



## European Economic Area environmental grants in the period 2009-2014

Through the EEA Grants, Iceland, Liechtenstein and Norway contribute to reducing social and economic disparities and to strengthening bilateral relations with the beneficiary countries in Europe. The three countries cooperate closely with the EU through the Agreement on the European Economic Area (EEA).

In the 2009-2014 financing period, EEA grants to Estonia amounted to 21.275 million euros, of which 6.9 million euros were aimed at the environmental programme "Integrated Marine and Inland Water Management". The programme was implemented in cooperation with the Norwegian Environment Agency.

The objective of the environmental programme was to support the achievement of the good status of the Estonian marine and inland water quality and to prepare for adapting to the impact of climate change. The activities were implemented on the basis of predefined projects as well as those based on an open call for proposals. In total, 13 projects were implemented. The projects were divided into three fields:

- Established environmental targets and management plans for marine and inland waters
- Improved environmental information on impact, status and trends
- Developed strategies and measures for adapting to a changing climate

The budget of the programme was 7.6 million euros of which the EEA grant amounted to 6.9 million euros while the co-financing of the Republic of Estonia amounted to 715,053 euros. The co-financing by the project beneficiaries was up to 15% of the project budget.



# Established environmental targets and management plans for marine and inland waters

- ▶ Inventory and development of monitoring programme for nature values in Estonian marine areas
- ▶ Development of relevant criteria and monitoring methodology of favourable conservation status of the coastal (beaches, dunes) habitats in Estonia
- ▶ Assessment for ecosystem based management of marine environment on the basis of sea bottom and sediments of the Gulf of Finland
- ▶ Developing the programme of measures for the Estonian marine area in compliance with the requirements of the EU Marine Strategy Framework Directive, including feasibility study on using liquefied natural gas (LNG) as an alternative ship fuel to reduce pollution



## 1. Inventory and development of monitoring programme for nature values in Estonian marine areas

### Objective

Filling in gaps in existing knowledge and understanding the distribution of marine habitats and endangered species.

### Activities

Elaborating the favourable status criteria of the marine habitat types of the Habitats Directive and specifying their spread in Estonia's territorial waters and exclusive economic zone.

### Results

- The criteria and reference values of favourable statuses were defined, and monitoring and assessment methodology were elaborated and tested for marine habitat types with respect to the EU Habitats Directive. Additionally, a stock survey was conducted for marine habitat types in selected areas in Estonia's exclusive economic zone and in Natura 2000 sites so far not covered by habitat inventories in territorial waters.
- The bird census methodology for waterfowl was developed and improved, with consideration for transect censuses on open seas. A waterfowl census on open seas was conducted for the first time in Estonia's exclusive economic zone, west of Vilsandi. Furthermore, the methodology for monitoring waterbirds in the exclusive economic zone was prepared and a plan for monitoring the entire zone was elaborated.
- Monitoring methodology for the ringed seal was tested and a new census method for the warm climate scenario was elaborated.

**BUDGET:** €515,980 (EEA grant 77%; Republic of Estonia grant 8%)

**IMPLEMENTED BY:** Estonian Marine Institute, University of Tartu

**PARTNERS:** Estonia: Institute of Agricultural and Environmental Sciences of the Estonian University of Life Sciences, NGO Pro Mare, Baltic Environmental Forum; Norway: GRID-Arendal (Norway)

For more details please refer to: [nema.bef.ee](http://nema.bef.ee)

## 2. Development of relevant criteria and monitoring methodology of favourable conservation status of the coastal (beaches, dunes) habitats in Estonia

### Objective

Improving the spatial database concerning land-based habitat types affected by maritime conditions of the EU Habitats Directive, assessing the condition of the habitats and raising general environmental awareness.

### Activities

Criteria for assessing the favourable status of coastal habitats were elaborated along with monitoring methodology for the same habitats, and a reference observation was conducted. Additionally, the spatial database of habitats was updated and training events were organised.

### Results

The data on the distribution and current state of coastal habitats was updated and a long-term cost-effective methodology for assessing the conservation status of coastal habitats was drawn up. The methodology takes into account the landscapes as dynamic systems. The test observation results indicated that these habitats are generally in a favourable status.

**BUDGET:** €168,374 (EEA grant 77%; Republic of Estonia grant 8%)

**IMPLEMENTED BY:** Institute of Ecology of Tallinn University

For more details please refer to: [elupaigad-natura2000.rhcloud.com](http://elupaigad-natura2000.rhcloud.com)

### **3. Assessment for ecosystem based management of marine environment on the basis of sea bottom and sediments of the Gulf of Finland**

#### **Objective**

Determining the condition of the upper layer of bottom sediment as a living environment based on various chemical and physical indicators. The prepared data layers shall increase the awareness of decision-makers, allowing for integrated management of the seabed of the Gulf of Finland. Possible measures were also suggested for the action plan with respect to the EU Marine Strategy Framework Directive.

#### **Activities**

Based on previously gathered data as well as data drawn up during the project, digital seabed map layers were prepared along with explanatory reports for the following geological thematic maps:

- seabed geological map;
- Quaternary sediment map;
- geomorphological map;
- map of earth deposits (including a map of the spread of Fe-Mn module fields);
- lithographic map of seabed sediment and geochemical maps.

#### **Results**

Proposals were drawn up for monitoring the seabed and elaborating protective measures in the action plan.

**BUDGET:** €488,600 (EEA grant 77%; Republic of Estonia grant 8%)

**IMPLEMENTED BY:** Geological Survey of Estonia

**PARTNERS:** Department of Geology of Tallinn University of Technology, Department of Marine Systems of Tallinn University of Technology, Geological Survey of Norway

For more details please refer to: [sedgof.egk.ee](http://sedgof.egk.ee)

### **4. Developing the programme of measures for the Estonian marine area in compliance with the requirements of the EU Marine Strategy Framework Directive, including feasibility study on using LNG as an alternative ship fuel to reduce pollution**

#### **Objective**

Developing a marine strategy for the Estonian marine area in accordance with the requirements of EU Marine Strategy Framework Directive, consisting of regionally coordinated cost-effective monitoring programme and programme of measures for managing pressures in marine environment.

#### **Activities**

In addition to developing the marine strategy for the Estonian marine area, the project carried out a technical and economic feasibility study for using LNG as a ship fuel and assessment of the impact of the use of LNG on the environment.

#### **Results**

The prepared marine strategy shall help to improve the policy management systems for marine and inland water bodies.

**BUDGET:** €547,507 (EEA grant 90.6%; Republic of Estonia grant 9.4%)

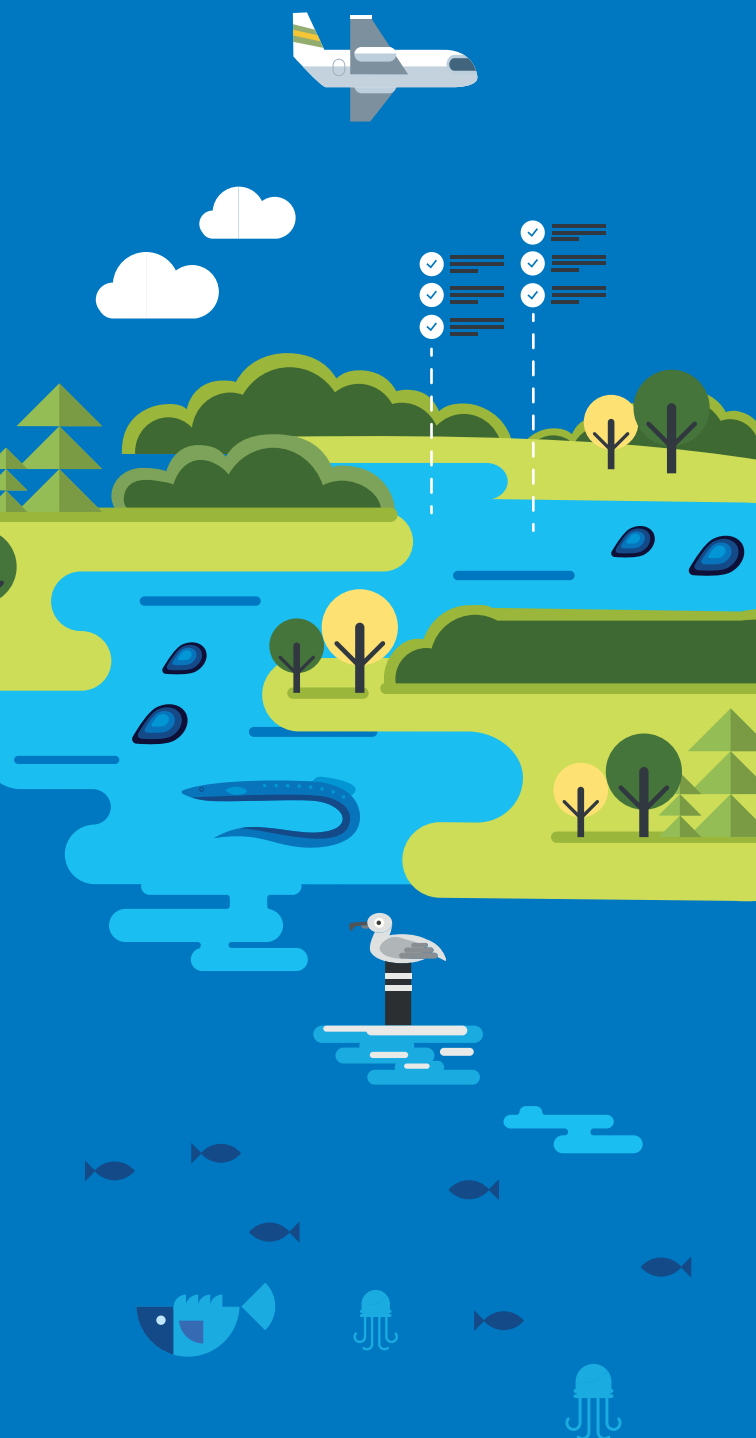
**IMPLEMENTED BY:** Estonian Environmental Research Centre

**PARTNERS:** Republic of Estonia Environment Agency, Republic of Estonia Environmental Board, Norwegian Institute of Marine Research, Norwegian Institute for Air Research

For more details please refer to: [klab.ee/merestrategia/en](http://klab.ee/merestrategia/en)

# Improved environmental information on impact, status and trends

- ▶ Development of methods for assessment and mapping of ecosystem services of marine and inland waters
- ▶ Implementation of the INSPIRE Directive
- ▶ Restoration of habitats of freshwater pearl mussels
- ▶ Restoring of estuarine and habitats in Løve river
- ▶ Development of the data-modelling system and the decision support tool for the integrated marine and inland water management



## 1. Development of methods for mapping and assessing ecosystem services of marine and inland waters

### Objective

Elaborating methodologies for assessing the ecosystem services (ESS) for rivers, lakes and the coastal sea.

### Activities

The matrices for potential supply of ESS for rivers, lakes and the coastal sea in various conditions were elaborated and an index for ecosystem services was elaborated which will provide data on the mutual relationships between the size, ecological nature and provision of services with respect to a water body.

### Results

Should the need arise to conduct a more detailed assessment of the ESS for rivers, lakes and the coastal sea, it is possible to use the lists of indicators of ecosystem services elaborated within the framework of the project for preparing the required database.

**BUDGET:** €376,281 (EEA grant 81.5%; Republic of Estonia grant 8.5%)

**IMPLEMENTED BY:** Peipsi Centre for Transboundary Cooperation

**PARTNERS:** Institute of Agricultural and Environmental Sciences of the Estonian University of Life Sciences, Estonian Marine Institute, University of Tartu, Institute of Ecology of Tallinn University, Stockholm Environment Institute, Tallinn Centre, Republic of Estonia Environment Agency, Norwegian Institute for Nature Research

For more details please refer to:

[ctc.ee/labiviidud-projektid/ecosystem-services](http://ctc.ee/labiviidud-projektid/ecosystem-services)

## 2. Implementation of the INSPIRE Directive

### Objective

Updating spatial data with the aim to fulfill INSPIRE Directive requirements, create and make accessible the services suitable for publication through the Estonian National Geoportal prepared on the initiative of the Republic of Estonia Land Board.

### Activities

During the project, the spatial data (location data) were processed to ensure conformity to the requirements of the European Union INSPIRE Directive and compatibility with the Pan-European spatial data infrastructure. This in turn allows data to be shared between various users and applications and ensuring commitment to international obligations.

### Results

In addition to data relating to land cover, the data of numerous other INSPIRE themes along with the services required to use them were brought into conformity with Pan-European requirements. For example, it is possible to view and download address and place name data as well as data concerning the mineral resources, geology, administrative units and other INSPIRE topics via the Estonian National Geoportal map application.

**BUDGET:** 1.47 million euros (EEA grant 91.6%;

Republic of Estonia grant 9.4%)

**IMPLEMENTED BY:** Estonian Land Board

**PARTNER:** Statens Kartverk/Norwegian Mapping Agency (Norway)

For more details please refer to: [inspire.maaamet.ee](http://inspire.maaamet.ee)

### 3. Restoration of habitats of freshwater pearl mussels

#### Objective

In order to protect the freshwater pearl mussel – one of the most endangered animal species in Estonia, identify what prevents the reproduction of the species and mitigate the risks to its habitat.

#### Activities

Within the framework of the project, the abundance and condition of the rare species were determined and activities were defined with the aim of protecting the species.

#### Results

The favourable condition of the habitat was improved by reducing the sediment load, hunting beavers, increasing the permeability of the river for host fish and restoring the natural character of the river section. It was also revealed during the project that the mussels release glochidia and host fish infection rates are high. New knowledge was also gained on mussel cultivation and new activities were planned out for the future.

**BUDGET:** €227,116 (EEA grant 77%; Republic of Estonia grant 8%)

**IMPLEMENTED BY:** Environmental Board

**PARTNER:** Norwegian Institute for Nature Research



Photo: Kaido Haagen

For more details please refer to:

[keskkonnaamet.ee/organistatsioon/rahvusvahelised-projektid/parljogi](https://keskkonnaamet.ee/organistatsioon/rahvusvahelised-projektid/parljogi)

### 4. Restoring of estuarine and habitats in Lõve river

#### Objective

Providing a migration opportunity for the river lamprey, which is under protection in the European Union, and for freshwater fish with a migratory lifestyle, to the spawning grounds situated in the Lõve and Silmajõe rivers.

#### Activities

The estuaries of the Lõve and Silmajõe rivers were cleaned of sediment, the riverbed of the Silmajõe River was restored according to its natural character in its downstream section, migration opportunities for fish were restored via Oessaare Bay, the ends of the ditches running into the Lõve River were cleaned and gravel areas were created for the Enima and Mõrrasilms brooks.

#### Results

The ecological conditions of the Lõve and Silmajõe rivers and Oessaare and Laidevahe bays improved, the migration opportunities for fish improved and the potential for the area as a habitat for fish fauna improved.

**BUDGET:** €237,045 (EEA grant 81.5%; Republic of Estonia grant 8.5%)

**IMPLEMENTED BY:** NPO Laidevahe Loodus

**PARTNER:** NPO Jätkusuutlik Saaremaa

## 5. Development of the data-modelling system and the decision support tool for integrated marine and inland water management

### Objective

The principles of planning and organising water use and protection are provided in the Water Act, which is based on the EU Water Framework Directive and the Marine Strategy Framework Directive, and aims to ensure sustainable development and as natural a status of water as possible and to keep the quality, quantity and regime of surface water and groundwater as undisturbed by human activity as possible. In order to organise systematic water protection, constant data is required concerning the condition of the water body, the pressure imposed on the aquatic environment by various sources and the impact of the measures implemented.

### Activities

The databases characterising the condition of the aquatic environment were updated within the framework of the project, the existing databases were interfaced with the newly created information system and a dynamic hydrological and transport model (HYPE) was added to the existing modelling system

### Results

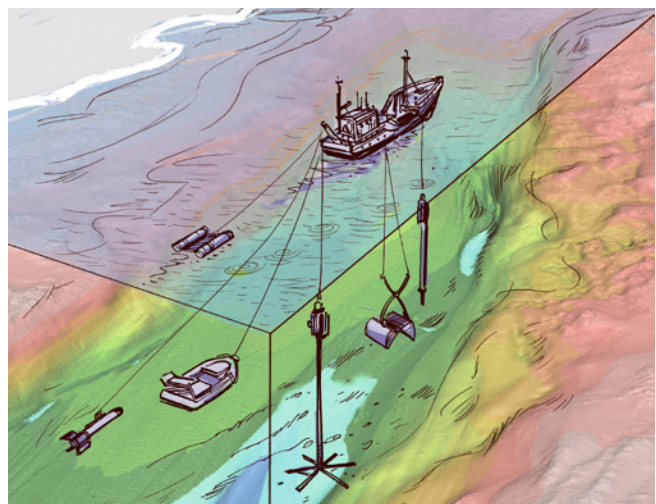
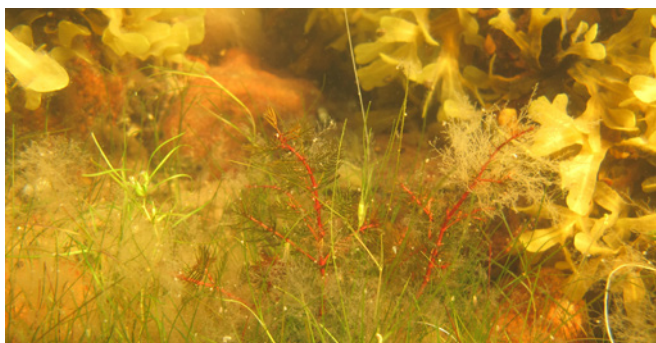
An operational system of models was created that improves the availability of data related to the condition of, pressure imposed by various sources on, and impact of measures with respect to marine and inland surface water, and allows decisions to be made based on the aforesaid data.

**BUDGET:** €2,340,660 (EEA grant 90.6%; Republic of Estonia grant 9.4%)

**IMPLEMENTED BY:** Estonian Environmental Research Centre

**PARTNERS:** Republic of Estonia Environment Agency, Republic of Estonia Environmental Board, Information Technology Centre of the Ministry of the Environment, The Norwegian Institute of Bioeconomy Research (NIBIO).

For more details please refer to: [klab.ee/veemudelid/](http://klab.ee/veemudelid/)





# Developed strategies and measures for adapting to a changing climate

- ▶ Process of preparation of the development plan and implementation plan coordinated by the Estonian Environmental Research Centre

Baseline studies for the elaboration of the assessment of the impact of climate change and suitable adaptation measures were conducted within the framework of three different projects and one procurement in the following fields:

- ▶ Planning, land use, human health and rescue capability (KATI)
- ▶ Natural environments and the bio-economy (BioClim)
- ▶ Infrastructure, buildings, energy and energy supply (ENFRA)
- ▶ Economy and society (RAKE)



In the framework of the project “The Elaboration of Estonia’s Draft National Climate Change Adaptation Strategy and Action Plan”, implemented by the Estonian Environmental Research Centre, a development plan and draft implementation plan was created. On the basis of that, the Ministry of the Environment made a proposal to the Government in Autumn 2016 to adopt the Estonian Development Plan for Climate Change Adaptation.

The development plan was prepared by the Estonian Environmental Research Centre in cooperation with the Ministry of the Environment and other respective ministries, Republic of Estonia Environment Agency, University of Tartu, Estonian University of Life Sciences, Stockholm Environment Institute, Tallinn Centre, and the Norwegian Directorate for Civil Protection. It is to be implemented in cooperation with other relevant ministries and authorities.

The estimated cost of the implementation of the development plan for climate change adaptation 2017-2030 is 43.8 million euros and the sources of financing for the activities are the state budget (mainly the budget of the Ministry of the Environment), the environmental programme of the Environmental Investment Centre and external sources (EU structural aid and grants of the EEA). The Ministry of the Environment will organise the annual reporting for the implementation of the development plan and coordinate the respective exchange of information between ministries.

## Objective

The working groups of the University of Tartu, Estonian University of Life Sciences and Stockholm Environment Institute, Tallinn Centre described the most important issues pertaining to the field of climate change adaptation and analysed the impact of climate change and potential adaptation measures in eight fields in the short term (up to 2030) and the long term (up to 2050 and 2100) based on Estonia's future climate scenarios (up to 2100) prepared by the Republic of Estonia Environment Agency.

## Results

A framework and an implementation plan were prepared with the aim of achieving the preparedness and capability of the Republic of Estonia to cope with the impact of climate change. Strategic environmental impact assessment of the development plan was conducted in parallel, as a result of which no negative impact was identified in any of the fields of the development plan.

**BUDGET:** €426,804 (EEA grant 90.6%; Republic of Estonia grant 9.4%)

**IMPLEMENTED BY:** Estonian Environmental Research Centre

**PARTNERS:** Republic of Estonia Environment Agency, Norwegian Directorate for Civil Protection

For more details please refer to: [klab.ee/kohanemine](http://klab.ee/kohanemine) and [envir.ee/en/climate](http://envir.ee/en/climate)

Baseline studies were implemented within the framework of three projects and one procurement:

### 1. Assessment of climate change impacts elaboration of adaptations measures: planning, land use, health and rescue management (KATI)

**BUDGET:** €253,015 (EEA grant 77%; Republic of Estonia grant 8%)

**IMPLEMENTED BY:** University of Tartu

**PARTNERS:** Estonian Academy of Security Sciences, Estonian University of Life Sciences, Norwegian Institute for Urban and Regional Research

For more details please refer to: [geograafia.ut.ee/et/teadus/kati-kliimakohanemine](http://geograafia.ut.ee/et/teadus/kati-kliimakohanemine) and [envir.ee/en/climate](http://envir.ee/en/climate)

### 2. Climate change adaptation strategy and measures for thematic fields of natural environment and bioeconomy: BIOCLIM

**BUDGET:** €358,285 (EEA grant 77%; Republic of Estonia grant 8%)

**IMPLEMENTED BY:** Estonian University of Life Sciences

**PARTNERS:** University of Tartu, Stockholm Environment Institute, Tallinn Centre, Estonian Fund for Nature, Agricultural University of Iceland

For more details please refer to: [pk.emu.ee/struktuur/maastikukorralduse-ja-loodushoiu-osakond/projektid/bioclim/projekt/](http://pk.emu.ee/struktuur/maastikukorralduse-ja-loodushoiu-osakond/projektid/bioclim/projekt/) and [envir.ee/en/climate](http://envir.ee/en/climate)

### 3. Estonian Climate Adaptation Strategy for Infrastructure and Energy (ENFRA)

**BUDGET:** €300,725 (EEA grant 80.8%; Republic of Estonia grant 8.4%)

**IMPLEMENTED BY:** Stockholm Environment Institute, Tallinn Centre

**PARTNERS:** Estonian University of Life Sciences, Baltic Environment Forum, Fridtjof Nansen Institute (Norway)

For more details please refer to: [kliima.seit.ee/](http://kliima.seit.ee/) and [envir.ee/en/climate](http://envir.ee/en/climate)

### 4. (Procurement) Climate change impact assessment and elaboration of suitable adaptation measures in the fields of the economy and society (RAKE)

**BUDGET:** €152,455 (procurement; the amount is also reflected in the budget of the project implemented by the Estonian Environmental Research Centre)

**IMPLEMENTED BY:** Centre for Applied Social Sciences of the University of Tartu

**PARTNERS:** Umeå University (Sweden), University of Washington (USA)

For more details please refer to: [skytte.ut.ee/rake/teostatud-projektid-0#uuringud](http://skytte.ut.ee/rake/teostatud-projektid-0#uuringud) and [envir.ee/en/climate](http://envir.ee/en/climate)