

## **Fishing for Litter in the CleanSea project**



# Fishing for Litter in the CleanSea project

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## Index

## Pag

1.0	Introduction	5
2.0	Specification Cutter fleet	6
3.0	Participating ships	6
3.1	Plaice Group B.V.	7
3.2	GO 22 and GO26	7
3.3	GO 37	7
3.4	WR 160	7
3.5	FD 281	7
4.0	Quality Marks	8
4.1	MSC certificate	8
4.2	CVV certificate	8
4.3	North Sea Fish center Keurmerk	9
5.0	Monitoring	9
6.0	Litter collection	9
7.0	Information and Education	10
7.1	Exhibition	10
7.2	The Classroom	10
7.3	Lectures	11
7.4	Newsletters and press releases	11
8.0	Documentary	12
9.0	Public monitoring/conference	12
Appendix I	Directory	13
Appendix II	Overall table	16
Appendix III	Individual table	17
Appendix IV	Table completed	18
Appendix V	Ospar form	19
Appendix VI	Big Bag Example	20
Appendix VII	Diagram litter transport from harbours	21
Appendix VIII	Scenario documentary	22
Appendix IX	Roles for participants	24



*For centuries the seas have been sailed by fishermen,  
who week and again bring ashore fish as food for the people.  
In past centuries this often happened in poor conditions,  
small boats, a long time from home and not many conveniences aboard.  
Our present fishing fleet is modern and well equipped,  
life aboard is tied up by a two hours' rhythm  
day or night does not make any difference for the crew.*

## 1.0 Introduction

KIMO Netherlands and Belgium participates in het European CleanSea project. In the CleanSea project research is carried out to the consequences of plastic pollutants in seas and oceans. KIMO Netherlands and Belgium participates in het CleanSea project among other things with the data from the Fishing for Litter project.

In the Fishing for Litter project fishermen take back the waste they catch in their nets during fishing to the harbour, where it is collected and processed. With the Fishing for Litter project KIMO Netherlands and Belgium has been calling attention to the pollution of seas and oceans since 2002. As from 2006 in various places in The Netherlands the litter has also been monitored during processing. In doing so once every two months from various harbours the litter is monitored and incorporated on OSPAR lists.

In the Fishing for Litter project about 100 ships from 12 different harbours in The Netherlands participate. These are ships that catch fish with a trawl (bottom trawling). Especially the quantities and the monitoring of the litter is used in the CleanSea project.

For the CleanSea project this detailed plan has been worked out, with the various data being carefully registered and incorporated.

In order to get a clear picture of the pollution of the bottom of the North Sea, the registration of data is

important. For this project within the Fishing for Litter project a number of fishing vessels has been approached, in which they were asked to keep up specific data. The selected vessels regularly return to the same fishing locations.

The vessels has been asked to register the following:

1. Name of ship
2. Owner of the ship
3. Engine power of the ship
4. Port of call
5. Kind of fish fished for
6. Net width fished with
7. Location where is fished
8. The length of one haul
9. Number of hauls
10. Date and time of fishing
11. Use or non use of pulse trawl
12. Method of fish selection
13. Motivation crew

For these notations in the appendix a registration form has been developed.

Because the fishermen are attached to the secrecy of the fishing locations they visit, the data of the ship are not made known in the reports.

For the locations fished the block division of the North Sea is assumed. Of course not only of the Dutch continental shelf, but of the entire North Sea.



## 2.0 Specification Cutter fleet

**The cutter fleet is the Dutch fishery's largest fleet. This fleet consists of about 280 fishing vessels (excluding 60 shrimp cutters). Consisting of the Offshore Fishing and the Coastal Fishing.**

### Offshore Fishing

In many cases the cutter fleet consists of one-man businesses, of which the owner is usually also skipper. Nearly all the crew members on a cutter sail as members of a partnership. This means simply that the skipper / owner brings in the means (the vessel) and the crew members (sailors) their labour. Based on the partnership agreement negotiated is determined how the profit share is divided between the crew and the skipper / owner.

There are 120 cutters practising offshore fishing. Among this group cutters are included with a length between 24 and 60 metres and with an overall engine power of over 300 HP. The cutters with an engine power less than 300 HP (220 vessels) are discussed in the chapter on coastal fishing.

### Coastal Fishing

In the Fisheries Law the fishing taking place in the coastal waters has been indicated as coastal fishing. The coastal waters are formed by:

The Dutch part of the Eems-Dollard estuary, the Wadden Sea, the Brouwershavense Gat, the Goeree Inlet, the Oosterschelde, the Westerschelde.

In addition the Voordelta and Lake Grevelingen are covered by the national policy with regard to coastal fishing. The remaining waters in the 12 miles area (the area up to approximately 21 kilometres outside the coast) in the Dutch rules are indicated as fishing area. There are specific rules for the 12 miles area. For instance only ships with an engine power of less than 300 HP are allowed to fish in the 12 miles area. Here coastal fishing is understood as all fishing taking place in the fishing area. All Dutch coastal waters are of great importance as spawning area and/or nursery of species of fish important for the North Sea fishery. The coastal waters are also of importance as a source of food for mature fish and shrimps and for the transport of eggs and larvae. Moreover the coastal waters are important fishing grounds for crustaceans and molluscs. The fishery has great interest in keeping the marine ecosystems in the 12 miles area in balance. Apart from the ecological importance of the 12 miles area for the fishery, this area plays an important role as fishing ground for the fishery of, among others, molluscs and crustaceans and European quotas assigned kinds of fish, such as sole and plaice.

## 3.0 Participating ships

**For this Fishing for Litter project in CleanSea ten fishing boats are approached that are closely involved in the Fishing for Litter project. Approached are:**

- LT 60, LT 162, PH 63, PZ 657 and RN 1, five ships operating within the Plaice Group, with Harlingen as home port
- FD 281 of H. Koffeman, shipping company Geertruida home port Urk
- GO 26, GO 22 en GO 37, Lokker en Zn, home port IJmuiden
- WR 160, shipping company M. van der Burg bv, home port Den Oever.

### 3.1 The Plaice Group

The Plaice Group B.V. is officially established in April 2011 by the notary. The group consists of the beam trawlers: LT 60, LT 162, PH 63, PZ 657 and RN 1. The five cutters can be considered as Dogger specialists. Together they have fishing rights for about 6.000 tons of North Sea plaice. Main location of the Plaice group is Vlietstroom 13 at Urk. The ships of the Plaice Group dispose of the North Sea Fish Centre Quality Mark that is granted to parties who comply with the basic assumptions and criteria described underneath.

### 3.2 GO 26 and GO 22

GO 26 and the GO 22 have the port of IJmuiden as port of call. The owner of the GO 22 (Jan Cornelis) and GO 26 (Arend-Jan) is the company J. Lokker en Zonen, Haveneinde 8 at Goedereede. The GO 22 and the Go 26 are beam trawlers with an engine power of over 300 HP, who fish outside the 12 miles area (21 km) for the Dutch coast. The fishermen of the GO 26 from Goedereede, who have their port at IJmuiden, obtained an Award in 2012 within the scope of the Fishing for Litter project for keeping the North Sea clean. The GO 22 and GO 26 are both certified according to the Fishing for Litter conditions.

### 3.3 GO 37

The GO 37 Eben Haezer is in the possession of vof. J. & B. Tanis from Goedereede. De GO 37 is a beam trawler with an engine power of over 300 HP. The ship is fishing for sole and plaice. The fishing grounds are lying outside the 12 miles area. The ship is fishing in a durable way and makes use of the pulskor. The ship disposes of the North Sea Fish Centre Quality Mark. See specification of basic assumptions and criteria North Sea Fish Centre Quality Mark.

### 3.4 WR 160

The WR 160 Barentszee is possessed by the shipping company M. van den Burg bv, Oosterkruisweg 49 at Den Oever. The WR 160 is a beam trawler with an engine power less than 300 HP. The WR 160 cutter ranks among the coastal fishing. The ship catches fish within the 12 miles area. The ship has Den Oever as its home base. The WR 160 has been rewarded twice with the Fishing for Litter Award and has a Fishing for Litter certificate.

### 3.5 FD 281

The FD 281 is in the possession of Klaas-Jelle Koffeman, coming from Urk. Kornelis-Jan, 2000 HP. The ship sails outside the 12 miles area. Shipping company Geertruida bv. Beam trawler. The ship has Harlingen as home base.

**All ships participating in this subproject are MRC certified.**

For participants in the CleanSea project it is possible to take part in journeys on one of the participating ships.(see the travel report of August 2013 with the GO 22).



## 4.0 Quality Marks

### 4.1 MSC certificate

The Marine Stewardship Council (MSC) is an international, independent quality mark that guarantees a properly managed, durable fishing. The criteria that MSC sets to a durable fishing pay attention to:

- (1) the situation of the fish stock,
- (2) the effects of the fishing to the ecosystem and
- (3) the management.

The assessment of these criteria takes place by an independent third party. Participation in the process is voluntary and on the initiative of the fisherman. The assessment process consists of various steps, in which much space is offered to the input of various parties concerned. The process can take up one to several years. MSC-certified fish can be recognised by the logo on the packaging and among others is available at retail trade or supermarket. The quality mark only deals with wild fish and does not include farmed fish.

### 4.2 CVV certificate

The Certificate Verantwoordelijk Vissen (CVV) is the Dutch version of the already existing Responsible Fishing Scheme (RFS) in the United Kingdom. The CVV indicates that fishing is exercised in a responsible way by complying with the legal demands and obligations. The certificate is a so-called business to business label, between the supplier and the buyer as customer. The website gives a current list of owners of fishing vessels that have received the CVV and interested parties may apply there. After application a pre-audit is carried out by employees of the field organization of the Productschap Vis. After a successful pre-audit an audit can be carried out by the external certifier (Moody International). When this one is also successful, the skipper receives the Certificate Verantwoordelijk Vissen. In the summer of 2009 the certification procedure has started and in the meantime almost 40 fishing vessels have already received the CVV.

The certificate holder can prove that he complies with the (legal) agreements for a responsible fishing. These are:

- The catching of fish and activities aboard the vessel are carried out by way of the legally prescribed conditions and that good practical behaviour is implemented
- It guarantees customers that the fish is caught in a responsible way
- It offers the certificate holder the possibility to distinguish himself in the market.

The certification counts for the following (legal) aspects aboard your vessel:

- Catching of fish, storage and catch processing.
- Crew demands
- Environmental measures
- Hygiene, food safety etc. by means of keeping up log data and registrations.

## 4.3 North Sea Fish center Trademark

Plaice with the North Sea Fish Center Trademark must meet a large number of quality requirements, from the catching to processing. It concerns a pure and honest product. Alongside the Trademark, a system of assurance has been developed, to control and guarantee the specific quality criteria. That criterion is strictly maintained by a watertight system of controls and by all recognised partners in the market, so that the quality of the plaice and its derivatives can be guaranteed

## 5.0 Monitoring

The litter from four harbours is basically weighed and processed on one location.

In this project KIMO Netherlands and Belgium cooperates with the ship's waste processor Bek en Verburg, established at Montrealweg 140 in the Botlek area in Rotterdam.

Ever since 2006 the firm of Bek en Verburg is monitoring the litter from the Fishing for Litter project of KIMO Netherlands and Belgium. In the meantime inside the company expertise has been built up about this. Litter is weighed and monitored on location according to the existing OSPAR method. This method is also used when monitoring in the Fishing for Litter project and even so in the European project in which beaches are monitored.

In 2014 for CleanSea a public monitoring will be organised. With this a quantity of litter coming from ships that participate in the Fishing for Litter project will be analysed (see chapter nine)

## 6.0 Litter collection

For the collection of the litter at sea the participating ships are provided with special Big Bags, on which besides the Fishing for Litter emblem also the emblem of CleanSea and the name of the ship is printed. The Big Bags are supplied by the firm of Polylink, contact mr. Joost Houtgraaf.

The litter is delivered in four different harbours and will be transported from these harbours to the processing location in Rotterdam. See appendix VII.

- 1) In Den Oever the litter is transported by HVC to the processing location in Medemblik. Here storage can take place, in the course of which once a month the litter is going to be forwarded to Rotterdam. (consult HVC and Bek en Verburg)
- 2) The GO 22 and GO 26 have IJmuiden as their home port. The litter can be put in storage at the location of Bek en Verburg in IJmuiden and transported to Rotterdam later.
- 3) In Harlingen harbour five ships of the Plaice Group tie up. The litter will have to be placed in a special container, until it can be transported to Rotterdam for processing.
- 4) In Stellendam harbour the GO 37 brings its fish ashore and so the litter as well. From this harbour the litter has to be transported to a fixed location for storage. Bek en Verburg is collector and processor in Stellendam for the Fishing for Litter project.



## 7.0 Information and education

### 7.1 The exhibition

Since its establishment in 1999 KIMO Netherlands and Belgium has been involved in many aspects about seas and oceans that have the objective to safeguard for the future the ecological, dynamical system of the North Sea and its adjoining marines. An important aspect in this is the increasing pollution of the seas and oceans. For this reason KIMO is carrying out the 'Fishing for Litter' project for years and years. It does so in close cooperation with a number of about 100 fishing boats and their crew from 12 harbours in The Netherlands.

Since the beginning of 2013 KIMO Netherlands and Belgium is involved in the European CleanSea project, in which among others it contributes with the data of the "Fishing for Litter" project. In the CleanSea project research is carried out by 17 European organisations to the consequences of the pollutions in seas and oceans. Within the framework of the CleanSea project KIMO Netherlands and Belgium has decided to set up a mobile exhibition about the seas and oceans and the consequences of human action in that, in which specific attention is paid to the increasing pollutions. The mobile exhibition "Fishing for Litter/CleanSea" is a composition of elements that in this way reflect this pollution of seas and oceans and its consequences. With this exposition KIMO Netherlands and Belgium

wants to reach a wide audience in order to achieve in this way awareness among children and adults about the world's largest ecosystem. The exhibition not only goes into the consequences of the pollution to the ecosystem, but also shows the range and boundlessness of the seas and oceans. The exhibition shows a large supply for children and adults. The collection has been extended with a large supply of reading matter. On top of that it is possible to show uninterrupted films on two viewing screens. On banners, notice boards and posters the various components are exhibited. Visitors may learn how long it takes before metal, glass, paper, plastic, cigarettes etc. are mouldered. At the exhibition also a Big Bag with litter from sea is shown. At the start of the project by a number of schools a gallery of paintings has been put up. Two of these paintings are added to the exhibition with the intention that during the tour these are supplemented by schools from the place where the exhibition is exposed. There is great interest for the exhibition. Until the end of 2014 the exhibition has already been booked by various municipalities and museums. One of the subprojects connected to the exhibition is the subproject "The Classroom".

### 7.2 The Classroom

In The Classroom young children, last 2 or 3 years of primary school, are taken during a part of the day from their familiar surroundings 'into the sea'. As a rule The Classroom is organized for a hundred children at most. The Classroom is preferably performed near the exhibition. On the day itself the children are provided with a T-shirt with the emblem of the "Fishing for Litter" project on it. Then the children are welcomed by a manager of the municipalities where The

Classroom is performed. Next, for the first time in their lives, the children receive a Youth Lecture from a university lecturer. This lecturer will show the children by a number of simple scientific experiments what happens with litter in seas and oceans. After this Neptune will especially emerge from the North Sea to tell the children how good or how bad it is at the moment to stay in the European waters as God of the Sea. Neptune takes the children into the deep waters and tells

them about the ships, the chemical products and the litter that is poured out on top of them. But he also tells them about the marvellous world of nature deep down there. Children are then taken to the workshop. The workshop is put up in advance by the co-workers who organize The Classroom on the spot.

In here the children are set to work to make works of art from inert litter. These may be paintings, objects

and/or poems. At the end compilations of these are made which the children receive as picture postcards. After these four different subjects the children are appointed ambassador of the

North Sea by Neptune and for this purpose they receive a certificate.

### 7.3 Lectures and presentations

During the exhibition KIMO Netherlands and Belgium takes care of lectures for adults. Aim is to give persons interested an insight into how our ecosystem is working, especially the seas and oceans and what the consequences are of overburdening this system. During these lectures the Fishing for Litter picture is shown. A 15 minutes documentary about the pollution of the seas. The CleanSea project gets full attention during the presentation.

### 7.4 Newsletters and Press releases

Regularly KIMO Netherlands and Belgium pays attention to the CleanSea project in newsletters. These newsletters are distributed among the coastal communities and a network of about 400 persons. During events in which CleanSea is involved, press releases are sent out.



## 8.0 Documentary

As part of information and awakening KIMO Netherlands and Belgium in cooperation with MB Foundation will have a documentary made about the plastic pollution of seas and oceans. In appendix VIII the written scenario is included.

In this documentary we will chart the marine waste problem, as far as this is unknown and especially deepen the knowledge of people about the problem by

showing them the present state of scientific knowledge, which studies are going on and very essentially: why it is so important that we deal with this problem.

Solutions, both on governmental as well as individual scale, are discussed in order to stimulate people in a positive way to help change the present trend.

## 9.0 Public monitoring/Conference

In May/June 2014 at Bek & Verburg's a conference will be organized about waste products in seas and oceans. During this conference also waste coming from the bottom of the sea, brought ashore by fishing vessels participating in the CleanSea project, will be publicly monitored. In addition to this the CleanSea project will be ???

For the monitoring the official OSPAR form will be used. The waste is divided into an number of main

groups and registered. The waste will be reported on the forms in kilograms.

Bek en Verburg has already been active in the "Fishing for Litter" project for over ten years. In cooperation with KIMO Netherlands and Belgium. The waste that is put in Big Bags by the fishermen, is processed at the Bek & Verburg location in Rotterdam. After that the separated products are turned into new materials again.

## Appendix I

### Addresses and telephone numbers:

### Contact person (project)

KIMO Netherlands and Belgium  
Contact person: Mr Bert Veerman  
Telephone number: +31 (0)251-263838 or  
mobile: +31 (0)6-22567146  
E-mail: bveerman@milieudienst-ijmond.nl

### Plaice Group B.V.

Contact person: Mr Andries de Boer  
Address: Geul 7-b.  
Postal code: 8321 SV  
Municipality: Urk  
Telephone number: +31(0)527-684266 or  
mobile: +31(0)6-51607882

#### LT 60,

Name ship: Wilhelmina  
Contact person: Mr R. de Boer  
Address: Vlaak 13  
Postal code: 8321 RV  
Municipality: Urk  
Telephone number: +31 (0)620173355  
E-mail: rdblt60@gmail.com

#### LT 162,

Name ship: Hendrik Brands  
Contact person: Mr J. Hakvoort  
Address: Middelbuurt 100  
Postal code: 8321 ZE  
Municipality: Urk  
Telephone number: +31 (0)622807229  
E-mail: lt162@live.nl

#### PH 63,

Name ship: Soli Deo Gloria II  
Contact person: Mr M. de Boer  
Address: Pyramideweg 65  
Postal code: 8321 CK  
Municipality: Urk  
Telephone number: +31 (0)622420249  
E-mail: meivanes@kliksafe.nl

#### Office:

Address: Vliestroom 13  
Postal code: 8321 EG  
Municipality: Urk  
Telephone number: +31(0)527-683405  
E-mail: adeboerwzn@kliksafe.nl  
E-mail: willem@vofbrands.nl

#### PZ 657

Name ship: Our Anna  
Contact person: Mr. J. de Boer  
Address: Geul 30  
Postal code: 8321 LC  
Municipality: Urk  
Telephone number: +31(0)61370322  
E-mail: janenandrea@kliksafe.nl

#### RN 1

Name ship: Sola Fide  
Contact person: Mr. H. de Boer  
Address: Schelpenhoek 35  
Postal code: 8321 BK  
Municipality: Urk  
Telephone number: +31(0)610969185  
E-mail: db1@dbconnect.nl



**GO 22**

Shipping company: Fa. Jan Lokker en Zonen  
Contact person: Mr C. Lokker GO 22  
Address: Haveneind 8  
Postal code : 3252 LE Goedereede  
Municipality: Goeree-Overflakkee  
Telephone number GO 22: +31 (0)187-492657  
E-mail: cor.lokker@online.nl

**GO 37**

Shipping company: VOF Zeeviserijbedrijf GO37  
Contact person: Mr J. or B. Tanis  
Address: Breenstraat 25  
Postal code: 3252 LB Goedereede  
Municipality: Goeree-Overflakkee  
Telephone number: +31(0)187-491645  
E-mail: sjaantanis@solcon.nl

**WR 160**

Shipping company M. van der Burg bv  
Contact persoon: M. van der Burg  
Address: Oosterkruisweg 49  
Postal code: 1779 XN Den Oever  
Municipality: Hollands Kroon  
Telephone number: +31 (0)227-511066  
E-mail: wr160@onsatmail.com  
E-mail: martienvanburg@quicknet.nl ,

**GO 26**

Shipping company: Fa. J. Lokker en Zonen  
Contact person: Mr G. Lokker GO 26  
Address: Haveneind 8  
Postal code : 3252 LE Goedereede  
Municipality: Goeree-Overflakkee  
Telephone number GO 26: +31 (0)187- 491574  
E-mail: lauralokker@hetnet.nl

**FD 281**

Shipping company: Geertruida  
Contact person: Mr H. Koffeman  
Address: Industrierondweg 8/A  
Postal code: 8321EA  
Municipality: Urk  
Telephone number: +31 (0)527-684290  
E-mail: kjk281@googlE-mail.com

## Waste Treatment Companies

### Waste Treatment Central

Name: Bek en Verburg  
Contact person: Mr D. van Mullum or Mr K. Baas  
Address: Montrealweg 140  
Postal code: 3197 KH  
Municipality: Rotterdam Botlek  
Harbour number: 4267  
Telephone number: +31(0) 1042877 44  
Mobile: +31 (0)6536741  
E-mail: directie@bek-verburg.nl  
E-mail: kenny.baas@bek-verburg.nl

### Waste Treatment SITA

Contact person: Mr T. de Roo  
Address: Energielaan 17  
Postal code: 8466 ST Nijehaske  
Telephone number: +31(0)513-613951  
E-mail: tom.deroo@sita.nl

## Harbours

### Harbour Harlingen

Contact person: Mr F. Grijpstra  
Telephone number: +31(0)517-492336  
Mobile: +(0)620499659  
E-mail: f.grijpstra@harlingen.nl  
Address: Voorstraat 35  
Postbus 10000  
Postal code: 8860 HA  
Municipality: Harlingen

### Harbour Den Oever

Contact person: Mr M. Keppel, Harbour master  
Telephone number: +31(0)227-511303  
Mobile: +31(0)620412187  
Contact person: Mr J. Nierop, Harbour master  
Telephone number: +31(0)227-511303  
Mobile: +31(0)620409983  
Contact person: Mr J. Metselaar, Harbour master  
Telephone number: +31(0)227-511303  
Mobile: +31(0)612833640  
E-mail: havendenoever@hollandskroon.nl  
Address: Havenkade 1  
Postal code: 1779 GT  
Municipality: Den Oever

### Waste Treatment HVC

Name: Huisvuilcentrale Alkmaar  
Contact person: Mr W. Bosma  
Address: Jadestraat 1  
Postal code: 1812 RD Alkmaar  
Telephone number: +31 (0)72-5411311  
E-mail: w.bosma@hvcgroep.nl

### Big-Bags

Name: Polylink b.v.  
Contact person: Mr J. Houtgraaf  
Address: Touwslagerij 21A  
Postal code: 4762 AT Zevenbergen  
Telephone number: +31 (0)1683824 71  
Mobile: +31 (0)653232186  
E-mail: j.houtgraaf@polylink.nl

### Harbour Stellendam

Contact person: Mr E. de Jong,  
Fish Auction Stellendam  
Telephone number: +31(0)187-492006  
Mobile: +31(0)622446722  
E-mail: info@unitedfishauctions.com  
Address: Meester Snijderweg 5  
Postal code: 3252 LJ  
Municipality: Stellendam

### Seaport IJmuiden

Contact person: Mr M. de Koning  
Address: Westerduinweg 7  
Postal code: 1976 BV IJmuiden  
Telephone number: +31(0)255547000  
Mobile: +31 (0)653676444  
E-mail: marceldekoning@zeehaven.nl



## Appendix II

Table I

The information which is needed to make a good analyses of the waste which has been collected at sea is written in the table below. Table I gives a total overview.

Every ship receives a table which is only focused on the ship concerned.

For example: The GO 22 receives a table with the information of the GO 22.

CleanSea, Fishing for Litter data:									
Subjects/Identifiable Information	Participating ships								
	GO 22	GO 26	GO 37	WR 160	WN 1	LT 60	LT 62	PD 63	PD 657
Name of the ship									
Owner of the ship									
Engine power									
Home port									
Date of leaving the harbor									
Type of fish									
Width bottom net									
Width upper net									
Number of nets									
Speed during fishing									
Width of the nets									
Location of fishing									
Duration of fishing									
Number of fish catches/net pulling									
Date and time of fishing									
Use of Pulskor									
Way of sorting the fish									
Motivation of the crew									
Domestic waste (number of bags)									
Big-Bag number									
Specifics									

Table I: Overview of data

## Appendix III

Table II

An electronic document is sent to the ship to note the information. The recorded data will be, after completion, sent by e-mail to a central place for further processing. In the attached table has the GO 22 been taken as an example. The GO 22 has IJmuiden as home port.

CleanSea, Fishing for Litter data:	
	Participating ship
Subjects/Identifiable Information	GO 22
Participating vessel	GO 22
Name of the ship	Jan Cornelis
Owner of the ship	Fa. Jan Lokker en Zonen
Engine power	2000 HP
Home harbour	IJmuiden
Date of leaving the harbor	
Type of fish	Sole, Plaice, Turbot, etc
Width bottom net	80 mm
Width upper net	100 mm
Number of nets	Two
Width of the nets	2 x 4,5 meter
Location of fishing	
Duration of fishing	2 hours
Number of fish catches/net pulling	12/day
Speed during fishing	
Date and time of fishing	
Used Pulskor	Yes or no
Way of sorting fish	
Motivation of the crew	
Domestic waste (number of bags)	
Big-Bag number	
Specifics	

Table II : Overview from the GO 22



## Appendix IV

The table below is made after the journey from the 5th till the 9th of August 2013 with the GO 22. The position of the vessel (see table below) is recorded every two hours.

Once a week to be filled in (only the blue areas)	
CleanSea / Fishing for Litter	
Subjects/data	
Participating vessel	FD 281
Name of the ship	Kornelis Jan
Owner of the ship	Rederij Geertruida
Engine power	2000 HP
Home port	Harlingen
Type of fish	Flat fish (sole, plaice, turbot a.o.)
Width bottom net	80 mm
Width upper net	100 mm
Used Pulskor	no
Way of sorting fish	Manual
Speed during fishing	6 till 6,5 mile/hour
Number of fish catches/net pulling	Every two hours (12 times a day)
Weeknumber	
Domestic waste (number of bags)	
Specifics	**

To be filled in every day (only blue areas)							
Monday				Tuesday			
Location time	NB	OL	Vak	Location time	NB	OL	Vak
02.00 o'clock				02.00 o'clock			
04.00 o'clock				04.00 o'clock			
06.00 o'clock				06.00 o'clock			
08.00 o'clock				08.00 o'clock			
10.00 o'clock				10.00 o'clock			
12.00 o'clock				12.00 o'clock			
14.00 o'clock				14.00 o'clock			
16.00 o'clock				16.00 o'clock			
18.00 o'clock				18.00 o'clock			
20.00 o'clock				20.00 o'clock			
22.00 o'clock				22.00 o'clock			
24.00 o'clock				24.00 o'clock			
Big-Bag number				Big-Bag number			

Table III measurement data

## Appendix V

OSPAR document			
<b>Plastic / Polystyrene</b>		kg	Number
1	Buoys		
2	Fish boxes		
3	Packing and coating material		
4	Ropes and cords/ Bunches		
5	Jerry Cans		
6	Nets (fishing nets and fishing lines)		
7	Oil Barrels (large)		
8	"Straps" straps for industrial packaging		
9	Other large plastic objects (specify below)		
<b>Metal</b>		kg	Number
10	Oil barrels (large)		
11	Other large metal objects Andere grote metalen voorwerpen (specify below)		
<b>(machined wrought) Wood</b>		kg	Number
12	Crab traps and lobster traps		
13	Wood		
15	Other large wooden objects (specify below)		
<b>Rubber</b>		kg	Number
16	Working gloves		
17	Tires and straps		
18	Other large rubber objects (specify below)		
<b>Textile</b>			
19	Ropes and strings / bunches		
20	Clothes and shoes		
21	Other large textile objects (specify below)		
<b>Specification;</b>		kg	Number
<b>Plastic / Polystyrene</b>			
9	Buoys		
9	Fishing nets		
9	Bunches		
9	Plastic bag with shipping waste		
9	Separation		
9	Great bag with spacious waste		
9	Oil filters		
9	Cleaning rags		
<b>Metal</b>		kg	Number
11	Accu		
11	Oil filter		
11	Computer		
11	Ship plate		
11	Paint cans		
11	Paint cans (full)		
11	Wire		
<b>(Machined wrought) wood</b>		kg	Number
15	Wood		
<b>Rubber</b>		kg	Number
18	Care tires		
18	Hatch rubbers		
18	Hose		
21	Robe ladder		



## Appendix VI

### Example Big-Bag

The following notations will be put on the Big-Bag:

1. Name ship (e.g. GO 22)
2. Fishing for Litter / CleanSea
3. Number GO22-101, the next one GO22-102 etc.

### In a plastic sleeve the next text:

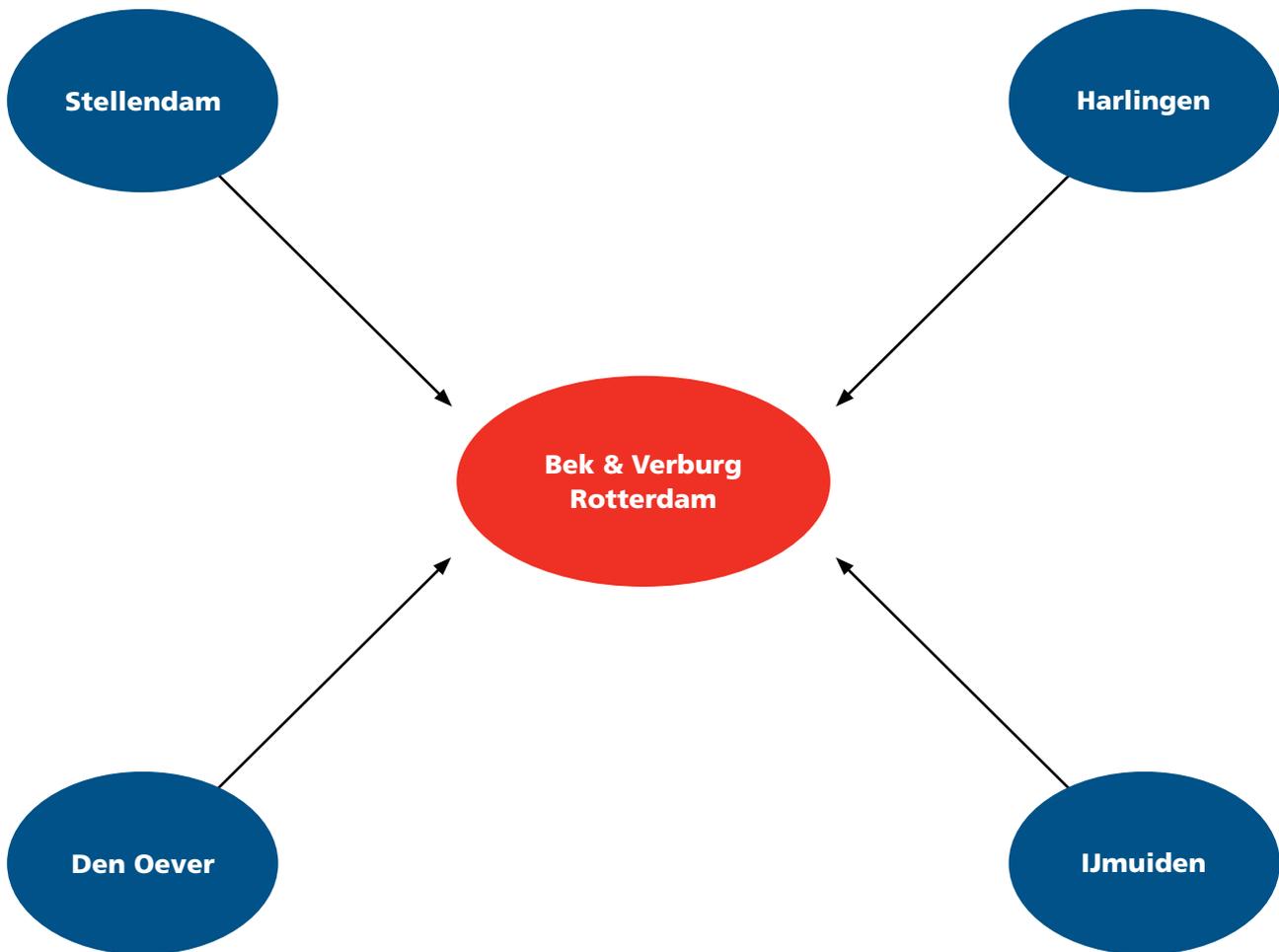
Fishing for Litter/CleanSea is a sustainable European project for monitoring waste from the bottom of the sea. Put only waste from the Fishing for Litter project in de Big-Bag. No waste from the ship.



Image 1 Big-Bag

## Appendix VII

### Transport diagram



The waste in the Netherlands is coming from ten fishing ships from the four harbors, Stellendam, IJmuiden, Den Oever and Harlingen. On the location of Bek en Verburg in the Botlek area in Rotterdam, will the waste be processed. At this location, the waste will be weighed, monitored and separated for recycling.



## Appendix VIII

### Summary Film Project

Type: Documentary for Internet and screenings at events

Length: 15-20 minutes

Audience: general public, age: 15-65+

### Goal:

To map out the issue of marine litter as far as this unknown to the general public and to deepen knowledge surrounding it; by giving an overview of the current scientific knowledge of the problem and show what is being done to understand it as well as explore possible solutions. The need to address this issue is highlighted throughout the film in a positive manner to order to inform and inspire people to help change this situation in future years.

### Style:

The film will take the viewer on a cinematic journey along the Belgian and Dutch coast through the different research projects (CleanSea project). Using both aerial and microscopic imagery the scale of the issue will be explored and the viewer will get a deep understanding of the issue through the stories of people working on research projects.

### Story structure

We start our filmic journey in the city. We see the day-to-day activity, the lit skyline at night, traffic: basically the 24 hour economy of the 21st century. Slowly the night sky changes and microplastics float through the air behind buildings as giant spaceships, as if in a dream.

Matthijs Lievaert a young Dutch citizen wakes up in the morning and leaves his house for his daily walk on the beach. He speaks about how a couple of years ago he started noticing all the plastic on the beach, how he started collecting it and how that grew into his project: "Doe Mee Verlos De Zee" (Join And Save The Sea) which got picked up by other organizations like KIMO. He also speak about how he now sees small fragments of plastic on the beach and asks himself aloud:

### What are these small pieces of plastic?

#### Where does it all come from?

These questions asked by this concerned citizen form the jumping board of our exploration of the marine litter issue.

We leave Matthijs Lievaert behind at the beach and fly across the sea where we land on the research vessel of Johan Robbens and his team in Belgium. They are taking samples, which they analyse in the ILVO laboratory as part of the Micro project and CleanSea project.

We learn about marine litter and microplastics and other parts of research of the CleanSea project conducted by Heather Leslie.

### How much plastic does seawater contain?

#### How does it break down into fragments?

#### Why is this an issue? What are the dangers?

If we would want to solve the issue we would need to understand how plastic enters the sea. This goes back to the initial question posed by Matthijs Lievaert. To explore this part of the equation we follow the research of Myra van der Meulen of Deltares and the KIMO project in IJmuiden. The question of which part of litter originates from land vs. dumped at sea is explored and illustrated through imagery.

**What can we do about it? And who needs to do what?**

- Awareness/clean up: beach cleanup projects, Fishing for Litter.
- How can people change their plastic consumption?
- What can be done to improve or reduce packaging?
- How can the use of microplastics in cosmetics be addressed?
- Recycling: marine litter transformed into new products.

All these topics will come to pass in interviews with scientists and will be brought to life through images so the film ends on a positive note, having informed the viewer and possibly inspire him/her to help address the marine litter issue.



## Appendix IX

### General rules for CleanSea / Fishing for Litter project

- Participation is on a voluntary basis without financial compensation
- The ships received big bags with the ship's number and code on it
- Issuing the Fishing for Litter waste at the fish auction at the port of landing
- Big-bags that can be held until there is an on-board substantial content. This in determining the skipper.
- Big bags can be issued weekly on entry into the port
- Participants put the big bags on the quay or jetty or makes possible in a manner that does not cause discomfort and retrieval by collectors in the container
- Only use the supplied big bags for marine litter fished
- Do not use the big bags for the resulting board home and/or ship-related waste
- Use the big bags for: all Fishing for Litter waste except ammunition
- On the stick that was sent to you is a table to fill out
- The table will mailed weekly to: [bveerman@milieudienst-ijmond.nl](mailto:bveerman@milieudienst-ijmond.nl)
- The project has a duration of two and a half years.

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