 retained from the first cycle and 15 new measures introduced in the second cycle), out of which it is worth mentioning, due to their relation with fishing for litter actions, the following:

- BM05. Promote the installation of waste collection spots in fishing ports and optimizing the traceability and management of waste generated at ports.
- BM17. Activities for the development of common guidelines for fishing for litter and performance of a pilot project to check its effectiveness in the marine Natura 2000 Network.
- BM18. Promotion and financing of fishing for litter activities.
- BM24. Communication on marine litter.

In this context, the “INTEMARES-Caladeros Limpios” project, the framework in which the production of this document is included, intends to answer measure BM17, which includes the first cycle’s measure “BM26. Creation and maintenance of a national database on objects collected in fishing for litter activities”, so that the second measure is not discarded, but merged with the first.

In relation with the marine litter Strategy, revised in 2022, it includes 8 specific monitoring programs:

- BM-1: Litter in beaches.
- BM-2: Floating litter.
- BM-3: Seafloor litter.
- BM-4: Microplastics on surface waters.
- BM-5: Microplastics on the seafloor.
- BM-6: Microplastics in beaches.
- BM-7: Citizen science.
- BM-8: Litter on biota (indicator BM-Bio)

Passive fishing for litter actions might become a complementary data source to the previous monitoring programs.

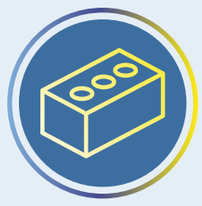
2.5 - Spanish Circular Economy Strategy

“España Circular 2030” (MITECO, 2020) is the Spanish strategy that establishes the basis to promote a new model of production and consumption in which the value of products, materials and resources is kept in the economy for as long as possible, in which waste generation is reduced to a minimum and those that can’t be avoided are harnessed with the larger possible reach. The Strategy contributes thusly t’ Spain's efforts to achieve a sustainable, decarbonized, resource efficient and competitive economy. This strategy will be materialized through successive triennial action plans.

[7] https://www.miteco.gob.es/es/costas/temas/proteccion-medio-marino/estrategias-marinas/eemm_2dociclo_fase5.aspx

In this context, the Strategy establishes orientations by way of a handbook and sets a series of targets for 2030 (Figure 4):

Figure 4: Spanish Circular Economy Strategy targets for 2030.



Reduce national material comsuption by 30 % relative to GDP, using 2010 as a baseline year.

Reduce waste generation by 15 % compared to 2010

Reduce food waste genearation throughout the food chain: 50 % reduction per capita at household and retail level and 20 % reduction in production and supply chains by 2020, thus contributing to the Sustainable Development Goals (SDGs)

Increase reuse and preparation for reuse to 10 % of municipal waste generated.

Improve water use efficiency by 10 %.

Reduce greenhouse gas emissions to below 10 million tonnes of CO_2 equivalents.

Amongst other targets and work lines, this strategy promotes the sustainable use of resources and the effective application of the waste hierarchy principle, promoting the prevention of their generation, fomenting the preparation for reuse, strengthening recycling, valorizing energetically or in other ways those wastes that can't be recycled and favouring their traceability, reducing their abandonment in the environment and their arrival to the sea. For it several priority sectors are identified, amongst which are agriculture and the textile industry, both important sources of marine litter.

In addition, it proposes the development of implementation, technical testing and economic validation projects for innovative technologies that allow to alleviate the marine litter problem with a particular attention to plastics and regarding recovery, treatment and valorization of marine litter by fishermen.

2.6 - Waste and Contaminated Soils Law

Spanish Law 7/2022 of April 8th, on Waste and Contaminated Soils for a circular economy intends to fulfill with the new waste objectives set by EU directives that are part of the Circular Economy Package, as well as those derived from the single use plastics directive.

In line with the Spanish Circular Economy Strategy (España Circular 2030), the normative proposal looks to establish measures that protect the environment and human health, allow to reduce the global impact of resource use and push forward a low carbon economy in Spain, which aspires to be an emission neutral country by 2050.

Law 7/2002 considers that prevention and reduction of any kind of marine pollution, including marine litter, is one of the Sustainable Development Goals from the 2030 Agenda. The European Commission approved in January 2018 the "European Strategy for Plastics in a Circular Economy".

This Strategy sets the basis for a new plastic economy in which plastic design and production as well as plastic products fully respect the needs to reuse, reparation and recycling, as well as the development and promotion of more sustainable materials. In accordance with the requirements of the 7/2002 Law, it is established that:

- Reduction of cups for drinks, including their caps and lids, and food containers for immediate consumption, whose commercialization must be reduced to 50 % in 2026 related to 2022 and to 70 % by 2030 related to 2022 as well.

- Measures for the reduction and replacement by products made with other materials for items made from non-compostable plastic, not included in European regulations (single-dose packaging, plastic rings and plastic sticks for fastening).

- Forbidding the introduction into the market of another raft of plastic products such as drinking straws, swabs, crockery, cutlery, cups, all kinds of oxo-degradable plastic products and plastic microspheres of less than 5 mm.

- Design requirements (for instance, caps and lids that remain united to their recipient of PET bottles with 25-30 % of recycled plastic after 2030 and 2050 respectively).

- Marking obligations for a series of products and awareness measures to inform consumers.

- Separate collection targets in two temporal periods: by 2025 77 % of the weight introduced into the market must be collected, and by 2029 this must increase to 90 %.

- Review of the regulations for Producer Extended Responsibility schemes and extension for them to be applied to textiles, furniture and agricultural products and plastics other than packaging, three years after the law's entry into force. It is also foreseen for the extended responsibility scheme regulations in 2025 for products such as wet wipes, balloons and fishing gear.

2.7 - Royal Decree on port reception facilities for the delivery of waste from ships

Referring to fishing for litter and in line with what had already been proposed by European regulations (EU 2019/883), Royal Decree 128/2022 from February 15th on port reception facilities for the delivery of waste from ships establishes:

- The right of delivery with no additional cost of waste fished unintentionally.

- That port management entities will be able to provide additional financial incentives through alternative financing systems enabled for ships delivering waste fished unintentionally, as long as it can be proved that the ship takes part in an organized initiative of delivery of this kind of waste, in order to promote their participation in these initiatives.

- That port management entities will collect follow-up data on the volume and amount of waste fished unintentionally and will communicate them annually to the MITERD's "Dirección General de la Costa y el Mar", in accordance with the execution act adopted by the Commission.

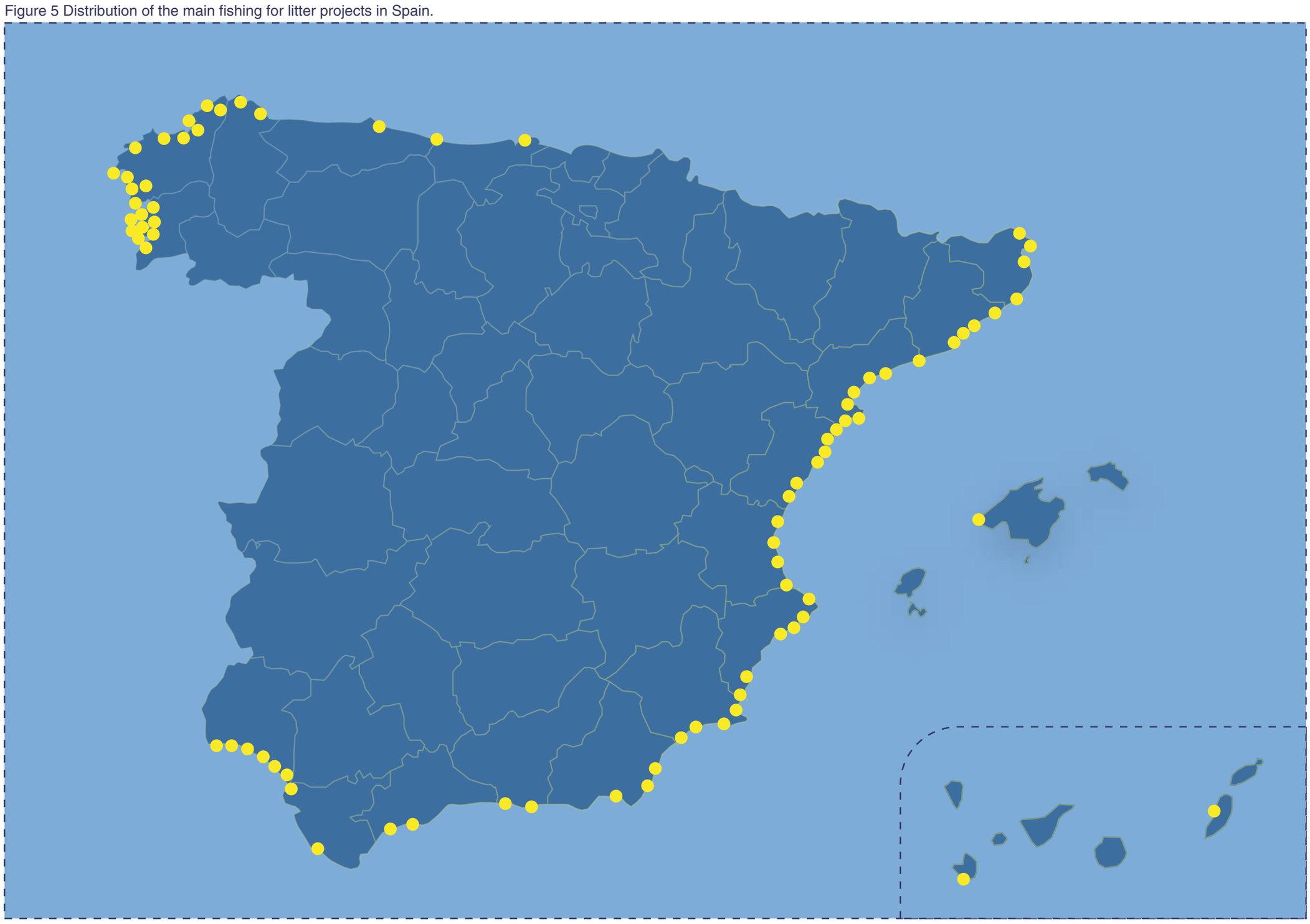
- That the "Dirección General de la Costa y el Mar" Will report these follow-up data to the European Commission and the responsible bodies of the Regional Sea Conventions, according to the instructions agreed in these Conventions' framework.

3. Fishing for litter in Spain Current Situation

Fishing for litter actions have been taking place voluntarily by fishermen and skippers for a long time in Spain. Nevertheless, it is not until the early XXIst century when in Europe fishing for litter projects being as structured actions counting on the voluntary participation of the fishing sector.

In Spain the first projects started out in 2009, and from then on, several actions of varying scope have appeared throughout the country. Down below a registry of the main projects undertaken until 2023 is detailed (Figure 5):

Figure 5 Distribution of the main fishing for litter projects in Spain.



CIRCAZUL

The CIRCAZUL "Towards Circularity of Inorganic Waste in the Fisheries Sector in the Blue Growth Context" project, coordinated by the CETMAR Foundation, is financed by the Spanish Agriculture & Fisheries Ministry in the framework of the project call on blue growth for the fisheries and aquaculture sector.

CIRCAZUL, started in 2002, has as its general objective preventing and fighting marine pollution through the capitalization of existent information and knowledge, the development and demonstration of collecting and valorization systems for waste (particularly plastics) of the fishing sector, and the promotion of alliances between the different sectors and agents, in line with the principles of circular economy and the objectives of zero pollution of the European Green Deal.

Clean Atlantic

In development since 2017 and coordinated by the CETMAR Foundation with the support of the Atlantic Area Transnational Cooperation Programme.

This project's objective is protecting the biodiversity and the ecosistemic services through the improvement of the capacities for prevention, monitoring and removal of marine litter in the Atlantic Area. The project also looks for the raising of awareness and change in attitude amongst the involved actors and the improvement of the marine litter management systems.

ECOPUERTOS

The first phase of this project took place in the fishing port of Motril (Granada) between the years 2013 and 2014, financed through the European Fisheries Fund and managed through the Motril-Granada Fishing Development Group. Its objective was the study of the types of marine litter, its distribution in the Alborán sea and the raising of awareness for fishermen, students at fishing neighbourhoods and the population of Motril.

Its second phase started in 2016 with the support of Ecoembes and since 2018 of the Libera project. In this second phase cleanup activities at cliffs, ravines, coastal mounds and shallow and deep seafloor are performed, as well as awareness raising activities.

Estrategia sectorial basuras marinas

Promoted by the Spanish Fishing Confederation (CEPESCA) and the Spanish Ministry of Agriculture, Fisheries, Food and the Environment's Biodiversity Foundation, through the Pleamar Programme in its 2017 call, co-financed by the European Maritime and Fisheries Fund (EMFF).

The project had as its main objective contributing to the reduction of litter in the marine environment at the national level through the development of the national strategy for marine litter reduction for the fishing sector.

LIFE LEMA

This was a project coordinated by AZTI within the LIFE Programme for Environment and Climate Action. It took place between 2016 and 2019 with the purpose of establishing directives for a sustainable management of floating marine litter for local authorities, providing tools for management and collection of marine waste.

MARES CIRCULARES

This Project started in 2018 thanks to the support of The Coca-Cola Foundation and Coca-Cola Europacific Partners and the work of the Chelonia Association, Ecomar Foundation, League for the Protection of Nature and Zero Discharge Association, as well as more than 600 public and private entities cooperating in several coastal scenarios.

The aim of the project is cleaning coasts, protected spaces and the seafloor of Spain and Portugal, promoting recycling and boosting the circular economy. For this the project is divided in different activities, including passive fishing for litter, with the collection and management of waste in 17 ports in Spain and Portugal, including research, communication and awareness raising.

MARLIMPO

The MARLIMPO Plan is the programme for the protection and recovery of biodiversity and marine ecosystems through the collection of waste, promoted by the Galician regional government's Sea Ministry, and framed within the European Maritime and Fisheries Fund (EMFF).

This Project, initiated in 2020 counts on the CETMAR Foundation as technical assistance and its main objective is achieving a significant reduction of marine litter in the Galician coastline, thanks to the involvement of the regional authorities and the fisheries sector, culminating in the integration of good practices in the maritime activities which are part of the Plan.

MARVIVA

This pilot Project was promoted in 2015 by the Barcelona Fishermen Guild, the Catalan Waste Agency and the Barcelona Port Authority. The fishermen would voluntarily bring to land the marine litter collected in their gear during their work at sea. This litter would be placed in an onboard container that would be unloaded when reaching port. The container's content from each vessel would be weighted, quantified, photographed and classified. Afterwards, the characterized waste would be separately managed prioritizing its valorization. Since 2017 13 other Catalan ports joined thanks to the cooperation with the Upcycling the Oceans initiative from the Ecoalf Foundation and Ecoembes.

Pesca Sostenible en Caladeros Limpios (PESCAL)

The PESCAL Project took place between 2012 and 2014 jointly in Galician ports (Vigo & Marín) and from the Alicante coast (Santa Pola & Alicante). It was promoted by the National Organization of Fishing Associations (ONAPE) and financed by the Spanish General Secretariat for Fishing (part of the Spanish Ministry of Agriculture, Food and the Environment) through the 2011 call for support to Collective Actions from the European Fisheries Fund. The project's objective was committing the fishing sector in fishing gear and marine litter cleanup actions, in order to obtain data on marine litter from different fishing grounds, as well as studying the effects of ghost fishing.

ML-STYLE

Project developed by the CETMAR Foundation and financed by INDITEX. This project was framed within the Vigo Port Authority Blue Growth initiative, specifically as part of the actions identified by the cooperation protocol for the promotion of Blue Growth in the Northwest region signed between the Spanish General Secretariat for Fishing and the Vigo Port Authority. It took place between 2018 and 2020 with the objective of protecting the sea and its resources by reducing the amount of marine litter applying circular economy processes to the waste from fishing and port activity (plastics, food waste, disused fishing gear and marine litter collected by fishing vessels), studying their recycling/valorization potential as materials for the development of products for the textile industry (clothing, accessories…).

PESCANETA

Beginning in 2020, this Project is an initiative of the Catalan Federation of Fishing guilds, with the support of the European Maritime and Fisheries Fund (EMFF) managed by the Catalan General Direction of Maritime Policy and Sustainable Fishing of the Department of Climate Action, Food and Rural Agenda, in order to help cleaning the sea of all waste collected in the gear of fishermen. The objective is highlighting the effort of all fishermen working to conserve the Mediterranean, making their work to clean the sea from waste public, contributing to the preservation of our costs' marine environment ensuring the water quality and raising awareness amongst the population of the importance to conserve marine species and the marine environment in the best possible conditions.

Nada por la Borda

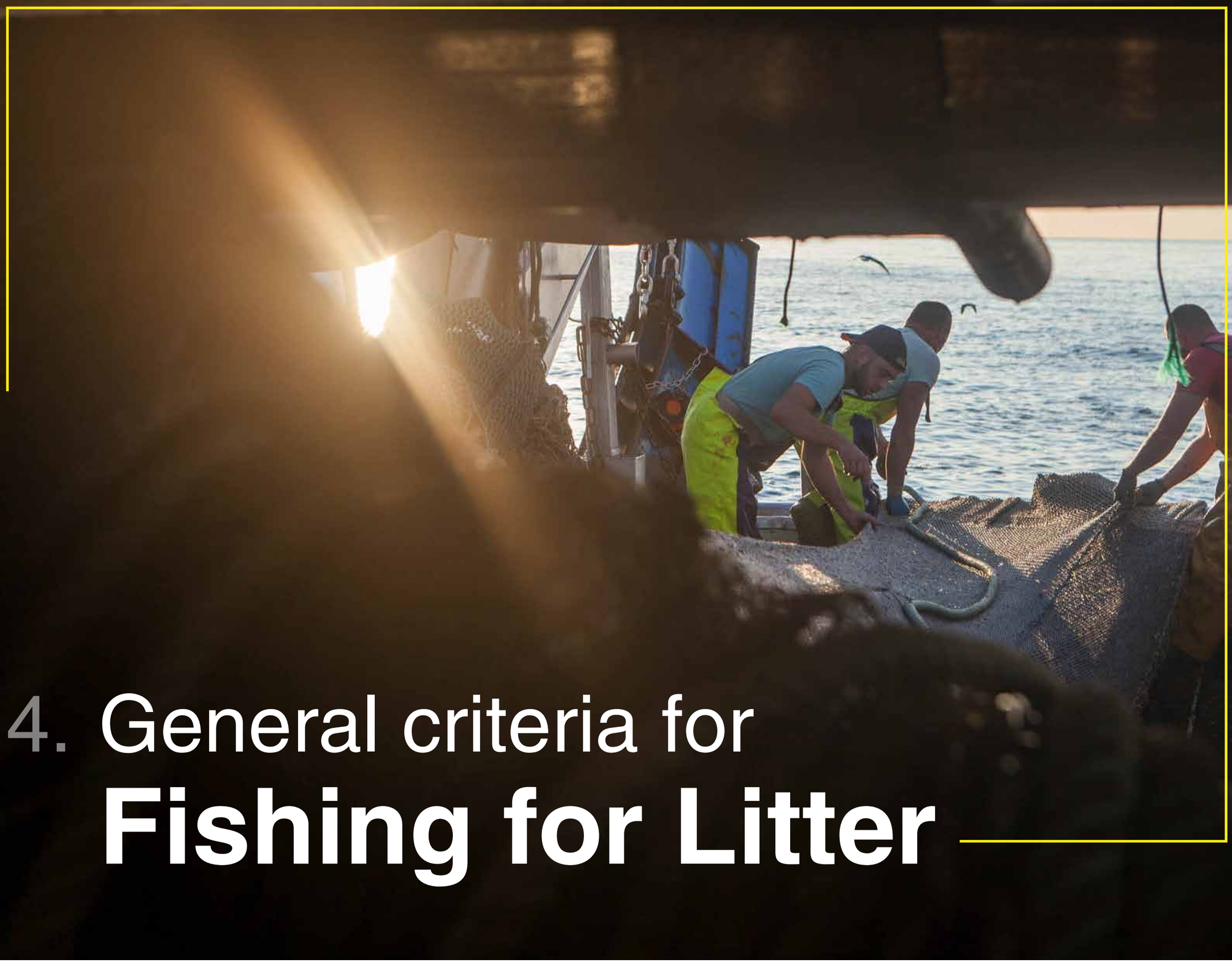
Executed between 2009 and 2011, it's a project promoted by the CETMAR Foundation and financed by the Spanish General Secretariat for Fishing (part of the Spanish Ministry of the Environment) through the European Fisheries Fund. This project took place in the Galician ports of Burela, Coruña, Laxe, Fisterra, Muros, Cambados, Marín and Vigo. Its objective was the development of a protocol for the handling and integrated management of the waste collected by artisanal fishermen and trawlers. A fishing for litter program was set up with the voluntary participation of the fishing sector.

REPESCAPLAS

Project promoted by AIMPLAS with the cooperation of the Spanish Ministry for the Ecological Transition and the Demographic Challenge's Biodiversity Foundation, through the Pleamar programme, co-financed by the European Maritime and Fisheries Fund (EMFF). Undertaken between 2017 and 2019, with the objective of reducing the impact of marine litter, increasing the knowledge on its nature, its characteristics and the ecotoxicological impact of plastic waste contained on collected marine litter, as well as identifying, demonstrating and evaluating the valorization options for plastic waste and transferring the experience.

UPCYCLING THE OCEANS

Promoted by the Ecoalf Foundation, the project started out in 2015 with the participation of 9 ports. In June 2016 Ecoembes joins the initiative, promoting the project at the national level, reaching 23 ports in 2023. The aim is recovering marine litter through the cooperation of the fishing sector and integrating the recovered waste in the proper management and recycling channels. Moreover, the project also contributes to raise awareness amongst citizenship of the issue, including the fishing sector, as well as providing knowledge on marine litter through characterizations. The experience in Spain has allowed to reach in 2023 71 ports in the Mediterranean, including Greece, Italy and France.



4. General criteria for **Fishing for Litter**

4.1 - Implementation scope

The current document collects the basis for the development of a common scheme for fishing for litter in marine waters in which Spain exerts exploitation and marine resource use rights (Exclusive Economic Zone, EEZ).

Stemming from previous experiences and international recommendations it is understood that, in order to achieve its sustainability over time, fishing for litter actions undertaken through a common scheme must be mainly based on voluntary schemes of passive fishing.

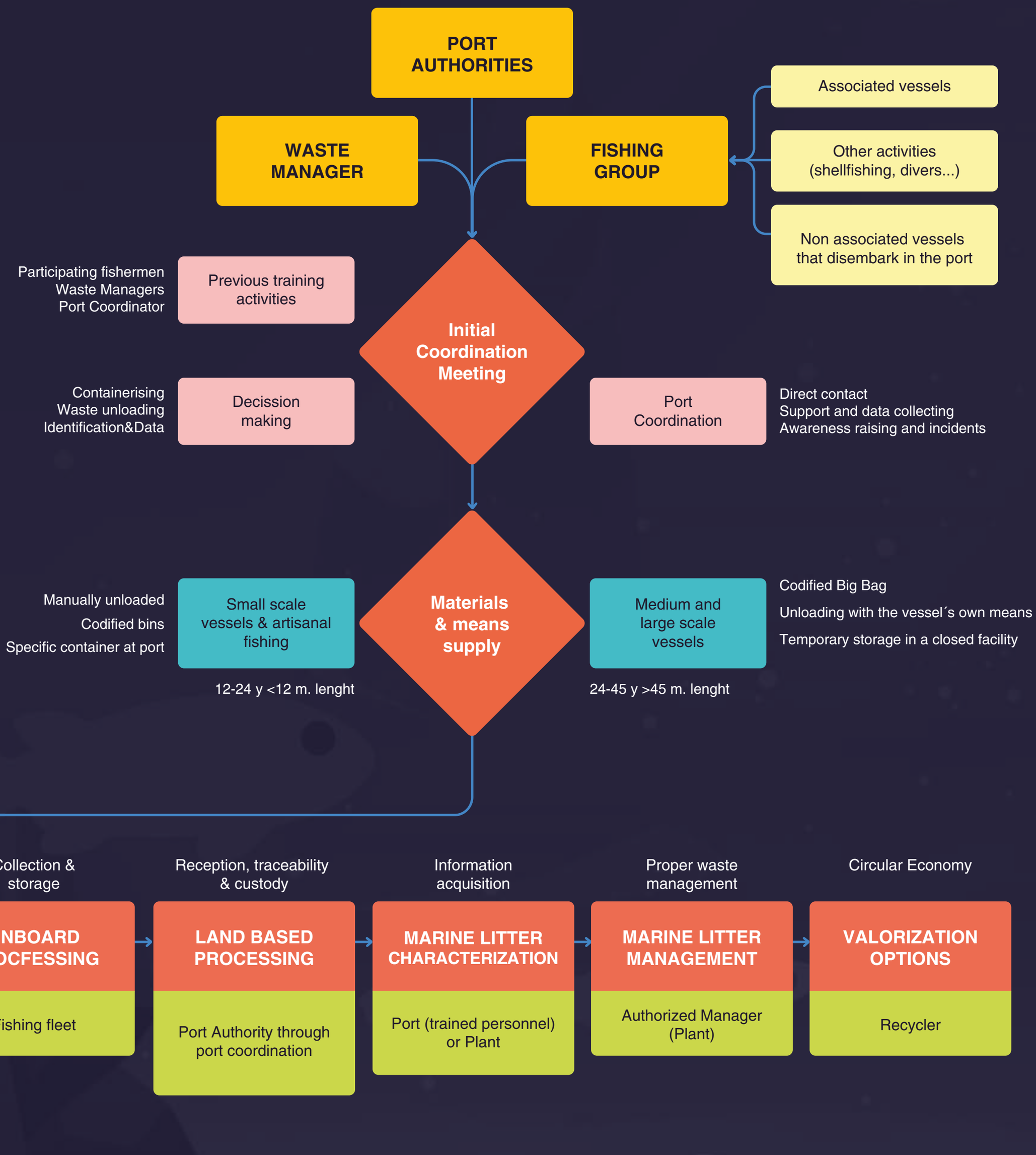
This does not preclude the development of specific campaigns of active fishing focused on the clean-up of specific marine litter (for instance, lost gear) and/or previously located hotspot areas. This kind of campaigns are not contemplated in this document.

It is of special interest and efficacy the fishing gear that move in the aquatic environment at the encounter of target species employing mesh arts, either at industrial level (bottom trawling) or in artisanal fisheries. The participation of this kind of vessels is key and their association to fishing for litter projects allows the obtention of significant results in waste recovery. Nevertheless, due to these actions being voluntary, fishing for litter actions must be inclusive and promote the same degree of commitment from other fishing methods such as seine fishing, angling or pots. These fishing methods are the most common ones in some areas where no trawling takes place.

In the same way, fishing for litter actions can be adapter in order to facilitate the participation of other extractive activities such as shell fishing (on foot or floating), seaweed collecting, professional divers that work on fisheries such as some mollusk shell fishing…

In Figure 6 it is shown in a schematic way the key points, developed in the following sections, of a fishing for litter scheme.

Figure 6: General diagram of a fishing for litter scheme



4.2 - Definitions

- Abandoned or Lost Fishing Gear (ALFG): Any fishing gear, or its remains or loose parts, that is out of control from its owner, either on the sea floor, or floating midwater or in the sea surface, and which for whatever circumstance might have lost its function as a fishing instrument by not conserving its standard configuration and functioning (MITECO, 2023).

- Active fishing for litter: Activity expressly destined to the collection of marine litter. This modality can be performed by any vessel or professional (divers) with capacity to recover and remove litter from the environment. Generally speaking, this activity is focused in the clean-up or previously defined areas and participants receive an economic compensation for their work.

- Circular Economy: Model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended (European Parliament, 2015).

- Citizen Science: Participation of the general public in scientific research activities, contributing actively to science, whether by their intellectual effort or knowledge or through tools and resources (SOCIENTIZE consortium, 2013).

- Fishing gear: Any element or equipment employed for fishing or aquaculture to direct, capture or raise marine biological resources or that is floating on the sea surface and that is deployed with the aim of attracting and capturing or raising the aforementioned marine biological resources.

- Hot spots: Areas of greater accumulation of marine litter or areas specifically vulnerable with presence of marine litter

- Marine litter: Any persistent solid of non-natural origin (manufactured) that has been discarded, disposed of or abandoned in the marine and/or coastal environment, including materials transported to the marine environment from land-based sources through rivers, runoff, sewage or by the wind. (UNEP, NOAA, 2011)

- Passive fishing for litter: Activity focused on the removal and delivery to port of marine litter caught in fishing gear during routine professional fishing operations. This activity is exclusively focused on fishermen and their participation is voluntary.

- Passively fished waste: Waste collected in nets during fishing operations.

4.3 Involved actors

The development of a fishing for litter activity requires the utmost commitment by all actors directly or indirectly involved in the activity's different steps:

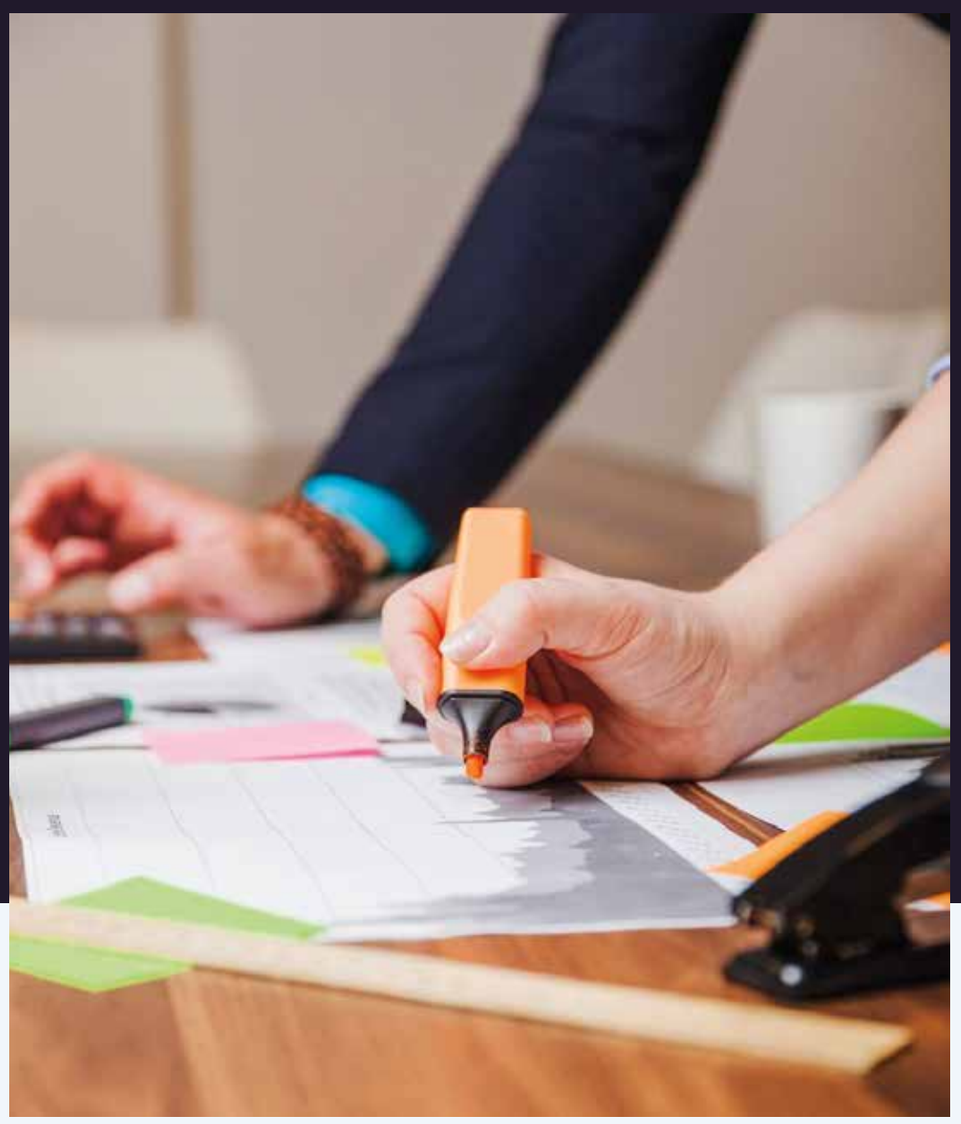
- Public Administrations: Responsible, through national or regional port authorities, of port management, and thus of the placement of collection points for waste fished unintentionally and its proper management. The promotor of the action must provide full information about the project and the specific needs for waste containers or storage points. Port managers are responsible for communicating annually the data on passively fished waste to the General Direction of the Coast and Sea from MITECO, which will collect the data and report to the European Commission and the international conventions of which Spain is a contracting party.

  Moreover, other national, regional or local level public administrations exert different competences (fishing activity regulation, waste management in land…) that directly come into play for the initiative's success. The main function of fishing authorities is providing an economic framework that allows for the fishing for litter activities to be sustainable over time.

- Fishing sector: It is presented as the foremost interested party and the main stakeholder in fishing for litter, being the one in charge of their collection and storage until it can be delivered in land. The role of fishing entities such as fishing guilds, associations, Fisheries Local Action Groups (FLAG), Producer Organizations… is mainly to structure the projects and actions to be undertaken.

- Extended Producer Responsibility schemes, waste managers and recyclers: They organize producers in order to guarantee the collection, recycling and valorization of their products at the end of their life. Their involvement in fishing for litter activities is essential in order to look for the more adequate management options for the different marine litter fractions.
- Scientific, technical and technological organizations, non-profit environmental organizations and environmental consultants: They develop research projects and /or services that allow to increase the knowledge and awareness, both on the marine litter issue as well as about their possible solutions.

- Private companies and professional and business associations: In the private sector there are multiple stakeholders and sectors that show their concern on this topic and that can develop or cooperate with marine litter initiatives. Inside this stakeholder are sectors of great importance such as aquaculture, tourism or the nautical sector.



Any of these involved actors can perform the role of promotor of the fishing for litter activity. The activity's promotor will oversee tasks such as:

- Preliminary contacts and start-up of the fishing for litter action.
- Internal communications amongst the participants.
- Training and awareness raising amongst the participants.
- Defining needs and characteristics of each port.
- Detection and correction of problems and/or incidents.

4.4 Preliminary contacts

As a first step in the development of a fishing for litter action, it is recommended that the action's promoter, whether a public administration, an environmental organization, a FLAG (Fisheries Local Action Group) or other, identifies and starts contacting all relevant actors in the area where the activit.

For a simple scheme of fishing for litter it will be necessary to contact at least with the following:

Entity	Main Functions
Fishing entity operating in the port	Responsible for the fishing for litter and involving their associates in the project
Public Administration	National or regional port authorities will be responsible for the reception of unintentionally fished waste, as well as of reporting annually the data to the General Secretariat of the Coast and Sea. It is also recommended to be in touch with public administration in charge of fishing and/or waste.
Authorized household waste manager	Responsible for the final management of the passively fished waste.

4.5 Coordination and dimensioning of the action

In an ideal fishing for litter scheme the basic action unit is a fishing group, meaning that each fishing group is coordinating all the associated vessels that wish to participate in the fishing for litter initiative.

When dimensioning the action, the possible inputs of other activity sectors (shell fishing, divers…) can also be considered, as well as possible inputs from vessels not associated to the fishing group but that also operating in the port.

Due to the diversity of situations that can take place (vessel size, port size, landing area…) it is recommended to organize coordination meetings with an open dialogue in order to properly size up and design the actions to be performed. This will allow to know the sector's requirements in each location: proximity to landing area, landing and weighing means available, initial commitment degree, as well as difficulties observed by participants for the proper development of the action.

The following topics are proposed to be discussed in the initial coordination meeting:

i. Determine::

- On board container model and size (see section 4.7).
- Land container model and size (see section 4.8).
- Waste landing options and container location. For large vessels it can be necessary to define an intermediate landing point and, with the cooperation of forklifts or other means, carry the waste to a temporary storage point.
- Identification system for the containers in the designated areas and conditions established by the port authority.
- Level of data reporting (in accordance with CIR (EU) 2022/92) and, if necessary, level and frequency of waste characterization.
- Data acquisition mechanism (for instance, data acquisition at the port or at the waste management facility) and who is responsible for it. In case data acquisition is at the port then adequate materials for weighting will be necessary (see section 4.8).
- Definition of a first collection schedule for waste collection: According to the expected amounts of passively fished waste in relation to the amount and kind of vessels participating and their average workday in the fishing grounds.

ii. Defining the "coordination at port": series of tasks to be undertaken by one or more people that will serve as the link between the promotor and the participating vessels, ensuring the initiative's success:

- Maintaining direct and close contact with the participating vessels.
- Raising awareness about the action and incentivizing participation.
- Support waste landing at port.
- Data acquisition on waste weight and volume, and its characterization if so agreed.
- Incident resolution.

In each port it is recommended to agree the team of necessary people, as well as the tasks to be performed by each of its members. Given that not every fishing entity counts on enough personnel to commit to this kind of actions a training model according to point 4.6 could be established.

4.6 Preliminary training actions

The training and awareness of the fishing sector and mainly of the fishermen is key in order to increase their responsibility towards the marine litter issue and to guarantee their commitment in the activity. For this, it is recommended that the promotor establish a direct link with the fleet (ship owners, captains, seamen) and land-based personnel (port authority personnel, port police, fishing guilds and associations' technicians, fish market personnel…) in order to properly define the tasks to be performed by each of them and design specific training actions for each of the involved profiles.

As mentioned in section 4.5, in the development of the fishing for litter activity it is recommended to define the functions of the "coordination at port". It can also be explored to establish a combined support for the adequate management of passively fished waste and waste derived from port activity under new regulations (Royal Decree 128/2022 from February 15th on port reception facilities for the delivery of waste from ships). Depending on the tasks to be undertaken it might be necessary for the action's promotor to take into account the need for the coordination team at port to be formed in areas like:

- Legal framework of marine litter.
- Data acquisition according to the reporting levels from Commission Implementing Regulation (EU) 2022/92.
- Data reporting on unintentionally fished waste.

4.7 On-board supply of materials and means

This stage encompasses the on-board collection, storage and transportation to port of the marine litter caught in the fishing gear during fishing operations. In order to perform this activity, fishermen must carry on-board a storage system that must have been decided upon during the initial coordination meeting (see section 4.5).

Upon arrival to port, the vessel's crew will land at port the unintentionally fished waste in the agreed upon collection point (see section 4.5), either in the containers installed for that purpose or in the collection point agreed with the port authority.

The necessary materials are those required for the on-board and at the dock's containerization, and for the unloading, and if considered advisable (see section 4.5) weighting of the landed marine litter.

The kind of vessel (gear, deck size…) will determine the most adequate container for on-board storage of the marine litter:

- In mid (24-45 metres in length) and large size (larger than 45 metres in length) trawlers it will be necessary to establish a storage system that allows to keep large volumes of litter and to be landed with the ship's own means. An example of a well-functioning containerization system for this kind of vessels are large sacks of "big bag" style, with a 1 m3 capacity. The agreed upon containerization system will be thus distributed amongst participating ships and it is recommended to codify it (colours, ship tag, name…) in order to facilitate its later identification.

- For small size trawlers (12 to 24 metres in length) it is suggested to employ containerization systems that can be handled manually for landing (plastic bags analogous to domestic household waste ones, reusable raffia bags, small capacity rubber baskets…). It is also recommended to identify the different systems. For instance, employing differently coloured bags allows for a visual identification of the assigned ship. If large objects are recovered that can't be handled with the provided system, they should be taken to the port's collection point by themselves.

- In smaller artisanal ships it is recommended to employ the same container system as in small trawlers, adapting it to the vessel's available size and characteristics.

Figure 7: Onboard containerization options for vessels smaller than 12 metres.

4.8 Port supply of materials and means

In the framework of Royal Decree 128/2022, from February 15th, the reception, traceability and custody process for marine litter becomes the port authority's responsibility, either through its own personnel or establishing collaboration with the "coordination at port" (see section 4.5).

It is recommended that unintentionally fished waste should be included in the port's waste reception and management plan and be deposited until their collection in an isolated temporary storage, locked container, compacter or analogous, in order to avoid that differently sourced waste not coming from the sea gets mixed with it. Collection at port should be performed by an authorized waste manager in accordance with Law 7/2022, of Waste and Contaminated Soils for a circular economy.

The on-board containerization system chosen (see section 4.7) will determine the necessary resources to be provided for the unloading of passively fished waste and its later storage.

- In the case of mid and large sized trawlers the containers might be unloaded with the ship's own means. Once deposited at the dock, it might be necessary to count on the help of a forklift or similar equipment in order to handle or transport the passively fished waste and/or agree on a temporary storage point, where once the containers are deposited closed and, preferable, over pallets (see Figure 8). Something to consider in each case is supplying the storage point with a compacted that allows to storage a larger amount of material before being sent to the waste management plant.

Figure 8: Temporary storage point for marine litter big bags.

- In the case of smaller sized vessels, whether trawlers or artisanal fishermen, the unloading of waste can be performed manually, and the bags or baskets employed deposited or emptied in a specific container (Figure 9) properly signalled at the dock. It is very advisable to employ locks in order to avoid the mixture of other kinds of waste in the container, as well as fixing the container to nearby structures in order to avoid overturning.

Figure 9: Example of marine litter specific containers.

The placement of containers and/or the agreement on temporary collection points for marine litter, as well as their proper signalling and identification will be the port authority's responsibility (Royal Decree 128/2002 from February 15th).

In case data acquisition is decided to be performer at port (see section 4.5) it will be necessary to have weighing devices available, and it is recommended to acquire the weight data before the litter is deposited in a container or storage point (Figure 10). In order to acquire data on volume the size of the containerization system can be employed (for instance, 30l bag, 45l basket, 800l container, 1m^3 big bag…)

Figure 10: Options for weighing at port.

4.9 Waste characterization

Fishing for litter activities are a source of information that, correctly treated, allows to know the composition, abundance, tendencies, sources and spatial distribution of marine litter. This information is complementary to the one obtained in official monitoring programs BM-2 (Floating litter) and BM-3 (Seafloor litter) from the Marine Strategies and will be thus employed for the establishment of the most suitable measures for marine litter prevention. It also serves for the reporting commitments on passively fished litter for the European Commission and the international conventions of which Spain is a contracting party.

An extended practice amongst existing projects is performing the characterization of waste in the port itself. Nevertheless, in some cases it might be considered more convenient to move this task to the waste management facility.

In any case, waste characterization should be performed in accordance to the Commission Implementing Regulation (EU) 2022/92 of 21 January 2022 laying down rules for the application of Directive (EU) 2019/883 of the European Parliament and of the Council as regards monitoring data methodologies and the format for reporting passively fished waste.

Commission Implementing Regulation (EU) 2022/92 presents different levels of reporting scope and compulsion. These different levels and their description are collected in Figure 11.

Figure 11: Mandatory and voluntary notification elements (CIR (EU) 2022/92)

Mandatory or Voluntary	Description
Mandatory	Total mass and total volume of all passively fished waste.
Voluntary	Mass and volume of passively fished waste aggregated by its origin: ALFG and other marine litter.
Voluntary	Mass and volume of passively fished waste aggregated by type of material (plastics, metals, rubber and other waste)
Voluntary	Mass and volume of passively fished waste aggregated by origin and kind of material.

Thusly, and according to CIR (EU) 2022/92, up to 4 levels of reporting effort can be established, being recommended that a system is established that allows to identify those vessels that are actively cooperating for data acquisition:

- Basic characterization: This level includes the reporting of weight (kg) and volume (m^3) of passively fished waste. These data can be determined at port (through trained personnel) or at the waste management plant where the authorized waste manager brings the marine litter after its collection at port.

- Simplified characterization: This level includes the reporting of weight (kg) and volume (m^3) of passively fished waste segregated in two categories, ALFG and “other marine litter”. These data can be determined at port (through trained personnel) or at the waste management plant where the authorized waste manager brings the marine litter after its collection at port.

- Characterization by categories: This level includes the reporting of weight (kg) and volume (m^3) of passively fished waste segregated in the categories of Plastics, Metals, Rubber, Wood, Textiles and Other waste. These data can be determined at port (through trained personnel) or at the waste management plant where the authorized waste manager brings the marine litter after its collection at port.

- Detailed characterization: This level includes collecting detailed data according to the defined objects in CIR (EU) 2022/92 (Figure 12). This kind of work is habitually performed at port and allows, through the counting of defined objects, to obtain useful information for the determination of the quotas of responsibility for Extended Producer Responsibility schemes (EPR, Law 07/2022). In order to address this level of detail it is recommended to employ the table of correspondence between the objects defined in Commission Implementing Regulation (EU) 2022/92 and the object listing for characterization commonly employed in Spanish fishing for litter activities (Annex I)

Figure 12: Components of passively fished waste (CIR (EU) 2022/92)

Plástico	Metal	Rubber	Wood	Textiles	Other waste
– Nets	– Oil drums	– Gloves	– Fishing Pots	– Rope	– Glass
– Buoys	– Wire	– Tyres & belts	– Crates	– Clothing & shoes	– Medical waste
– Fish boxes	– Paint tins	– Boots	– Pallets	– Other items	– Sanitary waste
– Rope/cord	– Oil filters	– Other items	– Other items		– Other items
– Bottles	– Other items				
– Packaging					
– Strapping bands					
– Foam					
– Jerry cans					
– Oil drums					
– Fibreglass					

Data reporting is the responsibility of port managing authorities, who must communicate their data to the General Direction of the Coast and Sea from the Spanish Ministry for the Ecologic Transition and the Demographic Challenge. The data reporting mechanism Will be done through the national database of objects recovered in Fishing for Litter activities employing an access supplied by the General Direction.

4.10 Waste management

The collection of the waste from the storage point at the port will be in charge of an authorized manager in accordance with Law 7/2022. The selected manager must count with the corresponding certification in the selected region and count with the appropriate means for the collection of the waste from the port's facilities (trucks, cranes, forklifts…), as well as guarantee the traceability towards its final destination through the appropriate Identification Document or certificate that allows the port's managing entity to perform their annual reports that must contain the content of the chronological archive, which is mandatory for entities or registered companies, as well as for producers of non-dangerous waste of more than 10 tons per year and must include the relative information to the production and waste management operations (Law 7/2022).

The waste manager's capacity for separation in their facilities of marine litter for the valorization of some of the materials present (metal, plastic, PET…) must also be evaluated.

In the tests performed until now by different research groups marine litter does not have a proper behaviour in separating plants of common household waste, and thus must be managed as an independent flux inside the separation plants and proceed to its management with equipment specially calibrated for these materials. For this it is necessary that there's an intermediate storage point (for instance, a compacting machine) that allows to generate sufficient volumes to adapt this flux to a scale economy that is attractive to the waste manager without increasing their costs.

4.11 Closing the circle: valorization options

Once marine litter has been retired from the port, they must be managed in accordance to the waste hierarchy and the tenets of the Spanish Circular Economy Strategy. Marine litter has a heterogeneous composition regarding materials, and they can be found in different degradation stages according to the time spent at sea and the conditions endured.

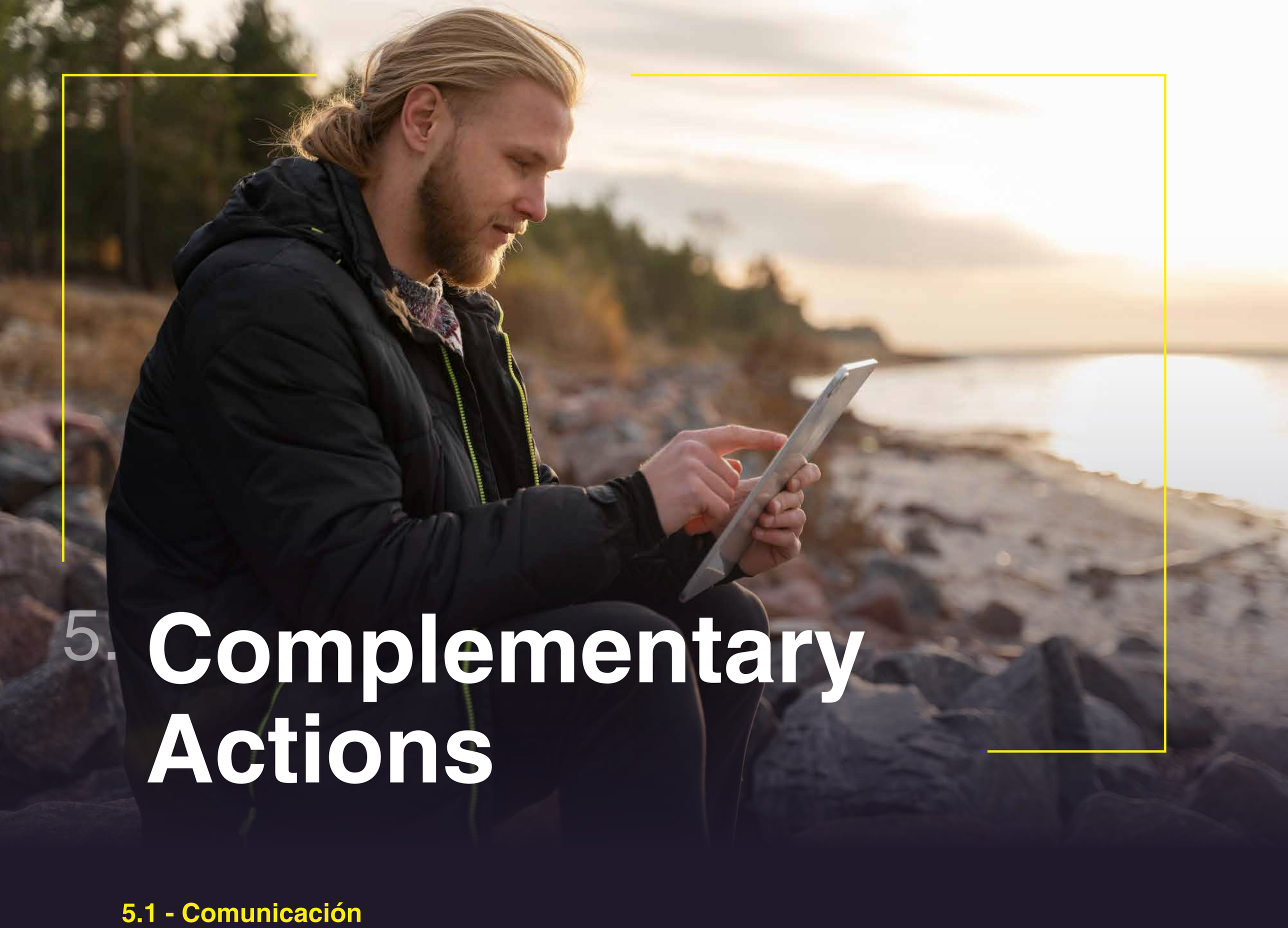
Currently there exist several materials with already explored valorisation lines:

- PET plastic (Polyethylene terephthalate): This material mainly employed in drinking bottles and textiles represents around 10% of the plastic fraction of marine litter (70% total) (MITECO, 2022). This is the material with more currently open valorisation lines. The more extended ones for PET recovered from the sea is the manufacture of textile fibres, melting in new plates for the fabrication of plastic materials or the fabrication of new packaging.

- Metallic elements: They represent around 15% (Mares Circulares, 2022) of the total of passively fished waste, and are materials with good valorisation options, as they retain their properties even after enduring long exposure to the marine environment.

- Fishing gear: They constitute reusable materials (particularly polyamide nets), although in most cases they require a complex mechanical separation. In the case of fishing nets recovered from the sea those elements that are as complete as possible and not entangled with fauna or other materials are of interest. Nowadays their incorporation to thermal and chemical recycling processes is advancing.

For the rest of materials solutions go through continuous research and work in pilot projects that allow to obtain new circular solutions. At present the most viable valorisation route for the rest of marine litter is their employment as fuel for incineration, pyrolysis or chemical recycling.



5. Complementary Actions

5.1 - Comunicación

Communication is a tool that brings value to the action performed by the fishermen. The fishing sector greatly appreciates the communication actions through media and social networks showing their prominence as a show of recognition for their work. Because of this, communication actions must be linked to the channels shared by fishing communities in order to give visibility to their work within them.

It is recommended that a communication plan is elaborated, including performing specific activities such as:

- Press releases on specialized and general media in which it will be explained what is being done, why, with which objectives, any interesting trivia, etc. Content shall be adapted in press releases to the regional context, for instance producing the press releases in regional languages in order to achieve greater exposure in local and regional media

- Social media campaigns, either in the project's own channels (should they exist), on the activity's promoters', and on the main actors' ones.

- Design of informative material.

- Invitations to media to get to know the action on site.

- Edition of informative bulletins (at least twice per year) aimed at the fishing sector, in which news, progress, data and relevant information for the fishing sector about the project will be reported.

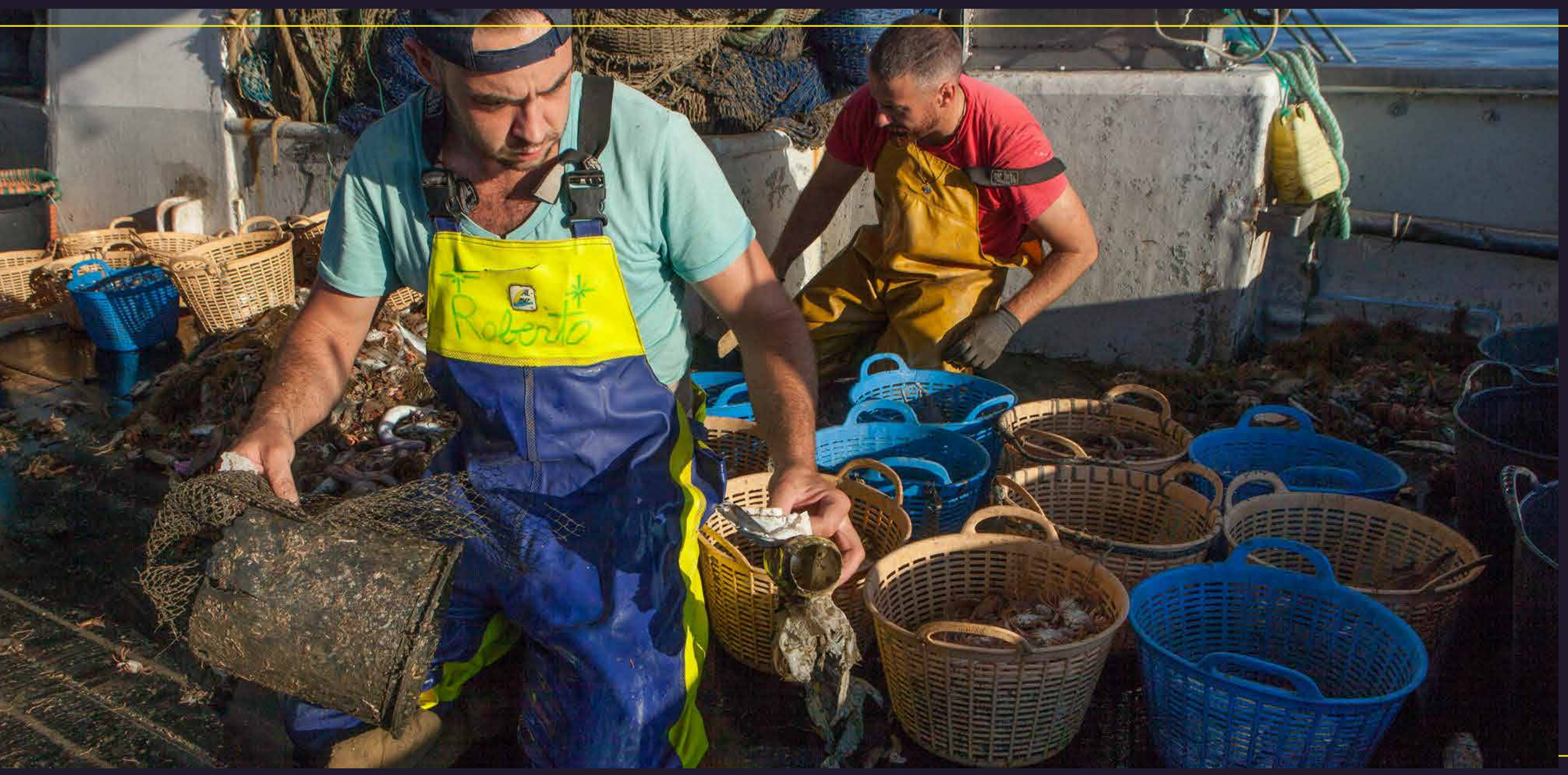
- Results presentation events, aimed fundamentally at giving visibility to the project to news media, public administration, civil society organizations and other stakeholders in general.

Other activities of interest are communication and awareness raising campaigns aimed at local organizations not directly related with the activities (for instance, local authorities, schools or social centres). These actions allow the activity to gain visibility, to raise awareness on the local issues with the information obtained and to give recognition to the participants at the local level.

5.2 Acknowledgement tools for fishermen

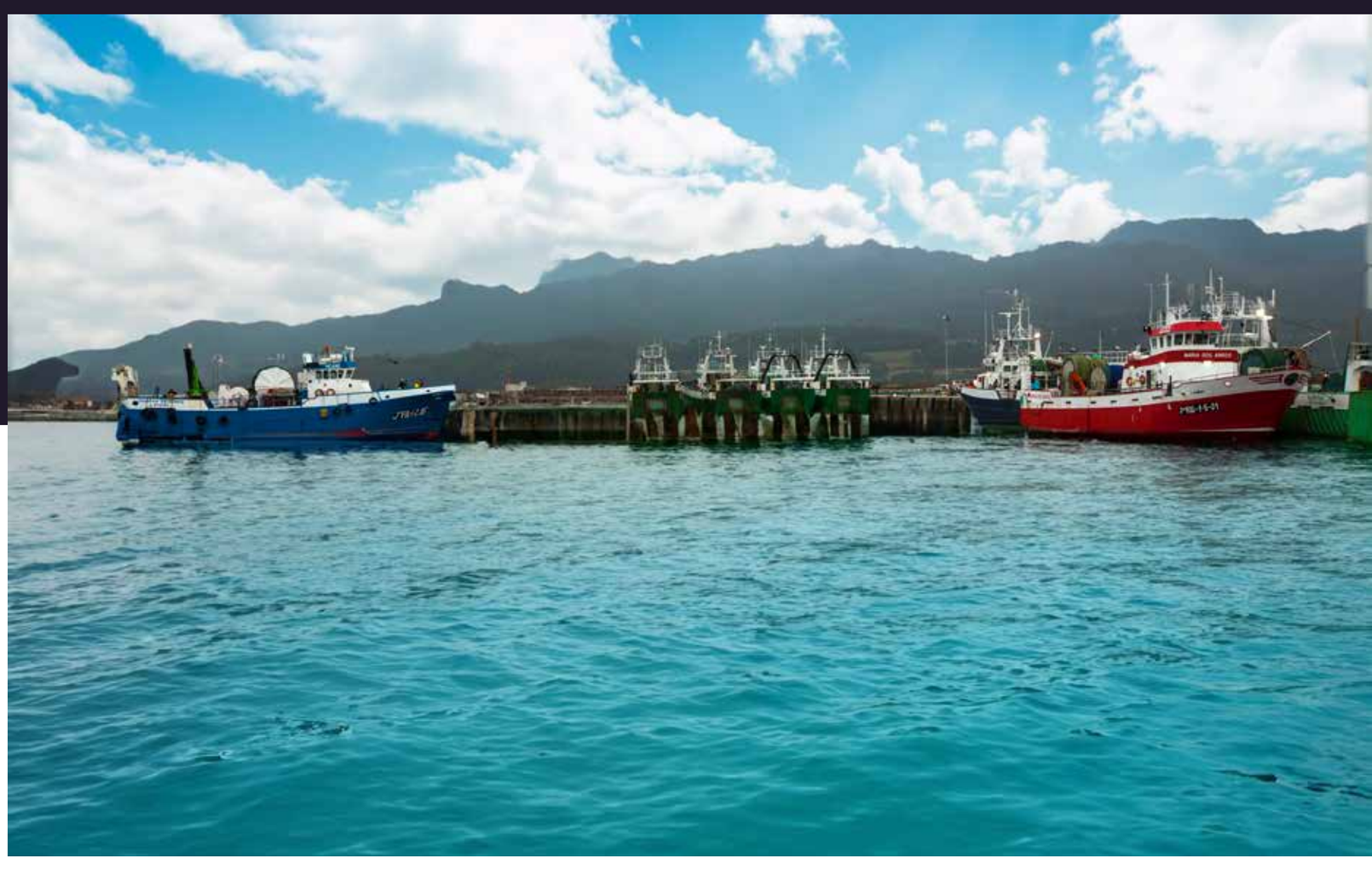
The voluntary participation of fishermen is key for the performance and continuity of fishing for litter activities. Because of this, it is important to maintain constant communication with them as main actors towards keeping their interest in the activity.

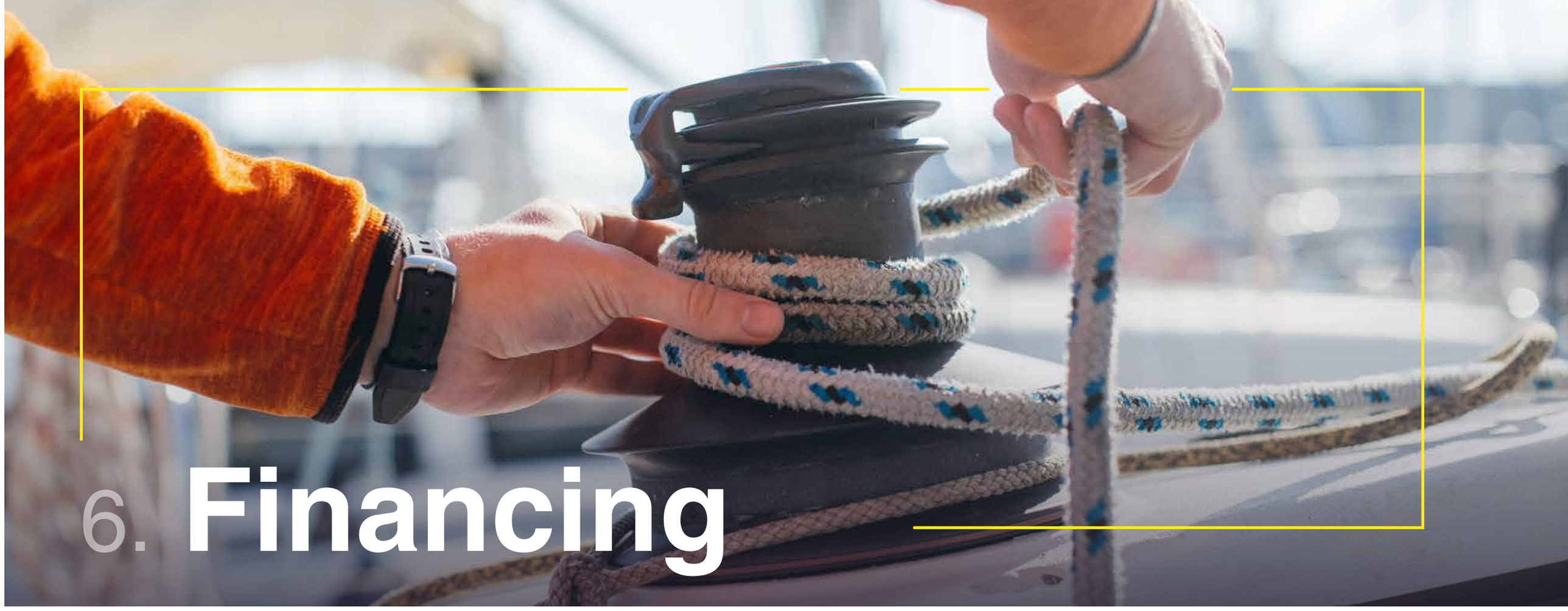
The main tool for acknowledging the fishermen's work is the giving visibility to the initiative, in which fishermen must always be the main axis of the activity and inviting them to be part of the dissemination. At the same time, it is recommended to communicate periodically with the fishermen the results obtained so far.



Other actions that can be explored to maintain the fishermen's interest are:

- Recognition from the port management authority of their participation in the activity (or as a clean fishing ground) and bonification from the port management authority in the port fees associated with their regular activity.
- Delivery of materials and work clothing and apparel.
- Discounts on port services, such as fuel or ice.





6. Financing

In order to ensure the continuity of fishing for litter activities it is recommended to forecast a plan to maintain the fleet's commitment and the necessary agreements to maintain the reception and storage system at ports, as well as covering the associated expenses to marine litter collection and management, avoiding in any case that these expenses fall on the fishermen.

Royal Decree 128/2022, from February 15th, on port reception facilities of waste from ships, establishes that, in order to avoid the costs of collection and treatment of passively fished waste to be covered exclusively by port users, port managing authorities will cover, when suitable, those costs through the income generated by alternative financing systems, amongst them by the waste management schemes, extended producer responsibility systems and the available financing from the EU, as well as national or regional sources.

6.1 Spanish programme for the European Maritime, Fisheries and Aquaculture Fund (EMFAF)

The United Nation's 2030 Agenda for Sustainable Development (Agenda 2030) established the conservation and sustainable use of the oceans, seas and marine resources as Goal 14 out of the seventeen Sustainable Development Goals (SDGs), with XXX. EMFAF must support the development of project portfolios that contribute to environmental, economic and social sustainability, which allow to tackle the environmental challenges of the Common Fisheries Policy (CFP).

Besides, the EMFAF's Programme for Spain, approved by the European Commission through decision of November the 29th, 2022, as its main support instrument, establishes amongst its priorities for the 21-27 period the promotion of sustainable fishing and the recovery and conservation of aquatic biological resources (priority number 1), contributing in the advancement towards a greener Europe. Priority 2, aimed at promoting sustainable aquaculture, and priority 3, whose objective is making a sustainable blue economy possible and supporting local development, also foresee investments and other actions that promote the collection, management and treatment of waste.

Down below, in the following table the eligible activities within each priority, related to the previously mentioned, considered in the EMFAF Programme for Spain, are presented:

Priority	Activity type
1. Fostering sustainable fisheries and the restoration and conservation of aquatic biological resources	**1.6.2. Waste collection with the participation of fishermen at sea and in beaches:** **EMFAF can support:** - Compensation to fishermen for passive collection. - Design of devices or gear for waste collection, as well as vessel refurbishment for its rollout. - Actions for the storage, handling, classification, characterization, treatment and recycling of collected marine litter and proper waste management on board. - Investment in ports and/or land for waste reception infrastructure. - Installation and rollout of waste collection sports. - Outreach, awareness and training activities on the fight on marine litter issues, in a way that the fishing sector's role is highlighted. - Pilot projects for the implementation of new waste collection systems.
2. Fostering sustainable aquaculture activities, and processing and marketing of fisheries and aquaculture products, thus contributing to food security in the Union	**2.1.4. Aquaculture contribution to the good environmental status and provision of environmental services:** Compensation to fish farmers for the environmental restauration and collection at sea, transition waters or intertidal area of waste, lost gear for the fishing sector, litter or other discards. These actions will be capable of receiving grants provided that they go beyond the mandatory compliance with national or European environmental legislation.
3. Enabling a sustainable blue economy in coastal, island and inland areas, and fostering the development of fishing and aquaculture communities	Local Participatory Development (LPD) is promoted by the Fisheries Local Action Groups (FLAGs), public-private associations formed by representatives of the fishing and aquaculture sectors, besides other members of the local community, that work to implement a Participatory Local Development Strategy (PLDS) for their area. They act as dynamizers for the territory, assuming direct responsibility for the management and application of the EMFAF. Within the scope of the PLDS, and due to the strong territorial bond of the local populations with the coastal fisheries and artisanal aquaculture sectors, many LPD interventions will be aimed, amongst others, to the mitigation and adaptation to climate change, the preservation of clean seas, protection and restauration of ecosystems and marine diversity and the sustainability of resource exploitation, as expressed by the biodiversity 2030 strategy and the action plan against climate change. Besides, awareness and outreach actions are activities to be developed within this framework. These measures will be complemented with those from the EAFD's on the agricultural environment to boost the development of local coastal communities.

Nevertheless, albeit the concession of this grants is expected in the EMFAF Programme for Spain, it is the Autonomous Communities the competent authorities for the regulation and subsequent call for grants, always in accordance with European regulations, the national program and the document of selection criteria that must be approved by the EMFAF's Monitoring Committee.

For more information the EMFAF Program for Spain can be found in the following link:
https://www.mapa.gob.es/es/pesca/temas/fondos-europeos/sfc2021-prg-2021es14mfpr001-11_tcm30-637317.pdf.

6.2 Pleamar Programme – Biodiversity Foundation

The Pleamar Programme is the initiative through which the Biodiversity Foundation has performed its activity as the European Maritime and Fisheries Fund (EMFF) Intermediate Management Body (IMB) in the 2014-2020 period. This program will have its continuity in the new 2021-2027 financing period within the European Maritime, fisheries and Aquaculture Fund (EMFAF), with the aim of continuing to support the fishing and aquaculture sector on its commitment to sustainability and the conservation of the natural heritage and in line with the Common Fisheries Policy (CFP). Through the Pleamar Programme it is intended to contribute to the following priorities:

a. Promote, through research on sustainable fishing, the recovery and conservation of aquatic biological resources, reinforcing the economic, social and environmental sustainability of fishing activities, and contributing to diminishing the impacts of fishing.

b. Promote, through research, sustainable aquaculture activities, as well as the transformation and commercialization of fishing and aquaculture products, contributing to the Union's food security.

c. Reinforce, through the generation of scientific knowledge, the ocean's international governance and making the seas and oceans safe, protected, clean and sustainably managed, through the promotion of knowledge of the marine environment.

The Pleamar Programme is structured in this new period, around seven lines of action, linked to the EMFAF's specific objectives, allowing the financing of projects in diverse areas such as the reduction of the impacts of fishing on the marine environment and its protection, research on fishing resources and governance, environmental research on aquaculture, environmental awareness and waste.
This last line, focused on waste, which also had continuity in the previous period allowing the financing of 18 projects with a total cost of 2,5M €, has as objective contributing to a clean and pollution free marine environment. For this, projects focused on the following can be supported:

- Collection and management of waste affecting shell fishing grounds, including algae washed ashore (Sargassum).
- Design of artifacts and gear specific for marine litter or lost fishing gear collection, and vessel refurbishment for their implementation.
- Actions on board and in land for the storage, handling, classification, characterization, treatment and recycling of collected marine litter, including lost fishing gear.
- Installation and rollout of fixed or mobile waste collection spots.
- Public campaigns on the collection of lost gear.
- Outreach, awareness and training activities on the fight on marine litter issues and to promote the fishing sector's role in this fight.
- Pilot projects with the aim of developing new systems of marine litter and lost gear collection.

On 2023 the first Call for grants in a competitive concurrence regime by the Biodiversity Foundation F.S.P. on the promotion of blue economy and fishing and aquaculture sustainability, within the Pleamar Programme, co-financed by the European Maritime, Fisheries and Aquaculture Fund (EMFAF), with and endowment of 14,5M € will be published. The call will include a line focused on waste, with an endowment of 1,6M €, aimed at recognized associations of fishermen and net repair professionals, recognized scientific or technical bodies, non-profit and public sector entities, that can stand individually or in clusters of 4 entities at most.

Fishing for litter projects must follow the guidelines from the national scheme on passive fishing for litter developed by MITECO and must provide information related to the materials and objects collected to MITECO through the tools and protocols that it establishes.

All the information related to the program can be found at the website: https://www.programapleamar.es/

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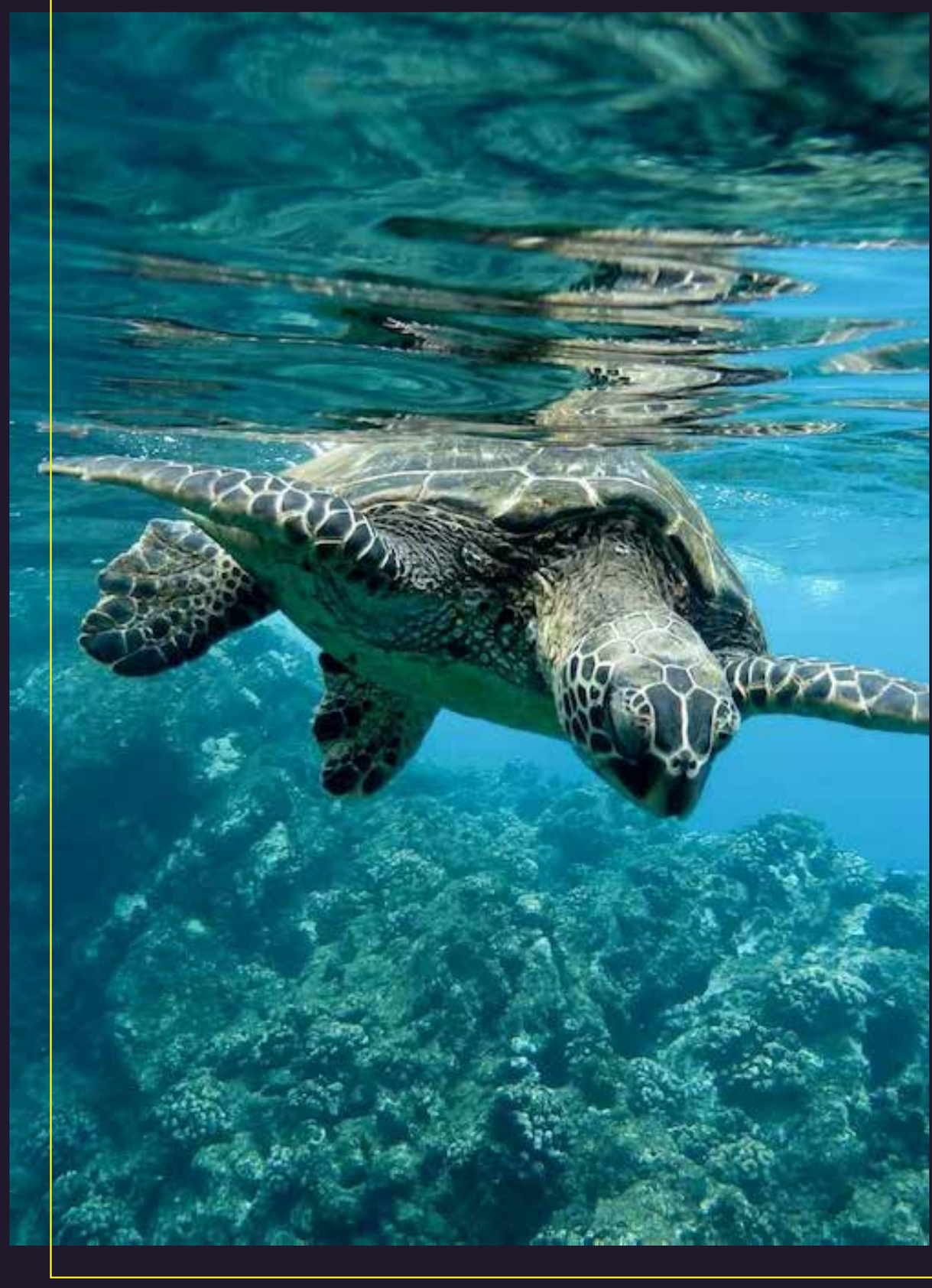

ANNEX I
Reporting form

Table 1. Categories presented in CIR (EU) 2022/92 and proposed correlation with the listing of most common items (Table 2) in Spanish fishing for litter projects.

Plastics	
Nets	Encompasses nets and fishing gear (ID11), fishing line (ID12) and aquaculture related objects ID 13
Buoys	Correlated with the “Floats/buoys” item (ID21)
Fish boxes	Correlated with the “Fish boxes” item (ID14) (including polystyrene)
Rope/Cord	Correlated with the item “Ropes and cords” (ID7)
Bottles	In accordance with the SUP Directive, it corresponds with drinking bottles smaller than 3 litres (ID2)
Packaging	All kind of packaging smaller than 25 litres (domestic, commercial, industrial…)
Strapping bands	Correlated with ID8 “Strapping bands”
Foam	Correlated with ID10 “Foam, sponges”
Jerry cans	Correlated with ID18 “Big containers > 25 litres”
Oil drums	Industrial drums with leak-tight seals (listed under ID18)
Fibreglass	Type of fibreglass reinforced plastic (boat parts, surfboards,...)
Fertilizer and animal feed bags	Agricultural/livestock packaging (listed under ID25)
Other large items	Fertilizer and animal feed bags
Metal	
Oil drums	Correlation with ID41 “Oil drums”
Wire	Electrical wiring (listed under ID44)
Pain tins	Correlation with ID42 “Paint tins”
Oil filters	Metal cased oil filter
Other items	Corresponds to the remaining items in this category, including electrical appliances (ID44)
Rubber	
Gloves	Correlation with ID60 “Work gloves”
Tyres & belts	Correlation with ID58 “Tyres”
Boots	Correlation with ID59 “Rubber boots”
Other items	Corresponds to the remaining items from this material, including ID57 “Rubber (balloons, plastic valves, ribbons, strings…)”

Wood	
Fishing pots	Wooden fishing trap
Crates	Correlation with ID33 ‘Wooden Boxes
Pallets	Corresponds to ID86 “Pallets”
Other items	Corresponds to the remaining objects from this category.
Textiles	
Rope	Correlates with ID62 “Ropes, strings and nets (non-plastic)”
Clothing & shoes	Correlates with ID61 “Clothing and shoes (leather)” and includes work clothing.
Other items	Corresponds to the remaining objects from this material, including ID60 “Other textiles”.
Other wastes	
Glass	Encompasses the totality of items from the category “Glass”
Medical waste	Encompasses the totality of items from the category “Medical waste”
Sanitary waste	Encompasses the totality of items from the category “Sanitary waste”
Other items	Encompasses all those items not included in this relation.

Table 2. Listing of the more common objects employed for marine litter characterization in Spanish fishing for litter projects:

ID	Plastics/Polystyrene
1	Bags (shopping, food, frozen products)
2	Drinking bottles
3	Caps/lids
4	Bags, crisp/sweet packets, lolly sticks
5	Straws, cutlery, cups
6	Food container and cosmetics
7	Ropes and cords
8	Strapping bands
9	Industrial packaging, plastic sheeting, raffia sack
10	Foam, sponges
11	Nets
12	Line, bait, light tubes
13	Aquaculture related objects
14	Fish boxes
15	Engine oil containers, glue, silicone (including injection gun container)

ID	Plastics/Polystyrene
16	Cleaner containers
17	4/6 pack yokes
18	Big containers (> 25 litres)
19	Pipes
20	Irrigation pipes
21	Floats/buoys
22	Other plastic items (identifiable)
23	EPS seedlings
24	Plastic sheets and greenhouse fabrics
25	Other agriculture items
ID	**Paper/Cardboard**
26	Boxes and boxes pieces
27	Cartons e.g., Tetrapak (milk, juice...)
28	Cigarette packets
29	Other paper items

ID	Wood (machined)
30	Corks
31	Ice-cream sticks and cutlery
32	Pallets
33	Wooden boxes
34	Other wood items and pieces < 50 cm
35	Other wood items and pieces > 50 cm

ID	Metal
36	Drink cans
37	Bottle caps, ring tabs...
38	Foil wrappers
39	Food cans, tin cans, trays
40	Sprays
41	Oil drums
42	Paint tins
43	Fishery items, lobster/crab pots and tops...
44	Electrical and electronic appliances, batteries
45	Other metal items and pieces < 50 cm
46	Other metal items and pieces > 50 cm

ID	Glass
47	Glass bottles
48	Glass pieces
49	Light bulbs, tubes

ID	Sanitary waste
50	Condoms (wrap included)
51	Cotton bud sticks
52	Sanitary towels, panty liners, backing strips, tampons (applicators included)
53	Wipes

ID	Medical waste
54	Containers and medicine tubes
55	Syringes and needles
56	Others (swabs, bandaging, masks)

ID	Others
57	Rubber (balloons, plastic valves, ribbons, strings…)
58	Tyres
59*	Rubber boots
60*	Work gloves
61	Clothing and shoes (leather)
62*	Ropes, strings and nets (non-plastic)
63	Other textiles
64	Construction materials e.g., tiles
65	Other ceramic/pottery items and pieces
66	Paraffin or wax pieces

*These ID are added to the current item list

INTEMARES

General criteria document for

FISHING FOR LITTER

CALADEROS LIMPIOS

INTEMARES