



Annex 1  
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# SUSTAINABLE DEVELOPMENT PROGRAMME FOR WEST ESTONIAN ARCHIPELAGO BIOSPHERE PROGRAMME AREA 2014–2020



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## DEFINITIONS

**Sustainable development**—coherent and co-ordinated development of the social, economic and environmental domain, which guarantees people a higher quality of life as well as a safe and clean living environment today and in the future. The main concept of such development—economic growth and increase in the well-being of people cannot take place at the expense of future generations or the environment—was first formulated in 1987 in an activity report “Our Common Future” prepared by a commission chaired by Gro Harlem Brundtland.

**Programme “Man and Biosphere” (MAB)**—UNESCO’s long-term intergovernmental programme launched in 1971. MAB aims to establish the bases for a balanced relationship between man and the environment based on natural and social sciences. Today, MAB is mostly focused on the world network of biosphere reserves.

**Biosphere Programme Area (BPA)**—area of terrestrial and marine or coastal ecosystems or of their combination, which is internationally recognised by UNESCO’s MAB Programme. The areas are designated by national governments. Every area must meet the minimum criteria and satisfy certain conditions to justify being included in the world network of biosphere reserves. Each area has three functions: conservation of natural diversity, socio-economic development and logistical support (scientific research, education and information activities). On the basis of the Sustainable Development Act, the term *biosphere reserve* has been replaced with *biosphere programme area* in Estonia, which expresses a change in how they are regarded—next to nature conservation, the promotion of sustainable use of the natural environment and natural resources is emphasised more than previously.

**Zonation of Biosphere Programme Area**—each biosphere programme area must include three zones: core area, where only such use of the natural environment and natural resources which has a low and non-destructive impact is allowed (surveys, educational activities); buffer zone, where ecologically sound activities with limited human impact are allowed; transition zone, where diverse use of the natural environment and natural resources takes place. Zonation may be based on a national conservation arrangement or it may be established separately.

**Seville Strategy**— strategy for biosphere programme areas approved by the General Conference of UNESCO in 1995. The essence of the strategy is to explain biosphere programme areas as areas of sustainable development. It was decided that besides scientific research, a decisive characteristic of a biosphere programme area is the existence of a local and migratory population and economic activities.

**Madrid Action Plan**—adopted by the 3<sup>rd</sup> World Congress of Biosphere Reserves in 2008. The Action Plan determines the actions of MAB and the biosphere reserves for 2008–2013. The idea of the Action Plan is to specify and unify the concept of biosphere reserves as internationally recognised model areas of sustainable development, and to formulate their priority activities. By 2013, all so-called pre-Seville biosphere reserves should be expanded to involve local inhabitants in their activities.

**Green economy**—according to the United Nations Environment Programme (UNEP), a green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. It is a resource-wise efficient and socially involving economy with low CO<sub>2</sub> emissions. The key economic sectors in the transfer to green economy are the following: agriculture, construction, energy, fishery, forestry, industry, tourism, transport, waste handling and water economy. The green economy concept arises from the realisation that it is not possible to achieve sustainable development without reorganising the economy. The green economy concept has been integrated into the European Union strategies, including Europe 2020.

## INTRODUCTION

The programme Man and Biosphere (MAB) was launched by UNESCO in 1971 as a long-term intergovernmental co-operation programme. With its research, monitoring and training activities and pilot projects, the programme has been aimed from the beginning at achieving and maintaining a balance between nature conservation and the development of human society. Biosphere reserves where it would be possible to test the application of sustainable development principles and to learn from such experiences have been designated within the MAB Programme as of 1976.

Over time, the strategic concept of biosphere reserves has been adapted to the changed global context and the need for such reserves. The Conference on Environment and Development in Rio de Janeiro (1992) adopted the Convention on Biological Diversity. The Convention has three general objectives:

1. Protection of biological diversity;
2. Sustainable use of its elements;
3. Fair and impartial division of profit gained from the use of genetic resources.

As of the conference in Rio de Janeiro, the sustainable development principles have spread widely across society, and they are also applied to various reserves. The General Conference of UNESCO in 1995 approved the Seville Strategy for Biosphere Reserves, which sets out a mission towards the sustainable development, for society as a whole, of biosphere reserves. The 3<sup>rd</sup> World Congress of Biosphere Reserves (2008) adopted the Madrid Action Plan, which specifies the Seville Strategy and emphasises the role of such reserves as learning sites for sustainable development.

In Estonia, the West Estonian Archipelago Biosphere Reserve, which is used to implement the MAB Programme, was established by a regulation of the Government of the Estonian SSR in 1989 and in 1990 UNESCO recognised it as a MAB Programme Area (Annex 3). The Biosphere Reserve Statutes of 1994 provided its main function as follows: “Conservation of ecosystems by applying sustainable and conservative use of the natural environment and natural resources and by relying on scientific research and innovation in the field of nature conservation, environmental monitoring, regional planning and training”.

The MAB Programme was funded from the state budget and carried out through the programme leader and three regional centres (Saaremaa, Hiiumaa and Läänemaa).

In 2002 the MAB activities through state authorities were terminated and a Foundation Biosphere Programme was established under private law to continue the functions of the Programme.

In 2009 the Environmental Board was founded, and a position within its staff is reserved for a biosphere programme area adviser. § 5 (1) of the Statutes of the Environmental Board provides: “The area of activity of the Board comprises the implementation of state policies, programmes and action plans for environmental protection, nature conservation, use of the natural environment and natural resources as well as radiation safety”.

The Environmental Board wished to restore the implementation of the MAB Programme in the West Estonian Archipelago and therefore, in compliance with the Nature Conservation Development Plan up to 2020, it prepared this Programme for 2014–2020. The legal basis for the Programme lies in § 13 of the Sustainable Development Act, which provides for the status of biosphere programme area: “(1) A biosphere programme area is an area included in the UNESCO MAB (Man and Biosphere) Programme in order to organise education, monitoring and research activities and to integrate the protection and the sustainable use of natural resources. (2) In a biosphere programme area, the grounds for a balanced relationship between people and their living environment are developed and local development is directed through planning and development activities according to the objectives of the UNESCO MAB Programme.”

The following developments were taken into account in the preparation of the Programme:

- As a Member State of the European Union and a party to several international environmental agreements, Estonia has developed a wide network of protected areas which preserves the biodiversity of the biosphere. In the long run, the network of protected areas will become a green infrastructure.
- The environmental subsidies granted within the European Union Agricultural Policy and Cohesion Policy allow the reduction of environmental pollution, promote renewable energy and keep part of semi-natural communities running.
- Since the condition of the Baltic Sea continues to deteriorate and fish resources continue to decrease, a need for a more sustainable sea and use of its resources has emerged.
- Globally, the promotion of a green economy is seen as an ecological must and also as one of the main possibilities for economic development.

In light of the new situation in Estonia, the emphasis of the MAB Programme must be shifted in accordance with the Seville Strategy to pay, next to nature conservation, significantly more attention than before to the establishment of a sustainable economy which corresponds to our natural and social conditions. For the above reasons, the name “West Estonian Archipelago Biosphere Programme Area” (BPA) is used officially from here on.

We primarily need the BPA as a pilot area for the green economy. In the West Estonian Archipelago conditions it is reasonable for the BPA activities to focus on the development of economically vital green economy models which use the local biological resources based on local natural and semi-natural (heritage) communities on land and in coastal waters as well as on the local positive cultural heritage of the use of the natural environment and natural resources and considering the fact that due to insularity, the tolerance of the region must be taken into account more than in other regions of Estonia. The success of such activities must be supported by applied research and development work, environmental education and the involvement of society.

This Programme was commissioned by the Environmental Board with the co-funding of the Environmental Investment Centre and it was prepared by the following employees of NGO Jätkeusuutlik Saaremaa: Aado Keskaik, Kristo Kiiker and Marii Aksiim. The preparation of the Programme was supported by a working group convened by the Director General of the Environmental Board. In Vormsi, Saaremaa and Hiiumaa, public working and involvement meetings were held where every person had the chance to present their opinions and proposals. The authors of the Programme thank all the people who participated in the public events and gave their contribution: Hanno Zingel (Ministry of the Environment), Taimo Aasma (Ministry of the Environment), Tiit Sillaots (Ministry of the Environment), Andres Onemar (Environmental Board), Leelo Kukk (Environmental Board), Kaja Lotman (Environmental Board), Arvo Kullapere (Environmental Board), Elle Puurmann (Environmental Board), Kerli Gutman (Estonian National Commission for UNESCO), Jaanus Valk (Hiiumaa Local Governments Association), Raimu Aardam (Saaremaa Local Governments Association), Leo Filippov (Saare County Government), Maret Pank (Kuressaare College of Tallinn University of Technology), Toomas Kokovikin (MTÜ Arhipelaag), Matti Lüsi (SA Tuuru) and Ants Varblane (Estonian Forest Society).

## **1. GENERAL CHARACTERISATION OF AREA**

### **1.1 NATURE**

The BPA includes the majority of all the Estonian islands, including our largest islands Saaremaa, Hiiumaa, Muhu and Vormsi. Among administrative units it includes Saare and Hiiu Counties in their entirety, Vormsi Rural Municipality within Lääne County and the surrounding water areas in the Baltic Sea, the Väinameri and the Gulf of Riga. The total area of the BPA is 15,601 km<sup>2</sup>, including land of 4,038 km<sup>2</sup>. So the BPA covers nearly one-tenth of the entire terrestrial territory of Estonia (map in Annex 1).

World biosphere programme areas have been selected based on their biogeographical representation as well as their nature conservation value. As pioneer areas for the development of sustainable use of the natural environment and natural resources, such areas are generally inhabited and in economic use. The West Estonian archipelago meets the requirements. Upon its establishment (in 1990), the nature conservation function of the then biosphere reserve was set as follows: “To preserve the typical and unique rich ecosystems of the islands of the boreo-nemoral province (coniferous and broad-leaved forests zone) of the palearctic biogeographic region as an open system”.

The distinctive feature of the communities of Estonian islands compared to the rest of Europe and the world is related to their location on calcareous rocks, their young age and formation in the conditions of constant moderate human impact.

The relief of the archipelago has formed on Ordovician and Silurian limestone as a result of ice age and post-glacial geomorphological processes. The current landscape has formed on islands that emerged from the sea after the ice age during the conditions of a rising earth and increase of the land. The soil and the communities in the oldest terrestrial parts of the islands are around ten thousand years old, although they are mostly much younger. As a result of natural succession, the habitats in the West Estonian archipelago would be spruce forests, mixed pine and deciduous forests, juniper forests, coastal meadows, bogs and moors. As a result of agricultural and forestry use of the land over the last millenniums, vegetation formed in the West Estonian islands, but relatively few purely natural forms have been preserved. Next to arable land, large areas of land were in economic use as natural hayfields and pastures, where semi-natural communities—alvars (alvar grassland), coastal meadows, wooded meadows, wooded pastures, etc.—formed.

The land use today is extensive. The intended purpose of 94% of 354,141 ha of land in the BPA territory entered in the cadastre is profit yielding land (2011)<sup>1</sup>. The vegetation is dominated by forests (52%)<sup>2</sup>. 71,598 ha are recorded as agricultural land, 33% of which is arable land and 66% permanent grassland (2010).

From the preservation of the natural resources of the West Estonian islands perspective, semi-natural communities, which form nearly 8% of the territory of the islands, are of special importance<sup>3</sup>. Semi-natural communities are communities with natural biota, which have continuously been mowed or used as pastures. Their appearance and resources have formed and been preserved thanks to the consideration of the natural environment during the course of their long-term sustainable management. The maintenance of semi-natural areas includes centuries worth of work traditions applied by Estonians, which are closely intertwined with our national culture. Therefore, such areas are also called heritage cultural landscapes and semi-natural communities are called heritage communities. The most valuable semi-natural communities (Natura habitat types) on the land of the West Estonian islands are coastal meadows, swathes and wooded meadows. One-third of semi-natural communities are made up of coastal meadows. Coastal meadows used as pastures are important rest and feeding stops as well as habitats for migratory birds. Wooded meadows and alvars are extremely species rich. Semi-natural communities, which are millenniums old, are habitats for many plant and animal species that have become rare nowadays. The semi-natural communities of the Estonian islands form part of the European ecological infrastructure. The manner of management that created and preserved them is a valuable cultural heritage which provides a model of sustainable use of the natural environment and natural resources corresponding to local natural conditions. Unfortunately, in today's society it is no longer economically efficient, for which reason the fate of heritage communities has become dependent on state support measures. According to 2011 data, nearly one-third of semi-natural communities were under management (Table 1).

Table 1. Semi-natural communities and their management in the BPA

Surface area (ha)	Saaremaa	Hiiumaa	Vormsi	Total
Total semi-natural communities	22596.7	5943.2	2590.2	31130.1
Including coastal meadows	6864.8	2146.8	974.1	9985.7
Including swathes	4915.8	684.2	79.8	5679.8
Including wooded meadows	1220.2	146.5	4.9	1371.6
Semi-natural communities under management in 2011	6982.6	2279.3	268.9	9530.8
Semi-natural communities under management in 2010	6532.6	2288.8	272.3	9093.7
Semi-natural communities under management in 2009	5256.1	2091.3	189.8	7537.2

Source: On the basis of the database of the Environmental Board.

<sup>1</sup> On the basis of 2011 data of the Land Cadastre.

<sup>2</sup> On the basis of the base map of Estonia.

<sup>3</sup> On the basis of the database of the Environmental Board.

From the biodiversity conservation perspective, areas of coastal waters within the BPA water area are also valuable. Out of the habitat types listed in Annex I to the EU Habitat Directive, nearly 40% of the area of water in Väinameri constitutes sandbanks permanently flooded by seawater. In addition to the aforesaid, there are also foreshores, coastal lagoons, wide low coves, gulfs and reefs from the same list<sup>4</sup>. Those habitats are not directly jeopardised by local human activity, but the biota is endangered due to the pollution and eutrophication of the entire Baltic Sea and the nearby sea transport of oil. This is why the spawning grounds of several traditional fish species (whitefish) have been destroyed, and from time to time there is oil found on beaches, jeopardising the overwintering long-tailed duck and the Steller's eider populations. Due to the combined effect of various factors, the fish resources and fishing in the BPA territory have decreased, which is why traditional coastal fishing is in danger of extinction.

Today, about 20% of the BPA land is under a protection regime as reserves or special conservation areas. In order to maintain the good condition of semi-natural communities, which make up a large portion (32.8% of the land)<sup>5</sup> of the protected areas, their constant maintenance is required, but so far it has not been possible to ensure sufficient maintenance. It is especially difficult to achieve a good condition on semi-natural communities of islets and holms, which were once in economic use but are no longer.

In the region there are also areas covered with old forests of European importance as well as bogs and springs.

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<sup>4</sup> Management plan for the sea within the special conservation area of the Väinameri for 2009–2018. [http://www.balticseaportal.net/media/upload/File/Vainamere\\_KKK\\_07.07.09.pdf](http://www.balticseaportal.net/media/upload/File/Vainamere_KKK_07.07.09.pdf). 30.08.2012

<sup>5</sup> On the basis of the database of the Environmental Board.

## 1.2 SOCIETY

In the 20<sup>th</sup> century, the West Estonian islands together with the entire Estonian society underwent a transition from an agricultural society to an industrial society. At the beginning of the 21<sup>st</sup> century, we are about to reach the post-industrial phase where the development of services is most important and the economy is becoming more and more knowledge-based. At the same time, the fact that the protection of the environment is becoming more important directs society, and especially the economy, towards a greener approach.

The population in the territory of the BPA is approximately 40,000, which is 3.1% of the total Estonian population, including 31,000 in Saare County, 8,500 in Hiiu County and 340 in Vormsi Rural Municipality. The average population density is 10 people/km<sup>2</sup>. The BPA's territory is divided into 22 local governments, but approximately 40% of the population is settled in the cities of Kuressaare and Kärdla. The population density outside cities is low. The demographic trends for the islands are the same as for the mainland: the population is decreasing, becoming older and concentrating mostly in the cities and in the near vicinity thereof.

The economic capacity of the BPA is characterised by, roughly, the gross domestic product (GDP) of Saare County and Hiiu County, which amounts to 2.2% of the GDP of the entire country (2009). The population of the islands is notably entrepreneurial. By the number of enterprises registered for thousand inhabitants, Saare and Hiiu Counties are next in line after Harju County (2010).

Regardless of structural impediments due to the insular position and of the lack of major cities, the economies of Saare and Hiiu Counties has been rather successful compared to that of other Estonian counties. The gross domestic product (GDP) per person averaged EUR 6,875 between the two counties, which is 67% of the Estonian average (2009). Based on that indicator, Saare County and Hiiu County were ranked III and IV, respectively. By the annual average net income of the inhabitants, Saare County and Hiiu County were ranked VI and VII in the country (2010). Compared to other rural municipalities, Vormsi Rural Municipality in Lääne County has also developed an active attitude. For example, in the first half of 2012 the income in Vormsi Rural Municipality was the greatest compared to other local governments (including the city of Haapsalu) ("Lääne Elu" vol. 110, 2012).

As everywhere else in Estonia, services—i.e. the tertiary sector—also dominate the economy within the BPA. Services make up 57% and 71% of the employment rate in Saare and Hiiu Counties, respectively (2011). Both counties are recognised tourist destinations, but only Saaremaa has developed extensive spa tourism. 6% of the total number of tourists in Estonia stay overnight in Saare and Hiiu Counties (2011).

Saare County also has a noteworthy industrial and building sector—34% of the employment rate, while the same figure is only 23% for Hiiu County. The main reason is the lack of a local food industry (dairy, meat and fish industry). The dominant industry in Hiiu County is the plastic industry. However, in Saaremaa there is the long-time food industry but new branches have also been established, above all the construction of recreational craft and the electronics industry.

The primary sector (agriculture, forestry and fishery) accounts for 9% and 17% of the employment rate in Saare and Hiiu Counties, respectively. In Hiiu County, the percentage of agriculture in respect of the employment rate as well as surplus value is currently the highest in Estonia. The areas of activity prevailing in Vormsi Rural Municipality are tourism (mostly accommodation), agriculture and cutting down forests.

Regardless of the spreading urban way of life, more heritage culture in the form of the sustainable use of the natural environment and natural resources as well as village landscapes and semi-natural communities related thereto have been preserved on the West Estonian islands than anywhere else in Estonia. In the prospects of future economic development an important role is played by local natural resources—forest, sea, therapeutic mud, clean environment, etc. This is why the BPA is a suitable pilot area for the Estonian green economy for the purposes of this Programme.

### **1.3 ZONATION**

According to the UNESCO MAB Programme principles, each biosphere programme area must be divided into three zones: core areas, buffer zones and transition zones (map in Annex 2). The BPA zonation of the West Estonian Archipelago is based on the conservation regimes used in the Estonian nature conservation system.

**Core areas** are areas with the strictest nature conservation restrictions—reserves and special management zones. There are 365.27 km<sup>2</sup> of core areas (Table 2).

**Buffer zones** are limited management zones, special conservation areas and permanent habitats for protected objects.

There are 4,498 km<sup>2</sup> of buffer zones (Table 2).

**Transition area** is made up of the BPA territory and water area outside core areas and buffer zones.

There are 10,737.73 km<sup>2</sup> of transition areas (Table 2).

In pursuit of its objectives, **the BPA Programme functions in all three**. The Programme adheres to nature conservation restrictions and other restrictions on human activity established for core areas, buffer zones and transition areas on the basis of the law.

Table 2. Surface areas of BPA zones

<b>Surface area</b>	<b>Core area</b>	<b>Buffer zone</b>	<b>Transition zone</b>
<b>Land (km<sup>2</sup>)</b>	254.81	509.81	3,273.38
<b>Water (km<sup>2</sup>)</b>	110.46	3,988.19	7,464.35
<b>Total (km<sup>2</sup>)</b>	365.27	4,498.00	10,737.73

Source: Environmental register.

## **2. VISION**

The Estonian MAB Programme (BPA Programme) has driven the West Estonian Archipelago to become Estonia's leading area for green economy innovation and pilot projects in respect of sustainable use of natural resources of local natural and semi-natural terrestrial and water communities. The regional awareness of sustainable development principles is high and the attitude is supportive. The islands' communities, entrepreneurs and public widely support the development of a green economy and recognise it as a functional co-operation model for achieving social and economic success.

### **3. IMPLEMENTATION**

**The implementation of the BPA Sustainable Development Programme is organised by the Environmental Board**, the area of activity of which includes, according to its statutes, inter alia the implementation of the state policy on the use of the environment as well as its programmes and action plans. A wide connection and co-operation with local communities is ensured by the BPA Council, which is an advisory body formed by the Director General of the Environmental Board and where the relevant local governments, civil associations and non-profit associations are invited to participate, including the representative organisations for entrepreneurs and LEADER action groups, and representatives of institutions of higher education and institutions of vocational education. The main functions of the Council include the approval of five-year action plans of the Programme and, if necessary, amendments thereto.

The programme partners are the Estonian National Commission for UNESCO, state authorities, BPA local governments (local government associations), civil associations and non-profit associations, including the representative organisations for entrepreneurs and LEADER action groups, and representatives of institutions of higher education and institutions of vocational education. In order to support the implementation of the BPA Programme and to involve partners in the management thereof, the Environmental Board may convene working groups, committees and a research council.

The BPA Programme determines its strategic objectives and the functions necessary to achieve the objectives. The specific actions of the BPA Programme for achieving the objectives within the framework of the functions is planned by the Environmental Board in co-operation with the partners and the research council in the form of five-year action plans which set out measurable target levels for each function of the Programme. In preparing the action plan, the partners participating in the Council, other state authorities and the public are consulted with. The process of preparing the plan is open and available for everyone. The plans include the actions of both the Environmental Board and the partners for carrying out the functions of the BPA Programme. The funding of the action plans takes place on the basis of financial resources available for specific actions, considering the available means of the partners and the Environmental Board. To ensure that the action plan is co-ordinated and its implementation is funded, the Environmental Board makes agreements, where necessary, with the BPA Programme partners or other state authorities.

## **4. STRATEGIC OBJECTIVES AND TASKS**

### **OBJECTIVE 1: BPA HAS BECOME A PILOT AREA FOR A SUSTAINABLE ECONOMY AND USE OF THE NATURAL ENVIRONMENT AND NATURAL RESOURCES**

To achieve a favourable condition of the biosphere, nature conservation and environmental protection measures are not enough. Economic activities in general must become more sustainable. The main objective of the BPA is to shape its programme area into a pilot area for the development of a sustainable economy. The Programme focuses its resources and sets its tasks for guiding those economic sectors which have the best perspectives for becoming “green”, considering the natural and social conditions of the programme area, including the insularity of the territory and the high number of islets there, and the green nature of which would have the greatest effect from the biodiversity conservation point of view. Such sectors are energy, agriculture, fishery, forestry, tourism, planning and construction.

#### **TASK 1.1: DEVELOPMENT OF SUSTAINABLE ENERGY**

In co-operation with its partners, the Environmental Board launches and supports projects for expanding the use of local renewable energy, including applying economically efficient technologies for the use of local biofuel (hay, reed, manure, wood, etc.) and solar and wind energy, and geothermal and aerothermal technologies. It is preferred to associate applied solutions within the interests of nature conservation and maintenance of semi-natural communities. In co-operation with its partners, the Environmental Board launches and supports projects for increasing the existing energy efficiency of buildings, especially dwellings, by applying green technologies.

#### **TASK 1.2: DEVELOPMENT OF SUSTAINABLE AGRICULTURE**

In co-operation with its partners, the Environmental Board launches and supports projects for making agriculture greener and more diversified, including eliminating any impediments to the promotion of organic production, for greater local upvaluing of agricultural raw materials, for promoting branches of agriculture and horticulture which meet the natural preconditions of the programme area (beekeeping, horticulture, extensive cattle raising, etc.), for promoting the production and use of local environmentally friendly fertilisers (seaweed, etc.), for testing new environmentally friendly agricultural technologies, for the efficient management of heritage communities (including islets and holms), and for developing new agricultural services (e.g. pollination by bees, rental herds for maintaining the landscape, etc.).

### **TASK 1.3: DEVELOPMENT OF SUSTAINABLE FORESTRY**

In co-operation with its partners, the Environmental Board launches and supports projects for a more efficient use of the natural resources of forests, including for the greater local upvaluing of wood, for finding models for the economic use of all wood, for developing and producing products corresponding to the characteristics of local wood (types of wood, quality of wood), for promoting the use of forest by-products, for ensuring the use of sustainable cutting methods, for applying forest restoration technologies, for supporting the cluster-based co-operation between enterprises related to forestry.

### **TASK 1.4: DEVELOPMENT OF SUSTAINABLE FISHERY**

In co-operation with its partners, the Environmental Board launches and supports projects increasing the condition of fish resources in coastal waters and for preserving fishery as a livelihood and a component of the island culture, including for preserving and restoring the spawning grounds in coastal waters and freshwater, for maintaining the traditional coastal fishing at least as a secondary livelihood, for applying fish farming technologies that are suitable for local conditions as well as environmentally friendly, and for using fish and algae and other biological water resources for manufacturing new products.

### **TASK 1.5: DEVELOPMENT OF SUSTAINABLE TOURISM**

In co-operation with its partners, the Environmental Board launches and supports projects for promoting forms of tourism that are sustainable and based on local resources, including for developing new products of country tourism, nature tourism and ecotourism, for developing products of therapeutic tourism that use local resources (e.g. therapeutic mud, animals, and plants), for improving the possibilities for bicycle tourism.

### **TASK 1.6: DEVELOPMENT OF SUSTAINABLE PLANNING AND CONSTRUCTION**

In co-operation with its partners, the Environmental Board launches and supports projects for integrating the concept of biosphere reserves, and in a broader sense the ecosystematic approach, into planning and designing of buildings, including for integrating the concept of biosphere reserves into the development plans and other plans of counties and local governments, for preparing and applying recommended planning and designing instructions that consider the peculiarities of the landscapes of the programme area and the heritage culture, for establishing landscape planning and landscape architecture competence, for developing modern types of buildings that use local and/or natural building materials, and for providing in-service training to planners and architects and local government officials working in the relevant field.

## **OBJECTIVE 2: BIODIVERSITY HAS BEEN PRESERVED**

Biodiversity conservation is the original main objective of the MAB Programme. In present conditions, where the protection of biodiversity in respect of valuable habitats and endangered species is quite developed in Estonia, the BPA can support it indirectly by valuing biodiversity in the broadest sense as its educational function and by helping to make human activity more sustainable in general. Considering the large concentration of biodiversity in the BPA, this objective plays an extremely important role in the success of nature conservation across Estonia as a whole.

### **TASK 2.1: INVOLVEMENT OF LOCAL COMMUNITIES IN BIODIVERSITY CONSERVATION**

In co-operation with its partners, the Environmental Board organises the systematic training and guidance of and assistance to the population for understanding the key factors of biodiversity conservation. The need to find new solutions for the sustainable use of resources is taken into account, including for applying new business models, for promoting social entrepreneurship, and for expanding voluntary activities within the framework of the official management as well as in biodiversity conservation activities in a wider sense.

### **OBJECTIVE 3: BPA HAS PRESERVED AND EXHIBITED ISLANDS' CULTURAL HERITAGE**

The cultural heritage of the West Estonian islands is intertwined with ancient traditions, skills and experiences of sustainable use of the natural environment and natural resources. A diverse treasury of material monuments has been preserved, including buildings, villages, heritage culture landscapes, and also local domestic animal breeds and cultured plant varieties, etc. The creative use and further development of the actions of previous generations is an important condition for a sustainable development that considers the peculiarity of the region and preserves its uniqueness. This is why the BPA's heritage conservation and exhibition, above all in aspects related to the use of the natural environment and natural resources, is important.

#### **TASK 3.1: HERITAGE CONSERVATION**

In co-operation with its partners, the Environmental Board launches and supports projects for conserving and demonstrating the intellectual and material heritage of sustainable use of the natural environment and natural resources, including for preserving heritage objects in the landscape, for preserving domestic animal breeds and cultured plant varieties, for organising events or exhibitions that introduce and teach local methods of construction and architecture, traditional farming and fishing, cattle raising and hay making, work in limestone quarries and processing of limestone, building of stone fences, logging and landscape maintenance, handicraft and cooking, preparing relevant study trails and routes, etc.

**OBJECTIVE 4: BPA IS A RESEARCH, MONITORING AND TRAINING CENTRE THAT SUPPORTS A GREEN ECONOMY**

Sustainable development in the conditions of today's dynamic society requires the practice being associated with scientific applied research and development work, and a constantly updated know-how being constantly passed on to associated groups of the programme area and, more widely, to the entire local community.

**TASK 4.1: INITIATION OF RESEARCH RELATED TO SUSTAINABLE DEVELOPMENT**

In co-operation with its partners, the Environmental Board launches and supports projects that include applied research and development work which support objectives 1–3 of this Programme (in the framework of technical research, natural sciences, social sciences and humanities), related events and publications, as well as the monitoring and reporting of the outcome of the Programme for national and international purposes.

**TASK 4.2: EXECUTION OF TRAINING AND COMMUNICATIONS PROGRAMME**

In co-operation with its partners, the Environmental Board launches and supports projects that include study programmes, events, means of study as well as informative and educational publications which support objectives 1–3 of this Programme. Projects are carried out through and in co-operation with various authorities of the programme area, including educational institutions in the formal educational system and institutions of hobby education and informal education, and by using different communication channels.

## **OBJECTIVE 5: ACTIVE CO-OPERATION IN ACHIEVEING OBJECTIVES OF BPA**

The MAB Programme promotes national and international co-operation in the field of sustainable development. The work of the network of biosphere reserves promotes the spread of knowledge from good practices, innovation supporting sustainable development, and mutually beneficial forms of co-operation in the area of the islands and between the biosphere reserves.

### **TASK 5.1: INVOLVEMENT OF LOCAL COMMUNITIES IN PREPARATION OF ACTION PLAN FOR BPA**

The Environmental Board prepares open processes that allow anyone to participate, by applying periodic short-term action plans to the implementation of this Programme. For the aforesaid purposes, the Environmental Board launches and supports public events which the permanent and seasonal residents of the islands are welcome to attend.

### **TASK 5.2: INTEGRATION OF OBJECTIVES OF BPA INTO DEVELOPMENT DOCUMENTS OF LOCAL GOVERNMENTS AND COUNTIES**

The Environmental Board aspires to making local communities start to see the BPA Programme as a useful and interesting development opportunity and to integrate its objectives and tasks in their development documents.

### **TASK 5.3: PARTICIPATION IN INTERNATIONAL NETWORK CO-OPERATION**

The Environmental Board participates in topical and regional international networks of biosphere reserves, above all in the network of the Baltic Sea Region, water areas and archipelago areas. The Board launches and supports international scientific co-operation and merger projects with other biosphere reserves.

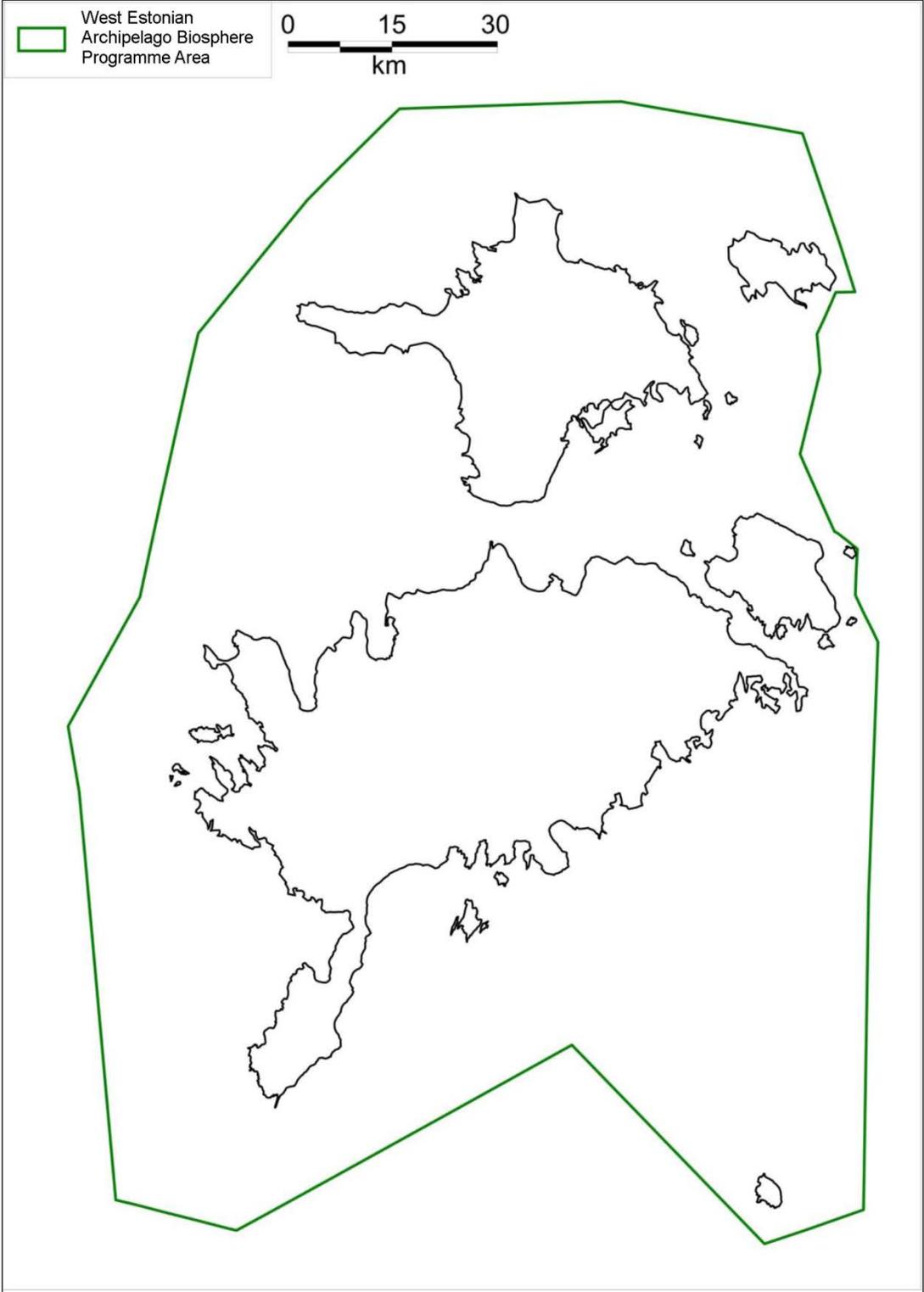
## **5. PROGRAMME MONITORING AND ASSESSMENT**

To monitor the BPA Sustainable Development Programme, the Environmental Board prepares annual reports on the execution of the action plan. The reports are submitted to the Programme Council who gives its assessment on the report and, if necessary, makes proposals for making the actions more efficient or for adapting the action plan. The reports, together with the assessment and proposals of the Council, are forwarded to the Estonian National Commission for UNESCO and made publicly available at the same time.

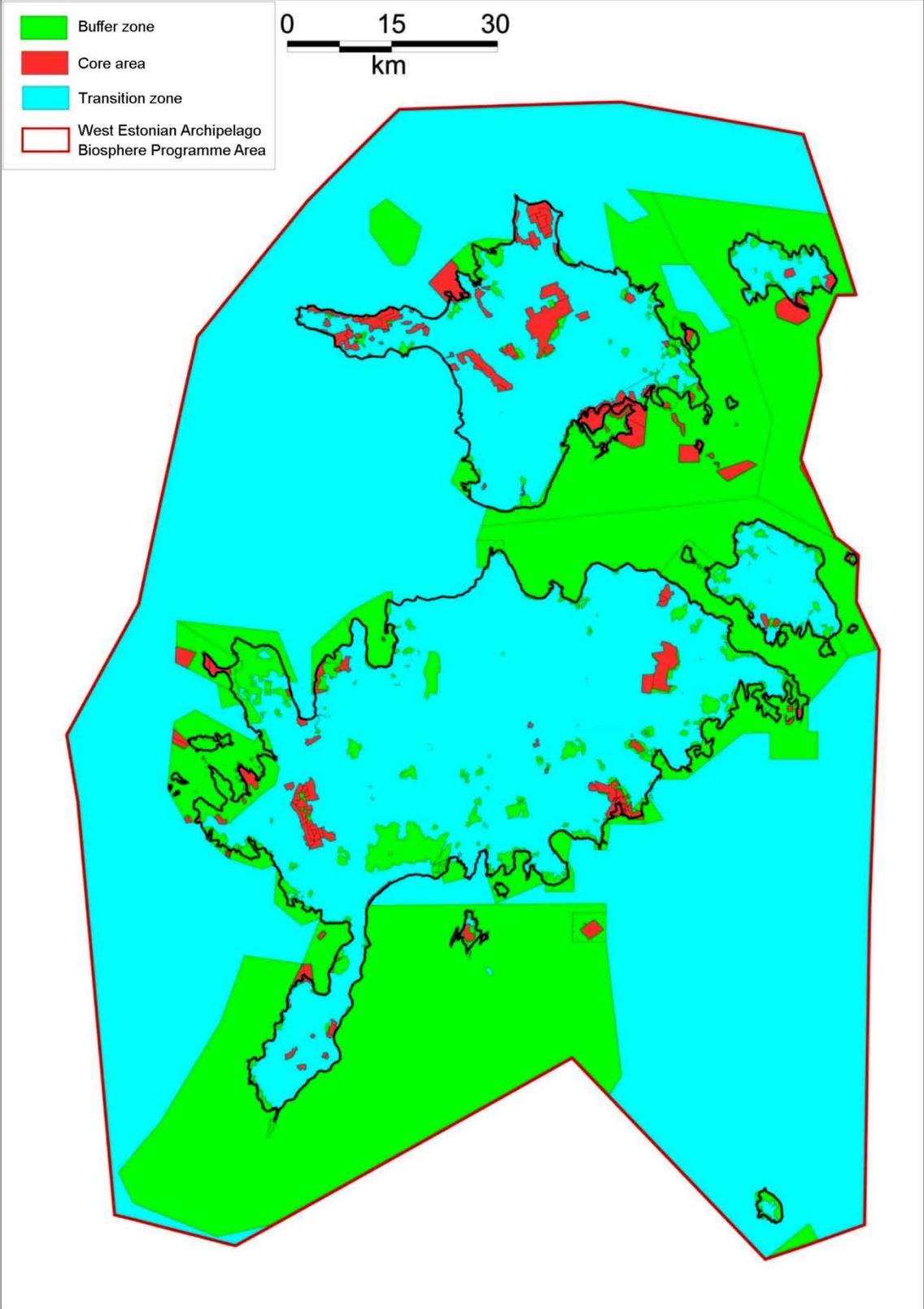
In 2017 and 2021 the Environmental Board will commission an assessment of the Programme by independent auditors. In the first case, the assessment results will be taken into account in the review of the ongoing Programme, if necessary, or in adapting the implementation thereof, and in the second case, in the preparation for the next period's BPA Programme.

**ANNEXES**

**ANNEX 1** Border of the West Estonian Archipelago Biosphere Programme Area



ANNEX 2 Zonation of the West Estonian Archipelago Biosphere Programme Area



United Nations Educational, Scientific  
and Cultural Organization



Programme on Man and the Biosphere

By decision of the Bureau of the International  
Co-ordinating Council of the Programme on Man  
and the Biosphere, duly authorized  
to that effect by the Council

*West Estonian Archipelago  
Biosphere Reserve*

is recognized as part  
of the international network of Biosphere Reserves.  
This network of protected samples of  
the world's major ecosystem types  
is devoted to conservation  
of nature and scientific research  
in the service of man.  
It provides a standard against which can be measured  
the effects of man's impact  
on his environment.

Date Paris, 27 March 1990

A handwritten signature in black ink, appearing to read 'Federico Mayor', is positioned above the printed name and title.

Federico Mayor  
Director-General  
of Unesco