PLASFITO
RESEARCH PROJECT

IDENTIFICATION KEY FOR FISHING GEAR WASHED-UP ON COASTLINES OR COLLECTED IN THE OCEAN

Edgar Dusacre[1], [2], Victor Burger[1], Sabine Meneut[3], Sophie Lecomte[4], Benedicte Morin[1], Florane Le Bihanic[5], Miren Cajaraville[2] and Jérome Cachot[1]

AUGUST 2024

PLASFITO
RESEARCH PROJECT

Authors:
Edgar Dusacre[1,2], Victor Burger[1], Sabine Meneut[3], Sophie Lecomte[4], Benedicte Morin[1], Florane Le Bihanic[5], Miren Cajaraville[2], and Jérome Cachot[1]

Affiliations:
[1] EPOC, University of Bordeaux, CNRS, OASU, EPHE, UMR 5805, 33600 Pessac, France
[2] CBET Research Group, Dept. Zoology and Animal Cell Biology; Faculty of Science and Technology and Research Centre for Experimental Marine Biology and Biotechnology PIE, University of the Basque Country UPV/EHU, Basque Country, Spain
[3] Glokis company, Maison des artisans et des entreprises Aix-Marseille Métropole, All. de la Garrigue,
13110 Port-de-Bouc, France
[4] CBMN, University of Bordeaux, CNRS, Bordeaux INP, UMR 5248, 33600, Pessac, France
[5] PNM Bassin d'Arcachon, OFB, 33470, Le Teich

Contact:
To get any information about this document please send an email at edgar.dusacre@u-bordeaux.fr or jerome.cachot@u-bordeaux.fr or mirenp.cajaraville@ehu.eus

How to cite this document:
Dusacre, E., Burger, V., Meneut, S., Lecomte, S., Morin, B., Cajaraville P., M., Cachot, J. (2024). Identification key for fishing gears washed-up on coastlines or collected in the ocean.

How this work has been financed:
The Plasfito research project is financed by the PNM-BA (OFB), the French Water Agency Adour-Garonne, the Spanish MCIU (FIERA project PID2021- 128600OB-I00), the Basque Government (consolidated research group IT1743-22 and postdoc to NGS), Euskampus Fundazioa (PLASFITO project and LTC AquEus).

CONTENTS

INTRODUCTION & EXPLICATIONS

Introduction:

A significant proportion of waste collected or observed in oceans and along coastlines consists of fishing gear (FG) (Macfadyen et al., 2009). However, standardized protocols for beach cleaning and litter monitoring have not adequately addressed this category of waste, lacking a clear classification system. Due to this gap in knowledge and classification, we currently cannot accurately determine the proportion of plastic waste originating from fishing activities, let alone the distribution of waste according to specific fishing methods or gear types.

The PLASFITO research project has developed a fishing gear (FG) identification key for plastics found on beaches and in aquatic environments. This initiative aims to address the lack of standardized tools for classifying fishing-related waste. Our goal is to share this identification key with as many organizations and research teams as possible that are developing plastic pollution studies or monitoring programs.

How to use this FG identification key?

This identification key is designed to be versatile and can be used with a wide range of sampling protocols, from citizen science initiatives to rigorous experimental research studies. To effectively use this key, follow these steps:

1. **Familiarize yourself with the key:**
Read the entire document thoroughly to understand the identification process.
2. **Download the datasheet:**
Obtain the fishing gear sorting datasheet from the end of the protocol.
3. **Review the image bank:**
Examine the open-access image bank on GitHub to aid in recognizing FG.
https://github.com/EdgarDusacre/FG_Identification_Key.git
4. **Sort collected items:**
Use the identification key, photo guide, and datasheet to categorize items collected during your sampling or beach cleaning.
5. **Complete the datasheet:**
Fill in all required information as explained in the datasheet.
6. **Submit your data:**
Send the completed datasheet to plasfito@4pscienseas.org
Name the file: FG_IDKey_[your organization name]_[date]
(e.g., FGkey_4Pscienseas_160422)
7. **Contribute to the image bank:**
If you encounter interesting FG items not in our image bank, send high-quality, well-lit photos with proper attribution.
8. **Utilize your data:**
Feel free to use your collected data for any work or project. Just cite us!
9. **Stay connected:**
Follow the PLASFITO research project updates on our website. Help disseminate this key and our other work by sharing information about the project.

FISHING NET STRUCTURE AND TERMS

What is a mesh?

A mesh of a net is an area defined by various possible shapes (square, rectangle, diamond) and is delimited by four sides and four nodes. The primary characteristic used to define a mesh is its size (Percier, 1958).

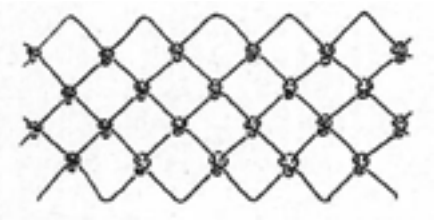


Figure 1: Schematic representation of various meshes that make up a part of a fishing net.

Strand structure:

We refer to a strand when multiple threads are intertwined. If there are at least two threads, we call it multi-filament (Fig. 3, 4). Conversely, we use the term monofilament when the item is made of a single thread (Fig. 2).

Figure 2: Monofilament

There exist two main structures to make a strand: braided strands and laid strands, also called twisted strands (McKenna et al., 2004; Wright et al., 2021).

There are two ways to differentiate them:
1. Visual differentiation
2. By exerting an opposing rotational force on the final strand with two hands. If the smallest strands that compose the final strand become loose, it is a laid rope.

Braided rope:

Figure 3: On the left, a schematic diagram of an eight-strand braided cord made of eight laid yarns. On the right, a photograph of an actual eight-strand braided cord made of eight alternating wide and thin yarns.

Laid rope:

Figure 4: On the left, a schematic diagram of a three-strand laid strand made of seven laid yarns. On the right, a photograph of a three-strand laid strand made of seven laid yarns with a node.

Bottom trawl & seine nets

Bottom trawl and seine nets (called Danish or Scottish seine) are composed of many parts. Depending on the fleet, geographical area, and fishermen, the structure of the strand, diameter of the strand, mesh size, polymer type, and color can vary. The distinctive feature of these nets is that the bottom part of the gear is heavily weighted using metal chains, rubber legs, or rock hoppers (Fig. 11). Most often, these nets are made of polyethylene (PE) or the copolymer high-performance polyethylene-polypropylene (HPPE-PP). Three main types of waste come from these gears: 1) Large parts of nets degraded due to their conventional use (Fig. 5). 2) Pieces of trawl net resulting from snagging and tearing of trawls on the seabed or on wrecks (Fig. 6). 3) Small pieces that come from net repairs, also called «mending pieces» (Fig. 7) (worn ends or cut and unused spool ends of «mending» material).

a b c

Figure 5: (a) Parts of a trawl net. (b) Part of a trawl net's cod end. (c) Protective panel positioned under the cod end.

Figure 6: Unidentified parts of trawl nets that were torn off during fishing activity and subsequently washed up on the Aquitaine coastline (France).

Figure 7: Three different mending pieces from trawl net repairs washed up on the Aquitaine coastline (France).

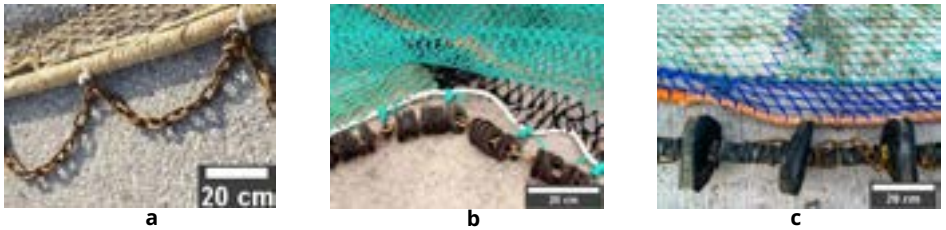
Purse seine & midwater trawl nets

Figure 8: French middle scale purse seine net called «Bolinche» (photo @CDPMEM).

The purse seine consists of a homogeneous circular net with a rope at the top containing many buoys for positive buoyancy and a weighted rope at the bottom which can be tightened to close and trap fish. Purse seines vary in scale from nets of hundreds of meters to nets of kilometers in length.
Midwater trawl nets are large, cone-shaped nets designed to catch pelagic fish species. They are typically towed behind one or two boats and use otter boards or pair trawling to maintain horizontal spread. The nets feature a wide mouth that narrows to a closed codend where fish are collected.
Polymers, colors, mesh size, length, buoyancy, and other parameters depend on the fishing fleet, the fishermen, the geographical fishing area, and the targeted species.

Figure 9: Purse seine used for fishing sardines (Photo @Adobstock).

Figure 10: Midwater trawl net used for fishing redfish (Photo @SNG).



a b c

Figure 11: Ballast methods for bottom-sea trawl nets, Scottish seine, and Danish seine. The method depends mainly on the seafloor type. (a) Metal chain (photo @Laurence Hartwell/Through the Gaps), (b) rubber leg (photo @Coastal Nets, 2022), (c) rock hopper (photo @APCPIPA, 2015).

Gillnets

Gillnetting is a widely used fishing method, with the net system composition (buoys, ropes, anchors, flags, net mesh size, polymer type) determined by fishermen, target species, and depth. Drift nets are for surface and mid-water, while set nets are for the bottom. Most often, a gillnet will be composed of a net with meshes, joined or maintained with mounting ropes (Fig. 12) and larger ropes at the top and the bottom to fix buoys and weigh (Fig. 13). Yarn structure can also change between monofilaments or laid multifilament (Fig. 14).

Figure 12: Monting rope for gillnet

A gillnet is typically composed of at least one layer, also known as a panel, and can have up to three layers, as is the case with trammel nets. The length of these nets can vary widely based on fishing requirements, ranging from a few dozen meters to several dozen kilometers. The filaments making up the yarn structure can be of different types, including mono-filament (single yarn) or multi-filament. Polyamide is the most commonly used material for these nets.

Figure 13: Trammel gillnets mounted with their ropes and floats, stored on the docks of the port of Arcachon. The difference between the left and the right image is the color, the brand and the composition of the polyamide nets.

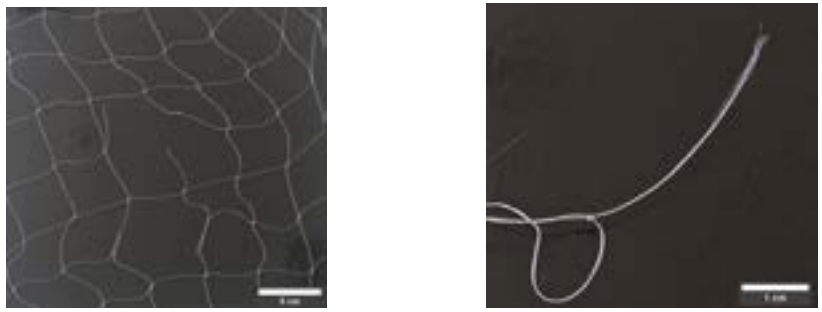


Figure 14: Two pieces from different trammel gillnets. The right one is a monofilament (Ø 0.33 mm) with a mesh of 45 mm. The left one is a multifilament (Ø 0.15 mm) with a mesh of 200 mm.

Longlines

Figure 15: Laid central line of a longline

Figure 16: Two anti-slide knots are added to the central line to keep the same interval between each leader.

Figure 17: At the top: braided leaders with hooks linked to a braided central line. At the bottom: mono-filament leaders with hooks connected to a braided central rope.

Longlines are fishing set-ups designed to fish with a multitude of hooks on a main line. The «standard» model is composed of a central rope (several kilometres long) with anchors and/or buoys at each end and fishing lines with one or multiple hooks attached along the central line at regular intervals. There are two main longline fishing métiers based on depth: mid-water longlines and bottom longlines (Weissenberger, 2015). The length of the central rope, the number of hooks, and the polymers used depend mainly on the fishing depth and the targeted species. The central rope often has a diameter less than 1 cm and is typically rigid with tightly twisted strands (Fig. 15). The central line can be a braided rope or a monofilament line (Fig. 16). The fishing lines, also called leaders, are linked to the central line using swivels often secured between two anti-slide knots (Fig. 18). Leaders can be thin laid rope or monofilament yarn (Fig. 17). Longlines come in multiple colors.

Figure 18: At the top, a new central line with stop-slide knots, floats, and swivels and its monofilament leaders with their hooks. At the bottom, another central line monofilament with stop-slide knots, pearls, and swivels

Recreational and professional lines

Fishing line methods are very diverse. It is quite challenging to distinguish between recreational fishing lines and professional ones (Fig. 19). There are three main fishing line methods: 1) Pole fishing with artificial (plastic or silicone) (Fig. 20) or natural lures and fishing bobbers (Fig. 21). 2) Trolling lines using hand fishing poles or lateral boat fishing poles with several lines. 3) Jigging lines that consist of various lines continually jerked by hand or a jigging machine (Weissenberger, 2015)
Most of these lines are made of monofilament polyamide (some are thin braided lines) with one or multiple plastic or metallic leaders. Fishing lines come in multiple colors.

Figure 19: Pieces of monofilament line certainly used for recreational or professional line fishing. (Photo @ NOAA, 2021 and @The Broomsmen)

Figure 20: Typical plastic fishing lures found on coastlines. (Photo @Junichi Sugishita, NWR)

Figure 21: Different types of fishing bobbers. From left to right; oval balsa split bobber, foam slip-style indicator, popping cork, unweighted pole float. (Photo @Joe Cermele, Outdoorlife)

Maritime ropes

Ropes are essential tools in the maritime sector. Every vessel, from pleasure crafts (motorboats or sailboats) to racing boats, merchant ships, and fishing boats, carries numerous ropes for mooring, securing objects, and launching or raising gear. Ropes are also an integral part of fishing net structures. The compositions, structures, polymers, sizes, shapes, densities, strengths, resistances, and colors of ropes are diverse and depend on their intended use. However, nowadays, most ropes are made of plastic, specifically polyethylene and polypropylene (McKenna et al., 2004).

In fishing activities, ropes serve many purposes. They are used to maintain nets, lines, and traps, as well as to set up buoys and anchors. Ropes are also crucial for tracking and raising purse seines, trawl nets and Danish and Scottish seines.

Figure 22: (a):(d) four different maritime ropes found on the Aquitaine coastline (France). (e) Trawl tow rope, also called "wrap" (with a metal cable inside). (f) A cluster of different ropes found on the Aquitaine coastline (France).

Trap & Pots

Traps come in various shapes, sizes, and polymeric compositions. They are often set up linked together by a rope and anchored to the sea floor. All traps feature a funnel entrance that allows aquatic organisms to easily enter but makes escape much more difficult. Most traps have a solid structure covered by netting or metal grid (Fig. 23). Some traps, especially those used for octopus fishing, are pots with solid walls (Weissenberger, 2015). These pots were historically made of clay but are now typically made of plastic. Of course, there exists a multitude of other trap designs beyond those presented here.

Figure 23: Two different type of traps. At the left traps have a steel strcture with a braided or laid net recover. At the left all the structure is in steel. Only the rope is in plastic (photo @Mooncusser).

Figure 24: At the right a cluster of PE octupus pot with their ropes. At the left four different octopus trap used in Galicia, Spain. The one at the bottom left is in PE.

Buoys

As with ropes, buoys and floats are common materials in the maritime sector. The use of buoys is very diverse. Here, a focus has been made on the buoys and floats used during fishing activities and are therefore directly linked to fishing gear. The main difference between buoys and floats are the structure. Buoys are considered as complex structures made of different possible parts: float, mast, flag, flashing light, radar reflector and counter weight (Bord Iascaigh Mhara, 2007). A float, on the other hand, is a light object of variable shape that floats on the surface or in a liquid. In buoys, the mast is mainly handmade with bamboo. Industrial ones are made of aluminium or plastics (Bord Iascaigh Mhara, 2007). Four main families of floats exist: polyform floats (also called inflatable markers), polystyrene or foam floats, net floats (different between gillnet, trawl net and seine) and handmade floats. Buoys and floats compositions, structures, polymers, sizes, shapes, densities, strengths, resistances and colours are diverse and depend on the use and the legislation (Bord Iascaigh Mhara, 2007). Making a geographical or fishing fleet polymer classification for floats is quite difficult due to the differences in usage and habits of fishermen. According to float producers and resellers (Coastal Nets, 2022; Polyform AS, 2019) and the OSPAR Convention (2020), we can establish a non-exhaustive table to reference the polymers of the different main float families (Tab. 1).

Table 1: List of polymer in the function of the floats

Floats families	Polymer of the inner layer	Composition of the outer layer
Polyform floats	PVC	Air, PS, PU
Foam floats	PS, PU, PVC	
Rigid net floats	PVC, PE	
Purse seine floats	EVA	

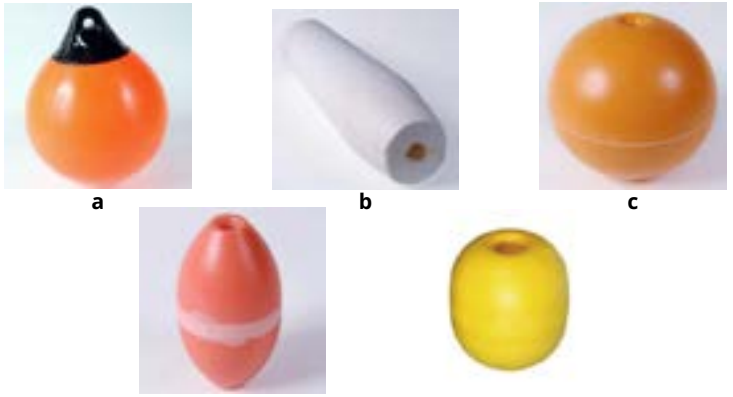


Figure 25: (a) Polyform float in PVC. (b) Foam float in PS. (c) Rigid net float essentially used for trawl nets (PE). (d) Rigid net float essentially used for gillnets and trawl nets (PE). (e) Ethylene vinyl acetate (EVA) float used for purse seine nets.

Fish boxes

Fish boxes are often used to transport fish from boats to fishing markets and then to points of sale (fish shops, supermarkets, processing plants, etc.). Two main types of fish boxes exist: the «Hard-plastic» ones, mainly made of HDPE, and the expanded polystyrene (EPS) ones called foam fish boxes. HDPE boxes are also called «fishing market boxes» because they are primarily used to store fish on boats, transfer them to fishing markets, and display them for sale. Polystyrene boxes, on the other hand, are mainly used by fish shops and supermarkets. Fishing market boxes come in multiple colors and sizes but have three main shapes. Those used for fish are either solid without holes (Fig. 26a) or nested with small regular square holes (Fig. 26b). The third shape, designed for shellfish, has a thinner thickness with more holes (Fig. 26c). In certain regions of France, the color of the boxes indicates the maritime district or port where they are used. Foam fish boxes are almost always white, with slightly different shapes but are easily recognizable (Fig. 27).

a b c

Figure 26: (a) HDPE full fish box of 20L. (b) HDPE nested seafood box. (c) HDPE shellfish box also called "shellfis basket".

Figure 27: Polystyrene fish boxes

Unidentified items

Some items found on beaches look like fishing gear without actually being so, or might be mistakenly categorized due to misunderstanding. This is the case for certain types of ropes that can be found on coastlines (Fig. 28). These are more likely to come from agriculture, property boundary markers, or individual rope use. Therefore, they will be classified as «unidentified ropes».

Figure 28: Ropes that are not coming from the maritime sector and certainly from terrestrial activity.

Moreover, some nets may look like gillnets but are not (Fig. 29). This type of net has plastic melted nodes to form the meshes. In any report, production or reselling company catalog, this fishing net does not appear to be used. These nets could be used in aquaculture, but could also be used to hold toys or other objects. Therefore, without any concrete information on their use, we will classify them as «Unidentified nets».

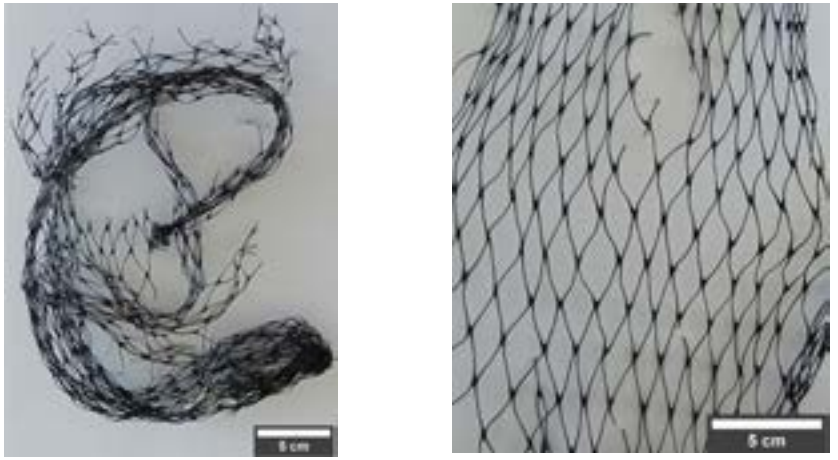


Figure 29: Unidentified net with melted plastic knots. The right picture is a zoom on an unidentifiable net with melted plastic knots.

WHICH POLYMER FOR WHICH FISHING GEAR?

Fishing gears exhibit great diversity. Their physical structures, colors, polymers, diameter, width, length, buoyancy, resistance, elongation, and tensile strength depend on numerous factors, but the main ones are: the fishing fleet, the targeted species, the fishing gear reseller, and the fisherman's preferences. However, with the 1,374 fishing gear items we characterized by ATR-FTIR spectroscopy, it is possible to determine probabilities of their polymer composition (Fig. 30).

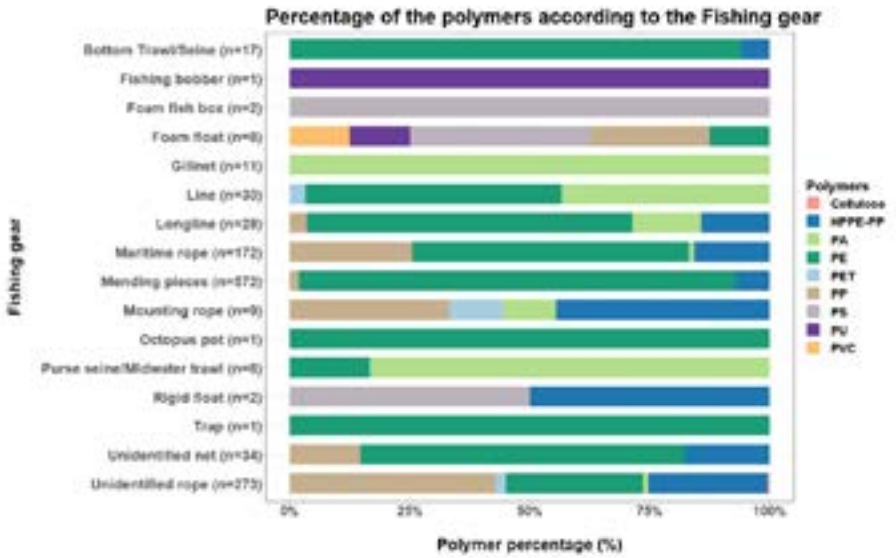


Figure 30: Percentage of polymers by fishing gear (FG) category washed up on the southeastern Bay of Biscay shores between November 2022 and November 2023. The «(n= ...)» next to each FG category name indicates the number of items analyzed per category. The higher the value, the better the probability estimate.

The sampling campaign conducted between November 2022 and November 2023 along the southeastern Bay of Biscay coastline allowed the identification of 16 different fishing gear (FG) types (Fig. 30) made of 9 polymers. All these data are substantially described in the scientific publication by Dusacre et al. (2025).

WHAT TO DO NOW?

On the next page, you will find the «Identification Key». The idea is to select all the categories related to the fishing sector in your sampling protocol classification (e.g. OSPAR marine litter monitoring, NOAA MDMAP). Then, select the items from these categories one by one to identify which FG it is. To do this, follow the arrows of the ID-Key and try to answer the questions asked with «YES» or «NO». When you arrive at a black rectangle, it means you have found the item category. To confirm the identification, check the indicated page. If you want more pictures to help you, you can go to the online photo bank on GitHub.
Once you have your definitive identification, add a value in the corresponding column of the datasheet. The datasheet is available on GitHub, or you can copy it from the last page of this document.
Don't mix up the FG categories after identification, as you will need them later to measure the weight per category.

Repeat this process for all the FG you collected.
Please send us the results at: plasfito@4pscienseas.org

WHICH INFORMATION DO WE NEED?

By using this Identification Key to classify the FG you collected during your beach cleanup or sampling, you will be participating in a citizen science project. This is why we need some precise information.

Date and time of the mission (dd/mm/yyyy - hh am/pm)**:**

Geographical area (in decimal degrees)**: Latitude:** **longitude:**

Beach name and country:

Type of beach (sandy beach, rocky beach or artificilized coast):

Estimated bech lentgh cleaned and sampled (m)**:**

Estimated beach width (m)**:**

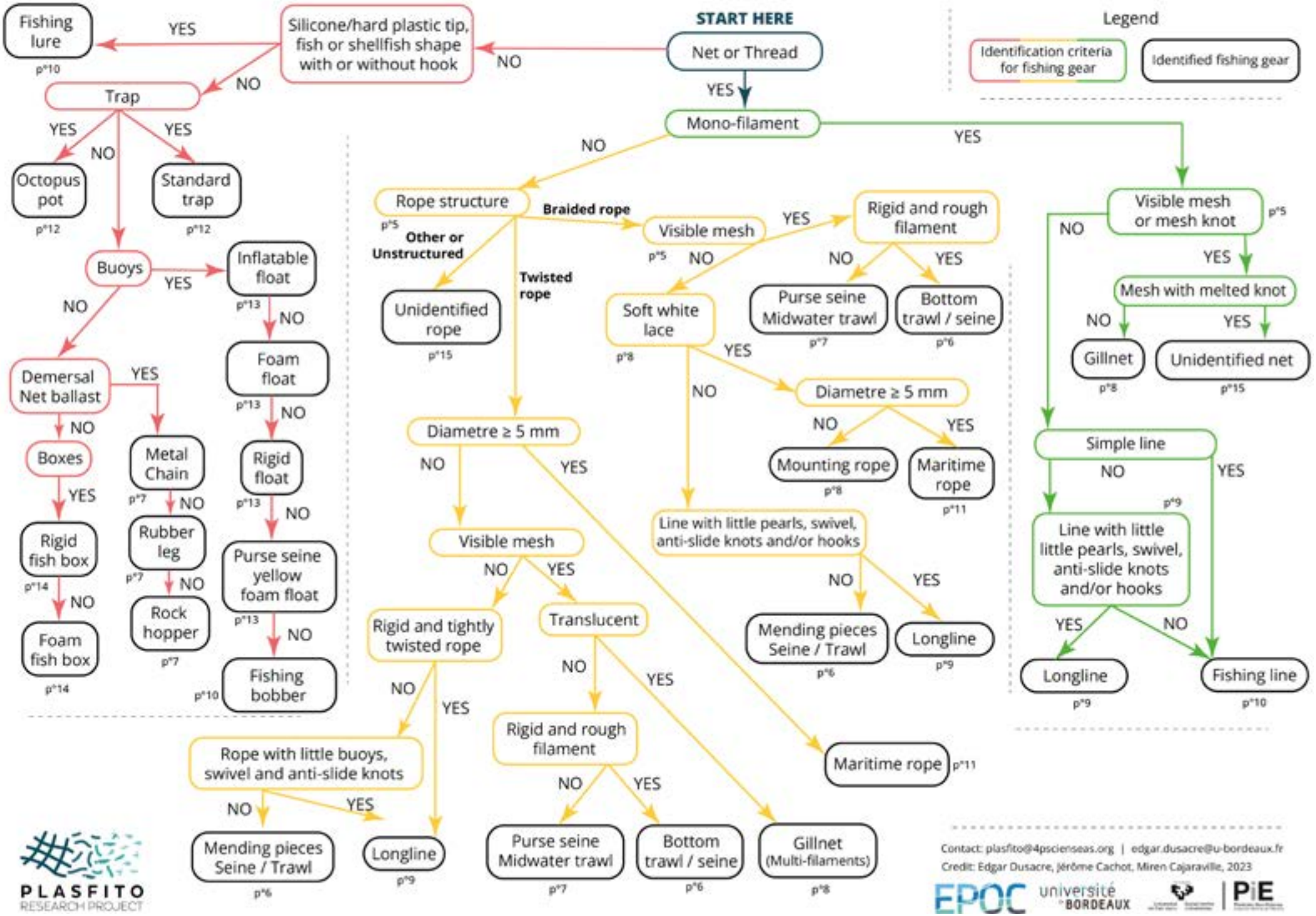
Weather (classical TV weather)**:**

Oceanographic conditions (use the Beaufort wind scale):

Tide (low, middle or high tide)**:**

Tidal range (easily available on internet):

Name of the protocol used for the sampling:


START HERE
Net or Thread
Silicone/hard plastic tip, fish or shellfish shape with or without hook
Fishing lure
p°10
Trap
Octopus pot
p°12
Standard trap
p°12
Buoys
Inflatable float
p°13
Demersal Net ballast
Boxes
Rigid fish box
p°14
Foam fish box
p°14
Metal Chain
p°7
Rubber leg
p°7
Rock hopper
p°7
Foam float
p°13
Rigid float
p°13
Purse seine yellow foam float
p°13
Fishing bobber
p°10
Mono-filament
Rope structure
p°5
Braided rope
Other or Unstructured
Twisted rope
Unidentified rope
p°15
Diametre ≥ 5 mm
Visible mesh
Rigid and tightly twisted rope
Rope with little buoys, swivel and anti-slide knots
Mending pieces Seine / Trawl
p°6
Longline
p°9
Translucent
Rigid and rough filament
Purse seine Midwater trawl
p°7
Bottom trawl / seine
p°6
Gillnet (Multi-filaments)
p°8
Maritime rope
p°11
Visible mesh
Rigid and rough filament
Purse seine Midwater trawl
p°7
Bottom trawl / seine
p°6
Soft white lace
p°8
Diametre ≥ 5 mm
Mounting rope
p°8
Maritime rope
p°11
Line with little pearls, swivel, anti-slide knots and/or hooks
Mending pieces Seine / Trawl
p°6
Longline
p°9
Visible mesh or mesh knot
p°5
Mesh with melted knot
Gillnet
p°8
Unidentified net
p°15
Simple line
Line with little little pearls, swivel, anti-slide knots and/or hooks
p°9
Longline
p°9
Fishing line
p°10
Legend
Identification criteria for fishing gear
Identified fishing gear
PLASFITO RESEARCH PROJECT
Contact: plasfito@4pscienseas.org | edgar.dusacre@u-bordeaux.fr
Credit: Edgar Dusacre, Jérôme Cachot, Miren Cajaraville, 2023
EPOC
université BORDEAUX
PiE

DATASHEET NUMBER OF ITEM PER CATEGORY

Bottom trawl / seine	Purse seine Midwater trawl	Mending pieces Seine / Trawl	Gillnet	Mounting rope	Unidentified net	Fishing line	Longline	Maritime rope	Unidentified rope	Octopus pot	Standard trap	Inflatable float	Rigid float	Purse seine float	Foam float	Fishing bobber	Fishing lure	Metal Chain	Rubber leg	Rock hopper	Rigid fish box	Foam fish box

DATASHEET WEIGHT OF FG CATEGORIES

Fishing gears	Mass
Trawl net:	
Trawl mending piece:	
Gillnet:	
Mounting rope:	
Unidentifiable net:	
Fishing line:	
Longline:	
Rope:	
Unidentifiable rope:	
Octopus pot:	
Standard trap:	
Inflatable float:	
Polystyrene float:	
Hard plastic float:	
Yellow sein float:	
Metal chain ballast:	
Rubber leg ballast:	
Rock hopper ballast:	
Fishing market box:	

Please Write the mass as a single value.
Unite: gram (g) and accuracy to the hundredth (e.g. «1,25» ou «0,52»)

GLOSSARY

ATR-FTIR: Attenued total reflectance-Fourrier transformed Infrared
EPS: Expansed Polystyrene
EVA: Ethylene vinyl acetate
FG: Fishing gear
g: gram
HDPE: High density Polyethylene
HPPE-PP: High performance polyetylene-polypropylene
ID-KEY: Identification Key
m: meter
PA: Polyamide
PE: Polyethylene
PET: Polyethylene Terephthalate
PP: Polypropylene
PS: Polystyrene
PU: Polyurethane

REFERENCES

APCPIPA. (2015). REDES Y PERTRECHOS. http://grupos.us.es/puertosandaluces/p04_36redes.html#cerrar

Bord Iascaigh Mhara. (2007). Studies and Pilot projects in support of the Common Fisheries Policy Lot 3: Evaluation of various marker buoy techniques for the marking of passive fishing gears (tech. rep.). European Commission, Dublin.

Coastal Nets. (2022). Trawls & trawl netting. https://www.coastalnets.co.uk/trawls-trawl-netting/CoastalNets. (2022b). Fishing Net and Marker Floats. https://store.coastalnets.co.uk/collections/floats

McKenna, H. A., Hearle, J. W. S., O'Hear, N., & Textile Institute. (2004). Handbook of fiber rope technology. CRC Press.

NOAA. (2021). Marine Debris Item Categorization Guide (tech. rep.).

OSPAR Convention. (2020). OSPAR scoping study on best practices for the design and recycling of fishing gear as a means to reduce quantities of fishing gear found as marine litter in the North-East Atlantic2020 (tech. rep.).

Polyform AS. (2019). Fishery - Polyform AS – High Quality Fishery Buoys and Fenders. https://polyform.no/fishery/

Weissenberger, J. (2015). Understanding fisheries technical rules : an illustrated guide for non-experts. (tech. rep.). European Parliamentary Research Service (EPRS). European Parliament.

Work carried out in the framework of the Plasfito research project.

This multi-disciplinary project aims to contribute to the improvement of scientific knowledge on microplastics, nanoplastics and marine additives from fishing gear throughout their life cycle.
The project takes a systemic approach, which is why the majority of stakeholders in the professional fishing sector have been consulted and their input considered.
We hope to bring a new perspective to this significant source of pollution. Following the publication of the results, we also aim to support fishermen and other stakeholders in the sector in waste management and the evolution of practices and equipments.

PLASFITO
RESEARCH PROJECT