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Report of the Working Group on the History of Fish and Fisheries (WGHIST)

5–7 September 2012

Oostend, Belgium



ICES

International Council for
the Exploration of the Sea

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Executive summary

The ICES Working Group on the History of Fish and Fisheries (WGHIST), scheduled over 2012 to 2014, is a continuation of the Study Group on the History of Fish and Fisheries (SGHIST, 2009 to 2011) and the 2008 Workshop on Historical Data on Fisheries and Fish (WKHIST). The Working Group brings together fisheries scientists, historians and marine biologists working on multidecadal to centennial changes in the marine environment, and aims at improving the understanding of the long-term dynamics of fish populations, fishing fleets, and catching technologies. The results are used for setting baselines for management, restoration and conservation of marine resources and ecosystems.

The Working Group's 2012 meeting focused on (a) updates on new developments in historical fisheries ecological research; (b) a metadatabase and collection of bibliographical references on the history of fish and fisheries to be accessible to ICES; and (c) the preparations for a set of manuscripts as outcomes from the WG. Planned collaborative manuscripts are on (1) a long-term compilation on international trawling effort within the North Sea (and optionally including other regional seas), including spatial distribution of trawling; (2) long-term changes in the size composition of commercial catches of cod taken in specific fishing regions (i.e. categories 'large', 'medium' and 'small'); (3) evolution of fishing technologies as a basis to assess the impact of fisheries. The work on these manuscripts is scheduled to take place during and between WG meetings and potential collaborations for our manuscript describing international trawl fishing effort are invited.

1 Opening and closing of the meeting

The 2012 Working Group on the History of Fish and Fisheries (WGHIST) took place at the Flanders Marine Institute (VLIZ) in Ostend, Belgium. The Chairs, Georg Engelhard (Cefas, UK) and Ann-Katrien Lescrauwaet (VLIZ, Belgium), opened the meeting on Wednesday 5 September at 9:00 and closed it on Friday 7 September at 16:00. For the list of participants and contact details see Annex 1.

2 Adoption of the agenda

The WG met under the following Terms of Reference:

- a) Provide a platform for multidisciplinary discussion to scientists from a variety of disciplines and institutions working on the history of fish and fisheries;
- b) Present case studies on fish and fisheries using historical or recovered data from both sides of the Atlantic, the Mediterranean and elsewhere, from an ecosystem perspective;
- c) Provide metadata description to the ICES Data Centre of historical datasets in the ICES region that are potentially useful for establishing population and biodiversity baselines for the Marine Strategy Framework Directive (MSFD);
- d) Support historical ecological baseline development in the context of the MSFD including indicators of Good Environmental Status (GES) and aim at primary publications resulting from such analyses.

WGHIST will report on the activities of 2012 by 15 October 2012 to SSGSUE and SI-BAS for SCICOM. During this meeting, work on history of fish and fisheries was organized as follows:

- Updates on new developments in historical fisheries ecological research;
- Discussions on the preparations of a metadatabase and collection of bibliographical references on the history of fish and fisheries to be accessible to ICES;
- Discussions on the preparations of a set of manuscripts as outcomes from the WG, during WG sessions and intersessionally. These include:
 - 1) Manuscript on the long-term changes in international trawling effort within the North Sea (and with an optional extension to include other regional seas). We aim to compile historical and contemporary information on trawling effort within the North Sea to provide a more complete and long-term picture of the combined trawl fishing pressures in the North Sea. Lead Georg Engelhard.
 - 2) Manuscript on the long-term changes in the size composition of the catches of cod, taken by Belgian and UK vessels in specific fishing regions. Lead Ann-Katrien Lescrauwaet.
 - 3) Manuscript on the evolution of fishing technologies using a “bottom-up approach” and based on first principles. Lead Adriaan Rijnsdorp.

- One-day workshop with presenters from various countries (and with Belgium strongly represented) on historical ecological research and inclusion of fisheries-induced evolutionary research.

3 Updates on new developments

During this meeting, 11 presentations were given on new research developments or outcomes in historical fisheries ecological research. The title and co-authors are listed below, with the name of the presenters underlined.

- Appeltans, W. The Ocean Biogeographic Information System OBIS and the iMarine project: data resources on fish and fisheries, managed at the IODE Project Office, IOC-UNESCO.
- Declercq, L. 'De zee van toen' (Yesterday's Sea), an oral history project on the historical ecology of the southern North Sea 1930-1980, as told by Flemish professional fishermen (Belgium) published by Rappé, G. (2008), details
- Engelhard, G. H., Righton, D. A., Kerby, T. K., and Pinnegar, J. K. Cod moves in mysterious ways: shifting distribution in the North Sea during the last century.
- Engelhard, G. H. How has fishing power changed over 600 years of trawling?
- Pirlet, R. et al. History of Belgian oyster fisheries/Historiek van de Belgische oesterkweek, details (in Dutch only).
- Holm, P., et al. [Lessons learned during the *History of Marine Animal Populations* project.]
- Kerby, T. K., Cheung, W. W. L., van Oosterhout, C., and Engelhard, G. H. Wondering about wandering whiting: distribution of North Sea whiting between the 1920s and 2000s. – Including preliminary results on brill and turbot distribution.
- Lescrauwaet, A.-K., Debergh, H., Vincx, M., and Mees, J. Flooded by herring (manuscript on the Belgian herring fisheries during WWII, submitted for publication).
- Haspelslagh, I. The Integrated Marine Information System as an instrument for literature management at Flanders Marine Institute VLIZ.
- Rijnsdorp, A. D., Eigaard, O., Engelhard, G. H., Poulsen, B., *et al.* Evolution of fishing technology as a basis to assess the impact of fisheries.
- Volckaert, F. A. M., Diopere, E., and Maes, G. E. Tracing the history of fishing in the fish genome.



Participants to the meeting on Friday 7/09/2012. Professor Dr Filip Volckaert (Catholic University Leuven), Nancy Fockedeey (VLIZ), Georg Engelhard (Cefas), A. K. Lescrauwaet (VLIZ), Willy Versluys (Entrepreneur-shipowner), Thomas Verleye (VLIZ), Leo Declercq (Province West-Flanders), Ruth Pirlet (VLIZ), Jan Haspeslagh (VLIZ), Tina Kerby (Cefas-Univ. East Anglia), Heidi Debergh (VLIZ), Adriaan Rijnsdorp (IMARES).

4 Working Group manuscripts

Discussions and agreements were made for work on three (possibly four) collaborative manuscripts as outcomes from the WG. The plan is to coordinate and make agreements on these during the three WG sessions (2012, 2013, 2014), and in addition to work intersessionally on these. Each of the manuscripts are of an interdisciplinary nature and thus benefit from the platform provided by the WG, either as this allows for collaborations between researchers representing different disciplines (historians, fisheries scientists, ecologists, molecular biologists) and/or representing different institutions/countries.

Manuscript 1

Long-term changes in international trawling effort in the North Sea

Lead: Georg H. Engelhard. Collaborators: Ann-Katrien Lescrauwaet, Adriaan Rijnsdorp, *et al.* (Needed: collaborators representing various European countries with North Sea trawl fisheries).

Motivation. Trawling is frequently considered the most invasive fishing method and the seabeds of the North Sea have been subjected to trawl fisheries for well over a century now. But how extensive have the combined levels of trawling been, resulting from the various European countries fishing in the North Sea? Few studies have

aimed at creating an international picture and these have covered only a limited number of years (e.g. Jennings *et al.*, 1996; Callaway *et al.*, 2000). This manuscript aims to create a long-term picture of the total, international levels of trawling in the North Sea, by compiling historical and contemporary data on fishing effort from various European countries.

Methods. Data on trawling effort (number of hours fishing and/or number of days at sea and/or analogous effort data) will be compiled by scientists representing institutions of different European countries fishing in the North Sea. Currently we have scientists representing the UK (GHE), Belgium (AKL) and the Netherlands (ADR). We are seeking collaborations with scientists from the other countries with major (historical or contemporary) trawl fisheries in the North Sea, in particular from Denmark, France, Germany, Norway, and Sweden, and where possible from Poland and Russia given the historical trawl fisheries in the North Sea by these latter two countries. The intended datasets refer to nominal effort; there is no intention here to work with VMS data.

Intended results. The creation of time-series on trawl fishing effort in the North Sea by country over time-spans that are as long as can be achieved, where possible split into the three ICES divisions (IVa, IVb, IVc). For shorter time-spans, the creation of maps on the spatial distribution of trawling by ICES rectangle (1° latitude by 0.5° longitude) by decade.

WGHIST relevance. The study fits within ToR c); (collating historical datasets from various institutions) and within ToR d); baselines and indicators of GES and assessing anthropogenic pressures, in context of MSFD).

Manuscript 2

Long-term changes in the size composition of cod catches by Belgian and UK trawlers

Lead: Ann-Katrien Lescrauwaet. Collaborators: Georg H. Engelhard, Tina K. Kerby, *et al.*

Motivation. Reductions in the size composition of fish catches have been reported widely in exploited fish stocks, but to what extent are these a recent phenomenon or have taken place over long time-spans? This question is relevant in the context of 'shifting baselines' and is also of interest as the 'large fish indicator' is increasingly seen as a useful measure to assess GES in European seas. In absence of fisheries surveys carried out consistently over time-spans longer than 3–4 decades, we here assess the proportions of fish in commercial catches belonging to different size categories. Specifically, the manuscript assesses the relative proportions of large, medium, and small cod in the catches by Belgian and UK otter trawlers from specific fishing grounds focusing on Iceland with a possible extension to the North Sea.

Methods. UK (England & Wales) landings of cod from ICES Division Va (and subareas Iva,b and c) by otter trawlers (steam, motor) and covering the period 1906–1946, can be distinguished into large, medium and small size categories. For the period 1947–1981, cod landings by Belgian motor otter trawlers can be distinguished into the three size categories. For the period 1946–1983 catches of cod per unit of effort (PK or HP x fishing hours) are available for the Belgian fleet in Iceland

Results. Preliminary results from the Belgian landings show a gradual decline in the proportion of large, and increase in the proportion of small, cod in landings from Icelandic grounds by Belgian distant-water trawlers, over the period 1946–1980. Interestingly, there is also evidence of an ‘erosion’ of the definition of size classes, whereby in the earlier period the definition of ‘large’ was different (referring to larger animals) from that in the later period. By the time of writing, the UK data for 1906–1946 have been identified but still require digitization.

WGHIST relevance. The study fits within ToR c): (collating data from various institutions) and within ToR d) (indicators of GES in context of MSFD, including ‘large fish indicator’). *Note.* This analysis of changes in size composition in catches of one commercial fish species is not directly comparable with the large fish indicator, which requires research survey data and measurements on fish lengths, and is based on the entire species composition in the survey catch.

Manuscript 3

Technological developments as a basis to assess the impact of fisheries

Lead: Adriaan D. Rijnsdorp. Collaborators: Ole Eigaard, Georg H. Engelhard, Bo Poulsen, Poul Holm, *et al.*

Motivation. Fishing is an economic activity and fishers continuously strive to increase catch rates, reduce costs, and improve their working conditions. This results in an ongoing process of technological developments leading to more powerful vessels, improved nets and gear handling devices, and electronic instruments to locate fish aggregations and control gear operation, etc.. Insight in technological changes is important to assess how the impacts of fisheries on the marine ecosystems have developed over time, because such impacts will have been constrained by fishing technology, and increasingly less so over time.

Overview. This paper presents a historical analysis of the developments of fishing techniques and their selectivity with particular emphasis on the shifting constraint put by the available technology. A conceptual framework is presented based on first principles. Following sections:

- Diversity, selectivity and catch efficiency of fishing gears
- Historic use of fishing gears
- Development of fishing technology
- Effects of technology change on the catch efficiency
- Time-trends in fisheries impact
- Ecosystem impacts

WGHIST relevance. The manuscript synthesizes knowledge from various disciplines bordering fisheries science, technology and historical ecology and fits within ToR a); in principal it is global in coverage and hence fits within ToR b).

5 References

- Callaway, R., Alsvåg, J., de Boois, I., Cotter, J., Ford, A., Hinz, H., Jennings, S., Kröncke, I., Lancaster, J., Piet, G., Prince, P., Ehrich, S. 2002. Diversity and community structure of epibenthic invertebrates and fish in the North Sea. *ICES J. Mar. Sci.*, 59: 1199–1214.
- Jennings, S., Alsvåg, J., Cotter, A. J. R., Ehrich, S., Greenstreet, S. P. R., Jarre Teichmann, A., Mergardt, N., Rijnsdorp, A. D., Smedstad, O. 1996. Fishing effects in Northeast Atlantic shelf seas: patterns in fishing effort, diversity and community structure. III. International trawling effort in the North Sea: an analysis of spatial and temporal trends. *Fish. Res.*, 40: 125–134.
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- Lescrauwaet, A. K., Fockedey, N., Debergh, H., Vincx, M., Mees, J. 2012. Hundred and eighty years of fleet dynamics in the Belgian sea fisheries. *Rev Fish Biol Fisheries*. DOI 10.1007/s11160-012-9287-1
- Lescrauwaet, A.-K., Debergh, H., Vincx, M., and Mees, J. Flooded by herring: benefits of a closed area to migratory fish stocks in the North Sea. Submitted.

Annex 1: List of participants

NAME	ADDRESS	PHONE/ FAX	E-MAIL
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Picture: Visit to Oostduinkerke-beach, where horseback shrimp fishers maintain the local artisanal form of fisheries on brown shrimp (*Crangon crangon*). From top left to bottom right: A. Rijnsdorp, T. Kerby, P. Holm, A.-K. Lescrauwaet, G. Engelhard.



Picture: Visit to the National Fisheries Museum in Koksijde (Belgium). From left to right: A.-K. Lescrauwaet, A. Rijnsdorp, G. Engelhard, T. Kerby, P. Holm.

Annex 2: Agenda etc.

ICES WGHIST 2012 ICES Working Group on the History of Fish and Fisheries Ostend, Belgium, 5-7 September 2012

Dear Colleague,

We are pleased to invite you to participate in the ICES Working Group on the **History of Fish and Fisheries** (ICES WGHIST) scheduled to take place in Ostend (Belgium) from 5 to 7 September 2012.

The WG will bring together fisheries scientists, historians, marine biologists, data keepers and analysts with interest for multidecadal to centennial changes in the marine environment, and who aim at improving the understanding of the long-term dynamics of fish populations and the ecosystem effects of fisheries. The results are used for setting baselines for management, restoration and conservation of marine resources and ecosystems. This is the first of three annual meetings in which the WG will convene with the newly agreed Terms of Reference (see below).



Below please find information on:

- The Terms of Reference and our specific planned activities;
- The preliminary agenda and how planned activities should meet the Terms of Reference;
- Time schedule;
- Itinerary and the location of the venue.

We look forward to seeing you in September!

George Engelhard & Ann-Katrien Lescrauwaet

Please contact us for further information and registration:

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Terms of Reference and planned activities

The terms of reference (ToR) are as follows:

- a) Provide a **platform for multidisciplinary discussion** to scientists from a variety of disciplines and institutions working on the history of fish and fisheries
- b) Present **case studies on fish and fisheries** using historical or recovered data from both sides of the Atlantic, the Mediterranean and elsewhere, from an ecosystem perspective
- c) **Provide metadata descriptions to the ICES Data Centre of historical datasets** in the ICES region that are potentially useful for establishing population and biodiversity baselines for the Marine Strategy Framework Directive (MSFD)
- d) **Support historical ecological baseline development in the context of the MSFD** including indicators of Good Environmental Status (GES) and aim at primary publications resulting from such analyses

In more practical terms, for each ToR we suggest the following approach to help achieving these:

- a) This meeting aims to assemble fisheries scientists, historians, marine biologists and researchers in other disciplines to broaden our views and understanding of the historical relation between humans, the environment and its exploited bio-resources. This group provides a unique forum for an inter- and multidisciplinary approach to address common problems in research, analysis and data management. This is an essential function of the working group, especially since the completion of HMAP.
- b) Through the explication of case studies from different regions, we strive for a common understanding and perspective. We encourage participation from all over the North Atlantic, the Mediterranean and elsewhere, so as to learn from a wide range of cases and analyses and take a global view in our approaches.
- c) We will make data and metadata descriptions openly available where possible, providing a tool to inform others of possibilities for analyses especially along the lines of historical baselines. Our first year's aim is to draw an inventory (living document) describing a.o. the length of time series, spatial coverage and types of data, repository and format. While focusing on the datasets which are potentially useful for the MSFD baseline descriptors, strengths and weaknesses in the data sets including important caveats for further use in integrated analyses, are to be indicated.
- d) We will support the analyses of historical data and historical ecological baseline development in the context of the MSFD including indicators of Good Environmental Status (GES) and we will aim at primary publications resulting from such analyses by the end of the WG's term. This is important for determining healthy and unhealthy levels for the ecosystem and relates to the Science Plan high priority scientific topics on health of and fishing impacts on marine ecosystems.

Time schedule

Wednesday 7 September

9:00 - 10:00 Welcome

Review of ToR and discussion of Workplan

10:00 - 12:00 Presentation and discussion of cases on the history of fish and fisheries from both sides of the Atlantic, the Mediterranean and elsewhere, from an ecosystem perspective

Followed by group discussion in terms of linkages with ToR d) and baseline descriptors in general. *By regional sea*

12:00 - 13:00 Sandwich lunch at the venue

13:00 - 16:00 Presentation and discussion of cases on the history of fish and fisheries from both sides of the Atlantic, the Mediterranean and elsewhere, from an ecosystem perspective

Followed by group discussion in terms of linkages with ToR d) and baseline descriptors in general. *By regional sea*

Afternoon/Evening: Visit to Bruges
Visiting the brewery "Halve Maan"

Thursday 8 September

9:00 - 12:00 Exploring the existing inventory (ToR c):

- discussion on the potential use of historical data sets in ecological baseline development e.g. in the context of the MSFD and other baselines and reference conditions
- identifying new data sets and analysis
- identifying priorities and challenges
- discussing relevant cases and analysis in the context of ToR c and d

12:00 - 13:30 Sandwich and salad lunch at the venue
(provided good weather, we will arrange for a picnic on the beach or outdoor lunch on the beach close to Fort Napoleon which is 200 m distant from the venue)

13:30 - 15:00 Presentation and discussion of cases on the history of fish and fisheries from both sides of the Atlantic, the Mediterranean and elsewhere, from an ecosystem perspective

Followed by group discussion in terms of linkages with ToR d) and baseline descriptors in general. *By topic*

15:00 - 16:00 Discussion on ToR d

- scope for integrated analysis
- outlines for the year 3 publication (primary publication)

Evening Visiting the National Fishery Museum Oostduinkerke (NAVIGO) in Oostduinkerke, 26 km distance from the Venue

Friday 9 September

- 9:00 - 12:00 Presentation of case studies on the history of fish and fisheries, with the participation of experts from Flanders, Belgium and the Netherlands
- 13:00 - 15:00 Lunch
- Network session and discussion
- 15:00 Closure of the meeting



Itinerary

How to reach Oostende

By plane and by train

When you arrive at Brussels Airport (Zaventem), go to the lowest floor and take the train to Brussels Midi Railway Station (4 trains/hour) (<http://www.b-rail.be/main/N/>). From Brussels Midi you have a direct train connection to Oostende once every hour (1 hour 42 minutes) or you can take the train to Bruges and change to the Oostende train (1 hour 47 minutes). Another possibility is to take the train to Gent-St-Pieters from Brussels airport and to change to the Oostende train in Ghent.

By car

From the Netherlands or Germany:

Drive in the direction of Ghent; take the motorway in the direction of Bruges (E40) and continue in the direction of Oostende (E40/A10).

From France

Drive in the direction of Kortrijk; take the motorway in the direction of Bruges (E17) and then continue in the direction of Oostende (E40/A10).

From the UK

- Transeurope Ferries (Ramsgate - Oostende).
- Eurotunnel or ferry via Calais or Dunkerque: Take the motorway in the direction of Bruges-Oostende-Brussels (A16/E40). When you reach Jabbeke, continue in the direction of Oostende (A10 - exit 6). Take care not to take the first exit to Oostende (Exit 5) or you will end up in the city centre of Oostende.
- Ferry via Zeebrugge: follow the coastal motorway (N34) in the direction of Oostende.

How to reach VLIZ

By public transport from the railway station of Oostende

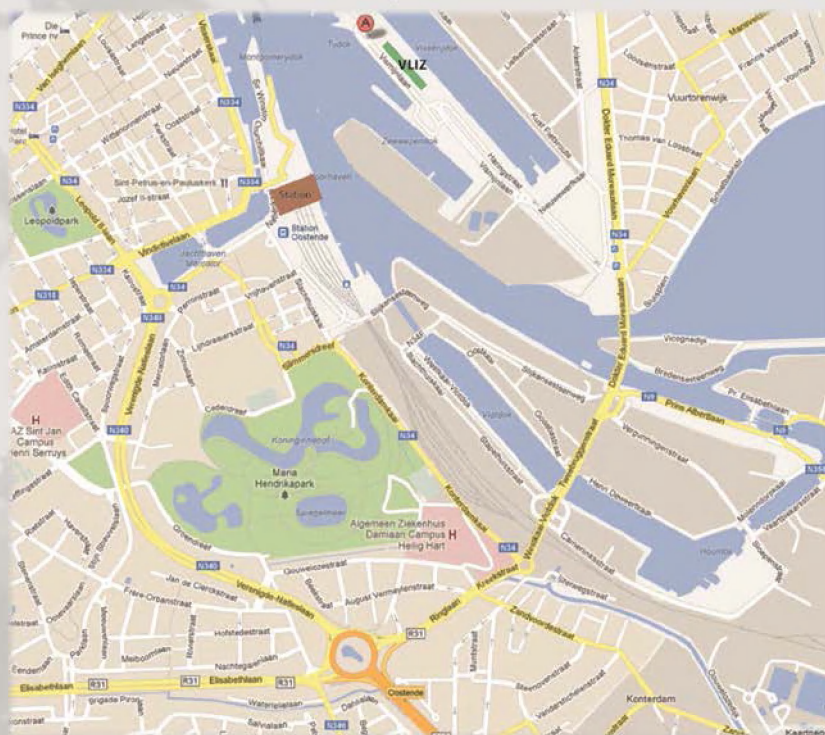
Take the Coastal Tram from 'Oostende station' in the direction of Knokke to the tram stop called 'Weg naar vismijn' (every 15 minutes) (<http://www.delijn.be/dekustram/>). Get off and follow the signs 'Vismijn' and 'VLIZ'. Continue all the way to the end of Vismijnlaan. Proceed through the covered fish auction hall and take the second passage under the warehouses to the left. The main entrance to the VLIZ is located at the waterside, Wandelaarkaai 7. This walk takes about 10 min.

You can also take bus 9 (Groenendijk-Sas Slijkens) on bus platform 12 (2 busses/hour) (<http://www.delijn.be/index.htm>) in front of the railway station. Get off at the bus stop called 'Sluisplein'. Cross Moreauxlaan and continue in the direction of Vismijnlaan.

By car from the E40 motorway

At the end of the E40/A10 motorway you enter Oostende and follow exit 4 in the direction of Blankenberge (N34). After passing lights, a roundabout and the viaduct you turn left at the fourth lights. Mind the tram! Go immediately right and then take the first to the left (=Niewewerfkaai). At the end of this street turn right (=Vismijnlaan). Go all the way to the end of Vismijnlaan and turn immediately to the left after having passed the covered fish auction hall. Parking facilities are available at the waterside. The main entrance to the VLIZ is located at the waterside, Wandelaarkaai 7.

Map Ostend:



A view on the institute Vlaams Instituut voor de Zee - VLIZ (A) from the Wandelaarkaai:



Annex 3: WGHIST terms of reference

2011/2/SSGSUE12 The Study Group on the History of Fish and Fisheries (SGHIST), will be renamed the Working Group on the History of Fish and Fisheries (WGHIST), chaired by Georg Engelhard, UK, and Ann-Katrien Lescrauwaet, Belgium, will meet in Oostende, Belgium, from 5–7 September 2012 in the first of three meetings to work on ToRs and generate deliverables as listed in the Table below.

WGHIST will report on the activities of 2012 (the first year) by 15 October 2012 (via SSGSUE and SIBAS) for the attention of SCICOM.

ToR descriptors

TOR	DESCRIPTION	BACKGROUND	SCIENCE PLAN TOPICS ADDRESSED	DURATION	EXPECTED DELIVERABLES
a	Present case studies on fish and fisheries using historical or recovered data from both sides of the Atlantic, the Mediterranean and elsewhere from an ecosystem perspective, with a view of preparing peer-review publications and synthesis papers	<p>Science: Analyse of deviations in current population and community levels cannot be put in context without historical data to show conditions under pre-industrial exploitation levels. WGHIST can provide some of these historical baselines.</p> <p>Advisory: Increasingly, historical baselines for current ecosystem approaches demanded in national legislation are required. WGHIST can provide these data and analysis to in many cases to meet some of these demands.</p> <p>Other EGs: groups such as WGECO should find good use in the data and particular analysis coming from WGHIST to establish historical levels for population and ecosystem phenomena.</p>	<p>HPT 1, point 2, in that it seeks to provide data that can be used to assess the historical health of marine ecosystems which can be used as baselines for evaluation of current ecosystem health.</p> <p>HPT 1, point 44: WGHIST seeks to provide historical data, some of which would be surveys that are not readily available and make metadata descriptions, and in some cases data, available via the ICES data centre.</p> <p>HPT 2, point 1: Through making historical data available and providing analyses on these data, impacts of fishing on marine ecosystems can be assessed.</p> <p>HPT 3, point 1: making data and meta data descriptions openly available provides a tool to inform others of possibilities for analysis especially along the lines of historical baselines.</p>	all years, culminating in Year 3.	Primary publications in year 3. No ICES recipient except during self evaluation to SCICOM in year 3

TOR	DESCRIPTION	BACKGROUND	SCIENCE PLAN TOPICS ADDRESSED	DURATION	EXPECTED DELIVERABLES
b	Provide a platform for multidisciplinary discussion to scientists from a variety of disciplines and institutions working on the history of fish and fisheries	TOR b) As in a, this groups needs to be a forum for common work wherever it is done as so few of the fora exist. Through the explication of case studies, from different regions, a common perspective and learning from other analyses can help guide the group's work.		All years	No deliverable
c	Provide metadata description to the ICES Data Centre of historical datasets in the ICES region that are potentially useful for establishing population and biodiversity baselines for the Marine Strategy Framework Directive (MSFD);	Is related to the HPT on marine living resource management tool development and provides data to the global community via the ICES data centre.	<p>HPT 1, point 2, in that it seeks to provide data that can be used to assess the historical health of marine ecosystems which can be used as baselines for evaluation of current ecosystem health.</p> <p>HPT 1, point 44: WGHIST seeks to provide historical data, some of which would be surveys that are not readily available and make metadata descriptions, and in some cases data, available via the ICES data centre.</p> <p>HPT 2, point 1: Through making historical data available and providing analyses on these data, impacts of fishing on marine ecosystems can be assessed.</p> <p>HPT 3, point 1: making data and meta data descriptions openly available provides a tool to inform others of possibilities for analysis especially along the lines of historical baselines.</p>	Year 3	Data to ICES data centre

Summary of the Work Plan

Year 1	<p>1st year: an inventory of data describing the length of time-series, spatial coverage and types of data, location where the data are stored and in what format, details of pertinent contacts for the data, an evaluation of the ease with which it can be accessed and used including important caveats, strengths and weaknesses of the datasets.</p> <p>Results of contacts to potential analyst participants and their interest in working towards TOR (d).</p>
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Year 2	<p>2nd year: bring together historical data in a standard format in consultation with the ICES data centre and make the data generally available through the ICES data centre.</p> <p>Provide descriptions of methods and results of some calculations which consider strengths and weaknesses in the datasets which could be used as MSFD baseline descriptors.</p>
Year 3	<p>3rd year: Finalized analysis of MSFD descriptor baselines in internally consistent chapters that should directly translate into publications.</p> <p>A self evaluation and recommendations for this group should be provided as part of the final report of the group.</p>

Supporting information

Priority	<p>The current activities of this Group will lead ICES into issues related to the ecosystem effects of fisheries, especially with regard to the application of the Precautionary Approach. Consequently, these activities are considered to have a very high priority.</p> <p>Scientific scope</p> <p>The precursor study group (SGHIST) to the currently proposed group managed to bring together historians as well as some data keepers in a unique way in ICES but analyses of data were not often possible during the short duration of the meeting and also because there were not so many analysts with the levels of experience necessary to make usable products. Logically, including analysts to support the development of baselines from these historical data for application in the MSFD is priority work in relation to ToR d.</p> <p>Historical data often have difficulties in terms of partial spatial and temporal coverage and selective reporting by species and port. As such, these data contain significant biases if interpreted in the same manner as modern data collected under rigid protocols. It is therefore necessary to have both the data analysts and data historians working jointly on analysis to create a robust and applicable product to aid the development of good environmental status standards under the MSFD.</p> <p>Metadata descriptions and standardized historical data products if made available via the ICES data centre should encourage more historical studies both within government laboratories and universities thus providing a legacy of important work. Additionally, data recovery in this means is essential to prevent data loss especially as staff that have transitioned between the paper and electronic archive world are now retiring and risk of data loss is increasing as a result.</p>
Resource requirements	<p>Consultation with ICES Data Centre should be ongoing and partial attendance by data centre staff would be an asset to the group and to ICES.</p>
Participants	<p>The Group should be attended by 15-20 members and guests. Participants must include data historians, ecologists, data keepers and analysts who can interpret and calculate quantitative indicators of MSFD descriptors.</p>
Secretariat facilities	<p>None in 2012. 2013 and 2014 are uncertain.</p>
Financial	<p>No financial implications.</p>
Linkages to ACOM and groups under ACOM	<p>There would be some linkages to WGECC especially in how that ACOM group has tasked itself with many issues concerning ecosystem interpretations and analyses under the MSFD.</p>
Linkages to other committees or groups	<p>SIBAS, WGBIODIV.</p>
Linkages to other organizations	<p>Clearly, there would be an interest from the European Commission for its relevance to MSFD baseline development. Participants in the former</p>

History of Marine Animal Populations (HMAP) have an interest in keep work of this nature going. Should an HMAP type project be resurrected, the work done by WGHIST as well as products produced for the ICES data centre would prove key for its success.
