

*Proposal including detailed description of the budget
for 2006 (ANNEX 1)*

POLISH NATIONAL PROGRAMME FOR COLLECTION OF FISHERIES DATA FOR 2006

By

SEA FISHERIES INSTITUTE



and

DEPARTMENT OF FISHERIES
MINISTRY OF AGRICULTURE AND RURAL DEVELOPEMNT



Gdynia, 31 May 2005

TABLE OF CONTENTS:

1. INTRODUCTION	3
1.1. CO-OPERATION BETWEEN POLAND AND OTHER MEMBER STATES AND REPORTING TO THE COMMISSION	3
1.2. NATIONAL CORRESPONDENT	4
1.3. SAMPLING INTENSITIES AND PRECISION LEVELS	4
2. MODULE OF EVALUATION OF INPUTS: FISHING CAPACITY AND FISHING EFFORT	5
2.1. C. COLLECTION OF DATA CONCERNING FISHING CAPACITY	5
2.2. D. COLLECTION OF DATA RELATING TO FISHING EFFORT	6
3. MODULE OF EVALUATION OF CATCHES AND LANDINGS	7
3.1 E. COLLECTION OF DATA RELATED TO CATCHES AND LANDINGS	7
<i>3.1.1 Game and recreational fisheries</i>	8
<i>3.1.2. Polish discard sampling</i>	9
3.1.2.1 Polish sampling effort of relevant species and areas	9
3.1.2.2 International discard data storage	10
3.2 F. COLLECTION OF DATA CONCERNING THE CATCHES PER UNIT EFFORT AND/OR EFFECTIVE EFFORT OF SPECIFIC COMMERCIAL FLEETS.	11
3.3 G. ELIGIBILITY OF THE SCIENTIFIC EVALUATION SURVEYS OF STOCKS	11
<i>3.3.1. Baltic International Trawl Survey (BITS)</i>	12
<i>3.3.2 Herring Acoustic Survey (HAS)</i>	12
<i>3.3.3. Sprat Acoustic Survey (SAS)</i>	13
3.4 H. BIOLOGICAL SAMPLING OF LANDINGS: COMPOSITION BY AGE AND BY LENGTH	13
<i>3.4.1 Polish standard sampling procedure</i>	14
<i>3.4.2 The Baltic Sea, ICES AREA III d</i>	15
<i>3.4.3 Other areas</i>	19
3.5 I. OTHER BIOLOGICAL SAMPLING	20
3.5.1. SAMPLING FOR SEX COMPOSITION AND MATURITY	20
4. MODULE OF EVALUATION OF THE ECONOMIC SITUATION OF THE SECTOR	20
4.1 J. COLLECTION OF ECONOMIC DATA BY GROUPS OF VESSELS	20
4.2 K. COLLECTION OF DATA CONCERNING THE PROCESSING INDUSTRY	22
5. DATABASE DEVELOPMENT	23
APPENDIXES	25
<i>Appendix I Conversion factors</i>	25
<i>Appendix II. Polish discard sampling effort by species and area</i>	26
<i>Appendix III. The Baltic. Polish sampling effort by species based on Polish landings. Minimum Program</i>	27
<i>Appendix IV. Polish sampling effort by species and area basing on Polish catches outside Baltic. Minimum Program</i>	28
<i>Appendix V Economic questionnaire of fishing vessel</i>	29
<i>Appendix VI Economic questionnaire of fish processing plant</i>	31
REFERENCES	33
ANNEX 1 COST CALCULATIONS	34

1. INTRODUCTION

This document describes Polish National Programme for the collection of data in the fisheries sector.

Through its accession to the European Union in 2004, Poland adopted the EU's Common Fisheries Policy (CFP). All Member States are covered by its provisions and are nationally responsible for its implementation. In Poland, the Fisheries Department of the Ministry of Agriculture and Rural Development is the administrative authority responsible for fish resources management and fisheries issues.

The Council has, in accordance with the CFP, decided to set up a community framework for the collection and management of data required for the evaluation of fishery resources and the fisheries sector, which is regulated in Council Regulation (EC) No. 1543/2000. According to mentioned regulation, national authorities are requested to establish programmes to collect relevant data of a biological and economic nature, to describe the procedures involved and to make the aggregated data accessible for scientific analysis. These national programmes must, in accordance with the Regulation, run for six-year periods and achieve a minimum standard. This standard, referred to as the minimum programme (MP), is specified in Commission Regulation (EC) No. 1639/2001 (amended by Regulation (EC) No. 1581/2004). Member States that comply with the minimum programme are entitled to receive financial assistance. Advance application must be made for such assistance.

The programme will be implemented through close co-operation between the Sea Fisheries Institute in Gdynia which co-ordinates the Polish programme, and

- the Department of Fisheries of the Ministry of Agriculture and Rural Development,
- representatives of fishing and processing sectors in Poland.

A Working Group was set up with members from all interested parties involved in the programme. The main objective of the Working Group is to co-ordinate the work within the framework of the programme.

Development of the Polish Fisheries Data Base will be continued in 2006.

1.1. Co-operation between Poland and other member states and reporting to the Commission

In the member countries of European Union as well as in the newly accessed states, the collection of primary fishery data to support responsible fishery policy has been a routine practice for a long time. Sampling programmes have mainly targeted parameters essential for fisheries management and advice. The information required for Community programme is defined within the framework of evaluation modules, covering on one hand fishing capacities and fishing effort, on the other hand surveys, catches and its biological characteristics, and finally, the economic situation of the fishery sector.

The collection of information on fishing capacity, fishing effort, economics and landing statistics is conducted at a national level. Biological information about fish catches, discards and information gathered during surveys are co-ordinated internationally in most cases and carried out in close co-operation with research institutes in Member States as well as in the third countries.

In the economic field, the Fisheries Economics Department of SFI took part in the Concerted Actions project Economic Assessment of European Fisheries organised under the Thematic Networks which aim was to develop common methods and standards for the evaluation of the economic situation in Community fisheries.

Each Member State shall submit its national programme to the Commission by electronic means, no later than 31 May every year, as stipulated in Article 6 of Council Regulation (EC) N° 1543/2000. A technical operational report must be submitted to the Commission annually by 31 May, in which an account is given of what progress has been made in the implementation of the objectives set out at the time of establishment of the minimum programme and the extended programme.

1.2. National correspondent

In Poland, the Sea Fisheries Institute

ul. Kollątaja 1

81-332 GDYNIA

tel: +48 58 620 28 25

fax: +48 58 62028 31

<http://www.mir.gdynia.pl>

has been designated to act as the National Correspondent

Contact person: Dr. Zbigniew Karnicki, mail to: z.karnicki@mir.gdynia.pl

1.3. Sampling intensities and precision levels

Information about landings reported by species, catch areas, fishing effort and fishing capacity will be submitted with the greatest possible level of precision.

In first year of the programme realisation (2005) the biological sampling has been carried out with intensity indicated in EC Regulation No 1639/2001 (amended by Regulation (EC) No. 1581/2004, Annex, Appendixes XII and XV). At the beginning of 2006 precision of the biological information (length and age distribution of landings and discards) will be estimated nationally using re-sampling techniques (Efron, 1982). Conclusions resulting from these estimations are planned to be implemented in 2007 (partly in 2006).

For the collection of economic data on the fishing fleet the objective is to reach a precision level $\pm 25\%$ for a 95% confidence interval using a stratified simple random sampling method. The final level of precision will be calculated on the basis of the data provided by the sampled companies according to standard statistical methods. Concerning the processing industry, it is not yet possible to estimate possible levels of precision of all parameters. The results from the pilot study carried out in 2005 will determine the level of precision to be targeted.

2. MODULE OF EVALUATION OF INPUTS: FISHING CAPACITY AND FISHING EFFORT

2.1. C. Collection of data concerning fishing capacity

Minimum programme

Member States are required to collect data to permit segmentation of the fishing fleets in accordance with Commission Regulation (EC) No. 1639/2001, Appendix III and IV. This segmentation is used as the basis for determining how capacity, fishing effort and economic data for the fishing fleet will be reported. Poland will adhere to the minimum programme as defined in Appendix III.

The intention is to collect data on the number of vessels in defined segments and vessel length categories as well as on the average gross tonnage (GT), engine power (kW) and age of the vessels' hull.

The aggregated data meets the requirements in respect of accuracy stipulated in Chapter 2. C.1.c of the implementation regulations.

Vessels are segmented on the basis of the time for which a particular gear is used. The expression "time" is used to denote fishing days. If a vessel uses a type of gear for more than 50 % of the time, the vessel should be included in the segment that covers that type of gear. If gear is used for less than 50 % of the reported fishing time, the vessel is allocated to a segment for multi-species gear use.

If the specific vessel was not active throughout whole year it will be assigned to "unknown" or "vessels with no licence" segment.

Disaggregation Levels

The disaggregation level will comply with the segments defined in Appendix III of Commission Regulation (EC) No 1639/2001.

Mobile gears

- Beam Trawl
- Demersal Trawl and Demersal Seiner
- Pelagic Trawl and Seinners
- Dredges
- Polyvalent
- Others

Passive Gears

- Gears using hooks
- Drift and fixed nets
- Pots and traps
- Polyvalent
- Others

Polyvalent

- Polyvalent Gears Combined mobile and passive gears

These data will be provided for vessels:

- <12m
- 12 to <24m
- 24 to <40m
- >40m

Only these segments which can be found in Polish fisheries will be taken into account (there is no beam trawlers or dredge vessels in Poland for example).

These data will be updated annually.

The following data among others (required by Regulation (EC) 2930/86 and 26/2004) are registered for every vessel in Polish fishing vessel register:

- Vessel length (Length Over All)
- Gross tonnage
- Engine power (main engine)
- Age of hull

The fishing fleet is segmented at the end of each calendar year by mechanical processing of the data reported in the SFIS (Sea Fisheries Information System – see chapter 5) database (log books and vessel register). Data in respect of fishing capacity in accordance with the above is reported for each segment. The data must be updated once a year.

Extended Programme

No data collection will be carried out within the framework of the extended programme.

2.2. D. Collection of data relating to fishing effort

Member States are required to collect data for estimating the fishing effort and fuel consumption in accordance with Commission Regulation (EC) No. 1639/2001, Appendix V to X. Poland will adhere to the minimum programme.

The aggregated data meets the requirements in respect of accuracy stipulated in Chapter 2. D.1.c of the implementation regulation.

Fuel consumption

The average annual fuel cost will be dealt with in the collection of economic data on the fishing fleet (see Chapter 4.1 Collection of economic data by groups of vessels). The average annual fuel consumption expressed in volume units will be calculated as fuel costs/ fuel price for vessels in the respective segments (as defined in Appendix III) if no exact data are available. Price data will be gathered from fuel supplying company.

Fishing effort by type of fishing method

All fishing vessels carrying on fisheries activities are obliged to keep logbooks (as required by Regulation No 2847/93 and 2807/83). The exception is made for vessels with an overall length less than 10 m. These vessels are however obliged to submit monthly catch reports containing indispensable information (amount of catches, type and number of fishing gear used, fishing time (in hours) and fishing area).

Fishing effort defined as the sum of weighted (as defined in Appendix V) fishing days (as defined in D.1.a) with a particular fishing method (as defined in Appendix VIII) must be reported by specific area (Level 3 as defined in Appendix I).

In addition, the effort defined as the sum of weighted (as defined in Appendix V) fishing days (as defined in D.1.a) with a particular fishing method (as defined in Appendix III) must be

reported by area (Level 3 as defined in Appendix I) and vessel length category (as defined in Appendix IV).

Specific fishing effort

Effort defined as the sum of weighted (as defined in Appendix V) fishing days (as defined in D.1a) with a particular fishing method (as defined in Appendix III) must be reported by area (as defined in Appendix I) and species (as defined in D.1a (iii) and as defined in Appendix VI).

The following data is collected:

DATA	SOURCE
Fuel consumption – cost of fuel	E-Database (fishing vessel economic statement questionnaire) ¹
Fuel price	Fuel supplying company
Fuel consumption - volume	Cost/price
Number of fishing days with a particular type of gear (as defined in Appendix III+IV)	SFIS
Catching area (as defined in Appendix I)	SFIS
Departure and arrival time	SFIS
Quantity by species (as defined in Appendix VII)	SFIS
Vessel length (as defined in Appendix III)	SFIS

¹ see Chapter 5 for description of the database and Appendix V for an example of questionnaire.

The fishing effort is estimated for every quarter by mechanical processing of reported data in the SFIS (log books, monthly catch reports, sales notes, vessel register, etc.). The result will be reported annually.

Extended Programme

No data collection will be carried out within the framework of the extended programme.

3. MODULE OF EVALUATION OF CATCHES AND LANDINGS

3.1 E. Collection of data related to catches and landings

Member States are required to report commercial landings of all stocks. The data must relate to the total landed quantity and must be reported by species sub-divided by catching area and by year. For the fish stocks specified in appendix XII to Commission Regulation (EC) No. 1639/2001, discards and the total catch must also be reported. The catch of salmon and cod in recreational and game fisheries in the Baltic Sea must also be reported.

The geographical origin of catches and landings will be reported at level 2, Appendix I, in Commission Regulation (EC) No. 1639/2001. For stocks included in appendix XII of the regulation, the aggregation level will meet the terms specified for the different areas.

The aggregated data meet the requirements in respect of accuracy stipulated in Chapter 3.E.1.c of the Commission Regulation.

Details of the landed quantity are collected from fishermen and first-hand buyers in accordance with Council Regulation (EC) No. 2847/93 on the introduction of an inspection system in the fisheries area. For smaller vessels (<10 metres) information will be collected from monthly catch reports, which in accordance with Polish national legislation are mandatory for these vessels. The monthly catch report contains, among others, the following data:

- Weight or number and species of fish caught
- Catch region (statistical rectangle)
- Number and type of fishing gears
- Vessel identification and reported month

Data will reflect Polish landings in Poland and abroad and transshipment to third country vessels. Other countries landings in Poland will be also considered.

Details in respect of the value of the landed quantities sub-divided by species are provided in the context of the economic data in accordance with Chapter 4.J.

The applicable conversion factors are shown in Appendix I.

For all stocks, the quantities landed in Poland will be reported annually. The reported quantities will relate to the adjusted catch after having conducted a cross-checking of data from the log sheets, landing declarations and sales notes. Data relating to the species, quantity and catching area is taken from the database (SFIS) in which information from logbook sheets, sales notes and other documentation (monthly catch reports, landings declaration) are recorded and stored in accordance with Commission Regulation (EC) No. 2847/93.

Cross-checking

Control of data consistency between:

- logbook sheet and vessel register data;
- logbook sheet and sales note;
- logbook sheet and landing declaration

is ensured.

3.1.1 Game and recreational fisheries

Poland has no recreational fisheries for bluefin tuna and negligible recreational fisheries for salmon and therefore requests derogation for this part of the Regulation.

Taking into account the growing importance of recreational cod catches, the level and structure of these catches will be investigated in 2006. For 2005 a Pilot Study for this fishery has been planned. The results of the study are not known yet as most of recreational fishery takes place during summer. However, internal SFI project conducted in 2004 indicates that the level of the recreational cod catches was ca. 200 tons. In 2006 4 trips to sample this fishery at sea will be conducted. In addition, 7 trips to the harbour offices are planned to collect data characterising recreational fishery (number of recreational trips, number of tourist-fishermen, level of catches).

3.1.2. Polish discard sampling

According to Commission Regulation (EC) No. 1639/2001 chapter 3.E.1.b Poland must collect discard data to estimate discard rates for selected species. In 1995-2001 Poland sampled systematically discard data in Polish bottom and to lesser extent pelagic fisheries in the Baltic. The sampling in this period was supported by UE financed projects. Following this, the discard monitoring was continued with lower intensity (being limited to cod) as only limited national financial support was available.

3.1.2.1 Polish sampling effort of relevant species and areas

Appendix II contains information on Polish yearly discard estimates, requested according to Annex, Chapter III, Article H e). The only species to be included in **yearly** discard estimates in the Baltic is **cod**. In 2006 Polish discard sampling effort (appendix II) will be approximately proportional to catches by strata (quarters, sub-divisions, and fleets) and will achieve the minimum levels given in Appendix XII of Commission Regulation (EC) No. 1639/2001. The number of samples will be approximately equal to number of samples for biological monitoring of catches (see section 3.5 H) as the later monitoring will be conducted mainly at sea. Polish discard sampling will cover the area III d. Vessels to be monitored will be selected among a large number of vessels >12 m (i.e. 19 m, 21m, 24 m and 25 m). The second year of the Program realization will be focused on identifying the cod discard distribution pattern in Polish cod fishery, since during the Program preparation for the year 2006, only data on discard distribution was available for the first 4 months of the 2005 year, *i.e.* the first year of Polish Program implementation. Therefore in 2006 no special allocation of discard sampling effort is assumed. Sampling activity will be proportional to the 3-year average landings of cod according to the following strata: ICES Sub-division, quarter, type of gear and type of vessel. The following gears will be sampled: bottom trawl, pelagic trawl, gill-nets. ICES Sub-divisions 25 and 26 will be covered. Vessels will be selected according to type of gear in use. Having discard pattern recognized, sampling allocation in 2007 will be adapted to discard levels in the strata, differently than planned for 2005 and 2006 where sampling is assumed be proportional to the catches.

Manuals for discard sampling has been internationally agreed and established for the Kattegat and the Baltic Sea under EC study project 98/024. In this document aspects of “at sea sampling” are covered (including selection procedures for fishing trips, sub-sampling procedures, recording of data etc). A new forum for international co-operation in planning of discard sampling design, sampling- and calculation methods etc is operating internationally as ICES PGCCDBS. Poland is involved in this work to assure that the data will be available in quality for use in stock assessment. Polish discard sampling will be in accordance with the Baltic discard Manual.

The sampling will be stratified on:

- ICES Division/ Sub-division
- Quarter
- Discard pattern in relevant fleets

The fleets will be defined by gear type and target species.

Data will be collected by staff from SFI, primarily by sampling on board of commercial fishing vessels. During the trips for discards sampling the data on length and age distribution of landed part of catches will be also collected, in order to increase the precision level of landings sampling.

Thus the information to be recorded is:

- Vessel and gear characteristics
- Place, date, time and duration of fishing operation
- Total weight of discard and landing by all species caught
- Separate length distributions of discard and landings by all relevant species caught. If the retained part of the catch is landed in commercial weight categories, separate length frequencies are obtained by category
- Otoliths per cm group of undersized fish (discard part of the catch) of selected species
- Otoliths per cm group of landed cod.

Weight measurements are generally recorded as un-gutted fish and the measurements are made on un-gutted fish. When gutted fish are used a weight conversion factor (Appendix I) will be applied.

All collected discard data will be recorded in national at SFI and inter-national database (see Introduction).

In addition, according to Commission Regulation (EC) No. 1639/2001 every three years **herring, sprat, flounder, salmon and sea trout** discard should be estimated within MP. The present amount of these discards in Polish fishery is not known but it is believed to be low in pelagic fishery.

In 2006 Poland intends to conduct **Pilot Study** to estimate herring discard in herring trawl fishery. This fishery was taken 74% of total herring landings in 2004. Polish herring discard sampling effort will be allocated proportional to catch by trawls (pelagic and bottom) and sub-divisions (24, 25 and 26). Six month will be covered (March - October) in main fishery season. Discard samples will be taken on the board of the cutters with length 17, 25 and 26 m. Biological samples will be collected from discarded and landed catches. Seven discard trips are planned from four Polish fishing ports.

Implementation of discard sampling for other species will be considered in the program for 2007.

3.1.2.2 International discard data storage

All Polish catch data sampled during discard sampling in the Baltic Sea are included in the international database: FishFrame. This database constitutes the backbone in the international discard calculations made for the area and is essential for the further development and international co-operation concerning discard.

All countries around the Baltic Sea submit data to the database and have full access to all data collected if the data are used for assessment/management purposes.

Extended programme

No data collection will be carried out within the framework of the extended programme.

3.2 F. COLLECTION OF DATA CONCERNING THE CATCHES PER UNIT EFFORT AND/OR EFFECTIVE EFFORT OF SPECIFIC COMMERCIAL FLEETS.

Minimum programme

Data concerning the catches per unit effort/ and or effective effort will be collected within a framework of the Minimum Programme on the basis of information gathered in the National Programme (section 2.2 and 3.1).

Extended Programme

No data collection will be carried out within the framework of the extended programme.

3.3 G. Eligibility of the scientific evaluation surveys of stocks

Sea Fisheries Institute in Gdynia has employed r.v. "Baltica" (41-m long stern trawler) for conducting the Baltic International Trawl Survey (BITS) and the Herring Acoustic Survey (HAS) since 1994. The BITS surveys primary objectives are Baltic cod and other demersal species. During the surveys bottom control hauls in the Polish EEZ are conducted at the depth ranging from 16 to 105 m. The HAS survey objective is assessment of Baltic herring and sprat stocks. During the survey pelagic hauls are performed, usually in areas where depth to the bottom is higher than 30 m. These 3 surveys a year, systematically organized by the Sea Fisheries Institute in Gdynia, are of priority 1 and are included in the minimum programme as defined in Appendix XIV of Commission Regulation (EC) N° 1639/2001.

The fish surveys described in this programme are internationally co-ordinated and will remain so. The planning and co-ordination of the surveys are done within ICES Baltic International Fish Survey Working Group (WG-BIFS). Acoustic survey as well as BITS surveys add extra information to stock assessments, as the stock estimates obtained during the surveys are fishery independent.

Member States are required to conduct scientific research at sea to enable them to evaluate the biomass and distribution of the main fish stocks, regardless of the data submitted by the commercial fisheries in relation to stocks for which such evaluations are possible and appropriate according to Commission Regulation (EC) N° 1639/2001.

The assessments of Baltic cod, herring, sprat and flounder stocks in the southern Baltic are presently based also on the information from fisheries (mainly catch volume and structure (gear, age, length) and for cod also fishing effort and CPUE). The quality of some data for fish stock assessments increased substantially in years 1996-2001 due to the extended sampling programmes - International Baltic Sea Sampling Programme for Commercial Fishing Fleet (DGXIV 96-002) and International Baltic Sea Sampling Programme II (DGXIV 98-024). In the framework of both mentioned EU funded study projects the research materials were collected by national observers mainly during surveys, directly on board of fishing vessels. From second half of 2001 to 2004 the Baltic fish sampling effort in Poland was significantly reduced as no further support from the Commission was obtained.

The number of man days devoted to survey is higher than the number of men days at sea as some time is needed for preparation of the survey and initial work on the collected data (e.g. age reading, some data analysis, and computerization)

Minimum programme

3.3.1. Baltic International Trawl Survey (BITS)

The survey is conducted regularly twice a year, in 1st quarter (15 - 17 days at sea in February, at least 35 - 40 trawl stations) and in the 4th quarter (10 - 14 days at sea in November, usually 30 - 33 trawl stations) with the r.v. "Baltica". The surveys cover part of the southern Baltic, within the Polish waters. This type of surveys with a bottom trawl applied in control hauls is systematically conducted by the Sea Fisheries Institute in Gdynia since 1977. In 2006 both surveys will be conducted.

The primary purpose of the survey is to produce indices of recruitment and stock abundance of Baltic cod and flounder. Sampling of these species includes records of individual fish length, age, weight, sex, stage of gonads and stomach fullness and is carried out on board the survey vessel. Data on sexual maturation and individual weight is obtained to establish sex specific maturity ogives and mean weight at age for cod and flounder. The otoliths are used for fish age determination. Ageing is made at SFI in Gdynia. Age determination takes place in accordance with standardized methods (Anon. 2000, ICES 1997, 2001). In addition to cod and flounder, herring and sprat from the samples are also examined and their standard biological parameters (length, weight, age, sex, gonads development) are recorded.

The survey design, sampling procedure and the level of precision are defined in the Manual for the Baltic International Trawl Surveys (ICES 2000). Since 2001 the surveys have been conducted using new standard procedure internationally. Polish bottom trawl surveys are conducted and samples collected in accordance with BITS Manual.

The survey is ICES co-ordinated and performed in collaboration with research vessels from Denmark, Germany, Latvia, Russia and Sweden. However, not all countries around the Baltic are involved in every survey. Since 2001 during the BITS survey a TV-3 cod bottom trawl has been used at daytime. This gear is a rather newly developed gear and it is used as a standard fishing gear by the countries involved. Hydrological data is collected with a CTD probe.

Primary survey data are stored in a fish sample database administered by SFI in Gdynia. Aggregated data are reported and used annually by relevant ICES Working Groups. Since 1997, data are also stored in an international co-ordinated database at ICES Secretariat in Copenhagen.

3.3.2 Herring Acoustic Survey (HAS)

The survey has been conducted in October (19 - 21 days at sea, about 40 trawl stations) every year since 1995 with the r.v. "Baltica". Polish survey covers part of the area IIIId, namely southern part of the ICES Sub-divisions 24, 25 and 26. Baltic herring and sprat acoustic surveys organized by SFI (Gdynia) started already in 1983 in relatively close co-operation with Swedish and German research vessels. In 2006 Poland will conduct the survey.

The purpose of survey is to provide fishery independent estimates of Baltic herring and sprat stocks size and distribution, using acoustic methods. The sampling procedure and the level of precision are defined in the Baltic International Acoustic Survey (BIAS) Manual (ICES 2001). Polish pelagic acoustic surveys are conducted and samples collected in accordance with BIAS Manual.

The evaluation of clupeoids stocks size is done by compilation and analysis of data obtained by Germany, Denmark, Poland, Russia, Latvia, Estonia and Sweden. Polish herring and sprat biological analyses are made on board of r.v. "Baltica". Standardized methods are used for age determination (Anon. 2000, ICES 1997, 2001). Calibration of acoustic system of EY-500 echo sounder is made every year in Norway or Sweden, with assistance of specialist from SIMRAD Company. Hydrological data is collected with a CTD probe.

Primary survey data are stored in electronic files administered by SFI in Gdynia. Aggregated data are reported and used annually by relevant ICES Working Groups. Since 2000, data have also been stored in an internationally co-ordinated database (EC 99/06) DFU in Hirtshals, Denmark.

3.3.3. Sprat Acoustic Survey (SAS)

According to Commission Regulation (EC) N° 1639/2001, Appendix XIV, this survey is to be conducted in the 2nd quarter as it has priority 1. However, it is conducted sporadically in the Baltic and Poland performed it only in 1983 and 1985. For tuning the sprat assessment ICES uses results from Herring Acoustic Survey which provides acoustic estimates of both herring and sprat stocks. In addition, HAS provides good estimates of 0-age group of sprat in Subdivisions 26+28. Poland is of the opinion that Sprat Acoustic Survey is not necessary to conduct reliable sprat stock assessment and its priority could be changed to priority 2.

Poland asks for derogation from conducting that survey, as it was conducted by Poland only w 1983 and 1985.

3.4 H. Biological sampling of landings: composition by age and by length

Member States are required to collect biological random samples in order to evaluate the landings composition in length and where appropriate in age for all stocks specified in Appendix XV in Commission Regulation (EC) No. 1639/2001. For some species also other biological sampling is required.

Biological sampling must be performed if the Polish TAC or total landing of a certain species exceeds thresholds defined in 1639/2001 Chapter H.1(d). Appendix III and Appendix IV show the landings made by Polish flagged vessels in 2002-2004. Information on Polish and total EU TAC is given for each stock for 2005.

Poland asks for derogation for biological sampling of foreign landings landed in Polish ports in 2006. So far these landings were very limited and their magnitude after accession is unknown and probably still very small. In 2006 the size and distribution of these landings for year 2005 will be known. Then it will be possible to develop appropriate sampling scheme for these landings if necessary.

The purpose of the biological sampling of landings is to estimate the number of fish and their mean weight at age in the landings made in Polish fishing ports. The data provide the basis, together with data from other fishing nations, for analysis of historical stock trends, intensity of exploitation, and for forecasting future catches. Number of fish and their mean weight at age of all stocks included in the Polish Programme will be estimated by a standardized method which also estimates variance of the parameters mentioned using re-sampling technique. This will assure that all calculations are made in comparable way for all stocks.

Biological sampling in Poland is performed by SFI in Gdynia. All data sampled by SFI will be stored in a fish sample database at SFI in Gdynia. Salmon and sea trout stocks in the Baltic are also sampled and recorded by the Sea Fisheries Institute. Inland Fisheries Institute in co-operation with SFI supervises tagging and stocking of salmonid fishes and carries out analysis of effectiveness of stocking.

3.4.1 Polish standard sampling procedure

The standard sampling procedure will be carried out on a quarterly basis by ICES sub-division in the main fishing ports where landings take place. Samples will be collected from catches and/or landings, which can be sorted in commercial weight categories. Random samples will be collected within each category.

In addition, sampling at sea during fishing trips will be performed. It refers mainly to cod and herring for which also discard data will be collected. Sampling at sea for sprat will aim at providing more information on species composition in mixed pelagic fishery.

Usually proportional sampling will be applied for length measurement. In cases when some sampled categories are small the sample size will be higher than the one resulting from proportional sampling or whole category will be sampled. This will mainly happen when landings are separated into size grids or the number of undersized fish is small in the sample.

The total number of samples collected during a year for a stock will follow the sampling rules based on annual landings which are outlined in Appendix XV in Commission Regulation (EC) No 1639/2001. With sampling rules outlined in Appendix XV, a precision level is set. The minimum Polish sampling level for each stock is given in Appendix III and Appendix IV.

The samples are usually analyzed in the fishing ports or at SFI laboratories, while cod samples and deep sea species are mostly analyzed at sea. First the sample for length is collected, and the sub-sample for age is taken next. The size of the samples will be at least as specified in Appendix XV. The age sample is usually collected by length strata, taking approximately constant number of fish from a stratum. The fish sampled for age are weighed and their sex and maturity is recorded. As mostly stratified sampling for age is applied, the age composition of the catches is obtained using age-length key. Age determination of sampled fish species always takes place at SFI according to standardized methods (ICES 1997, 1999).

The intention of ‘Other biological sampling’ is to estimate for stock indicated in Annex to the Regulation (EC) No 1639/2001 (Appendix XVI)

- sex composition of the catches,
- maturity at age and length,

- length and weight at age i.e. growth curves.

These parameters will be sampled both during scientific surveys and from the commercial landings. In cases where only gutted fish are landed or fish are in a condition that histological examination are impossible sampling for maturity will be limited to surveys.

Precision level

The precision level of Polish present sampling was not evaluated yet, although a lot of effort is put to collect representative and extensive biological data. In 2006 the re-sampling techniques (Efron, 1982) will be applied and the precision levels in Polish biological sampling estimated basing on sampling from 2005.

A description of each stock that is included in the Polish sampling is presented below following the structure: Polish landings, share of Polish TAC in EC shared TAC (in %), and a short description of the fishery. The sampling procedure is described if it deviates from the standard sampling procedure described above following by a short description of how other biological sampling is performed. More information on Polish sampling on catches is given in Appendix III and Appendix IV.

Minimum Programme

3.4.2 The Baltic Sea, ICES AREA III d

Cod

The Polish landings in 2004 were 15120 tons and the Polish TAC for 2005 is 20.6% of the TAC for EC, obliging Poland to sample this stock.

Cod in the Baltic Sea is regarded to be of two different stocks: the Western stock (sub-divisions 22-24), and the Eastern stock (sub-divisions 25-32). Biological sampling and results are reported by stock. Poland exploits mainly Eastern stock, catches in western area were very small so far.

Polish cod fishery in the Baltic is conducted mainly with trawls and gill-nets, but also long-lines are used with increasing intensity. The bottom trawling is conducted during day-time on 30-100 meters depths all year round with exception of the summer ban (June - August/September, May – August/September in 2005). The gill-net fishery is conducted both by smaller vessels and by fishery cutters.

Sampling of cod in Poland is carried out mainly onboard of fishing vessels during the trips for discard sampling. The catch of cod is sorted by the fishermen for discard and landing. Both parts of the catch are biologically sampled by SFI scientists according to standard sampling procedure. Survey results are uploaded to BALTCOM/FISHFRAME database. In addition, 28 trips to sample landed cod in Polish harbours are planed.

Sampling of cod is also carried out on board r/v BALTICA during BITS surveys conducted in 1st and 4th quarter. The sex and maturity is determined following the international 5 scale maturity key. Survey results are uploaded to BITS database maintained at ICES headquarter.

Collected data are stored in fish sample database at SFI. Results are reported annually to the ICES Working Group (WGBFAS).

Biological sampling in recreational fishery for cod

In recent years the recreational fishery for cod has been developing in Poland. The scale of this fishery is increasing. In 2004 the SFI started the preliminary investigations aimed at evaluation of recreational fishery and its impact on the state of stock. Within the programme some biological data from recreational fishery was collected. The level of recreational catches in 2004 was estimated at 200 tons. Poland intends to further investigate this fishery in 2006. This will be done by participation of SFI technicians in recreational cruises, taking measurements of caught cod and making interviews with recreational fishermen (see section 3.1.1).

Flounder III d

Flounder fishery is regulated by the fishing rules of IBSFC and thus it is included into the programme in 2006 as proposed in Council Regulation. The Polish officially reported mean landings in 2002-2004 were 7378 tons.

Flounder is caught mainly by bottom trawls and in the coastal zones by gill-nets. The cutters using trawl provide the bulk of flounder catch from western flounder stock (Sub-divisions 24 and 25) whereas the main part of flounder catch from Sub-division 26 is taken by the boat fishery employing gill-nets. The largest landings of flounder in Polish fishery are reported in October – February, and sampling intensity follows that seasonality.

Landings are composed of several flatfish species: flounder, plaice, and small specimens of turbot. Plaice contributes up to 5% of the total annual flatfish catch taken from ICES Sub-divisions 24 and 25, and up to 2% in Sub-division 26.

Flatfish sampling procedure is as follows: flatfish catch (at sea or in harbor) is sorted into species by the Institute staff member and the share in weight of each species is evaluated. This share (averaged over the year) is used for the calculation of total annual catch by flatfish species based on the official annual flatfish catch. From the flounder catch two cases (50 kg each) are taken at random for length measurement. Next the procedure follows the standard sampling procedure, including taking otoliths for age determination.

Since 1970 the flounder age reading from otoliths has been carried out by the same person, who retired. The results obtained by this expert had a lowest variation when the ageing agreement was investigated among 8 international experts. In order to keep conformity within the data series the former expert is commissioned to perform flounder and turbot ageing of the selected otolith samples and the results are compared with those obtained by the present Institute staff.

Collected data are stored in fish sample electronic files at SFI. Results are reported annually to the ICES Working Group (WGBFAS).

Turbot III d

The average turbot catch in 2002-2004 was 331 tons. It is taken mainly as by-catch in fishing for flounder or cod and in targeted gill-net fishery by specialized local boat fishery carried out in spring. In 2006 our intention is to collect 3 turbot samples from targeted commercial gill-net catches in May – one from Sub-division 24, one from 25 and one from Sub-division 26. The sampling scheme is simple random sampling.

Eel III d

The specialized fishing for eel was the most profitable fishery in both parts of the lagoons (Vistula Lagoon and Szczecin Lagoon) situated within the limits being under Polish jurisdiction. An average volume of the Polish eel annual catch taken from the Vistula Lagoon in the period 2002 – 2004 was 36 t. It is a substantial drop when contrasting with average catch of 98 t. observed in 1990s: In the Szczecin Lagoon the average annual catch in 2002 – 2004 was 44 tons.

Detailed monitoring of the length structure of the eel catches effected in 1990 – 2000 was carried out in the Polish parts of Szczecin and Vistula lagoons. In 2006 Poland's intention is to collect 2 samples of eel (each one including 50 fish from commercial catch effected in the respective part of the Szczecin and Vistula lagoons).

Herring III d

Polish officially reported landings in 2004 were 28.4 thousand tons and the Polish TAC in 2005 is 19 % of the EC TAC, obliging Poland to sample this stock.

Herring is caught mainly in pelagic trawls, but also in bottom trawls and in the coastal zones during spawning season even in gill-nets and pound nets (including fyke nets in Vistula Lagoon). The herring fishery takes place in all seasons, but is more intensive during springtime and summer-autumn season. The majority of the Polish catch is landed for human consumption.

Sampling of this catch is performed from two major fishing fleets:

- herring fisheries with pelagic and bottom trawl with ≥ 32 mm mesh size, conducted by cutters,

- static gear fishery with > 32 mm mesh size, conducted by boats.

The by-catch of herring from sprat fishery is estimated (last years at about 8% level) and included in the total herring catch.

Standard sampling procedure as described in 3.4.1 is applied to both fishing fleets. In herring cutter fishery catches are usually separated into 2 size assortments and consequently sampling is conducted within the assortments. Samples are purchased, and are transported to SFI in Gdynia or its department in Swinoujscie for further analysis.

Collected data are stored in the herring sample database at SFI. The results are reported annually to the ICES Working Group (WGBFAS).

In addition, every three years herring discard should be estimated within MP. The present amount of these discards in Polish fishery is not known. Poland intends to conduct Pilot Study in 2006 for herring discard from herring trawl fishery (section 3.1.2.1).

Sprat III d

Polish officially reported landings in 2004 were 96.7 thousand tons and the share of the Polish TAC in 2005 is 25.7% of the EC TAC in the Baltic Sea, obliging Poland to sample this stock.

Polish sprat fishery in the Baltic Sea is conducted mostly by cutters 25-27-m length using mid-water trawl with 20 mm mesh size. Sprat is landed for both industrial purposes and for human consumption (39% and 61% in 2004, respectively). The fishery is most intensive in February-May and - to a lesser degree - in late autumn.

Samples of sprat catches/landings are collected from two major fishing fleets:

- stern cutters 25-m length, landing fish for human consumption in almost all main Polish ports,
- stern cutters 25-27 m length, catching fish for industrial purposes, a few fishing trips a year are surveyed by the SFI technicians on board of fishing vessel.

The by-catch of young herring in sprat fishery is estimated and included to the total herring catch. In addition, during surveyed trips the by-catch of other species is also investigated.

Fish samples are analyzed in ports of landings, on board of cutters or are transported to SFI laboratory in Gdynia. The samples are analyzed and the results recorded using standard procedure (see Ch. 3.5.1) updated under EU study project 98/024 IBSSP II, and recommended by ICES BIFSWG. Biological data on sprat (age, length and weight) is also collected during the HAS and BITS surveys. Sampling of other biological parameters such as sex, gonadal maturity, stomach fullness, externally visible diseases are regularly performed on both fishing fleets. Data are stored in simple database at SFI.

Salmon and sea trout III b-d

Polish reported landings in 2004 were 82 thousand salmon and the share of the Polish TAC in 2005 is 5.9% of the EC TAC, obliging Poland to sample this stock.

Sampling in Sub-divisions 25-26 takes place in major landing ports both for salmon and sea trout. The sampling of salmon and sea trout is following the standard sampling procedure described in 3.4.1. Scale samples are taken for age determination as well as for genetic analysis aiming to distinguish wild origin and reared component in catch. Samples for genetic analysis will be sent to laboratory of the Finnish Game and Fisheries Research Institute in Helsinki, Finland

Routine age reading of salmonids is conducted by scientists from SFI and will be verified by external reader. Polish salmon and sea trout catch consists of fish of very broad origin, reared and wild and coming from different foreign rivers. For some of dispute scale samples there is a necessity they have to be double checked with the help of very experienced reader. Unfortunately, this reader is no longer working with SFI and has to be paid on external basis.

Sampling is planned according to the previous year's fishing pattern and it covers salmon and sea trout caught by drift-nets (70% of the catch) and by long-lines. In next years, due to obligatory decreasing use of drift-nets, those proportions will change in favour of long-lines.

Apart length and weight measurements also, whenever is possible, the data on sex ratio and presence of adipose fin (salmon) are collected. This is done in conjunction with the age determination of the sampled salmon. Salmon and sea trout data are stored in a database at Sea Fisheries Institute.

Intensive programme for tagging salmon and sea trout smolts and collecting tags is conducted every year by Inland Fisheries Institute with co-operation of Sea Fisheries Institute. Tagging data are kept in a database at the Inland Fisheries Institute.

Sampling results are reported annually to the ICES Baltic Salmon and Sea Trout Assessment Working Group (WGBAST).

3.4.3 Other areas

Polish catches outside Baltic in 2004 were 18 972 tonnes, of which 4 431 t were taken in North-East Atlantic (NEAFC), 1 452 t in North-West Atlantic (NAFO), 4 122 t in South-East Atlantic (area 47 FAO) and 8 967 t in CCAMLR Area. The average Polish catches outside Baltic during the previous three years (2002-2004) were 31 351 t (Appendix IV). Biological sampling of catch composition by age and by length applies only to the North Atlantic. In the other areas according to the Council Regulation (EC) No 27/2005 of 22 December 2004 Poland has no TAC for 2005.

North Atlantic (NEAFC and NAFO Areas)

According to the Commission Regulation (EC) No 1639/2001 of July 2001 (Annex, Chapter III, H) Poland, at the minimum programme level, must collect biological sampling for roundnose grenadier and cod.

Roundnose grenadier (Vb, VI-X, XII, XIV)

During last three years (2002-2004) Polish average catches were 483 t a year. In 2004 Poland caught only 34 t. The TAC for Poland for 2005 is 1666 t and this quota was exchanged with other EU countries. The same situation is expected in 2006 thus Poland requests derogation from sampling this species.

Cod (I, IIb, IV)

During last three years (2002-2004) Polish average catches of cod were 1 344 t a year. In 2004 Poland caught 1 451 t. The TAC for Poland for 2005 is 1 460 t and it corresponds to 8.2% of the Community share of the TAC. In 2006 the catches are expected at the same level and the biological sampling for catch composition by length and age will be carried out on board of fishing vessel.

Redfish (NEAFC - V, XII, XIV, NAFO 1F, 2J)

During last three years (2002-2004) Polish average catches of redfish were 1 437 t a year. In 2004 catches reached 2 950 t due to exchanging quota within other EU countries. The TAC

for Poland for 2005 is only 629 t and it corresponds to 4.1% of the Community share of the TAC. It is expected that in 2006 the catches will correspond to more than 5% of Community share and Poland is going to collect biological samples of redfish for catch composition by length and age. The samples will be carried out on board of fishing vessel.

Sampling of species outside Baltic are taken on board of fishing vessels by the Sea Fisheries Institute staff following the standard sampling procedure. Collected data are stored in fish sample electronic files at SFI. Results are reported to the ICES Working Groups.

3.5 I. Other biological sampling

Extended programme

3.5.1. Sampling for sex composition and maturity

The Baltic Sea, ICES AREA III d

Sampling of other biological parameters such as sex and sexual maturity are performed routinely when samples for age are collected from both commercial landings/catches, discards and survey catches. This refers to most of sampled Baltic species i.e. cod, herring, sprat, flounder, and plaice. In addition, sex of sampled salmon and sea trout is routinely recorded. The maturity is determined following the Maier's 8 stage maturity key, next transformed into 5 stages scale agreed within ICES (ICES 2001).

Sampling for salmon maturity will be performed within minimum programme i.e. every three years.

4. MODULE OF EVALUATION OF THE ECONOMIC SITUATION OF THE SECTOR

4.1 J. Collection of economic data by groups of vessels

The national programme covering economic data on the fleet will be based mainly on two sources:

- Sea Fisheries Information System (SFIS) managed by the Fisheries Department (information about vessels, catches, effort, landings and prices).
- E-Database managed by the Sea Fisheries Institute and containing information from questionnaires covering all active vessels.

The questionnaire that was elaborated in 2004 to investigate an economic performance of fishing vessels (see an example of the questionnaire in the Annex V to this document) will be also in use in 2005 (with minor changes). This questionnaire contains all data required in the minimum and partly in the extended programme. All owners of vessels are legally obliged to deliver their economic statement for the 2005 until March 30th 2006.

Minimum programme

The following data will be collected:

Description	Parameter	Source
Income	Total and by species	- Sales notes (SFIS) - Log-books (SFIS) - Fishing vessel economic statement questionnaire (E-Database)
Production costs	Crew Fuel Repair and maintenance Other operational costs	- Fishing vessel economic statement questionnaire (E-Database)
Fixed costs	Average cost	- Fishing vessel economic statement questionnaire (E-Database)
Financial position	Share of own / foreign capital	- Fishing vessel economic statement questionnaire (E-Database)
Investment	Value	- Fishing vessel economic statement questionnaire (E-Database)
Prices/species	Value/quantities	- Log-books (SFIS) - Sales notes (SFIS)
Employment	Number	- Fishing vessel economic statement questionnaire (E-Database)
Fleet	Number GT KW Age Gear used	- Vessel register (SFIS) - Log-books (SFIS)
Effort		- Vessel register (SFIS) - Log-books (SFIS)

The fishing fleet will be divided according to segmentation provided in Appendix III of 1639/2001 regulation, only these groups of fishing vessels which exist in Polish fisheries will be distinguished. Eight segments can be identified in 2003.

Fleet segmentation under MP (2004, active vessels).

Type of fishing technique	<12 m	12-24 m	24-40 m	>40 m	Total
Demersal trawlers	16	147	74	4	241
Pelagic trawlers			77	2	79
Longliners	49	18	1		68
Gill-netters	537	122	20		679
Pot-setters	161				161
Passive polyvalent	8	7			15
Total	771	294	172	6	1243

The final segments for the survey in 2006 will not be decided until log book data for 2005 has been compiled and processed.

It is assumed that for all segments economic data will be collected exhaustively through questionnaires and using SFIS database. If some vessels however fail to submit the data in due time, economic situation of the sector will be estimated on the basis of questionnaires received in the way that precision level will be met.

Data will be stored and primarily processed in SQL E-Database. More sophisticated calculation will be made using Access and Excel software. Sea Fisheries Institute will be responsible for database management and data processing.

Data will be presented as averages per vessel as well as aggregated for each segment. Price information will be aggregated on a quarterly basis.

Extended programme

Additionally to minimum programme the following data will be collected:

Description	Parameter	Source
Landings by species	- Monthly - Stock (by ICES area) - Market category	- sales notes (SFIS) - log-books (SFIS)
Income	- subsidies	- fishing vessel economic statement questionnaire (E-Database)
Prices/species	Value/quantities - monthly - market category	- Log-books (SFIS) - Sales notes (SFIS)
Employment	Skill/education	- fishing vessel economic statement questionnaire (E-Database)

The objective is to differentiate these data regionally according to level 3 (ICES division). These calculations will be based on compiled data in the minimum programme. The above mentioned data will be collected for all segments of the minimum programme. The vessel will be assigned to the specific region on the basis of distribution of fishing days between fishing areas.

More precise segmentation than that considered in minimum programme will be taken into account.

Fleet segmentation under EP (2004, active vessels).

Type of fishing technique	>10m	10-12m	12-18m	18-24m	24-40m	>40	Total
Demersal trawlers	11	5	94	53	74	4	241
Pelagic trawlers					77	2	79
Longliners	28	21	18		1		68
Gill-netters	473	64	108	14	20		679
Pot-setters	160	1					161
Passive polyvalent	8		7				15
Total	680	91	227	67	172	6	1243

4.2 K. Collection of data concerning the processing industry

Minimum programme

The questionnaire that was elaborated in 2004 to investigate an economic performance of fish processing enterprises (Annex VI) will be use after slight adjustments in 2005. This questionnaire contains all data required in the minimum and partly in the extended programme. All fish processing plants regardless of size (number of workers) will be obliged to deliver their economic statement for 2005 until 30th of March 2006.

The study will focus on collecting the following data:

Description	Parameter	Source
Raw material	Total and by species	Economic statement of fish processing plant (E-Database).
Income	Turnover	
Production cost	Labour Energy Raw material Packaging Other running costs	
Financial position	Borrowed/own capital	
Fixed costs	Average costs	
Investment	Book value	
Prices/product	Value/tonne	
Employment	Numbers/FTE	
Capacity utilisation	Estimated % of production capacity usage level	

Data will be stored and processed in database programmes. Sea Fisheries Institute will be responsible for data handling.

Extended programme

In the extended programme data will be additionally differentiate to enable making analyses of sensitivity of the processing sector located in the coastal area with respect to the catches that are subject to TAC. Various conservation measures and other circumstances which may result in shortage in raw material supplies to fish processing plants will be analyzed.

Special emphasis will be given to investigation of the impact of new trade regime (free trade between Poland and other EU countries) and other aspects (i.e. tighter hygienic and veterinary conditions imposed by EU regulation) on social and economic changes in fish processing sector. Impact of available structural aid on economic development of the sector will be estimated.

The analyses of the sector will be carried out at regional level NUTS 3, or even more precisely.

5. DATABASE DEVELOPMENT

Development of the Polish Fisheries Data Base will be continued in 2006.

1. Biological sampling databases (B-Database)

At present Polish biological data are stored in several databases or electronic files - usually data for specific species (i.e. cod, herring, sprat etc.) are stored in a different database. These databases were developed in ACCESS, dBase, BASIC or simply as an Excel or ASCII files. They contain biological data for cod, herring, sprat, flounder, salmon, sea trout and main coastal fish species exploited by the Polish fishing fleet in the southern Baltic Sea. The data for major species exploited by Polish deep sea fishery are also stored in similar databases. In addition, some data are in paper form only. There is a need to develop unified database.

The following data have been electronically recorded in form of databases or files:

- Baltic cod data for period 1990-2004, dBase format.
- Baltic herring data for period 1990-2004, binary format (BASIC files).
- Baltic sprat data for 1998-2004, spreadsheet format (Excel).
- Baltic salmon and trout data computerised since 1998, spreadsheet format (Excel).
- Baltic flatfish data since 1984 in spreadsheet format.
- Atlantic redfish data for 2002-2004, spreadsheet format (Excel).
- Other species (e.g. walleye pollock, Pacific hake, blue whiting) data for selected years are also available in computerised or paper form .

Data from some former years need to be computerised. All data need to be transformed to agreed, unified format.

2. Economic databases (E-Database):

E-database is a MS SQL database managed by the Fisheries Economics Department of the Sea Fisheries Institute, comprising information from economic and fish processing questionnaires gathered under the 2004 pilot project. Information in the E-database will be linked with data that SFIS contains.

3. Catch database (SFIS - Sea Fisheries Information System)

It is centralised database created in 2003 and managed by the Fisheries Department of the Ministry of Agriculture and Rural Development, containing information about fishing vessels (Fishing Vessel Register), fishing quotas allocation, catches, fishing effort, landings and first sales.

4. Actions planned in 2006

- Continuation of data base development
- Converting all old databases to a new common format
- Configuring Web Services to communicate with UE requests
- Definition of standard outputs

5. Some of the Polish data (listed in DCR) have also been stored in the international databases managed within ICES. These are :

- **BALTCOM** - international database from commercial fishery of main Baltic species (exc. salmonids) containing biological parameters of fish (length, weight, age, sex, maturity) from landings and discards. Polish data cover 1997-2001; since 2002 only cod data have been updated every year in this database (at present incorporate also the Tow Database).
- **BITS database** - international database from bottom trawl surveys, Polish data cover 1991-2005 and have been updated regularly.
- **BALTDAT** - international database from acoustic surveys conducted in 1995-2004. Polish data cover whole period. The database contains acoustic measurements and biological data on Baltic herring and sprat
- **FishFrame** - international database from commercial fishery of main Baltic species (exc. salmonids) containing biological parameters of fish (length, weight, age, sex, maturity) from landings and discards. Polish data cover 1997-2001; since 2002 only Polish cod data have been updated every year in this database.

6. Polish biological and economic databases will be fully developed in 2006, however limited list of functions will be ready to use by end of the 2005.

APPENDIXES

Appendix I Conversion factors

Cod	-	gutted with head	1,17
Cod	-	gutted headless	1,71
Salmon	-	gutted with head	1,15
Redfish	-	gutted headless	1,9

Appendix II. Polish discard sampling effort by species and area

Species	Area	Landings in 2002-2004 (tons) Ave	Beforehand estimates		Yearly discard sampling required (Y/N)	Sampling frequency rules ¹⁾			Estimated sampling frequency		
			Discard rates (weight)	Discard rates (numbers)		Number of samples	Number of individuals measured pr.sample	Number of fish aged pr.sample	Minimum No samples	Minimum Number of individuals measured	Minimum Number of fish aged
Cod	III d	15680	>10%	>20%	Y	1/200	50	25	78	3900	1950
Herring	III d	31542	>10%	>20%	Y ²⁾	1/1000	100	100	32	3200	3200

1) As specified in Commission Regulation (EC) No 1639/2001

2) every three years

Appendix III. The Baltic. Polish sampling effort by species based on Polish landings. Minimum Program

Species	Area	Total EU TAC ¹⁾	Polish TAC ¹⁾	Polish TAC in % ¹⁾	PL landings in 2002-2004 (tons) average	PL landings in 2004 (tons)	Sampling required (Y/N)	Sampling frequency rates ²⁾			Planned sampling effort for 2006		
								No samples	Number of fish to be measured per sample	Number of fish to be aged per sample	No. of samples	No. of individuals measured	No. of fish aged
Cod	IIIId	63582	13088	20.6	15680	15120	Y	1/200	50	25	78	3900	1950
Herring	IIIId	178000	33847	19.0	31542	28410	Y	1/1000	100	100	32	3200	3200
Sprat	IIIId	550000	141275	25.7	87333	96658	Y	1/2000	100	50	43	4300	2150
Flounder	IIIId	-	-	-	7378	8264	Y	1/200	50	25	37	1850	925
Turbot	IIIId	-	-	-	331	321	Y	1/100	50	50	3	150	150
Salmon ³⁾	IIIId	477000	28368	5.9	149	82	Y	1/100	50	50	2	100	100
Sea trout	IIIId	-	-	-	780	719	Y	1/100	50	50	8	400	400
Eels	IIIId	-	-	-	80	57	Y	1/100	50	50	2 ⁴⁾	100	100

- 1) TAC for 2005
- 2) As specified in Commission Regulation (EC) No 1639/2001.
- 3) TAC in numbers of fish.
- 4) 1 sample for each of two Polish lagoons

Appendix IV. Polish sampling effort by species and area basing on Polish catches outside Baltic. Minimum Program

Area/Species	Subarea	TAC 2005		% PL/EU	Polish catches 2002-2004 (tonnes) Ave.	Polish catches in 2004 (tonnes)	Estimated sampling 2006		
		EU	Poland*/				No of samples	No. of individuals	
								measured	aged
NEAFC									
Herring	I, II	78541	1362	1.7	472	150			
Mackerel		217477	844	0.4					
Blue whiting					227	345			
Atlantic redfish**/	V, XII, XIV	15513	629	4.1	1437	2950	7	700	350
Cod	I, IIb,IV	17757	1460	8.2	1344	1451	8	800	100
Saithe		78541	1362	1.7	495				
Haddock					124	164			
Baird's slickhead					111	14			
Roundnose grenadier	Vb, VI-X, XII, XIV	12443	1666	13.4	483	34	derrogation		
Blue ling					29	1			
Greenland halibut		1042	10	1.0	109	207			
NAFO									
Atlantic redfish**/	1F, 2J								
Shrimp ***/	3L	13000	144	1.1	184	552			
Squid	3, 4		227						
C.E Atlantic									
Chub mackerel	34.1.3				1986				
Horse mackerel	34.1.3				546	4062			
Round sardinella	34.1.3				1608				
Sardine	34.1.3				4748				
S.W Atlantic									
Squid	41.3.1				918				
S.E. Atlantic									
Chub mackerel	47.1.3; 47.1.4				245				
Horse mackerel	47.1.3; 47.1.4				3905				
Hake	47.1.3; 47.1.4				13				
Antarctic									
Krill	48				11412	8967			
Fishes nei									
Fishes nei					957	75			
Total					31351	18972			

*/ Other species: Shark-10 t; Blue ling - 1; black scabbardfish -1.

**/ included catches in NAFO 1F, 2J

***/ additional 100 fishing days

Appendix V Economic questionnaire of fishing vessel

Ministry of Agriculture and Rural Development, ul. Wspólna 30, 00-930 Warsaw		
Receiver: Sea Fisheries Institute ul. Kollataja 1 81-332 Gdynia	RRW-19 Economic Statement of Fishing Vessels in	Deadline: March 20 th
A. Full Name, address or name and seat of ship owner		C. External number or name of the vessel
B. Identification number In Fishing Vessels Register		D. REGON (tax number)

1. Basic characteristic of vessel

1.1. GT		or GRT	
1.2. Engine power (kW)			
1.3. Length			
1.4. Age (year of construction)			

2. Used fishing gear

No	Name of fishing gear
2.1.	
2.2.	
2.3.	
2.4.	
2.5.	

3. Landings

No	Species	Volume or quantity ¹	Value (in PLN)
3.1.			
3.2.			
3.3.			
3.4.			
3.5.			
3.6.			
3.7.			
3.8.	Total		

¹ for salmon

4. Other income (for example: subventions)

No	Item	Income (in PLN)
4.1.		
4.2.		
4.3.		
4.4.		
4.5.	Total	

5. Costs

No	Type of costs	Costs (in PLN)
5.1.	Fuel and lubricants	
5.2.	Fishing gears	
5.3.	Ice	
5.4.	Boxes	
5.5.	Protective clothing	
5.6.	Other materials	
5.7.	Food for the crew	
5.8.	Gross reimbursement including overheads	
5.9.	Depreciation	
5.10.	Repairs and maintenance	
5.11.	Harbour and unloading fees	
5.12.	Insurance	
5.13.	Other fees (for services, licences, fishing permits)	
5.14.	Other costs	
5.15.	<input type="checkbox"/> Incl.: financial costs	
5.16.	Total	

Appendix V cont.

3. Value of fixed assets

No	Item	Value of fixed assets (in PLN)
6.1.	Gross book value	
6.2.	Depreciation value	
6.3.	Insurance value	
6.4.	Replacement value	
6.5.	Incl.	Hull
6.6.		Engine (motor)
6.7.		Cranes
6.8.		Refrigeration systems

4. Investments expenses

No	Item	Value of investments expenses (in PLN)
7.1.	Total investments expenses	
7.2.	Incl.: used fixed assets purchase	

5. Ownership structure

No	Item	% of participation
8.1.	Domestic capital	
8.2.	Incl.	Single private owner
8.3.		Shared private capital
8.4.		Public sector
8.5.	Foreign capital	
8.6.	Renting, leasing	

6. Average number of employees

No	Item	Full time		Incl. seasonal		Part time		Incl. seasonal			
		M	W	M	W	M	W	M	W		
9.1.	On board	owners									
9.2.		hired employees									
9.3.		others									
9.4.		total									
9.5.	On-land staff										

M – men, W - women

7. Average number of employees by age category

No	Age category	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
10.1.	Men											
10.2.	Women											

8. Average number of employees according to education level

No	Item	Fisheries targeted	Other
11.1.	Higher		
11.2.	Bachelor		
11.3.	Secondary		
11.4.	Vocational school		
11.5.	Grammar school		
11.6.	Primary		

Appendix VI Economic questionnaire of fish processing plant

Ministry of Agriculture and Rural Development, Wspólna 30 st. 00-930 Warsaw		
Receiver: Sea Fisheries Institute ul. Kollataja 1 81-332 Gdynia	RRW-20 Economic statement of fish processing plant in	Deadline: March 20 th
A. Full name, seat and address of the fish processing plant		D. Statute (mark [x] correct form) <input type="checkbox"/> joint-stock company <input type="checkbox"/> civil partnership <input type="checkbox"/> partnership <input type="checkbox"/> limited partnership <input type="checkbox"/> limited (liability) company <input type="checkbox"/> own business <input type="checkbox"/> other
B. REGON	C. Founded in	

1. Raw material supplies

No	Species	Presentation	Domestic		Import		Main country of origin	
			Tons	'000 PLN	Tons	'000 PLN	Tons	'000 PLN
1.1.								
1.2.								
1.3.								
1.4.								
1.5.								
1.6.								
1.7.								
1.8.								
1.9.	Total							

2. Fish processing income

No	Species	Type of product	Tons	Income (in PLN)			
				Total	Export	Main destination country	Value
2.1.							
2.2.							
2.3.							
2.4.							
2.5.							
2.6.							
2.7.							
2.8.							
2.9.	Total						
2.10.							
2.11.							
2.12.							
2.13.							
2.14.							
2.15.							
2.16.	Total						

3. Other income

No	Item	Income ('000 PLN)
3.1.	Product quantity variation	
3.2.	Cost of services for own purpose	
3.3.	Fixed assets selling income	
3.4.	Subsidies and subventions	
3.5.	Other operational income	
3.6.	Financial income	
3.7.	Total	

Appendix VI cont.

4. Fish processing costs

No	Type of costs	Costs (in '000 PLN)
4.1.	Value of sold products and materials	
4.2.	Materials and energy consumption	Energy
4.3.		Raw materials
4.4.		Packaging
4.5.		Protective clothes
4.6.		Other materials
4.7.	Outside services	
4.8.	Taxes and payments	
4.9.	Remuneration	
4.10.	Other employees benefits	
4.11.	Depreciation	
4.12.	Other costs	Insurance
4.13.		Financial costs
4.14.		Other costs
4.15.	Total costs	

5. Fixed assets

No	Item	Value of fixed assets (in '000 PLN)	
		Gross	Net
5.1.	Total		
5.2.	Incl.	Own land	
5.3.		Buildings and structures	
5.4.		Machines and technical equipment	
5.5.		Transport	
5.6.		Other technical equipment	

6. Investment expenditure on fixed assets

No	Item	Total (in '000 PLN)	Financial sources			
			Own capital	Credits and domestic loans	Foreign capital	Other sources
6.1.	Total investment expenditure					
6.2.	Incl.: started investments					

7. Ownership structure

No	Item	% participation
7.1.	Domestic capital	
7.2.	Incl.	Private owner
7.3.		Several owners
7.4.		Public sector
7.5.	Foreign capital	
7.6.	Renting	

8. Estimated capacity production utilisation

No	Item	%
8.1.	Total	
8.2.	Incl.: in fish processing sector	

9. Average number of employees according to education level

No	Item	Full time				Part time			
		Incl. Sesonal		Incl. Sesonal		Incl. Sesonal		Incl. Sesonal	
		M	W	M	W	M	W	M	W
9.1.	Total employment								
9.2.	Incl.: education level	Higher							
9.3.		Bachelor							
9.4.		Secondary							
9.5.		Vocational school							
9.6.		Grammar-school							
9.7.		Primary							

M – men, W – women

10. Average number of employees by age categories

No	Age category	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
10.1.	Men											
10.2.	Women											

REFERENCES

- Anon. 2000. Method handbook for the National Board of Fisheries' Age Analysis Laboratories: the Marine Fisheries Laboratory, Coastal Laboratory, by the Freshwater Fisheries Laboratory; Edition No. 3.
- Efron, B. 1982. The jackknife, the bootstrap and other resampling plans. Society for industrial and applied mathematics, Philadelphia, Pennsylvania. 92p.
- ICES 1997. Report by correspondence of the Baltic Herring Age Reading Study Group. ICES CM 1997/J:5.
- ICES 1999. Report of the Study Group on Baltic Cod Age Reading. ICES CM 1999/H:4
- ICES 2000. Report of the Baltic International Fish Survey Working Group. Manual for the Baltic International Trawl Surveys. ICES CM 2000/H:02.
- ICES 2001. Report of the Baltic International Fish Survey Working Group. The Baltic International Trawl Survey (BITS) Manual. The Baltic International Acoustic Survey (BIAS) Manual. ICES CM 2001/H:02, ref. D.

ANNEX 1 COST CALCULATIONS

Calculations are made in euro based on exchange rate of May 20, 2005.

1 EUR = 4,1615 PLN