

Research plan of the NMFRI for 2017

During the last meeting of the [NMFRI Scientific Council](#) in 2016, as usually in this period, the [NMFRI management](#) presented a draft research plan for 2017. It includes projects initially expected for implementation, financed from grants of the [Ministry of Science and Higher Education \(MSHE\)](#) to maintain the research potential of the institute, and projects funded from other sources, both national and international. The presented research plan will be updated every quarter due to the acquisition of new projects or the need to take new research contracts or advisory services.

The NMFRI performs its research and development activities at five scientific departments, i.e.

- [Department of Fisheries Resources](#)
- [Department of Fisheries Oceanography and Marine Ecology](#)
- [Department of Fisheries Economics](#)
- [Department of Processing Technology and Mechanization](#)
- [Department of Food and Environmental Chemistry](#).

An important support for the scientific departments is provided by the activity of the [Department of Logistics and Monitoring, Plankton Sorting and Identification Center](#) in Szczecin, as well as the [Gdynia Aquarium](#), but their work is focused to a greater extent on the implementation of the [Multiannual Programme for Collection of Fisheries Data](#), service activities, as well as exhibition and education.

The NMFRI research planned for implementation in 2017, regardless of the source of funding, involve one of the six thematic blocks:

1. [Scientific basis for sustainable fisheries management](#)

Research that falls within this range is focused on the assessment of environmental conditions, interspecies relationships and other variables affecting the availability of fish stocks and the catch per unit effort of Polish fisheries. The [TABACOD](#) project is worth mentioning here. The NMFRI experts, in a consortium with other Baltic institutes, tag cod in order to obtain new information about their growth and mortality. This is an answer to the problems of correct age reading of Baltic cod, which prevents an analytical assessment of the state of these stock resources.

Projects important for the Polish fisheries and implemented thanks to the [MSHE](#) grants involve studies on the population dynamics of commercially important fish species of the southern Baltic Sea (sprat, herring, cod, flounder, salmonids) and [Maritime Fishing Industry](#) summarizing the basic technical and economic parameters of the Polish fisheries and fish processing.

Title	Funding source	Duration
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Maritime Fishing Industry	MSHE grant for 2017	2017-cyclical
Population dynamics of commercially important fish species of the southern Baltic Sea	MSHE grant for 2017	2017-cyclical
INSPIRE : INtegrating SPatial pRocesses into Ecosystem models for sustainable utilization of fish resource	NCRD BONUS EEIG	01.01.2014 – 31.08.2017
MARE FRAME : Co-creating ecosystem-based fisheries management solutions	7 Framework Programme (EU)	01.01.2014 – 31.12.2017
TABACOD : Tagging Baltic Cod	BalticSea2020	17.03.2016 – 21.12.2017
Identification of infection sources for Baltic cod with parasites, based on the analysis of parasite fauna of marine invertebrates occurring in food of these fish	NCN-PRELUDIUM	08.07.2016 – 07.07.2018
Influence of environmental conditions on a growth rate of larval cod (<i>Gadus morhua</i>) in the southern Baltic	NCN-OPUS	11.08.2015 – 10.08.2018
Biodiversity and productivity of macrozoobenthos in the zone of transitional and coastal waters	MSHE grant for 2017	2017 (continuation)
Changes at the basis of the food web in the southern Baltic: the development of a database for primary production, phytoplankton and bacterioplankton	MSHE grant for 2017	2017 (continuation)
Mapping of areas significant for the reproduction of commercially important fish in the Oder estuary	MSHE grant for 2017	2017 (new)

2. Quality, safety and the use of sea food

As simply providing raw materials from catches does not constitute the final results for the national economy and consumers, an important thematic block includes research connected with fish processing. In 2017 two significant international projects will be implemented: [ProHealth](#) (processing of pelagic fish), and SeaQual (hazards connected with parasites in raw fish and countermeasures). In addition to these ventures, there are projects funded by the NMFRI statutory activity which focus on various aspects of quality and value of raw materials and fish products.

Title	Funding source	Duration
Quality studies and assessment of use value for herring and sprat caught in the Polish areas of the Baltic Sea	MSHE grant for 2017	2017 (continued)
ProHealth: Innovative processing to preserve positive health effects in pelagic fish products	NCRD JPI HDHL Joint Action Food Processing for Health	10.03.2016 – 31.03.2019
SeaQual: Seafood safety and quality in terms of the zoonotic and toxicological hazard: risk assessment, monitoring and mitigation	NCRD - BIOSTRATEG	17.05.2016 – 28.02.2019
Distribution of inorganic mercury and methylmercury in tissues and organs of marine and freshwater fish	MSHE grant for 2017	2017 (continued)
Species identification of fish and fish products from family Salmonidae	MSHE grant for 2017	2017 (new)
Slicing of individually frozen fish fillets	MSHE grant for 2017	2017 (new)

3. Opportunities and threats of coastal fisheries

This sector of the Polish fisheries, important due to the number of vessels and the cultural significance, has not been previously sufficiently studied. In 2017 the most important project in which the NMFRI provides data on fishing grounds essential for the Polish coastal fisheries, is the draft zoning plan for the Polish Marine Areas which shall secure space for this sector.

Title	Funding source	Duration
Study on mitigation measures to minimise seabird bycatch in gillnet fisheries	BirdLife International	15.12.2015 – 14.04.2017
Preliminary assessment of the feasibility of fish catches with pots and traps in open waters	MSHE grant for 2017	2017 (new)

Draft zoning plan for Polish Marine Areas in the scale of 1: 200 000	Maritime Office in Gdynia (consortium with Maritime Institute in Gdańsk)	22.07.2016 – 22.04.2019
Research on fish migrations based on ARIS multibeam sonar	MSHE grant for 2017	2017 (continued)

4. Blue growth potential in the Baltic region

Blue growth is a long-term strategy to support sustainable growth throughout the maritime sector and coastal regions of the Baltic Sea. The strategy in terms of research and development is realized by searching for and implementing innovative solutions allowing for savings in the use of living resources, while maximizing profits for the society. There are two international projects of particular importance in this thematic block: project [SUCCESS](#) concerning methods of increasing competitiveness among Polish fish farming enterprises and project [InnoAquaTech](#) where NMFRI in cooperation with international partners will test the usefulness of new organisms (including shrimps) with productive potential in the Polish conditions.

Title	Funding source	Duration
Experimental farming of pike in brackish waters	MSHE grant for 2017	2017 (new)
SUCCESS: Strategic Use of Competitiveness towards Consolidating the Economic Sustainability of the european Seafood sector	Horizon 2020	01.04.2015 – 31.03.2018
InnoAquaTech: Cross-border development and transfer of innovative and sustainable aquaculture technologies in the South Baltic area	INTERREG South Baltic	01.07.2016 – 30.06.2019
Commercial use of bivalves in the coastal zone of the Baltic Sea	MSHE grant for 2017	2017 (new)
Optimization of treatment processes for postproduction effluents and use of waste from fish industry plants including best available techniques (BAT)	MSHE grant for 2017	2017 (continued)
BLUEWEBS: Blue growth potential in the context of changes in the food web of the Baltic Sea	BONUS EEIG	01.04.2017 – 30.03.2020

5. Environmental state of the Southern Baltic

Projects grouped in this block are related to environmental conditions indirectly affecting the state of fisheries resources. These include, among others, infusions of saline water from the North Sea or temperature variability which influence the reproductive success of fish, but also the enrichment of marine waters with nutrients from the catchment areas of Polish rivers, as well as little-known marine pollution with microplastics.

Title	Funding source	Duration
Emission of nitrogen and phosphorus to catchment areas of Polish rivers – the Vistula and the Oder	MSHE grant for 2017	2017 (continued)
Microplastics in coastal and transitional waters MICROPOLL: Comprehensive assessment of the occurrence of microplastics and related pollution in the Baltic Sea	BONUS EEIG	01.07.2017 – 30.06.2020
Conducting environmental research in the field of ichthyofauna and fisheries, with the preparation of elements of the environmental impact assessment Report and support for obtaining the Decision on the environmental conditions for the venture including the construction of a wind farm with offshore and inshore connection infrastructure in the Baltic Sea	MEWO S.A. Joint contractor with Maritime Institute in Gdańsk	08.04.2016 – 29.06.2018
Health condition and deformation of the southern Baltic fish	MSHE grant for 2017	2017 (continued)
Recruitment of selected fish species vs hydrological conditions and the composition and availability of food base	MSHE grant for 2017	2017 (continued)
Use of imposex index for the assessment of the PMA coastal zone pollution with tributyltin compounds	MSHE grant for 2017	2017 (new)
Impact assessment of selected environmental stressors on marine organisms	MSHE grant for 2017	2017 (new)

Birds as an element of the POPs transfer in the environment	MSHE grant for 2017	2017 (new)
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6. Biodiversity in marine ecosystems

The last thematic block includes projects aimed at understanding of the structure, relations and functioning of selected elements of marine and estuarine ecosystems. Although the majority of them are the so called basic research, they provide a base of knowledge on the environment for any kind of maritime activities.

Title	Funding source	Duration
BIO-C3: Biodiversity changes - causes, consequences and management implications	NCRD BONUS EEIG	01.03.2014 – 31.08.2017
Ecology of <i>Rangia cuneata</i> in the functioning of the Vistula Lagoon ecosystem	MSHE grant for 2017	2017 (continued)
Ecology of early life-history stages of fish	MSHE grant for 2017	2017 (continued)
Profiles of fatty acids as ecological markers in the coastal ecosystems	MSHE grant for 2017	2017 (new)
Dependence of bacteria on salinity and other environmental factors in the Vistula Lagoon waters	MSHE grant for 2017	2017 (continued)
Studies on the effectiveness of non-standard methods of ichthyoplankton sampling in the inner part of the Puck Bay	MSHE grant for 2017	2017 (new)
Bycaught marine birds and mammals as a source of material for biological and ecological studies	MSHE grant for 2017	2017 (continued)
GLAERE : Glaciers as Arctic Ecosystem Refugia	Polish-Norwegian Research Programme	01.03.2014 – 31.01.2017

The adopted research plan corresponds to the statutory tasks and is consistent with the mission of the National Marine Fisheries Research Institute, i.e. providing independent, objective and up-to-date knowledge based on scientific activity as well as research and development works, which support economically sustainable and environmentally sound development of marine fisheries. More information about the planned and ongoing projects can be found at the NMFRI [home page](#).

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