

Port Environmental Review System

Port of Harlingen



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1. Environmental policy statement

The geographical position of the port of Harlingen (i.e., North Sea and Wadden Sea) , together with its international orientation, makes of this port an important distribution and communication hub. Moreover, Harlingen provides employment to and is one of the most important engines for industrial and economic development of the Frisian region and the city of Harlingen. Furthermore, the port authority of Harlingen recognizes its responsibilities regarding the development of an environmental policy and management system attuned to its port activities and competences.

We are committed to contribute to a long-term sustainable development by identifying, monitoring and minimising the environmental impacts in our operations. For so doing we follow international standards as defined by the European Sea Port Organization (ESPO) in the Ports Environmental Review System and in line with the principles of corporate and social responsibility.

More specifically we are committed to:

1. Develop, update and maintain an appropriate environmental management programme through the PERS methodology as managed by ESPO to guide and continuously improve our environmental performance.
2. Keep ourselves informed about, comply with, and as far as it is economically justified, exceed present environments legislation and other environmental requirements to which we subscribe.
3. Strive to minimize the ports footprint by using resources as efficiently as possible and prevention of environmental accidents. To achieve the port strives to provide adequate training and resources to carry out the environmental policy and to influences our tenants and suppliers to adopt sustainable practices and products.
4. Communicate our environmental policy internally (i.e., with our employees) and externally (e.g. with our tenants, contractors, or the inhabitants of Harlingen) by, amongst others, making public our policy statement and environmental report periodically.
5. Specifically the port authority will focus on these environmental aspect:
 - Monitoring and efficient handling of the port's waste flow.
 - The port is committed to improve the air quality.
 - To encourage a sustainable energy usage and to reduce light pollution.
 - The port is committed to improve the water quality.
 - To limit the negative effects of dredging.
 - Community involvement: The port is committed to ensure that the port is a pleasant place to work and visit.
 - Noise: the port is committed to minimize noise nuisance.

The port of Harlingen strives to formulate a policy and develop an environmental management system which is tailored to its socio-ecological context.



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2. Port profile Harlingen

The port of Harlingen is located Northwest of the town of Harlingen. The city centre of Harlingen is located around the two oldest harbours; the Noorderhaven and Zuiderhaven, both are nowadays in use as marinas.

The harbour is located on the intersection of major road and waterways. The port is the intersection point between the inland waters of the Frisian Lakes, IJsselmeer with the Wadden sea and the North sea. Several important inland shipping lanes connect the port of Harlingen with the ports of Kampen, Amsterdam and Rotterdam. Furthermore the port has short sea routes with Great Britain, Scandinavia and the Baltic states. The strategic location on the crossroads of waterways means that the port has an important economic function for the North of the Netherlands and the province of Fryslân in particular. In annex 5 an annual report of the port is shown.

2.1. Port areas

The port is divided into several areas with each one focussing on a specific customer group.



Figure 1 Map of the port and main harbour areas

2.2. The Industriehaven and the Nieuwe Industriehaven (Industrial harbours)

The Industriehaven and its recent expansion through the Nieuwe Industriehaven is the location of the larger industrial facilities. In this part of the port, 1.500 meter of quay is available for loading and unloading of sea and inland ships. These harbours are directly (without passing bridges and locks) reachable from the North Sea by a 7.5 metre deep channel through the Wadden Sea. For the depths of the different harbour areas see Annex 1.

A variety of harbour related companies are active in this part of the port:

- Transshipment companies that facilitates the import and export and transit of goods by sea, road and inland waterways. Two of these companies are Harlinger Overslag en Veembedrijf BV, and Nesta Shipping BV.
- Distribution companies that handle containers have warehouses and cold and deep frozen storage. Two of these companies are Daalimpex Coldstores and Lenger Seafood BV.
- Companies that process raw materials and food products (potatoes and fish) . Among these companies are: Esco (salt production) and Spaansen (sand, gravel and concrete products).
- Maritime function, with among other: shipyards, offshore and services and supply companies. Among these companies are Damen Shiprepair, BDS Harlingen and Tuinman Sleepdiensten.

2.3. Vissershaven

The Vissershaven (fishery harbour) is the homeport for the Urk fishing fleet - which is one of the most important in the Netherlands. This is because the North Sea is easily reachable from the port area. At the end of the fishing-week, the boats return to the harbour and deliver to and trade their catch at the fish auction. The auction is owned by Visveiling Urk (Urk Fish Auction). The most important fish catch landed in the harbour are: sole, plaice, haddock and cod from the North Sea and shrimp, cockle and mussels from the Wadden Sea.

2.4. Veerhaven

The shipping company Doeksen maintains since 1923 the ferry lines to the Wadden island Terschelling and Vlieland. Yearly Doeksen transports almost 600.000 passengers between Harlingen and the Islands. Beside the regular ferries there is a fast ferry and a catamaran for freight transport.

2.5. Marinas

Harlingen has several marinas mostly located close to or in the old town. These are the Northern harbour and Southern harbour.

2.6. The brown fleet

The “brown fleet” are 70 traditional sailing ships that are used for recreation purposes. It is of great importance the town of Harlingen as this fleet makes Harlingen the largest charter harbour in the Netherlands. The brown fleet sails with passengers from April till October on the Wadden Sea, the IJsselmeer and the Frisian lakes.

2.7. Management of the port

There are two organisations involved with management of the port of Harlingen. The municipality is responsible for the management of most port areas. This is carried out by Harlingen Port Authority¹. Ontwikkelingsmaatschappij Westergo CV/BV develops business in the Nieuwe Industriehaven area. All port areas together have an approximately a surface of 145 hectares.

¹ Havendienst Harlingen

3. Register of environmental aspects and legal requirements

3.1. Register of environmental aspects

This register of environmental aspects is *required for the effective management of the environmental performance. It is an overview of the awareness and knowledge of the environmental aspects in relation to the activities, products and services of the port.*

In this section, the environmental aspects are identified. An environmental aspect is defined by the ESPO as: “*Elements of the Port Authority’s activities, products, or services, which interact with the environment.*” An aspect is considered significant based on legal requirements, policy statements, or concerns of stakeholders. Policies and legal requirements are also identified for the aspects, to assure compliance to legislation. Please note that we have decided not to translate the Dutch laws and regulations.² Furthermore the EU directives are translated into national laws. For example the EU water directive framework is implemented at the national level through the Dutch law ‘Waterwet’. Therefore, sometimes we just list the national laws and not the EU directives.

Environmental Aspect Register Port of Harlingen

Table 1 Environmental Aspect Register Port of Harlingen

3.1.1 Port authority

| Ref. Nr. | Aspects | Impact on | Responsible actor | Legal and other requirements | Remarks |
|-----------------------|-------------------------|---|--|--|---|
| Port Authority | | | | | |
| P1 | Shipping and Navigation | Emissions to air, Noise, Discharges to water | Harlingen Port Authority Rijkswaterstaat | Marpol '73/'78 Waterwet EU richtlijn 2005/33/EC scheepvaart emissies. SECA. Green Deal Rijn en Wadden | On shore power facilities, LNG Facilities Sewage water |
| P2 | Emergency Situations | Emissions to air, Discharges to water, emissions to soil, | Harlingen Port Authority Rijkswaterstaat | Port regulations Scheepvaartverkeerswet Incident management | Primair waterkwaliteitsbeheerder Rijkswaterstaat / |

² The Port Authority will answer any possible question in this regard. Contact persons: Dirk Klinkenberg, tel. +31(0)517 492 328 or Majel Kremer +31 (0)517 492 274

| | | | | | |
|--------------------------------------|---|---|--|--|---|
| | | emissions to sediments, port surroundings | | arrangements | Wetterskip (zoet water) |
| P3 | Safety | | Licensee | Wet milieubeheer Bevi/Revi BRZO | Provincie, Gemeente en Ministerie |
| P4 | Administrative and Planning Activities | Mooring arrangement Under keel clearance Safety areas | Harlingen Port Authority | Havenverordening Pre-arrival procedure | |
| P5 | Complaint and incidents | Emissions to air, discharges to water, Noise | Harlingen Port Authority, Environmental dept. | Havenverordening, Scheepvaart Verkeerswet, Wet milieubeheer | Provincie Friesland Ministerie RWS / Wetterskip |
| P6 | Removal of shipping waste | Discharges to water, Emission to soil, Emissions to sediment | Harlingen Port Authority, Civil Engineering | Wet milieubeheer Marpol '73/'78 Haven afval plan Wvvs | Provincie Friesland/ bevoegd gezag Ministerie I.L.T. RWS |
| P7 | Ballast water discharge | Discharges to water | Rijkswaterstaat | Waterwet | RWS |
| Engineering & maintenance | | | | | |
| P8 | Marine engineering | Emissions to soil, Emissions to water | Rijkswaterstaat | Wet milieubeheer Waterwet | Onder water bodemsanering (RWS) |
| P9 | Coastal Engineering | port surroundings, Emissions to soil, Emissions to land, resource consumption, | Harlingen Port Authority, Environmental dept., Civil Engineering | APV Wet milieubeheer Waterwet Bestemmingsplan Wet bodembescherming Besluit bodemkwaliteit | Terrein beheer/ infrastructuur/openbare ruimte Duurzaamheid, parkmanagement |
| P10 | Dredging, maintenance and disposal | Discharges to water, Emissions to sediments, changes in marine ecosystems | Harlingen Port Authority, Civil Engineering, Rijkswaterstaat | Wet bodembescherming Besluit bodemkwaliteit Waterwet Flora- en fauna wet Natuurbeschermingswet | |

| | | | | | |
|------------|-----------------------------------|---|--|---|--|
| | | | | Wet algemene bepalingen omgevingsrecht Wet milieubeheer WBR (Wet beheer rijkswaterstaatswerken) | |
| P11 | Port installations maintenance | Emissions to soil, Emissions to sediment, Port surroundings, Discharges to water | Harlingen Port Authority, Environmental dept., Rijkswaterstaat | Wet milieubeheer Waterwet | Discharges to surface water e.g. paint or oil spillage |

3.1.2 General port activities

| Ref. Nr. | Aspects | Impact on | Responsible actor | Legal and other requirements | Remarks |
|--------------------------------|--|---|-------------------|---|---|
| General port activities | | | | | |
| G12 | Port based industry, Freight trucks, Forklift trucks | Emissions to air, Emissions to soil, Discharges to water Noise, odour, port surroundings, Safety Light pollution | Licensee | Among others: Wet geluidhinder Wet milieubeheer Geluidzone Waterwet | All permits from RZ and milieu are outsourced to FUMO |

3.1.3 Tenants

| Ref. Nr. | Aspects | Impact on | Responsible actor | Legal and other requirements | Remarks |
|----------------------------------|-----------------------------|---|-------------------|---|--|
| Cargo handling operations | | | | | |
| T13 | Nesta Shipping | Emissions to air, | Licensee | Wet milieubeheer | Salt and pallets |
| T14 | Spaansen | Noise, Emissions to soil, Discharges to water | | NEC richtlijn2 Kaderrichtlijn luchtkwaliteit IPPC-richtlijn | Concrete element construction and sand and gravel extraction |
| T15 | Port Services Harlingen bv. | Dust | | RIE3 | |
| T16 | Esco Frisia zout bv. | | | EIA richtlijn. | |

| | | | | | |
|------------------------------------|---|-------------------------------|--|------------------------------------|------------------------------|
| T17 | De Boldert | | | NeR | Overslag kraan |
| T18 | Harlinger Overslag en Veembedrijf | | | Omgevingsvergunning Geluidszone | Potatoes and containers |
| T19 | KTF Kraanverhuur Transport Friesland bv. | | | Waterwet | |
| T20 | Daalimpex Coldstores | | | | Ammonia (safety) and fish |
| Fisheries & Aquaculture | | | | | |
| T21 | Visveiling Urk BV | odour | Licensee | Wet milieubeheer | |
| T22 | Lenger Seafoods | | | | |
| T23 | The Fish Company | | | | |
| Ship building and repair | | | | | |
| T24 | Damen Shiprepair | Discharges to water | Harlingen Port | Havenverordening | |
| T25 | Wierda Scheepsreparatie | Emissions to soil | Authority, | Wet milieubeheer | |
| T26 | Friesland Dieselmotoren BV | Noise | Environmental dept. | Wet geluidhinder/Geluidzone | |
| T27 | Wärtsilä | Waste production | FUMO | Waterwet | |
| T28 | Strametco | Port surroundings | Licensee, | | |
| T29 | Bodewes Harlingen Shipyards | | Rijkswaterstaat, | | |
| T30 | Icon Shipyards | | | | |
| T31 | De Boldert | | | | Ship engines |
| T32 | Harlingen Ship Repair | | | | |
| Oil traders | | | | | |
| T33 | Oliehandel Klaas de Boer | Safety Discharges to water | Harlingen Port Authority, Environmental dept. Rijkswaterstaat | Wet milieubeheer Bevi/Revi BRZO | RWS > water FUMO > Safety |
| T34 | Vermilion Energy trust (Oil & Gas) | Safety Discharges to water | Harlingen Port Authority, Environmental dept. Rijkswaterstaat | | Ministerie EZ. > safety |

| | | | | | |
|------------------------|-------------------------------------|--|--|---|---|
| T35 | Bunkerservice Harlingen | Safety Discharges to water | Harlingen Port Authority, Environmental dept. Rijkswaterstaat | | RWS > water FUMO > Safety |
| T36 | Kustvaart Harlingen BV | Main impact is their shipping activities see P1 | Licensee | Wet milieu beheer | For shipping activities see P1 |
| T37 | Abis shipping Bv | | | | |
| T38 | Nesta Shipping Vof. | | | | |
| T39 | Kuhlman Repko Shipping BV | | | | |
| T40 | JR Shipping BV | | | | |
| Marine services | | | | | |
| T41 | Tuinman sleepdiensten | Discharges to water | Rijkswaterstaat | Wet milieu beheer | For shipping activities see P1 |
| T42 | BDS Harlingen | Discharges to soil Discharges to water Odour | Rijkswaterstaat, Harlingen Port Authority, Civil Engineering | Wet milieu beheer Waterwet Wet bodembescherming Besluit bodemkwaliteit | For shipping activities see P1. Oil spill containment etc. |
| T43 | C.I.V. Harlingen | Noise, Emissions to air | FUMO | Wet geluidhinder Wet milieu beheer Nederlandse Emissie richtlijn (NER) | Maritime retail (freight trucks) |
| T44 | Steemar bv. | Noise, Emissions to air | FUMO | Wet geluidhinder Wet milieu beheer Nederlandse Emissie richtlijn (NER) | Maritime retail (freight trucks and oil storage) |
| Other business | | | | | |
| T45 | Reststoffenenergiecentrale (REC) | Emissions to air Discharges to water Odour Dust | FUMO Rijkswaterstaat | Wet milieu beheer Water wet Nederlandse Emissie richtlijn (NER) | Overslag van ovenslakken |
| T46 | Windpower Centre | Noise | FUMO | Wet geluidhinder Omgevingsvergunning | Geluidszone |
| T47 | De Vlas Transport BV | Noise, | FUMO | Wet geluidhinder | Geluidszone |

| | | | | | |
|------------|--------------------------------------|--|-------------------------|---|----------------------|
| | | Emissions to air | | Wet milieu beheer Nederlandse Emissie richtlijn (NER) | Mainly freight truck |
| T48 | Traditional charter sailing fleet | Emissions to air noise Discharges to water Dust | FUMO Rijkswaterstaat | Wet milieubeheer, Wet geluidhinder Nederlandse Emissie richtlijn (NER) | |

FUMO = Frisian environmental and spatial implementation service

Rijkswaterstaat = Ministry of Infrastructure and Environment

3.2. Main environmental aspects

This section gives an overview of the top-priority environmental aspects for the port of Harlingen. These significant environmental aspects are defined, based on several sources. For instance, a team of researchers from the Earth System Science Group at Wageningen University and Research centre developed in close collaboration with the port authority a strategic overview of significant environmental aspects. To do this, they followed an evidence-based procedure described in the scientific literature.³ Moreover, they have also conducted a round of exploratory interviews with key stakeholders such as environmental organizations, the municipality and port tenants. The final prioritization of the environmental aspects was made through a last round of e-mail communication with the interviewees and a validation session between the WUR researcher's team and a representative of the port authority. This resulted in the following relevant environmental impacts:

- **Waste**
- **Air quality**
- **Energy and light**
- **Water quality**
- **Dredging**
- **Local community**
- **Noise**

³ Darbra, R.M., Ronza, A., Stojanovic, T.A., Wooldridge, C., Casal, J., 2005. A procedure for identifying significant environmental aspects in sea ports. *Marine Pollution Bulletin* 50(8), 866-874.

3.3. Overview of the environment performance indicators

The environmental performance of the port concerning these significant environmental aspects will be monitored through a set of performance indicators. An overview of all these performance indicators is given in the table below. In the following sections we elaborate these environmental aspect and performance indicators.

Table 2 Overview of the environmental performance indicators.

| Aspect | Indicator | Measurement units |
|------------------------------|---|---|
| Waste | Ships that disposes waste | Number of ships (S-forms/payments) |
| | Amount of collect waste(oil, household, small dangerous waste) | Weight of collected waste X 1.000 kg |
| | Complaints | Number of complaints |
| | Fishing for litter | Number of participating ships |
| | | Weight of collected litter X 1.000 kg |
| Air quality | Air quality research | Air quality report |
| Energy and light | LNG | LNG pilot results |
| | Onshore power | Explore weather and where on-shore power will be required |
| | Light pollution | Amount of LED lights installed by the municipality (1) Increasing the number of companies that participate in this initiative and (2)number of installed LED lights |
| Water quality | Waste water | Explore weather and where waste water collection infrastructure expansion is needed |
| | Ballast water | Following developments regarding ballast water and determine whether and how action is required |
| | Water Valley usage | Increase the number of companies connected to the system of the Water Valley |
| Dredging | Disposed dredging silt during the primary production period (spring and summer) | M ³ or days |
| | Silt engine | Securing funding and permits |
| Community involvement | Environmental communication | Maintain PERS eco-certification Issue biannual environmental report |
| | Involvement local community | Internships |
| Noise | Noise complaints | Complaints received and initiated actions |

3.4. Waste

Waste is environmental aspect that is most mentioned and often considered as the highest environmental priority by stakeholders. This issue is also highly regulated in international, EU and national laws. Therefore waste remains as the top environmental aspects-priority. This was already the case in the PERS of 2010 of the port of Harlingen.

3.4.1. Port waste

The main international regulation in regards with waste is the Marpol 73/78, and the guideline Number. 2000/59/EG is the main EU regulation. The main national law is the *Wet Voorkoming Verontreiniging door Schepen (Wvvs)*. It is very clear that a clean port is a top priority for any port.

The port of Harlingen has a Harbour waste plan (HAP) for the seagoing fleet and a Fishery waste plan (VISHAP⁴) for the fishing fleet. For the marinas there is similar arrangement as for the fishing fleet which is regulated in the *Jachthavenbesluit*. These waste plans contain a procedure for reporting complaints and how the port authority will process the complaints and weather actions need to be taken⁵.

The VISHAP is a initiative from the *Stichting Financiering Afvalstoffen Visserij (SFAV)* this is a foundation of the fishing fleet whose members can, in exchange for their contribution, dispose a certain amount of waste in the port.

The HAP has three categories of waste. In the port there are several collection points for specific types of waste. The main collection points are the Port reception facilities. The collector companies collect and process the waste according to Dutch and EU standards. In these EU laws it is also stated that all vessels must financially contribute to the collection and processing of waste. Therefore a system of indirect funding is used. Here ships pay a levy when entering the port regardless if they intend to dispose waste or not. This will reduce the economic incentive of discharging waste at sea. When entering the port beside paying a levy they also must report on the type and quantity of waste on-board, if their storage is insufficient to reach the next port they are obliged to dispose their ship-related waste at HOV.

Table 3 Overview of categories and collectors of HAP waste

| Category | Collector |
|--|------------------------------------|
| Annex I: Oil contaminated waste | Klaas de Boer, MAIN, ZM Cleaning |
| Annex V: Household waste | Omrin, Visser ATF, Van Ganzewinkel |
| Annex V: Small dangerous waste | MAIN |

This enable the port authority to monitor the port performance by collecting the information regarding the volume of waste collected and the number of ships that participate and thus deliver waste. The two performance indicators are then:

⁴ See, for instance, the VISHAP of Lauwersoog which is similar to this one of Harlingen:

<http://www.havenlauwersoog.nl/images/Visserijhavenafvalplan%20Haven%20Lauwersoog.pdf>

⁵ Havenafvalstoffen plan haven Harlingen:

<http://www.harlingen.nl/document.php?m=47&fileid=13887&f=924de5456eecaf32776c3d8bc70d40be&attachment=1&c=8777> In that document, page 29, a visualization of the complaints procedure of the port can be found.

- Amount of collected waste, divided into oil contaminated, household waste and small dangerous waste.
- Number of ships that dispose waste.

In all these waste plans there is a procedure to process complaints. A standard document and/or a telephone number is available to report complaints and problems. The port authority receives the complains and will process these complains according to the procedure that is documented in the port waste plan⁶. Therefore, and to guaranty that complains are properly treated another performance indicator is:

- Number of complains and (re)action

3.4.2. Fishing for litter

The port of Harlingen is participating in the fishing for litter program run by the KIMO⁷. This program aims to reduce the large amounts of litter that are polluting the oceans and affecting the marine environment. Besides the direct removal of waste from the sea, the project also raises general awareness about this problem.

The fishing vessels that participate in this program collect waste that is hauled up along with their catch. And instead of disposing the waste back in the sea they bring it to the port for disposal. To do this, KIMO give them big bags. These bags are stored in a HOV till they are collected and recycled.

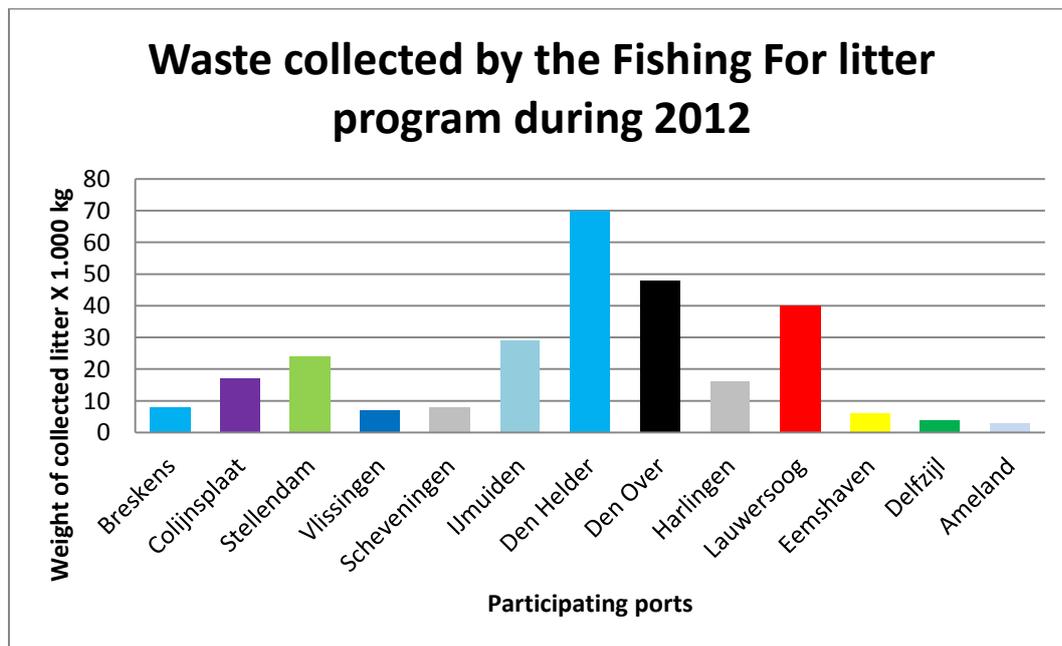


Figure 2 Collected litter by the fishing for litter program during 2012 (reproduction, Original from KIMO)

⁶<http://www.harlingen.nl/document.php?m=47&fileid=13887&f=924de5456eecaf32776c3d8bc70d40be&attachement=1&c=8777>

⁷ KIMO is a safety and environmental organization for coastal municipalities in Europe: <http://www.kimointernational.org/FishingforLitter.aspx>

Ships based in the port of Harlingen that are participating in the fishing for litter project during 2010:

- UK 34
- UK 167
- GY 57
- UK 67
- UK 292
- LE 62
- PD 63
- LE 63
- WN 1
- PW 447

Table 4 Overview of waste collected by the fishing for litter program during the period 2009-2012. I should be noted that in 2011 the number is 53 big bags instead of tons and 2012 is both given as 17 big bags as well as 17 tons.



Figure 3 Amount of collected litter by the fishing for litter program in Harlingen

We will try to monitor the litter collected and to encourage fishers ships to participate in this project.

The performance indicators emerging from this project are:

- Collected litter
- The number of ships that participate in the fishing for litter project

Table 5 summarizes the performance indicators that will be considered for the waste environmental aspect.

Table 5 Performance indicators for waste

| Performance indicator | Measurement units |
|--|---|
| Ships that disposes waste | Number of ships (S-forms/payments) |
| Amount of collect waste(oil, household, small dangerous waste) | Weight of collected waste X 1.000 kg |
| Complaints | Number of complaints |
| Fishing for litter ships and Collected litter | Number of participating ships Weight of collected litter X 1.000 kg. |

3.5. Air quality

The environmental aspect of air quality is high at the international policy agenda. The impacts of emissions to air of pollutants such as CO, NO_x, SO₂ have local and global dimensions. The European Commission has clearly given priority to the implementation and enforcement of the European air-related legislation, especially the comprehensive Directive 2008/50/EC on ambient air quality and cleaner air for Europe. The ESPO argues that “air quality is pointed out as the current top environmental priority by the European port sector as a whole. This reflects the priority given to issues related to the health of people working or living around ports, and is in line with the international and European policy agenda, through the on-going review of the EU Air Quality policy but also the several on-going initiatives that aim to control the exhaust emissions of air pollutants by vessels.”⁸ The port of Harlingen assumes its own responsibility in this regard and includes emissions to air in its policy agenda.

The municipality of Harlingen has outsourced air measurements to the FUMO. This organisation is founded by several north Frisian municipalities and works primarily for them. Several tasks are delegated from the municipality of Harlingen among them air quality and noise measurements.

Air quality measurements are done based on the Dutch law *Wet milieubeheer* of 15 November 2007. This law describes the main air quality requirements. The objective of the law is to ensure good air quality while still permitting spatial development.

Measurements conducted in 2008 (see PERS 2010) show that the air quality meets legal standards for nitrogen oxide (NO₂), particulate matter (PM₁₀), benzene (C₆H₆) and carbon monoxide (CO). In the whole of municipality the measured values were far below the limits.

Moreover, when companies applied for a permit (in Dutch, “*omgevingsvergunning*”) a standardised check is done for dust and odour emission according to the Dutch law: *Wet Milieubeheer*. Air quality has been also included in the last spatial planning of the municipality of Harlingen⁹.

Since the construction of a waste treatment plant for the production of energy within the port area, i.e. the REC¹⁰, there has been concerns about air quality around Harlingen. Therefore, emissions of the REC are monitored closely by several parties. Besides daily air quality measurements conducted by REC, there are also measurements conducted by third parties such : TAUW and bio monitoring from Wageningen UR¹¹.

Recently the municipality of Harlingen and province of Fryslân decided to investigate the air quality. Measurements are needed at the local level of Harlingen and the surrounding municipalities. For these measurements, currently, the National Institute for Public Health and the Environment (RIVM) and the municipality of Harlingen on health issues (the GGD¹² - the municipal health service) are conducting a study concerning air quality. As soon as it will be concluded, and based on the results, the port authority will define further objectives and steps in this regard.

⁸ ESPO, 2013. ESPO Port Performance Dashboard - May 2013. European Sea Ports Organisation, Brussel (page 11).

⁹ See for spatial planning: <http://www.ruimtelijkeplannen.nl/>

¹⁰ REC: Restafvalstoffen Energy Centrale: waste to energy incineration

¹¹ See for all the monitoring reports: http://www.omrin.nl/Over_Omrin/REC_Harlingen/Documenten.aspx

¹² Gemeentelijke gezondheidsdienst

Table 6 Performance indicators for air quality

| Indicator | Measurement units |
|----------------------|--------------------|
| Air quality research | Air quality report |

3.6. Energy and light

Regarding the aspects of energy and light the port of Harlingen has several on-going projects and plans which aim to engage tenants. Some of these projects are operationalized as performance indicators within our environmental management system.

These are:

- Liquefied natural gas (LNG)
- On shore power
- Light pollution

3.6.1. LNG

There are several global developments regarding ship propulsion. One of the main developments in this context is LNG. LNG is seen as alternative fuel for ships but it requires adapted engines that can use LNG and (larger than diesel) storage tanks on-board. Furthermore the port need to have infrastructure to store and distribute LNG to the ships. If LNG gets traction, this will mean that new infrastructure in the port will be required. Therefore, the port authority will closely follow and monitor the developments around LNG for shipping purposes, to determine whether new and what type of LNG installations are required within the port. There are many opportunities in this area, e.g., the development of LNG terminals in Rotterdam which increase the supply of LNG and the green deal LNG Rijn en Wadden. Potential customers would be the ferries (which are currently exploring this transition to LNG) who would be a very stable customer and the fishing fleet (that is also exploring the potential of LNG).

Moreover, the port authority collaborates with a group of Wadden Sea ports (i.e. Groningen Sea Ports, Port of Den Helder, Den Oever, and Lauwersoog). In this collaborative effort the port authority exchanges information with the other ports on several issues. One of them is the current developments around LNG.

In this context, one pilot is taking place in the port of Harlingen. The ferry company Doeksen Verhuur BV is going to convert its freight catamaran *ms. Noord-Nederland* to run on LNG ('Dual Fuel' – 85% LNG; Liquefied Natural Gas, 15% gasoil). The project is granted by the Waddenfonds.¹³ The LNG for this pilot is supplied by trucks. Currently, this process is led by market forces. The port authority, however, facilitate and follows the development closely. The performance indicator emerging from this project is:

- Facilitating and following the developments and results of the LNG pilot.

3.6.2. On-shore power

Shore power is the supply of shore side electrical power to a ship at berth while its main and auxiliary engines are turned off. Without onshore power, then, ships will have to keep generators or their

¹³ http://www.waddenfonds.nl/Projecten_detail.2918+M52ff683ede6.0.html

main engines running to provide enough power for their needs. This is often less efficient than using the energy from the power net, thus using more resources in the form of fossil fuels. Additionally the running engines are a source of noise pollution and emissions to the air, ship fuels are often high in NOx and Co2 emissions. This leads to environmental impacts as well as to concerns and nuisances for local communities. That is why, the port of Harlingen has the installations in place required for providing onshore power for visiting ships. However, in the industrial harbour the demand for power was too low compared to the high cost of installing the required infrastructure. The port authority is determined to explore if or when the usage of onshore power would be feasible in the rest of the port. Therefore, the following performance indicator will be used:

- Explore weather and where on-shore power will be required.

3.6.3. Light pollution

Light pollution¹⁴ is slowly reaching the social and policy agendas. Up to 70 per cent of the emitted light on the shore of the Wadden Sea is wasted¹⁵. There are several negative effects related to light pollution. The natural day and night cycle works as a biological clock for animals, humans and plants alike. Bright nights can thus have a negative influence on the biological clock of living organisms. For example, it can hamper the navigation capacity for birds. For example, some species that use the sun and stars to navigate are so confused by brightly light oil platforms that they fly circles around these platforms till they drop in the sea from exhaustion.¹⁶ A darker night sky is not only positive to reduce these negative effects on birds, but also to meet the demand of some stakeholders of a dark(er) Wadden Sea. Some opportunities might emerge to promote the North of the Fryslân and Groningen as a dark night sky area.

The municipality of Harlingen collaborates with the province of Fryslân and the municipalities of Leeuwarderdeel, Menameradiel, Franekeradeel, Het Bildt en Littenseradiel in the Frisian Lake project.¹⁷ This project aims to reduce the light pollution in the shoreline of the Wadden Sea. In the port of Harlingen most of the public polluting lights are located along the roads, companies are responsible for most the other light sources. The intention in this regard is to replace these lights with modern LED lights. 20 fixture along the *Lange Lijnbaan* in the port have been already replaced. Additional 54 fixture are scheduled to be replaced in the near future. There are several advantages to this program. For instance they contribute to less light pollution because LED lamps have better lenses that allow more precise direction of the lights. Moreover, they also use less energy. This delivers a performance indicator:

- Amount of LED lights installed by the municipality

In addition to the replacement of the municipal lights, the municipality offers subsidies to up to 50% of the purchase price to companies for replacing their own lights by LED lights. Currently two companies are in the process of replacing 52 fixtures. It is very likely that another (third) company will be also shift lights. This is an interesting development which want to promote and which, therefore, delivers the last performance indicator:

¹⁴ See theme light in: <http://www.atlasleefomgeving.nl/kijken>.

¹⁵ http://www.harlingen.nl/portal/nieuws_3547/item/de-duisternis-terug-in-het-waddengebied_18957.html.

¹⁶ Natuur federatie Groningen

¹⁷ Friese merenproject: <http://www.friesemer.nl/>.

- Increasing the number of companies that participate in this initiative and, therefore the number of installed LED lights

Table 7 summarizes the performance indicators for the energy light environmental aspect

Table 7 Performance indicators for energy and light

| Indicator | Measurement units |
|-----------------|--|
| LNG | LNG pilot |
| Onshore power | Explore weather and where on-shore power will be required. |
| Light pollution | Amount of LED lights installed by the municipality Increasing the number of companies that participate in this initiative and, therefore the number of installed LED lights |

3.7. Water quality

Water quality is an important environmental aspect for the port of Harlingen. Also it was mentioned as a high priority aspect by the stakeholders that have been consulted by the WUR. The water in the Wadden Sea is considered natural water and the aim is to keep it clean. To avoid contamination, there are many initiatives and the EU and the national government have dictated several laws and regulations regarding water quality:

- Water Framework Directive
- *Regeling milieukwaliteitseisen gevaarlijke stoffen*
- *Internationale Rijn-Commissie*
- *Internationale Maas-Commissie*
- *Internationale Schelde-Commissie*
- *Vereniging van Rivierwaterbedrijven RIWA,*
- OSPAR en EURATOM
- *Schelpdierwaterrichtlijn*
- *Nitraatrichtlijn*

The *Europese Kader Richtlijn Water (KRW)* obligates that the all EU members have and maintain sufficient clean surface and groundwater. To enforce this, Rijkswaterstaat¹⁸ is measuring the quality of the water. This measurement program MWTL (*Monitoring Waterstaatkundige Toestand des Lands*) has as objective to:

- Analyse the conditions and trends of the water both chemical and biological
- Asses the quality objectives
- Take measures regarding national and international agreements

Regarding water quality, the port of Harlingen will focus on several areas and will consider a set of performance indicators to monitor and improve the port's performance.

¹⁸ Rijkswaterstaat is part of the Dutch Ministry of Infrastructure and the Environment and responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands, including main road and waterway networks, and main water systems (www.rijkswaterstaat.nl).

3.7.1. Waste water:

Waste water is an issue for the brown fleet. Currently, most of the waste water produced by this fleet is disposed directly in the seawater, inland water, and/or in the port area. This is, of course, an aspect (all stakeholders included the port authority seem to agree on this) that have to be addressed. In the Netherlands there is a law that forbids to discharge waste water in surface water: *Wet Verontreiniging Oppervlaktewateren een algemeen verbod op het lozen op oppervlaktewater*. This law still has many exemptions. However, these exemptions are being reduced. For example, in 2009 pleasure yachts were no longer exempted from this law and these ships now have to dispose the waste water on such a way that it will not be directly discharged into the environment. Currently the brown fleet is exempted from this law. Nevertheless, it is expected that the fleet will have to comply with this law in the near future. The performance indicator here is:

- Explore whether and where waste water collection infrastructure expansion is needed.

3.7.2. Ballast water:

In an international oriented port as Harlingen, ballast water is an important environmental aspect. Ballast water can be contaminated with exotic species that can harm the local ecosystems. Recent developments are focussing on treating this ballast water to prevent the spread of exotic species. There are rules about ballast water for ships that travel long distances. These ships change ballast water on certain spots in the ocean, to reduce the risk of spreading unwanted species. To treat ballast water there are several initiatives that investigate different options to process the ballast water before discharging. For a port like Harlingen it is difficult to be a leader in these developments around ballast water. However, we do recognize the relevancy of the issue of ballast water and the port of Harlingen follows these developments through the collaborative initiative and partnership with the Wadden Sea ports¹⁹. Therefore our indicator here is:

- The port of Harlingen will follow developments regarding ballast water and determine whether and how we can initiate activities in the port.

3.7.3. Water Valley

Our commitment to achieve a 'clean water' situation within the port is illustrated by the Water Valley BV initiative. Water Valley is the name given to a project aimed at reducing the consumption of fresh water by the industry that is located in the port area. During the last port expansion a circular water pipe system has been installed around the port. This pipe system delivers sweet surface water from a nearby channel (the *Van Harinxmakanaal*) to industrial users on the port's estate. Reducing in this way the usage of potable water. Currently, the company Spaansen uses this not potable but fresh (sweet) water for desalination and washing of sand and grid extracted from the Wadden Sea. The salt production of ESCO also uses this water in their industrial production processes.

¹⁹ www.waddenzeehavens.nl



In theory, all companies can be connected to this water system and use this water source for all their non-potable water needs. In this way the port take care for and reduces the consumption of the available fresh water. The port encourages the use of this system and will strive to promote awareness and usage among the port’s users.

- Increase the number of companies connected to the system of the Water Valley

Table 8 Performance indicators for water quality

| Indicator | Measurement units |
|---------------------------|---|
| Waste water | Explore weather and where waste water collection infrastructure expansion is needed |
| Ballast water | The Havendienst Harlingen will follow developments regarding ballast water and determine whether and how we can initiate activities in the port |
| Water Valley usage | Increase the number of companies connected to the system of the Water Valley |

3.8. Dredging

Dredging and the disposal of silt and sand is necessary to keep the shipping lanes and port on depth. Therefore, this activity is crucial to keep the port reachable for shipping. However dredging and disposal is also one of the most impacting activities caused by the port of Harlingen in Wadden Sea area. Dredging and the disposal of the dredged silt on other locations in the Wadden Sea result in large amount of floating particles (suspended matter), essentially making the water murky. When the water is murky less sunlight penetrates the water and the primary production (which, among others, occurs through the process of photosynthesis using light as source of energy), mainly plankton using photosynthesis, is lower. The absence of plankton, on its turn, has also an impact on, for instance, shrimp and fish that have plankton as staple food source. Primary production is highest during spring and summer. Therefore limiting dredging as much as possible during these seasons will lower the impact of this important activity.

Dredging is carried out by *Baggerbedrijf de Boer Holding B.V.*, this company has implemented the *CO₂-prestatieladder* and has been ISO 14001 certified since 2012.²⁰

The shallow character of the Wadden Sea forces the port of Harling to continuously dredging the channels through which the harbour can be reached. Each year 1,2 million cubic meters of silt is removed. Currently the port authority is involved in an interesting initiative. Part of this dredging silt will be made available for a pilot project within the building with nature program.²¹ In this pilot a silt engine is being studied. In this project, the silt is deposited in the Wadden Sea on a location where natural forces (mainly the tide and storms) will move the silt towards the coast line. This project is aimed at strengthening the natural sedimentation process of tidal marshland along the coastal zone. Some of the expected results of the project are for instance: that this marine engineering process can lead to a reinforced coastline (tidal marshes forms a buffer zone for the dikes), nature development in the tidal marshland, less salinization of the land behind the coastal dikes (the marshlands once again form a buffer zone).

For the harbour the primary objective in this regard is to gain insight in silt management and possible less sedimentation in the harbour. If these objectives also support and speed up nature development, then is that an added bonus. Annex 4 contains a graph about the historical areal of salt marches.



At the beginning of May 2014 the project proposal for a pilot concerning this silt engine has been submitted for grants from the Waddenfonds.²² Hopefully there will be soon a positive response

²⁰ Jaarverslag 2012 en Jaarplan 2013, see: www.dutchdredging.nl.

²¹ Projectplan is available on request from the port authority.

²² <http://www.waddenfonds.nl>.

regarding the grant. Also several permits still need to be approved at the moment. That is why our performance indicator here is:

- Obtaining the funds and permits that are required to start the silt engine pilot

Table 9 Performance indicators for dredging

| Performance indicator | Measurement units |
|---|------------------------------|
| Disposed dredging silt during the primary production period (spring and summer) | M ³ or days |
| Silt engine | Securing funding and permits |

3.9. Community involvement

The local community and the ports surroundings are important for the port of Harlingen. Just as the port is important for the local community. For example, the port is a source of direct and indirect employment. These jobs can be grouped into several sectors: fishing and related industries; tourism and recreation; industry; and shipping. These sectors form the economic backbone of Harlingen and are important for the wider region of Friesland.

The port has an impact on the human and natural environment. Therefore, it is the port’s responsibility to regulate and as much as possible to minimize the negative impacts and to maximize the positive ones. The objective here is to make the port a pleasant place to visit, work and live. Essentially, to be a good neighbour. For so doing, the port is committed to develop and maintain an environmental management system in order to identify, monitor, and control the most relevant environmental aspects and impacts; and so improve the environmental and social performance. In this context, we aim to work on social corporate responsibility by involving the local community into some of the activities occurring in the port area. For example, through our support to an energy education project. More specifically, here we aim to start collaborating with research centres and Dutch universities (as it has been the case with the Wageningen University) and offer internship places regarding environmental management. In this way we aim to guaranty that our environmental management system and PERS certificate can be properly updated in a transparent manner.

An important issue for a healthy environmental management system is transparency. To enable a transparent management system the port authority is committed to communicate its environmental policy, monitoring program and performance in different ways.

Several actions concerning community involvement have been or will be taken:

- Developing and maintaining an environmental management system (PERS).
- Certifying and keeping up to date with PERS.
- Engage with schools to offer internship places in which students can support us with and gain experience and skills concerning environmental management system.
- To communicate about the environmental policy trough the website and other means.
- To be open for and follow up on complaints and suggestions.

Table 10 summarized the indicators through which we will measure our performance at the level of community involvement.

Table 10 Performance indicators for local community

| Indicator | Measurement units |
|-----------------------------|-------------------------------------|
| Environmental communication | Maintain PERS |
| | Issue biannual environmental report |
| Involvement local community | Internshipsr |

3.10. Noise

In the PERS of the port of Harlingen of 2012, noise was one of the top 3 environmental aspects. One of the reasons for this high ranking was that regulation demanded the development of a port vision concerning noise (*geluidsvisie*). It goes without saying, that another reason was and still is that the port is located close to the residential areas of the city of Harlingen.

Now, there are many and fragmented laws and regulations regarding noise. We find, for instance, the Dutch law: *Wet geluidshinder* that relates noise to spatial planning. It dictates that outside an industry area, a zone must be established in which the total noise may not exceed 50 decibel. However, the shape and size of the zone is determined within the spatial planning process. The spatial plan (*bestemmingsplan*) specifies the noise zoning for a particular area. There are other laws such as the (in Dutch) *Wetboek van strafrecht* that applies when deliberate and excessive noise is produced that disturbs, e.g., night rest.

Currently a spatial zoning for the port of Harlingen has been established in the spatial plan. Companies working or that want to work in the port have to comply with this noise regulations. This is detailed and implemented/enforced through permits (*omgevingsvergunning*). Currently, there are no regular measurement of the sound levels in the port and the nearby residential areas, or in noise sensitive objects like school. However, sound assessment can be carried out based on complaints received by the port authority. The regional agency that can measure whether the sounds do or do not exceed the limits set in the permits is the *FUMO*.

Complaints and noise pollution is taken seriously by the port. So far, and since 2012 that we started to monitor our performance concerning noise, we have not received any complaints concerning noise pollution. Nevertheless we will continue monitoring and adequate action will be taken if and as soon as complaints are received.

Table 11 Performance indicators for noise

| Indicator | Measurement units |
|------------------|---|
| Noise complaints | Complaints received and initiated actions |

4. Responsibilities and resources

Documented responsibilities and resources related to environmental aspects

The purpose of this section is that the Port Authority can demonstrate that it has adequate and appropriate management organization and personnel in place to deliver the objectives specified in the policy statement. This section contains environmental responsibilities of key personnel identified of key personnel identified by job, title/position and Department/Office/Agency. This section also contains a structure of organization and the position of identified staff. At last follows a description of the resources allocated specifically for port environmental management.

4.1. Environmental responsibilities internal and external

Table 12 Environmental responsibilities internal and external

Environmental Responsibilities of Key Personnel*

For those areas for which the Port authority has responsibility, what personnel are responsible for the following functions?

| | |
|--|---|
| | Department |
| Port Operations (Dredging) | Civil Engineering / Municipality Harlingen |
| Port Operations (Navigation) | Port Authority / Municipality Harlingen |
| Port Operations (Shipping) | Port Authority / Municipality Harlingen |
| Port Operations (Terminals) | Port Authority / Municipality Harlingen and Private firms |
| Cargo Handling Operations | Private firms |
| Jetty/Wharf Management | Private firms |
| Site Management | Ontwikkelingsmaatschappij Westergo cv/bv |
| Strategic Planning | Port Authority / economic affairs / Municipality Harlingen |
| Supplies acquisition | Port Authority / economic affairs / Municipality Harlingen |
| Operator Licensing/Permit | Port Authority (Province / ministries) |
| Quality Management | Port Authority / Municipality Harlingen |
| On site Contractor Management | Private firms |
| On site Conservation | Private firms |
| Emergency Planning | Port Authority / Public Safety dept./ Municipality Harlingen |
| Waste Management | Collection: Port Authority / Municipality Harlingen Storage: province of Fryslân and ministries) |
| Marina / Slipway management | Port Authority |
| Environmental Document Management | Environmental department / Municipality Harlingen |
| Environmental Data Management | Environmental department / Municipality Harlingen |
| Soil pollution assessment | Province department environment and Rijkswaterstaat |
| Air Quality monitoring | Province / ministries |
| Water Quality monitoring | Rijkswaterstaat / Wetterskip Fryslân |
| Vehicular Management of Terminal traffic | Traffic department / Municipality Harlingen |

* Key personnel are those managers and others who are responsible for environment critical activities that may affect the environment. These are activities that may cause, control or minimise environmental impacts when managed, or may cause impacts if control was lost or that may result in a breach of environmental policy or regulations.

4.2. External responsibilities

Several environmental responsibilities that are relevant to the port are done by external parties. The first four organisation are governmental organisation whose tasks are related to or have an effect on the activities that take place at the port. The last two organisation, the waste collectors and stevedoring companies are taking care of tasks that the port has outsourced. In the table below is an overview of the organisations and a short summary of their responsibilities.

Table 13 External responsibilities

| Organisation | Responsibilities |
|------------------------|--|
| Municipality Harlingen | <ul style="list-style-type: none"> ▪ Nautical management port (competent authority shipping) ▪ Technical management (dredging) ▪ Drafting visions about the port and environmental management ▪ Noise zoning ▪ Enforcement business permit ▪ Collecting complaints ▪ Drafting spatial planning ▪ Waste collection permits for shipping waste (Haven Ontvangst Installaties) <p>Several tasks are outsourced to a regional co-operation: Friese Uitvoeringsdienst Milieu en Omgeving (FUMO)</p> |
| Municipality Harlingen | <ul style="list-style-type: none"> ▪ Develop, operate and manage the ports of Harlingen ▪ Keep records and report to municipality and province etc ▪ Comply with laws and regulations set by governments |
| Stevedoring companies | <ul style="list-style-type: none"> ▪ Ensure correct loading and unloading of ships |
| Wetterskip Fryslân | <ul style="list-style-type: none"> ▪ Quality control inland waters ▪ Water barriers ▪ Manager of regional water systems ▪ Quality waste water |
| Rijkswaterstaat | <ul style="list-style-type: none"> ▪ Administrator main water system and quality control open water |
| Province Fryslân | <ul style="list-style-type: none"> ▪ Competent authority regarding parts of the <i>wet milieubeheer for several companies</i> ▪ Waste collection permits companies ▪ Translation and implementation of national policy to regional policy ▪ Monitoring of water boards ▪ Licences issuer for some ground water extractions and infiltrations |
| National government | <ul style="list-style-type: none"> ▪ Provide national policy context and strategic goals for water management ▪ Implementation of European regulations and policy ▪ Supervision over other governmental organization that are involved with water and port management |
| Waste collectors | Several companies have the permits for and are responsible for a safe and efficient the waste collection in the port |

4.3. Resources

Environmental management and sustainability is increasingly important for the port of Harlingen. To improve the ports environmental performance several objectives have been made explicit and several actions have been taken. Environmental management activities and responsibilities are dispersed through the organisation (which is highly interwoven within the municipality's organization – see figure 5). Additionally some tasks and responsibility correspond to external parties (see, e.g., section 3.1.3). Therefore, it is difficult to specify the resources allocated to environmental port policy.

However several statement can be made:

- The port is committed to and has made available the resource to set up an environmental management system and to become PERS certified.
- The port collaborates within the Wadden sea harbour²³ initiative in which knowledge about relevant issues such as LNG, funding opportunities, and environmental management systems are shared.
- The port collaborates with knowledge institutes²⁴ and, in this way, aim to strengthen the port's capacity to update the environmental management system and maintain the PERS certification
- A specific budget post has been allocated for dredging activities. Moreover, a project proposal have been submitted for obtaining funding for the silt engine pilot (see above).
- Noise zoning and soil protection is done by the FUMO and is being financed from the general budget of the municipality.
- The developments concerning the installation of LED lights in the roads of the port and the subsidies for companies that are interested in moving to this type of lights have been allocated a specific budget post.
- Port authority have their own budgets.

The port authority is part of the municipality Harlingen responsibilities are dispersed within the organisation. There is often no clear distinction between the specific budget for the port and for this one of the municipality. Therefore it is very difficult to specify the resources available for the environmental monitoring and management system. On the next page there is an organogram that shows how environmental management is organised for the port of Harlingen. It should be noted that this is not a complete overview of the municipality nor just from the port, it is a mixture of both.

²³ The Wadden Sea harbours: Den Helder, Den Over, Harlingen, Lauwersoog, Groningen Sea Port

²⁴ Wageningen UR

4.4. Organogram

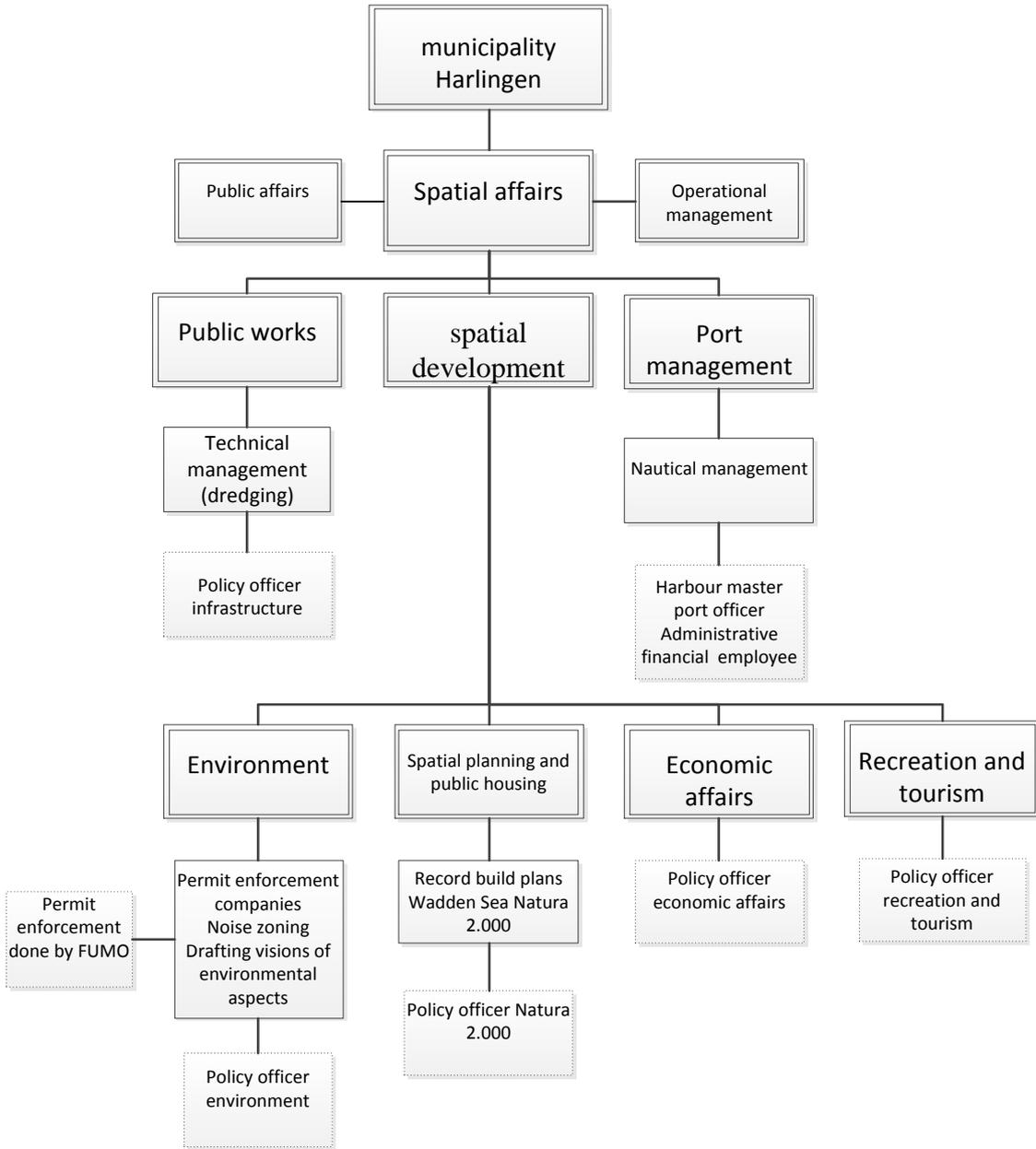


Figure 4 Organogram: Organization of the environmental management in the Port of Harlingen. Boxes double lined are departments, boxes single lined are tasks and boxes with dotted lines are positions (translated version) .

5. Conformity review of environmental policy and Legal requirements

This section contains the conformity with laws and regulations as well as the conformity with the ports own policy.

5.1. Conformity to legal requirements

Port of Harlingen is committed to comply with all relevant laws and regulations. We have no signals of noncompliance with law and regulations known by the port authority. NGO's and local stakeholder as well as several governments organisations would be quick to point out non-compliance.

Note that the port is managed by the municipality and that juridical experts of the municipality are responsible for ensuring compliance with law and regulations. To ensure greater conformity with legal requirements, some of the municipality experts are member of the FUMO (Friese Uitvoeringsdienst Milieu en Omgeving) this organisation is a collaborate network and platform for spatial planning expert of government employees. All municipalities that are member of the FUMO exchange knowledge and information. The main objective of FUMO and its sister organisation (*RUD, Regionale Uitvoerings Diensten*) in the other parts of the Netherlands is to support its members (the municipalities) in collaborative subjects and on behalf of the members performing tasks and facilitate joint projects. Basically the municipalities outsources certain tasks (like; noise zoning) to a regional organisation. All this joint expertise guarantees a high standards of knowledge and compliance with current legal requirements. Therefore, based on no warnings from FUMO and no complaints from other governmental or private organisation it can be concluded that the port of Harlingen is complying with its legal requirements.

Legal statement

We state that the register of environmental aspects and legal requirements in this document of the PERS application dated 16 January 2014 is suitable and relevant for the main environmental aspects of the port of Harlingen.



M. Kremer, mr.

Environmental Policy Officer

5.2. Policy conformity

This is the second time that we apply for a PERS certification. Within our policy statement we commit ourselves to maintain our environmental management system. To do this, we follow international standards. We aim to update and maintaining the PERS certification, and to ensure compliance with the indicators of the PERS. When required, the partnerships with research institutes (e.g. the Wageningen University) or other organizations and experts will be maintained. The data of the indicators will be collected as aforementioned to monitor the environmental performance of the port.

Regarding the environmental impacts, we try to actively keep ourselves informed about the progress made, execute the required actions and stimulate tenants and vessels to comply with the regulations. Next to that, we will comply with the commitments formulated; being the most relevant:

- keep ourselves informed about the progress made, execute the required actions and stimulate tenants and vessels to comply with the regulations
- Allocate funds and resourced for specific and relevant projects such as for the silt engine (to facilitate the development of saltmarshes)
- For other projects funds and resources have been allocated. E.g. the installation of LED lights and subsidies for companies with in the port area

6. Examples of best practices

6.1. Water Valley BV.

Port of: Havendienst Harlingen

1. Project Description

Watervalley BV.

During the last port expansion a circular water pipe system has been installed around the port. This pipe system delivers sweet surface water from a nearby channel; the Van Harinxmakanaal to industrial users on the ports estate. Reducing in this way the usage of potable water. Currently the company Spaansen uses this not potable but sweet water for desalination and washing of sand and grit extracted from the Wadden Sea. The salt production of ESCO also uses this water in their production process.

In principle it is possible for all companies to connect to the system and use this water source for all their non-potable water needs. Reducing, in this way the consumption of potable water for industrial purposes.

2. Environmental Aspects involved

Water consumption, reduction usage of potable water

3. Stakeholders involved

Municipality of Harlingen

Ontwikkelingsmaatschappij Westergo cv/bv

Watervalley BV.

Spaansen sand and grit extraction and processing

ESCO (salt extraction and production)

4. Contact for information

Port of: Harlingen

Contact name: Reiner de Vries

Job title/position:

Postal address: Waddenpromenade 9-3, 8861 NT Harlingen

Telephone: 0517-492354

Fax: n/a

E-mail: r.devries@harlingen.nl

Website: <http://www.harlingen.nl/haven/>

6.2. Silt engine



Port of: Havendienst Harlingen as partner in the Silt engine

1. Project Description

Gaining insight in the dredging process

The shallow character of the Wadden Sea forces the port of Harling to continuously dredging the channels through which the harbour can be reached. Each year 1,2 million cubic meters of silt is removed. Currently the port authority is involved in an interesting initiative. Part of this dredging silt will be made available for a pilot project within the building with nature program.²⁵ In this pilot a silt engine is being studied. In this project, the silt is deposited in the Wadden Sea on a location where natural forces (mainly the tide and storms) will move the silt towards the coast line. This project is aimed at strengthening the natural sedimentation process of tidal marshland along the coastal zone. Some of the expected results of the project are for instance: that this marine engineering process can lead to a reinforced coastline (tidal marshes forms a buffer zone for the dikes), nature development in the tidal marshland, less salinization of the land behind the coastal dikes (the marshlands once again form a buffer zone).

For the harbour the primary objective in this regard is to gain insight in silt management and possible less sedimentation in the harbour. If these objectives also support and speed up nature development, then is that an added bonus. Annex 4 contains a graph about the historical areal of salt marches.

At the beginning of May 2014 the project proposal for a pilot concerning this silt engine has been submitted for grants from the Waddenfonds.²⁶ Hopefully there will be soon a positive response regarding the grant. Also several permits still need to be approved at the moment. That is why the challenge here, and our objective is to obtaining the funds and permits that are required to start the silt engine pilot

(A project plan is available but is written in Dutch.)

²⁵ Projectplan is available on request from the port authority.

²⁶ <http://www.waddenfonds.nl>.

2. Environmental Aspects involved

Positive effects expected: Reduction of murky water, less sedimentation in the harbour, strengthens the sedimentation along the coast, resulting a greater salty marsh land, with a gradient in sweet and silt water and a gradient between dry and tidal land. Tidal marshland have a unique biome with many unique species that are only living in this ecosystem. Furthermore tidal marshlands are important for migratory birds for foraging and resting places.

Locally it is likely that in the areas where the silt for silt engine is deposited the water will be more murky (certainly short term) but the positive effects are expected to be greater.

3. Stakeholders involved

Cooperative project from
Programma Naar een Rijke Waddenzee,
Programma Waddenzeehavens
stichting Ecoshape.

Also involved:
It Frsyke Gea (nature/culture NGO in Friesland)
Municipality of Harlingen

4. Contact for information

Port of: Harlingen
Contact name: John Walta
Job title/position: Civil Engineer
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Telephone: 0517-492295
Fax: n/a
E-mail: j.walta@harlingen.nl
Website: <http://www.harlingen.nl/haven/>

Annex 1: Depth Harlingen Harbours

| | <i>Lengte</i> | <i>Hoogte kade/steiger</i> | <i>Diepte</i> | <i>Geul</i> | <i>Ton/m²</i> |
|-----------------------------|---------------|----------------------------|----------------------|--------------|--------------------------|
| | | + NAP | - NAP | - NAP | |
| Industriekade paal 1-8 | 140 | 3,00 | 6,50 | 7,50 | 6 |
| Industriekade paal 8-38 | 600 | 3,00 | 7,50 | 7,50 | 6 tot 9 |
| Korte Lijnbaankade | 450 | 3,20 | 8,50 | 8,50 | 20 |
| Visserskade | 260 | 3,00 | 6,00 | 6,00 | 1,5 |
| Dok oost | 185 | 3,75 | 4,90 | | |
| Dok west | 170 | 3,00 | 4,90 | | |
| Vluchthaven | 165 | 2,50 | 4,50 | | |
| Vissershaven betonsteiger | 240 | 3,00 | 5,20 | | |
| Vissershaven steiger hout | 400 | 2,50 | 5,20 | | |
| NW Willemshaven charterkade | 200 | 3,00 | 6,00 | | |
| Tsjerk Hiddessluizen | | | 4,50 | | |
| Tsjerk Hiddesdrempel | | | 4,40 | | |
| Voorhaven | | | 7,50 | | |
| Hermeskade | 280 | +/- 0,80 | | 3,75 | |
| NW Willemshaven | 365 | 3,50 | 6,00 | 6,20 | 3 |
| NW Willemshaven achterin | | | 5,60 | | |
| Plankenpad | 130 | 2,00 | 4,50 | | |
| Wilbrinkkade | 210 | 4,00 | 7,50 | | |
| Zuiderpiersteiger | 500 | 3,00 | 2,50 tot 5,60 | | |
| Wachtpalen Noorderpier | 210 | 4,00 | 7,50 | | |
| Sassteiger | 50 | 1,00 | 5,00 | | |

Annex 2: laws and regulations

| Issue | Wetgeving |
|--------------|---|
| Waste | <p>International: MARPOL 73/78</p> <p>European: Richtlijn 2000/59/EG Richtlijn 2913/92 Richtlijn 91/156 Richtlijn 75/439/EEG Richtlijn 91/689 Richtlijn 95/21</p> <p>National: Wet milieubeheer <ul style="list-style-type: none"> - besluit algemene regels voor inrichting milieubeheer - besluit inzamelen afvalstoffen - regeling inzamelaars, vervoerders, handelaars en bemiddelaars van afvalstoffen - regeling melden bedrijfsafvalstoffen en gevaarlijke stoffen - landelijk afvalbeheerplan II 2009-2021 - publicatiereeks gevaarlijke stoffen </p> <p>Wet voorkoming verontreiniging schepen <ul style="list-style-type: none"> - besluit voorkoming verontreiniging schepen - regeling voorkoming verontreiniging schepen - besluit havenontvangstvoorzieningen - regeling inzake het scheiden en gescheiden houden van gevaarlijke afvalstoffen - besluit meldingsformaliteiten en gegevensverwerking scheepvaart </p> <p>Kaderrichtlijn maritieme strategie</p> <p>Provincial en local: Provinciale milieuverordening Fryslân HAVenverordening Harlingen</p> <p>Others: Scheepvaartreglement territoriale zee Wet economische delicten</p> |
| Soil | <p>Wet bodembescherming</p> <p>Besluit bodemkwaliteit (oa baggerspecie)</p> <p>Nederlandse richtlijn bodembescherming</p> |

| | |
|----------------------|---|
| Air/emissions | <p>MarPol 73/78</p> <p>Wet milieubeheer, hoofdstuk 5.2</p> <p>Wet inzake luchtverontreiniging</p> <p>Besluit broeikasgassen in apparatuur op schepen milieubeheer</p> <p>Besluit brandstoffen luchtverontreiniging → uitvoering richtlijn 1992/32/EG betr zwavelgehalte van brandstoffen</p> <p>havenbeheersverordening</p> <p>EU richtlijn 2005/33/EC scheepvaart emissies.</p> <p>Kaderrichtlijn luchtkwaliteit</p> <p>NEC – nationaal emissie plafond</p> <p>EIA- energie investerings aftrek → fiscaal voordeel voor energiezuinige technieken</p> <p>IPCC richtlijn</p> <p>NeR – nederlandse emissie richtlijn</p> |
| Water | <p>Wet milieubeheer</p> <p>Kaderrichtlijn water</p> <p>Wet geluidhinder</p> <p>Waterwet</p> <p>Grondwaterrichtlijn</p> |
| Noise | <p>Wet geluidhinder</p> <p>Wet milieubeheer, hoofdstuk 11</p> <p>Besluit geluid milieubeheer</p> <p>Gebruiksvoorschriften haven</p> <p>Omgevingsvergunning</p> <p>Bestemmingsplan</p> |
| Nature | <p>Habitat richtlijn</p> <p>Vogelrichtlijn</p> <p>Natura 2000</p> <p>Flora en fauna wet</p> <p>PKB Waddenzee</p> <p>Internationale afspraken en Europese richtlijnen Waddenzee:</p> <ul style="list-style-type: none"> - Verklaring van Schiermonnikoog - Verdrag van Bern - Verdrag van Bonn - Ramsar verdrag - Vogelrichtlijn - Habitat richtlijn - Europese Kaderrichtlijn water - Particular sensitive Area - Werelderfgoed - Afspraken IMO (internationale Maritime Organisatie) - Afspraken OSPAR (Oslo Parijs Conventie) <p>Natuurbeschermingswet</p> |
| Safety | <p>Wet bestrijding ongevallen Noordzee</p> <p>Wet veiligheidsregio's</p> |

Havenbeveiligingswet
Ongevallen bestrijding Waddenzee
Bestemmingsplan
Besluit externe veiligheid transportroutes
Besluit externe veiligheid buisleidingen

Scheepvaart SOLAS Verdrag
Schepenwet
Binnenvaartwet
Scheepvaartverkeerwet
Wet buitenlandse schepen
Wet havenstaatcontrole
Wet laden en lossen zeeschepen

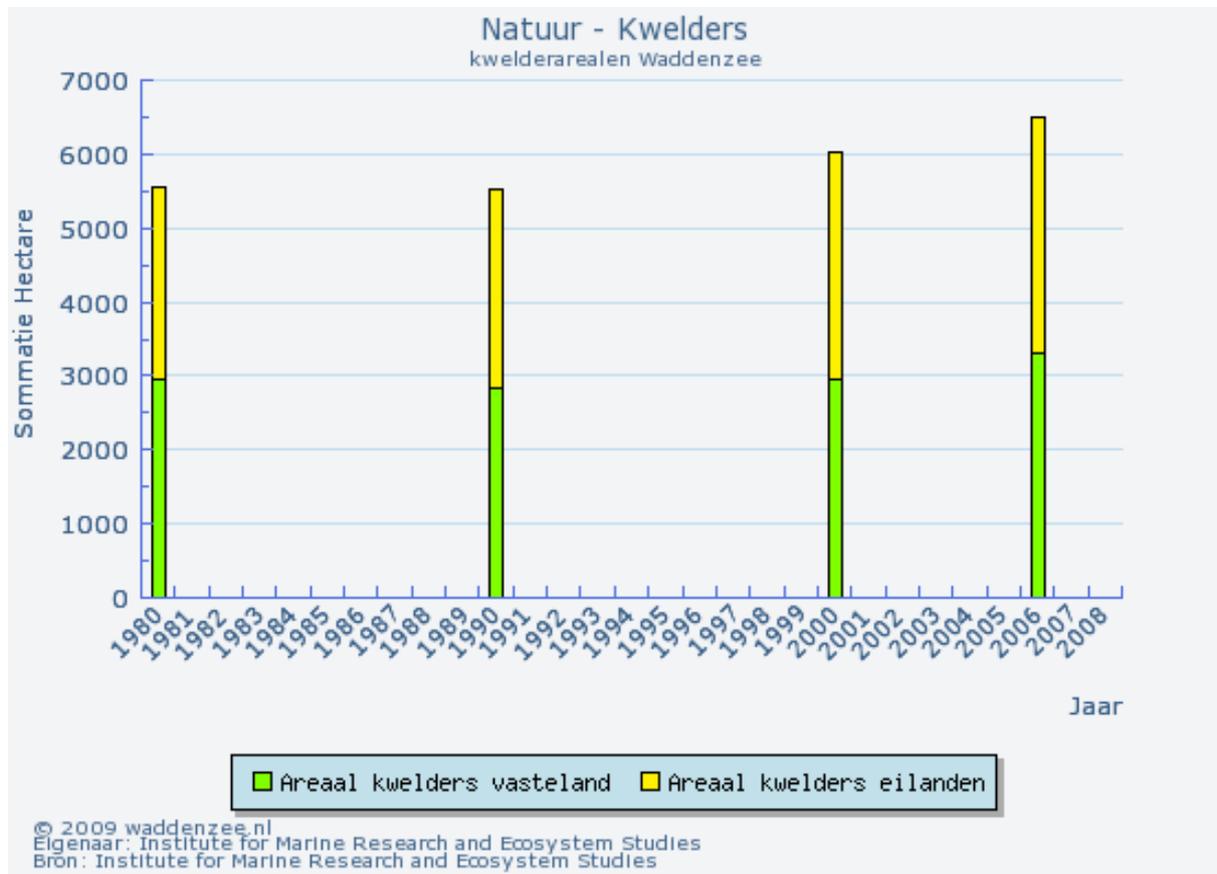
Annex 3: waste overview

Annexen per categorie schip en wijze afgifte (HAP schema)

| Categorie schip | Type afval | Tarief per afgifte | Wijze afgifte | Afgifterecht | |
|---|------------|-------------------------|------------------------|-------------------------|------|
| Zeeschepen | Annex I | Directe betaling | Via agentschap | MAIN | € 50 |
| | Annex V | € 50 +€ 10 adm | Via agentschap | Visser | |
| Noordzeekotters bij Insula | Annex I | SFAV | Milieuboot/ bunkerboot | De Boer/MAIN | |
| | Annex V | Overeenkomst met Insula | Inzamelaar via Insula | | |
| | Overig | Overeenkomst met Insula | Inzamelaar via Insula | Verpakt vloeibaar afval | |
| Noordzeekotters niet bij Insula (lid SFAV) | Annex I | SFAV | Milieuboot/ bunkerboot | DeBoer/MAIN | |
| | Annex V | €5 | Milieuboot/ bunkerboot | MAIN | |
| | Overig | €5 | | MAIN | |
| | KGA | SFAV | Insula (gele zak) | MAIN | |
| Noordzeekotters niet bij Insula (niet lid SFAV) | Annex I | Directe betaling | Milieuboot/ bunkerboot | De Boer/MAIN | |
| | Annex V | €50+€10 adm. | Milieuboot/ bunkerboot | MAIN | € 50 |
| | Overig | Directe betaling | Milieuboot/ bunkerboot | MAIN | |
| Binnenschepen | Annex I | SAB | Milieuboot/ bunkerboot | MAIN | |
| | Annex V | Directe betaling | Milieuboot/ bunkerboot | MAIN | |
| Wadvissers | Annex I | SAB/SFAV | Milieuboot/ bunkerboot | De boer/MAIN | |
| | Annex V | Directe betaling | Milieuboot/ bunkerboot | MAIN/Insula | |
| VBZH | Annex I | SAB | Milieuboot/ bunkerboot | MAIN | |

| | | | | |
|----------------------------|-----------|---------------------------|------------------------|--------------------------|
| | Annex V | Overeenkomst met gemeente | Perscontainer | Visser |
| Overige "bruine zeilvaart" | Annex I | SAB | Milieuboot/ bunkerboot | MAIN |
| | Annex V | Afvalheffing | Perscontainer | Visser |
| Recreatievaart | Annex I | Directe betaling | Jachthaven | |
| | Annex V | Directe betaling | Jachthaven | |
| | Annex I = | Afgewerkte olie (sludge) | Annex V = | Vaste afvalstoffen incl. |
| | | Lenswater (bilge) | | Klein Gevaarlijk Afval |
| | | Ladingsresten olie | | Verplakt vloeibaar afval |
| | | Ballastwater olie | | Veegvuil |
| | | Waswater olie | | Huishoudelijk afval |
| | | Brandstofresten | | Emballage |

Annex 4: Areal salt marches



Annex 4: Links additional information

Spatial planning:

<http://www.ruimtelijkeplannen.nl/web-roo/roo/bestemmingsplannen>

Jaarverslag Haven Harlingen 2014

| | <u>2013</u> | <u>2014</u> | <u>+/- %</u> |
|---|-------------|-------------|--------------|
| Containers (TEU's) | 12.932 | 19.606 | +51 |
| Zeescheepvaart | | | |
| • Overslag (tonnes *) | 1.182.226 | 1.317.956 | + 11 |
| • Aantal laden / lossen | 449 | 462 | + 2 |
| • Aantal niet laden / lossen | <u>521</u> | <u>514</u> | - 1 |
| • Totaal aantal zeeschepen | 970 | 976 | + 1 |
| Binnenscheepvaart | | | |
| • Overslag (tonnes **) | 1.282.615 | 1.334.730 | + 4 |
| Totaal overslag (tonnes *) + **) | 2.464.841 | 2.656.227 | +7 |
| Visserij | | | |
| • Totaal aantal zeekotters | 1708 | 1857 | + 8 |
| • Totaal aantal binnenvissers | 2840 | 3087 | + 8 |
| Beroepszeilvaart | | | |
| • Passanten (aantal) | 921 | 944 | + 2 |
| Rijncruiseschepen | 35 | 57 | + 62% |

In bovenstaande cijfers werden niet opgenomen:

- het totale gewicht van de overgeslagen containers
- overslag die plaats vond via rederij Doeksen

Addendum n.a.v. de beoordeling PERS door Lloyd's Register

- In het eerstvolgende PERS-document wordt de milieuwetgeving meer gespecificeerd, inclusief de hieruit voortvloeiende feitelijke verplichtingen;
- Het eerstvolgende PERS-document wordt ondertekend door een externe jurist;
- Het huidige PERS-document wordt gepubliceerd op de website www.harlingen.nl/haven;
- De gemeente Harlingen maakt deel uit van de gemeenschappelijke regeling FUMO. Het jaarverslag hiervan is te vinden op http://issuu.com/fumogrou/docs/jaarverslag_layout
- Toezicht en inspecties worden namens de gemeente Harlingen met name uitgevoerd door de FUMO. Daarnaast wordt door de toezichthouders van de Havendienst dagelijks tijdens surveillancerondes toegezien op milieuaspecten en vervuiling in het havengebied. Ook de gemeentelijke BOA's spelen hierin een signalerende en handhavende rol met betrekking tot publiek en havengebruikers;
- Samen met de andere Waddenzeehavens en Wageningen University wordt een monitoring en hercertificeringssystematiek ontwikkeld.