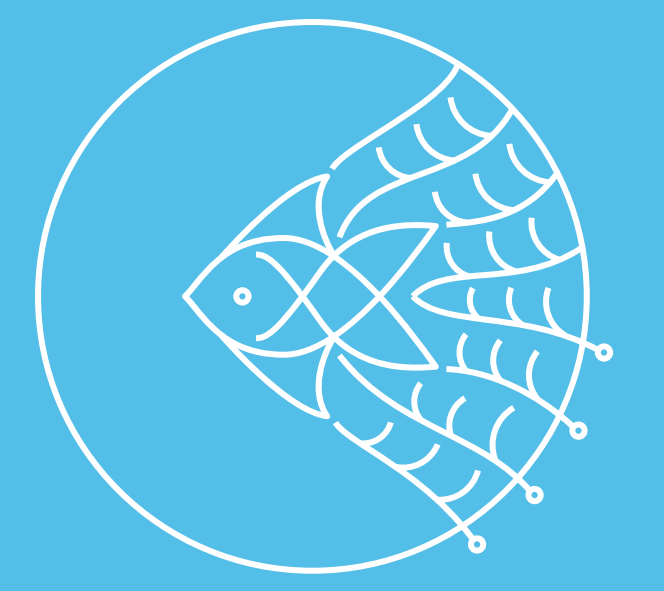


# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Synthetic ropes [A01]

Item type  
**Ropes**

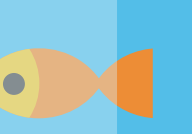
Material  
**Plastic**



#### Description:

Synthetic ropes (mainly made of polysteel which is a blend of PP and PE, which has a 25 percent higher tensile strength than PP. Although, polyester and PA can be used, they are more expensive and more elastic than polysteel)

*Source: Lusher et al., 2017 and Stachowitsch, 2019*



Item type  
**Nets**

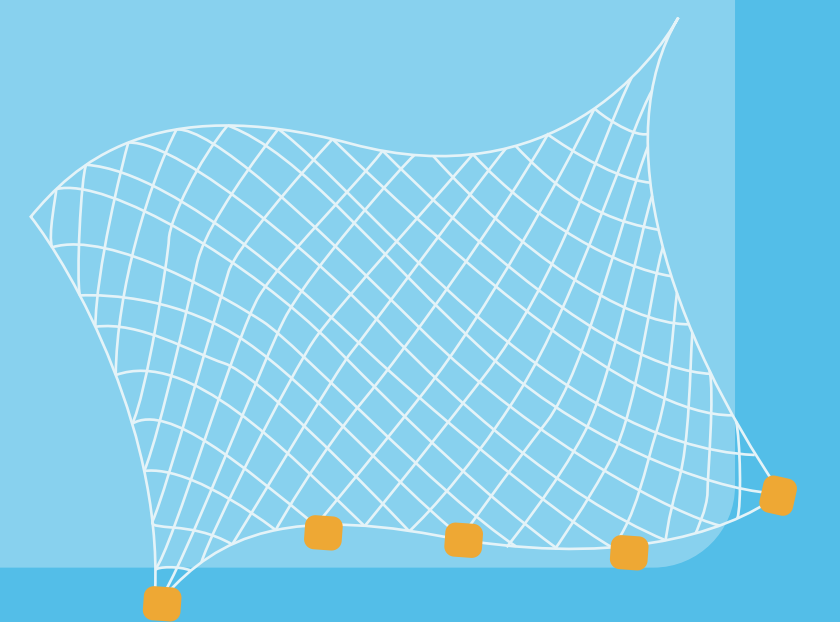
Material  
**Plastic**

### General nets [A04]

#### Description:

Tangled nets/cord/rope and string + net repair pieces

*Source: OSPAR beach litter guidelines nr 33*



### Plastic netting for cages [A05]

Item type  
**Nets**

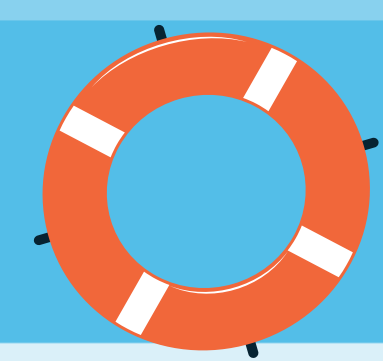
Material  
**Plastic**



#### Description:

Made of UV-stabilized polyethylene

*Source: Niaounakis, 2017*



Item type  
**Floats and buoys**

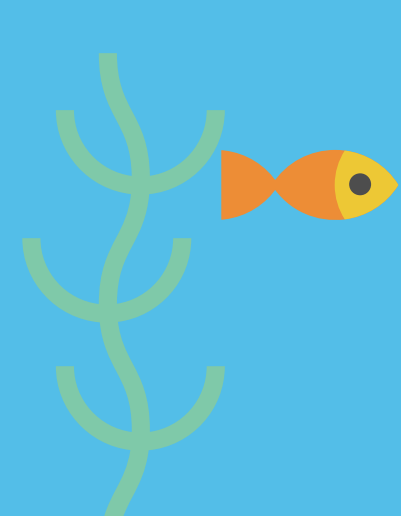
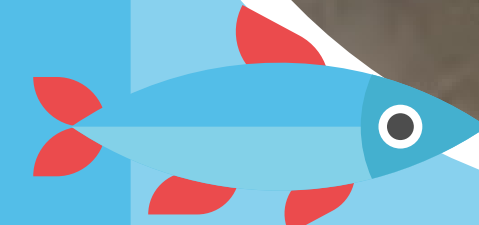
Material  
**Plastic**

### Markers buoys [A07]

#### Description:

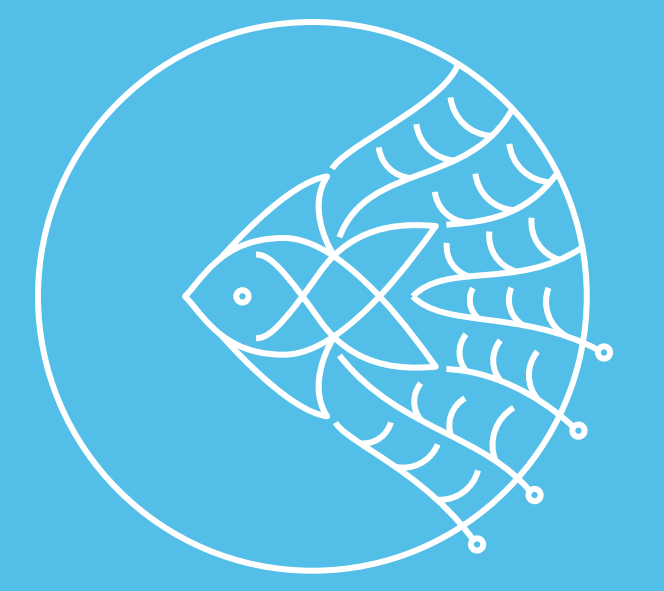
Made of moulded PE and filled with PU or PS for additional buoyancy

*Source: OSPAR beach litter guidelines nr 37*





# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

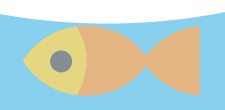
The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Plastic drums (+ caps)<sup>[A08]</sup>

Item type  
**Floats and buoys**

Material  
**Plastic**



**Description:**  
For flotation

*Source: Lusher et al., 2017*



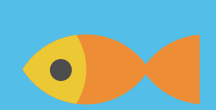
Item type  
**Collecting material**

Material  
**Plastic**

### Plastic buckets<sup>[A09]</sup>

**Description:**  
Plastic buckets for seafood collection

*Source: OSPAR beach litter guideline nr 38*



### Lug baskets and containers<sup>[A10]</sup>

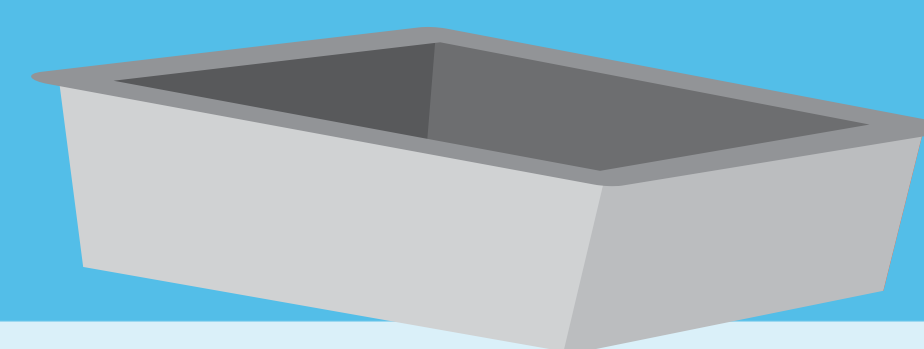
Item type  
**Collecting material**

Material  
**Plastic**



**Description:**  
Plastic lug baskets and containers for seafood collection

*Source: Niaounakis, 2017*



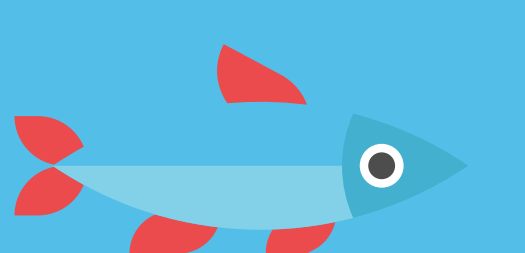
Item type  
**Collecting material**

Material  
**Plastic**

### Plastic fish boxes<sup>[A11]</sup>

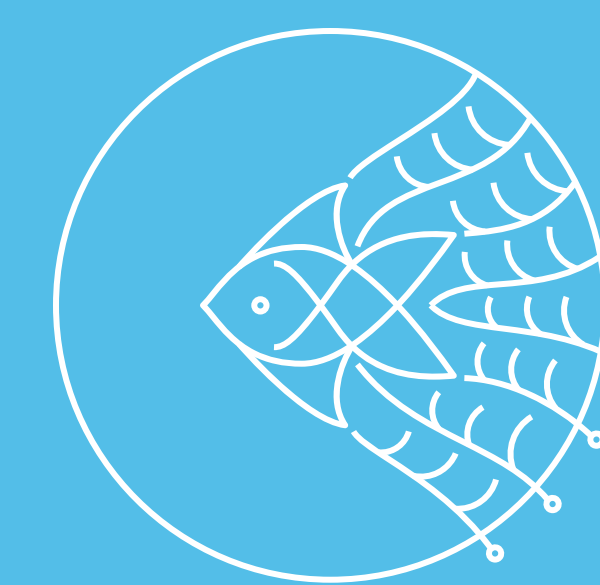
**Description:**  
Fish boxes for seafood collection

*Source: OSPAR beach litter guidelines nr 34*





# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

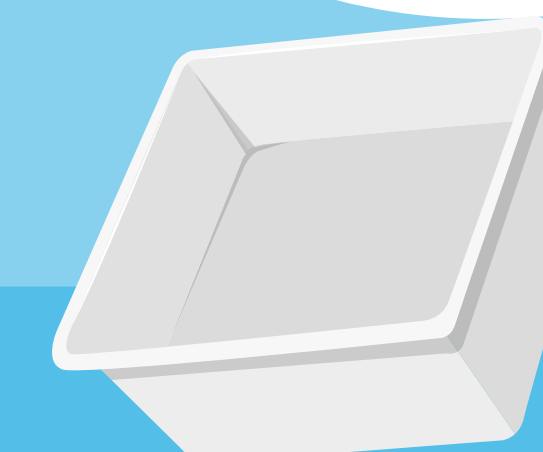
The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### EPS fish boxes<sup>[A13]</sup>

Item type  
**Collecting material**

Material  
**Plastic**



#### Description:

Fish boxes for seafood collection

Source: Di-Meglio et al., 2017



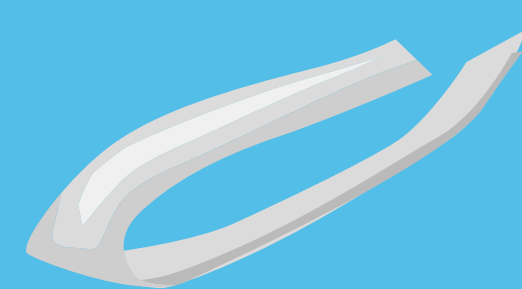
Item type  
**Strapping material**

Material  
**Plastic**

### Strapping bands<sup>[A15]</sup>

Description:  
Strapping material

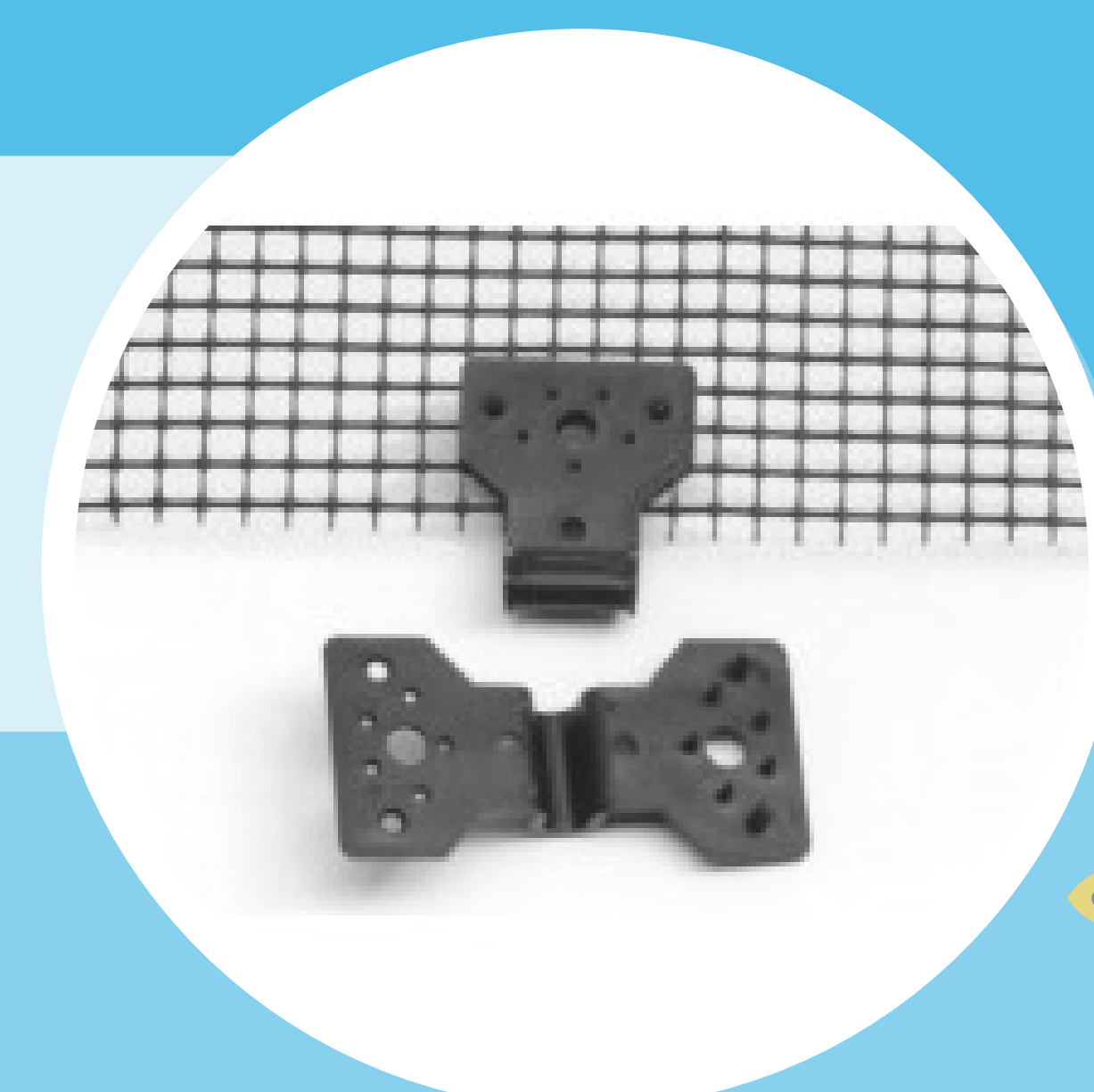
Source: OSPAR beach litter guideline nr 39



### Polyclips<sup>[A16]</sup>

Item type  
**Strapping material**

Material  
**Plastic**



Description:  
Strapping material

Source: OSPAR beach litter guideline nr 39



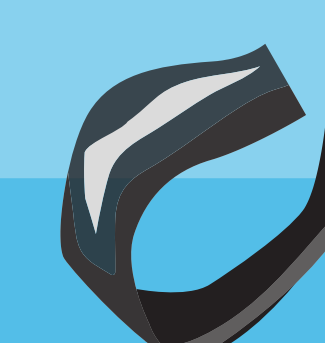
Item type  
**Strapping material**

Material  
**Plastic**

### Cable ties<sup>[A17]</sup>

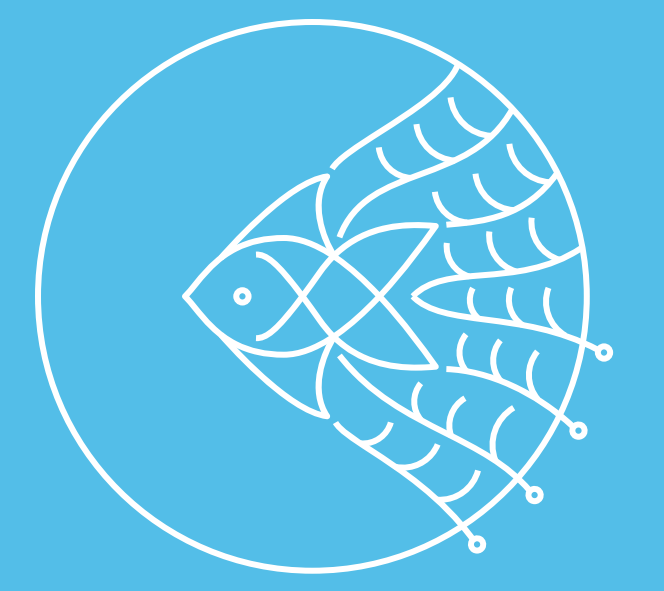
Description:  
Strapping material

Source: OSPAR beach litter guideline nr 39





# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Gloves<sup>[A18]</sup>

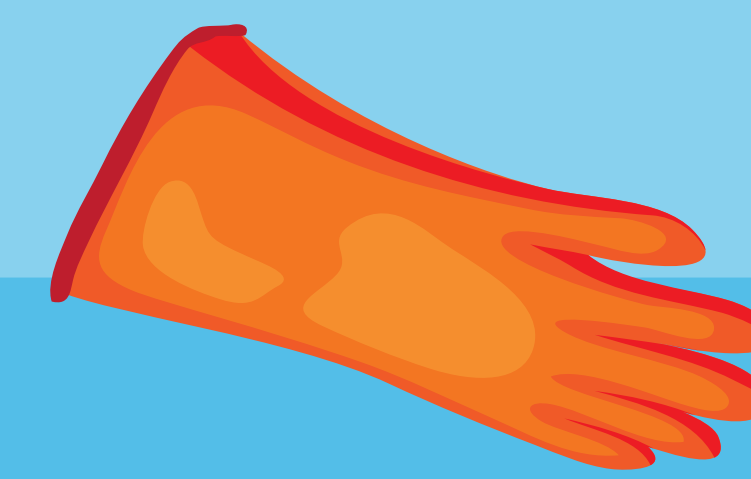
Item type  
**Clothing**

Material  
**Plastic, rubber**



**Description:**  
Industrial/professional gloves (e.g gut gloves)

**Source:** OSPAR beach litter guidelines nr 113



Item type  
**Clothing**

Material  
**Plastic**

### Hard hats<sup>[A19]</sup>



**Description:**  
Safety hats

**Source:** OSPAR beach litter guideline nr 42



### Other clothing<sup>[A21]</sup>

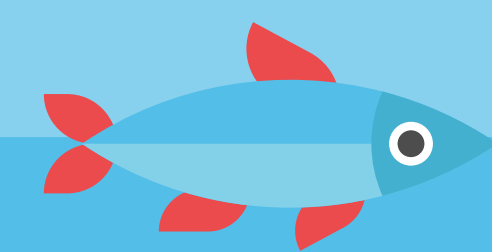
Item type  
**Clothing**

Material  
**Plastic**



**Description:**  
Safety jackets, reflective jackets, pants, sweater...

**Source:** OSPAR beach litter guideline nr 54



Item type  
**Structure**

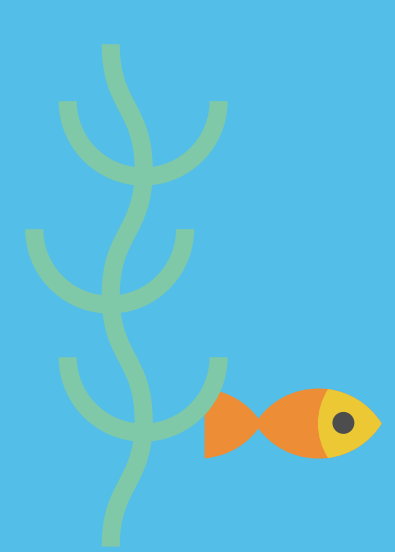
Material  
**Plastic**

### PVC and HDPE pipes and containers<sup>[A22]</sup>



**Description:**  
Strapping material

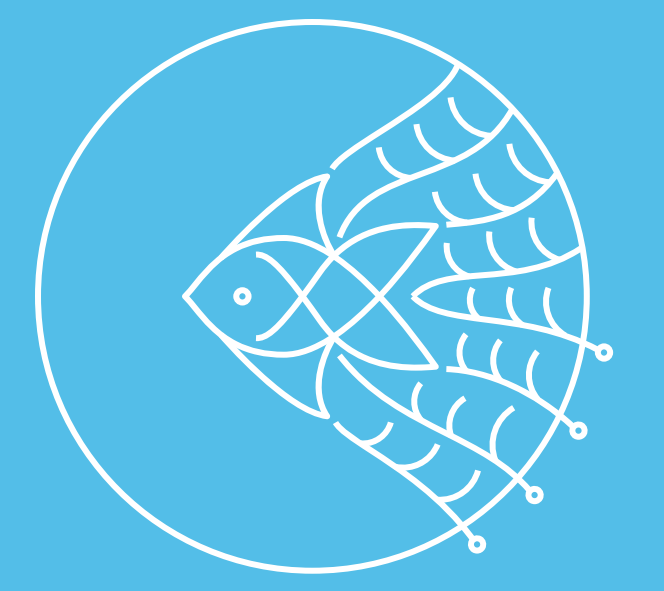
**Source:** OSPAR beach litter guideline nr 39



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# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

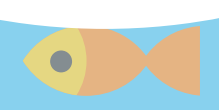
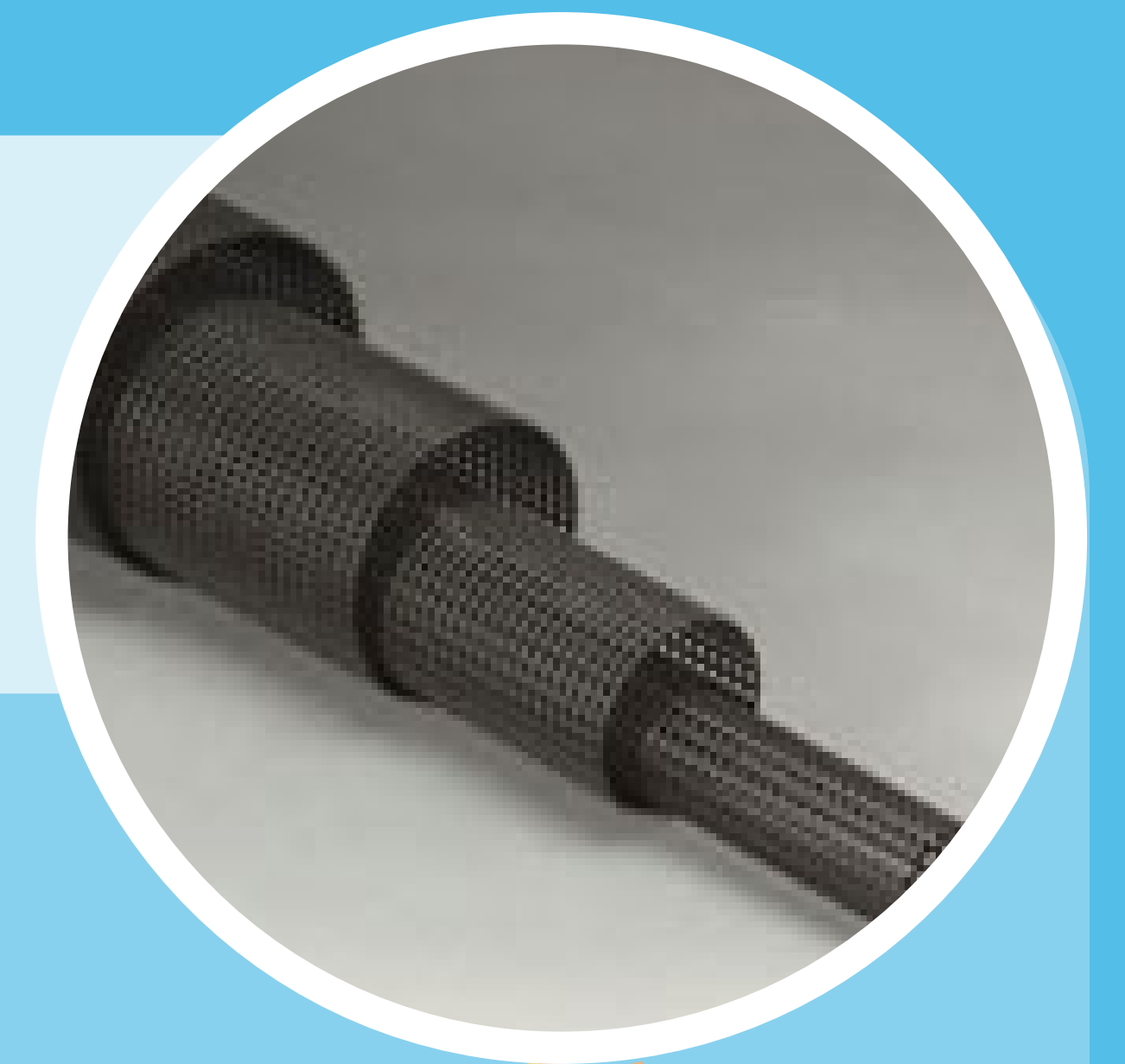
The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Plastic mesh filter tubes<sup>[A26]</sup>

Item type  
**Other**

Material  
**Plastic**



**Description:**  
Plastic mesh filter tubes

*Source: Niaounakis, 2017*



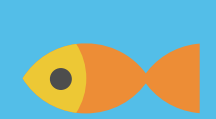
Item type  
**Other**

Material  
**Plastic**

### Jerry cans<sup>[A27]</sup>

**Description:**  
As marker buoys or liquid container

*Source: OSPAR beach litter guidelines nr 10*



### Plastic bottles<sup>[A28]</sup>

Item type  
**Floats and buoys**

Material  
**Plastic**



**Description:**  
Plastic bottles are used as a buoy, to signal the presence of the poles

*Source: Merlino et al., 2018*



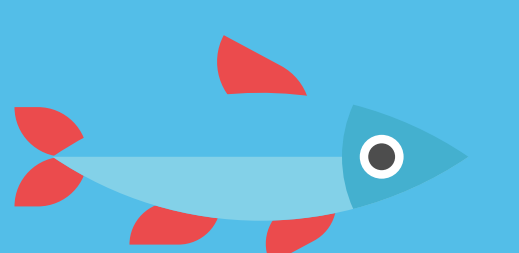
Item type  
**Floats and buoys**

Material  
**Plastic**

### Caps of plastic bottles<sup>[A29]</sup>

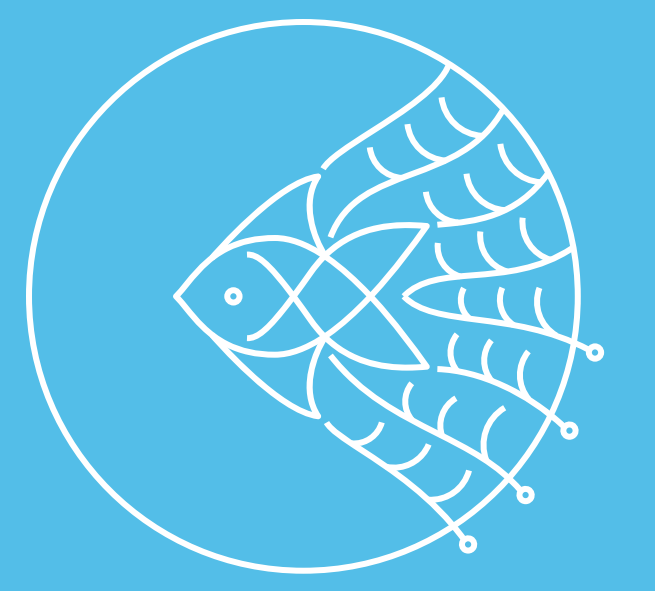
**Description:**  
Part of bottles who are used as marker buoys

*Source: Merlino et al., 2018*





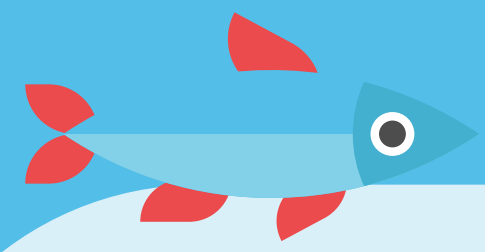
# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items. Each item is characterized by an identification



### Lobster and fish tags<sup>[B01]</sup>

Item type  
**Tags**

Material  
**Plastic**



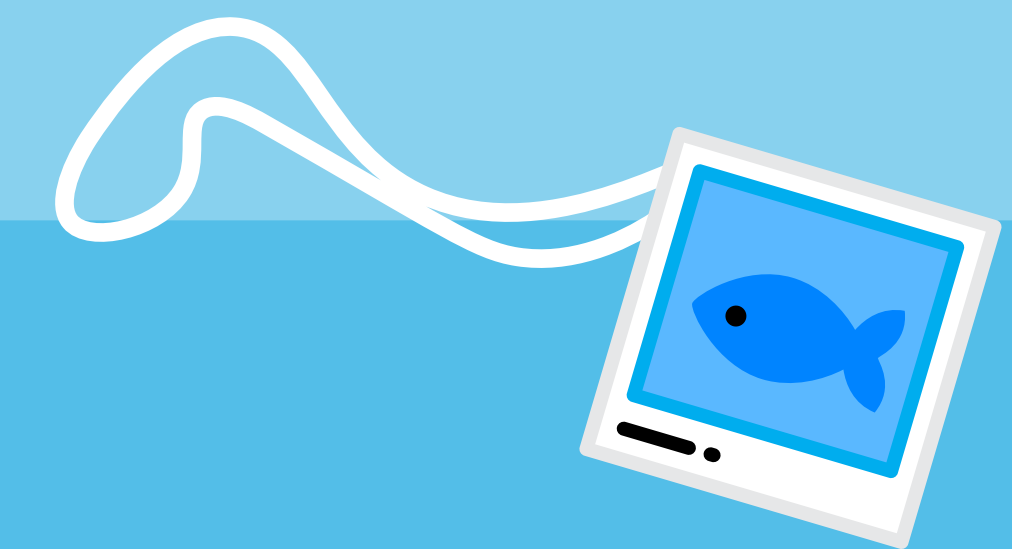
#### Description:

Identification of the cultured organisms

**Aquaculture species:** Fish & Crustaceans (lobster)

**Aquaculture type:** Net cages

**Source:** OSPAR beach litter guidelines nr 114



Item type  
**Nets**

Material  
**Plastic**

### Oyster nets or mussel bags<sup>[B02]</sup>

#### Description:

Mussel and oysters can be cultivated using a net or bags

**Aquaculture species:** Bivalves (mussel, oyster)

**Aquaculture type:** Rack and bag system / hanging culture

**Source:** OSPAR beach litter guidelines nr 28

### Antipredator netting<sup>[B03]</sup>

Item type  
**Nets**

Material  
**Plastic**



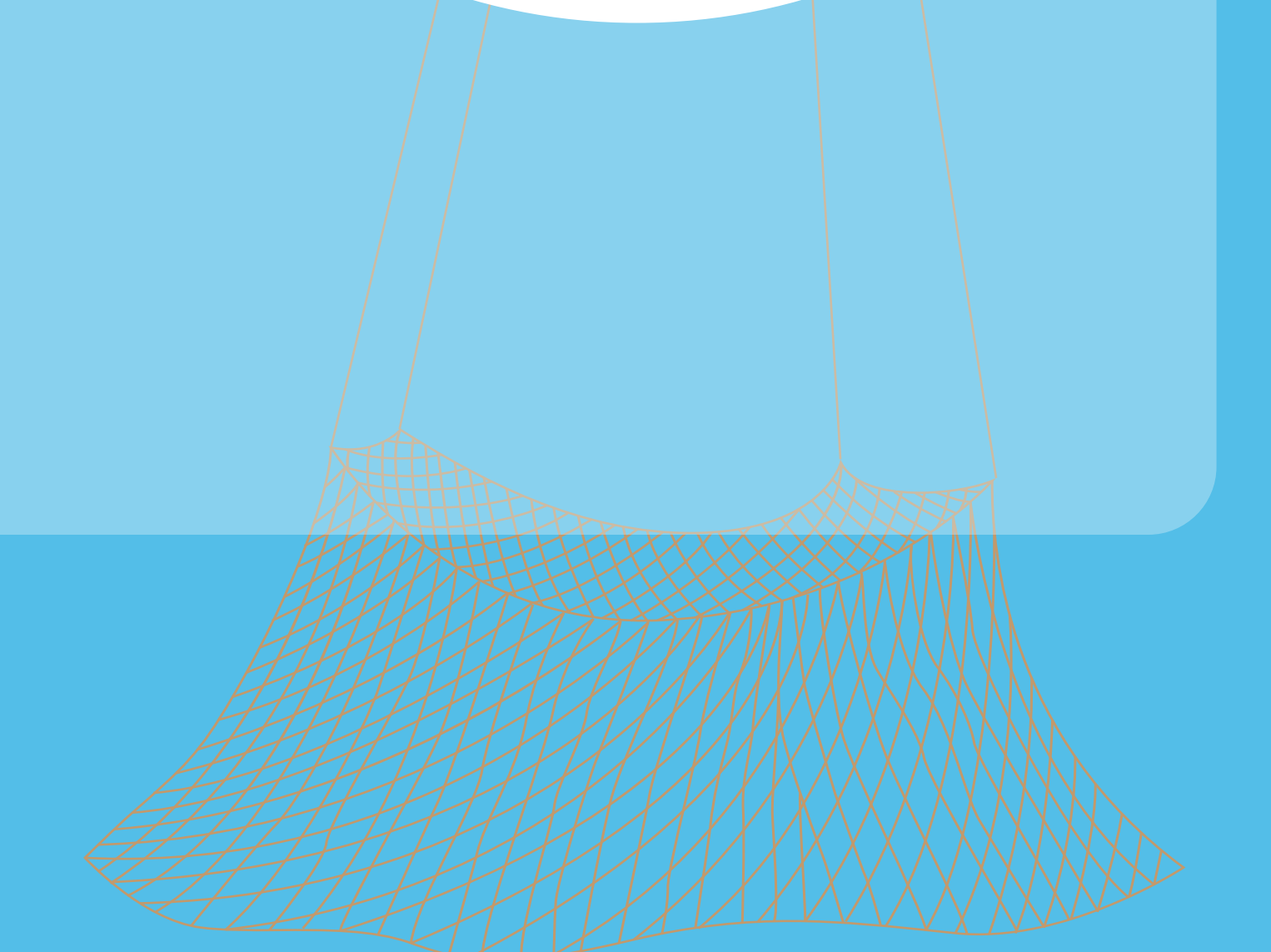
#### Description:

Antibird/Antipredator netting (made of UV-stabilized polypropylene or polyethylene, polypropylene and nylon monofilament twine)

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

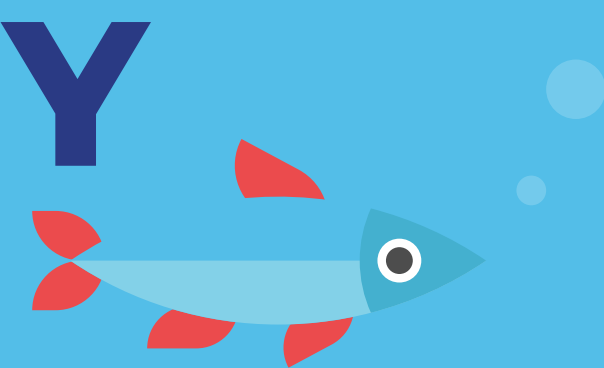
**Source:** Kershaw and Rochman, 2016





# MARINE LITTER INVENTORY

## [PLASTIC]



AQUA-LIT

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification



### Plastic mesh bags<sup>[B04]</sup>

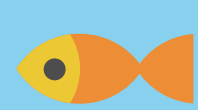
Item type  
**Nets**

Material  
**Plastic**



#### Description:

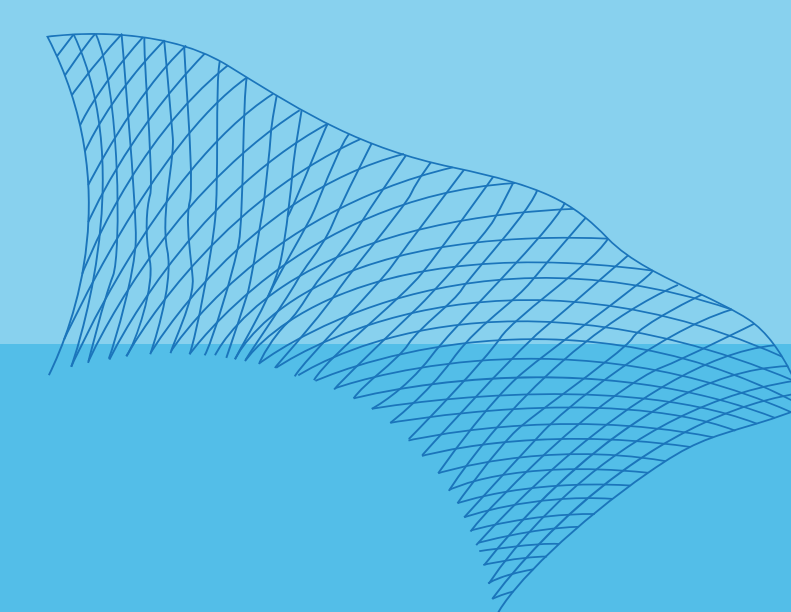
PE mesh bags (for scallop spat collection)



**Aquaculture species:** Bivalves (oysters, clams, scallops, mussels and cockles) and Crustaceans

**Aquaculture type:** Stake method / Longline culture

*Source:* Lusher et al., 2017



Item type  
**Nets**

Material  
**Plastic**

### Plastic mesh screens<sup>[B05]</sup>

#### Description:

Plastic mesh screens protect organisms from predators (crabs and birds) and heatwaves (made from PE and PP)

**Aquaculture species:** Bivalves (oysters, clams, scallops, mussels and cockles) and Crustaceans  
**Aquaculture type:** Cages / longline culture

*Source:* Lusher et al., 2017



### Lantern nets<sup>[B07]</sup>

Item type  
**Nets**

Material  
**Plastic**



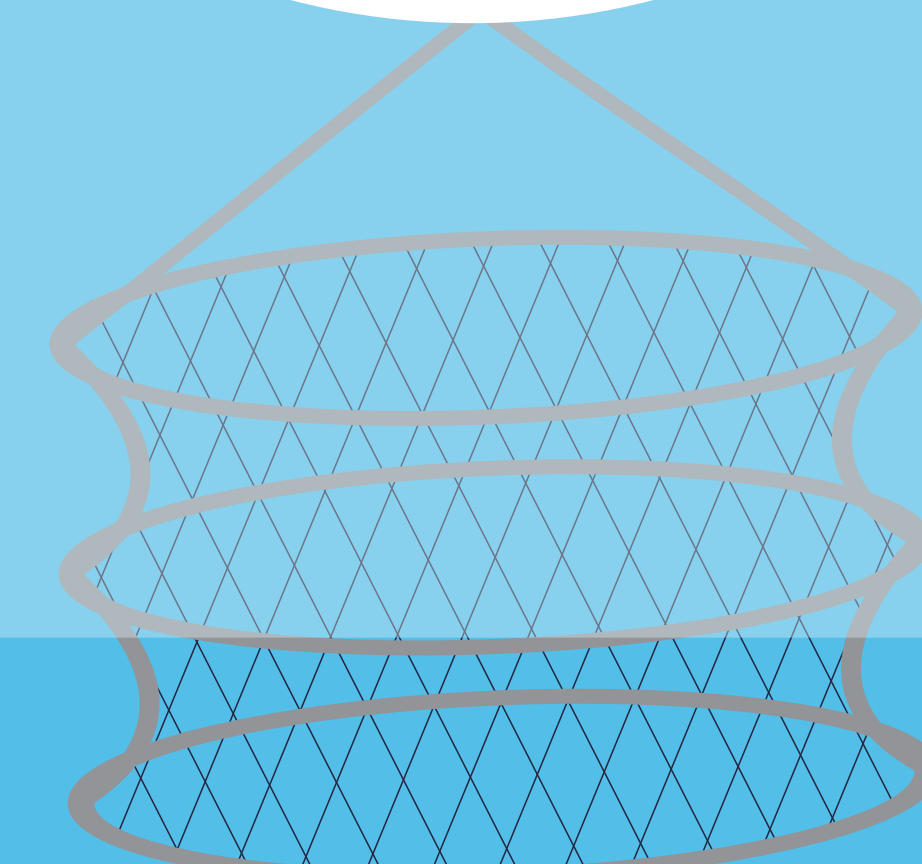
#### Description:

Lantern nets are used for spat collection

**Aquaculture species:** Bivalves

**Aquaculture type:** Longline culture

*Source:* Lusher et al., 2017

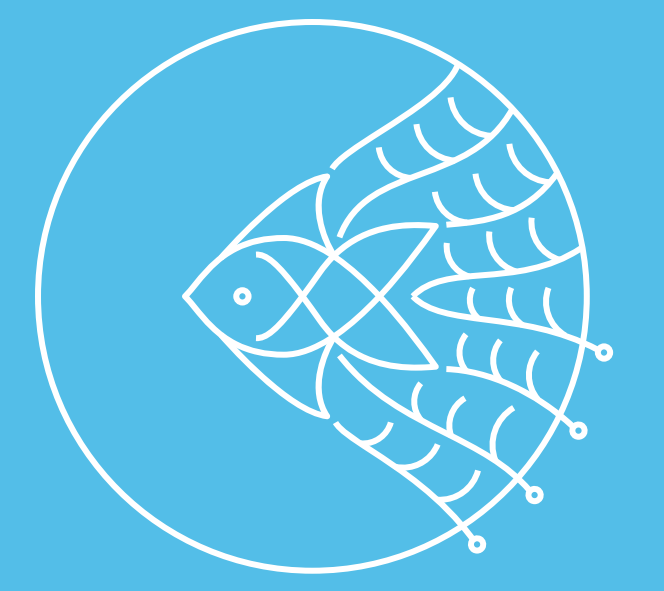


Co-funded by the European Maritime and Fisheries Fund.





# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items. Each item is characterized by an identification

### EPS buoys<sup>[B08]</sup>

Item type  
**Floats and buoys**

Material  
**Plastic**



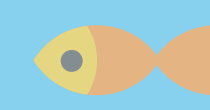
#### Description:

Aquaculture fisheries mainly use 60L (1.2)-kg EPS buoys that last 2-3 years. The discarded buoys become weighted down by fouling microorganisms and brine, whereas some of them fragment. EPS buoys are easily removed from nets by winds and currents, and large quantities are lost and concentrated on beaches and coasts.

**Aquaculture species:** Bivalves

**Aquaculture type:** Longline culture

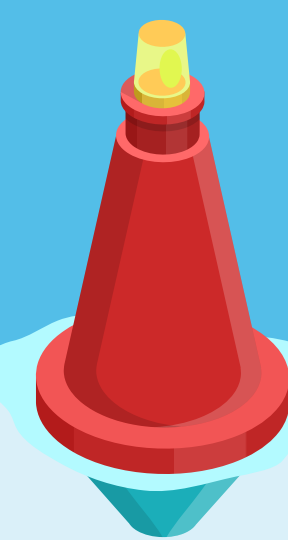
**Source:** OSPAR beach litter guidelines nr 37



Item type  
**Floats and buoys**

Material  
**Plastic**

### Deep water buoy<sup>[B09]</sup>



#### Description:

Deep water buoy to mark location of the ropes

**Aquaculture species:** Fish

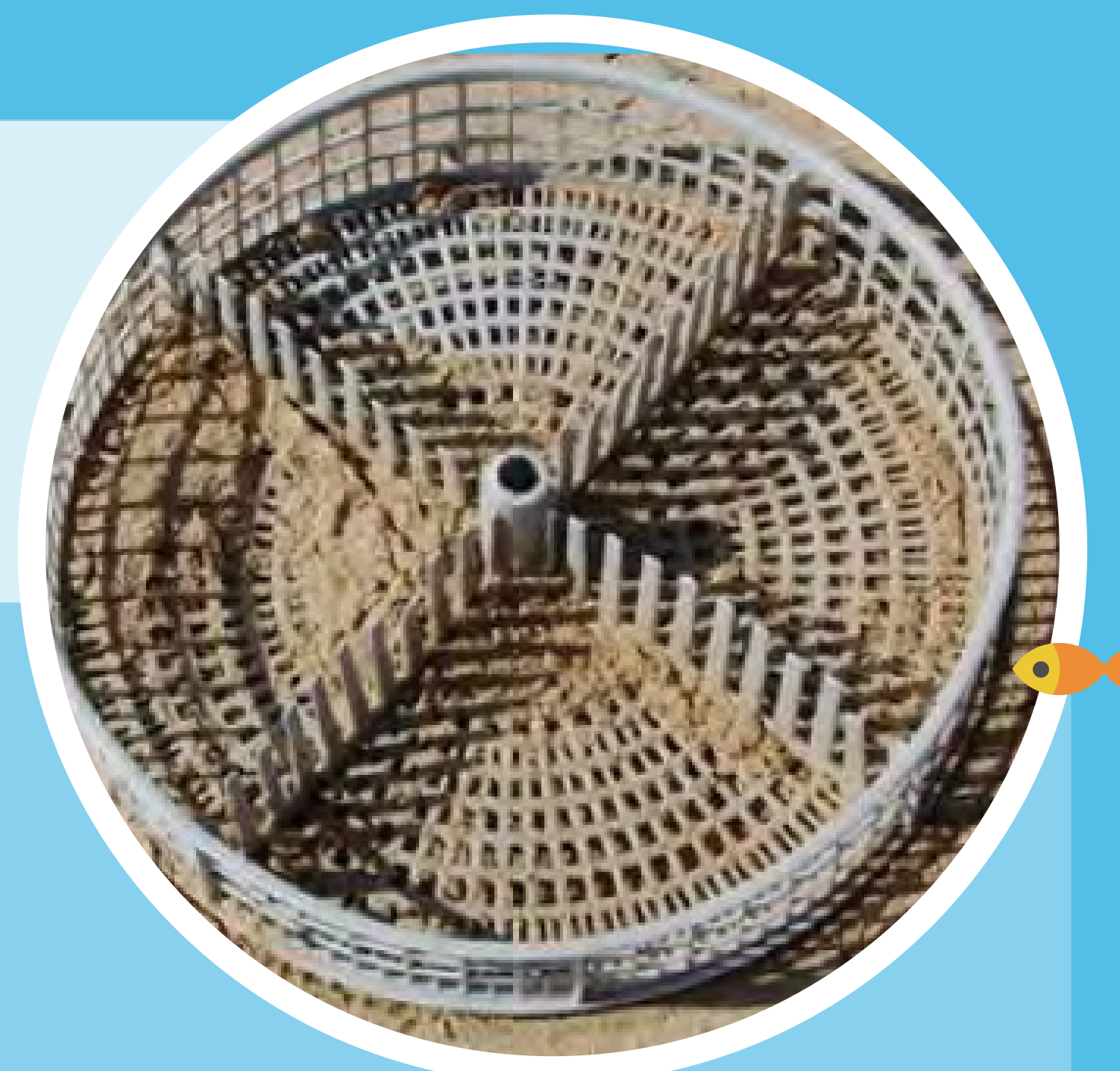
**Aquaculture type:** Net cages

**Source:** Cardia and Lovatelli, 2015

### Oyster trays<sup>[B10]</sup>

Item type  
**Structure**

Material  
**Plastic**



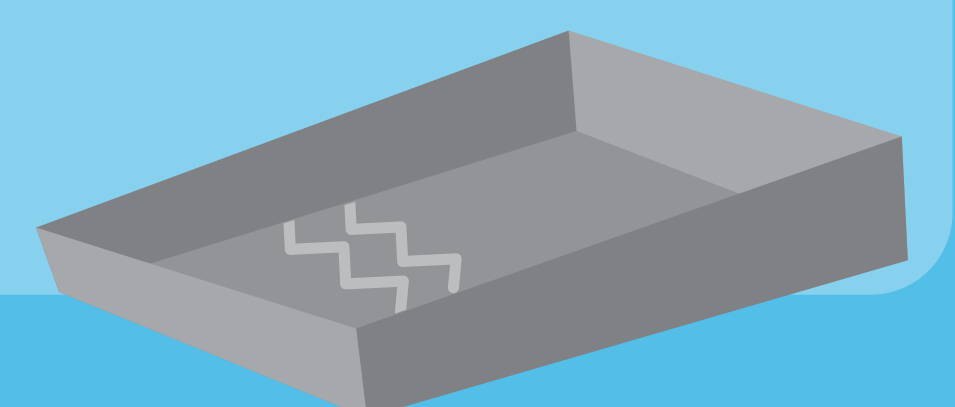
#### Description:

Plastic structure from oyster cultures

**Aquaculture species:** Bivalves (oyster)

**Aquaculture type:** Hanging culture

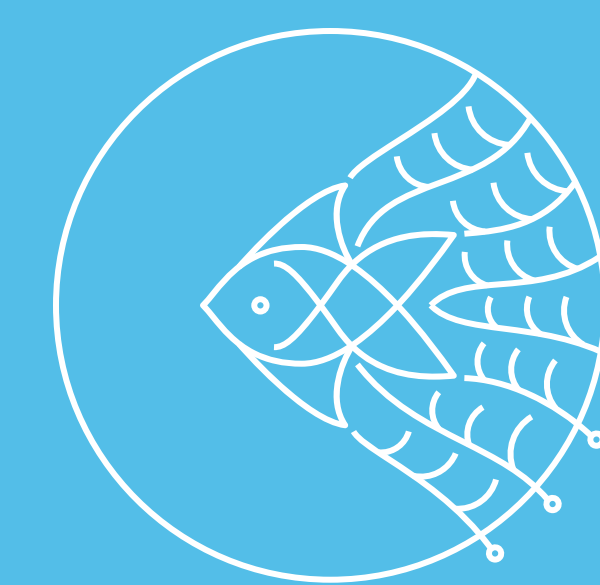
**Source:** OSPAR beach litter guidelines nr 29





# MARINE LITTER INVENTORY

## [PLASTIC]



AQUA-LIT

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Tahitians<sup>[B11]</sup>

Item type  
**Structure**

Material  
**Plastic**



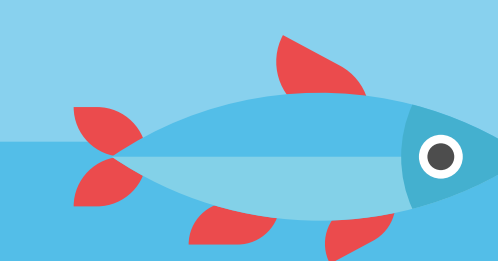
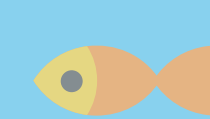
#### Description:

Plastic structure from oyster cultures

**Aquaculture species:** Bivalves (mussel)

**Aquaculture type:** Stake method / longline culture

**Source:** OSPAR beach litter guidelines nr 30



Item type  
**Structure**

Material  
**Plastic**

### Heavy-duty longlines<sup>[B12]</sup>

#### Description:

Sub surface longlines who smaller growth ropes together

**Aquaculture species:** Bivalves (oyster), brown seaweed

**Aquaculture type:** Longline culture

**Source:** Niaounakis, 2017

### Plastic trays<sup>[B13]</sup>

Item type  
**Structure**

Material  
**Plastic**



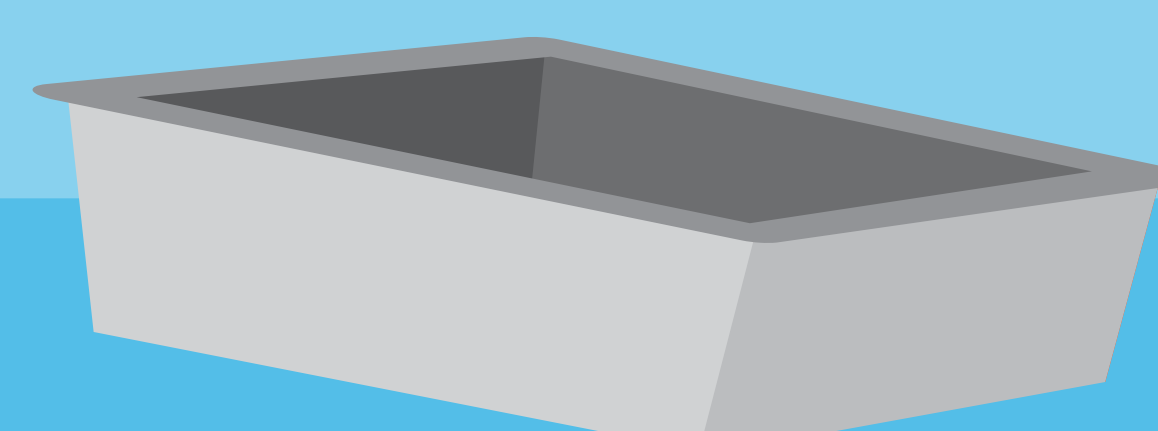
#### Description:

Polyethylene trays

**Aquaculture species:** Bivalves (oysters and scallops)

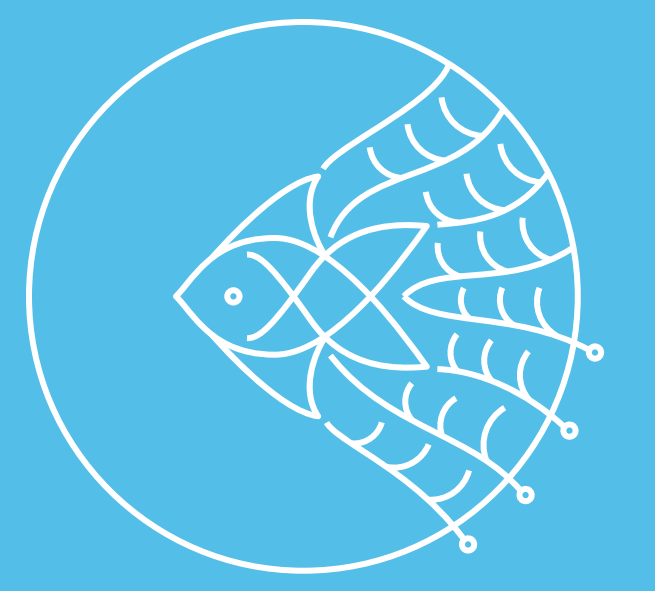
**Aquaculture type:** Longline culture

**Source:** Lusher et al., 2017





# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items. Each item is characterized by an identification

### HDPE Plastic brackets<sup>[B15]</sup>

Item type  
**Structure**

Material  
**Plastic**



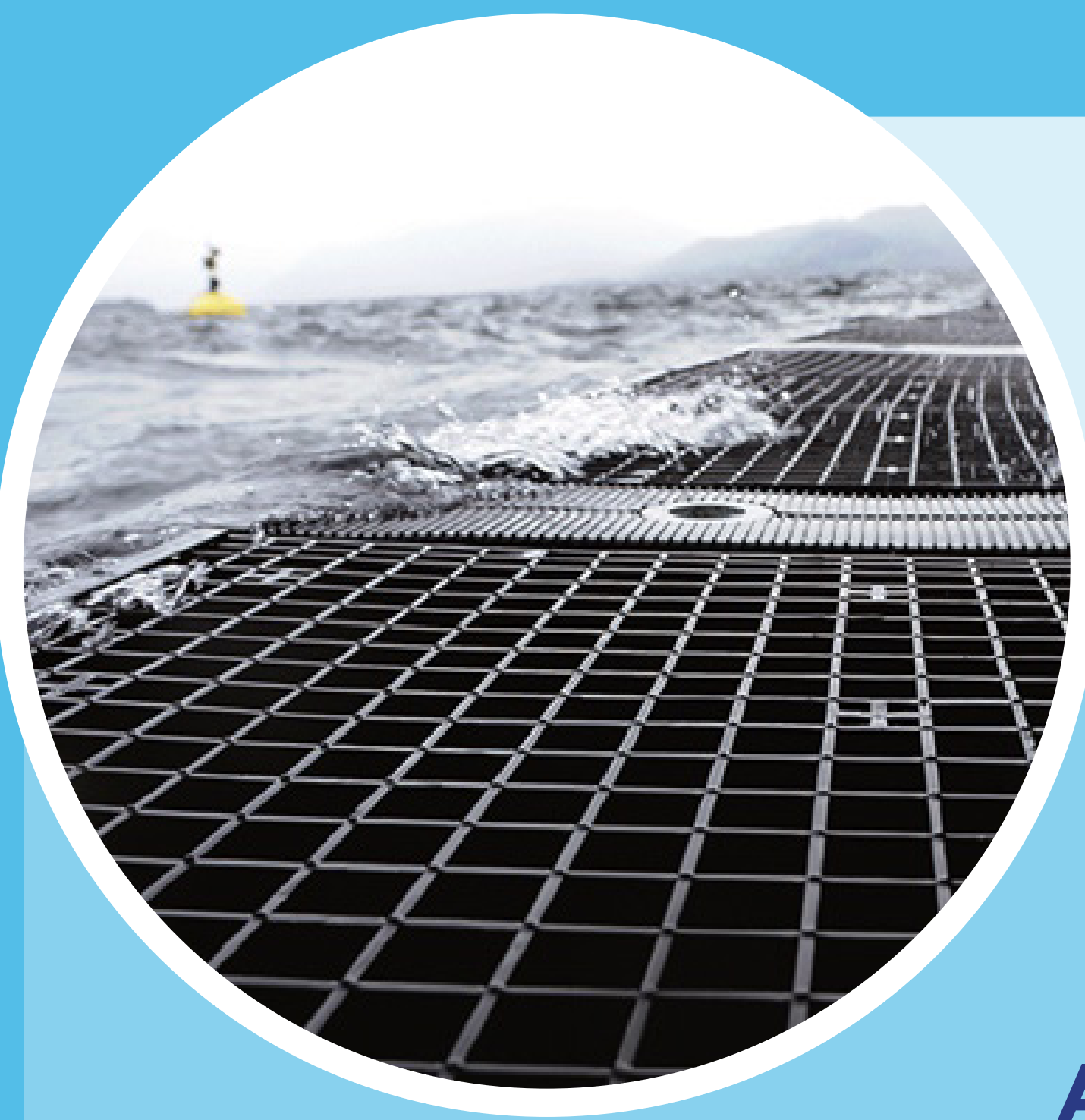
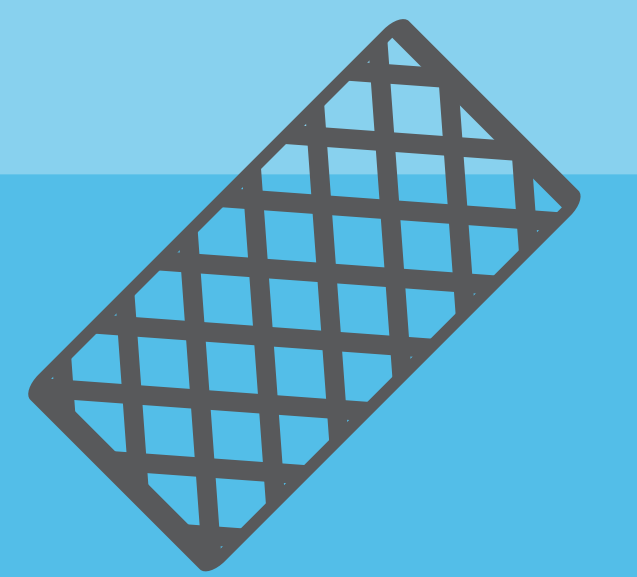
#### Description:

To hold plastic pipes together for flotation

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

*Source:* Lusher et al., 2017



Item type  
**Structure**

Material  
**Plastic**

### PS floats<sup>[B16]</sup>

**Description:**  
For flotation

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

*Source:* Lusher et al., 2017

### Mooring bracket<sup>[B17]</sup>

Item type  
**Structure**

Material  
**Plastic**



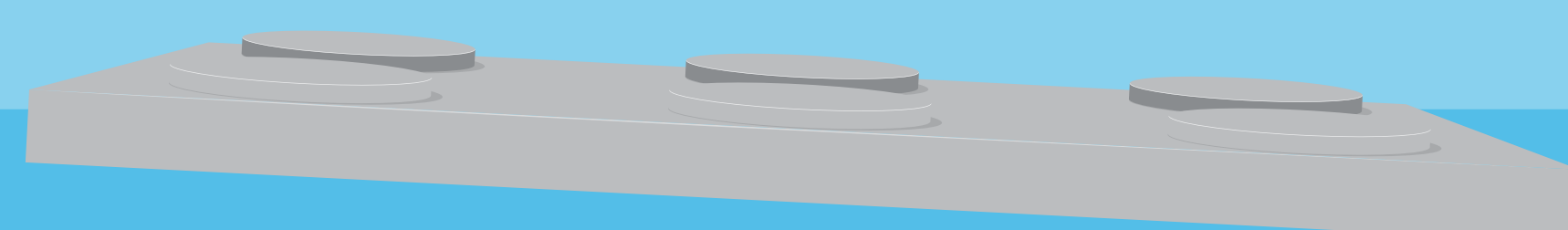
#### Description:

To hold plastic pipes together for flotation

**Aquaculture species:** Fish

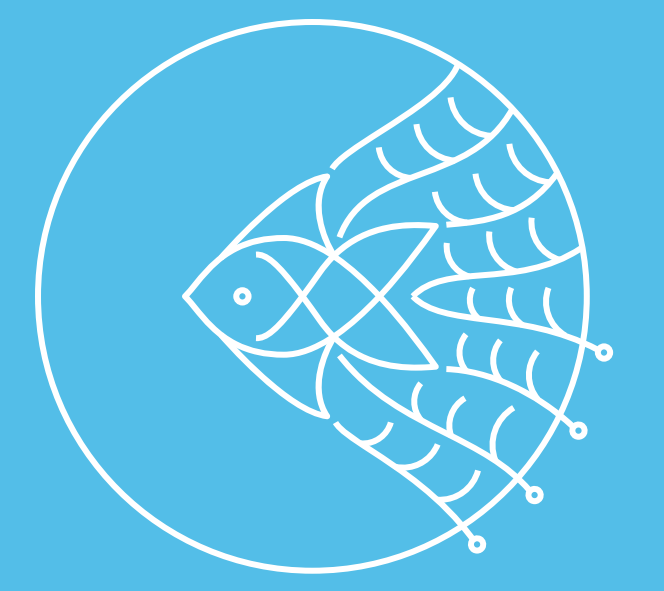
**Aquaculture type:** Net cages

*Source:* Lusher et al., 2017





# MARINE LITTER INVENTORY

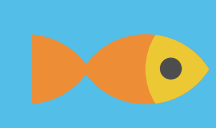


AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification



### Plastic stoppers<sup>[B18]</sup>

Item type  
**Other**

Material  
**Plastic**



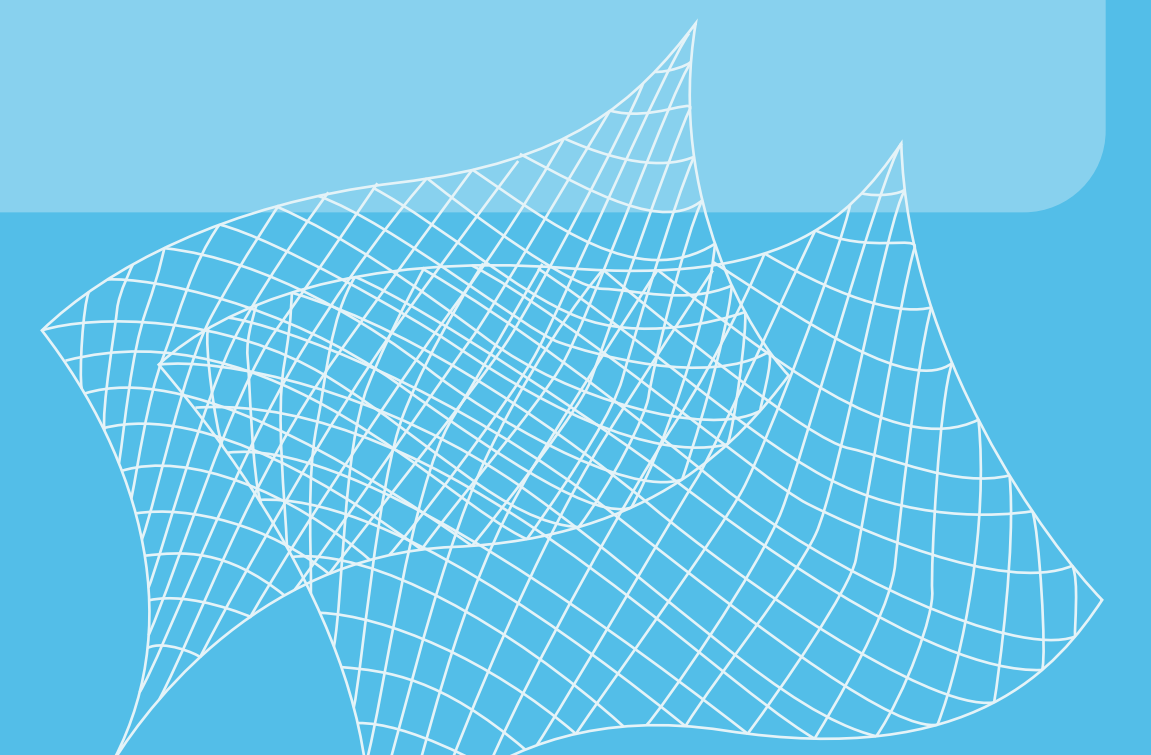
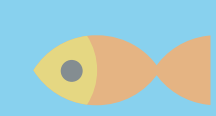
#### Description:

Plastic stoppers used in oyster and mussels nets

**Aquaculture species:** Bivalves (mussel, oyster)

**Aquaculture type:** Stake method

**Source:** OSPAR beach litter guidelines nr 28



Item type  
**Nets**

Material  
**Plastic**

### Mussel socks/nets<sup>[B19]</sup>

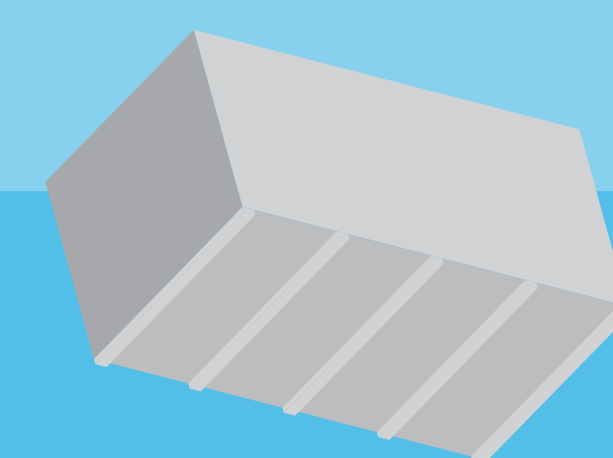
#### Description:

Nylon mussel socks/nets for cultivation

**Aquaculture species:** Bivalves (mussel)

**Aquaculture type:** Hanging culture

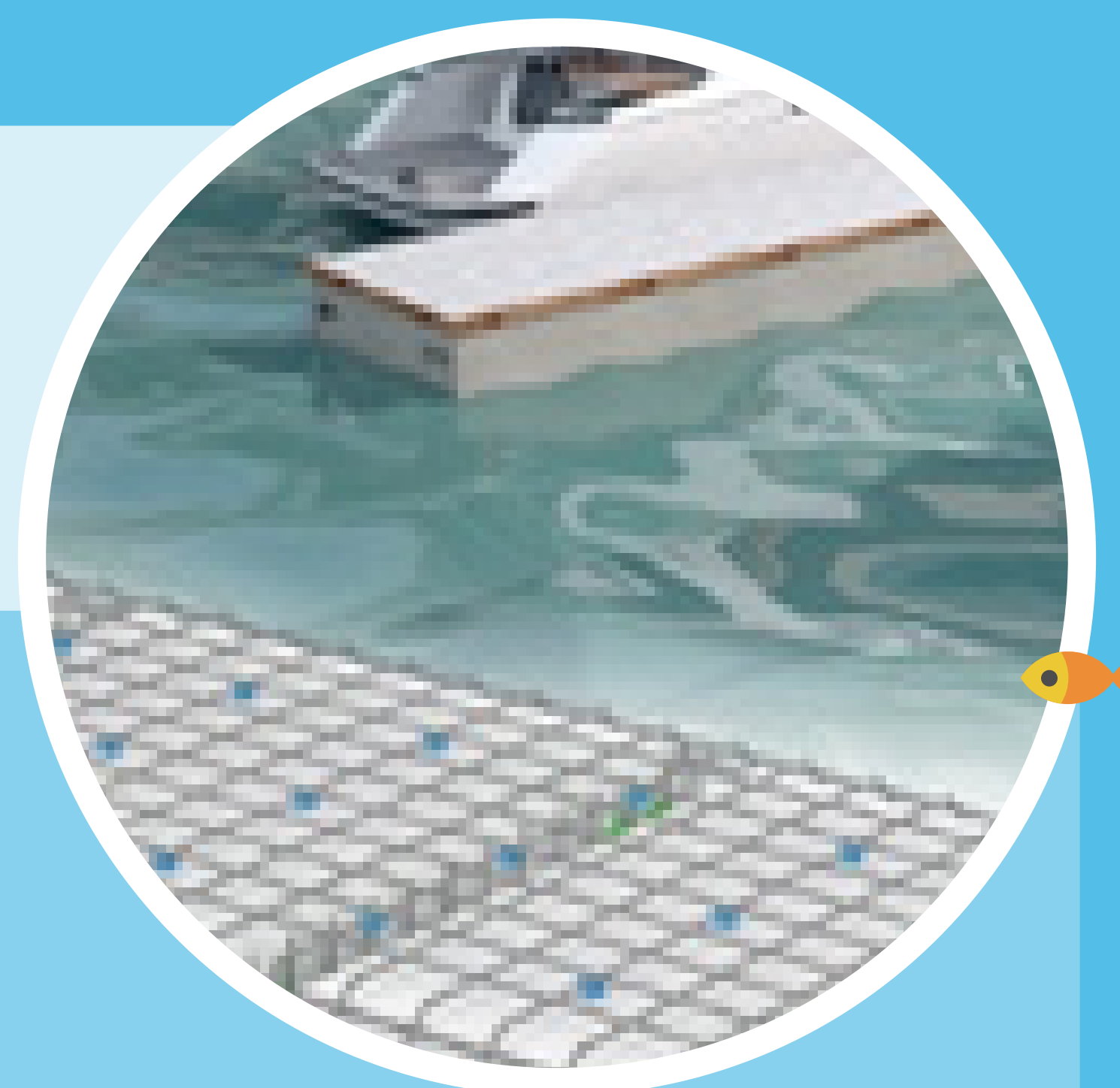
**Source:** Moschino et al., 2019



### Pontoons<sup>[B20]</sup>

Item type  
**Floats and buoys**

Material  
**Plastic**

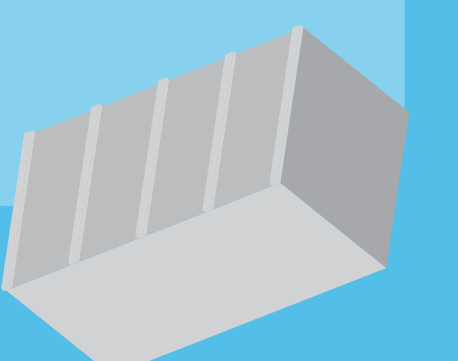
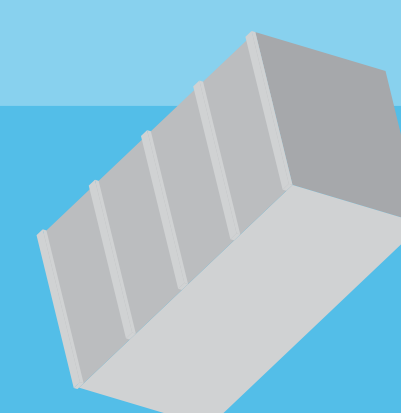


#### Description:

Aquaculture pontoons and fishing net floats

**Aquaculture type:** Net cages

**Source:** OceanWise project

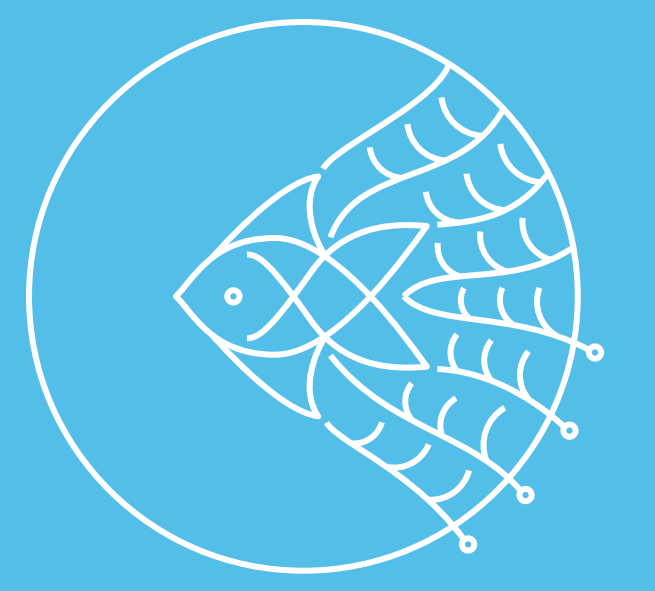


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# MARINE LITTER INVENTORY

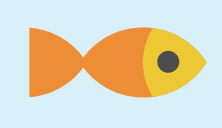


AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification



### Mesh bags [C03]

Item type  
**Structure**

Material  
**Plastic**



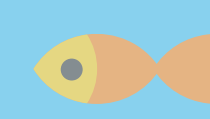
#### Description:

Mesh bags filled with sand, gravel or small pebbles for use as sinker ballasts

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

**Source:** Cardia and Lovatelli, 2015



Item type  
**Structure**

Material  
**Plastic**

### Polystyrene cylinders [C05]

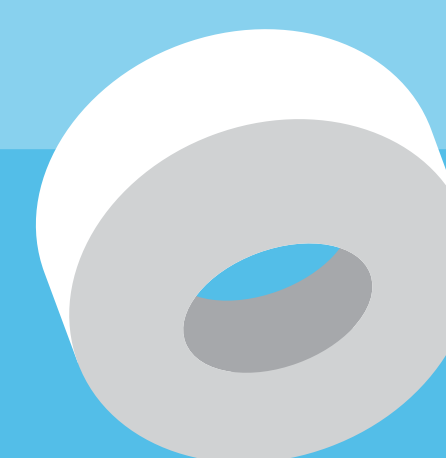
#### Description:

Inserted into the pipes for extra flotation

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

**Source:** Cardia and Lovatelli, 2015



### HDPE connection element [C06]

Item type  
**Structure**

Material  
**Plastic**



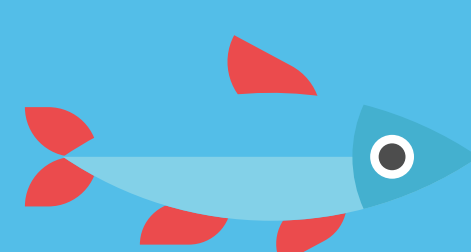
#### Description:

HDPE connection element for sinker tube

**Aquaculture species:** Fish

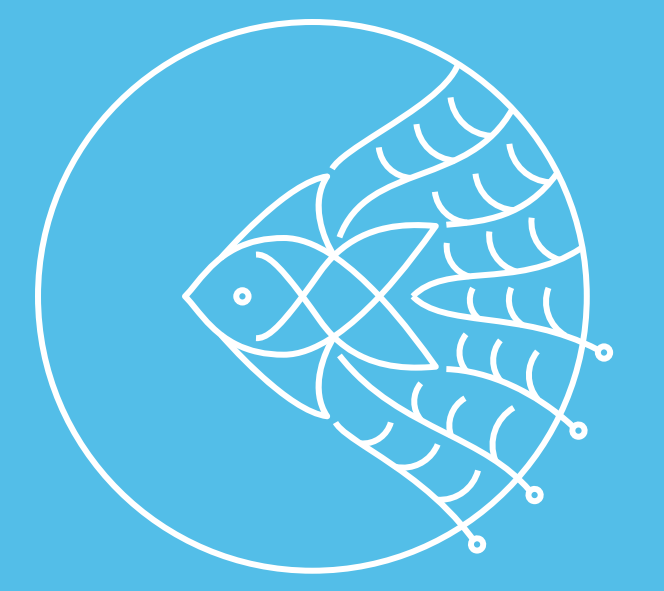
**Aquaculture type:** Net cages

**Source:** Cardia and Lovatelli, 2015





# MARINE LITTER INVENTORY



AQUA-LIT

## [PLASTIC]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items. Each item is characterized by an identification

### Boat<sup>[C12]</sup>

Item type  
**Other**

Material  
**Plastic, wood**



#### Description:

Used by operation and maintenance personal

*Source: Expert contact*

Item type  
**Structure**

Material  
**Plastic**

### Taquets<sup>[C14]</sup>

#### Description:

Taquets, or clamps, are plastic tubes used in French mussel farming to prevent mussels from collapsing or coming off at harvest time.

**Aquaculture species:** Bivalves (mussels)

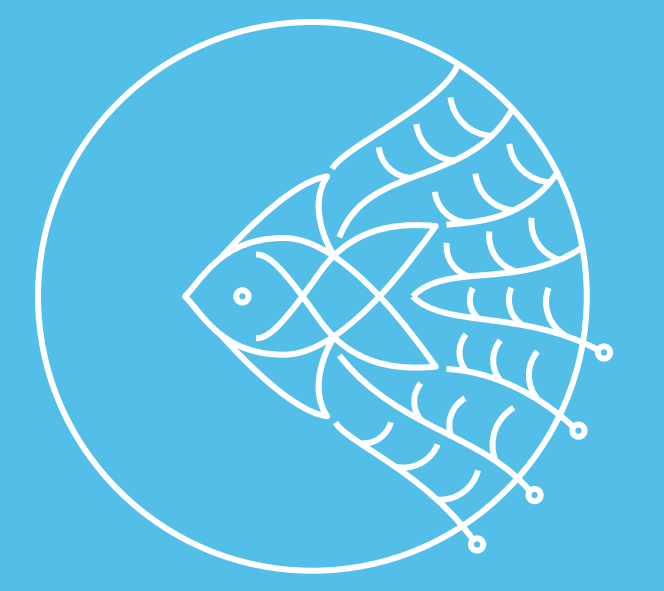
**Aquaculture type:** Hanging culture

*Source: Frances Kerckhof (RBINS)*





# MARINE LITTER INVENTORY



AQUA-LIT

## [WOOD]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Wooden Pallets [A06]

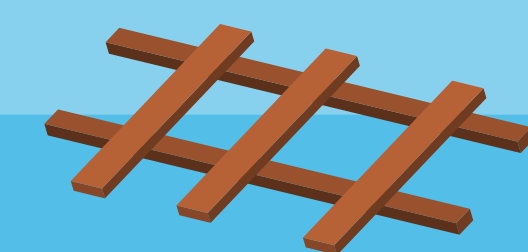
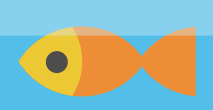
Item type  
**Pallets**

Material  
**Wood**



**Description:**  
Wooden pallets

*Source:* OSPAR beach litter guidelines nr 69



Item type  
**Collecting material**

Material  
**Wood**

### Wooden fish boxes [A12]

**Description:**  
Fish boxes for seafood collection

*Source:* OSPAR beach litter guidelines nr 119



### Stakes [A24]

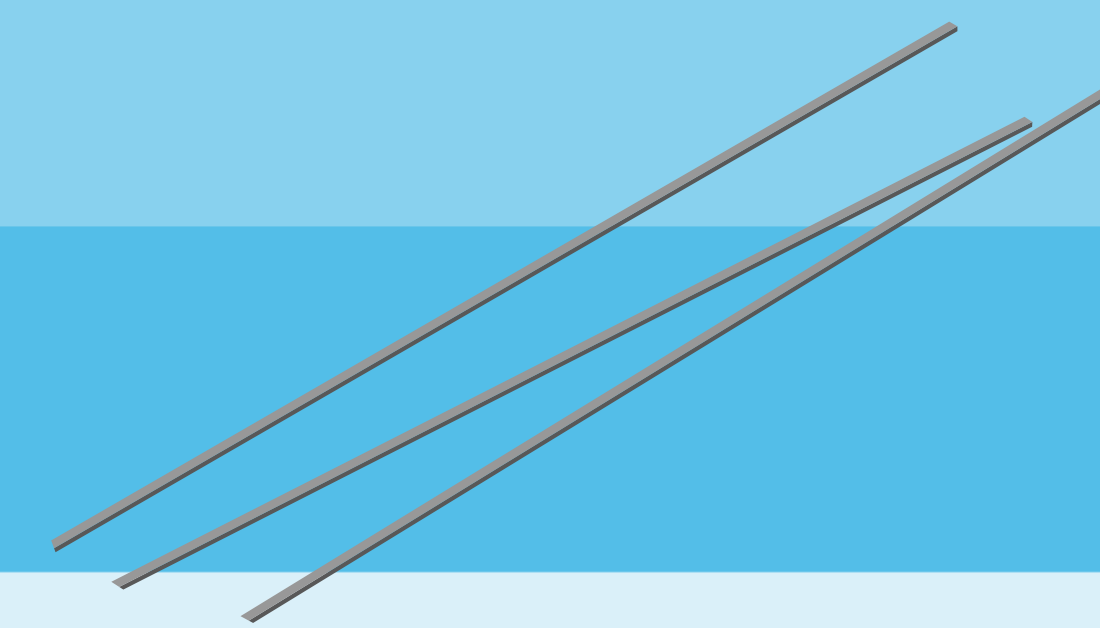
Item type  
**Structure**

Material  
**Wood**



**Description:**  
Stakes are used as growth medium

*Source:* Niaounakis, 2017



Item type  
**Structure**

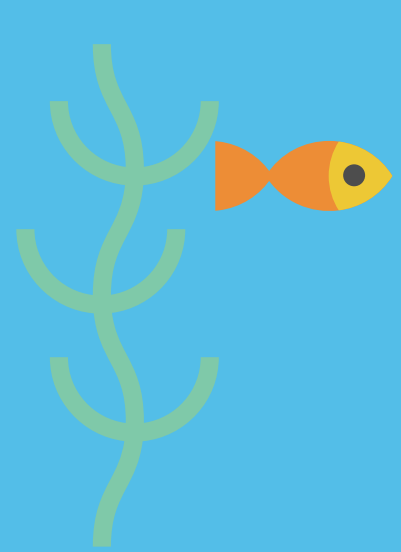
Material  
**Wood**

### Oyster sticks [B14]

**Description:**  
Wooden sticks for growth

**Aquaculture species:** Bivalves (oyster)  
**Aquaculture type:** Stake method

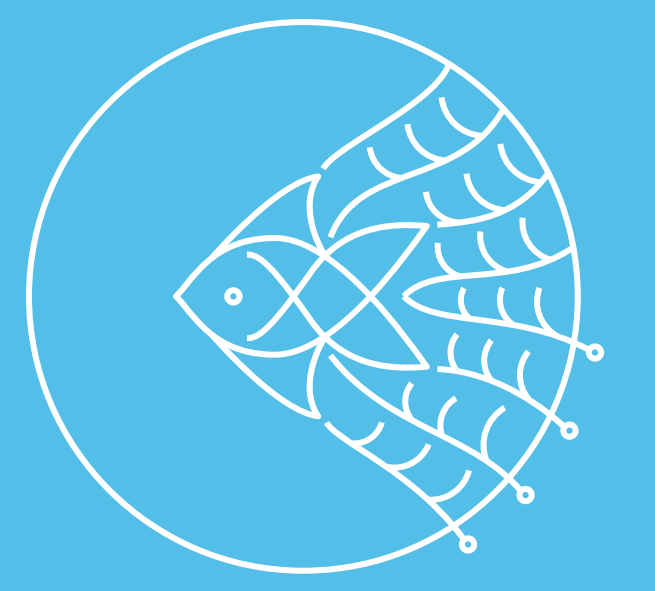
*Source:* Sherrington et al., 2016



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# MARINE LITTER INVENTORY



AQUA-LIT

## [METAL]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items. Each item is characterized by an identification

### Thimble [A23]

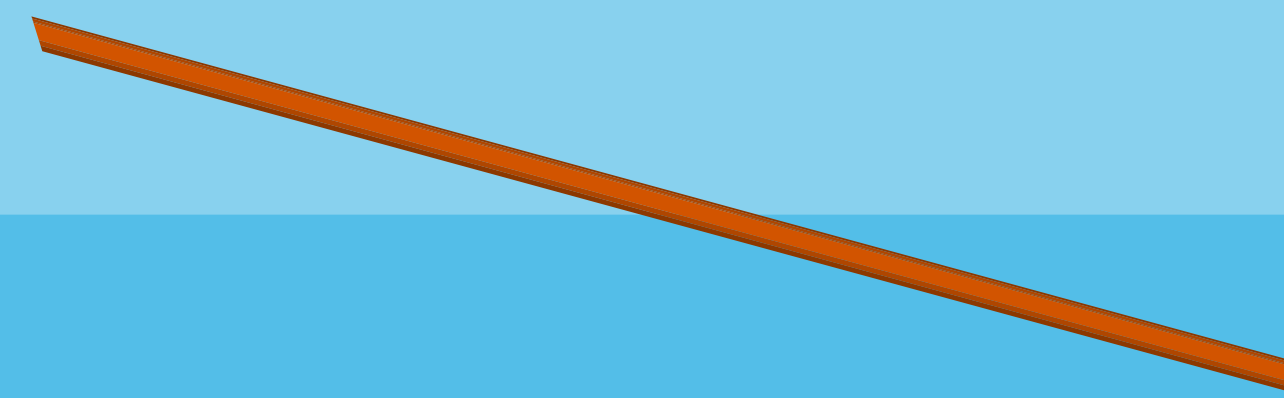
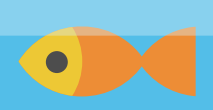
Item type  
**Structure**

Material  
**Metal**



**Description:**  
Thimble for rope attachment

*Source: Cardia and Lovatelli, 2015*



Item type  
**Other**

Material  
**Metal**

### Industrial scrap [A25]

**Description:**  
Metal materials

*Source: OSPAR beach litter guideline nr 83*



### Metal drums [A30]

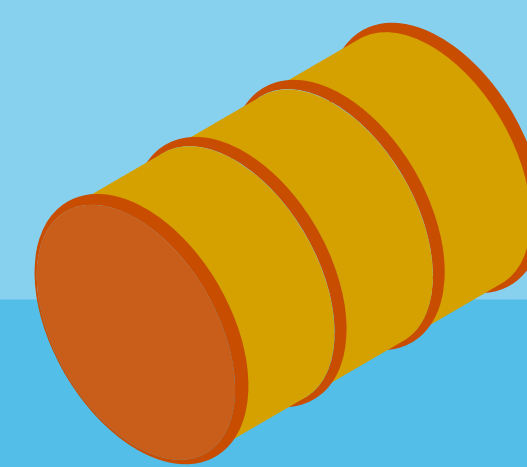
Item type  
**Floats and buoys**

Material  
**Metal**



**Description:**  
For flotation

*Source: Ioakeimidis et al., 2014*



Item type  
**Structure**

Material  
**Metal**

### Mussel cone laser marking [C01]

**Description:**  
To mark mussel cultures

**Aquaculture species:** Bivalves (mussels)  
**Aquaculture type:** Stake method?

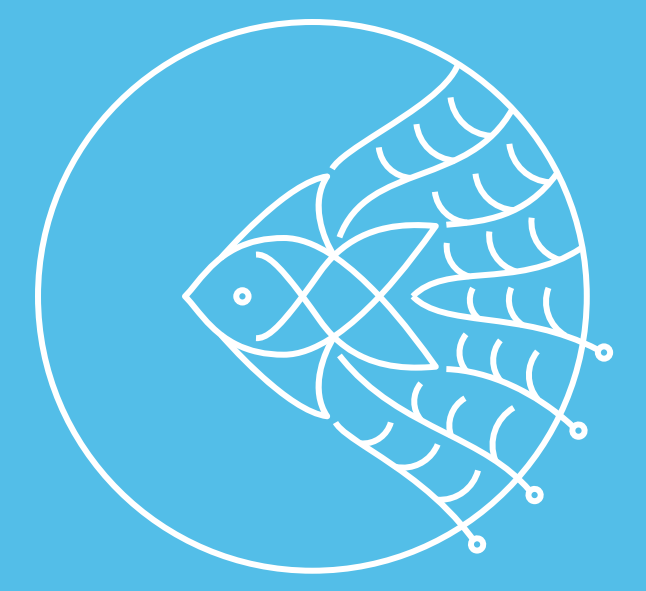
*Source: Frances Kerckhof (RBINS)*



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# MARINE LITTER INVENTORY

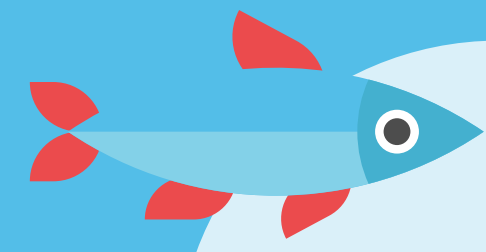


AQUA-LIT

## [METAL]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification



### Stud link chains<sup>[C04]</sup>

Item type  
**Structure**

Material  
**Steel**



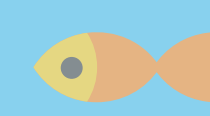
#### Description:

Stud link chains used as sinkers. Chains are preferable for use as net tensioning ballasts because greater weight in water of steel, compared with concrete, stones or other materials.

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

*Source:* Cardia and Lovatelli, 2015



Item type  
**Structure**

Material  
**Steel**

### Corner plate<sup>[C07]</sup>

#### Description:

Used to connect the main mooring lines and bridles

**Aquaculture species:** Fish

**Aquaculture type:** Net cages

*Source:* Cardia and Lovatelli, 2015

### Steel rings<sup>[C08]</sup>

Item type  
**Structure**

Material  
**Steel**



#### Description:

Used as connecting element in the grid system

**Aquaculture species:** Fish

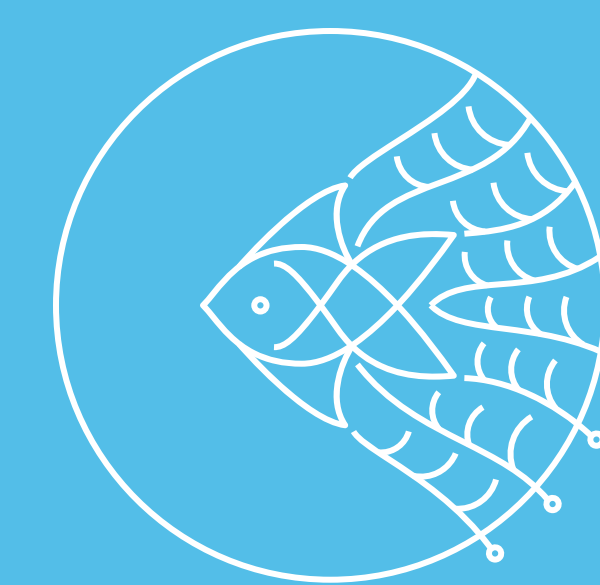
**Aquaculture type:** Net cages

*Source:* Lusher et al., 2017





# MARINE LITTER INVENTORY

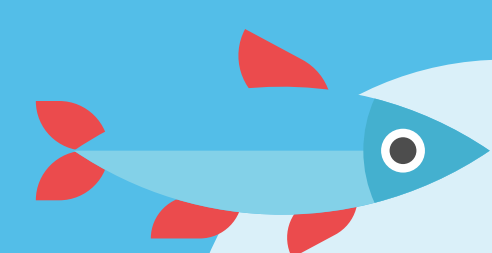


AQUA-LIT

## [METAL]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification



### Racks<sup>[C09]</sup>

Item type  
**Structure**

Material  
**Metal**



#### Description:

Used to secure mussel and oyster bags

**Aquaculture species:** Bivalves (mussel, oyster)

**Aquaculture type:** Rack and bag system

**Source:** Go Deep International Inc.



Item type  
**Structure**

Material  
**Metal**

### Padlocks<sup>[C13]</sup>

#### Description:

Used by operation and maintenance personal

**Source:** Expert contact

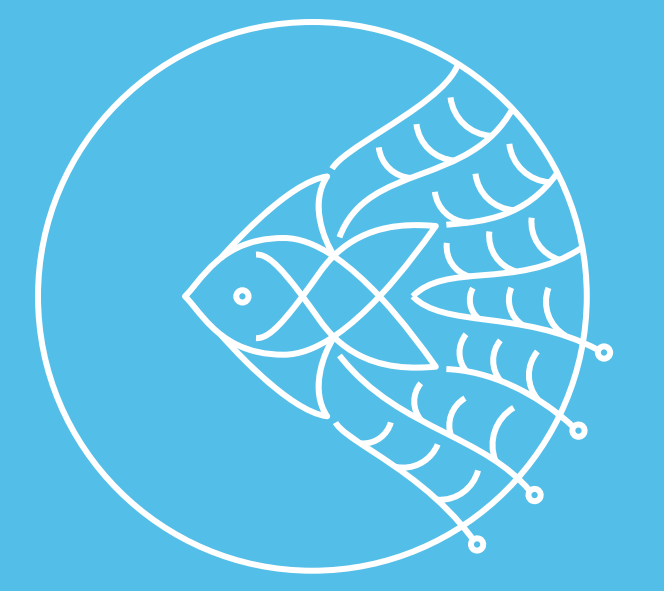


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# MARINE LITTER INVENTORY



AQUA-LIT

## [OTHERS]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### Other ropes [A02]

Item type  
**Ropes**

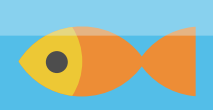
Material  
**Other**



#### Description:

Other ropes (natural products)

Source: OSPAR beach litter guidelines nr 31



Item type  
**Ropes**

Material  
**Other**

### String and cord [A03]

#### Description:

String, cord and pieces of net

Source: OSPAR beach litter guidelines nr 32, 115 & 116



### Burlap bags [A14]

Item type  
**Collecting material**

Material  
**Natural textile**



#### Description:

For seafood collection

Source: OSPAR beach litter guidelines nr 56



Item type  
**Clothing**

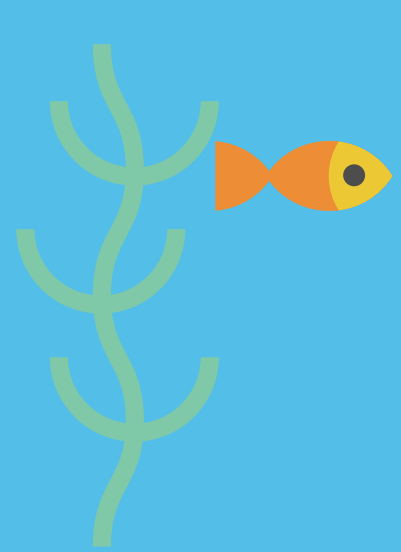
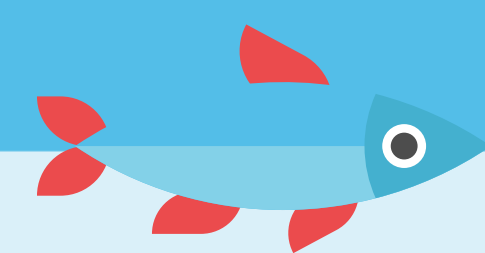
Material  
**Rubber**

### Boots [A20]

#### Description:

Safety boots / rubber boots

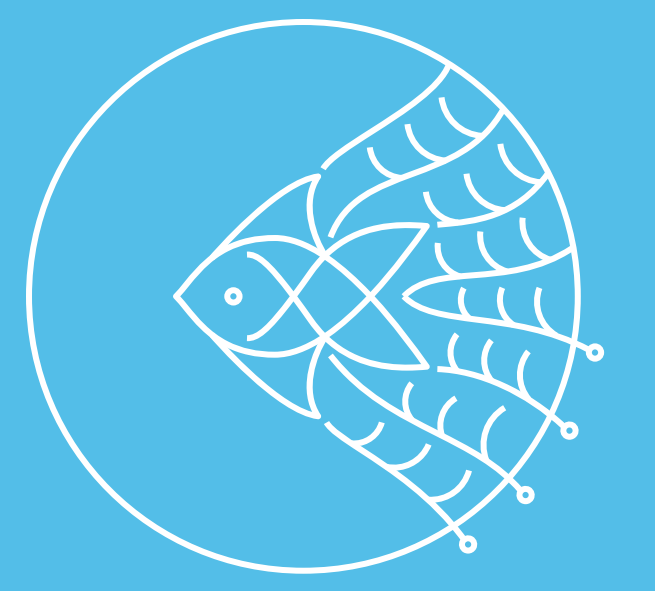
Source: OSPAR beach litter guideline nr 50



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# MARINE LITTER INVENTORY



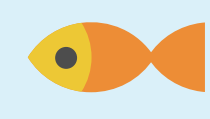
AQUA-LIT

## [OTHERS]

The item inventory is a solid knowledge base on marine litter from aquaculture activities which is divided into general [A], specific [B] and other potential [C] items.

Each item is characterized by an identification

### **Bobbins**<sup>[A31]</sup>



Item type  
**Floats and buoys**

Material  
**Rubber**



**Description:**  
For flotation

**Source:** Ioakeimidis et al., 2014



Item type  
**Nets**

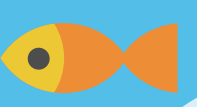
Material  
**Natural textile (cotton)**

**Mussel socks/nets**<sup>[B06]</sup>

**Description:**  
Cotton mussel socks/nets for cultivation and packaging

**Aquaculture species:** Bivalves (mussels)  
**Aquaculture type:** Hanging culture

**Source:** CleanSea project



### **Concrete sinkers**<sup>[C02]</sup>

Item type  
**Structure**

Material  
**Concrete sinkers**



**Description:**  
To hold the net cage in correct shape

**Aquaculture species:** Fish  
**Aquaculture type:** Net cages

**Source:** Cardia and Lovatelli, 2015

### **Diving equipment** <sup>[C10]</sup>

Item type  
**Other**

Material  
**Diverse**

**Description:**  
Used by divers during maintenance

**Source:** Expert contact



### **Life jackets/savers** <sup>[C11]</sup>

Item type  
**Other**

Material  
**Diverse**

**Description:**  
Used by operation and maintenance personal

**Source:** Expert contact

