

Dutch Ministry of Agriculture, Nature and Food Quality, The Hague

Wageningen Marine Research, IJmuiden

Wageningen Economic Research, The Hague

**Regulation (EU) 2017/1004 of 17 May 2017 of the European
Parliament and the Council**

on the establishment of a Union framework for the collection, management and use of data in
the fisheries sector and support for scientific advice regarding the common fisheries policy
and repealing Council Regulation (EC) No 199/2008

**Commission Implementing Decision (EU) 2019/909 of 18 February
2019** establishing the list of mandatory research surveys and thresholds for the purposes of
the multiannual Union programme for the collection and management of data in the fisheries
and aquaculture sectors

Commission Delegated Decision (EU) 2019/910 of 13 March 2019
establishing the multiannual Union programme for the collection and management of
biological, environmental, technical and socioeconomic data in the fisheries and aquaculture
sectors

**Commission Implementing Decision (EU) 2016/1701 of 19 August
2016** laying down rules on the format for the submission of work plans for data collection in
the fisheries and aquaculture sectors.

**Commission Implementing Decision (EU) 2018/1283 of 24 August
2018** laying down rules on the format and timetables for the submission of annual data
collection reports in the fisheries and aquaculture sectors.

Commission Implementing Decision (EU) 2018/1283

laying down rules on the format and timetables for the submission of annual data collection reports in the fisheries and aquaculture sectors.

Netherlands Annual Report for data collection in the fisheries and aquaculture sectors

2020

Version [1]

[The Hague, May 21, 2021]

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SECTION 1: BIOLOGICAL DATA

Text Box 1C: Sampling intensity for biological variables

Region: North Sea

General comment: This box fulfils paragraph 2 point (a)(i)(ii)(iii) of Chapter III, of the Annex of the Delegated Decision (EU) 2019/910 and Chapter I of the Implementing Decision (EU) 2019/909 on the multiannual Union programme; and Article 2, Article 4 paragraph 1 and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

This box is applicable to the Annual Report.

1. Evidence of data quality assurance

- On-shore sampling: As described in the accepted workplan, sampling of demersal vessels is based on random selection of vessels visiting the main auctions in The Netherlands. Both national and foreign vessels are sampled. Pelagic fish is not auctioned, catch samples are collected on board of a fixed selection (depends on activities in EU Waters) of trawlers (PEL2), including foreign vessels landing into the Netherlands. On-shore sampling of the demersal fleet was hampered by COVID-19 between end of March and roughly mid-May.
- At-sea sampling: As described in the accepted Workplan, at-sea sampling occurs on board three pre-defined sampling populations: passive demersal gears (DEMPAS), active demersal gears (DEMACT) and pelagic gears (PEL1). The Netherlands is currently working towards improved random sampling of the sampling populations. The sampling plan for DEMACT is based on a reference fleet scheme. A representative selection of 20-25 vessels from the sampling population collects discard samples (self-sampling) following a random sampling schedule. A weighted random selection of fishing companies managing the pelagic freezer trawlers is applied in the sampling plan for PEL1. For Dempas in practice it has proven to be extremely difficult to implement random sampling since the activity of vessels within this sampling population is highly variable and this fishery has a strong seasonal and weather dependent character. A number of observer trips for all pre-defined sampling populations could not be executed due to the COVID-19 restrictions.

Routine data quality checks and data validation exercises of both on-shore and at-sea sampling are executed during data entry (standardized data entry software) and prior to and during data import (standardized checking routines and data import procedures). Standardized raising procedures including quality control are used for data preparation prior to data transmission to end users.

2. Deviations from the Work Plan

- On-shore sampling: For pelagic species, the total number of achieved samples over all regions is (more than) sufficiently covered in general. By design, the pelagic sampling follows the fishery, hence activity shifts between regions are reflected in sampling achievements. As a consequence, this may lead to apparent over- or undersampling for a specific region. On species level however, the planned numbers are in general all met in those cases.
For *Crangon crangon* one sample was missed at the end of the year due to limited fisheries. Rajidae and *Dicentrarchus labrax* are subject to specific landing restrictions, limiting the possibilities to sample these species. As a result, these species are undersampled. In some cases, e.g. for *Mullus surmuletus*, additional commercial categories were re-introduced by the industry, resulting in additional categories to sample and thus an increased number of individuals that may be mistaken for oversampling. *Eutrigla gurnardus*, the sample size was overshoot, thus resulting in overshooting the sampling target.
- At-sea sampling: For a number of species the achieved numbers deviate from the planned numbers. Over- or undersampling for these species is caused by the fact that sampling follows the fishery. This fact will continue to have an impact in future years, even though the planned number have been tuned to previous achievements. In addition, the lower number of observer trips that were executed in 2020 due to the COVID-19 restrictions (see also Table 4A) also resulted in undersampling.

3. Actions to avoid deviations.

- On shore sampling: sampling instructions for *Eutrigla gurnardus* revisited and repeated to sampling crew. Based on availability special attention will be paid to the sampling of *Crangon crangon*.
- For actions to avoid deviations regarding at-sea commercial sampling: see Text box 4A

Region: North-Western waters

General comment: This box fulfils paragraph 2 point (a)(i)(ii)(iii) of Chapter III, of the Annex of the Delegated Decision (EU) 2019/910 and Chapter I of the Implementing Decision (EU) 2019/909 on the multiannual Union programme; and Article 2, Article 4 paragraph 1 and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

This box is applicable to the Annual Report.

1. Evidence of data quality assurance

- On-shore sampling: As described in the accepted workplan, sampling of demersal vessels is based on random selection of vessels visiting the main auctions in The Netherlands. Both national and foreign vessels are sampled. Pelagic fish is not auctioned, catch samples are collected on board of a fixed selection (depends on activities in EU Waters) of trawlers (PEL2), including foreign vessels landing into the Netherlands. On-shore sampling of the demersal fleet was hampered by COVID-19 between end of March and roughly mid-May.
- At-sea sampling: As described in the accepted Workplan, at-sea sampling occurs on board three pre-defined sampling populations: passive demersal gears (DEMPAS), active demersal gears (DEMACT) and pelagic gears (PEL1). For North-Western waters (as well as Eastern Arctic), only PEL1 is relevant. A weighted random selection of fishing companies managing the pelagic freezer trawlers is applied in the sampling plan for PEL1. A number of observer trips could not be executed due to the COVID-19 restrictions.

Routine data quality checks and data validation exercises of both on-shore and at-sea sampling are executed during data entry (standardized data entry software) and prior to and during data import (standardized checking routines and data import procedures). Standardized raising procedures including quality control are used for data preparation prior to data transmission to end users.

2. Deviations from the Work Plan

- At-sea sampling: [Similar to North Sea as North Sea, North-Western waters and Eastern Arctic pelagic fisheries are covered under the same sampling plans] For a number of species the achieved numbers deviate from the planned numbers. Over- or undersampling for these species is caused by the fact that sampling follows the fishery. This fact will continue to have an impact in future years, even though the planned number have been tuned to previous achievements. In addition, the lower number of observer trips that were executed in 2020 due to the COVID-19 restrictions (see also Table 4A) also resulted in undersampling.

3. Actions to avoid deviations.

- No specific measures taken as COVID-19 measures will hopefully be released during 2021.

Region: Eastern Arctic

General comment: This box fulfils paragraph 2 point (a)(i)(ii)(iii) of Chapter III, of the Annex of the Delegated Decision (EU) 2019/910 and Chapter I of the Implementing Decision (EU) 2019/909 on the multiannual Union programme; and Article 2, Article 4 paragraph 1 and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

This box is applicable to the Annual Report.

4. Evidence of data quality assurance

- On-shore sampling: As described in the accepted workplan, sampling of demersal vessels is based on random selection of vessels visiting the main auctions in The Netherlands. Both national and foreign vessels are sampled. Pelagic fish is not auctioned, catch samples are collected on board of a fixed selection (depends on activities in EU Waters) of trawlers (PEL2), including foreign vessels landing into the Netherlands. On-shore sampling of the demersal fleet was hampered by COVID-19 between end of March and roughly mid-May.
- At-sea sampling: As described in the accepted Workplan, at-sea sampling occurs on board three pre-defined sampling populations: passive demersal gears (DEMPAS), active demersal gears (DEMACT) and pelagic gears (PEL1). For North-Western waters (as well as Eastern Arctic), only PEL1 is relevant. A weighted random selection of fishing companies managing the pelagic freezer trawlers is applied in the sampling plan for PEL1. A number of observer trips could not be executed due to the COVID-19 restrictions.

Routine data quality checks and data validation exercises of both on-shore and at-sea sampling are executed during data entry (standardized data entry software) and prior to and during data import (standardized checking routines and data import procedures). Standardized raising procedures including quality control are used for data preparation prior to data transmission to end users.

5. Deviations from the Work Plan

- At-sea sampling: [Similar to North Sea as North Sea, North-Western waters and Eastern Arctic pelagic fisheries are covered under the same sampling plans] For a number of species the achieved numbers deviate from the planned numbers. Over- or undersampling for these species is caused by the fact that sampling follows the fishery. This fact will continue to have an impact in future years, even though the planned number have been tuned to previous achievements. In addition, the lower number of observer trips that were executed in 2020 due to the COVID-19 restrictions (see also Table 4A) also resulted in undersampling.

6. Actions to avoid deviations.

- No specific measures taken as COVID-19 measures will hopefully be released during 2021.

Region: Other regions

General comment: This box fulfils paragraph 2 point (a)(i)(ii)(iii) of Chapter III, of the Annex of the Delegated Decision (EU) 2019/910 and Chapter I of the Implementing Decision (EU) 2019/909 on the multiannual Union programme; and Article 2, Article 4 paragraph 1 and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

This box is applicable to the Annual Report.

1. Evidence of data quality assurance

- For area 87: Data collection is carried out by Poland under a Multilateral agreement. Quality assurance is based on end-user's (SPFRMO) requirements and specifications.
- For area 34: Data collection is carried out by Poland under a Multilateral agreement. The sampling protocol is based on end-user's (CECAF) needs and provided with the Multilateral agreement in the Workplan.

2. Deviations from the Work Plan

- For area 87: See AR Poland.
- For area 34: See AR Poland.

3. Actions to avoid deviations.

- For actions to avoid deviations regarding at-sea commercial sampling: see AR Poland

SECTION 1: BIOLOGICAL DATA

Text Box 1D: Recreational fisheries

General comment: This box fulfils paragraph 2 point (a) (iv) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2, Article 3 and Article 4 paragraph 1 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

This box is applicable to the Annual Report. This box is intended to provide information on the design, implementation and analysis of all components of sampling schemes/ surveys that are listed in Table 1D.

1. Description of the target population

The target population is the whole population of resident recreational fishers fishing in The Netherlands. Recreational fishers are >95% anglers.

A small group are marine gillnet fishermen. The group of gillnet fishers is decreasing because of the recent management rules (baglimits and closed periods) to retain seabass and because of the high average age of fishers in this group. Gillnet recreational fishery is analysed separately.

2. Type of survey

The Netherlands carries out a multiannual sampling programme covering all recreational fisheries in fresh and marine waters. The surveys provide information on cod, eel and seabass, but also on other species such as salmon and elasmobranches. As there is no licence system in the Netherlands from which all recreational fishermen can be identified, the programme consists of a biennial screening survey covering about 50.000 randomly selected households. These households are questioned on their participation in recreational fishery. Based on the results of this screening survey about 2000-2500 recreational fishermen have been selected to provide information on their recreational catches in a biennial logbook survey.

Information on the design can be found in Table 5A.

3. Data Quality

Non-responses and refusals are recorded in table 5A. Documentation on data quality can be found in the link in table 5A ([van der Hammen et al 2019](#))

4. Data Analysis and processing

Information about data processing is found in the Work Plan, Table 5A.

Pilot Study 1: Relative share of catches of recreational fisheries compared to commercial fisheries

General comment: This box fulfils paragraph 4 of Chapter II of the Annex of the Implementing Decision (EU) 2019/909 on the multiannual Union programme and Article 2 and Article 4 paragraph (3) point (a) of the Implementing Decision (EU) 2016/1701 on the format of the WP.

General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study.

1. Aim of pilot study: no pilot study planned
2. Duration of pilot study: no pilot study planned
3. Methodology and expected outcomes of pilot study: no pilot study planned

Not applicable (no pilot study).

SECTION 1: BIOLOGICAL DATA

Text Box 1E: Anadromous and catadromous species data collection in fresh water

General comment: This box fulfils paragraph 2 points (b) and (c) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

General comment: This box is applicable to the Annual Report.

1. Method selected for collecting data

In the Netherlands, eel (*Anguilla anguilla*) is the only diadromous fish species that is fished commercially in freshwater. In 2010 the Ministry of Economic Affairs introduced an obligatory online catch registration for all freshwater waterbodies. In 2012 effort data (type and number of fishing gears) was added to the registration system. In the catch & effort registration system, yellow eel and silver eel catches are not separated. The existing market sampling programme consists of 36 samples collected between May and August. In each sample length measurements of 150 (max. 200) eels are taken from the unsorted catches. Silver eel and yellow eel are registered separately. In addition to collecting length data, eels are collected for biological sampling (life stage, length, weight, sex, age). Annually several hundred eels are dissected for biological samples (4 eels per 10cm class until 50 cm and 2 eels per 10 cm class for eel >50cm). From these eel, a subset of 50 eels are selected for ageing.

In addition to the fisheries data, fisheries independent surveys take place.

1. A glass eel survey takes place every year with a lift net at 8 locations. Glass eel indices are calculated and used by ICES for a European glass eel index. Since 2019 glass eel detectors area also used, which are able to monitor continuously. 9 glass eel detectors are stationed at 5 locations.
2. A selection of ditches that do not belong to the WFD (Water framework Directive) sampling programme are surveyed every year
3. Every year Lake IJsselmeer and Markermeer are sampled with an electric beam trawl.

2. Were the planned numbers achieved?

In general, the planned numbers were achieved or planned numbers were exceeded (see Table 1E, for the survey in Late IJsselmeer and Markermeer Tables 1G, 1H, text box 1G). The only non-conformity is explained in Table 1E and below:

The number of samples in the market sampling was 34 instead of the planned 36 and as a consequence the numbers of eel in the biological sampling were slightly below target. In 2020, the sampling season started later due to the COVID-19 lockdown. It was not always possible to measure catches on board, and not all fishermen ended up fishing.

SECTION 1: BIOLOGICAL DATA

Text box 1F: Incidental by-catch of birds, mammals, reptiles and fish

General Comment: This box fulfils paragraph 3 point (a) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910, on the multiannual Union programme; and Article 2 of the Implementing Decision (EU) 2016/1701 on the format of the WP.

This box is applicable to the Annual Report. This box is applicable only for those sections where Member States have reported that they have been carrying out regular sampling. Results and deviations for Pilot studies should be reported under Pilot Study 2.

1. Results

During all observer trips on board commercial vessels (i.e. 454 hauls) the scientific observers have recorded incidental bycatches (this also includes zero bycatch) and corresponding observation effort on a haul level. The observed incidentally by-caught species were generally released dead.

2. Deviations from Work Plan

As for the at-sea sampling schemes (stratum ID codes DEMACT, DEMPAS, PEL1) the achieved number of PSU was lower than the planned number of PSUs due to COVID-19 restrictions (see also Text box 4A and Table 4A), observation effort on haul level was lower than planned.

3. Data quality

The onboard observer protocol states that:

- the observer registers whether the cod-end was checked in a haul for rare, incidental bycatches and the observer is instructed to indicate when the cod-end was not checked in a haul.
- in gillnet and hook-and-line fisheries the observer registers how much of the hauling process has been observed for incidental bycatches which never came on board.
- in active fisheries the observer indicates what percentage of the sorting or hauling process has been checked at haul level for rare, incidental bycatches.
- the observer should report the use of mitigation devices.

The sampling protocol follows recommendations from [ICES Working Group on Bycatch of Protected Species \(WGBYC\)](#).

Routine data quality checks and data validation exercises are executed during data entry (standardized data entry software) and prior to and during data import (standardized checking routines and data import procedures). Data is stored in the WMR database (Frisbe) and provided to ICES WGBYC.

SECTION 1: BIOLOGICAL DATA

Pilot Study 2: Level of fishing and impact of fisheries on biological resources and marine ecosystem

General comment: This Box fulfils paragraph 3 point (c) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2 and Article 4 paragraph (3) point (b) of the Implementing Decision (EU) 2016/1701 on the format of the WP.

General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study.

1. Aim of pilot study

To collect samples of fish species that occur as incidental bycatch in the pelagic fishery. The data collected will provide information on the effect of pelagic fisheries on non-commercial species. It is expected that this project will lead to better cooperation with crews in the sampling of protected species in general (including birds and mammals). The pilot will also provide information on the feasibility of future, large scale data collection programmes for by catch.

2. Duration of pilot study

2020 and 2021 (2 years)

3. Methodology and expected outcomes of pilot study

The crew of one trawler is asked to collect once a week all non-marketable fish species from the sorting belt during a pre-set period (e.g. one hour) up to a maximum of one fish standard tray (40-50 kg). In addition, the crew is asked to collect rare non-marketable species in hauls where they occur in extreme numbers. This part of the catch is frozen in standard carton boxes of 20-25 kg and labelled with date, haul number and geographical position. The frozen boxes are landed and collected for analysis at Wageningen Marine Research. Individual fish are identified to species and length- measured to the cm below. Results are back reported to the crew. Data is stored in the database at Wageningen Marine Research. The results may be shared with relevant end-user groups like WGBYC.

The sampling may be extended later in the year to two trawlers.

Results

Data collection for this pilot study was postponed to 2021. In practice it appeared very difficult to create a single uniform protocol for crew members to collect fish species that occur as incidental bycatch in the pelagic fisheries. Such data collection requires a certain amount of flexibility and dedication that cannot be expected from the crew members. It was therefore decided that in 2021 observers will collect data during the observer trips rather than crew members.

SECTION 1: BIOLOGICAL DATA

Text Box 1G: List of research surveys at sea

Region: North Sea and Eastern Arctic

General comment: This box fulfils Chapter I of the Annex of the Implementing Decision (EU) 2019/909, on the list of mandatory surveys and thresholds, of the multiannual Union programme; and Article 2 and Article 7 paragraph (3) of the Decision (EU) 2016/1701 on the format of the WP.

It is intended to specify which research surveys at sea set out in the multiannual Union programme will be carried out. Member States shall specify whether the research survey is included in Chapter I of the Annex of the implementing decision of the multiannual Union programme or whether it is an additional survey.

Survey: International Bottom Trawl Survey (IBTS)
The IBTS is carried out twice a year, one survey is conducted in the first quarter and a second survey in the third quarter. The Netherlands participates only in the first quarter (Q1) survey with RV Tridens (25 days at sea). The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group (IBTSWG).
Objectives of the survey The ICES SISP Manual for the International Bottom Trawl Surveys (revision IX) describes the current objectives: <ol style="list-style-type: none">To determine the distribution and relative abundance of pre-recruits of the main commercial species with a view of deriving recruitment indices;To monitor changes in the stocks of commercial fish species independently of commercial fisheries data;To monitor the distribution and relative abundance of all fish species and selected invertebrates;To collect data for the determination of biological parameters for selected species;To collect hydrographical and environmental information;To determine the abundance and distribution of late herring larvae (February North Sea survey).
Description of the methods used in the survey During daytime, GOV trawl hauls are conducted. At night time, a Method Isaac Kidd (MIK) plankton trawl is deployed. Hydrographical data is collected with a CTD (downcast) at every trawl station. Since 2011, litter from the trawl catch is being sorted and registered. The complete sampling procedure and the level of precision are defined in the ICES SISP Manual for the International Bottom Trawl Surveys (revision IX) and the Manual for the Midwater Ring Net sampling during IBTS Q1 (version 3). The ICES IBTS Working Group (IBTSWG) decides annually on the sampling areas for the contributing MSs. The area to be covered by the Netherlands in 2019 is presented in Figure 1 in the NLD WP 2020-2021. Slight changes based on IBTSWG decisions may occur for 2020 and 2021, but no major changes are to be expected.
Coordination and participation The survey is coordinated by the ICES IBTS Working Group (IBTSWG) and performed in collaboration with research vessels from France, Germany, Denmark, Sweden, UK and Norway. The data of the survey are uploaded in the ICES Database of Trawl Surveys (DATRAS). The internationally combined recruit indices of various species are used by ICES groups WGNSSK and HAWG, elasmobranch information is used by ICES WGEF, and mackerel information incidentally by WGWIDE. The IBTS data are also being used in the OSPAR MSFD assessment.
International task sharing (physical and/or financial) and the cost sharing agreement used

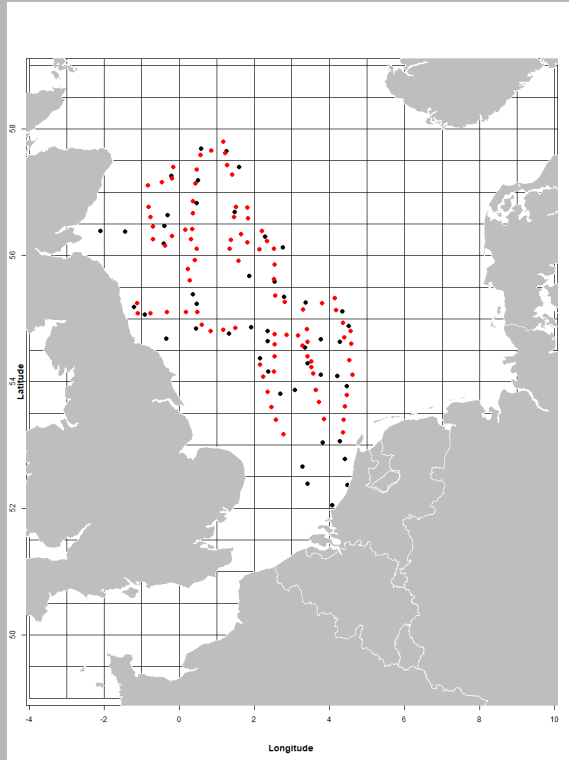
Task sharing applies.

The IBTS Q1 survey is carried out by a number of EU MSs and non-EU countries, each contributing with its own vessel.

No cost sharing applies.

Explain where thresholds apply: Not applicable

Graphical representation (map) showing the positions (locations) of the realized samples during NL IBTS 2020. Red dots=MIK samples, Black dots=GOV



Link to the latest meeting report of the coordination group: available via [ICES IBTSWG](#). The MIK sampling is scientifically discussed in [ICES WGSINS](#).

A new manual has become available in 2020 for the North Sea IBTS (revision 11).

Main use of the results of the survey

The internationally combined recruit indices of various species are used by ICES groups WGNSSK and HAWG, elasmobranch information is used by ICES WGEF, and mackerel information incidentally by WGWIDE. The IBTS data are also being used in the OSPAR MSFD assessment.

MIK data are used by HAWG.

Extended comments (Tables 1G and 1H)

The link to ICES DATRAS has in 2019 been changed due to revision of the ICES website: <http://www.ices.dk/data/data-portals/Pages/DATRAS.aspx>

Survey: North Sea Beam Trawl Survey (BTS)

The BTS is carried out annually in August/September. The Netherlands participates with RV Isis (25 days at sea) and RV Tridens (20 days at sea), both with a different spatial coverage. The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGBEAM](#)).

Objectives of the survey

The [ICES Manual for the Offshore Beam Trawl Surveys](#) (SISP14, April 2019) describes the current objectives:

- a. Create fisheries-independent abundance indices by age group (1 year olds and older) for a number of fish species (i.a. plaice, sole, dab, lemon sole, flounder, turbot, brill, monk fish) for the sampled area
- b. Collection of biological data on all fish species including elasmobranch species for ecosystem analysis purposes, including length measurements
- c. Collection of data on at least a selection of epibenthos species for ecosystem analysis purposes
- d. Collection of marine litter data

Description of the methods used in the survey

During daytime, 30 minute beam trawl hauls are conducted. Hydrographical data is collected with a CTD (downcast) at every trawl station. Since 2011, litter from the trawl catch is sorted and registered on board Tridens. The complete sampling procedure is defined in the [ICES Manual for the Offshore Beam Trawl Surveys](#) (SISP14, April 2019).

The area to be covered by the Netherlands is presented in Figure 2a and 2b. in the NLD WP 2020-2021.

Coordination and participation

The survey is coordinated by the ICES Working Group on Beam Trawl Surveys ([WGBEAM](#)). Other MSs carrying out beam trawl surveys in the region are Belgium, Germany and UK.

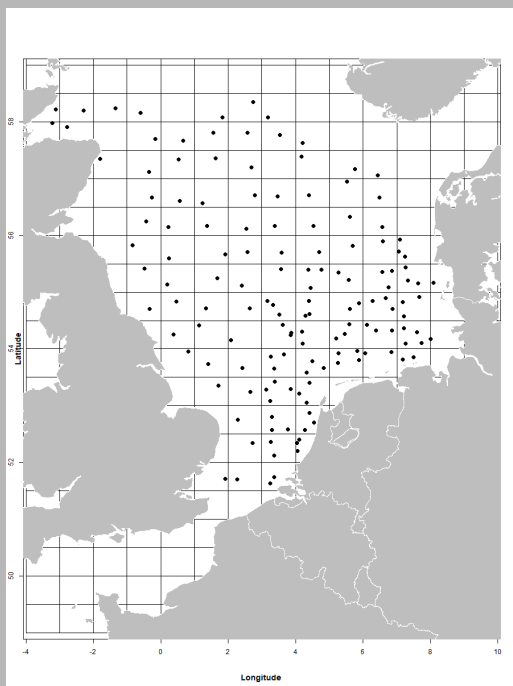
The data of the survey are uploaded in the [ICES Database of Trawl Surveys](#) (DATRAS). The Dutch beam trawl survey in the North Sea data is being used by ICES WGNSSK in the fish stock assessments (sole *Solea solea*, plaice *Pleuronectes platessa*, dab *Limanda limanda*, brill *Scophthalmus rhombus* and turbot *Scophthalmus maximus/Psetta maxima*).

BTS data are being used in the OSPAR MSFD assessment.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing applies. The survey is carried out by four EU MSs, each contributing with its own vessel. No cost sharing applies.

Explain where thresholds apply: Not applicable



<http://www.ices.dk/data/data-portals/Pages/DATRAS.aspx>

Graphical representation (map) showing the positions (locations) of the realised samples during NL BTS 2020. The survey is since 2017 fully carried out by RV Tridens.

Link to the latest meeting report of the coordination group: available via [ICES WGBEAM](#). A manual has become available in 2019 for the offshore beam trawl surveys ([SISP 14](#)).

Main use of the results of the survey

The information from the Dutch beam trawl survey in the North Sea is being used by ICES WGNSSK in the fish stock assessments (sole *Solea solea*, plaice *Pleuronectes platessa*, dab *Limanda limanda*), brill (*Scophthalmus rhombus*) and turbot (*Scophthalmus maximus*). Furthermore, the data are used by ICES WGEF in the elasmobranch assessments.

BTS data are being used in the OSPAR MSFD assessment.

Extended comments (Tables 1G and 1H)

The link to ICES DATRAS has been changed in 2019 due to revision of the ICES website: <http://www.ices.dk/data/data-portals/Pages/DATRAS.aspx>

Survey: Demersal Young Fish Survey (DYFS)

The DYFS is carried out annually from end of August-early November. The Netherlands participates with RV Isis (25 days at sea), RV Luctor (15 days at sea), RV Stern (25 days at sea) covering different near shore areas and estuaries. The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGBEAM](#)).

Objectives of the survey

The ICES Manual for the Inshore Beam Trawl Surveys (in prep.) describes the current objectives:

- a. Create a fisheries-independent stock estimate for brown shrimp and for 0- and 1-year old plaice, sole and dab
- b. Collection of data on all fish species and epibenthos species for ecosystem purposes

Description of the methods used in the survey

During daytime, 15 minute beam trawl hauls are conducted. Hydrographical data is collected with a datalog CTD attached to the net. The complete sampling procedure is defined in the ICES Manual for the Inshore Beam Trawl Surveys.

The area to be covered by the Netherlands is presented in Figure 3 in the NLD WP 2020-2021.

Coordination and participation

The survey is coordinated by the ICES Working Group on Beam Trawl Surveys ([WGBEAM](#)). Other MSs carrying out DYFS are Belgium and Germany.

The data of the survey are uploaded in the [ICES Database of Trawl Surveys](#) (DATRAS).

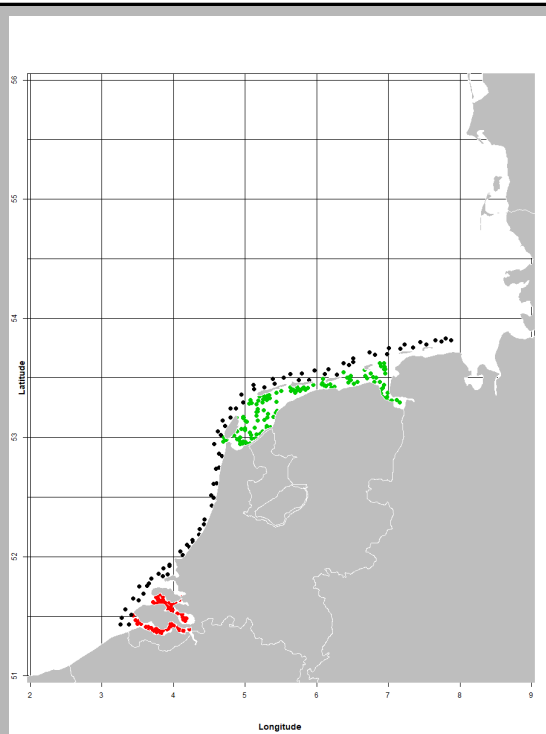
The internationally combined recruit indices for plaice, sole and dab are used by ICES WGNSSK.

The internationally combined abundance indices for brown shrimp are used by ICES WGCAN.

International task sharing (physical and/or financial) and the cost sharing agreement used

The DYFS is carried out by three EU MSs, each contributing with its own vessel. No cost sharing applies.

Explain where thresholds apply: Not applicable



Graphical representation (map) showing the positions (locations) of the realised samples during NL DYFS 2020. Red=Luctor, Green=Stern, Black=Isis.

Latest meeting report of the coordination group: available via [ICES WGBEAM](#)

Main use of the results of the survey (e.g. indices, abundance estimates, environmental indicators)

- The internationally combined recruit indices for plaice, sole and dab are used by ICES WGNSSK
- The internationally combined abundance indices for brown shrimp are used by ICES WGCAN
- The DYFS data collected in the Wadden Sea are also used in [TMAP](#) (Trilateral Monitoring and Assessment Programme in the Wadden Sea)
- The DYFS data collected in the 'Voordelta' and Western Scheldt are delivered to [MONEOS](#) (Dutch-Flemish monitoring programme in the Scheldt area)
- Historical DYFS data in the Wadden Sea have been delivered to [WaLTER](#) (Data portal Wadden Sea monitoring)

Extended comments (Tables 1G and 1H)

The survey in the coastal zone was hampered by bad weather for a full week, and by delay of the Sole Net Survey (see below). Due to COVID-19 restrictions the northernmost areas of the DYFS could not be sampled, as the vessel was not allowed to enter foreign ports and the ship's owner did not allow for sampling in the weekend. The other areas have been sampled in line with the planning.

The link to ICES DATRAS has been changed due to revision of the ICES website: <http://www.ices.dk/data/data-portals/Pages/DATRAS.aspx>

Survey: Sole Net Survey (SNS)

The SNS is carried out annually in September. The Netherlands participates with RV Isis (10 days at sea) in the Dutch, German and Danish coastal zone. The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGBEAM](#)).

Objectives of the survey

The ICES Manual for the Inshore Beam Trawl Surveys (in prep.) describes the current objectives:

- a. Create a fisheries-independent stock estimate for 1- to 4-year old plaice and sole
- b. Collection of data on all fish species and epibenthos species for ecosystem purposes

As the manual is under revision, other data use is not yet mentioned: SNS data is currently also used for a fisheries-independent stock estimate in the assessment of turbot (*Scophthalmus maximus*).

Description of the methods used in the survey

During daytime, 15 minute beam trawl hauls are conducted. Hydrographical data is collected with a datalog CTD attached to the net. The complete sampling procedure is defined in the ICES Manual for the Inshore Beam Trawl Surveys.

The area to be covered by the Netherlands is presented in Figure 4 in the NLD WP 2020-2021.

Coordination and participation

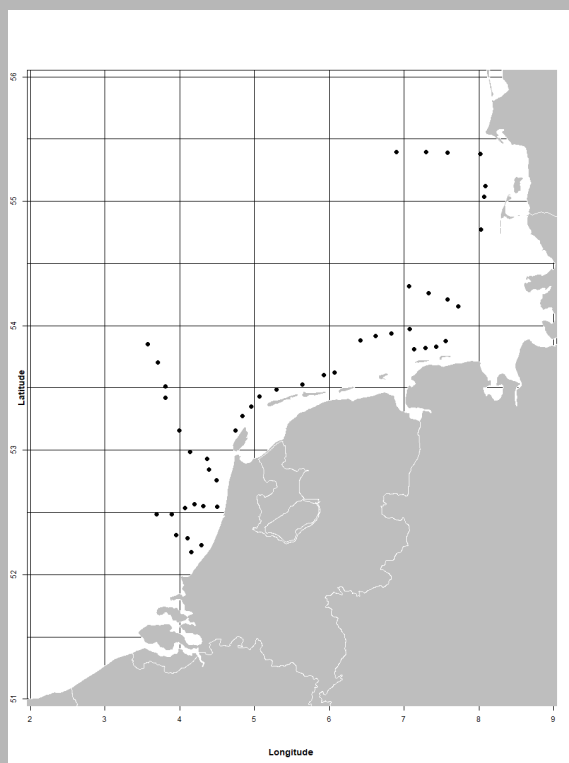
The survey is coordinated by the ICES Working Group on Beam Trawl Surveys ([WGBEAM](#)). The Netherlands is the only MS conducting this survey.

The [ICES Database of Trawl Surveys](#) (DATRAS) is under development to have the SNS data stored. The plaice, sole and turbot indices are used by ICES WGNSSK.

International task sharing (physical and/or financial) and the cost sharing agreement used

No task sharing applies (NLD only MS carrying out this survey). No cost sharing applies.

Explain where thresholds apply: Not applicable



portals/Pages/DATRAS.aspx

Graphical representation (map) showing the positions (locations) of the realized samples during NL SNS 2020.

Link to the latest meeting report of the coordination group: available via [ICES WGBEAM](#)

Main use of the results of the survey: the plaice, sole and turbot indices are used by ICES WGNSSK.

Extended comments (Tables 1G and 1H)

Due to COVID-19 restrictions the northernmost areas of the SNS had to be sampled less intensively than planned, as the vessel was not allowed to enter foreign ports and the ship's owner did not allow for sampling in the weekend. Due to weather conditions and COVID-19 restrictions the survey could not be completed in two weeks, so the survey was extended with two days, thus affecting the start of the DYFS. No or limited effect is to be expected on the indices.

The link to ICES DATRAS has been changed in 2019 due to revision of the ICES website: <http://www.ices.dk/data/data->

Survey: International Ecosystem Survey in the Nordic Seas (ASH) –see for full description Workplan Denmark

The ASH is carried out annually in the May/June and is carried out by RV Dana (Denmark). The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGIPS](#)).

Objectives of the survey

The [ICES Manual for International Pelagic Surveys \(IPS\)](#) (version 1.00) describes the current objectives:

- a. Carry out a predetermined survey cruise track
- b. Determine an age stratified estimate of relative abundance of herring within the survey area
- c. Determine an age stratified estimate of relative abundance of blue whiting within the survey area
- d. Collect biological samples from directed trawling on insonified fish echotraces to determine age structure and maturity state of the herring stock
- e. Collect physical oceanography data from vertical profiles (CTD).
- f. Plankton sampling (WP2 and Dyedi)

Description of the methods used in the survey

During the survey acoustic echosounder measurements are done. In addition, trawl hauls are made to identify the species composition of the acoustic recordings. Also hydrographical and plankton data are collected. The complete sampling procedure is defined in the [ICES Manual for International Pelagic Surveys \(IPS\)](#) chapter 2.1.2.

The area to be covered in the survey is presented in Figure 5 in the NLD WP 2020-2021.

Coordination and participation

The survey is coordinated by the ICES Working Group on International Pelagic Surveys ([WGIPS](#)). The Netherlands participates in the ASH as part of a consortium of EU MSs and let two scientists join the survey on-board RV Dana.

Data storage and data use: see work plan Denmark.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing (personnel) applies: the survey is carried out by RV Dana and the Netherlands let two scientists join the survey.

Cost sharing applies: the operational costs of the vessels are shared by EU MSs applying an allocation key proportional to national share of the EU TAC.

Explain where thresholds apply: Not applicable

Graphical representation (map) showing the positions (locations) of the realized samples during ASH 2020: see AR Denmark.

Link to the latest meeting report of the coordination group: available via available via [ICES WGIPS](#)

Main use of the results of the survey: see AR Denmark

Extended comments (Tables 1G and 1H): see AR Denmark; due to COVID-19 travel restrictions in The Netherlands as well as Denmark, no Dutch staff contributed to the survey.

Survey: Mackerel egg Survey (NSMEGS; Triennial)

The mackerel egg survey in the North Sea is an extension of the international mackerel and horse mackerel egg survey in western waters. The NSMEGS is carried out triennially in May/June (first survey planned in 2020). The Netherlands participates with RV Tridens (amount of days depending on contribution by other countries), covering the North Sea. The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGMEGS](#)).

Objectives of the survey

The aim of the survey is to provide abundance estimates of the North Sea component of Atlantic mackerel by measuring the egg abundance. In combination with measurements of fecundity and atresia, which will be collected in the same year, the egg abundance can be converted into estimates of the spawning stock.

Description of the methods used in the survey

The main sampling type are plankton hauls using a Gulf VII plankton sampler, following a fixed station design. The survey is split up into four periods, and in each period the area is fully covered. In addition to the plankton hauls, fish hauls (with a pelagic trawl) are carried out for the collection of adult mackerel biological parameters. Hydrographical data are collected with a Seabird CTD attached to the plankton sampler. The complete sampling procedure is defined in the [SISP Manual for the mackerel and horse mackerel egg surveys \(MEGS\): sampling at sea](#) (version 2.2 2019). The methodology for atresia and fecundity estimates is defined in the SISP Manual for the mackerel and horse mackerel egg surveys (MEGS): [SISP 5 - WGMEGS V12 Manual for AEPM and DEPM fecundity](#).

The area to be covered by the Netherlands is presented in Figure 6 in the NLD WP 2020-2021.

Coordination and participation

The survey is coordinated by the ICES Working Group on Mackerel and Horse Mackerel Egg Surveys ([WGMEGS](#)). The Netherlands is the only MS conducting this survey.

The survey data is currently stored in the IMARES database (Frisbe). Egg and fecundity data are made available to WGMEGS before the WGWIDE meeting in 2017.

The survey index, fecundity estimate and mackerel biological data is being used by ICES WGWIDE.

International task sharing (physical and/or financial) and the cost sharing agreement used

No task sharing applies (NLD is the only MS carrying out this survey). No cost sharing applies.

Explain where thresholds apply: Not applicable

Graphical representation (map): The NSMEGS 2020 has been postponed to 2021 due to COVID-19 restrictions (see extended comments).

Link to the latest meeting report of the coordination group: available via [ICES WGMEGS](#)

Main use of the results of the survey: the survey index, fecundity estimate and mackerel biological data is being used by ICES WGWIDE.

Extended comments (Tables 1G and 1H): The ship's owner decided it unsafe to let RV Tridens sail from March till half June due to the COVID-19 pandemic. As a result, it would not have been possible to let the NSMEGS be carried out. In collaboration with the Dutch Ministry and international colleagues it was decided to postpone the survey to 2021.

Survey: Herring Larvae Survey (IHLS)

The herring larvae survey in the North Sea is annually carried out in September (two weeks) and December (one week). The Netherlands participates with RV Tridens (total 15 days), covering the North Sea. The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGSINS](#)).

Till 2017 the survey was also carried out in January (one week), but this week has been replaced by a survey in April focussing on the Downs recruitment, see below (IHLS-DRS).

Objectives of the survey

The aim of the survey is to estimate the adult population of autumn spawning herring based on the abundance of newly hatched herring larvae as this is a reliable index for spawning stock abundance. In particular, the survey gives information on the abundance of different spawning components.. The Netherlands covers Buchan, central North Sea, southern North Sea and English Channel.

Description of the methods used in the survey

The main sampling type are plankton hauls using a Gulf VII plankton sampler, following a fixed station design. In addition to the plankton hauls, fish hauls (with a pelagic trawl) may be carried out for the collection of adult biological parameters. Hydrographical data are collected with a Seabird CTD attached to the plankton sampler. During the herring larvae surveys a standard grid is sampled. In each ICES rectangle 9 stations are sampled (0°30 N x 1°E/W; ca. 30 x 30 NM). The complete sampling procedure is defined in the [ICES Manual for the International herring larvae surveys south of 62° North](#) (Annex 7, January 2010).

The area to be covered by the Netherlands is presented in Figures 7b, c. in the NLD WP 2020-2021.

Coordination and participation

The survey is coordinated by the ICES Working Group on Surveys on Ichthyoplankton in the North Sea and adjacent Seas ([WGSINS](#)). Other MS carrying out IHLS is Germany.

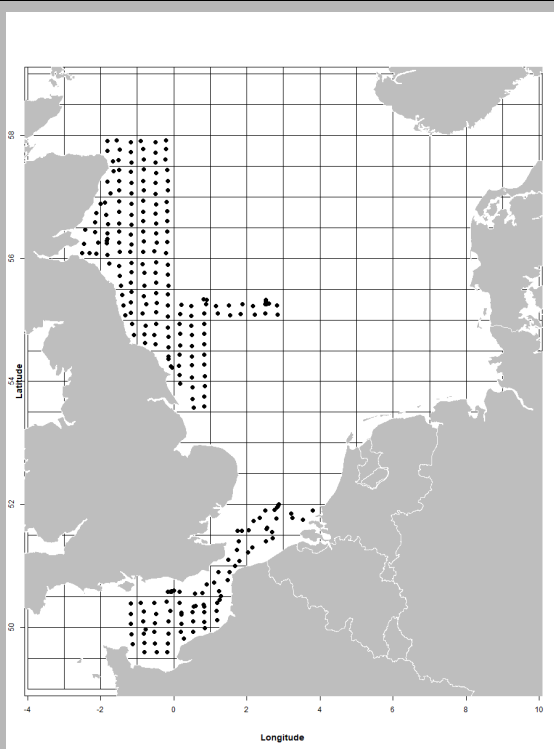
The IHLS time-series is part of the [eggs and larvae database](#) at the ICES Data Centre.

The internationally combined indices are used by ICES HAWG for the assessment of the North Sea herring spawning stock biomass.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing applies. The IHLS is carried out by two EU MSs, each contributing with its own vessel. No cost sharing applies.

Explain where thresholds apply: Not applicable



Graphical representation (map) showing the positions (locations) of the realized samples during NL IHLS 2020.

Link to the latest meeting report of the coordination group: available via [ICES WGSINS](#).

Main use of the results of the survey: the internationally combined indices are used by ICES HAWG for the assessment of the North Sea herring spawning stock biomass.

Extended comments (Tables 1G and 1H):

The link to ICES eggs and larvae database has been changed due to revision of the ICES website: <http://www.ices.dk/data/data-portals/Pages/Eggs-and-larvae.aspx>

Data have been submitted to that portal.

Survey: Downs recruitment survey

The Downs recruitment survey in the North Sea is since 2018 annually carried out in April (one week). The Netherlands participates with RV Tridens (total 5 days), covering the relevant area in the North Sea (sampling area based on larval drift modelling). The survey not is listed in 2016/1251 Table 10. The continuity of the survey design is guaranteed by participation in the coordinating survey group ([WGSINS](#)).

Objectives of the survey

The aim of the DRS is to provide an recruitment index for the winter spawning herring population in the Southern North Sea and English Channel. The advice of HAWG is to continue the survey for at least another three years to be able to derive proper indices that can be used for the stock assessment.

Description of the methods used in the survey

The main sampling type are plankton hauls using a Gulf VII plankton sampler, following a fixed station design. Hydrographical data are collected with a Seabird CTD attached to the plankton sampler. During the DRS a standard grid is sampled. In each ICES rectangle 9 stations are sampled (0°30' N x 1°E/W; ca. 30 x 30 NM). The complete sampling procedure is not yet described in an international manual, but the methodology

largely follows those used in IHLS (defined in the [ICES Manual for the International herring larvae surveys south of 62° North](#) (Annex 7, January 2010)).

The area to be covered by the Netherlands is presented in Figures 7a in the NLD WP 2020-2021.

Coordination and participation

The survey is coordinated by the ICES Working Group on Surveys on Ichthyoplankton in the North Sea and adjacent Seas ([WGSINS](#)). Currently no MS participates in this survey.

The DRS data is stored in the [eggs and larvae database](#) at the ICES Data Centre.

The advice of HAWG is to continue the survey for at least another three years to be able to derive proper indices that can be used for the stock assessment.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing does not apply.

No cost sharing applies.

Explain where thresholds apply: Not applicable

Graphical representation (map) NL DRS 2020 was cancelled due to COVID-19 restrictions (see extended comments).

Link to the latest meeting report of the coordination group: available via [ICES WGSINS](#).

Main use of the results of the survey: the survey data are not used in the assessment yet, because the survey only started in 2018. The ICES HAWG however asked to continue the survey to create a timeseries.

Extended comments (Tables 1G and 1H):

The ship's owner decided it unsafe to let RV Tridens sail from March till half June due to the COVID-19 pandemic. As a result, the NL DRS could not be carried out in April.

The link to ICES eggs and larvae database has been changed due to revision of the ICES website:

<http://www.ices.dk/data/data-portals/Pages/Eggs-and-larvae.aspx>

Survey: NS Herring Acoustic Survey (NHAS)

The NHAS is carried out annually in June/July in the North Sea. The Netherlands participates with RV Tridens (total 20 days). The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGIPS](#)).

Objectives of the survey

The survey aims to provide an annual estimate of the distribution, abundance and population structure to inform the assessment of the following herring and sprat stocks: Western Baltic Spring-spawning herring (in ICES Divisions IV and IIIa), North Sea Autumn Spawning herring (in IV and IIIa), West of Scotland herring (in VIaN), Malin Shelf herring (west of Scotland/Ireland in VIaN-S and VIIb,c), North Sea sprat (in IV) and Sprat in IIIa (western Baltic).

Description of the methods used in the survey

During the survey acoustic echosounder measurements are done, preferably in transects perpendicular to the coast. In addition, trawl hauls are made to identify the species composition of the acoustic recordings. Hydrographical data are collected on regular intervals. The complete sampling procedure is defined in the [ICES Manual for International Pelagic Surveys \(IPS\)](#) chapter 2.1.5.

The area to be covered by the Netherlands is presented in Figure 8 in the NLD WP 2020-2021. The ICES Working Group on International Pelagic Surveys ([WGIPS](#)) redistributed the sampling areas during the 2016 meeting, so the figure presented differs from the coverage presented in the current version of the manual.

Coordination and participation

The survey is coordinated by [WGIPS](#) and performed in collaboration with research vessels from Denmark, Germany, UK, Ireland and Norway.

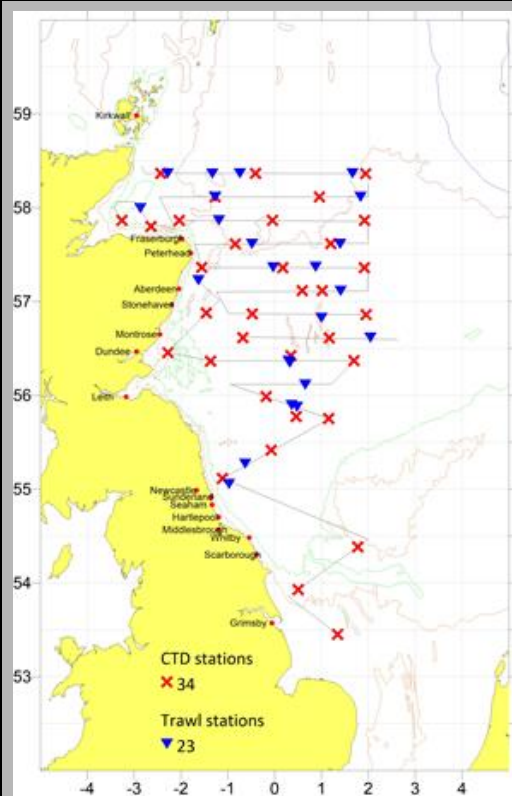
The raw acoustic survey data are stored within individual national institutes. Since 2003 until 2014 aggregated survey data were stored in the FishFrame Acoustics database (<http://dmz-web08.dfu.min.dk/NorthSea/FishFrame/>). However, the platform and maintenance of that database has been discontinued and from 2015 onwards, data are stored in the ICES acoustic database (<https://ices.dk/marine-data/data-portals/Pages/acoustic.aspx>).

The derived estimates and age structure of herring and sprat are used as tuning indices in the respective assessments and are submitted annually to ICES HAWG.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing applies. The NHAS is carried out by five EU MSs and one non EU country, each contributing with its own vessel. No cost sharing applies.

Explain where thresholds apply: Not applicable



Graphical representation (map) showing the positions (locations) of the realized samples during NL NHAS 2020.

Link to the latest meeting report of the coordination group: available via [ICES WGIPS](#)

Main use of the results of the survey: the derived estimates and age structure of herring and sprat are used as tuning indices in the respective assessments and are submitted annually to ICES HAWG.

Extended comments (Tables 1G and 1H):

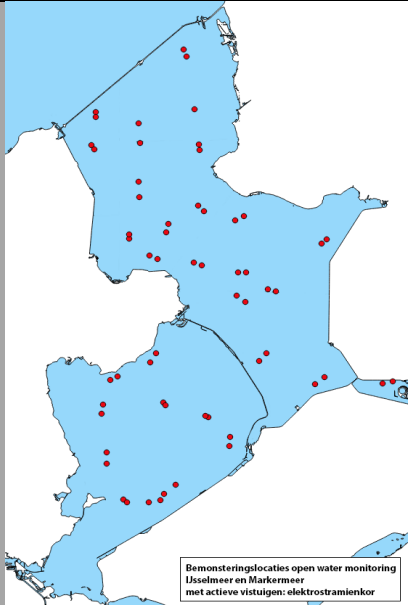
2020 acoustic and biological data have been submitted to <https://www.ices.dk/data/data-portals/Pages/acoustic.aspx>.

Survey: Dutch shellfish surveys (Additional survey)

The Dutch shellfish surveys are carried out annually between February and October covering the Dutch coast and estuaries (Wadden Sea, Oosterschelde, Westerschelde, and since 2017 Veerse Meer and Grevelingen). The surveys together form the basis for the national shellfish advice. The survey is not listed in 2016/1251 Table 10. The sampling design has been evaluated in 2015 and is a continuation of the previous design.

<p>Objectives of the survey</p> <p>The survey aims to provide an annual estimate of:</p> <ol style="list-style-type: none"> the abundance of <i>Ensis</i> sp., <i>Spisula subtruncata</i>, <i>Mytilus edulis</i>, <i>Cerastoderma edule</i> and <i>Lutraria lutraria</i> in the Dutch coastal zone the abundance of <i>Cerastoderma edule</i>, <i>Mytilus edulis</i> and <i>Crassostrea gigas</i> in the Wadden Sea and Oosterschelde and Westerschelde estuary the abundance of non-commercial shellfish and infauna species in the Dutch coastal zone, Wadden Sea and Ooster- and Westerschelde estuary
<p>Description of the methods used in the survey</p> <p>The survey samples a number of commercial shellfish species in the littoral and sublittoral areas in the Dutch coastal zone and estuaries. All sub-surveys are stratified. The sampling device depends on the sampling location and target species. A summary is given in Table 1G and 1H. The complete sampling procedure is defined in the Dutch manual ‘Handboek schelpdierbestandsopnames’ (available on request).</p> <p>The area to be covered is presented in Figure 9 in the NLD WP 2020-2021.</p>
<p>Coordination and participation: Not applicable</p>
<p>International task sharing (physical and/or financial) and the cost sharing agreement used</p> <p>Not applicable, national survey</p>
<p>Explain where thresholds apply: Not applicable</p>
<p>Graphical representation (map) showing the positions (locations) of the realized samples during NL shellfish surveys 2020 can be found at https://www.wur.nl/nl/artikel/Schelpdiermonitor.htm</p> <p>Link to the latest meeting report of the coordination group: not applicable, national survey</p> <p>Main use of the results of the survey</p> <ul style="list-style-type: none"> the survey is primarily used for stock estimation of shellfish stocks in Dutch waters, to provide national advice on shellfish fisheries. The data collected in the Wadden Sea are also used in TMAP (Trilateral Monitoring and Assessment Programme in the Wadden Sea) The data collected in the ‘Voordelta’ and Western Scheldt are delivered to MONEOS (Dutch-Flemish monitoring programme in the Scheldt area). Historical data in the Wadden Sea have been delivered to WaLTER (Data portal Wadden Sea monitoring) <p>Extended comments (Tables 1G and 1H)</p> <p>In 2020 the results of the shellfishsurveys have been made available online: https://www.wur.nl/nl/artikel/Schelpdiermonitor.htm (in Dutch)</p>

<p>Survey: Lakes IJsselmeer and Markermeer (Additional survey)</p>
<p>The Dutch survey on the lakes IJsselmeer and Markermeer is carried out annually in October and November, covering both lakes. The survey delivers data to the international advice on eel as well as to national advice on smelt, bream, roach, perch, pikeperch. The survey is not listed in 2016/1251 Table 10.</p>
<p>Objectives of the survey</p> <p>The survey aims to provide an annual estimate of:</p> <ol style="list-style-type: none"> the abundance of eel, smelt, bream, roach, perch and pikeperch in lakes IJsselmeer and Markermeer age composition of eel, bream, roach, perch and pikeperch in both lakes the abundance of non-commercial fish species in both lakes

Description of the methods used in the survey	
<p>The survey is carried out with an electric beam trawl for eel and with a 4 meter beam trawl for the other species, and standardised since 1989. The survey has a fixed sampling design. A summary for the eel sampling is given in Table 1G and 1H. The complete sampling procedure is defined in the Dutch manual https://wur.on.worldcat.org/oclc/1105167443.</p> <p>The area to be covered is presented in Figure 11 of the NLD WP 2020-2021.</p>	
Coordination and participation	
Not applicable	
International task sharing (physical and/or financial) and the cost sharing agreement used	
Not applicable, national survey	
Explain where thresholds apply	
Not applicable	
	<p>Graphical representation (map) of the electrical beam trawl sampling in lakes IJsselmeer and Markermeer in 2020.</p> <p>Link to the latest meeting report of the coordination group: not applicable</p> <p>Main use of the results of the survey: the eel data are used for the evaluation of the eel management plan and by ICES WGEEL. All data from the surveys in the area are used for national advice on fresh water fish stocks.</p> <p>Extended comments (Tables 1G and 1H): no comments</p>

Region: North Atlantic

Survey: Blue whiting survey (IBWSS)
<p>The IBWSS is carried out annually in March/April in the North Sea. The Netherlands participates with RV Tridens (approx. 18 days). The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group (WGIPS).</p>
<p>Objectives of the survey</p> <p>The survey aims to determine the distribution and abundance at age and length of the Northeast Atlantic blue whiting stock during the spawning season to the west of Britain and Ireland (Figure 10 in NLD WP 2020-2021).</p>

Description of the methods used in the survey

During the survey transect-wise acoustic echosounder measurements are done. In addition, trawl hauls are made to identify the species composition of the acoustic recordings. Hydrographical data are collected on regular intervals. The complete sampling procedure is defined in the [ICES Manual for International Pelagic Surveys \(IPS\)](#) chapter 2.1.1.

The area to be covered is presented in Figure 10 in the NLD WP 2020-2021. The acoustic transects are presented by lines, blue spots indicate hydrography stations.

Coordination and participation

The survey is coordinated by the ICES Working Group on International Pelagic Surveys ([WGIPS](#)) and performed in collaboration with research vessels from Ireland, Faroe Islands, Russia, and Norway.

The disaggregated survey data (hydrographic, biological, & acoustic) are stored in the ICES acoustic database (<https://ices.dk/marine-data/data-portals/Pages/acoustic.aspx>)

The blue whiting spawning stock estimate is used as a tuning index by ICES WG WIDE to determine the size of the population.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing applies. The IBWSS is carried out by two EU MSs, and three non EU MSs, each contributing with its own vessel. Furthermore, scientists from Denmark, Germany and UK participate in the survey on board of the Dutch vessel.

Cost sharing applies: the operational costs of the vessels are shared by EU MSs applying an allocation key proportional to national share of the EU TAC.

Explain where thresholds apply: not applicable

Graphical representation (map) NL IBWSS 2020 was cancelled due to COVID-19 restrictions (see extended comments).

Link to the latest meeting report of the coordination group: available via [ICES WGIPS](#)

Main use of the results of the survey: the blue whiting spawning stock estimate is used as a tuning index by ICES WG WIDE to determine the size of the population.

Extended comments (Tables 1G and 1H): The ship's owner decided it unsafe to let RV Tridens sail from March till half June due to the COVID-19 pandemic. As a result, the NL DRS could not be carried out in March/April. The decision was taken on the day before scheduled departure, and communicated with international colleagues as soon as possible.

2019 acoustic data have been submitted to <https://www.ices.dk/data/data-portals/Pages/acoustic.aspx>, submission of biological data is under development together with ICES Data Centre.

Survey: International Mackerel and Horse Mackerel Egg Survey (MEGS; Triennial –NO SURVEY IN WP PERIOD)

The MEGS is carried out triennially from January until July (first survey planned in 2022). The Netherlands participates with RV Tridens (approx. 30 days). The survey is listed in 2016/1251 Table 10. The continuity of the previous survey design is guaranteed by participation in the coordinating survey group ([WGMEGS](#)).

Objectives of the survey

The aim of the survey is to provide abundance estimates of the western and southern component of Atlantic mackerel and horse mackerel by measuring the egg abundance. In combination with measurements of fecundity and atresia, which will be collected in the same year, the egg abundance can be converted into estimates of the spawning stock.

Description of the methods used in the survey

The main sampling type are plankton hauls using a Gulf VII plankton sampler, following a fixed station design. The survey is split up into 6 or 7 periods, and in each period the spawning area is fully covered. In addition to the plankton hauls, fish hauls (with a pelagic trawl) are carried out for the collection of adult mackerel and horse mackerel biological parameters. Also hydrographical data are collected with a Seabird CTD attached to the plankton sampler. The complete sampling procedure is defined in the [SISP Manual for the mackerel and horse mackerel egg surveys \(MEGS\): sampling at sea](#) (version 2.2 2019). The methodology for atresia and fecundity estimates is defined in the SISP Manual for the mackerel and horse mackerel egg surveys (MEGS): [SISP 5 - WGMEGS V12 Manual for AEPM and DEPM fecundity](#).

The survey area is presented in Figure 11 in the NLD WP 2020-2021. ICES Working Group on Mackerel and Horse Mackerel Egg Surveys ([WGMEGS](#)) decides on the detailed planning in the meeting the year prior to the survey (for 2019 survey: 2018 WGMEGS meeting).

Coordination and participation

The survey is coordinated by ICES WGMEGS ([WGMEGS](#)). Germany, Ireland, Netherlands, UK, Portugal, Spain, Iceland and the Faroe Islands participate in the survey.

The survey data is stored in the [ICES eggs and larvae database](#). Fecundity and atresia data are currently stored at IMR, Norway for mackerel and WMR for horse mackerel. An ICES database for fecundity and atresia data is currently being developed.

The survey index, fecundity estimate and adult biological data is being used by ICES WGWIDE.

International task sharing (physical and/or financial) and the cost sharing agreement used

Task sharing applies. The MEGS is carried out by six EU MSs and two non EU countries, each contributing with its own vessel. Fecundity and atresia samples are divided among the four analysing EU countries (Ireland, Netherlands, UK, Spain) and Norway.

No cost sharing applies.

Explain where thresholds apply: Not applicable

Graphical representation (map) No survey planned in 2020 (first survey planned in 2022)

Link to the latest meeting report of the coordination group: available via [ICES WGMEGS](#)

Main use of the results of the survey: the plankton (egg) information and the histological sample results are used by ICES WGWIDE.

Extended comments (Tables 1G and 1H): The link to ICES eggs and larvae database has in 2019 been changed due to revision of the ICES website: <http://www.ices.dk/data/data-portals/Pages/Eggs-and-larvae.aspx>

SECTION 2: FISHING ACTIVITY DATA

Text Box 2A: Fishing activity variables data collection strategy

Region: Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North-Western waters (ICES areas V, VI and VII) and Southern Western waters

General comment: This box fulfils paragraph 4 of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2, Article 4 paragraph (2) point (b) and Article 5 paragraph (2) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to describe the method used to derive estimates on representative samples where data are not to be recorded under Regulation (EU) No 1224/2009 or where data collected under Regulation (EU) No 1224/2009 are not at the right aggregation level for the intended scientific use.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the data collection of fishing activity variables of Member States.

1. Description of methodologies used to cross-validate the different sources of data

Price data is collected from sales notes and cross-validated with data from accounts from the collection scheme on Economic data cutters.

2. Description of methodologies used to estimate the value of landings

Information on fish prices is available from sales notes (from auctions) for most segments, except for some shellfish species (for dredgers) and for the species caught by the large pelagic trawlers. For the pelagic trawlers the prices are obtained from the accounts of the trawler companies during the collection scheme on Economic data pelagic trawlers. For the dredgers price information is obtained by questionnaires within the frame of the collection scheme on Economic data small coastal fisheries.

3. Description of methodologies used to estimate the average price (it is recommended to use weighted averages, trip by trip)

Average prices were calculated by weighted averages on trip level.

4. Description of methodologies used to plan collection of the complementary data (sample plan methodology, type of data collected, frequency of collection etc.)

For the shellfish caught by dredgers and for the pelagic trawlers complementary price data will be gathered based on the accounts (pelagic trawlers) and questionnaire data (dredgers). Data will be collected in combination with the other economic information as described in box 3A.

5. Deviations from Work Plan methodology used to cross-validate the different sources of data

As from 1-1-2018 owners of vessels smaller than 10 meters were no longer obliged to keep paper logbooks any longer and register their fishing activities through the E-lite system. This system only registers official landings information. Therefore, the fishermen's estimation does not exist for these vessels any longer.

6. Deviations from Work Plan methodology used to estimate the value of landings.

No deviations

7. Deviations from Work Plan methodology used to estimate the average price.

No deviations

8. Deviations from Work Plan methodology used to plan collection of the complementary data

No deviations

Actions to avoid deviations: none

Region: Other regions

General comment: This box fulfils paragraph 4 of Chapter III of the Delegated Decision on the multi-annual Union programme. It is intended to describe the method used to derive estimates on representative samples where data are not to be recorded under Regulation (EU) No 1224/2009 or where data collected under Regulation (EU) No 1224/2009 are not at the right aggregation level for the intended scientific use.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the data collection of fishing activity variables of Member States.

1. Description of methodologies used to cross-validate the different sources of data

A small number of large pelagic vessel spends (part of) its time outside in other regions. Details on the data collection in the description of the data collection for the supra region Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North-Western waters (ICES areas V, VI and VII) and Southern Western waters.

2. Description of methodologies used to estimate the value of landings

Information on fish prices is available from sales notes (from auctions) for the species caught by the large pelagic trawlers. For the pelagic trawlers the prices are obtained from the accounts of the trawler companies during the collection scheme on Economic data pelagic trawlers.

3. Description of methodologies used to estimate the average price (it is recommended to use weighted averages, trip by trip)

Average prices were calculated by weighted averages on trip level.

4. Description of methodologies used to plan collection of the complementary data (sample plan methodology, type of data collected, frequency of collection etc.)

For the pelagic trawlers complementary price data will be gathered based on the accounts . Data will be collected in combination with the other economic information as described in box 3A.

5. Deviations from Work Plan methodology used to cross-validate the different sources of data

No deviations

6. Deviations from Work Plan methodology used to estimate the value of landings.

No deviations

7. Deviations from Work Plan methodology used to estimate the average price.

No deviations

8. Deviations from Work Plan methodology used to plan collection of the complementary data

See point 6.

Actions to avoid deviations: none

SECTION 3: ECONOMIC AND SOCIAL DATA

Text Box 3A: Population segments for collection of economic and social data for fisheries

Region: Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (ICES areas V, VI and VII) and Southern Western waters

General comment: This box fulfils paragraph 5 points (a) and (b) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2, Article 4 paragraphs (1), (2) and (5) and Article 5 paragraph (2) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to specify data to be collected under Tables 5(A) and 6 of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the fleet socio-economic data collection of Member States.

1. Description of methodologies used to choose the different sources of data

The **Dutch fishing fleet** encompasses a large variety of vessels and fishing techniques. In the economic data collection, three groups of vessels are distinguished:

- Pelagic trawlers targeting small pelagics for human consumption (approx. 30% of the total value of the Dutch fleet).
- Active cutters using demersal active gears on a commercial basis add more than 95% of the remaining commercial catches.
- Vessels in the small coastal fisheries are either vessels that participate occasionally or never in the sea fishery or vessels that use passive gears or dredges.

In order to distinguish between the active cutters and the small coastal fisheries the main gear and lower threshold of 50,000 Euro on gross revenue is used for the active cutter fleet. Ultimo 2015 the Dutch fleet encompassed 8 pelagic trawlers, 279 cutters and 241 vessels classified in the small coastal fisheries. Ultimo 2018 the Dutch fleet consists of 8 pelagic trawlers, 289 cutters and 225 vessels classified in the small coastal fisheries (ultimo 2018, www.visserijncijfers.nl).

The **data sources** used for the collection of economic data for the groups vary:

- Economic data for the pelagic trawlers and the active cutters is obtained from company accounts and balance sheets through the LEI survey. Accounts are copied each quarter on a vessel level and all detailed transactions are stored in a database. In addition the balance sheets of the fishing firm are copied.
- Economic data for the small coastal fisheries is collected by means of questionnaires (both telephone and paper).

Landings are obtained from both official logbooks, accounts and questionnaires.

Value of landings (sales notes, accounts and questionnaires): detailed sales notes are available for all Dutch auctions, but do not provide a complete picture of fish sales as some fish (e.g. shrimp and fish caught by the large pelagic trawlers) are sold directly. Therefore, value of landings information is also obtained from accounts and questionnaires. During aggregation procedures data from logbooks, accounts and questionnaires is combined to deliver most accurate estimates.

Effort (logbooks and questionnaires): for some small-scale fisheries reported effort in the questionnaires has been higher than in the logbooks. For some vessels that were assumed to be non-active the logbooks stated that they were going to sea for some (limited) time. Because of this, all vessel owners are contacted (either by telephone, mail or e-mail), including the owners of those vessels that have no recorded fishing time in the logbook and data are combined.

Data on **investments** and financial position of the cutter sector are gathered from financial accounts, and have a time lag of one year. Therefore, these data only becomes available two years after the reference year.

2. Description of methodologies used to choose the different types of data collection

The data from the active cutters is collected through the LEI panel. This panel has an annual turnover of approx. 4% and is assumed to be a probability sample survey. Economic data from the pelagic trawlers is collected by census, because of the small number of companies involved. The data collection from the small coastal vessels is also done by census because of the low response rate. In recent years this response rate has been increased by using a combination of a telephone questionnaire and a paper questionnaire.

3. Description of methodologies used to choose sampling frame and allocation scheme

The sampling frame of the economic data covers the complete Dutch marine fishing fleet as registered in the EU vessel register. Inland and aquaculture fishing vessels are excluded from data collection. All pelagic trawlers and small coastal vessels are covered by the economic surveys. The allocation of sampling in the active cutter sector is based on an annual assessment of the representativeness and resulting data quality of the panel data. Further information is available from the Methodological report that will be published early 2020.

4. Description of methodologies used for estimation procedures

For the pelagic trawlers no estimation of economic results is needed as all information is available.

Costs and earnings from the active cutters are estimated through regression analysis of detailed costs and earnings information from the cutters in the panel and information on technical characteristics, effort and landings from all vessels in the population from the logbooks and the vessel register.

Capital value and depreciation are calculated based on digressive depreciation in accordance with the method followed in the templates published on the DCF website.

Sales note information covers more than 80% of the total value of landings of the demersal species. The missing information (mainly from the pelagic sector and shrimp landings) is estimated using regression models including information from logbooks and accounts.

Economic information from the small-scale fleet is estimated using the questionnaire data and the total number of vessels in each EU fishing fleet. As many of the EU segments consist of less than 10 fishing vessels, these segments are clustered. The clustering procedures are based on technical data and catch composition and follow the procedure described in SCEGA 09-02. Further information is available from the Methodological report that will be published early 2020.

5. Description of methodologies used on data quality

Wageningen Economic Research (formerly LEI) is ISO9001 Certified. Methods for data collection have mostly been described in detail in internal manuals. General descriptions of the followed procedures will be made publicly available in the coming years.

Information on landings, landings value and effort are obtained from different sources (questionnaires, logbooks and accounts) and are cross-checked. Inconsistencies in data mainly consists for the small coastal fisheries. There, information on landings and effort from questionnaires are used whenever data are not consistent. Furthermore, the fleet segmentation might be adjusted based on the outcome of the questionnaires. Further information on quality aspects is available from the Methodological Report that will be published early 2020.

6. Deviations from Work Plan methodology for selection of data source

No deviations.

7. Deviations from Work Plan methodology to choose type of data collection

No deviations

8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme

No deviations

9. Deviations from Work Plan methodology used for estimation procedures

From 2019 onwards, regression analysis has been used to estimate the costs and earnings from all active cutters in the population. This resulted in a decrease of the uncertainty (coefficient of variance) of the costs for this part of the sector. For some cost items this reduction was up to 50%.

In 2020, extra effort has been made to increase sample rates for the collection of economic data for all fisheries sectors. For the cutter sector, this has resulted in an increase of the overall achieved sample rate/planned sample rate from 92% for 2018 data to 98% for 2019 data. For the segment of Demersal trawlers and/or demersal seiners 18-< 24 m the coverage is still low, but four of the vessels using this type of gear were and being just over 24 meter are regarded as vessels between 24-<40m, whereas based on their engine power (300hp) these vessels are comparable to those of 18-<24m. For the total Assets and Debt, the achieved sample rate remained low as this information is taken from financial accounts, which are only available for some of the panel members. In 2020 first priority was given to further increase the number of vessels but in 2021 also the coverage of these variables will be increased.

As for the small coastal fisheries and inactive vessels, 100% of the vessel owners were included in the sampling scheme as specified in the National programme. In the small coastal fisheries the response rate increased slightly but the response rate was still relatively low (17%). This low response rate might have been due to the lack of communication possibilities due to the corona pandemic. The response rate for inactive vessels has been quite good, because of the telephone questionnaires (33% in 2018).

In some smaller strata the low response rate caused problems, because no information was available for certain clusters. To overcome this problem the following clusters have been combined in order to estimate the economic variables (income, expenditures, employment and capital):

- Demersal trawlers and/or demersal seiners 0-< 10 m, cluster Beam trawlers 0-< 10 m and cluster Beam trawlers 12-< 18 m
- Cluster Dredgers 24-< 40 m and cluster Drift and/or fixed netters 12-< 18 m

The economic importance of these segments is of minor importance for the Dutch fleet. If possible, increased cooperation will be sought with fishermen's organisations in 2021 to discuss this issue and increase effort to enlarge the response rate for the small coastal fisheries.

Financial data (total assets and long/short debt) were not collected for the segment of large trawlers due to privacy reasons. As these companies are part of larger (international) companies, these parameters are more a result of the strategic choices of these companies than indications of their financial well-being.

10. Quality assurance

10.1 Sound methodology

The methodologies used are in line with those developed in the PGEcon WGs.

10.2. Accuracy and reliability

In all data collections schemes for economic data quality checks are built in the databases and part of the aggregation procedures. For the Cutter data these checks for internal consistency of the data are automated within the ARTIS database in which the data are stored. In case of the data from the large trawler fleet and the small-scale fleet consistency checks and analysis of outliers are performed before the aggregation process. In case of inconsistencies, contact is sought with the provider of the data in order to assess whether the data is wrong or not and the information is corrected.

10.3. Accessibility and Clarity

- Are methodological documents publicly available? Due to the postponing of the PGEcon workshop on the methodological handbook extra work due to the corona crisis, the making of the methodological report was further delayed. As planned now it will become available in 2021.
- Are data stored in databases? Yes

- Where can methodological and other documentation be found? (Internal) documents are available at Wageningen Economic Research and Ministry of Economic Affairs.
- Provide the web link, if documentation is publicly available. Not yet available, will become available in 2021.

Region: Other regions

General comment: This box fulfils paragraph 5 points (a) and (b) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2, Article 4 paragraphs (1), (2) and (5) and Article 5 paragraph (2) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to specify data to be collected under Tables 5(A) and 6 of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the fleet socio-economic data collection of Member States.

1. Description of methodologies used to choose the different sources of data

A small number of large pelagic vessel spends (part of) its time outside EU waters in other regions such as CECAF and SPRFMO area. Complete economic information is collected from all vessels in this segment. Details on the data collection for this segment are given in the description of the data collection for the supra region Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (Ices areas V, VI and VII) and Southern Western waters.

2. Description of methodologies used to choose the different types of data collection

See description of the data collection for the supra region of Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (Ices areas V, VI and VII) and Southern Western waters.

3. Description of methodologies used to choose sampling frame and allocation scheme

See description of the data collection for the supra region of Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (Ices areas V, VI and VII) and Southern Western waters.

4. Description of methodologies used for estimation procedures

See description of the data collection for the supra region of Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (Ices areas V, VI and VII) and Southern Western waters.

5. Description of methodologies used on data quality

See description of the data collection for the supra region of Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (Ices areas V, VI and VII) and Southern Western waters.

6. Deviations from Work Plan methodology for selection of data source

No deviations.

7. Deviations from Work Plan methodology to choose type of data collection

No deviations

8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme

No deviations

9. Deviations from Work Plan methodology used for estimation procedures

Financial data (total assets and long/short debt) were not collected for the segment of large trawlers due to privacy reasons. As these companies are part of larger (international) companies, these parameters are more a result of the strategic choices of these companies than indications of their financial well-being.

10. Quality assurance

See description of the data collection for the supra region of Baltic Sea; North Sea; Eastern Arctic; NAFO; Extended North- Western waters (Ices areas V, VI and VII) and Southern Western waters.

10.1 Sound methodology**10.2. Accuracy and reliability****10.3. Accessibility and Clarity**

SECTION 3: ECONOMIC AND SOCIAL DATA

Pilot Study 3: Data on employment by education level and nationality

General comment: This box fulfils paragraph 5 point (b) and paragraph 6 point (b) of Chapter III of the Annex Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2 and Article 4 paragraph (3) point (c) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to specify data to be collected under Table 6 of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study (including deviations from planned and justifications as to why if this was not the case).

1. Aim of pilot study

The pilot study will be split up in two parts, aiming to provide more detailed information on the employment by (1) education level and (2) nationality in the fishing sector and the aquaculture sector, in addition to the information gathered on age and gender

2. Duration of pilot study

No activities will take place in 2020. In 2021 the data on employment by education level and nationality of all segments in the fisheries and aquaculture will be collected in the census survey in which all other social data will be collected as well.

3. Methodology and expected outcomes of pilot study

The census survey will be carried out by means of a combined paper and digital questionnaire to all owners of fishing and aquaculture vessels, asking for the education level and nationality of the crew members. The resulting information will be analysed for statistical patterns based on fleet characteristics and regional patterns in order to facilitate optimal estimation of sector totals.

4. Achievement of the original expected outcomes of pilot study and justification if this was not the case.

During 2020 no activities were carried out for this pilot study as it was scheduled for 2017 and 2018. Results from the 2018 pilot study have been incorporated in the regular sampling of the social data in the national programme using census data collection by questionnaires and aggregation procedures in accordance with the economic data collection.

5. Incorporation of results from pilot study into regular sampling by the Member State.

Not applicable

Text Box 3B: Population segments for collection of economic and social data for aquaculture

General comment: This box fulfils paragraph 6 points (a) and (b) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2, Article 4 paragraphs (1) and (5) and Article 5 paragraph (2) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to specify data to be collected under Tables 6 and 7 of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the socio-economic data collection for aquaculture of Member States.

1. Description of methodologies used to choose the different sources of data

Economic data for the mussel and oyster sector are available from national auctions, national statistics and the company accounts. Total volume of landings and value of landings for the mussel sector is obtained from the mussel auction, covering 100% of the mussel landings. For the oyster sector no such landings statistics are available, so all data is gathered from the oyster farmers directly. Economic data of both sub-sectors are gathered from annual financial accounts. Because these reports become available only 16 months after the reference year, data collection is delayed by one year, therefore data is available two years after the reference year. Further information is available from the Methodological report that will be published early 2020.

2. Description of methodologies used to choose the different types of data collection

Production data from the oyster sector is gathered by means of a telephone questionnaire involving all oyster companies (census). Data on costs and earnings and employment is gathered from a panel of companies that provide accounts on a voluntary basis. This panel is assumed to be a representative sample. Annual turnover rate of the sample is low (< 10%), but because of earlier experiences of low response rates in random sampling, this is thought to be the most suitable type of data collection. Further information is available from the Methodological report that will be published early 2020.

3. Description of methodologies used to choose sampling frame and allocation scheme

Data from these sectors are obtained by means of a panel covering between 16 and 22% of the total number of companies.

4. Description of methodologies used for estimation procedures

As there is no stratification within the segments, the averages of the obtained panel data will be assumed to be good estimates for the population averages. The total values of the economic variables will be estimated through different aggregation procedures for each of these sectors:

- Mussel segment: total value of the production for the segment is available, all variable cost items and earning items (turnover, subsidies, other income, wages and salaries, energy costs, livestock costs, repair and maintenance, other operational costs) will be aggregated based on this. Fixed cost items (depreciation of capital, financial costs, extraordinary costs) as well as other economic indicators (total value of assets, net investments, debt, number of persons employed, FTE) will be aggregated according the number of enterprises.
- Oyster segment: In principle all variables will be aggregated based on the number of companies. In case total production figures are available, these will be used to correct the estimated production and the costs from the panel data. Herewith, it will be assumed that the cost structure to produce one kg of oysters is constant.

Because the data on costs and earnings are only available two years after the reference year, the economic data of the last year is estimated using the cost structure of the reference year and the total production volume of the following year. E.g. on 01-01-2020 economic data will be available for 2017 and the economic performance for 2018 will be estimated based on the production volume for 2018. Further information is available from the Methodological report that will be published early 2020.

5. Description of methodologies used on data quality

Wageningen Economic Research (formerly LEI) is ISO9001 Certified. Methods for data collection have mostly been described in detail in internal manuals. General descriptions of the followed procedures will be made publicly available in the coming years.

The procedures to estimate totals have been described above. The evaluation of bias will be based on the total production and production value of the sector and companies in the panel. Whenever possible, data will be collected on the total production and total value of sectors to evaluate whether the panel data are biased and to correct for this bias. For the mussel sector, such data are available by means of total production value and volume, and for the oyster sector data on the number of oysters produced will also be used for this purpose. Further information on the quality assurance available from the Methodological report that will be published early 2020.

6. Deviations from Work Plan methodology for selection of data source

No deviations

7. Deviations from Work Plan methodology to choose type of data collection

No deviations

8. Deviations from Work Plan methodology regarding sampling frame and allocation scheme

No deviations

9. Deviations from Work Plan methodology used for estimation procedures

No deviations

10. Quality assurance

10.1 Sound methodology

The data collection in the mussel and oyster sector resembles a panel data collection. As stated above and in the national programme, this data collection scheme was chosen because of the positive effects on long lasting relationships with vessel owners on response rates and data quality. For both sectors the representativity has been checked regularly (mussel sector in the last year).

10.2. Accuracy and reliability

- Response rate and Achieved sample rate are provided in Table 3C. From recent analysis of the data it is clear that the cost structure of the oyster companies is highly variable and that the current sample of 3 companies is not enough to provide a good insight in the costs and earnings of this sector. In 2020, limited effort to increase the involvement of the sector could be made, due to the corona pandemic. This resulted in a recurrent low number of observations. In 2021 these activities will be intensified.
- Raw data are taken from the accounts and entered in the Wageningen Economic Research accounts database. This database includes automated validity and consistency checks. Besides the processed data are checked by our trained administrative staff per enterprise and the aggregated data are checked by research staff.

10.3. Accessibility and Clarity

Indicate with Yes or No:

- Are methodological documents publicly available? Due to the postponing of the PGEcon workshop on the methodological handbook extra work due to the corona crisis, the making of the methodological report was further delayed. As planned now it will become available in 2021.
- Are data stored in databases? Yes
- Where can methodological and other documentation be found? (Internal) documents are available at Wageningen Economic Research and Ministry of Economic Affairs.
- Provide the web link, if documentation is publicly available. Not yet available, will become available in 2021.

SECTION 3: ECONOMIC AND SOCIAL DATA

Pilot Study 4: Environmental data on aquaculture

General comment: This box fulfils paragraph 6 point (c) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2 and Article 4 paragraph (3) point (d) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to specify data to be collected under Table 8 of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box is intended to provide information on the results obtained from the implementation of the pilot study (including deviations from planned and justifications as to why if this was not the case).

1. Aim of pilot study

The Netherlands will collect aquaculture data for shellfish bottom culture only. As drugs are not used in this type of aquaculture and information about mortality is not known, no pilot study on environmental data on aquaculture is planned yet.

2. Duration of pilot study

Not (yet) applicable

3. Methodology and expected outcomes of pilot study

Not (yet) applicable

4. Achievement of the original expected outcomes of pilot study and justification if this was not the case.

Not applicable as no pilot study has been carried out

5. Incorporation of results from pilot study into regular sampling by the Member State.

Not applicable as no pilot study has been carried out

Text Box 3C: Population segments for collection of economic and social data for the processing industry

General comment: This box fulfils footnote 6 of paragraph 1.1(d) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme; and Article 2, Article 4 paragraphs (1) and (5) and Article 5 paragraph (2) of the Implementing Decision (EU) 2016/1701 on the format of the WP. It is intended to specify data to be collected under Table 10 of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the implementation of the socio-economic data collection for aquaculture of Member States.

1. Description of methodologies used to choose the different sources of data

Data collection from the processing sector is voluntary. No data collection is carried out by the Netherlands.

2. Description of methodologies used to choose the different types of data collection

Not applicable

3. Description of methodologies used to choose sampling frame and allocation scheme

Not applicable

4. Description of methodologies used for estimation procedures

Not applicable

5. Description of methodologies used on data quality

Not applicable

6. Results: Not applicable as no data collection is carried out

Text Box 4A: Sampling plan description for biological data

Region: North Sea

General comment: This box fulfills Article 3, Article 4 paragraph (4) and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP and forms the basis for the fulfilment of paragraph 2 point (a)(i) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme. This Table refers to data to be collected under Tables 1(A), 1(B) and 1(C) of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the deviations from the planned sampling of Member States.

1. Description of the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701

The description of the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

1. Deviation from the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701: the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

2. Deviations from the Work Plan

- For stratum ID codes PEL1 and PEL2, the deviations of the sampling plans for pelagic fisheries are described in section 4A North Atlantic as North Sea, Eastern Arctic and North Atlantic pelagic fisheries are covered under the same sampling plans.
- For stratum ID code AUCTION_DEM, the achieved number of PSU exceeds the planned number by 45%. Probably due to sampling a wider variety of vessels due to increased movements of the fleet over the various auctions.
- For the at-sea sampling schemes (stratum ID codes DEMACT, DEMPAS) the achieved number of PSU was lower than the planned number of PSUs due to COVID-19 restrictions. The DEMACT self-sampling scheme has been carried out according to plan. The low % achievement for the at-sea sampling scheme for DEMACT has not significantly affected data delivery and data quality, as the data collection in self-sampling component exceeds the at-sea sampling and has a full coverage of the year and reference fleet. The at-sea component is mainly used as a validation for the data of the self-sampling. No significant change in pattern for the 2020 data is visible compared to previous years.
- For stratum ID code DEMPAS 1 trip was conducted at sea and 8 trips were conducted on land (See Actions to avoid deviations).

3. Actions to avoid deviations

- Due to restrictions resulting from the COVID-19 outbreak (e.g. keeping 1.5 meter distance from other people), sampling for stratum ID code DEMPAS has been modified till on-board sampling is possible. For 8 trips sampling took place in the harbour where the fisherman provided an observer with a discards sample. This will also be implemented in 2021 as long as needed.

Region: North-Western waters

General comment: This box fulfils Article 3, Article 4 paragraph (4) and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP and forms the basis for the fulfilment of paragraph 2 point (a)(i) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme. This Table refers to data to be collected under Tables 1(A), 1(B) and 1(C) of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the deviations from the planned sampling of Member States.

1. Description of the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701
The description of the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

1. Deviation from the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701: the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

2. Deviations from the Work Plan

- For stratum ID code PEL1 the achieved number of PSU was lower than the planned number of PSUs due to COVID-19 restrictions (scientific staff should have a cabin for him/herself, or restrictions from the fleet).
- For stratum ID code PEL 2, the achieved number of PSU was lower than planned (78%). This is mainly due to relative long trips per vessel sampled. As a result, less PSU are sampled, while the sampling remained at the same level and under the same sampling regime.

3. Action to avoid deviations

- No specific measures could be taken to avoid the deviations in the achieved number of PSUs for stratum ID code PEL1/PEL2.

Region: Eastern Arctic

General comment: This box fulfils Article 3, Article 4 paragraph (4) and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP and forms the basis for the fulfilment of paragraph 2 point (a)(i) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme. This Table refers to data to be collected under Tables 1(A), 1(B) and 1(C) of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the deviations from the planned sampling of Member States.

1. Description of the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701
The description of the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

1. Deviation from the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701: the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

2. Deviations from the Work Plan

- For stratum ID codes PEL1 and PEL2, the deviations of the sampling plans for pelagic fisheries are described in section 4A North Atlantic as North Sea, Eastern Arctic and North Atlantic pelagic fisheries are covered under the same sampling plans.

3. Action to avoid deviations

- No specific measures could be taken to avoid the deviations in the achieved number of PSUs for stratum ID code PEL1/PEL2.

Region: Other regions

General comment: This box fulfils Article 3, Article 4 paragraph (4) and Article 8 of the Implementing Decision (EU) 2016/1701 on the format of the WP and forms the basis for the fulfilment of paragraph 2 point (a)(i) of Chapter III of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme. This

Table refers to data to be collected under Tables 1(A), 1(B) and 1(C) of the delegated decision on the multiannual Union programme.

General comment: This box is applicable to the Annual Report. This box should provide information on the deviations from the planned sampling of Member States.

1. Description of the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701
The description of the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2020 for The Netherlands.

1. Deviation from the sampling plan according to Article 5 paragraph (3) of the Decision (EU) 2016/1701: the sampling plan does not deviate from the sampling plan as described in section 4 of the approved WP 2017-2019 for The Netherlands.

2. Deviations from the Work Plan

- For area 87 (SPRFMO): if any deviation: see AR Poland
- For area 34 (CECAF): if any deviation: see AR Poland

3. Action to avoid deviations

No specific measures to be taken.

SECTION 5: DATA QUALITY

Text Box 5A: Quality assurance framework for biological data

General comment: This box is applicable to the Annual Report. This box fulfils Article 5 paragraph (2) point (a) of the Implementing Decision (EU) 2016/1701 on the format of the WP. This box is intended to specify data to be collected under Tables 1(A), 1(B) and 1(C) of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme. Use this box to provide additional information on Table 5A of the Annual Report.

1. Evidence of data quality assurance

All sampling schemes other than eel and recreational fisheries: Limited documentation of processes to evaluate data accuracy has been made, apart from a multi-year dedicated project to redesign and streamline sampling procedures, quality assurance and reporting. All data undergoes routine validity and completeness checks before import into the standard database. The database import procedures contain additional quality checks on data integrity and consistency.

Where applicable, the actual handbooks, codes, scripts etc. are considered as intellectual property of the research institute. As a result, these documents are not considered suitable for publication in the public domain. The annual data reports for sampling schemes PEL1 and DEMACT broadly describe the methods used for data collection (most recent reports: van Overzee et al., 2021; van Overzee et al., 2020). Wageningen Marine Research is ISO9001:2015 certified. Future publications (e.g. handbooks) will contain a dedicated section for broad publication.

2. Sampling design

- **Eel:** A national working plan for *Anguilla anguilla* market sampling is available, however this is not officially documented. In a report (van Keeken *et al.* 2018 (<https://edepot.wur.nl/472300>) the sampling is described
- All sampling schemes other than eel: as described in the accepted NLD Workplan 2020-2021, all designs are documented.

3. Sampling implementation

- **Eel:** Refusals of *Anguilla anguilla* market sampling are known, but are not officially documented. Refusals are currently rare. It is not to be expected that non-recording of the refusal rate is of influence on the quality of data.

4. Data capture

- **Eel:** Logbook information is currently obtained by the ministry.
- All sampling schemes other than eel: as described in the accepted NLD Workplan 2020-2021, all scripts for quality checks are documented.

5. Data Storage

- **Eel:** freshwater eel landing, effort and biological data is stored in the national databases
- All sampling schemes: as described in the accepted NLD Workplan 2020-2021, all data is stored in (inter)national databases when available. If no database is available, data is safely stored.

6. Data processing

- **Eel:** For eel logbook data, no editing or imputation is done
- **Recreational fisheries:** see [van der Hammen *et al.*, 2015](#)
- All sampling schemes other than eel and recreational fisheries: as described above, limited documentation on the processes to evaluate data accuracy has been made as part of the routine scripts.

SECTION 5: DATA QUALITY

Text Box 5B: Quality assurance framework for socioeconomic data

General comment: This box fulfils Article 5 paragraph (2) point (b) of the Implementing Decision (EU) 2016/1701 on the format of the WP. This box is intended to specify data to be collected under Tables 5(A), 6 and 7 of the Annex of the Delegated Decision (EU) 2019/910 on the multiannual Union programme. Use this box to provide additional information on Table 5B of the Annual Report.

Fisheries sector

1. Evidence of data quality assurance

Wageningen Economic Research is ISO9001 certified. Methods for data collection have mostly been described in detail in internal manuals and project plans. General descriptions of the followed procedures will be made publicly available as annexes in the Methodological report which was planned to be published in 2020, but has been postponed (see also question 12).

2. Section P3 Impartiality and objectiveness

No additional information

3. Section P4 Confidentiality

No additional information

4. Section P5 Sound methodology

No additional information

5. Section P6 Appropriate statistical procedures

No additional information

6. Section P7 Non-excessive burden on respondents

As from 2019 a list of end users is available.

7. Section P8 Cost effectiveness

Data on income and auction fees and costs from the active cutter sector is obtained from auctions and fed into the data base automated. Part of the questionnaires for the small scale sector is filled in through a web based questionnaire, although a large part of the small scale fishermen prefers to fill in a paper questionnaire. As stated in the relevant parts of the AR most of the checks for internal consistency of the data are automated.

8. Section P9 Relevance

End users of the economic data are limited to the Ministry of Agriculture, Nature and Food Quality and the European Commission and its associated bodies (e.g. STECF). National data are published through www.visserijincijfers.nl. Visit statistics from this website are being collected.

9. Section P10 Accuracy and reliability

Data errors for the small scale sector and for the logbook information have been documented and the reasons for adjustments of data is stored in databases.

10. Section P11 Timeliness and punctuality

No additional information

11. Section P12 coherence and comparability

No additional information

12. Section P13 Accessibility and Clarity

Detailed documentation is available in internal working documents and documentation of analysis scripts. As the template for the methodological report became available late 2019 and a workshop on the application of

this template was delayed further due to the corona crisis to 2021 the finalisation of the methodological report was delayed until 2021.

Aquaculture sector

1. Evidence of data quality assurance

Wageningen Economic Research is ISO9001 certified. Methods for data collection have mostly been described in detail in internal manuals and project plans. General descriptions of the followed procedures will be made publicly available as annexes in the Methodological report which was planned to be published in 2020, but has been postponed (see also question 12 for the fisheries section)

2. Section P3 Impartiality and objectiveness

No additional information

3. Section P4 Confidentiality

No additional information

4. Section P5 Sound methodology

No additional information

5. Section P6 Appropriate statistical procedures

No additional information

6. Section P7 Non-excessive burden on respondents

As from 2019 a list of end users is available.

7. Section P8 Cost effectiveness

Production statistics of Mussels and Oysters are obtained from National administration and the Producers organisations. These data are relative simple data sets that are retrieved by e-mail.

8. Section P9 Relevance

End users of the economic data are limited to the Ministry of Agriculture, Nature and Food Quality and the European Commission and its associated bodies (e.g. STECF). National data are published through www.visserijncijfers.nl. Visit statistics from this website are being collected.

9. Section P10 Accuracy and reliability

No progress was made on this point for aquaculture data yet. In the coming years, data aggregation and checking procedures will be further automated.

10. Section P11 Timeliness and punctuality

No additional information

11. Section P12 coherence and comparability

No additional information

12. Section P13 Accessibility and Clarity

Internal coherence of the production statistics is evaluated based on the time series of the production data.

Detailed documentation is available in internal working documents and documentation of analysis scripts. As the workshop on the application of this template of the methodological report delayed due to the corona crisis to 2021 the finalisation of the methodological report was delayed until 2021. (see also question 12 in the fisheries section).