# THE SIXTH NATIONAL REPORT OF MONTENEGRO

to the United Nations Convention on Biological Diversity

prepared through the UNEP-GEF project

"Support to Eligible Parties to Produce the Sixth National Report to the CBD – Montenegro"

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The Ministry of Sustainable Development and Tourism
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# Introduction

Preparation of the 6th National Report to the United National Convention on Biological Diversity (hereinafter referred to as: Report) is a result of the project "Support to Eligible Parties to Produce the Sixth National Report to the CBD – Montenegro" implemented by the Ministry of Sustainable Development and Tourism, funded by the Global Environmental Facility (GEF) and supported by the United Nations Environmental Programme (UNEP, Nairobi).

Implementation of project activities and preparation of the Report were responsibilities of the local team of experts, supported by a wide array of national stakeholders.

The methodology and templates used in the preparation of the Sixth National Report were those compliant with the CBD Decision CBD/COP/DEC/XIII/27 (available at the homepage of the Convention https://www.cbd.int/nr6).

Sources of information for the Report, as well as for data validation and verification included: previous reports on the implementation of the National Biodiversity Strategy and Action Plan (NBSAP), both national and those submitted to the CBD Secretariat; available national and sectoral statistical data; strategic and planning documents; relevant scientific literature; reports on the status of the environment. The process also included consultations with stakeholders, and relied on the opinions of experts and the authors of the Report. Also, some target research have been conducted for the purposes of the Report.

# Chapter I – Information about targets being pursued at the national level

Although nature and biodiversity protection were declaratively set among top national political priorities ever since 1991. when Montenegro was proclaimed an ecological state, it was the implementation of the first National Biodiversity Strategy with the Action Plan for the period 2010 – 2015 (hereinafter referred to as: NBSAP) and National Strategy of Sustainable Development for the period 2007 – 2014 (hereinafter: NSSD) that recognised that set targets and measures had not always been accompanied by concrete systemic actions, and that set national targets were ambitious, exceeding human, institutional and financial capacities. That was why the process of defining the new national biodiversity targets for the period 2016 – 2020 was marked by the tendency to overcome the identified barriers from the previous implementation period.

In the review process of the NBSAP 2016 – 2020, Montenegro has defined seven strategic targets when it comes to the protection and conservation of biodiversity in the country (A –G, Table 1). The targets have been defined in accordance with the national needs recognised through implementation of the NBSAP 2010 – 2015, as well as with other strategic documents, assessment of the situation in the field and in consultations with a wide array of stakeholder. Each national target has several operational targets (1-22, Table 1), which will be further explained in rest of this Chapter.

Although the targets have been defined at the national level, taking into account specific national situation, needs and priorities, they also comply with global targets defined in the Strategic Plan for Biodiversity 2011 – 2020 and Aichi targets, which were one of the inputs for defining the national targets.

**Table 1** – The list of national targets

| National targets | | | Main Aichi target it contributes to | Additional Aichi target it contributes to |
|---|---|---|---|---|
| **STRATEGIC TARGET A:** UNTIL 2020, BIODIVERSITY PROTECTION IS ONE OF THE MOST SIGNIFICANT SOCIAL AND POLITICAL PRIORITIES IN THE OVERALL DEVELOPMENT | | | | |
| 1. | Operational target | a) Society recognises benefits from biodiversity and the need for priority protection | 1 | 18 |
| 2. | | b) Make biodiversity a priority topic for decision makers | 1 | 2, 19 |

| | | | | |
|---|---|---|---|---|
| **STRATEGIC TARGET B**: BIODIVERSITY IS PROTECTED THROUGH A MULTIDISCIPLINARY AND MULTI-SECTORAL APPROACH | | | | |
| 3. | Operational target | a) The existing mechanisms are used to the full extent, enabling integration of biodiversity at all levels | 2 | 4 |
| 4. | | b) General resource mobilisation achieved, as well as the efficient multi-sectoral monitoring of the NSBAP implementation | 2 | 18, 20 |
| **STRATEGIC TARGET C:** AN EFFICIENT MECHANISM FOR FINANCING BIODIVERSITY PROTECTION IS ACHIEVED, AS WELL AS A TRANSITION TO A SUSTAINABLE ECONOMY OF BIODIVERSITY (AS PART OF GREEN ECONOMY) AND NECESSARY CAPACITIES ARE BUILT BY 2020 | | | | |
| 5. | Operational target | a) Achieving sustainable financing of biodiversity protection | 20 | 3 |
| 6. | | b) Integration of sustainable biodiversity economy into main streams of national and sectoral policies, strategies, plans | 2 | 4 |
| 7. | | c) Use of specific fiscal, market and pricing policy instruments as a support to biodiversity conservation, sustainable production and consumption | 3, 4 | 20 |
| 8. | | d) Establishing legal, institutional and implementation framework for introduction of PES | 3, 4 | 1, 20 |
| **STRATEGIC TARGET D:** SIGNIFICANT REDUCTION OF IDENTIFIED DIRECT PRESSURES ON BIODIVERSITY REGISTERED BY 2020 | | | | |
| 9. | Operational target | a) Reducing the pressures from the sectors of spatial planning/construction | 4 | 5, 19 |
| 10. | | b) Reducing the pressures from the sectors of environmental protection /utilities | 4, 8 | 10, 14 |
| 11. | | c) Sustainable agriculture, forestry and water management | 4, 5 6, 7 | 12 |
| 12. | | d) Reducing the risks from sectors of transport, energy and infrastructure development | 2, 4 | 5 |
| 13. | | e) Achieving sustainable tourism | 2, 4 | 5 |
| 14. | | f) Measures to mitigate the impacts of invasive species | 9 | |
| 15. | | g) Measures to mitigate impacts of climate change | 15 | 10 |
| **STRATEGIC TARGET E: UNTIL 2020, PREREQUISITES ARE CREATED, AND TARGETED MEASURES FOR BIODIVERSITY ARE IMPLEMENTED** | | | | |
| 16. | Operational target | a) Activities for the protection of the most endangered species are being implemented | 12 | 6, 19 |
| 17. | | b) Activities for the protection of the most endangered habitats are being implemented | 5, 19 | |
| 18. | | c) Support the conservation of genes | 13 | 12 |
| **STRATEGIC TARGET F:** UNTIL 2020, ECOLOGICAL INFRASTRUCTURE IS CREATED AS THE FOUNDATION FOR THE CONSERVATION OF NATIONAL BIODIVERSITY | | | | |
| 19. | Operational target | a) Establish integrated and efficient green network which will incorporate new protected areas | 11 | 5, 6, 7, 12, 14 |
| 20. | | b) Ensure efficiency of the network through improved management | 11 | 5, 6, 7, 12, 14, 15 |
| **STRATEGIC TARGET G:** KNOWLEDGE ABOUT BIODIVERSITY IS IMPROVED, SYSTEMATISED AND IS WIDELY AND EQUITABLLY AVAILABLE THROUGH DEVELOPED MECHANISMS | | | | |
| 21. | Operational target | a) Develop research and organise an efficient system of data collection and processing | 19 | 1, 5, 6, 9, 11, 12 |
| 22. | | b) Make biodiversity-related information publically available, consolidate knowledge and ensure fair and equitable distribution of benefits from genetic diversity | 16, 19 | |

**Strategic target A: UNTIL 2020, BIODIVERSITY PROTECTION IS ONE OF THE MOST SIGNIFICANT SOCIAL AND POLITICAL PRIORITIES IN THE OVERALL DEVELOPMENT**

*Message: Biodiversity is not a "strange and incomprehensible" concept that limits the development*

Despite declarative commitment towards nature protection, this issue does not rate highly at the list of development priorities. In order to create the main prerequisite for conservation of biodiversity through protection and sustainable use, it is necessary that all spheres of the society understand the concept of biodiversity, the way it provides ecosystem services and how they influence human welfare, as well as to accept that biodiversity protection is not something that limits the development. Therefore, according to the national need, and in accordance with the Aichi targets, the first strategic target pertains to awareness raising about the biodiversity values in different segments of the society

**Operational target 1: Society recognises the benefits of biodiversity and the need for priority protection**

**Rationale for the national target**

Although a significant step forward has been made over the past several years in the field of public awareness raising related to biodiversity protection, it has been assessed that a lot of targeted actions and continuous efforts are yet to be made in order to improve the understanding of the need for biodiversity protection, especially of benefits that biodiversity provides to the society. With raised awareness, it is expected to have greater public participation, as well as changes in decision-making processes related to biodiversity and its sustainable use and protection.

In order to achieve as strong and as sustainable effect as possible, it was assessed that the awareness should be raised from the earliest age, by integrating the issues of protection, sustainable use and fair distribution of benefits from biodiversity into curricula of primary and secondary schools.

Further, since it was recognised that conflicts, low level of trust between local population and competent authorities and excessive pressures to biodiversity are common

characteristic of protected areas, it was assessed that measures are needed to reconcile the needs for conservation and for development by involving the stakeholders into planning and management processes, so as to achieve socio-economic progress which would have minimal impact on biodiversity.

Based on the above rationale, two measures were defined for this target:

*A1. Preparation and implementation of educational programmes and trainings on protection, sustainable use and fair distribution of benefits from biodiversity in schools*
*A2. Establishing and formalising (by the managers of national and nature parks) a body responsible for cooperation with local population and businesses in protected areas (socio-economic forums)*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☒ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☒ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020
Analysis of options for protected areas management in Montenegro

**Operational target 2: Make biodiversity a priority topic for decision makers**

**Rationale for the national target**

Operational target 2 of Strategic target A pertains to the need to raise awareness of decision makers about the values of ecosystem services, using mechanisms for their valuation, which takes into account those values that are traditionally omitted from the economic and financial decision-making processes.

Ecosystem values have been assessed in Montenegro on several occasions through different projects. So far, the most comprehensive attempt of ecosystem services valuation indicates that in 2011. they contributed to Montenegrin economy with EUR 982 million (Emerton 2013).
The National Strategy of Sustainable Development by 2030 has recognised the lack of system for valuation of natural capital and ecosystem services, that the awareness about the importance of these values is at a low level, as well as that there are no formal mechanisms for adequate valorisation. Additionally, systematic assessments of other values of biodiversity and ecosystem services, such as social, cultural and ecological ones, are also lacking.

Since assessment of values of ecosystem services is related to awareness raising about the biodiversity protection among decision-makers, primarily as an argument for conservation of services it provides, this target has been defined to set the grounds for decision-making processes based on knowing the values of biodiversity and ecosystem services.

The target has one measure:
*A3. The initial assessment and analysis of scenarios of economic values of biodiversity and ecosystems implemented at the national level*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☒ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |

| | | | | |
|---|---|---|---|---|
| ☒ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☒ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

National Strategy of Sustainable Development until 2030

Emerton L (2013) - The Economic Value of Protected Areas in Montenegro

**Strategic target B: BIODIVERSITY IS PROTECTED THROUGH A MULTIDISCIPLINARY AND MULTI-SECTORAL APPROACH**

*Message: The care for biodiversity protection and benefits from it belong to all*

The tasks of biodiversity protection are complex, and they go beyond the mandates of the environmental sector. Biodiversity, as well as ecosystem services, provides the basis for numerous socio-economic activities, such as agriculture and tourism, and it indirectly influences other economic activities. On the other hand, most human activities have some sort of direct and/or indirect impacts on biodiversity, mostly negative.

Therefore, it is necessary that measures for conservation and sustainable use of biodiversity are introduced (integrated) into appropriate sector and cross-sectoral plans, programmes and policies, and that coordination between all governmental levels is strengthened (from national to local levels).

**Operational target 3: The existing mechanisms are used to their full extent, enabling integration of biodiversity at all levels**

**Rationale for the national target**

The National Biodiversity Strategy with the Action Plan for the period 2016-2020 concluded that integration of measures for biodiversity protection into other sectoral policies, plans and programmes should continue. It was envisaged to achieve this through several mechanisms:

First, in order to achieve adequate biodiversity protection at the national level, it is necessary to harmonise all strategic documents, plans, programmes and legal regulations of the sectors that use natural resources. As concluded in the Fifth National Report to the UN CBD, there is room for improvement in many sectors, and this refers to practices of spatial planning, energy, forestry, hunting, fishery, water infrastructure and transport. This served as a basis for defining this operational target.

Furthermore, it was assessed that the full implementation of the NBSAP can be achieved only through vertical integration of biodiversity issues into environmental protection plans of local self-governments, through adoption of Local Action Plans for Biodiversity, which has been anticipated for all municipalities in Montenegro.

Regarding other mechanisms, it was envisaged to implement impact assessments – strategic (SEA) for strategies and plans and environmental impact assessment (EIA) at the level of projects. Montenegro has had SEA and EIA legislation since 2005, but despite the previous success in that respect, it was recognised that implementation of these mechanisms should be strengthened. Therefore, this target is defined to contribute to that, primarily through the obligation of full integration of biodiversity protection into SEA, including expressing the specific values of services provided by biodiversity.

In addition, the Law on Nature Protection (Official Gazette of MNE 54/16) set forth the mechanism for appropriate assessment of plans and projects that will be treated by future ecological network areas. Consistent application of appropriate assessment mechanism as standard mechanism set at the European Union level is expected to contribute to better protection of recognised values of nature areas.

In order to improve vertical and horizontal communication, it was assessed that coordination of the Ministry of Sustainable Development and Tourism and Agency for Nature and Environmental Protection with other state institutions/sectors and local self-governments should be further improved in the process of preparing plans and programmes. A special role is to provide the information on biodiversity for the needs of implementing mechanisms such as SEA, EIA, appropriate assessment and so on.

Because of such status assessment, the following measures have been defined for this operational target:

*B1. Implementation of appropriate assessment mechanism*

*B2. Full integration of biodiversity protection in SEA, including expression of specific value and services provided by the biodiversity*

*B3. Incorporation of measures and guidelines of biodiversity protection into strategies, laws, regulations, programmes and plans of development sectors*

*B4. New LAPBDs adopted and in implementation*

*B5. Support for biodiversity integration in the preparation of SEA, plans and programmes and other documents through strengthening cross-sectoral cooperation*

**Level of application**

☐ Regional /multilateral – please, specify the area
☒ National/federal
☐ Sub-national – please, specify the area

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☒ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to**:

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020
The Fifth National Report to the United Nations Convention on Biological Diversity

**Operational target 4: General mobilisation of resources achieved, as well as the efficient multi-sectoral monitoring of the NBSAP implementation**

**Rationale for the national target**

Biodiversity protection generally suffers from lack of human and financial resources, and

Montenegro is not an exception to this. The level of public financing for biodiversity protection is very low (not more than EUR 2 million a year, NBSAP), which consequently limits the capacities of the nature protection sector for the implementation of necessary measure.

On the other hand, international donor institutions, non-governmental organisations, universities, project offices and so on, possess or are able to mobilise significant capacities that can contribute to improving the situation in this area. These potentials for financing and mobilising human resources are several times greater if we take into account activities of sectors that have an impact on the state of biodiversity (tourism, transport, energy and so on), as well as capacities of individuals and capacities of civil society organisations.

Through revised National Biodiversity Strategy it was concluded that institutional cooperation between line institutions and non-governmental sector, universities, institutions and professionals possessing knowledge and experience (quite often scarce ones) should be additionally strengthened so as to create a platform (and mechanisms) for coordinated integration of the Strategy targets into wider social activities, timely exchange of information, achievement of synergy effect, expert discussion related to biodiversity, as well as technical assistance (especially to local self-governments). It was assessed that such cooperation could be significant for successful completion of complex obligations in the EU accession process (e.g. NATURA 2000 network), which require mobilisation of all available resources, so establishment of a body for cooperation of scientific and professional public is envisaged as one of the measures.

This target has been defined to consolidate all the mentioned potentials into the function of efficient accomplishment of biodiversity protection targets, but also to divide responsibility to all players, whether they protect, endanger, directly or indirectly use biodiversity.

A special role in permanent monitoring over the implementation and strengthening of inter-sectoral cooperation is given to the National Council for Sustainable Development, Climate Change and Integrated Coastal Management (NCSD), as a body established to strengthen vertical and horizontal coordination related to environmental protection, including the area of nature protection.

The following measures have been defined for Operational target 4:

*B6. A body for cooperation with scientific and professional public, NGO and local self governments established and operational (Forum for biodiversity)*

*B7. Monitoring over the implementation of NBSAP 2016-2020 by the National Council for Sustainable Development and Climate Change*

**Level of application**

☐ Regional /multilateral

☒ National/federal

☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☒ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☒ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☒ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

**Strategic target C: AN EFFICIENT MECHANISM FOR FINANCING BIODIVERSITY PROTECTION IS ACHIEVED, AS WELL AS A TRANSITION TO A SUSTAINABLE ECONOMY OF BIODIVERSITY (AS PART OF GREEN ECONOMY) AND NECESSARY CAPACITIES ARE BUILT BY 2020**

*Message: Let's invest into the future and our natural capital*

The Fifth National Report to the UN CBD concluded that funds for the protection of biodiversity had not been increased in the previous reporting period, and this in particular pertained to allocation of funds from public sources, where biodiversity was still given little attention within strict budget restrictions and competitive priorities.

Since Montenegro had already strategically opted for transition to green economy through its economic policy (Montenegro Development Directions 2013-2016), this target is meant to integrate the economy of biodiversity into that process. It is estimated that, by doing so, the Strategy will be integrated and will support other national and sectoral strategies and plans, and thus not to be detached from or in conflict with them.

## Operational target 5: Achieving sustainable financing of biodiversity protection

**Rationale for the national target**

Justification for this target is found in the fact that investments in biodiversity protection should be raised (thus turning the negative trend of the previous period). In order to achieve this, it is necessary to mobilise resources from different sources, especially taking into account the fact that biodiversity protection is the interest of all. Firstly, this implies continual allocation of public funds for biodiversity. In other words, allocations for biodiversity should not be observed as one of competitive options while defining the budget, but it should be an undisputed permanent item.

Besides the state budget, it was assessed that burden brought by financing the measures for biodiversity conservation and protection could be divided through incorporation into budgets of different ministries/institutions through ecological-fiscal transfers or more efficient allocation of funds from the state budget for sites or sectors that play a key role in maintaining biodiversity and ecosystems that generate broader benefits for the society and economy. The Strategy specifically proposes implementation of a set of measures pertaining to integration of sustainable biodiversity economy (as a part of green economy) into the main streams of national and sectoral policies, strategies and plans.

In order to ensure even greater efficiency, it is necessary to consolidate the existing funding sources by strengthening partnership relations with relevant institutions, which includes implementation of measures and achievement of targets set in the Strategy through their systematic incorporation into the existing and planned activities implemented by international donors, NGO sector, Montenegrin Academy of Sciences and Arts, Universities and private companies.

The operational target has been defined from the above, aiming to develop new innovative funding mechanisms that should include fostering the green economy development, biodiversity-business partnerships, and mechanisms of public fund raising. In addition, it includes measures that refer to monitoring the level of biodiversity funding, as well as efficiency of used funds. The latter refers to the need for the budgets have a clearly designated items for biodiversity. This has not been the case so far - the previous practice was that budget allocations for nature protection were not clearly designated and were most commonly cumulatively presented together with total administrative costs. This is considered inadequate for monitoring the allocation of funds earmarked for nature protection.

Also, establishing a specific Biodiversity Fund (possibly within the Eco Fund), which would enable disbursement of earmarked funds for biodiversity protection collected from different

sources, is seen in the revised NBSAP as a suitable mode for improving the funding of activities in the area of nature protection, including the very measures defined in the Strategy.

The operational target includes the following measures:

*C1. Continual allocation of public funds for biodiversity protection*

*C2. Public funding for biodiversity clearly designated in budgets of relevant state institutions*

*C3. Established coordination and monitoring of public and other (donations, NVO, universities) funding of biodiversity protection*

*C4. Exploring a model for establishment and financing of a biodiversity fund (or a specific sub-account)*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☒ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☒ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020
The Fifth National Report to the United Nations Convention on Biological Diversity

**Operational target 6: Integration of sustainable biodiversity economy into main streams of**

**national and sectoral policies, strategies, plans**

**Rationale for the national target**

Activities of all sectors influence biodiversity to a greater or lesser extent. This particularly pertains to sectors such as agriculture, forestry, fishery, energy, tourism, which clearly rely on biodiversity through ecosystem services. In Montenegrin context, these sectors are considered pillars of future development.

In order to reduce negative impacts, and stimulate the measures for biodiversity protection, it is necessary to integrate the issues of biodiversity into sectoral policies, plans and programmes. So far this has been done to a very limited extent, so this target, respecting the Aichi target 2, aims to achieve greater integration of biodiversity issues into sectoral policies, programmes and plans. In that way, the NBSAP will not be an independent strategy implemented within the environmental sector, but the policies of other sectors will become the instruments of its implementation.

This operational target has one measure envisaged:
*C5. Measures for the achievement of sustainable biodiversity economy included in other national and sectoral strategies and plans*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☒ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

**Operational target 7: Use of specific fiscal, market and pricing policy instruments as a support to conservation of biological diversity, sustainable production and consumption**

**Rationale for the national target**

The basis for this target lies in the need for discovering an adequate mechanism for the improvement of investments and benefits from most used resources, which are, at the same time, important from the aspect of ecosystem maintaining. Hence, this target seeks to resolve:

- sustainable use of land and resources, as well as production and consumption that take into consideration natural wealth, by making them relatively more profitable compared to biologically and ecologically unsustainable options;
- improvement and extension of market with green products and services, making them more attractive for producers and consumers;
- creating green jobs and acquiring professional knowledge, so as to realise income and at the same time conduct reallocation of labour force in businesses and sectors beneficial for biodiversity, thus ensuring necessary capacities for growth in those sectors;
- promoting public and private investments into green infrastructure.

The relevance of the subject target, as stated in the NBSAP, is found in the recommendation to use specific fiscal, market and pricing policy instruments to support the biodiversity conservation, sustainable production and consumption (Emerton 2013). Stimulation of eco labelling and certification as tools for inducing sustainable production and consumption is a presumption of motivation for application of standards that guarantee sustainable use of resources, which is directly correlated with adequate treatment of natural resource use.

Operational target 6 includes the following measures:
*C6. Exploring options for ecological-fiscal transfers or more efficient disbursement of funds from the state budget for sites or sectors that play key role in maintenance of biodiversity and ecosystems that generate wider benefits for the society and economy*
*C7. Development and facilitation of eco labelling and certification as a tool for stimulating sustainable production and consumption, supporting the development of positive products and markets in terms of biodiversity, and increasing their profitability*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☒ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

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|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☒ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

Emerton, L. (2013) – Mechanisms for mainstreaming a sustainable biodiversity economy, including payments for ecosystem services

**Operational target 8: Establishing legal, institutional and implementation framework for introduction of PES**

**Rationale for the national target**

The mechanism known as Payment for Ecosystem Services (PES) has been recognised in Montenegro as a potentially powerful tool and positive supplement to the protection and sustainable use of biodiversity, and well as to the sustainable production and consumption. Implementation of PES schemes can be achieved through different models, such as: ecological and fiscal transfers, introduction of new tariffs or fees for ecosystem-dependant products or sectors, direct use of funds from public revenues to pay private land of importance or owner – manager who supports ecosystem services if this is economically viable. Additionally, demonstration of PES principle in a pilot project would enable practical presentation of possibilities of this mechanism, which can serve the purpose of awareness raising both among

local population and decision-makers.

Therefore, this operational target includes the following three measures:

*C8. Drafting a PES "White Paper" (as a concept or strategy) for introduction of PES through a broad consultative process*
*C9. Identification and establishment (if necessary) of institutional mechanisms for PES*
*C10. PES pilot project*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☒ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☒ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☒ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

**Strategic target D: SIGNIFICANT REDUCTION OF IDENTIFIED DIRECT PRESSURES TO BIODIVERSITY REGISTERED BY 2020**

*Message: Let's allow life to develop*

The identified factors endangering biodiversity have not changed for the past decade, so it is not realistic to expect their complete elimination within the Strategy implementation period. Therefore, this target has set a strategic vision to register significant reduction in each

identified pressure on biodiversity by 2020.

In order to achieve significant reduction of negative impacts to biodiversity, it is necessary to implement a range of systematic measures which, to great extent, depend on cross-sectoral coordination and availability of funds.

**Operational target 9: Reducing the pressures from the sectors of spatial planning and construction**

**Rationale for the national target**

Excessive urbanisation is a significant pressure on biodiversity and is most notable in the central part of the country (the capital and suburbs), coastal area and in most attractive touristic locations. In order to mitigate the effects of urbanisation on biodiversity, this target envisages the introduction of a mechanism within the permitting procedure in the construction sector, imperative application of the compensation principle for lost habitat, and full integration of measures and guidelines on biodiversity protection into the spatial planning policy.

In order to make informed decisions in spatial planning, it is necessary to provide adequate data about the spatial distribution of biodiversity. Since such data is mainly missing in Montenegro, it is envisaged to define a legal obligation for its provision through development of base studies.

This operation target will be achieved through implementation of two measures:
*D1. Imperative application of compensatory measures for lost habitat*
*D2. Obligation of drafting base study on biodiversity when developing planning documentation in order to reduce the effects of urbanisation on biodiversity*

**Level of application**
☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**
☐ 1 ☐ 6 ☐ 11 ☐ 16
☐ 2 ☐ 7 ☐ 12 ☐ 17

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| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☒ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

The Fifth National Report to the United Nations Convention on Biological Diversity

National Strategy on Sustainable Development until 2030

**Operational target 10: Reducing the pressures from the sectors of environmental protection/utilities**

**Rationale for the national target**

Water course pollution from urban and industrial sources (untreated waste waters) and from agriculture has been recognised as one of significant pressures on biodiversity (The Fifth National Report to the UN CBD). In the adoption of the NBSAP for the period 2016-2020, it was concluded that less than one-fifth of collected waste waters is treated before being discharged into natural recipients, causing occurrences of eutrophication, especially in larger rivers (Morača, Zeta, Lim), Skadar Lake, but also in Boka Kotorska Bay.

Besides the aquatic ecosystems, karst habitats are also exposed to specific pressure of pollution. This habitat type is very common in Montenegrin landscape, characterised by a high degree of endemism (in particular, reptiles and invertebrates), as well as extensive system of ground aquifers, which is why it is so sensitive to pollution from waste waters.

In addition to waste waters, Montenegro is also facing a great problem of disposal of municipal waste, since large percentage of this waste is disposed of inadequately (to illegal dumpsites). Since municipal waste is a threat for biodiversity, mainly through pollution of ground and surface waters, a part of this operational target refers to identification, removal and remediation of consequences of inadequate disposal of municipal waste.

Along with the municipal waste, another problem in Montenegro is also industrial waste in several pollution hot spots, two of which (industrial waste disposal site in Aluminium Plant Podgorica, and grit disposal site in Adriatic Shipyard "Bijela") are envisaged for remediation. This Strategy therefore also contributes to the national waste management policy, defined in the "National Waste Management Strategy by 2030" and "National Waste Management Plan for the period 2015-2020".

In order to achieve operational target 9, the following measures are stipulated:

*D3. Level of waste water treatment in coastal area (especially in Boka Kotorska Bay) guarantees conservation of marine biodiversity*

*D4. Reduced impact of pollution to natural recipients in Montenegro*

*D5. Improving the knowledge about the effects of waste waters on karts ecosystems*

*D6. Registered waste disposal sites located on the river banks (primarily of the Lim and the Tara) completely removed and/or where removal is not an efficient method, recultivated and secured against further environmental impacts*

*D7. Reduction of pollution caused by disposing of industrial – hazardous waste*

**Level of application**

☐ Regional /multilateral
☐ National/federal
☒ Sub-national – local governments of all six municipalities in coastal area of Montenegro

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☒ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☒ 14 | ☐ 19 |
| ☐ 5 | ☒ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

The Fifth National Report to the United Nations Convention on Biological Diversity

National Strategy on Sustainable Development until 2030

## Operational target 11: Sustainable agriculture, forestry and water management

**Rationale for the national target**

According to data from the National Inventory of Forests (2013), 60% of Montenegrin territory is covered by forests, so in order to achieve biodiversity protection at the national level, it is necessary to incorporate adequate protection measures into the forestry policy. The first step in that process should be integration of protection of species and habitats into forest development plans and forest management programmes.

Of all specific pressures originating from the forestry sector and should be addressed in order to protect biodiversity, the following are priority ones for Montenegro:

- *Forest fires* – taking into account climate, geographical and socio-economic circumstances in Montenegro, forest fires are a significant factor of forest endangerment. The percentage of forest area hit by fires has achieved up to 7% (for 2011, Annual Information on the Status of Environment of the Agency for Nature and Environmental Protection). Human factor is the most significant cause of fires, and that is why this operational target includes definition of measures that refer to prevention of fires.

- *Illegal logging* – is a significant problem, so the tackling of illegal and unplanned activities in forestry must be systematic.
With regard to the above, one of the ways to suppress illegal logging and mechanisms for more adequate forest management is the introduction of a forest production certification. Certification of forests is the starting point for the activities of product certification in wood processing companies through certificates within the chain of custody. Such a system has become one of the ways to prove legal origins of timber the distributed products are made of, thus contributing to reduction of illegal logging and trade in timber. This would also make forest management compliant with international practice and standards.

- *Failing to fulfil concession obligations* – state-owned forests can be conceded for use by virtue of a concession contract, for the period ranging from 5 to 30 years. The obligations of concessionaries are defined by the contract signed by the Directorate for Forests and the concessionaries; however, it is not a rare case that concessionaries do not fulfil their

obligations adequately and as defined in the contract (they contribute to degradation of habitats, and so on). With regard to that, and with the aim of improving the forest management system, the control and defined measures pertaining to concessionaries should be strengthened.

- *Illegal and uncontrolled collection of non-timber forest products* – One more pressure on biodiversity, recognised by the Fifth National Report and revised NBSAP, originates from illegal and unsustainable collection of non-timber products, so revised Strategy defined a measure aimed at the improvement of control over this activity so as to reduce the pressure on specific species. The collected species include some rare and endemic, commonly protected species as well, and the collection process can cause disturbance of species and destruction of habitats. This is the reason why addressing this problem is among important issues in the biodiversity protection context.

Besides the problems identified in forestry and having effects on biodiversity, biodiversity is also endangered by uncontrolled hunting and fishing. They can be a very significant negative anthropogenic impacts on biodiversity, primarily on species belonging to a group of "hunting and fishery game", so it is necessary to make far more efforts to eliminate these unsustainable activities. An excessive impact on biodiversity in coastal area originated from illegal spearfishing. The status of game in Montenegrin hunting grounds was not easy to assess, since at the time of NBSAP preparation there was no defined monitoring and recording methodology, while the status of fish stocks was also unknown due to lack of research activities.

The NBSAP recognises that in the area of agriculture, it is necessary to integrate measures of biodiversity protection into the existing policy, especially in the area of preventing the conversion of natural and semi-natural grassland formations into agricultural land.

There is also a problem of illegal exploitation of gravel and sand, and it is specifically present in several locations (especially in the Lim River valley and in the downstream regions of Morača watercourse). Therefore, specific attention must be paid towards reducing the impacts of this activity and sanctioning the registered illegal activities that are a serious endangering factor for biodiversity, as well as to a full integration of biodiversity protection into future river basin management plans.

The Fifth National Report to the CBD concluded that water resource planning and management are also characterised by poor integration of requirements related to biodiversity protection (an example is giving concessions for exploitation of material from river beds). Since adoption of water basin management plans is envisaged for the coming period, it is necessary to integrate therein adequate measures of biodiversity protection.

Based on these identified pressures, the following measures have been defined within operational target 10:

*D8. Integrate targets of species and habitat protection into forest development plans*

*D9. Identify measures of protection against forest fires in protected areas and integrate them into the national fire protection policies*

*D10. Implementing the measures defined in the Action Plan to combat illegal activities in forestry*

*D11. Termination of concession contracts in areas where concessionaries are not able to fulfil their contractual obligations (especially in terms of implementing all necessary measures in the forest management system)*

*D12. Fulfilling requirements for FSC*

*D13. Improve sustainable use of non-wood products*

*D14. Combat against illegal hunting and fishery*

*D15. Reducing the impact of submarine activities on biodiversity*

*D16. Measures for conservation for important natural and semi-natural grassland formations integrated into the current agricultural policy*

*D17. Reducing the impact of illegal exploitation of gravel and sand*

*D18. Integrating the measures of biodiversity protection into future river basin management plans*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☒ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☒ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☒ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

Directorate for Forests

Government Reports

Law on Forests

Revised Strategy of Forest and Forestry Development – Government of Montenegro

White Paper "Sustainable Fishery – Combat against Illegal Fishing" drafted within the MonteAqua project, Institute for Marine Biology, Kotor

National Strategy of Sustainable Development until 2030

**Operational target 12: Reducing the pressures from the sectors of transport, energy and infrastructural development**

**Rationale for the national target**

Transport infrastructure can significantly affect biodiversity through fragmentation and destruction of habitats and change in ecological conditions. In the construction of roads, no account was taken of pathways (natural corridors) for wild species (e.g. construction of passages, corridors), so ecosystems around the roads are highly endangered, not only because of noise and other forms of disturbances, but also because of high mortality rate among wild species living around the roads. That is why it is necessary to include adequate guidelines on biodiversity protection in the planning of transport infrastructural projects. This is particularly important bearing in mind that at the time of NBSAP 2016-2020 drafting the beginning of the first section of the highway was about to start.

Montenegrin energy policy envisages construction of new infrastructure for electricity generation. In compliance with the national development policy and international (primarily EU) trends and standards, this sector is in Montenegro oriented towards renewable energy, primarily to hydropower sources. The plans envisage construction of several major electric energy plants (cascade system of dams along the Morača River), as well as a range of small hydro power plants (especially in the northern part). Taking into account great impact of hydro power plants on biodiversity (through modification of habitats, water quality, sedimentation processes and so on), incorporation of adequate measures and guidelines on biodiversity protection into the plans for construction of energy plants and infrastructure is a necessary measure in Montenegrin context.

Operational target 12 comprises two measures:

*D19. Incorporation of measures for biodiversity protection into the planning and construction of transport infrastructure (planning and construction of bio-corridors, passages, green belts along the roads and reduction of pollution from the roads), especially highway Bar – Boljare and Adriatic – Ionic highway*
*D20. Supporting full integration of measures and guidelines on biodiversity protection into plans for construction of energy plants and energy infrastructure*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

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|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☒ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

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|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020
The Fifth National Report to the United Nations Convention on Biological Diversity

## Operational target 13: Achieving sustainable tourism

**Rationale for the national target**

The national strategic documents have recognised tourism as one of key development business activities of Montenegro (Development Directions of Montenegro 2015 – 2018). In the period between 2006. and 2012. (after Montenegro acquired its independence), the

number of visitors has significantly increased, and revenues from tourism doubled (NSSD). Montenegrin tourism is characterised by seasonal nature and dominant linkage to coastal area – more than 90% of touristic visits are related to coastal region and are mainly realised in a brief summer period (June – September). In addition to being greatly dependant on the use of natural resources (space, water, fuel, electricity and food), touristic business contributes to creation of significant environmental pressures, primarily through waste generation and pollution, therefore indirectly affect biodiversity loss and degradation of habitats.

Over the past years, there is an obvious growing trend of visiting protected areas, especially the national parks - in the observed period, the overall number of visitors had grown by more than ten times, with annual growth rate of 21% (Source: Information about the Status of Environment 2017, Agency for Nature Conservation and Environment). These visits are mainly of a seasonal character and additionally creates pressure on these protected areas, therefore on biodiversity. This is why tourism significantly contributes to environmental pressures, as well as to uneven regional development.

With regard to the above, it is necessary to integrate measures of biodiversity protection into plans and programmes of the touristic sector through specification of measures for protection and development and implementation of incentives for the development of ecological tourism.

Bearing in mind that number of tourists in protected areas, especially in national parks, has been growing over the past years, it is necessary to conduct the assessment of bearing touristic capacities of protected areas and impact of visitors, so as to adequately plan activities of sustainable tourism and to improve the quality and productivity of environment.

Therefore, operational target 13 includes two measures:

*D21. Further integration, specification and operationalisation of measures of biodiversity protection and sustainable biodiversity economy into plans and programmes in touristic sector*
*D22. Assessment of carrying capacities of protected areas and impacts of visitors*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

☐ 1 ☐ 6 ☐ 11 ☐ 16

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| ☒ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☒ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

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| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

The Fifth National Report to the United Nations Convention on Biological Diversity

National Strategy of Sustainable Development until 2030

MONSTAT

Information about the Status of Environment, Agency for Nature Conservation and Environment

**Operational target 14: Measures for mitigation of impacts from invasive species**

**Rationale for the national target**

Introduced and invasive plant and animal species have significant effects on native species and ecosystems, and lead to biodiversity reduction. So far, no systematic research on invasive species has been conducted in Montenegro. Information collected through individual research projects and initiatives enabled compilation of a list of introduced species, whose negative impacts are particularly obvious in aquatic ecosystems. However, specific data about the degree of their invasiveness is still missing. Therefore, the need for implementation of a systematic research on invasive species based on the list of introduced species has been recognised, including the collection of data about the degree and character of invasiveness. It is particularly necessary to strengthen capacities for the control and treatment of ballast waters as a significant path for introduction of invasive species into the marine environment. The main problem is lack of control, suppression and early warning system for biological invasions.

Based on that, this target implies the following measures:
*D23. Improving the knowledge about invasive species in Montenegro*
*D24. Improving the monitoring system and ballast water treatment*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

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|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☒ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

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|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

The Fifth National Report to the United Nations Convention on Biological Diversity

## Operational target 15: Measures to mitigate climate change impacts

**Rationale for the national target**

In Montenegro, there is no systematic monitoring of the climate change effects on biodiversity. The studies on impact of climate change in Montenegro have provided a generic overview of mechanisms and possible impacts, with emphasis on forest ecosystems. Preliminary identification of habitats and species that will be exposed to greatest pressures due to climate change (e.g. karts habitats, reptiles and amphibians) has been conducted within the First National Communication to the UNFCCC (2010). Also, a range of potential impacts to various biodiversity components have been identified. That is why the NBSAP

concluded that this knowledge should be improved and broadened, and that it is necessary to explore in detail any specific mechanism and impact of climate change, especially on sensitive areas/ecosystems (primarily marine and highland ones), and to propose mitigation measures.

Since Montenegro adopted the National Strategy in the Area of Climate Change by 2030 that defines a range of measures for mitigation of impacts and adaptation to climate change, implementation thereof is considered necessary for the purposes of biodiversity protection.

Operational target 15 includes one measure:
*D25. Implementation of the National Strategy on Climate Change*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

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|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☒ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☒ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Strategy in the Area of Climate Change by 2030
The Fifth National Report to the United Nations Convention on Biological Diversity

**Strategic target E: UNTIL 2020, PREREQUISITES ARE CREATED AND TARGET BIODIVERSITY**

## PROTECTION MEASURES IMPLEMENTED

*Message: Let's protect the most endangered forms of life*

Biodiversity is viewed at three levels – ecosystems, species and genes, and all three levels should be the object of direct actions and interventions designed to conserve and protect them.

### Operational target 16: Activities on the protection of most endangered species are implemented

**Rationale for the national target**

Red Lists and Red Books of flora and fauna are important instruments for the assessment of state and status of conservation of species, so Article 90 of the Law on Nature Protection has prescribed adoption of red list of wild plants, animals and fungi. The Red List is an indicator of biological diversity in a country, it indicates reduction of biodiversity, problems in the protection and species in need of protection programmes. However, annual monitoring programmes for biodiversity introduced in 2000. were commonly subject to significant financial constraints, and although the situation has improved over the past several years, the key problems in planning and implementation of different programmes include lack of basic data for certain areas, habitats and species, and insufficient research coverage due to financial constraints, but also to insufficient human resources (Fifth National Report to the CBD). These problems were the reason why full and reliable biodiversity status assessment was hindered and further efforts should be made to improve the data collection system aimed at assessing the status and creating prerequisites for drafting the red lists and books.

When it comes to protection of the most endangered species in Montenegro, it was noted that drafting and implementation of the Action Plans would be most adequate approach. In the period when revised Strategy was in the adoption process, no action plans were adopted, except for Dalmatian pelican, so it was assessed that defining the measures to address this issue would be justified.

Operational target 16 includes the following measures:
*E1. Drafting the Red Book of Montenegrin flora*
*E2. Assessment of status, endangerment and distribution of legally protected and N2000 species*
*E3. Drafting and implementing Action Plans for most endangered species*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☒ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

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| ☐ 1 | ☒ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☒ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

The Law on Nature Protection

**Operational target 17: Activities on the protection of most endangered habitats are implemented**

**Rationale for the national target**

Operational target 17 primarily encourages provision of information about habitats of importance for the protection at the national and international levels. Taking into account that the level of existing information about habitats of importance for the protection is low, this target envisages enrichment of that knowledge with additional information related to the assessment of status in terms of conservation, endangerment and distribution. The aforementioned is of specific importance in the context of establishing Natura 2000 network. In such a way, a baseline would be formed to assess the endangerment, and thus the basis for planning of necessary protection measures that would be integrated into the existing plans for protected areas and for use of natural resources, or that would be defined as special action plans.

Operational target 17 includes the following measures:

*E4. Assessment of the status, endangerment and distribution of habitat types and sites of national and international ecological importance*

*E5. Drafting the action plans for most endangered habitats*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☒ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020
Law on Nature Protection

## Operational target 18: Support conservation of genes

**Rationale for the national target**

Genetic potential of Montenegrin populations of plant and animal species has not yet been analysed in detail since no coordinated research of genetic diversity of species has been

conducted. In order to conserve genetic diversity, the Law on Nature Protection has set forth the obligation of establishing a gene bank. As for *ex situ* protection of biodiversity, it was concluded that limited number of activities had been implemented in Montenegro (NSDS). So far, three botanical gardens have been founded, and they provide conditions for maintenance of a number of plants, but their sustainability is a challenge.

Genetic resources are key component of agro-biodiversity. The NBSAP concludes that development of new practices in agriculture and market pressures led to the erosion of agro-biodiversity, primarily of domestic cultivars and breeds that have been reduced or disappeared or their genetic base has changed due to cross-breeding with imported sorts and breeds, so there is a need for its conservation.

Therefore, operational target 18 contains two measures, and these are:

*E7. Maintain traditional breeding of certain domestic breeds of animals and varieties of plants, fruit and vegetables*

*E8. Improved ex situ collections management (botanical gardens, arboreta and commercial collections)*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☒ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☒ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

**Strategic target F: UNTIL 2020 ECOLOGICAL INFRASTRUCTURE CREATED AS THE BASIS FOR CONSERVATION OF NATIONAL BIODIVERSITY**

*Message: Let's develop an efficient safeguard network*

The existing ecological infrastructure must be significantly improved in the coming period, although certain steps have already been taken towards this target. Designating parts of the sea and coastal zone of Montenegro for protection will make the national biodiversity safeguard system representative and integral. In parallel with the proclamation of new protected areas, it is necessary to strengthen the capacities for managing the existing protected areas.

**Operational target 19: Establish an integrated and efficient green network which will incorporate new protected areas**

**Rationale for the national target**

Protected areas and ecological network are the basis of adequate mechanisms, measures and binding decisions that should halt biodiversity loss and improve conservation. Therefore, one of the most complex activities in the future will be to establish the ecological network, areas of national and international significance (establishment of Natura 2000 network is at the same time a prerequisite for Montenegro's accession to the EU). Therefore, in order to improve biodiversity protection and integrate its most valuable components into the safeguard system, as well as to contribute and comply with internationally set targets and standards, operational target 19 is defined with three following measures:

*F1. Increase the areas under protection to at least 17% of the state territory (primarily those envisaged in the Spatial Plan of Montenegro by 2030)*

*F2. Proclaim coastal and marine protected areas (to comprise at least 10% of total protected areas)*

*F3. Established ecological network in Montenegro, including appropriate ecological corridors*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | | |
|---|---|---|---|---|
| ☐ 1 | ☐ 6 | ☒ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☒ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☒ 7 | ☒ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☒ 14 | ☐ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

National Strategy of Sustainable Development until 2030

http://www.prirodainfo.me

## Operational target 20: Ensure the efficiency of network through better management

**Rationale for the national target**

Management structures have not yet been established in the majority of protected areas, so protection is often of a declarative character ("paper parks"). Therefore, in parallel with proclaiming new protected areas, the need has been recognised to strengthen capacities for managing the existing protected areas. The target is aimed at achieving that no larger protected area remain without nominated manager, management plan and sources of funding (by the end of implementation period of the Strategy).

Operational target 20 includes the following measure:
*F4. Reorganise and improve protected areas management*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | | |
|---|---|---|---|---|
| ☐ 1 | ☐ 6 | ☒ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☒ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☒ 7 | ☒ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☒ 14 | ☐ 19 |
| ☒ 5 | ☐ 10 | ☒ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

National Strategy of Sustainable Development until 2030

http://www.prirodainfo.me

**Strategic target G: KONWLEDGE ON BIODIVERSITY IS IMPROVED, SYSTEMATISED AND WIDELY AND EQUITABLLY AVAILABLE THROUGH DEVELOPED MECHANISMS**

*Message: To know what we have and to make it available to all*

In order to enable the achievement and adequate monitoring of previously set strategic targets, it is necessary to ensure the mechanisms for systematic collection, processing and share of information on biodiversity for all stakeholders. In order to achieve this target, it is necessary first to develop an information system on biodiversity within the environmental information system. The pursuit of the vision set in this target will enable: (i) support to the accomplishment of measures defined under other strategic targets (especially of A and B targets of this Strategy), (ii) improvement of the existing biodiversity-related information, as well as (iii) external quality control of the existing official data.

**Operational target 21: Develop research and organise an efficient data collection and processing system**

**Rationale for the national target**

Adequate and reliable data, as well as data management in terms of updating, availability and possibility of data use, are all the basis for adequate biodiversity protection and informed decision-making process. However, mechanisms for systematic collection, processing and share of information on biodiversity for all stakeholders have not been fully established in Montenegro. Therefore, it is necessary to develop an information system on biodiversity within the environmental information system.

Besides, the existing data collection system is partial (does not comprise important species and habitats, nor does it have temporal continuity, etc.), so it is necessary to achieve long-term programme of systemic data collection that would enable monitoring of trends, and also sustainability in terms of timely mobilisation of necessary resources. This would improve availability of data on biodiversity for wider public and all stakeholders, which has also been identified as significant in the National Biodiversity Strategy with the Action Plan.

Operational target 21 includes the following measures:
*G1. Establishing information system on biodiversity within the Environmental Information System*
*G2. Enabling general and unlimited availability of official biodiversity-related data*
*G3. Improving the monitoring system related to biodiversity*
*G4. Encourage research in the area of biodiversity*

**Level of application**
☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☒ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☒ 1 | ☒ 6 | ☒ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☒ 12 | ☐ 17 |

| | | | |
|---|---|---|---|
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☒ 9 | ☐ 14 | ☐ 19 |
| ☒ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

**Operational target 22: Make biodiversity-related information publicly available, consolidate knowledge and ensure fair and equitable distribution of benefits from genetic diversity**

**Rationale for the national target**

As already stated in operational target 21, enabling unlimited access to official biodiversity-related data for all stakeholders is necessary, and with regard to that, "clearing house mechanism" (CHM) has been recognised as an adequate approach for data organisation and availability.

As a specific measure for ensuring the fair and equitable distribution of benefits from genetic diversity, preparation of necessary measures for ratification of the Nagoya Protocol and its implementation is deemed adequate.

Based on the above, measures defined within this operational target are:

*G5. Improvement and exchange of biodiversity-related information with all relevant stakeholders (NGO sector, students, citizens, local communities, and so on) through establishment of CHM*
*G6. Ensuring the principle of fair and equitable distribution of benefits from genetic biodiversity in plans and programmes*

**Level of application**

☐ Regional /multilateral
☒ National/federal
☐ Sub-national

**Main Aichi targets for which this target is relevant:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☒ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |

| | | | |
|---|---|---|---|
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☒ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

**Other Aichi targets this target contributes to:**

| | | | |
|---|---|---|---|
| ☐ 1 | ☐ 6 | ☐ 11 | ☐ 16 |
| ☐ 2 | ☐ 7 | ☐ 12 | ☐ 17 |
| ☐ 3 | ☐ 8 | ☐ 13 | ☐ 18 |
| ☐ 4 | ☐ 9 | ☐ 14 | ☐ 19 |
| ☐ 5 | ☐ 10 | ☐ 15 | ☐ 20 |

*Other relevant information*

**Relevant websites, web links, and files**

National Biodiversity Strategy with Action Plan for the period 2016 – 2020

# Chapter II – Implementation measures taken, assessment of their effectiveness, associated obstacles and scientific and technical needs to achieve national targets

| **Measure 1: Awareness raising and education on biodiversity** |
|---|
| The measure undertaken to contribute to awareness raising and education on biodiversity has been defined through preparation and implementation of educational and training curricula on the protection, sustainable use and fair and equitable sharing of benefits from biodiversity in schools. To this end, the curricula and teaching and educational programmes in all upbringing and educational institutions have integrated curricular topics, including biodiversity and climate change.<br><br>The catalogue of the Teachers' Training Programme contains more than 30 programmes for implementation of curricular topics and education for sustainable development. More than 35% teachers have passed training courses for implementation of curricular topics and are using publicly available materials published by the Bureau for Educational Services. Biodiversity is also one of elective courses in Montenegrin high schools.<br><br>The Bureau for Education Services, in collaboration with the Regional Environmental Centre (REC) Office in Montenegro, has published a Methodological Manual for implementation of the programme "Education for sustainable development within the area of activities in pre-school education (for 3 to 6 years of age)". This institutions is also implementing several educational programmes for primary school students - an international Eco-School programme where one of the topics is biodiversity, and a school in nature under title "History Class in the Capital: Cetinje – one story", through which the students are expanding their knowledge about biodiversity, history, tradition and cultural heritage of Montenegro.<br><br>Public Enterprise for National Parks of Montenegro, in its management plans for the period 2016 – 2020 for NP Biogradska gora and NP Skadar Lake, have developed educational programmes based on learning about nature in nature and about natural values of national parks (total biodiversity, importance of conservation and ecological processes). The programme is compatible with the school programme for the 6$^{th}$ grade of primary schools. |
| **To which national or Aichi target this measure contributes**<br>The measure directly contributes to Strategic target A and operational target 1, as well as to |

| Aichi target 1. |
|---|
| **Assessment of efficiency of applied measures in achieving desired results**<br>☒ The measure was effective<br>☐ The measure is partially effective<br>☐ The measure is inefficient<br>☐ Not known<br><br>Activities related to awareness raising and education are implemented for pre-school and school children. In order to achieve efficiency of applied measures in attaining desired results, long-term education and application of measures are needed, as well as a system to monitor the acquired knowledge and its influence on behaviour and habits, which is missing at the moment.<br><br>**Relevant websites, web links, and files**<br>Bureau for Education Services – Education for Sustainable Development |
| **Other relevant information**<br>**/** |
| **Obstacles and scientific and technical needs related to the measure taken**<br>**/** |

| **Measure 2: Improving legal regulations for biodiversity and nature protection** |
|---|
| In the period since 2014, in order to strengthen legal framework and comply with the international standards, new Law on Nature Protection was adopted (Official Gazette of Montenegro, no. 54/16). This Law stipulated a range of implementation bylaws, prescribing in details and elaborating mechanisms for protected areas, species and habitats. The following bylaws were adopted in the period between 2014 and 2018:<br><br>- Rulebook on the manner of maintaining records on habitat types Official Gazette of Montenegro, no. 22/14)<br>- Rulebook on the manner of risk assessment for introduction of alien wild species of plants, animals and fungi and breeding specimen thereof (Official Gazette of Montenegro, no.28/14)<br>- Rulebook on the manner of marking strictly protected and protected wild species of animals in captivity (Official Gazette of Montenegro, no. 28/14) |

- Rulebook on the content, manner of creation and maintenance of cadastre of speleological facilities (Official Gazette of Montenegro, no. 22/14)
- Rulebook on the conditions for trade and manner of handling protected wild species in transport (Official Gazette of Montenegro, no. 29/15)
- Rulebook criteria for introduction of ecological network (Official Gazette of Montenegro, no. 45/17);
- Rulebook on the content of appropriate assessment study (Official Gazette of Montenegro, no. 45/17);
- Rulebook on detailed conditions for circulation, transit, trade and treatment of animals in transport (Official Gazette of Montenegro, no. 61/17).

When it comes to the Law on Nature Protection (Official Gazette of Montenegro, no. 54/16), its revision was initiated to achieve functional application of certain sections of the law, as well as to integrate requirements from the EU *Acquis* and ratified international agreements in the area of nature protection. The new Law created a precondition for comprehensive nature protection in accordance with international standards.

Specific matters related to nature protection are also regulated through a set of laws revised in the period 2014 – 2018, among which the following should be mentioned:

- Law on National Parks (Official Gazette of Montenegro, no. 28/14), which prescribes rules within national parks, management measures, protection measures, control of activities,
- Law on Forests (Official Gazette of Montenegro, no. 74/10 and 47/15), prescribing the rules and measures related to forest and forest habitats management,
- Law on Game and Hunting (Official Gazette of Montenegro, no. 52/08 i 48/15) prescribes a list of hunting species, hunting seasons and rules of hunting, including measures to regulate hunting
- Law on Marine Fishery and Mariculture (Official Gazette of Montenegro, no. 56/09 and 47/15)
- Law on the Environmental Impact Assessment (Official Gazette of Montenegro, no. 75/18)

Apart from the above, within the process of EU integrations, Montenegro has improved the normative and strategic framework for the environmental protection and harmonised it with international standards, especially the EU. In this period, 29 laws harmonised with the EU Acquis, 96 bylaws and more than 10 sectoral strategies in relation to the environment were endorsed.

In July 2018, the Government of Montenegro adopted the Regulation on the manner and procedure for drafting, adjusting and monitoring the implementation of strategic documents. This regulation and related methodology are intended to achieve better mutual consistency

between national strategic documents, their compliance with relevant international and European policies, as well as harmonisation of their content, manner of monitoring over the implementation and reporting.

**To which national or Aichi target this measure contributes**

The measure directly contributes to Strategic target D and operational targets 8 to 13, Strategic target E and operational targets 15 to 17, Strategic target F and operational targets 18 and 19, Strategic target G and operational targets 20 and 21.
It also contributed to Aichi targets 2, 5, 6, 7, 6, 9, 10, 11, 12, 14, 17 and 19.

**Assessment of efficiency of applied measures in achieving desired results**

☐ The measure was effective
☐ The measure is partially effective
☐ The measure is inefficient
☒ Not known

Adoption of adequate legal framework is a presumption for adequate integration of biodiversity and nature protection measures into the overall sustainable development policy and practice. The improved legal framework is expected to bring change in behaviour and policies at all levels. However, assessing the effectiveness and efficiency of these measures will require longer period of time and established monitoring system both for biodiversity status and for the enforcement of legal instruments. Bearing in mind that listed pieces of legislation were adopted in relatively recent time period (two or three years ago), it will take time for adequate assessment of effects and establishment of a system that will monitor the statistics of implementation of legal regulations and biodiversity status.

**Relevant websites, web links, and files**

**Other relevant information**

/

**Obstacles and scientific and technical needs related to the measure taken**

Connecting the strengthening of legal framework with the status of biodiversity is still quite a challenge. This would imply the existence of clearly defined indicators, monitoring system, data analysis that will allow drawing conclusions on the contribution of strengthening the legal framework to biodiversity conservation, which at this moment is not possible to achieve due to limited human, financial and technical capacities.

**Relevant websites, web links, and files**

### Measure 3: Integration of biodiversity

Over the past years, biodiversity has increasingly became a topic taken into account when designing various plans and programmes and sectoral policies. This is caused by the existence of legal obligations, awareness raising on the importance of biodiversity for the development and human well-being, greater understanding of the concept of ecosystem services, as well as previous studies of their valuation. In the period 2011 – 2013, first efforts were taken for economic evaluation of ecosystem services, which demonstrated that these services significantly contribute to Montenegrin economy, which is predominantly based on activities that depend on natural resources (agriculture, tourism, energy). The findings of these studies were distributed to a wide range of stakeholders who in this way became familiar with the overall biodiversity values. An important outcome was that decision makers within the environmental sector recognised the economic significance of biodiversity and ecosystem services.

Owing to the above stated efforts, it can be said that the process of integrating biodiversity was initiated and is taking off. The integration is implemented through several different mechanisms:

*Inclusion of biodiversity topics into sectoral policies*

In the period between 2014 and 2018, a considerable number of national strategies and plans were adopted and revised. They include two umbrella strategies defining the development: Development Directions 2018 – 2021 and the National Strategy on Sustainable Development with Action Plan until 2030 (NSSD 2030).

The Development Directions 2018-2021 provide a strategic framework for harmonisation and coordination of national and sectoral development measures, as well as guidelines for the allocation of funds from public sources, and they also define investment priorities. The main vision of development is to increase the living standard of population through sustainable and inclusive economic growth. This implies a transition to the economy based on the efficient and sustainable use of resources, environmental protection, emission reduction, biodiversity protection and the development of new technologies and production methods. Therefore, this specific umbrella strategic document gives the room for protection and sustainable valorisation of biodiversity, as well as its integration into sectoral policies. In addition to measures aimed at protecting the environment, the document has also specified several measures directly related to the biodiversity protection: the establishment of Natura 2000 network, designation of new protected areas according to national definitions, adoption of the new NBSAP for the period 2021-2025, and the establishment of a refuge centre for abandoned animals.

The NSSD 2030 improves the national sustainable development policy on the basis of results gained in implementation of the previous NSSD and the requirements of the Montenegrin EU accession process. It transposes global targets and tasks, such as the Millennium Development Targets, into the national framework. This strategy clearly defines ecosystem services, and it also provides direct measures for biodiversity: the improvement of the protected area system (including: increasing the area under protection, establishing new management structures and strengthening the existing ones, establishing the network and corridors), improving biodiversity-related data (increasing the knowledge base, availability of data to all stakeholders), reduction of pressures on biodiversity (from economic sectors, but also in relation to climate change and invasive species). The target outcome of the envisaged measures is to halt the decline in biodiversity at all levels (genes, species, ecosystems). In addition to direct measures, NSSD also envisages the integration of biodiversity topics into sectoral policies, the improvement of SEA and EIA mechanisms, as well as mobilisation of funds intended for environmental protection through introduction of new economic instruments. In this way, this strategy contributes to achieving the relevant Aichi targets.

At sub-national level, the Local Action Plans for Biodiversity (LAPB) have been adopted to integrate biodiversity topics at the local government level (see Chapter 3, operational target 3).

When it comes to sectoral strategies adopted or revised in the reporting period, biodiversity topics are integrated therein as follows:

- The National Strategy for Integrated Coastal Zone Management of Montenegro (NSICZM) was adopted in 2015 as a national strategic framework contributing to the implementation of the EU strategies for the Adriatic and Ionian Regions. It includes a considerable number of nature protection measures in the coastal region. The NSICZM included nature protection through measures for implementation of instruments related to the protection of natural resources, ecologically valuable habitats and ecosystems.
- The Strategy for the Development of Agriculture and Rural Areas 2015-2020 envisages support measures for conservation and sustainable use of genetic resources; support to sustainable use of mountain pastures; and support to the development of organic production.
- The Water Management Strategy was adopted in June 2017, defining water protection and the achievement of good water status as one of the main targets, aimed at protecting and improving the environment and improving biodiversity status.
- Forests and Forestry Strategy with Development Plan – National Forest Strategy for the period 2014-2023 integrates biodiversity protection through ecosystem approach in forest management and nature protection, regulation of pastures and forests use, integration of requirements from Natura 2000 into forest management plans, improvement of forest management in national parks, improvement of fire protection system, sustainable use of

non-timber forest products.

- Fisheries Strategy 2015-2020 with the Action Plan for transposition, implementation and enforcement of the EU *Acquis* does not have any direct measures to protect biodiversity, but it envisages a set of measures to improve legislative framework, its implementation and capacity building in institutions, which is expected to contribute to better management of fish stock and aquatic ecosystems.
- Programme for the Development of Hunting in Montenegro 2014-2024 focuses on hunting species and defines measures aimed at ensuring the protection of wildlife and its natural habitats.

*Impact assessments (SEA, EIA)*

An important mechanism for integrating biodiversity protection measures is the mechanisms of impact assessment (Strategic Impact Assessment – SEA and Environmental Impact Assessment EIA), regulated and accordingly implemented through relevant legislation in Montenegro since 2005.

**T able 2** – Number of conducted SEA and EIA procedures in the reporting period

| **Procedure/year** | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|
| SEA | 2 | 3 | 4 | 12 |
| EIA | 85 | 72 | 86 | 73 |

*Indications, standards and certificates*

Over the past several years, a number of schemes have been introduced, indirectly contributing to biodiversity protection. Certification for organic agriculture has been introduced in the agricultural sector, with the number of certified farms growing year by year (Table 3). Geographical indications have also been introduced and six food products have been protected so far in that way, thus indirectly contributing to the protection of traditional forms of land use and agro-biodiversity through preservation of traditional methods of food production.

**Table 3** – Statistics on organic agricultural production in the reporting period

| **Year** | **Number of farms registered for organic production** | **Total arable land under certification procedure (ha)** | **Land under certified organic products (ha)** |
|---|---|---|---|
| **2014** | 167 | 549,75 | 157,35 |
| **2015** | 222 | 549,75 | 157,35 |
| **2016** | 280 | 681,27 | 144,78 |
| **2017** | 317 | 688,03 | 154,2 |
| **2018** | 351 | 765,23 | 287,29 |

Touristic sector has introduced Eco-labelling system of certification, and so far 14 touristic facilities (hotels) in the coastal zone and in central Montenegro have been issued these certificates.

When it comes to the forestry sector, an Action Plan has been adopted for certification of forests according to the Forest Stewardship Council (FSC) methodology. No certification of forest areas was conducted so far, but the following period envisages the implementation of certification of schemes that confirm the origin of timber from sustainably managed forests, in accordance with the EU forestry directives.

*Economic and financial mechanisms*

These mechanisms are primarily reflected in direct financial support to protected areas, as well as in allocations provided through different supporting systems and subsidies, primarily in the sectors of agricultural, rural development and tourism. The agriculture sector assumes support to cultivation of autochthonous cultivars and breeds, support to certified organic producers, subsidising sustainable use of pastures, as well as subsidising the introduction and certification of quality schemes. The sustainable development and tourism sectors assume subsidising of hotel certification, raising awareness about the carbon footprint of tourists. The highest amounts from the budget are allocated to the development of utility infrastructure and solid waste and waste water management.

*Valuation of ecosystem services*

Several valuations of ecosystem services have been carried out in Montenegro since 2011 (for more information, go to Chapter 3 –operational objective 2). They have influenced awareness raising about the importance of biodiversity among decision makers. The Ministry of Sustainable Development and Tourism has created a legal framework for the concept of ecosystem services through the Law on National Parks and the Law on Nature Protection.

The measure directly contributes to the national strategic target D and operational targets 8 to 13, strategic target E and operational targets 15 to 17, strategic target F and operational targets 18 and 19, strategic target G and operational targets 20 and 21. It also contributions to Aichi targets 2, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17 and 19.

**Assessment of efficiency of applied measures in achieving desired results**

☐ The measure was effective
☐ The measure is partially effective
☐ The measure is inefficient
☒ Not known

**Please explain the choice and as necessary list the tools or methodology used for the efficiency assessment of the above stated measures**

Similarly to the legal aspect (previous measure), the adoption of strategic framework is a prerequisite for adequate integration of nature protection measures into the overall sustainable development policy, but for the assessment of effectiveness it is necessary to provide a monitoring and status analysis system, and over a certain period of time. Therefore, at the moment it is not possible to assess the contribution of this measure to achieving the national targets. It is surely expected that implementation of the biodiversity measures defined in these strategies will contribute to the overall nature protection at the national level.

As for other above mentioned mechanisms related to integration of biodiversity, they are also not covered by specific monitoring systems which would enable determination of their impact on biodiversity conservation.

Relevant websites, web links, and files

**Other relevant information**
/

**Obstacles and scientific and technical needs related to the measure taken**

The main barriers are reflected in the following:

- Administrative resources – they are very limited, especially at local level, and particularly for implementation of EIA, SEA and financial mechanisms. This refers both to the number of employees (e.g. at local level it is often one person responsible for all environmental matters), and also to key competencies needed to implement the integration mechanisms and monitoring. In addition, capacities of environmental inspection are not sufficient to monitor application of measures and the adequacy of implementation of all important projects in progress. Therefore, there is a need to ensure a continuous system for enhancement of human capacities.

- Lack of and unavailability of relevant data – Lack of data is particularly acute in cases of strategic impact assessment and environmental impact assessment as there is a lack of specific data on biodiversity in the subject area of the assessment. Until now there has been no strict obligation that, in case of the lack of data, the project proponent is obligated to conduct research on biodiversity baseline status prior to the preparation of the Strategic Impact Assessment Report or the Impact Assessment Study. Although public consultation processes are conducted, integration of comments made at such public consultations is often not complete. Furthermore, the defined measures can be generic, so enforcement remains impossible in some cases.

- From the financing standpoint, the main problem is inadequate definition of investments for biodiversity in budgets, so analysis and monitoring thereof are impossible. Everything has been descriptively set in strategies and action plans, but specific measures which could be monitored are neither defined, nor applied.

Relevant websites, web links, and files

## Measure 4: Reducing the pressure on biodiversity

Strategic target D of the NBSAP is defined as "Significant reduction in identified direct pressures on biodiversity registered by 2020" and as such corresponds to Aichi Strategic target B. Seven operational objectives are defined therein, aimed at reducing the pressures originating from sectors of spatial planning, utilities, agriculture, forestry, water management, transport, energy, tourism, as well as from invasive species and climate change.

The spectrum of activities carried out under this general measure is broad – from infrastructural development (e.g. wastewater treatment), through adoption and implementation of adequate integration mechanisms and biodiversity protection (such as forestry-related plans), to fight against illegal activities (e.g. illegal exploitation of forests, gravel and sand from riverbeds), and so on.

The greatest progress in this regard is made in sectors of utilities, waste management and agriculture. Chapter 3 (operational targets 9-15) and Chapter 4 (Aichi targets 5-10) contain detailed information and descriptions of activities carried out in these sectors with assessment of their success.

**To which national or Aichi target this measure contributes**

National Strategic target D, operational targets 9-15

Aichi strategic target B (targets 5-10)

**Assessment of efficiency of applied measures in achieving desired results**

☐ The measure was effective
☒ The measure is partially effective
☐ The measure is inefficient
☐ Not known

Relevant websites, web links, and files

**Other relevant information**

For more detailed information, please refer to Chapter 3, national targets 9-15.

**Obstacles and scientific and technical needs related to the measure taken**

Although activities comprised by this measure are diverse, certain barriers can be recognised, as well as needs related to the implementation:

- Lack of financial resources – application of measures from strategic documents and plans is often not implemented according to the planned schedule due to lack of financial resources. This is a specific problem with infrastructural projects such as those addressing construction of wastewater treatment plants or waste management. These needs are partially financed from the state budget based on defined priorities, and partially from project grants and loans. Procedures for these projects are often robust, and the existing human capacities in institutions is often insufficient to ensure faster implementation.

- The pollution monitoring system, maintained by the Agency for Nature and Environmental Protection, should be further enhanced, as well as cooperation between all institutions in the system that provide data in order to share and utilise it.

Relevant websites, web links, and files

## Measure 5: Improving the protected areas system

Between 2014. and 2018, a number of activities related to the improvement of protected areas system were implemented, including the following:

***Expanding the territory under protection by proclaiming new protected areas***

A specific result of these efforts is five new protected areas: Monument of Nature *Gornjepoljski vir* (Gornje Polje whirlpool) (2014), Nature Park *Komovi* (2015), Nature Park *Piva* (2015), Nature Park *Dragišnica i Komarnica* (2017), Monument of Nature *Kanjon Cijevne* (2017). In this way, the percentage of state territory under protection increased from 8.25% to 12.10%. Although the envisaged target of 17% was not achieved in this period, the initiatives for proclamation of new protected areas were launched, so it is expected that the set target will be further approached.

***Preparations for proclamation of new protected areas***

The following activities that have been implemented make the basis for further increase in the percentage of protected areas in the coming period: studies on the protection of Nature Parks Sinjajevina and Ulcinj Solana (salt pan) have been drafted and the proclamation of these areas is in progress. The new proclamation act for the Nature Park Orijen based on the revision of the previous protected area act is ongoing.

In this reporting period there was no proclamation of marine protected areas; however, the project "Promoting Protected Areas Management through Integrated Marine and Coastal Ecosystems Protection in Coastal Area of Montenegro", financed by GEF, was launched for that purpose. The target of this project is, *inter alia*, to prepare a complete document basis for proclaiming three marine protected areas (Katič, Platamuni and the island of Stari Ulcinj), as well as to ensure basic preconditions for adequate management. The existing protected areas have mainly covered land and freshwater systems, and with the proclamation of marine areas, representativeness of ecosystems and populations of species under protection will increase at the national level.

***Improvement of management mechanisms***

Of newly proclaimed protected areas, Nature Park *Piva* has established a management body, meaning that management institution has been formed, adequate human resources employed and management plan, prescribing the protection activities in this area, adopted.
New five-year management plans for national parks have been adopted in this period, covering the period from 2016 and 2020. They define measures and activities based on the implementation of the previous plan and current needs for protection.

***Establishing ecological network and corridors***

Despite the fact that ecological network has not yet been defined in Montenegro, that process was initiated through project "Establishing Natura 2000 in Montenegro". So far a part of territory has been mapped (14%), and the rest is expected within the forthcoming planned activities (that will be supported from the state budget and launched project initiatives). This creates the conditions for establishing the ecological network.

**To which national or Aichi target this measure contributes**

National Strategic target F – operational target 18. Aichi target 11 directly, and indirectly 5, 6, 7, 10, 12 and 14.

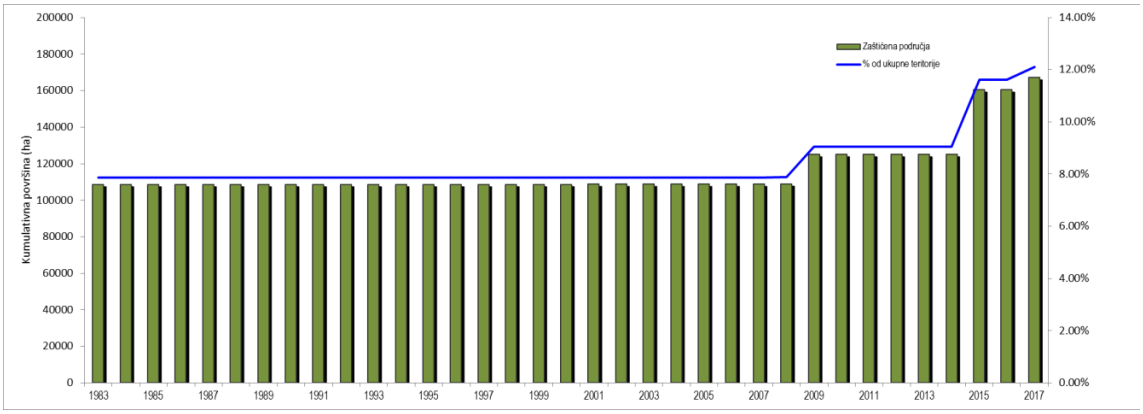
**Assessment of efficiency of applied measures in achieving desired results**

☐ The measure was effective
☒ The measure is partially effective
☐ The measure is inefficient
☐ Not known

In the assessment of this measure, the indicators used were the number and size of newly proclaimed areas formed in the previous period. Proclamation of the mentioned areas in the reporting period increased the territory under protection by 53,188.31 ha, or 3.85% (Table 4, Graph 1, Figure 1).

**Table 4** - Indicator: number and surface of protected areas

| Year | Number of proclaimed protected areas | Proclaimed area | Total area under protection (ha) | Increased % | % of total territory |
|---|---|---|---|---|---|
| 1952 | 3 | 44389 | 44389 | / | 3,21 |
| 1965 | 7 | 10,69 | 44399,69 | 0,02 | 3,21 |
| 1968 | 48 | 2913,86 | 47313,55 | 6,56 | 3,43 |
| 1969 | 1 | 10260 | 57573,55 | 21,69 | 4,17 |
| 1983 | 1 | 40000 | 97573,55 | 69,48 | 7,06 |
| 1994 | 2 | 0,64 | 97574,19 | 0,00065592 | 7,06 |
| 2000 | 1 | 0,99 | 97575,18 | 0,00101461 | 7,06 |
| 2001 | 1 | 159 | 97734,18 | 0,16 | 7,08 |
| 2008 | 1 | 150 | 97884,18 | 0,15 | 7,09 |
| 2009 | 2 | 16038 | 113922,18 | 16,38 | 8,25 |
| 2014 | 1 | 2,21 | 113924,39 | 0,00 | 8,25 |
| 2015 | 2 | 48169,9 | 162094,29 | 42,28 | 11,74 |
| 2017 | 2 | 5016,2 | 167110,49 | 3,09 | **12,10** |




**Graph 1** – Percentage of protected areas as per year

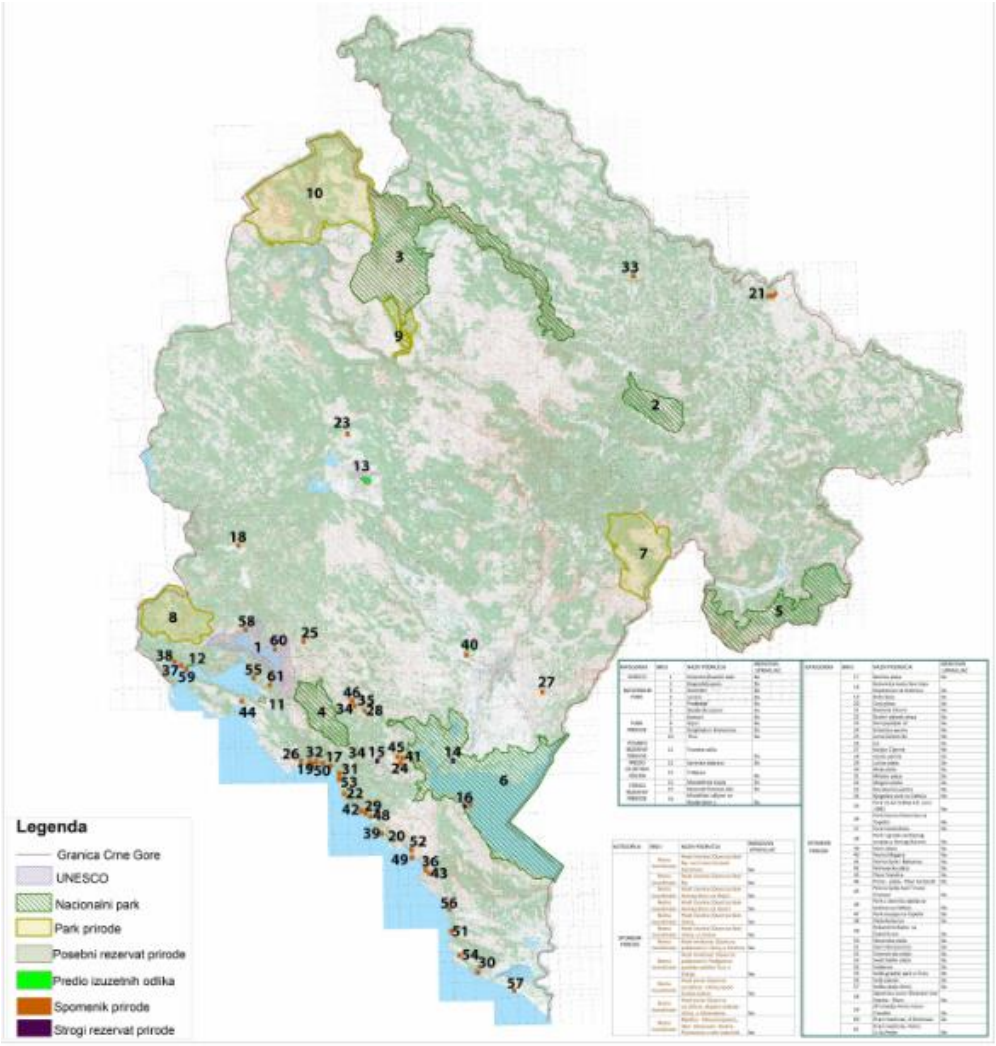



**Figure 1** – Map of protected areas in Montenegro

The measure is assessed as partially effective because:

- a percentage of 12.1%[1] of territory under protection has been achieved against the planned 17% by 2020. The initiatives for the establishment of several new protected areas have been launched (Sinjajevina, Lower course of the Zeta River, Ulcinj Solana), which is why further approximation to this target is expected.
- the percentage of protected marine areas has not been achieved, but there are several ongoing projects aiming to establish preconditions for proclamation of marine

[1] This figure does not include the data for Nature Park Orijen, since the proclamation act from 2009. does not provide the surface area. The new proclamation act based on the revision of the protected area act is in the process, and it will provide the surface area which will subsequently be calculated into the percentage area under protection

protected areas and establishment of their managing structures

- when it comes to management, 41 protected areas have nominated their managers, but only eight (out of which six exceeding 100 ha) have adopted management plans.
- ecological network with corridors has not been established, but research needed for its establishment is in progress

http://www.prirodainfo.me/Izvjestaji/PoDatumima

**Other relevant information**

There are several sites in Montenegro which are under protection according to international criteria. They comprise:

- Tara watershed – M&B UNESCO Biosphere Reserve, including a part of Durmitor with the Tara River canyon as UNESCO natural heritage (182,889 ha + 321,000 ha)
- Skadar Lake – Ramsar site (20,000 ha)
- Tivat saline pools (salt pans) – Ramsar site (150 ha),
- Kotor – Risan Bay, Municipality of Kotor – UNESCO heritage (14,600 ha)

Total area covered amounts to 250,139 ha (a part of territories overlaps with nationally protected areas), which is 18.11% of state territory. They don't have specifically defined management structures according to international designations, but they or their parts are managed through the existing management structures of protected areas.

**Obstacles and scientific and technical needs related to the measure taken**

Proclamation procedures for new protected areas are in progress, and the practice has shown that there are capacities for professional and administrative aspects of this procedure. However, the main barriers for the achievement of targets set in the National Biodiversity Strategy and other relevant strategic documents within the planned schedule include:

- Long procedures for proclamation of new areas.

- Ensuring the pre-requisites for adequate management and sustainable financing of areas planned for protection. The funds for maintenance of protected areas are very limited, and cannot cover all operational costs. The protected areas are therefore expected to be self-sustained, but taking into account ecological and socio-economic condition, quite often it is impossible to develop profitable activities (e.g. tourism) or establish collection mechanisms (e.g. admission tickets, permits for use) to achieve self-sustainability. Financing mechanisms, such as PES schemes, although envisaged by relevant legislation, have not yet been established.

- There are also logistic barriers for nominating the managers – especially if a protected area spreads on the territories of several municipalities that are expected to achieve an agreement.

Indicators-Based Report on the Status of Environmental in Montenegro, Agency for Nature Conservation and Environment of Montenegro

## Measure 6: Researching biodiversity

There is a general lack of comprehensive data about the distribution and status of biodiversity in Montenegro that would form a basis for making informed decisions. Certain sites or species are relatively well explored thanks to work of specialised experts (e.g. wetland birds, fungi, some taxa of vascular plants), but data is still lacking for many others.

Besides traditional research within the fields of taxonomy and systematics, which are mainly conducted through the activities of university experts, over the past years there is a growing intensity in number and scope of research aimed at completing the picture about ecological aspects of target species or habitats (e.g. areal of distribution, population dynamics, demographic structure, level of pressures and degradation, and so on). Such data and information mainly come from the following sources:

***Regular monitoring***

The Agency for Nature Conservation and Environment conducts annual monitoring programme on the status of the environment, integral part of which is biodiversity monitoring, which includes inventory and assessment of status of all species and pressures in the researched areas. The areas under monitoring include national parks, parts of the coast (Velika plaža (the Great Beach), Ada Bojana, Ulcinj Solana (salt pans), Buljarica), some inland mountainous ecosystems of ecological importance and potential protected areas (Rumija, Kučke Mountains and Zeletin). When it comes to species, the monitoring covers birds, aquatic insects, malacofauna, herpetofauna, mammals, flora and fungi in certain sites (mainly national parks or future protected areas).

***Research on habitats***

The majority of new data on biodiversity collected in the period from 2014. and 2018. was collected through development of protection studies for protected areas by the Agency for the protection and Nature and Environment (Gornjepoljski vir (2014), Nature Park Komovi (2015), Nature Park Piva (2015), Nature Park Dragišnica i Komarnica (2017), Monument of Nature Kanjon Cijevne (2017), potential Nature Park Sinjajevina, Orijen and Ulcinj Solana), as

well as project activities implemented by non-governmental organisations and institutions in Montenegro (Table 5).

The main and most significant systematic activities related to explorations of biodiversity in Montenegro between 2016. and 2018. were implemented through project "Establishing NATURA 2000 network". The project included mapping of habitats in compliance with the Habitat Directive in 9 KBA in Montenegro and GIS database was formed for target species. In particular, birds were explored through this project, identifying 33 potential important bird areas.

The contribution to research of land habitats came from a project funded by Rufford Foundation. It included exploration of semi-natural grassland ecosystems as potential NATURA 2000 habitats in several sites (Dragalj, Gostilje Martinićko, Grahovsko polje, Kopilje, Radovče).

The research of habitats was also improved by project "Mapping of key marine habitats in the Mediterranean and promoting their conservation through the establishment of Specially Protected Areas of Mediterranean Importance (SPAMI-(MEDKEYHABITATS project)" supported by UNEP MAP RAC SPA. Through this project, awareness was gained about the distribution of habitat types and species from the Annex to the Habitat Directive (primarily, distribution of *Posedonia oceanica,* corals and caves in the sites of Platamuni and Ratac).

***Research on species***

Public Enterprise for National Parks carries out continuous explorations of species within all five national parks. This includes the inventarisation of species of vascular plants, transect surveys and mapping of internationally or nationally important, endangered and endemic species, regular monitoring of birds (on Skadar Lake) and large mammals (Biogradska Gora and Durmitor).

Apart from these activities, species are being studied and surveyed through projects and initiatives of other national institutions and the NGO sector. The following table sums up ecological studies conducted in the reporting period.

**Table 5** – Ecological research of species (taxa) conducted in the reporting period

**Legend:**

| | |
|---|---|
| | Freshwater species |
| | Terrestrial species |
| | Marine species |

| Taxon | Target species | Locations | Institution | Comment |
|---|---|---|---|---|
| **Plants** | *Quercus robur subsp. Scutariensis* | Skadar Lake | PENP MNE | Part of regular |
| | *Marsilea quadrifolia* | Skadar Lake | | |

| | | | | |
|---|---|---|---|---|
| | *Caldesia parnassifolia* | Skadar Lake | | monitoring and protection acitivities related to target species in national parks |
| | *Berteroa gintlii* | Lovćen | | |
| | *Dianthus nitidus ssp. Lakusicii,* | Biogradska Gora | | |
| | *Gentiana lutea ssp. symphyandra* | Biogradska Gora | | |
| | *Posidonia oceanica* | Territorial sea from Arza cape to Platamuni | NGO Green Home | IPA CBC CRO MNE |
| **Invertebrates** | Target species of cephalopoda and crabs | Territorial sea | | MEDIAS Project |
| | Invasive species of crabs | Territorial sea | | |
| **Fish** | Sharks and rays | Territorial sea | Montenegrin society of ecologists | The Rufford Foundation |
| | Pelagic species of fish, primarily sardines and anchovies | Territorial sea | IBM Kotor | MEDIAS and DEPM project |
| | *Anguilla anguilla* L. | Skadar Lake | Individual research | The Rufford Foundation |
| **Amphibians** | Albanian freshwater frog (*Rana shqiperica)* | Skadar Lake | | |
| **Reptiles** | Sea turtles | Territorial sea | Convention on the conservation of whales Cetacea in the Black Sea and neighbouring Atlantic area | Accobams Survey Iniative |
| | *Mauremys rivulata* (river turtles) | Montenegro | Montenegrin society of ecologists | The Rufford Fondation |
| | *Dinarolacerta* spp. | Montenegro | Montenegrin society of ecologists | The Rufford Fondation |
| | *Vipera ursinii macrops* | Herceg Novi, Cetinje , Bar Andrijevica | Montenegrin society of ecologists | The Rufford Fondation |
| **Birds** | Western capercaillie (*Tetrao urogallus*) | Prokletije | PENP MNE | |
| | *Aythya nyroca* | Skadar Lake | PENP MNE, NGO CZIP | GiZ Project |
| | *A. ferina* | Skadar Lake | | |
| | *Pelecanus crispus* | Skadar Lake | | |
| | *Phalacrocorax pygmeus* | Skadar Lake | | |
| | *Chlidonias hybridus* | Skadar Lake | | |
| **Mammals** | Brown bear | NP Biogradska Gora | PENP MNE | Dinaride Parks |

| | | | | |
|---|---|---|---|---|
| | | Piva, Sutjeska | CZIP, Environmental Protection Centre, EURONATUR | MAVA foundation |
| | Chamois (*Rupicapra rupicapra*) | Durmitor, Prokletije | JPNP CG, Montenegrin society of ecologists | The Rufford Foundation |
| | Eurasian lynx (*Lynx lynx*) | Prokletije | CZIP, EURONATUR | KORA Switzerland |
| | Cetaceans and dolphins | Territorial sea | IBM Kotor | NET CET - IPA Adriatic |
| | | | Association for research of cetaceans | The Rufford Fondation |
| | | | Convention on the conservation of whales Cetacea in the Black Sea and neighbouring Atlantic area | Accobams Survey Iniative |
| | Monk seal | Territorial sea | CZIP, EURONATUR, MOM, BIOM, PPNEA Albania | |
| | Eurasian otter (*Lutra lutra*) | Skadar Lake | PENPMNE, CZIP | GiZ Project |

What is specific is that in this period a research was initiated on several groups of marine organisms, which is partially related to the initiative of proclamation of protected areas in the sea and relevant international requirements (conventions, EU Acquis...).

***Exploring the genetic diversity***

By implementing the National Programme and Action Plan on the Conservation and Sustainable Use of Genetic Resources in Agriculture (2008-2013) before 2015, and implementation of projects such as SEED-NET, Montenegro had established a system for research and conservation of agro-biodiversity. In the previous period, in that context, research on genetic diversity had been conducted on native cultivars of apples (Božović *et al* 2015), olives (Lazović *et al* 2016), potatoes (Maraš *et al* 2017) and grapevine (Maraš *et al* 2015).

**To which national or Aichi target this measure contributes**

Strategic target G, operational target 20.
Aichi target 19 and indirectly to 2, 6, 5, 9, 10, 11 and 12.

**Assessment of efficiency of applied measures in achieving desired results**

☐ The measure was effective
☒ The measure is partially effective
☐ The measure is inefficient

☐ Not known

**Please explain the choice and as necessary state the tools or methodology used for the efficiency assessment of the above stated measure**

The measure has improved the knowledge about biodiversity of Montenegro, bearing in mind the number and scope of research projects implemented in the period between 2014 and 2019. This particularly applies to habitats and some taxa that had not been that much represented in the research or monitoring programmes (e.g. marine organisms).
The measure was assessed as partially effective because there is still no systematic and sustainable support to research in terms of providing continuous funds for this purpose. Most of research activities in Montenegro are conducted with the support from international funds on a project basis.

Relevant websites, web links, and files :
Project Natura 2000 – https://natura2000me.eu/
Protection Study for the Nature Park Komovi
Protection Study for the Nature Park Piva
Protection Study for the Monument of Nature Gornjepoljski vir
Protection Study for the Nature Park "Dragišnica i Komarnica"
Information about the status of environment 2016-2018
Study of ecosystem values of biodiversity of Buljarica with threats
Projects of the Centre for the protection and studying of birds
Project 4 M "Green Home"
Projects supported by Rufford Foundation
NetCet Project – http:/ /www.netcet.eu/
Montenegro Research Dolphin Project – https://dmad.org.tr/
Accobams Survey Initiative
Božović *et al* (2015) – Morphological Characterization of Autochthonous Apple Genetic Resources in Montenegro, Erwerbs-Obstbau, Volume 58, Issue 2, pp 93–102
Lazović *et al* (2016) - Characterizing ancient and local olive germplasm from Montenegro, Scientia Horticulturae, Volume 209, Pages 117-123
Maraš V. *et al* (2015) - Origin and characterization of Montenegrin grapevine varieties, Vitis, Volume 54, Pages 135-137
Maraš M. *et al* (2017) - Genetic Diversity and Redundancy among Potato Accessions in the Montenegrin Collection as Revealed by Microsatellite Markers, American Journal of Potato Research, Volume 94, Issue 4, pp 306–313

**Other relevant information**
/

**Obstacles and scientific and technical needs related to the measure taken**

As was the case previously, the research was conducted on a limited number of taxa within the reporting period as well. This is a reflection of lack, in part, of professional staff (technical experts), and in part of funds for research. Researches were conducted either through regular activities of institutions with budgets allocations for that (e.g. PENP), or through projects mainly by the NGOs supported by donors.

As noted above, in addition to achieving sustainable funding for research, a significant problem is also standardisation and exchange of data and digitisation, which have not yet been established adequately between researchers, NGOs, scientific research organisations, protected area managers and state institutions. Therefore, regardless of the significant number of research, data cannot always be used as a basis for decision making. Certainly, the initial steps in this regard have been made, and information about that will be provided in the next measure, but there is still a challenge of standardising the collection of biodiversity data as a generally accepted practice.

Relevant websites, web links, and files

**Measure 7: Managing biodiversity-related data**

The first step towards the establishment of a web portal for protected areas was made by the Agency for Nature Conservation and Environment in 2017, through cooperation with IUCN within the project "Toward Strengthened Conservation Planning in South-Eastern Europe", supported by MAVA Foundation. The database is an electronic register of protected areas in Montenegro where all available information on protected areas can be found, such as decisions of proclamation, documentation for proclamation, borders and such. Analytical information is also available, such as the number and total area of protected areas, number of nominated managers, management plans, etc. The database is available at: www.prirodainfo.me

Furthermore, when it comes to reviewing the future needs for the improvement of Biodiversity Data Management System, the following documents were prepared through GIZ ORF Biodiversity Programme – Biodiversity Information Management and Reporting System (BIMR): National Assessment of Biodiversity Information Management and Reporting baseline for Montenegro, Guidelines for biodiversity information management and reporting, Recommendations on supporting the BIMR in the SEE region.

The establishment of a BIMR regional platform was also supported through the above project

as a standardised IT base for further development of adequate data management systems in the Western Balkans region. The above activity included the creation of a database containing a list of selected endemic land plant and animal taxa in South-East Europe (vascular plants, mammals, amphibians, reptiles and beetles (Coleoptera)) according to Darwin Core. The database contains nearly 2,200 described endemic taxa (from the selected groups) from the South-eastern Europe; 1,598 species and 576 subspecies. Almost 2,500 original sites are spatially determined, of which 2,430 are georeferenced with a latitude of 50 to 10,000 m. The activity included the development of 3 folders for plants, vertebrates and hardwoods South-East Europe, as well as recommendations for future updating of the South-East Europe List of Endemic Species.

The above project enabled creation of a Nature Conservation Information System database in Montenegro. This database uses software tools for the defined database structure (REST WEB services and WEB page). The database structure is based on Darwin Core standard. One of the developed modules presented on the web page is the List of SEE Endemic Species, available at http://zastitaprirode.me

Additional document has been prepared, titled Management of the basic database for nature protection/biodiversity information system in SEE, and it presents the methodology, design of software components and technical documentation.

**To which national or Aichi biodiversity target this implementation measure contributes**

Strategic target G, operational target 20

Aichi target 19, and 1, 2, 5, 6, 9, 10 and 12 indirectly.

**Assessment of efficiency of applied measures in achieving desired results**

☐ The measure was effective
☒ The measure is partially effective
☐ The measure is inefficient
☐ Not known

**Please explain the choice and as necessary state the tools or methodology used for the efficiency assessment of the above stated measure**

The indicator for this measure stated in the National Biodiversity Strategy with the Action Plan 2016-2020 is defined as: *Centralized biodiversity information system (including, but not limited to information on characteristics of species, habitats and protected area)*. The basis for this system has been established, but in order to reach its full functionality, it is necessary to foster further development of the system in terms of technical programming, maintenance and linking with GIS. Therefore, it can be concluded that progress has been made in terms of introduction of a centralised publicly available system in the Agency for Protection of Nature

and Environment, but as it is not fully functional, at this moment and without further upgrading, the measure can only be assessed as partially effective.

Relevant websites, web links, and files :

www.prirodainfo.me

http://zastitaprirode.me

Recommendation paper on enhancing the Biodiversity Information management and reporting in South East Europe

The Management of the basic database for information system for protection of nature/biodiversity in SEE

**Other relevant information**

**/**

**Obstacles and scientific and technical needs related to the measure taken:**

The "National Assessment of Biodiversity Information Management and Reporting baseline for Montenegro" (2017) was drafted through GIZ ORF BIMR project. It pertains to biodiversity and includes:

- Lack of legal guidelines for biodiversity data collection and structuring and lack of systemic solution for financial support to the collection and integration of biodiversity data which prevent prompt and better recognition and protection of natural values of Montenegro.
- The main distribution of roles for biodiversity data management in Montenegro has been shaped, but in absence of defined procedures, standards and guidelines, data flow between the stakeholders is inefficient.
- The collected biodiversity data managed by various stakeholders are scattered in different formats and stored using different technologies, hindering the access and integrated analysis and drafting of reports at the national or regional level.
- Technical and human capacities for efficient biodiversity data management and reporting are mainly insufficient at all stakeholders.

**Relevant websites, web links, and files :**

The National Assessment of Biodiversity Information Management and Reporting baseline for Montenegro

Regional assessment of biodiversity information management and reporting baseline for South-East Europe

## Measure 8: Measures for mitigation of effects of climate change

According to the First and Second National Communication to the UNFCCC for Montenegro (2010 and 2015, respectively), climate change in Montenegro is expected to lead to a rise in temperature, a decrease in rainfall, increased frequency of intensive heat waves and droughts, flood inducing rains, reduced frequency of frost, all of which will affect ecosystems and biodiversity. The data on phenology of wooded species already indicate that the climate change consequences are present and are affecting the productivity of ecosystems in Montenegro. Available data indicate that some species sprout leaves earlier in the season than previously recorded (linden, oak, maple, ash, beech, poplar...). The climate scenario envisages particular impacts on amphibian and reptile populations in karstic regions of Montenegro and coastal mountains. Regarding marine ecosystems, it is expected that the envisaged climate change will lead to an increased eutrophication of shallow and engulfed marine areas, as well as intrusion of new thermophilic invasive species from southern biogeographic zones (First National Communication to UNFCCC, 2010).

As for mitigation of expected impacts, Montenegro has made efforts in to establish policies in the area of climate change. Several legislative and strategic documents of great importance have been adopted, both at international and national levels:

- Paris Agreement adopted in December 2015 and entered into force in November 2016.
- First Biennial Report on Climate Change for Montenegro (BUR4) was submitted to the UNFCCC Secretariat in January 2016. The second update report in its final drafting phase.
- The National Strategy of Transposition, Implementation and Enforcement of the EU Environmental and Climate Change *Acquis* with the Action Plan for the Period 2016 – 2020 was adopted in July 2016 and it set forth measures that can be indirectly related to measures for mitigation of climate change.

The Third National Communication of Montenegro on Climate Change to the UN Framework Convention on Climate Change (TNC) is in drafting phase. It will, for the first time, explore the impacts of climate change on: the invasive species in Montenegrin part of the Adriatic Sea, National Parks of Montenegro, soils and phenology. For the analysis of impacts and vulnerability, as well as adaptation measures, it uses the projections of temperatures, precipitation and extreme events from the regional climate model NMMB and climate scenario RCP8.5 for the period 2011-2100.

Through IPA project for establishing the Drought Management Centre for South-East Europe (DMCSEE), Montenegro has established the permanent drought monitoring based on land as well as satellite data that follows the state of the surface vegetation. Remote monitoring has been further improved through another IPA project -Drought risk in the Danube region - DriDanube, which provides even more detailed information regarding the state of the vegetation, water content in the soil, impacts of droughts on the crops. The real time monitoring of forests in the national parks, agricultural crops and vegetation has been

established for the first time through a national network of reporters. This project also provided the Strategy for drought management in the Danube region.

In the Action Plan of the Biodiversity Strategy, all these measures are presented through a link between the two conventions, more specifically through operational target 15, which envisages implementation of the National Strategy for Climate Change by 2030 (adopted in 2015). It stipulates implementation of 69 measures, some of which have been implemented and some are in progress. The measures apply to all key sectors: energy, industrial processes, agriculture, forestry and waste management. Biodiversity is not separated as an individual area, but agriculture and forestry are covered, and it partly intertwines with other sectors through measures related to the use of biomass.

As for agricultural sector, four measures are envisaged for conservation of agrobiodiversity, sustainable use of mountain pastures and organic production, while twenty-eight measures are foreseen in the area of forestry, some of which directly pertain to biodiversity, such as strengthening productivity, stability and resilience of forests and landscapes, forestation, sustainable management and use of non-timber forest products, integration of Natura 2000 requirements into forest management plans and others.

**To which national or Aichi target this measure contributes**
Operational target 15, Aichi targets 10, 15.

**Assessment of efficiency of applied measures in achieving desired results**
☐ The measure was effective
☐ The measure is partially effective
☐ The measure is inefficient
☒ Not known

Relevant websites, web links, and files

**Other relevant information**

**Obstacles and scientific and technical needs related to the measure taken**

Relevant websites, web links, and files

# Chapter III – Assessing the progress towards national targets

**Strategic target A:** Until 2020, biodiversity protection is one of the most significant social and political priorities in the overall development

**Operational target 1: Society recognises the benefits of biodiversity and the need for priority protection**

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☒ Progress towards target but at an insufficient rate
- ☐ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Raising awareness about biodiversity in Montenegro starts by educating the youngest ones. Biodiversity and climate change are integrated into curricula of educational institutions as curricular topics.

In addition, Public Enterprise for National Parks of Montenegro has developed educational programmes for NP Skadar Lake and NP Biogradska gora.

Besides the formal education programmes, NGO sector in Montenegro is implementing various educational programmes through workshops, courses and summer schools on various topics for children in kindergartens, school children of elementary and secondary schools, university students, volunteers, and they also support citizens' science through the inclusion of the public in programmes on monitoring and mapping of species. For example, The Centre for birds' protection and research organises the monitoring programme for *Bubo bubo* owl, while the Montenegrin society of ecologists organises monitoring of Albanian water frog *Pelophylax shqipericus*.

As one of the important steps towards public participation and awareness raising on the importance of biodiversity, formalisation of the bodies for cooperation between national parks and the local population has been initiated. Improving cooperation with the local population is among the strategic areas defined in the National Parks Management Plans,

and planned activities in the plans' validity period (2016-2020). To this end, the establishment of socio-economic forums for all five national parks started in 2014 and 2015. Since the establishment of socio-economic forums, a total of 14 sessions have been held: 5 in NP Durmitor, 3 in NP Skadar Lake, 2 in NP Lovćen, 3 in NP Prokletije and 1 in NP Biogradska gora. The advisory body was established in the Nature Park Piva at the beginning of 2016, and it held five sessions so far. It turned out that inclusion of local population through organised forums provides for a greater level of ownership over the management targets, greater support to protection of the areas, greater public participation in decision-making processes, use of traditional knowledge, better control and monitoring of the situation, better communication efficiency and information exchange, faster development of the green economy, more efficient application and use of donor-credit funds, and more powerful implementation through consolidation of effects.

In addition to these forums, the Forum for Sustainable Tourism was established in the National Park Biogradska gora in 2014, aimed at fostering cooperation with the local population, representatives of the business sector and civil society. The Forum was established within the project "Parks of the Dinaric Arc" as one of the conditions for nominating a park for a certificate on sustainable tourism of the Europark Federation.

Out of a total of eight protected areas that were required to have advisory bodies established, six have functional councils, making 75% fulfilment of the measure.

**Indicators used in the assessment**

1. Educational programme adopted in 2016
2. Percentage of accomplished measures set in the programme
3. Number of national and regional parks that have founded the Advisory Body.

**Other tools or ways of assessing the progress**

In addition to the above stated, the Bureau for Education Services monitors the quality of implementation of curricular topics included in the pre-school educational system based on the relevant rulebook.

An additional indicator used was also the number, i.e. percentage of teachers who had passed trainings for implementation of curricular topics, as well as the number of teachers and school children who had participated in the School in Nature project. For 2018, 6770 (94.5%) out of 7160 target students in total participated in this program, as well as 3325 teachers.

**Relevant websites, web links, and files**

http://www.zzs.gov.me/biblioteka/nasaskola
http://www.zzs.gov.me/rubrike/obrazovanje_odrzivi_razvoj/
http://www.obradujmoprirodu.me/index.php

http://www.zzs.gov.me/naslovna/nadzor

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The indicator used for the level of reliability of stated data is easily measurable, and indicates the percentage of teachers having passed the trainings for implementation of curricular topics, as well as number of teachers and school children having participated in the School in Nature project.
The indicator referring to advisory councils is easily measurable, so factual status can be established in a reliable manner.

**Adequacy of monitoring information to support assessment**

☒ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

As far as educational programmes are concerned, the Bureau for Education Services has the Department for Quality Assurance related to work of pre-school educational institutions. Quality assurance is carried out at least once in four years pursuant to the Rulebook on external quality assurance in educational institutions and the Methodology for quality control. One of the indicators for external quality control is the implementation of curricular topics. Based on an analysis of external quality control in educational institutions, it is obvious that the contents of curricular topics are implemented.

In addition, national parks monitor the implementation of the educational programmes.

The monitoring of indicators related to the establishment of advisory councils in national parks and nature parks is simple. There is a decision made by steering committees of national parks, defining the need to establish these councils. There are also reports from constituent sessions and minutes.

**Strategic target A:** Until 2020, biodiversity protection is one of the most significant social and political priorities in the overall development

**Operational target 2: Make biodiversity a priority topic for decision makers**

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☒ Progress towards target but at an insufficient rate
- ☐ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Several assessments of economic values of certain regions and ecosystem services covering a part of the territory or specific ecosystems have been conducted in Montenegro so far, as well as one comprehensive technical report:

- The study "Economic Value of Protected Areas in Montenegro" was conducted by UNDP/ISSP in 2011. It was focused on five protected areas and pointed out that those areas generate significant economic benefits for a number of sectors. The value of touristic, recreational and other activities related to the use of resources in those protected areas, as well as services they provide, was estimated at approximately Euro 68 million in 2010.
- Technical Report "Economic Value of Biodiversity and Ecosystem Services" (Emerton 2013) was drafted in the course of 2013 within a GEF/UNDP project, as the first comprehensive overview of ecosystem values at the national level. The basic value of the selected biodiversity and ecosystem services in Montenegrin economy was estimated at Euro 982 million.
- Mapping of grassland and forest ecosystems and assessment of their services were conducted in 2015 in nature parks of Piva and Komovi.
- The "Assessment of Protected Areas (PA – BAT) in Montenegro" was prepared by WWF in 2017. This assessment was conducted applying the PA – BAT methodology designed in such a way so it can be used by protected area managers in cooperation with stakeholders to determine important values and profits they bring to a number of stakeholders. It was estimated through this study that an additional value of Euro 1.5 billion could be generated over the coming 25 years through investments in tourism in protected areas and from other ecosystem services.

- In 2018. a case study on Neretva- Trebišnjica watershed was carried out, titled: Streams of Income and Jobs: The Economic Significance of the Neretva and Trebišnjica, which covers a part of Montenegrin

territory. The study was a part of the GiZ-ORF Biodiversity project: Ecosystem services assessment and valuation (ESAV) in SEE Europe.

From the scope of these studies, it can be seen that no valuation had been conducted for the territory of the entire country, nor for the entire spectrum of ecosystem services. Anyhow, the studies had introduced the concept of ecosystem services and helped in their better understanding, especially for managers of protected areas and decision makers within the environmental sector.

**Indicators used in the assessment**

1. Study on the assessment and analysis of economic values scenarios defined.

**Other tools or ways of assessing the progress**

In addition to the studies conducted, Montenegro has worked over the past several years on introduction and better understanding and use of the ecosystem services concept and valuation.

Through projects of international donors, such as UNDP and GiZ, efforts have been made on promoting the ecosystem services concept and their economic valuation as useful management tools in the context of biodiversity protection, and as particularly suitable for improving the financial sustainability of protected areas. Education programmes for integrating ecosystem services into planning processes of decision-makers are also being initiated.

**Relevant websites, web links, and files**

Emerton L. (2013) - The economic value of protected areas in Montenegro

Emerton L. (2013) - Montenegro: The economic value of biodiversity and ecosystem services, Technical Report

WWF Adria – Assessing the value of protected areas (PA - BAT) in Montenegro

**Level of confidence of the above assessment**

☐ Based on comprehensive evidence
☒ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The impact of these studies within the environmental sector can be monitored through the introduction of ecosystem services concept into strategic documents (such as the National Strategy on Sustainable Development, National Forestry Policies) and legal documents (Law on Nature Protection, Law on National Parks), as well as by monitoring the behaviour of protected

areas' managers (who are initiating studies and exploring the possibilities for introducing PES schemes in order to achieve sustainable financing).

There is no reliable information on how much these studies have influenced the change of awareness among decision makers in other sectors.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place.**

**Strategic target B: Biodiversity is protected through a multidisciplinary and multi-sectoral approach**

**Operational target 3: The existing mechanisms are used to their full extent, enabling integration of biodiversity at all levels**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

This target and related measures are defined in order to achieve the horizontal and vertical integration of biodiversity issues into policies, plans and programmes of different sectors. Due to the lack of monitoring mechanisms and possibility of assessing the level of integration of biodiversity measures in terms of efficiency, the above assessments are based on the general analysis of existing practices and observations that can be summarised as follows:

- Biodiversity is integrated into sectoral strategies during the review process, which is described in more detail in Chapter 2 – Measure 3; however, as has been pointed out therein, the implementation of relevant measures is still not assessed.

- In the reporting period, 9 out of a total of 24 Local Action Plans for biodiversity were adopted by local self-governments. In this way, municipalities committed to implement measures to protect biodiversity within their territories. These documents focus on general measures directly or indirectly contributing to biodiversity protection in the territories of subject local governments in terms of reducing the pressures on biodiversity, proclaiming new protected areas, revising the existing protected areas, improving facilities and infrastructure in the existing protected areas, strengthening management mechanisms, raising awareness and education and, to a lesser extent, direct measures for the protection of populations of species and habitats located within the territory of those municipalities. There is no assessment of the implementation of measures defined in the LAPBDs, so no conclusion can be made on their success.

- As for the Strategic Impact Assessment (SEA) mechanism (see Chapter 2, Measure 3), although the procedures function pursuant to legally prescribed mechanisms which imply, as necessary, assessment to be conducted by expert commissions with mandatory involvement of public, there are still certain weaknesses mainly reflected through lack of accurate data on biodiversity for the subject of strategic impact assessments, insufficient capacities in competent administrations (e.g. number of people in local administrations responsible for implementing the procedures), and through not always effective mechanism for integrating relevant comments and suggestions provided by different stakeholders in public consultations. The measures that can be seen in strategic impact assessments are often general and generic, and their integration, application and efficiency are not always easy to monitor, control and evaluate from the aspect of adequacy and efficiency. Consideration of alternatives, as well as adequate assessment of cumulative impacts, are also seen as one of the considerable challenges in practice so far, while the expression and analysis of values and services provided by specific biodiversity are most commonly omitted completely. The control over the integration of measures from the Strategic Impact Assessment and adjustments in planning and strategic documents are also not clearly defined mechanisms.

- Appropriate assessments have not been conducted, because pursuant to the Law on Nature Conservation (Official Gazette of Montenegro, no. 54/16), they pertain ecological network, which has not yet been established in Montenegro. Based on the aforementioned Law, the Rulebook on closer content of the appropriate assessment study for the ecological network site (Official Gazette of Montenegro, no. 45/17) was adopted, thus ensuring legal prerequisites for implementation of the appropriate assessment mechanism once the ecological network is established.

- Pursuant to the Law on Nature Protection (Official Gazette of Montenegro, no. 54/16), strategies, spatial plans, plans for construction of temporary structures, plans and programmes for natural resources management and use (mining, energy, transport, hunting, fishing, tourism and other activities that may have impact on nature), strategic development plans and

programmes must include guidelines and conditions for nature protection. The Agency for Nature and Environmental Protection is obliged to issue guidelines and conditions for nature protection for the purposes of drafting, at the request of the entity responsible for drafting the listed documents. Hence, all data in the possession of the Agency is made available to all stakeholders at request, and in such way, the Agency regularly provides data it has in order to integrate measures of biodiversity protection in the process of these documents.

**Indicators used in the assessment**

1. Number of implemented appropriate assessments
2. Number of SEA with incorporated assessment of biodiversity values and services it provides
3. Number of strategies, laws, regulations, plans and programmes with incorporated measures and guidelines for biodiversity protection
4. Municipalities adopted new and improved the existing LAPBD – target 23 (100%)
5. Nominated officer in the Agency for Nature and Environmental Protection who is the first address for exchange of official information on biodiversity for drafting the SEA and state plans and programmes, as well as for collaboration with the business sector, development and implementation agencies, state institutions, NGO, LSUs, and so on.

**Other tools or ways of assessing the progress**

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**Relevant websites, web links, and files**

Coalition 27 (2018) – Analysis of mechanisms for nature protection
EIA/SEA of Hydropower projects in Southeast Europe

**Level of confidence of the above assessment**

☐ Based on comprehensive evidence
☐ Based on partial evidence
☒ Based on limited evidence

**Explanation for the level of confidence indicated above**

The assessment is partially reliable, since it is expressed for most measures on factual situation (application of the appropriate assessment, provision of biodiversity-related data, etc.), while the level of integration of measures in strategic and planning documents, in the absence of clearly defined indicators and monitoring methods, cannot be quantified. Therefore, all the above assessments are based on general analysis of existing practices and observations.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

The level of integration of biodiversity measures and efficiency thereof are not easy to assess due to lack of standardised way for determining them, as well as due to absence of a monitoring system for the efficiency and effectiveness of implementation of defined measures.

**Strategic target B: Biodiversity is protected through a multidisciplinary and multi-sectoral approach**

**Operational target 4: General resource mobilisation achieved, as well as the efficient multi-sectoral monitoring of the NSBAP implementation**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☒ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

The National Council for Sustainable Development, Climate Change and Integrated Coastal Zone Management was established in Montenegro in 2002. It was founded as a multisectoral coordination body for monitoring the implementation of sustainable development policy and other environmental issues. The discussion about the NBSAP within this Council was to ensure that decision-makers and representatives of all relevant sectors are familiar with its implementation, coordinating it with other environmental protection initiatives, as well as with sectoral policies and programmes.

The measure was assessed as partially effective, since the information on the implementation

of the National Biodiversity Strategy was first considered at the 34th session of the National Council held on 21st of September 2018. On that occasion, the Council made the following important assessments and conclusions:
- It is necessary to continue the implementation of assessment of status and distribution of protected species and NATURA species until 2020;
- The Ministry of Sustainable Development and Tourism and the Agency for Nature and Environmental Protection will start drafting the Red List of wild species of plants, animals and fungi;
- It is necessary to ensure sustainable funding for biodiversity protection. To this end, the Council made a recommendation to the Government to plan greater allocations in the 2019 budget for the protection of biodiversity, primarily for monitoring the biodiversity state, identifying the sites for ecological network NATURA 2000, and drafting the Red List of wild species of plants, animals and fungi;
- It is necessary to improve cross-sectoral cooperation in order to ensure optimal integration of biodiversity protection measures into policies from the sectors of spatial planning, water management, forestry, fishing, hunting, energy and transport.
- Local self-governments that have not yet adopted Local Action Plans for Biodiversity (LEAB) should start drafting them.

In this way, the Council has contributed to the achievement of targets defined in this Strategy: operational target 15, operational target 5, strategic target D, operational target 3 respectively.

Apart from the National Council, there is currently no other coordinating body dealing with biodiversity matters, establishment of which was envisaged by the NBSAP.

**Indicators used in the assessment**

1. Forum for biodiversity established and functional
2. Implementation of the second NBSAP is considered at the Council for Sustainable Development and Climate Change at least once a year.

**Other tools or ways of assessing the progress**

**/**

**Relevant websites, web links, and files**

Report from 34th session of the National Council for Sustainable Development, Climate Change and Integrated Coastal Zone Management

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence

☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**
Indicators are easily measurable, leaving no doubt on whether the target has been achieved

**Adequacy of monitoring information to support assessment**
☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☒ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

The stated target is monitored on the basis of factual state and materials that confirm the defined indicators. In this particular case, this may be the decision on the establishment of the Forum for Biodiversity (which has not been adopted) or minutes from the sessions of the National Council for Sustainable Development, Climate Change and Integrated Coastal Zone Management which contains all information from the discussions led at the meeting of the Council for Sustainable Development, as well as assessments and conclusions.

**Strategic target C:** An efficient mechanism for financing biodiversity protection is achieved, as well as a transition to a sustainable economy of biodiversity (as part of green economy) and necessary capacities are built by 2020

**Operational target 5: Achieving the sustainable financing of biodiversity protection**

**Category of progress towards the implementation of the selected target**
☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☒ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

One of the main forms of biodiversity protection funding is through investing into protected areas from public budgets, which is a practice implemented continually (Table 6).

**Table 6** – Public allocations for biodiversity protection (both direct and indirect ones. LSG - Local self governments)

| Year | Funding sources in EUR | | | |
|---|---|---|---|---|
| | **Effected funds** | **Budget of Montenegro** | **LSG budgets** | **Other sources (grants, EU funds and loans)** |
| 2014 | 47,599,307.0 | 23,161,365.0 | 1,813,802.0 | 22,624,140.0 |
| 2015 | 24,816,893.9 | 4,051,486.7 | 1,484,333.6 | 19,261,937.6 |
| 2016 | 22,171,152.1 | 3,399,242.7 | 1,407,657.9 | 17,364,251.5 |
| 2017 | 24,379,290.3 | 4,723,564.9 | 2,849,205.0 | 16,896,538.5 |
| 2018 | 50,633,851.9 | 10,574,142.7 | 6,092,358.5 | 33,957,250.6 |

| **Source** | **Agro-budget** | | | | |
|---|---|---|---|---|---|
| **Year** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **TOTAL** | **294,240.6** | **331,350.0** | **344,678.3** | **314,350.0** | **285,840.0** |

| **Source** | **Reports of the Ministry of Sustainable Development and Tourism** | | | | |
|---|---|---|---|---|---|
| **Year** | 2014 | 2015 | 2016 | 2017 | 2018 |
| **Total expenditures (€)** | 807,160.6 | 2,909,585.9 | 2,837,797.4 | 12,499,251.6 | 3,431,785.7 |

Nature protection and biodiversity conservation in Montenegro primarily rely on the support from international funds, mainly from the EU pre-accession funds and state budget, while local government budgets participate in funding of these projects to a lesser extent, mainly through different credit schemes.

The revised Law on Environment (Official Gazette of Montenegro, no. 52/16) elaborated the provisions pertaining to the establishment of the Eco Fund, founded by the Government of Montenegro. The idea of establishment and operation of the Eco Fund implies that the funds collected from entities whose activities result in environmental damage are earmarked for

programmes and projects in the field of environmental protection at national and local levels. The Eco Fund was established in 2018 pursuant to the Law on Environment, especially taking into account the need to provide stable and permanent sources of financing for environmental activities, including nature protection. It is still early at this moment to estimate contribution of the Eco-Fund to biodiversity protection programmes.

This measure was assessed as partially effective, because biodiversity protection has not achieved financial sustainability. Public investments in protected areas cover basic operational costs, but managers have to ensure additional resources for protection and development programmes. This is achieved through collection of fees (park admission fees), permits (for rafting, fishing...), concessions (fishing), and other services (e.g. educational, touristic, etc.), as well as through projects and donations.

The number of biodiversity conservation projects in Montenegro is constantly increasing, but only with the support of international funds, mainly the EU pre-accession funds. Public financial services for biodiversity funding reflect contributions of public authorities (ministries and municipalities) to interventions of relevance for biodiversity, mainly through improvements of waste water and sewage system. It is clear that investments in projects directly influencing biodiversity come from the support of grants, the EU pre-accession funds and loans. Investments in projects indirectly influencing biodiversity (e.g. through reducing pollution from wastewaters and solid waste) are financed primarily from the budget of the Ministry of Sustainable Development and Tourism and the Ministry of Agriculture and Rural Development. Montenegro has not yet achieved the target set in the National Biodiversity Strategy for the period 2016-2020 related to an increase of public finances for biodiversity purposes of 15% a year. Although investments have had a positive trend, taking investments from 2015. as baseline, it is clear that 70% of all investments come from EU funds, donations and loans.

In addition, no system for monitoring the funding of biodiversity protection has been established. The allocations for biodiversity are not clearly indicated in the budgets, and since Montenegro does not have a clear distinction between the budget and local self-government units when it comes to contributions to biodiversity, it is difficult to determine the trend of growth in regard to public funding for biodiversity.

**Indicators used in the assessment**

1. Higher allocations of public finances for biodiversity records the increase of 15% each year.
2. All budget units clearly indicate allocations for biodiversity.
3. Annual reports on the implementation of the Strategy contain detailed data on all activities carried out in biodiversity funding.
4. Analysis prepared and agreement achieved to create a biodiversity fund within the national

environmental fund, or as a special sub-account in the Ministry of Finance.

**Please describe any other tools or means used for assessing progress**

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**Relevant websites, web links, and files**

Annual report on implementation of the Strategy of Regional Development of Montenegro for 2010 – 2014 (for 2014 – 2018)

Annual report on implementation of the Strategy of Regional Development of Montenegro for 2015 – 2020 (for 2015 – 2018)

Annual report on the work of MRDT (for 2014 – 2018)

Annual agro-budget (for 2014 – 2018)

**Level of confidence of the above assessment**

☐ Based on comprehensive evidence
☒ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

It is not possible to make detailed conclusion based on budget data, since it does not contain clearly indicated allocations for biodiversity. Investments in biodiversity in Montenegro are largely made through investments into protected areas. Investments in the improvement of waste water and sewage systems are the only other investments directly affecting biodiversity that are clearly indicated in budgets. These investments to a lesser extent originate from own funds of Montenegro, while majority are covered from the EU funds, grants and loans. Therefore, it can be concluded that Montenegro has not made a significant step forward in achieving sustainable funding for biodiversity protection.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

**/**

**Strategic target C: An efficient mechanism for financing biodiversity protection is achieved, as well as a transition to a sustainable economy of biodiversity (as part of green economy) and necessary capacities are built by 2020**

**Operational target 6: Integration of sustainable biodiversity economy into main streams of national and sectoral policies, strategies, plans**

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☐ Progress towards target but at an insufficient rate
- ☒ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Although mainstreaming of sustainable biodiversity economy into national and sectoral policies, strategies and plans is descriptively included, the analysis of strategic documents indicates that these documents do not contain a detailed description of measures to finance biodiversity conservation. The exception is the National Biodiversity Strategy with the Action Plan for the period 2016-2020 and the Strategy for the Development of Agriculture and Rural Areas for the period 2015-2020. The latter states that recovery, conservation and strengthening of ecosystems dependent on agriculture will be achieved through safeguard and sustainable use of genetic resources in agriculture, support to sustainable use of mountain pastures and to the development of organic production, but information on financial measures of those types of support is missing.

**Indicators used in the assessment**

1. Number of sectoral strategies and plans that contain measures for the achievement of sustainable economy of biodiversity (as a part of green economy)

**Please describe any other tools or means used for assessing progress**

/

**Relevant websites, web links, and files**

Special Purpose Spatial Plan of the National Park Durmitor (Official Gazette of Montenegro 47/16)

Law on Nature Protection (Official Gazette of Montenegro no. 54/16)

Rulebook on closer content of the appropriate assessment study for the ecological network site (Official Gazette of Montenegro, no. 45/17),

Rulebook on the criteria for designating the area of ecological network (Official Gazette of Montenegro no. 45/17),

Rulebook on close conditions for transport of protected wild species of plants, animals and fungi (Official Gazette of Montenegro no. 61/17).

Five-year National Parks Management Plans for the period 2016-2020,

Action Plan for Dalmatian Pelican (*Pelecanus crispus*) within the Noe Conservation project;

Cross-border action plan for the protection of bats on Skadar Lake developed (GIZ CSBL project),

National Strategy for Sustainable Development of Montenegro until 2030,

Strategy for the Development of Agriculture and Rural Areas for the period 2015-2020,

Water Management Strategy of Montenegro 2017,

Fisheries Strategy of Montenegro for the period 2015-2020,

Action Plan for compliance with the EU *Acquis Communautaire*, Chapter 11 – Agriculture and Rural Development, 2015,

Strategy with Forest and Forestry Development Plan for the period 2014 – 2023,

National Forestry Strategy,

Action Plan on Energy Efficiency of Montenegro for the period 2016-2018,

National Strategy on Climate Change until 2030,

Strategy on the Development of Construction in Montenegro until 2020,

National Biodiversity Strategy with the Action Plan for the period 2009 – 2014,

National Strategy for Transposition, Implementation and Enforcement of the EU *Acquis* in the area of environment and climate change with the Action Plan for the period 2016-2020,

National Biodiversity Strategy with the Action Plan for the period 2016-2020.

**Level of confidence of the above assessment**

☐ Based on comprehensive evidence
☒ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

**/**

**Strategic target C: An efficient mechanism for financing biodiversity protection is achieved, as well as a transition to a sustainable economy of biodiversity (as part of green economy) and necessary capacities are built by 2020**

**Operational target 7: Use of specific fiscal, market and pricing policy instruments as a support to biodiversity conservation, sustainable production and consumption**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☒ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

As stated in Chapter 2, description of measure 3, introduction of certificates relevant to the protection of biodiversity is taking place in the sectors of agriculture, tourism and forestry.

In 2005, the Ministry of Agriculture decided to establish a national certification body. With the support of the Ministry of Agriculture and Rural Development, the Cooperative Alliance of Montenegro established "Monteorganica", society for the control and certification in the area of organic agriculture. The website of "Monteorganica" contains a list of 364 producers who applied for certification, 137 of whom have already received certificates on organic production.

In addition to eco-labels for organic production, there are tourism-related certificates that include Travelife and EU Ecolabel. Travelife is an internationally recognised certification scheme,

certification criteria of which include environmental protection. EU Ecolabel – Ecological sign of the European Union/EU Eco label – has been introduced in 14 facilities throughout Montenegro.

The assignment of the EU Eco label for tourist accommodation means that such accommodation has fulfilled the following criteria: a) limited energy consumption; b) limited water consumption; c) reduced amount of waste; d) use of renewable resources; and e) promotion of education and communication on environmental topics with the staff, guests and partners.

The Ministry of Sustainable Development and Tourism co-finances certification costs through low carbon tourism project, through earmarked funds for auditing costs, while certified facilities have the obligation to pay annual membership fee (2 years for Travelife and up to 5 years for the EU Eco-label certificate), thus encouraging the certification programme.

A measure taken in the forestry sector refers to inclusion of wood products into green public procurement. The Strategy for the Development of Public Procurement System for the period 2016-2020 with the Action Plan has been drafted for these measures, and green procurements are the priority in the Strategy. The measure of Introducing the chain and control over the timber circulation included adoption of the Action Plan for forestry sector certification (FSC) of forest management and the forest certification process is about to start according to international standards in order to enable the domestic wood industry to reach the western market, which imposes the condition that timber comes from certified forests under sustainable management.

**Indicators used in the assessment**

1. Prepared the analysis of options for environmental-fiscal transfers or more efficient allocation of funds from the state budget for biodiversity needs,
2. Number of products with Eco-label.

**Please describe any other tools or means used for assessing progress**

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**Relevant websites, web links, and files**

Monteorganica - https://orgcg.org

EU Ecolabel in Montenegro - http://www.eu-ecolabel.me/licencirani-objekti-u-crnoj- gori.html

Project of low-carbon tourism in Montenegro

**Level of confidence of the above assessment**

☐ Based on comprehensive evidence
☒ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

Monitoring of this target relates to the continuous verification of certified producers and institutions, and to the necessity for regular reviewing of issued certificates, or continuous monitoring of compliance with the methodology.

**Strategic target C: An efficient mechanism for financing biodiversity protection is achieved, as well as a transition to a sustainable economy of biodiversity (as part of green economy) and necessary capacities are built by 2020**

**Operational target 8: Establishing legal, institutional and implementation framework for introduction of PES**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☒ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Through projects implemented earlier, nature protection sector got familiar with the Payment for Ecosystem Services concept (PES), and this concept is incorporated in the Law on National Parks (054/16, Article 60 and Article 61). Yet, although the law in many ways enables the development of public or private PES schemes, PES requires a clearer institutional setup. Although the recommendation was made already in 2013 to create a PES "White Paper" as a

concept for the introduction of PES, no strategy has been developed to the present day, and the technical report on the mechanisms for introducing sustainable biodiversity economy, including payment for ecosystem services, developed as a result of the already mentioned project, is used as the basis for understanding.

The PES pilot project has not been implemented. A case study is being done on the implementation of PES scheme in Montenegro on the example of Durmitor National Park, Municipality of Žabljak, for the purpose of basins protection (Daković, 2013). The conclusion of the study is the necessity of having three prerequisites for the efficient use of PES schemes:

- ecosystem services must be defined at the municipal level;
- establishing the national legislation for use of PES schemes;
- valuation by stakeholders.

**Indicators used in the assessment**

1. PES "White Paper" drafted (as a concept or a strategy) for introduction of PES
2. Number of strategies, laws, regulations and plans for the establishment of institutional mechanisms for PES
3. PES pilot project finalised

**Please describe any other tools or means used for assessing progress**

/

**Relevant websites, web links, and files**

Law on Nature Protection (Official Gazette, no. 054/16)

The economic value of protected areas in Montenegro 2011

Emerton L. (2013) - Montenegro: the economic value of biodiversity and ecosystem services

Technical Report

Emerton L. (2013) - Mechanisms for mainstreaming a sustainable biodiversity economy, including payments for ecosystem services Technical Report

Daković, M. 2013. Biodiversity Utilization and PES Schemes in Montenegro. Prepared for GEF/UNDP PIMS 5024: National Biodiversity Planning to Support the Implementation of the CBD 2011-2020 Strategic Plan in Montenegro, United Nations Development Programme (UNDP), Podgorica.

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence

☐ Based on limited evidence

**Explanation for the level of confidence indicated above**
Indicators are easily measurable, leaving no dilemmas on whether the target has been achieved

**Adequacy of monitoring information to support assessment**
☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**
This target is monitored on the basis of factual state and materials that confirm the defined indicators. In this specific case, this can be the PES "White Paper" or strategies and laws on the use of the PES System.

**Strategic target D: Significant reduction of identified direct pressures on biodiversity registered by 2020**
**Operational target 9: Reduced pressures from the sectors of spatial planning/construction**

**Category of progress towards the implementation of the selected target**
☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☒ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**
December 2018

**Additional information**

Pursuant to the Law on Nature Conservation (Official Gazette of Montenegro, no. 54/16), Article 53, compensation measures are implemented for sites of ecological network in case that public interest is defined after the appropriate assessment procedure. Since the areas of the ecological network have not yet been identified and proclaimed, the defined measure could not have been implemented, therefore no compensation measure has been implemented yet for a lost habitat.

The Law on Spatial Planning and Building Construction (Official Gazette of Montenegro, no. 064/17), adopted in 2017, provides in its Article 21 the drafting of baseline studies. However, as the Law was adopted in 2017, and therefore the period in which the measure is in place is still short, it is not yet possible to assess the effect of integrating this measure into the biodiversity-related regulation.

**Indicators used in the assessment**

1. Area of changed protected sites (habitats) where protection status (area) is degraded, and area of new sites (habitats) that are a result of compensation measure.
2. Obligation to draft baseline studies incorporated in legal framework.

**Please describe any other tools or means used for assessing progress**

Beside the national indicators defined in the strategy, Corine Land Cover (CLC) analysis was applied (Table 7). According to this analysis, it can be concluded that there was an increase in developed areas during the reporting period.

**Table 7** - Corine land cover (CLC) data for classes of land intended for construction development. Area sizes expressed in hectares.

| Land use (CLC class) | 2006 | 2012 | 2018 | Difference between 2006 and 2012 | Difference between 2012 and 2018 |
|---|---|---|---|---|---|
| Continuous urban fabric | 175,26 | 228,21 | 228,21 | 52,95 | 0,00 |
| Discontinuous urban fabric | 18363,84 | 24047,83 | 24072,05 | 5684,00 | 24,21 |
| Industrial and commercial units | 1547,75 | 1677,07 | 1728,81 | 129,32 | 51,74 |
| Construction sites | 161,67 | 79,94 | 643,38 | -81,74 | 563,45 |

This analysis indicates that in the period between 2006 and the present day, the greatest development was recorded in areas with discontinuous urban fabric, and these are mainly suburban settlements which have experienced the expansion in that period due to the immigration of the population from rural areas.

A more detailed analysis of changes in land use indicates that agricultural land suffered the most from the construction, and that the trend noticed between these two observed periods was related to pressures from the construction sector (Table 8).

**Table 8** – Analysis of structure of change in land use according to the Corine Land Cover (CLC) methodology

| | Total change in habitat type in the period 2006-2012 (in ha) | The change pertaining to developed land* (% of total change) | Total change in habitat type in the period 2012 - 2018 (in ha) | The change pertaining to developed land (% of total change) |
|---|---|---|---|---|
| **Pasture** | 295,33 | 60,62 **(20,5%)** | 123,9 | 31,07 **(25%)** |
| **Agricultural land**** | 252 | 115,98 **(46%)** | 326,35 | 155,71 **(47,7%)** |
| **Forests ***** | 2922,41 | 71,56 **(2,4%)** | 4246,66 | 319,15 **(7,5%)** |
| **Transitional forms of forests/shrubs/bushes** | 1348,19 | 73,91 **(5,4%)** | 1705,56 | 266,53 **(15,6%)** |
| **Grassland** | / | / | 40,11 | 8,5 **(21,2%)** |
| **Scarce vegetation** | / | / | 544,03 | 46,17 **(8,4%)** |
| **Sea** | / | / | 37,75 | 12,6 **(33,3%)** |

*** *Developed land* includes Corine classes: discontinuous urban fabric, industrial and commercial units and construction sites**
**** *Agricultural areas* include Corine class: agricultural areas, agricultural areas with natural vegetation, arable land, vineyards**
***** *Forests* include Corine class: broad leaved forests, coniferous forests, mixed forests**

**Relevant websites, web links, and files**

Law on Spatial Planning and Building Construction (Official Gazette of MNE, 06.10.2017, 044/18 dated 06.07.2018, 063/18 dated 28.09.2018)
Final report – Service contract for the Copernicus Land monitoring services Production of CORINE Land Cover for the 2018 reference year (CLC2018) for Denmark, Latvia, Switzerland and the West Balkan countries

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

Indicators are easily measurable, leaving no doubt on whether the target has been achieved.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☒ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

The stated target is monitored on the basis of the factual state and materials that confirm the defined indicators. In this particular case, it can be statistics on compensatory measures for lost habitats and the number of baseline biodiversity studies conducted as a basis for making spatial planning documents. Also, the change in land use indicates the level of pressure from the construction sector, which can be clearly identified in the periodical analysis of land cover types.

Strategic target D: Significant reduction in identified direct pressures on biodiversity registered by 2020

## Operational target 10: Reducing the pressures from the sectors of environmental protection/utilities

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☒ Progress towards target but at an insufficient rate
- ☐ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Pressure from the utilities sector has not been completely eliminated. The Law on Urban Waste Water Management, adopted in 2017, defines 2029 as final deadline for the construction of all waste water treatment plants. In this regard, the deadlines in the National Biodiversity Strategy are not adjusted and are more ambitious than the existing legislation and policies in this field.

However, despite the above, a lot has been done to reduce the impact of this sector on biodiversity.

When it comes to marine and coastal areas, wastewater treatment plants were built and started-up in municipalities of Budva (2014), Tivat-Kotor (2016), while in Herceg Novi one plant was put on trial work. The sewage system is being expanded and as many citizens as possible are being connected to the urban sewerage network.

The Rulebook on geographical boundaries, number and capacity of agglomerations (Official Gazette of Montenegro, no. 078/17) covers 496,548 inhabitants out of a total of 625,266 inhabitants of Montenegro (79.4%). As far as the entire territory of Montenegro is concerned, of the total number of inhabitants, 302,000 have been connected to the sewerage network so far (60.82% of total number of inhabitants in covered agglomerations), of which 146,960 have secondary treatment services (29.60%), while 71,653 have tertiary treatment (14.43%). In the Adriatic watershed, there are defined agglomerations of 326,284 inhabitants, of which 240,504 are connected to the sewage system, which is 73.71% compared to the total number of inhabitants in covered agglomerations, while the secondary wastewater treatment covers 143,053 inhabitants (43.84%), tertiary system is used by 71,653 inhabitants (21.96%).

Waste water treatment devices are in use in municipalities of Mojkovac, Žabljak, Šavnik, Podgorica (although of insufficient capacity in Podgorica), Nikšić, Budva, Tivat, Kotor and Herceg Novi. It is expected to start-up the WWTPs in Berane and Vranjina during 2019, while WWTP in Pljevlja has recently been started-up and is in trial operation. Based on the agreed activities, it is expected that agglomerations of Petnjica and Andrijevica will acquire new wastewater treatment plants as early as next year, while the activities in Podgorica, Danilovgrad, Bijelo Polje, Rožaje and Kolašin will be finalised in the next few years. Also, in the forthcoming period, activities will be focused on creation of prerequisites for the construction of plants in the municipalities of Plav, Plužine and Cetinje.

The assessment study on the impacts of pollution on the most vulnerable karst ecosystems caused by waste waters has not been conducted.

As for the measure related to remediation of temporary disposal sites and dumpsites on the river banks, the majority of municipalities drafted Local Action Plans in the reporting period, proposing the ways to remediate waste disposal sites and dumpsites. Some municipalities have taken certain measures like making inventories of illegal dumpsites and the remediation of some disposal sites. However, one of the main barriers to reducing this pressure is that some illegal dumpsites are reactivated (which is especially the case in rural areas, where there is no waste disposal system in place due to the lack of transportation infrastructure, and the population disposes the waste on the river banks). In addition, remediation of disposal sites requires the construction of transfer stations, which has been initiated in some municipalities, but has not been completed during the period of this Strategy.

When it comes to the measure of reducing the pollution caused by the disposals of industrial – hazardous waste, there are ongoing activities on remediation of sites of Aluminium Plant Podgorica (APP, solid waste dumpsites and red mud tailings), Adriatic Shipyard Bijela (disposal of grit), Thermal Power Plant Pljevlja (ash disposal site and Maljevac) and Flotation tailing

impounds Gradac – Pljevlja. The activities are implemented through a project supported by the World Bank. More specifically, when it comes to the APP site, the main design documentation is being drafted for remediation of the red mud tailing and Environmental Impact Assessment (EIA) Study will be updated (EAI Study was prepared within the project preparatory phase in 2013), the review of geological exploration project and supervision over this exploration is also planned, as well as review of other technical documentation. Preparation of technical documentation for remediation of the solid waste landfill is also envisaged for the coming period. In the Shipyard Bijela there are ongoing activities on preparation of waste grit for export, and so far 12,000 tons of hazardous waste has been exported. The works are expected to end in March 2020. When it comes to the site of Thermal Power Plant Pljevlja – ash and slag disposal site in Maljevac, the selection of contractors for remediation of the mentioned site is in progress, and the completion of works is planned for June 2020. Preparation of documentation is in progress for the site of Flotation tailing impounds Gradac – Pljevlja, and selection of contractors for remediation will be initiated in close future. The completion of work is also planned for June 2020.

Based on the above, it is concluded that, although there have been significant activities in this area in the reporting period, the ambitiously set targets in the National Biodiversity Strategy have not been met to the full extent. Surely, the activities aimed at achieving the policy objectives are in progress, but there is a need to adjust deadlines for achieving the targets in the utility sector related to waste management and those set in the National Biodiversity Strategy.

**Indicators used in the assessment**

1. Level of waste water treatment for all coastal municipalities – the target is set above 90%
2. Level of waste water treatment at the state level higher than 70%
3. Assessment study for impacts of pollution from waste waters on the most sensitive karst ecosystems
4. Temporary disposal sites and dumpsites on the river banks remediated – target 100%
5. At least two sites with hazardous waste (Bijela and APP) remediated and do not pose threat for biodiversity in coastal region and NP Skadar Lake.

**Please describe any other tools or means used for assessing progress**

/

**Relevant websites, web links, and files**

Rio hotspots Montenegro - http://rio.org.me/index.php/me/

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence

☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The assessment is highly reliable since it is based on data and facts on the implementation of current projects and activities from the entities responsible for implementation within the Ministry of Sustainable Development and Tourism, local self-governments and the Agency for the Nature and Environmental Protection. Statistical data on utility infrastructure exists and is regularly checked and accessible, as well as data on the status of water quality obtained through regular environmental monitoring programme.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

There is no reliable system in place to monitor remediation of illegal dumpsites for municipal and construction and demolition waste. As for waste waters, estimates are made on how many residents are connected to the system and there is data on marine water quality obtained from the Environmental Monitoring–Marine Ecosystem Programme implemented by the Agency for the Nature and Environmental Protection annually, and in terms of surface and groundwater, by the Institute for Hydrometeorology and Seismology. The Nature Conservation and Environment Agency is implementing the programme on cleaning the environmental hot spots, and is conducting monitoring and data processing related to implementation within the monitoring of the programme.

**Strategic target D: Significant reduction in identified direct pressures on biodiversity registered by 2020**

**Operational target 11: Sustainable agriculture, forestry and water management**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

***Sustainability in forestry***

Forestry sector of Montenegro is undergoing changes because it aims to transform itself into a sustainable industry, with an increase in GDP share from 2% to 4%. Accordingly, the revised national forestry policies (for the period 2014-2023) envisage a range of measures aimed at achieving sustainable and multifunctional forest management.

The Strategy recognises the concept of ecosystem services and their importance for human wellbeing and development, and integrates the matters of biodiversity protection by defining a number of direct measures:

- Integration of Natura 2000 requirements into forest management plans, so as to achieve habitat and species protection in the entire forest territory
- Ecosystem approach in forestry management and nature protection
- Delineation of grasslands and forests, registration and regulation of rights of use
- Improving the forest management in national parks

Mainstreaming the biodiversity conservation is also envisaged for forest development plans, with two such plans being drafted at the moment – for the forest areas of Mojkovac and Pljevlja. The plans will contain integrated targets for the protection of species and habitats, but conducting the Strategic Impact Assessment and the monitoring the implementation and effectiveness of these measures are activities yet to be implemented.

In order to achieve sustainability in forestry, activities have been undertaken to address key problems in this sector (see description in Chapter 1, operational target 11):

- *Forest fires* – In December 2017, the Government of Montenegro adopted the Strategy for Disaster Risk Reduction in Montenegro with the Action Plan for the period 2018-2023. The National Plan for Fire Protection and Rescue was also adopted in December 2018. Plans for protection against forest fire in compliance with the Law on Protection and Rescue (Official Gazette no. 54/2016), are supposed to have been drafted by protected areas managers.

- *Illegal logging* – The action plan for fighting illegal activities was adopted on the national level. A number of activities and measures have been undertaken in compliance with this plan, and a special team has been formed to monitor its implementation. The implemented activities revealed a large-scale illegal logging in the area of the Municipality of Mojkovac, and certain actions have been carried out to enable prosecution of perpetrators before competent authorities. At the proposal made by the Coordination Team for Monitoring the

Implementation of the Action Plan, 134 companies employing only one person were inspected and on that occasion they issued decisions on forced collection of outstanding debts. In addition, further enforcement activities were suggested to inspectorates regarding the control of unregistered employment in forestry and timber industries.
Montenegro has also developed the action plan for forest certification according to the FSC methodology (one of the mechanisms for preventing illegal exploitation of forests); however, no forest areas have been certified so far. Certification of forests is planned in the coming period for forest areas that fulfil conditions for such certification.

- *Failing to fulfil concession obligations* – In the period 2015-2018, the Forest Administration did not terminate any concession contracts, but 14 of them expired in the same period. Those were signed for the period of 7 years, and were not extended. The Forest Administration proposed termination of two concession contracts signed with companies "Bambis stolarija" and "Vektra Jakić", which was approved by the Government of Montenegro, and the procedures for termination are in progress.

- *Illegal and uncontrolled collection of non-timber forest products* – In the subject period, the Forest Administration did not conclude any contracts on the use of non-timber forest products, so they do not have data on the collected quantities. In 2018, the Rulebook on the manner and conditions for the collection and use of non-timber forest products was adopted, thus creating the conditions for concluding the contracts for use. During the development of this report, such contracts were not concluded.

***Sustainability in fishery***

During the reporting period, numerous activities were undertaken to reduce the impact of underwater activities on biodiversity. In fact, the *Action Plan of the Working Group for suppressing the use of explosive devices and other unauthorized tools and equipment in fishing 2017-2019*, stipulates a programme of concerted actions for the suppression of illegal underwater activities, and the following is implemented: drafting a new Law on Marine Fisheries and Mariculture; the establishment of a special police team and provision of necessary equipment for their work in order to combat poaching and perpetrators,; paying special attention to the sites of sunk ships and natural deep ridges; frequent actions on the removal of unmarked fishing tools; continuous control of persons and vessels under suspicion of being involved in illegal fishing; improving coordination between institutions; organising ranger service at sea; developing capacities of fishery inspectorates; developing long-term strategies that define the objectives and guidelines for conservation of endangered species; encouraging general public to report poachers; creation of a register of persons and companies that can fill diving oxygen tanks; enhancing the control of illegal night diving; informing the public.

***Sustainability in agriculture***

The Strategy for the Development of Agriculture and Rural Areas envisages the support to sustainable use of mountain pastures, which are recognised as specific resource that contributes to biodiversity conservation (specific flora and fauna, cultivated local breeds), and they are of special economic and cultural significance. The support is given to agricultural farmsteads involved in cattle breeding (their own cattle and cattle rented for milking) for at least three months a year in alpine grazelands (*katuni*). The support is provided through payments effectuated per conditional head.

***Sustainability in water management***

A moratorium on the exploitation of gravel and sand from riverbeds has been introduced in April 2017. The decision to ban further exploitation of gravel and sand was made due to the expiration of concession contracts, occurrence of illegal and unplanned exploitation, while the lack of projects on water regulation was an additional condition that influenced the enforcement of the moratorium. The Action Plan for implementation of the moratorium on the exploitation of river sediment and on the protection of river courses has been made. In order to ensure coordination and implementation, as well as to accomplish one of the tasks foreseen in the Action Plan, a Working Group was established to monitor implementation of planned activities during the moratorium period. This Group has prepared a report on the present state which is considered to be the baseline. The moratorium included 25 sites in the river basins of the: Morača, Lima, Tara, Ibar, Grnčar and Gračanica, where the concession contracts had expired in 2016, as well as in other critical points in the river basins. The coordination team for monitoring the enforcement of the decision on ban of exploitation of river sediments conducted intensive field activities in order to control enforcement of the moratorium and implementation of interventions. The Water Directorate established a commission whose task was to check riverbeds of the Lim, Tara and Grnčar Rivers, in particular in sections where river drifts are formed and where erosion destroys the banks. The commission, assessed the current status upon the check of riverbeds, and proposed remedial measures, prepared reports for 6 municipalities through which the rivers of Grnčar, Lim and Tara flow, and also suggested to the Water Directorate to approve intervention works. The overall effects of those intervention works are more than satisfactory.

Activities on the preparation of River Basin Management Plans with a programme of measures for each watershed are in progress through project “Strengthening the capacity for implementation of the Water Framework Directive in Montenegro”. The project began in early 2017, it will last for three years, and the adoption of plans is expected in 2020. The plans will integrate biodiversity protection measures, and continual monitoring of surface and ground waters will be established through the plans in compliance with the requirements of the Water Framework Directive. The plans will be the subject to the Strategic Environmental Assessment.

**Indicators used in the assessment**

1. Number of plans with integrated targets for species and habitats protection
2. Number of management plans containing harmonized and agreed fire protection measures at the national level
3. Increasing the percentage of timber harvested based on regular papers and remittance stamps
4. Number of terminated concessions compared to the number of unaccomplished plans
5. Certified forest areas
6. Annual amount of collected non-wood products is a part of the environmental status report
7. Number of filed cases per year for illegal hunting and fishing
8. The programme of concerted activities for the suppression of illegal underwater activities has been adopted and implemented
9. Number of plans and programmes with integrated measures for conservation of important natural and semi-natural grasslands
10. Number of filed cases per year for illegal exploitation of gravel and sand
11. River Basin Management Plans contain biodiversity protection measures.

**Please describe any other tools or means used for assessing progress**

**Relevant websites, web links, and files**

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

**/**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in**

**place**

This target is monitored through the adoption of envisaged documents and statistics of inspection checks. For most of the indicators, therefore, monitoring is simple, but it is missing for annual quantities of collected non-timber products, and completely for monitoring of filed cases for illegal hunting year by year. Therefore, it should be established so as to enable full monitoring of this target according to defined indicators.

Strategic target D: Significant reduction in identified direct pressures on biodiversity registered by 2020

## Operational target 12: Reducing the pressures from the sectors of transport, energy and infrastructural development

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☐ Progress towards target but at an insufficient rate
- ☐ No significant change
- ☒ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Montenegro has adopted a Rulebook on protection measures and manner of maintaining corridors for wild animals (Official Gazette, no. 80/2010). In the practice so far, this matter has not been given specific attention. Integration of measures for safe passage of animals has come into focus with plans for reconstruction of main roads in the central region (Podgorica – Danilovgrad), as well as with the construction of highway Bar – Boljare. At the moment of this reporting, it cannot be discussed about the construction of facilities on road infrastructure for purposes of biodiversity protection.

Figure 2 contains a map of the existing and planned traffic routes with regard to the existing and planned protected areas. Specifically, the current issue is the construction of the first highway in Montenegro. The corridor of the entire highway will cover 1400 $km^2$, the length will reach around 165 km, while around 40 km long section that is currently under construction will cover 350 $km^2$. The map clearly shows that the construction of the highway will cover a part of

the area of the existing protected sites of NP Skadar Lake, MoN Cijevna and NP Komovi, and it will also affect some planned protected areas with which it will either share borders or will go through. This is the case also with some other lower-tier traffic routes.

Construction of the highway has raised public interest because of the environmental impacts. Although the company responsible for the construction of the highway has regulated waste water treatment system in workmen camps and base stations, conducts water quality monitoring, as well as monitoring of particulate matter and noise emissions, there are structural changes observed in habitats located in the vicinity of the highway route, including the Tara river bed. Biodiversity monitoring has been established, and the results indicate the reduction and disappearance of some fish populations. The water monitoring results also indicate that not all samples meet the criteria of the Regulation on the classification and categorisation of surface waters. All of this indicates that there are direct impacts of the highway construction. Still, there is not enough time continuum of monitoring to enable assessment of impact of the highway construction to biodiversity, and determine whether such impact is temporary or permanent. Remediation and revitalisation measures for that area are planned for the period upon the construction of highway.

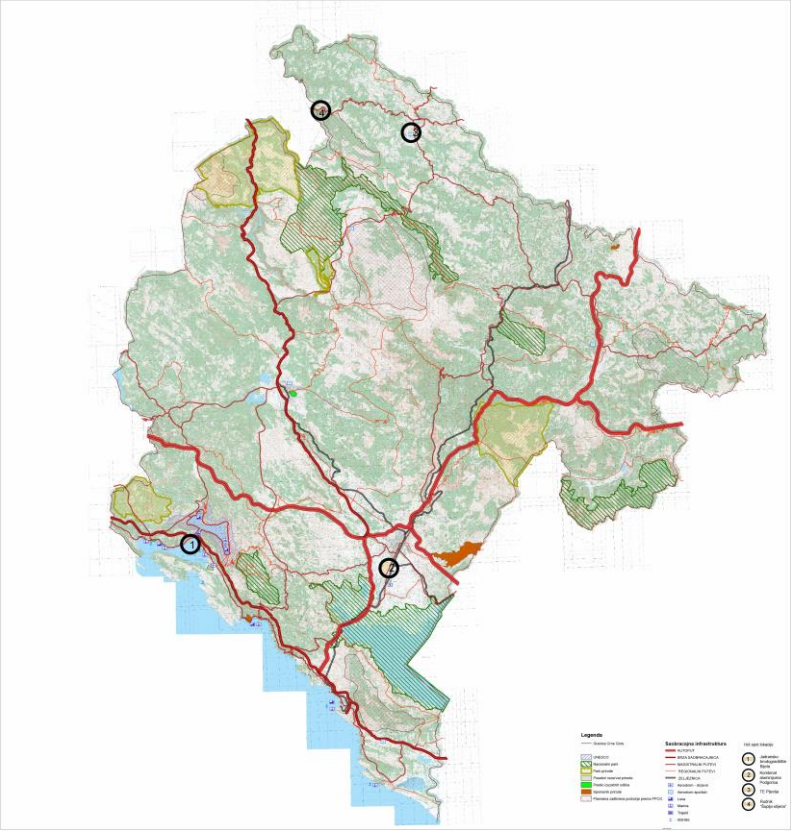

**Figure 2** – Map of the existing and planned traffic routes with regard to the existing and planned protected areas

When it comes to energy facilities, energy policy envisages construction of new installations, primarily a large number of small hydro power plants on most watercourses in the northern part of the country. All these installations are subject to environmental impact assessment, as well mainstreaming of biodiversity protection measures, such as maintenance of ecological minimum. However, unofficial observations indicate that measures envisaged are not observed in the construction and operation phases in these installations, so certain sites record degradation of habitats and reduction or disappearance of species' populations. Besides, as stated in several sections of this Report, quantity and quality of available data on biodiversity is usually not sufficient for making decisions aimed at minimising the effects of energy and infrastructural facilities on biodiversity.

Figure 3 contains a map of the existing and planned energy facilities with regard to protected areas. Specifically important is a cross-border energy cable which is in the construction phase, passing through NP Durmitor, MoN Dragišnica i Komarnica, and NP Lovćen. In addition, energy development plans stipulate construction of dam system on the Morača River. This project has been in public focus for some time now, since it is understood that it will dramatically affect hydrological regime not only of the Morača River, but also of the Skadar Lake, consequently having strong impact on biodiversity.

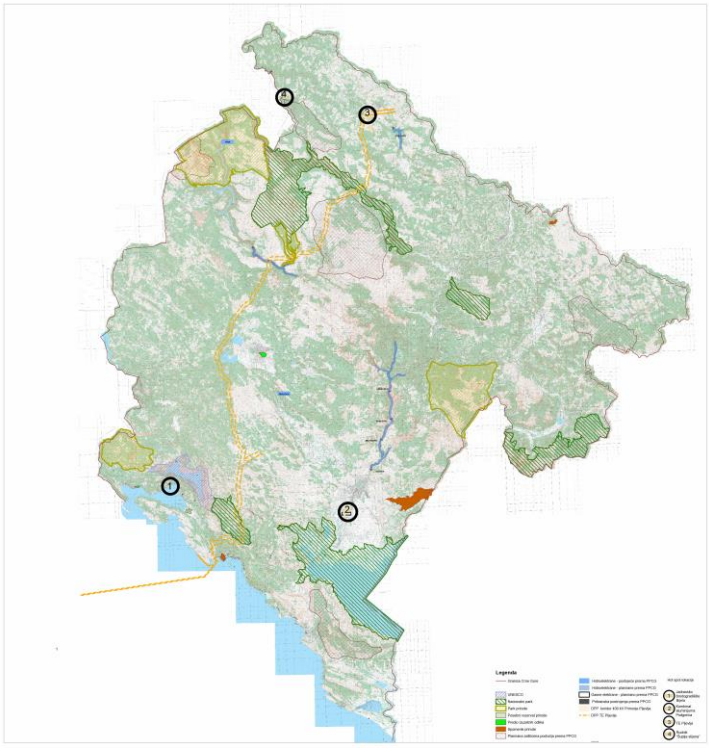

**Figure 3** – Map of the existing and planned energy infrastructure with regard to protected areas

**Indicators used in the assessment**

1. Number of planned and constructed facilities on road infrastructure for the purposes of biodiversity protection
2. Preparation of documents for the construction of energy facilities contain sufficient level of biodiversity-related information to enable decision making

**Please describe any other tools or means used for assessing progress**

According to the Corine Land Cover analysis (Table 9), it can be seen that area under traffic and transport infrastructure has increased.

**Table 9** – Data and coverage with changes in use of land under traffic infrastructure based on the Corine Land Cover (CLC) methodology

| Purpose (CLC class) | 2006 | 2012 | 2018 | Difference 2006-2012 | Difference 2012-2018 |
|---|---|---|---|---|---|
| Road and railway infrastructure | 61,14 | 284,77 | 313,73 | 223,63 | 28,95 |
| Ports | 137,04 | 149,13 | 174,96 | 12,09 | 25,84 |
| Airports | 359,93 | 515,65 | 541,23 | 155,73 | 25,58 |

Based on all above presented data, it can be concluded that traffic and energy sectors recorded increase in number of infrastructural facilities, i.e. areas under such infrastructure, which, in absence of monitoring data, can be used as indicator of impact to biodiversity. Observed as such, it indicates an increase in pressure.

**Relevant websites, web links, and files**

Ministry of Economic Development (2008) – Detailed spatial plan for highway Bar – Boljare Service contract for the Copernicus Land monitoring services Production of CORINE Land Cover for the 2018 reference year (CLC2018) for Denmark, Latvia, Switzerland and the West Balkan countries

**Level of confidence of the above assessment**

☐ Based on comprehensive evidence
☒ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above.**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

Monitoring is partial in this context. In the traffic sector, there is no monitoring of the construction and impacts of infrastructure to biodiversity protection, statistics on direct influence on biodiversity (e.g. animals killed during passage). As for the highway, the company in charge of the construction conducts monitoring of waste waters, water quality, noise and particulate matter emission on the highway. The Ministry of Sustainable Development and Tourism has contracted experts to conduct monitoring of biodiversity on the Tara River.

In the energy sector, managers of energy installations are obligated to contract experts for monitoring activities during the works, and must continually report to the inspectorate, but this is not implemented in practice.

Strategic target D: Significant reduction in identified direct pressures on biodiversity registered by 2020

## Operational target 13: Achieving sustainable tourism

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☐ No significant change
☒ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

If we take into account only the national indicators, this measure has not recorded any significant changes. The current tourism strategy was adopted in 2008 (for the period until

2020). According to it, development of tourism in Montenegro should be based on nature potentials, and nature based tourism should be encouraged. Over the past several years, activities have been implemented on encouraging those forms of tourism (e.g. mountaineering, cycling), directly, and through support to the development of rural tourism, for which a specific strategy had been adopted. It, however, does not define specific measures for biodiversity protection. The new strategy on tourism is under preparation, and at this moment one cannot talk about its contribution to biodiversity protection.

Although there is a significant growing trend in number of visitors in protected areas over the past several years, the assessment of carrying capacity and impact of visitors to biodiversity have not been so far conducted for any protected area.

**Indicators used in the assessment**

1. Number of plans and programmes with incorporated measures, and number of measures in implementation
2. Assessments conducted for at least 2 national parks

**Please describe any other tools or means used for assessing progress**

Tourism is one of priority development industries in Montenegro, and in the recent period records a significant growing trend. The number of visitors is growing, especially in protected areas, where nature-related forms of tourism are exercised (mountaineering, cycling, birdwatching.). However, this also entails certain negative phenomena, such as direct disturbance of wild flora and fauna by visitors, increased generation waste and waste waters that are not adequately treated, as well as proliferation of construction of touristic facilities, many of which are illegal and at the detriment of natural habitats. Target impact assessments of visitors on biodiversity do not exist. Therefore, observing the indicators beside these defined in the NBSAP, it can be concluded that pressure on biodiversity has increased when it comes to the tourism sector, i.e. there is a move away from the target.

**Relevant websites, web links, and files**

**/**

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The indicators for planned measures are easily measurable, so they can be used for the assessment purposes leaving no doubt.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

As already stated, the existing strategies in tourism sector do not define specific measures for biodiversity, and no monitoring activities have been introduced to follow the impacts of tourism (in its various forms) on nature in Montenegro. The statistics about the number of tourists coming to Montenegro is maintained by the Statistical Office of Montenegro (Monstat), and PE National Parks also maintain statistics on number of visitors to national parks. The Agency for the Protection of Nature and Environment publishes data about visits to national parks annually in the Information on environmental status, and also calculates number of visitors against the surface of specific national park. In the absence of a study that would assess the impact of tourism to biodiversity, statistics on tourists/visitors are the main indicators of pressures on environment. According to that indicator, this sector has been increasing the pressure on biodiversity.

**Strategic target D: Significant reduction in identified direct pressures on biodiversity registered by 2020**

**Operational target 14: Measures for mitigating the impacts of invasive species**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☐ Progress towards target but at an insufficient rate
☒ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Several initiatives and programmes related to invasive species have been conducted within the reporting period.

The Law on Alien and Invasive Species was drafted in 2018, transposing international standards into the national legal framework of Montenegro, and introducing mechanisms for prevention of introduction and spreading of alien and invasive species of plants, animals and fungi, with the aim of mitigating and minimising harmful effects on biodiversity, ecosystem services and/or human health.

Directorate for Food Safety, Veterinary and Phytosanitary Affairs is conducting measures to eradicate species harmful for agricultural sorts and allergens (Table 10). The Directorate also controls wooden packaging material from China which poses phytosanitary risk for introduction of harmful organisms *Bursaphelenchus xylophilus, Monochamus sp., Anoplophora glabripennis i Anoplophora chinensis*. Phytosanitary inspectors conduct checks at the border entry points of wooden packaging material for goods defined in a regulation (marble, granite, stone, and so on), which poses the highest phytosanitary risk. After the health check carried out by the phytosanitary inspector, wooden packaging material not duly labelled pursuant to ISPM 15 is destroyed through incineration.

**Table 10** – List of species and measures implemented by the Directorate for Food Safety, Veterinary and Phytosanitary Affairs

| **Species** | **Measure** |
|---|---|
| *Radopholus similis* | Monitoring since 2017 for the prevention of introduction, and for confirming the status of this method |
| *Phytophthora ramorum* | Analysis for determining the presence – presence not confirmed |
| *Gibberella circinata* | Analysis for determining the presence – presence not confirmed |
| *Ralstonia solanacearum* | Analysis for determining the presence – presence not confirmed |
| *Clavibactermichigenensis subsp. sepedonicus.* | Analysis for determining the presence – presence not confirmed |
| *Potato spindle tuber viroid* | Analysis for determining the presence – presence not confirmed |
| *Synchytrium endobioticum* | Analysis for determining the presence – presence not confirmed |
| *Rhynchophorus ferrugineus (surlaš)* | Monitoring |
| *Anoplophora chinensis* | Analysis for determining the presence – presence not confirmed |
| *Anoplophora glabripennis* | Monitoring and eradication measures |
| *Epitrix cucumeris, Epitrix similaris, Epitrix subcrinita, Epitrix tuberis* | Analysis for determining the presence – presence not confirmed |
| *Xanthomonas campestris pv. pruni Pseudomonas syringae pv. persicae* | Analysis for determining the presence – presence not confirmed |
| *Xylella fastidiosa* | Analysis for determining the presence – presence |

| | |
|---|---|
| | not confirmed |
| *Citrus tristeza* | Monitoring and eradication measures |
| *Xylella fastidiosa* | Monitoring, spreading recorded |
| *Anthonomus eugenii* | Analysis for determining the presence – presence not confirmed |
| *Pepino mosaic virus* | Monitoring - presence not determined |
| *Dryocosmus kuriphilus* | |
| *Bursaphelenchus xylophilus, Monochamus sp., Anoplophora glabripennis i Anoplophora chinensis* | Monitoring and presence not determined |
| *Ambrosia artemisifolia* | Monitoring and measures on education and suppression |
| *Tephritidae, Drosophilidae* | Monitoring and measures |
| *Bactrocera oleae, Ceratitis capitata* | Continual monitoring |
| Cikades of phytoplasm transmitters | Continual monitoring |

Within the regular monitoring at Tivat saline pools (salt pans), PE Morsko dobro declared the presence of several invasive species, such as: blue crab (*Callinectes sapidus*), small Indian mongoose (*Herpestes auropunctatus*), Odonata-Tritemis anulata, Asian ladybird (*Coleoptera-Harmonia ahydris*) and parasitoid Hymenoptera (*Sceliphron caementarium*). In addition, awareness raising campaign about the blue crab species was organised in order to encourage catching and use of this species as foodstuff, which would contribute to the reduction of its population.

PE National Parks collect field information on the distribution and degree of invasiveness of certain allochtonous plant species along the northern shore of the Skadar Lake, including *Amorpha fruticosa, Glaedichia triacanthos Xanthium strumarium, Ambrosia angustifolia, Ailanthus altissima, Egeria densa*.

The Marine Biology Institute has collected data on species from ballast waters within the BALMAS project, periodically from fishermen as well about the species *Caulerpa cylindracea* (the so-called tumour of the Mediterranean), and about the occurrence of other species within their regular research activities that are not specifically dedicated to the research of the presence and distribution of invasive species.

As far as ballast waters are concerned, there are only two ports that are relevant in this regard: Bar and Kotor. These ports have been provided with equipment for indicative and detailed testing of ballast waters through the BALMAS project, but there is a limited number of people using this equipment, while ports do not have facilities to receive ballast waters. Controls of ship logbooks on change of ballast waters are carried out regularly, and in the case of doubt, sampling is conducted for further testing.

A research project was carried out to determine the distribution and number of invasive species of invertebrates *St. albopicta* (*Ae. albopictus*), and zebra mussel *Dreissen polymorpha* in Montenegrin freshwater systems. Also, the research activities have recorded the expansion of the red-eared slider (*Trachemys scripta*).

Despite this, comprehensive and systematised research on invasive species that would provide a clear picture of their distribution and level of invasiveness in Montenegro does not exist, therefore information that would be relevant for decision making and planning is not complete.

**Indicators used in the assessment**

1. Number and characteristics of invasive species make part of the information system on biodiversity to the extent that enables a comprehensive view of the problem
2. Number of ports equipped for monitoring and processing of ballast waters compared to the overall number of ports

**Please describe any other tools or means used for assessing progress**

The assessment included use of reports from relevant institutions about projects, activities and programmes implemented with regard to invasive species.

**Relevant websites, web links, and files**

Report from the Sector for Phytosanitary Affairs for 2017
Balmas Project

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above.**

**/**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

The Directorate for Food Safety, Veterinary and Phytosanitary Affairs conducts regular monitoring of species harmful for agricultural breeds and allergens. In addition, two ports have been equipped with devices for ballast water testing. Protected areas managers also monitor invasive species in their territories. However, although there are some activities on this matter, there is no centralised database and a comprehensive and established monitoring system implemented in coordinated manner that would establish the distribution and characteristics of invasive species and provide a complete picture on this issue.

**Strategic target D: Significant reduction in identified direct pressures on biodiversity registered by 2020**

## Operational target 15: Measures to mitigate impact of climate change

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☐ Progress towards target but at an insufficient rate
- ☒ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Table 11 contains measures implemented within the National Strategy on Climate Change by 2030. It has already been emphasised that the biodiversity measures are not specifically defined, but agriculture and forestry are covered, and it partly intertwines with other sectors through measures related to the use of biomass.

**Table 11** – Overview of implementation of measures defined in the National Strategy on Climate Change by 2030

| Measure | Institution | Deadline | Implementation status |
|---|---|---|---|
| **Agriculture** | | | |
| Incentives for conservation and sustainable use of endangered autochthonic and local cattle breeds and plants endangered by genetic erosion | MARD, agricultural producers, | 2030 | Not yet |
| Sustainable use of mountain pastures | MARD, agricultural producers | 2030 | Not yet |
| Support to the development of organic production | MARD, agricultural producers | 2030 | In progress |
| Solar panels for alpine diaries | ME, MARD, agricultural producers | 2030 | Implemented |
| **Forestry** | | | |

| | | | |
|---|---|---|---|
| Strengthening productivity, stability and resilience of forests and landscapes | MARD, Forest Administration, Private owners of forests | 2023 | In progress |
| Encouraging forestation, additional planting and cultivation of forest shrubbery | MARD, Forest Administration | 2023 | Not yet |
| Management and growth of private forests, adapted to the marking system | MARD, Forest Administration, private owners of forests, municipalities | 2023 | In progress |
| Provision of quality autochthonic seeds and seedlings of wood trees | MARD, Forest Administration, scientific-research institutions, commercial providers of nursery production. | 2023 | In progress |
| Development of forest communications so as to ensure sustainability of logging | MARD, Forest Administration, concessionaries, forest owners, municipalities. | 2023 | In progress |
| Defining new concept for mid-term development of wood industry | ME, MARD, wood processing companies, wood processors' cluster, Chamber of commerce, control organisations (laboratories and quality assurance institutions) in selected EU countries, Regional chambers of commerce in selected EU countries, Wood processing companies in selected EU countries | 2023 | In progress |
| Increase the demand for biomass by introducing heating of public buildings through cogeneration using woodchips | ME, MARD, MF, MH, ME, MC, Directorate for Property, wood industry companies, management of facilities of public importance, private owners of forests and their associations, as participants in the chain of custody | 2023 | In progress |
| Inclusion of wood products into "green public procurements" | MF, MARD, Directorate for Public Procurements, as well as public companies and institutions | 2023 | Not yet |
| Defining the export cluster for selected final products | Leading companies in wood processing industry, ministries, agencies, institutions, consultancy companies, Chamber of commerce, international partners | 2023 | Implemented |
| Development of more flexible system for timber sale | MARD, Forest Administration, wood processing companies. Tax Administration, Chamber of Commerce | 2023 | In progress |
| Introduction of a chain and control of timber circulation | MARD, Forest Administration, Tax Administration, Private owners of forests, concessionaries, contractors and transporters, wood industry | 2023 | In progress |
| Investments into wood industry | ME, MARD, MP, Universities, Institution for Standardisation, wood industry and forestry companies, designing bureaus and consultancy agencies | 2023 | Implemented |
| Strengthening the role and | Subsidiaries of the Forest | 2023 | Not yet |

| | | | |
|---|---|---|---|
| participation of local population in joint rural development programmes | Administration and advisory services, existing associations at local level, LSU departments responsible for local development, interested local population and local companies. | | |
| Improving the infrastructure in rural areas (rural infrastructure) | MARD, MSP | 2023 | In progress |
| Variety of economic activities in rural areas through promotion of the role of forests and forestry | Subsidiaries of the Forest Administration and advisory services, existing associations at local level, LSU departments responsible for local development, interested local population and local companies. | 2023 | Not yet |
| Investments into small forestry and wood industry companies in rural areas | Subsidiaries of the Forest Administration and advisory services, existing associations at local level, LSU departments responsible for local development, interested local population and local companies. | 2023 | Implemented |
| Investments into tourism | MARD, MORT | 2023 | Not yet |
| Sustainable management and use of non-wood forest products | Subsidiaries of the Forest Administration, ANCE, existing associations of forest owners, interested existing local companies, protected areas. | 2023 | Not yet |
| Stable high-quality forest ecosystems: protected habitats and species in the entire forest area through integration of requirements of Natura 2000 into forest management plans | MARD, Forest Administration, ANCE, institutions managing certain protected areas, Hunting association | 2023 | In progress |
| Eco-system approach in forest management and nature protection | MARD, Forest Administration, other state and local institutions, private owners of forests, companies, NGO | 2023 | In progress |
| Delimitation of grassland and forests, registration and regulation of rights on use | Forest owners, MARD, Forest Administration, Regional parks | 2023 | Implemented |
| Improved forest management in national parks | MARD, National parks, land owners, users in NP | 2023 | Implemented |
| Conservation of open plains within forests | MoI, MARD | 2023 | Not yet |
| Improved organisation of institutions involved in combat against forest fire | MoI, MARD, Forest Administration, forestry companies, municipal services for protection and rescue | 2023 | In progress |
| Investments into equipment and preventive measures for firefighting | Entrepreneurial and voluntary fire brigades, MARD, Forest Administration, municipal rescue services, MoI, forest owners | 2023 | In progress |
| Inclusion of population into prevention of fire and in firefighting | MoI | 2023 | Not yet |
| Development and testing of methods for rehabilitation of burnt surfaces | MARD, Forest Administration, scientific institutions and associations | 2023 | Implemented |

| | | | |
|---|---|---|---|
| | of forest owners | | |
| Exchange of experience and cooperation with institutions in the region | MARD, Forest Administration, MoI, Services for protection and rescue in municipalities | 2023 | Implemented |

**Indicators used in the assessment**

1. Report on implementation of measures from the National Strategy on Climate Change

**Please describe any other tools or means used for assessing progress**

**Relevant websites, web links, and files**

The Second National Communication of Montenegro on climate change to the United Nations Framework Convention on Climate Change (UNFCCC), Podgorica, April 2015

National Action Plan for Combating Desertification, 2015

Report on implementation of the National Strategy on Climate Change by 2030

www.dmcsee.org

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above.**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

**Strategic target E: Until 2020, prerequisites are created, and target measures for biodiversity are implemented**

**Operational target 16: Activities on the protection of most endangered species are implemented**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target

☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

The activities for the protection of endangered species were primarily related to the assessment of state, endangerment and distribution of the protected and N2000 species. Estimates of distribution and status were carried out through the project "Establishment of Natura 2000" (in the course of 2017 and 2018) and through researches conducted between 2014 and 2018, described in Chapter 2, measure 6. The Agency for the Nature and Environmental Protection is implementing annual monitoring programme focused on the state of biodiversity, but due to lack of data for the entire territory of Montenegro, as well as limited scope and programme concepts, it is still not possible to provide comprehensive assessment of status and endangerment of species. Through these efforts, based on the literature and data obtained through field research, new information was obtained on distribution of species from Annex II of the Habitat Directive and appendices of the Birds Directive, which was recorded and entered into the database. In addition, through the GiZ ORF Project – BIMER component, a list of endemic species in South-eastern Europe (vascular plants, mammals, amphibians, reptiles and beetles (Coleoptera)) has been complied, including the list of endemic species of Montenegro, and three distribution maps have been developed – for plants, vertebrates and beetles.

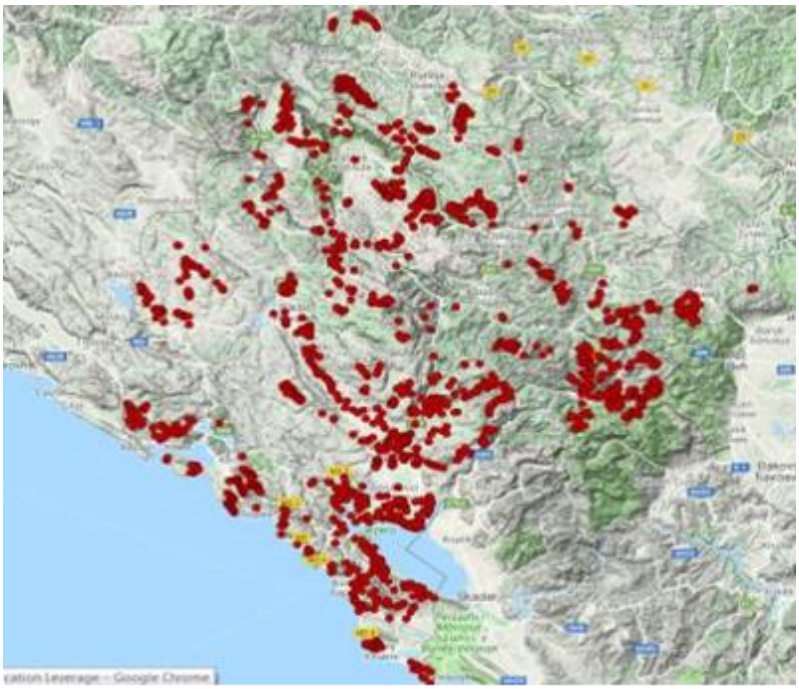

**Figure4** – Distribution of bird species from the appendices of the Birds Directive registered through Natura 2000 project in the course of 2017 and 2018

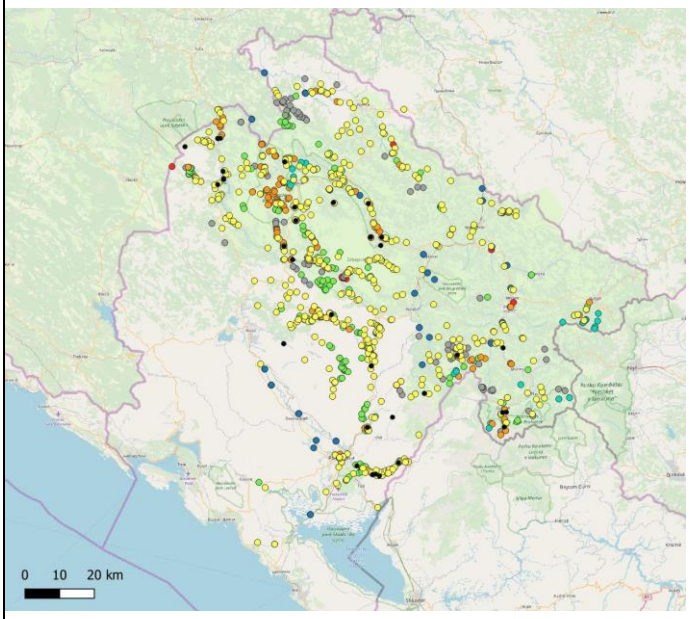


**Figure 5** – Distribution of species from Annex 2 of the Habitat Directive registered in field research conducted in 2017 and 2018 within Natura 2000 project

As for Red Books, they have not been drafted. The contribution to this process was given by

the Centre for the Protection and Research of Birds of Montenegro, which published the List of bird fauna of Montenegro with bibliography in 2015, and which provides the basis for the red list of birds. In regard to plants, there were previously submitted proposals (2008, 2010) with assessment of their status as a contribution to the preparation of a red book of flora for Montenegro, but this document is also lacking at the moment (Petrović and Stešević, 2010).

As for the measure of preparation and implementation of the Action Plans for the most endangered species in the period from 2014, the following have been drafted:

- Action Plan for Dalmatian Pelican (*Pelecanus crispus*) (Noe Conservation project);
- Cross-border action plan for the protection of bats on Skadar Lake (GIZ CSBL project).
- Action Plan for brown bear will be drafted in the coming period within the project "Protection of brown bear in Dinaric Alps" (Centre for the Protection and Research of Birds, supported by MAVA foundation).

Based on the above, the measure was assessed as partially effective, because the previous research within the Natura 2000 programme had covered 14% of Montenegro territory in terms of the Habitat Directive, drafting of red books is at the very beginning, while the development and implementation of action plans is still in progress. Therefore, although there are mentioned activities regarding the protection of endangered species, the scope of activities is still not at the level to provide comprehensive assessment of state, endangerment and distribution of the protected and N2000 species, or, to propose adequate targeted measures for their protection.

**Indicators used in the assessment**

1. Published Red Book of flora of Montenegro
2. At least 70% completely processed species compared to the number of protected species in Montenegro
3. Prepared and implemented at least 3 Action Plans for the protection of most endangered species

**Please describe any other tools or means used for assessing progress**

**/**

**Relevant websites, web links, and files**

Conservation Action Plan for bat population in Shkodër/Skadar Lake

List of bird fauna of Montenegro with bibliography

Natura 2000 project in Montenegro – http://www.natura2000.me/

http://zastitaprirode.me

Petrović D., Stešević D. (2010) – Materials for the red book of vascular flora of Montenegro (second contribution), Biological Nyssana, 1 (1-2), pp 27-34

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The indicators are quantitative and easily measurable, so the assessment is reliable.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☒ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

Monitoring of the defined indicators is conducted on the basis of factual situation in terms of the adoption of red lists and/or books, action plans for the species, assessment of implementation, and the number of species for which the assessment of distribution and endangerment has been carried out.

However, monitoring system for assessing the status of species, in spite of all the above mentioned activities, has not yet been established, except for some bird species, since data on basic distribution for most species is still being collected and it should provide the basis for future monitoring.

**Strategic target E: Until 2020, prerequisites are created, and target measures for biodiversity are implemented**

**Operational target 17: Activities on the protection of the most endangered habitats are implemented**

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

Within the project "Establishment of the NATURA 2000 network", draft Catalogue of habitat types in Montenegro of importance for the European Union was prepared; it includes about 90 habitat types. During the field researches conducted in 2017 and 2018 in 9 KBA areas (Bioč, Maglić, Volujak and part of the Piva Canyon, Cijevna Canyon and Ćemovsko polje, Durmitor with Komarnica and Pridvorica valley, Hajla, Komovi and Mala Rijeka Canyon, Ljubišnja and Ćehotina, The Morača Canyon, the Morača Mountains and Prokletije and the Lim Valley), 215,838 ha (around 14% of territory of Montenegro) was mapped for 52 habitat types.

Since only a limited percentage of the territory of Montenegro has been processed, it is not possible to conclude that the maps are complete, but mapping activities will continue for the remainder of Montenegrin territory.

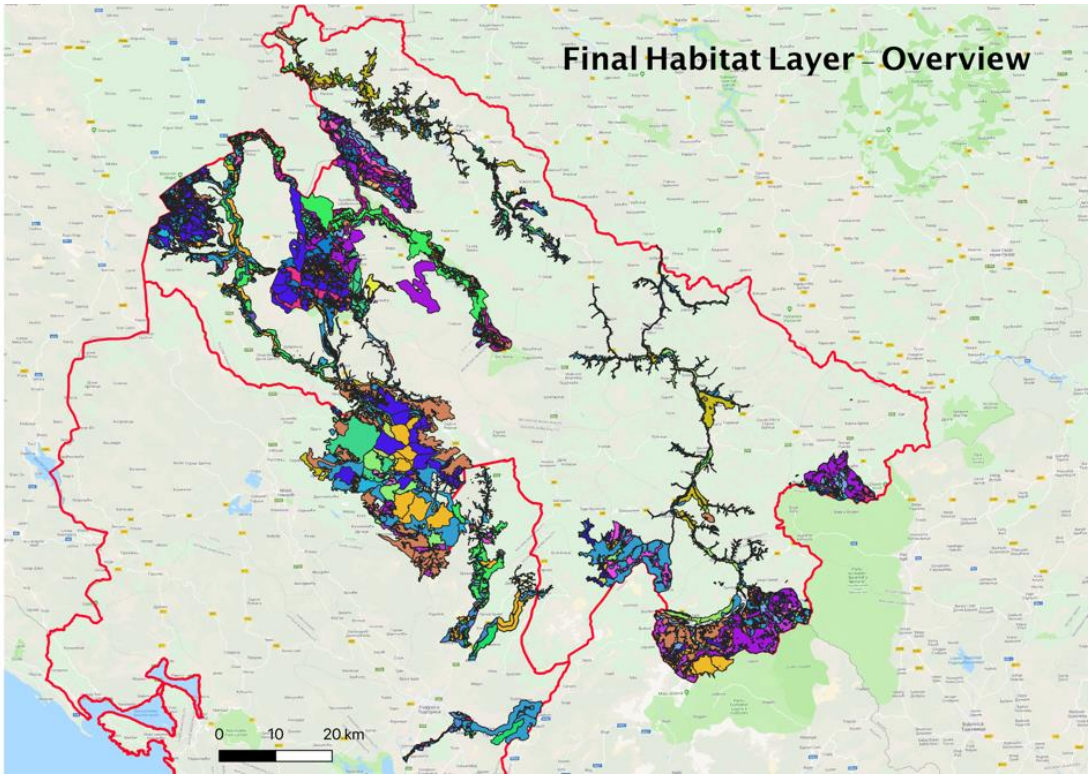


**Image** 6. Mapped habitat types in 9 KBA (IPA project "Establishing Natura 2000 network")

Action plans for the most endangered habitats have not been drafted, nor have there been any activities on this matter during the reporting period.

In view of the above, although activities regarding the protection of habitats are carried out most in terms of research, their scope is still not at the level to corroborate comprehensive assessment of status, vulnerability and distribution of habitat types and national and international ecologically important sites.

**Indicators used in the assessment**

1. At least 50 habitat types processed (in accordance with the catalogue of habitat types in Montenegro)
2. Prepared and implemented at least 3 action plans for the protection of most endangered habitats.

**Please describe any other tools or means used for assessing progress**

/

**Relevant websites, web links, and files**

Project Natura 2000 in Montenegro – http://www.natura2000.me/

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The indicators are quantitative and easily measurable, so the assessment is reliable.

**Adequacy of monitoring information to support assessment**

☒ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

Monitoring is carried out through implementation of the Natura 2000 project in Montenegro. Data on the distribution of habitats is collected as polygons in digital form, so it is possible to calculate the surface of mapped habitats using GIS tools.

**Strategic target E: Until 2020, prerequisites are created, and target measures for biodiversity are implemented**

## Operational target 18: Support the conservation of genes

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☐ Progress towards target but at an insufficient rate
- ☒ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

In Montenegro, there are a lot of autochthonous agricultural crops and domestic animals in use. However, with changes in agricultural practice, such as abandoning traditional forms of land use, farm modernisation, etc., populations of autochthonous varieties and breeds are reduced. The populations of domesticated animals such as *pramenka* sheep, *buša* cow, Balkan donkeys and others, are declining, and specific genotypes are eroded by hybridization with another, allochthonous races to promote productivity. For some of them there is a programme of *in situ* protection implemented through a cooperation programme between the Faculty for Biotechnology and agricultural producers, and it is subsidised by the Ministry of Agriculture and Rural Development.

As far as the plant agro-biodiversity is concerned, Montenegro has previously implemented projects and established the gene bank of the agricultural plants, which also serves for the purpose of *ex-situ* protection.

Other initiatives for genetic diversity protection include three botanical gardens – Dulovina in Kolašin, Brezojevica near Plav, and arboretum in Grahovo. All three gardens are private initiatives of individuals, aiming to preserve the species of wild flora, and in addition to conservation, they play a research and educational roles. In 2017, the Botanical Garden in Dulovine in Kolašin became the organizational unit of PE National Parks, which will be managed by the management structure of NP Biogradska Gora. The management plan is under development.

**Indicators used in the assessment**

- Botanical gardens in Dulovina and Brezojevica, arboretum of General Kovačević, as well as

collections of commercially important fruit and crops have nominated managers, budgets and management plans

**Please describe any other tools or means used for assessing progress**

/

**Relevant websites, web links, and files**

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above.**

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☒ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place.**

**Strategic target F: Until 2020 ecological infrastructure created as the foundation for conservation of national biodiversity**

**Operational target 19:** Establish integrated and efficient green network, which will incorporate new protected areas

**Category of progress towards the implementation of the selected target**

☐ On track to exceed target
☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

The analysis of the trend of declaring protected areas provided in Chapter 2 indicates positive direction, i.e. efforts have been made in the previous period to achieve the set target (17% of territory). Although so far this target has not been achieved, ongoing initiatives indicate that area under protection (including marine ecosystems) will further increase until 2020.

Also, ecological network with appropriate ecological corridors has not yet been established, but there are activities in progress. Through project "Establishment of Natura 2000 in Montenegro", the inventory of 9 KBA for habitats and species from the Habitats Directive was carried out, and 33 potential areas for birds were identified. So far, over 14% of the territory has been mapped through project activities in relation to the Habitats Directive, and it is planned to continue the research in the upcoming period, which is expected to create preconditions for the formal establishment of ecological network by 2025.

**Indicators used in the assessment**

The following indicators were used for the assessment:

1. Number of protected areas according to the Regulation on the National list of environmental indicators (Official Gazette of MNE, no. 19/13) established in the reporting period. For marine protected areas, the target was to proclaim 3 of them

2. Percentage of land area (including freshwater ecosystems) under protection compared to the entire territory of Montenegro – the target is 17%

2. Percentage of sea under protection compared to the entire surface of protected areas in the country – the target is 10%

3. Decision of the Government on proclamation of ecological network

**Please describe any other tools or means used for assessing progress**

/

**Relevant websites, web links, and files**

http://www.prirodainfo.me/

Spatial Plan of Montenegro until 2020

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**
Indicators used for progress measuring are quantitative and easily measurable, making clear picture on whether the target has been achieved or not.

**Adequacy of monitoring information to support assessment**
☒ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☐ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

The methodology for monitoring indicators, including those related to protected areas, is defined in the Regulation on the National List of Indicators of Environmental Protection (Official Gazette of Montenegro, no. 19/13). Data is collected annually by the Agency for Nature Conservation and Environment, based on the protection study and other professional documents, which, in compliance with the Law on Nature Conservation, are being prepared in the proclamation of protected natural assets.

http://www.prirodainfo.me/Izvjestaji/PoVrstiZasticenogPodrucja

Regulation on the National List of Indicators of Environmental Protection (Official Gazette of Montenegro, no. 19/13)

http://www.sluzbenilist.me/pregled-dokumenta-2/?id={A1057ED2-782D-4610-BA06-B59294238A12}

**Strategic target F: Until 2020 ecological infrastructure created as the foundation for conservation of national biodiversity**

**Operational target 20:** Ensure the efficiency of network through improved management

**Category of progress towards the implementation of the selected target**
☐ On track to exceed target
☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**

December 2018

**Additional information**

According to the Register of Protected Areas, there are 72 proclaimed protected areas in Montenegro so far. From this number, 41 (57%) have appointed managers, while 8 (11.1%) have adopted management plans (Table 12).

**Table 12** – Statistics of protected areas according to management plan

| Type of protected area (for which the founding paper exists) | Number of PA | Number of PA with management plan |
|---|---|---|
| Strict nature reserve | 3 | 0* |
| National Park | 5 | 5 |
| Special nature reserve | 1 | 0* |
| Nature park | 4 | 1 |
| Monument of nature | 57 | 2 |
| Landscape of exceptional characteristics | 2 | 0 |
| Total | 72 | 8 |

* Nature reserves are located within the national parks. As such, they do not have own managers or management plans, but they are managed through management mechanisms of national parks

As for areas greater than 100 ha, there are 17 such, of which 15 (88%) with nominated managers, and 6 (35.29%) have management plans.

According to these indicators, the set target has not been achieved, despite the progress made.

**Indicators used in the assessment**

The percentage of protected areas greater than 100 ha which have the managers, management plan and annual budget – target 100%

**Please describe any other tools or means used for assessing progress**

**Relevant websites, web links, and files**

www.prirodainfo.me

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**
The indicators are quantitative and easily measurable, so the assessment is reliable.

**Adequacy of monitoring information to support assessment**
☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☒ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place**

The existing management plans for protected areas identify the way of monitoring the implementation of plans. Based on that, protected areas submit annual reports on the implementation of management plans to the line ministry.

**Strategic target G: Knowledge about biodiversity is improved, systematised and widely and equitably available through developed mechanisms**

**Operational target 21: Develop research and organise an efficient system of data collection and processing**

**Category of progress towards the implementation of the selected target**
☐ On track to exceed target
☐ On track to achieve target
☒ Progress towards target but at an insufficient rate
☐ No significant change
☐ Moving away from the target
☐ Unknown

**Assessment date:**
December 2018

**Additional information**

The basis for a centralized information system on biodiversity has been established, but achieving its full functionality will require further development of the system, implying technical programming, maintenance and linking with GIS.

In addition to this, data on biodiversity maintained by the Agency for Nature and Environmental Protection are published in the annual Information on the status of the environment, as a result of the biodiversity monitoring programme. Data on protected areas

is available on www.prirodainfo.me. Additionally, through the free access to information mechanism, all data is available to the public upon request.

As for the long-term biodiversity monitoring plan, it has not yet been developed. Through the Conservation and Sustainable Use of Biodiversity Conservation Project at Lakes Prespa, Ohrid and Skadar/Shkodra (CSBL), implemented by the GIZ, a manual for the monitoring of selected species for the Skadar Lake was developed, which should provide standardised and continuous monitoring of these species and comparability of the obtained data.

Also, the scope of research projects implemented in the period 2014 – 2018 is significant, but there is still no systematic and sustainable approach to support biodiversity research.

For more information on the above, see Chapter 2, measures 6 and 7.

Based on this, it can be concluded that a step forward has been made in the sense of increasing the volume of data and easier and greater accessibility, but in order to fully achieve the target, further significant efforts need to be made to standardise methodologies for data collection, its application, exchange of information, data and results of research between all relevant stakeholders, as well as upgrading and improving functionality of the established base for the biodiversity information system.

**Indicators used in the assessment**

1. Centralised biodiversity information system (including, but not limited to information on characteristics of species, habitats and protected areas)
2. Information from the biodiversity database, as well as other official biodiversity data accessible 24/7
3. Long-term monitoring plan for biodiversity by 2020 adopted
4. Measures for encouraging research of biodiversity by students, organisations, NGO sector, University, research centres, defined and mainstreamed in plans and programmes, including protected areas management plans.

**Please describe any other tools or means used for assessing progress**

**Relevant websites, web links, and files**

www.prirodainfo.me
http://zastitaprirode.me

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The indicators for planned measures are easily measurable, so they can be undoubtedly used for the assessment purposes.

**Adequacy of monitoring information to support assessment**

- ☐ Monitoring related to this target is adequate
- ☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
- ☐ No monitoring system
- ☒ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place.**

**Strategic target G: Knowledge about biodiversity is improved, systematised and widely and equitably available through developed mechanisms**

**Operational target 22: Make biodiversity-related information publically available, consolidate knowledge and ensure fair distribution and equitable distribution of benefits from genetic diversity**

**Category of progress towards the implementation of the selected target**

- ☐ On track to exceed target
- ☐ On track to achieve target
- ☒ Progress towards target but at an insufficient rate
- ☐ No significant change
- ☐ Moving away from the target
- ☐ Unknown

**Assessment date:**

December 2018

**Additional information**

The efforts to make information on biodiversity more accessible are described in Chapter 2, measures 6 and 7, as well as in operational target 21.

Montenegro has not yet ratified the Nagoya Protocol, but preparatory activities have been carried out and ratification is planned for 2019. In the following period it is primarily necessary to analyse the national situation (policies, regulations, capacities of institutions for implementation of the Protocol, and cost-benefit analysis) for the purpose of the Nagoya Protocol implementation.

**Indicators used in the assessment**

1. Established CHM mechanism (including the portal), as wide platform for exchange of information and knowledge about biodiversity
2. Initiated ratification of the Nagoya Protocol

**Please describe any other tools or means used for assessing progress**

**Relevant websites, web links, and files**

www.prirodainfo.me
http://zastitaprirode.me

**Level of confidence of the above assessment**

☒ Based on comprehensive evidence
☐ Based on partial evidence
☐ Based on limited evidence

**Explanation for the level of confidence indicated above**

The indicators for planned measures are easily measurable, so they can be undoubtedly used for the assessment purposes.

**Adequacy of monitoring information to support assessment**

☐ Monitoring related to this target is adequate
☐ Monitoring related to this target is partial (egg. covers only a part of the area or the topic)
☐ No monitoring system
☒ Monitoring is not needed

**Describe how the target is monitored and indicate whether there is a monitoring system in place.**

# Chapter IV – Contribution in the accomplishment of global Aichi targets

| **Aichi target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably** |
|---|
| Aichi target 1 is corresponded by Strategic target A and operational target 1, clearly indicating that Montenegro has recognised the importance of making biodiversity a social and political priority. Detailed information on contribution to this Aichi target is given in previous chapters (Chapter 2 - Measure 1, Chapter 3 - operational targets 1, 2). The contribution can be summarized as follows:<br><br>– Montenegro has included curricula topics in its educational programmes of primary and secondary schools, whereby special attention is paid to the topics of biodiversity and climate change. So far, 35% of teachers have been involved in the programme, and through this education, they participate in awareness raising actions about the value of biodiversity and the need for its protection.<br>– A large number of informal educational programmes is implemented by civil society organisations, bringing together school children, university students and experts. They also include monitoring programmes for certain species, which contributes to raising awareness about the need for biodiversity protection.<br>– Protected areas have largely involved local communities into their regular activities through the work of socio-economic forums, which contributes to awareness raising, changing of attitudes and relations, and involving local communities and population in the processes of protection and sustainable use of the area. |
| **Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**<br>/ |

| **Aichi target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems** |
|---|
| This Aichi target is corresponded by National target B, and operational target 3, which means that Montenegro itself has recognised the need for vertical and horizontal integration of biodiversity issues. Detailed information is provided in Chapter 2 within the description of |

measure 3, and it can be summarised as follows:

- The umbrella national development strategies, as well as the sectoral strategic documents revised in the previous period have recognised the importance of biodiversity issues, and have incorporated the measures for biodiversity protection to a certain extent,
- At LSU level, Local Action Plans for Biodiversity have been adopted to address the issues of its protection at local level
- Impact assessment mechanisms are being implemented, but the necessity of improving the functioning of this mechanism has been identified
- Several studies have been elaborated to evaluate ecosystem services, and they were used for informing the decision makers in the environmental sector

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional).**

In regard to ecosystem services and their valuation, Montenegro is at an advantage compared to the surrounding countries. The country was among the first to make economic valuation, to incorporate the concept of ecosystem services into the Law on Nature Conservation, the Law on National Parks and the National Strategy for Sustainable Development, and it also mainstreamed this concept into university study programmes. Through ongoing international projects that involve education and valuation, Montenegrin experts from this field transfer their knowledge and experience to colleagues in the region thus contributing to the process of mainstreaming the ecosystem services into development plans.

**Aichi target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions**

Regarding subsidies and other sources of funding related to conservation of biodiversity, there is a growing need for more regular and more regulated monitoring and check of potential “harmful” financial subsidies and investments at the national level. Montenegro is currently highly oriented towards road infrastructure such as the construction of highway and towards renewable energy sources, such as the construction of small hydropower plants, installation of solar systems, and so on. These projects have proven to be significant financial support mechanisms for individuals and private companies.

The greatest problem, however, are subsidies for electricity that Montenegro entirely relies on. In addition, there are no adequate incentives for pro-environmental behaviour. The main

barrier for a balanced relation between subsidies, incentives and biodiversity conservation seems to be the lack of a consistent approach among sectoral policies, especially when considering agriculture, tourism and transport.
Nevertheless, there are systems, such as subsidies for farmers promoting traditional agricultural practices that are not disturbing to the environment, as well as some subsidies for tourist facilities that work in the environmentally friendly way.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

**Aichi target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits**

The task of the Environmental Protection Fund (ECO Fund) is to provide financial means for implementation of projects aimed at safeguarding all environmental components and at ensuring rational use of natural resources as basic conditions for sustainable development.

Individuals and businesses in Montenegro undertake voluntary activities to promote sustainable production and consumption patterns.

The consumption of organic food and products does not play a significant role in the Montenegrin market, but the producers are convinced in the growing potential, which is expressed by an increased trend of organic certification.

Companies have started installing solar systems and building environmentally friendly structures supported through various financial subsidies.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

**Aichi target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.**

Table 13 provides analysis of changes in habitats based on the Corine Land Cover analysis for the period between 2006 and 2018. It can be observed that there is a significant difference in

the changes between the periods 2006-2012 and 2012-2018, in the sense that in the later interval (covering the reporting period) there was a decrease in the area under certain types of land – primarily agricultural and forestry land.

Based on the analysis of the Corine Land Cover between 2012 and 2018, 7961 ha, which represents about 0.58% of the territory of Montenegro, changed the land cover. The biggest changes occurred in class 3, level 1, i.e. fire left 2350 hectares of burnt surfaces, earlier covered by forests, while transitional vegetation and deforestation (31x-324) affected 2100 ha. Artificial areas had increased by almost 1000 ha, while agricultural land was reduced by almost 300 ha (Table 13).

**Table 13** - Corine Land Cover (CLC) analysis of change in different land classes

| **Land use** | **2006** | **2012** | **2018** | **Difference 2006-2012** | **Difference 2012-2018** |
|---|---|---|---|---|---|
| Arable land | 836,98 | 5497,28 | 5479,05 | 4660,29 | -18,22 |
| Vineyards | 2561,23 | 3526,70 | 3547,53 | 965,47 | 20,83 |
| Orchards | 185,60 | 122,73 | 122,73 | -62,87 | 0,00 |
| Olive groves | 489,65 | 1620,81 | 1620,81 | 1131,16 | 0,00 |
| Pastures | 26229,32 | 28005,85 | 27928,47 | 1776,53 | -77,38 |
| Permanent and annual plantations | 126,82 | 126,80 | 126,80 | -0,02 | 0,00 |
| Cultivated areas | 27389,14 | 53419,59 | 53467,71 | 26030,46 | 48,12 |
| Agricultural areas | 162301,01 | 170865,73 | 170599,36 | 8564,72 | -266,38 |
| | | | | | |
| Broad leaved forests | 373168,93 | 389861,53 | 387586,78 | 16692,60 | -2274,75 |
| Coniferous forests | 98055,10 | 107538,19 | 107167,27 | 9483,09 | -370,92 |
| Mixed forests | 105849,15 | 111364,64 | 110732,90 | 5515,49 | -631,74 |
| Grassland | 101971,22 | 113225,10 | 113234,78 | 11253,89 | 9,68 |
| Poorly vegetated areas | 523,53 | 819,89 | 819,89 | 296,36 | 0,00 |
| Shrubbery | 11003,56 | 17552,19 | 17369,91 | 6548,62 | -182,28 |
| Transitional woodland scrub | 296240,87 | 314701,93 | 315986,73 | 18461,06 | 1284,80 |
| Sparsely vegetated areas | 95086,46 | 105004,35 | 104550,71 | 9917,90 | -453,65 |

| | | | | | |
|---|---|---|---|---|---|
| Beaches, dunes, Sand plains | 1925,15 | 2329,94 | 2328,13 | 404,78 | -1,80 |
| Bare rock | 17019,76 | 17846,77 | 17846,77 | 827,01 | 0,00 |
| | | | | | |
| Burned areas | 1015,87 | 5941,87 | 7998,02 | 4926,01 | 2056,15 |
| | | | | | |
| Inland wetlands | 11130,76 | 12272,37 | 12268,53 | 1141,61 | -3,84 |
| Salt marshes | 104,70 | 979,37 | 979,37 | 874,66 | 0,00 |
| Salinas | 1463,16 | 1462,71 | 1462,71 | -0,45 | 0,00 |
| Irrigation channels | 568,62 | 1731,92 | 1731,92 | 1163,30 | 0,00 |
| Aquatic areas | 26146,98 | 36062,67 | 36062,67 | 9915,69 | 0,00 |
| Coastal lagoons | x | 1380,09 | 1380,09 | 1380,09 | 0,00 |
| Estuaries | 0,05 | 124,83 | 124,83 | 124,78 | 0,00 |
| Sea | 2678,84 | 371285,56 | 371261,34 | 368606,72 | -24,21 |

As presented in Chapter 3 - operational target 9, a significant percentage of agricultural land change occurred due to urbanisation. As for the forests, the main factor of loss is fire (causing 61% of total change in the period 2006-2012, and 39.3% in the period 2012-2018), as well as the conversion into the transitional forests, indicating different phases of succession (29.8% of the total change in 2006-2012, i.e. 49.4% in the period 2012-2018).

The changes are presented in Figure 7. As one can see, they form a patchwork mosaic and are most concentrated in the central part, i.e. in the vicinity of largest urban centres of Podgorica, Nikšić and Danilovgrad.

When it comes to protected areas, the analysis does not indicate any negative change, except for in Komovi, where some natural areas turned into developed (constructed) ones (Figure 7).

It should be noted that the Corine Land Cover methodology conducts the analysis at the level of 5 ha, so that application of finer resolution could reveal greater scope of change.

Although it is obvious that anthropogenic impacts have influenced natural ecosystems, and that the extent of change has increased in comparison to the period before reporting, the percentage of the affected territory is small, and the change did not lead to significant reduction and fragmentation of habitats.

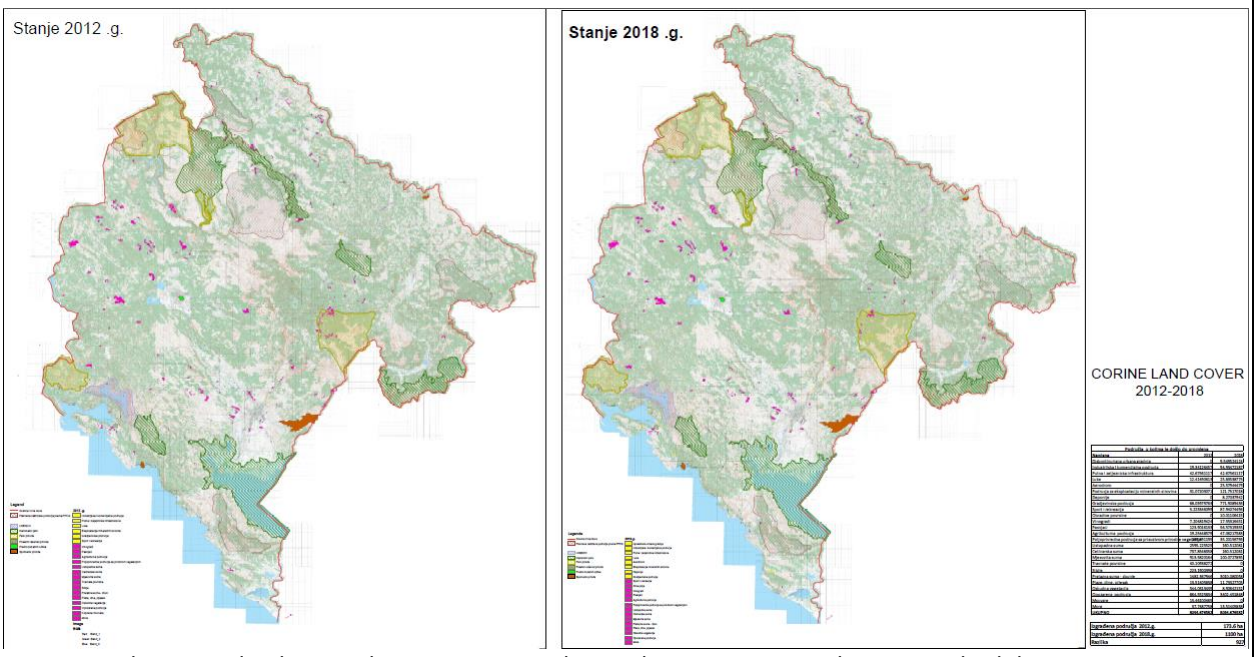

Figure 7 – Changes in land use in the previous period according to Corine Land Cover methodology

Information about the restoration of habitats are provided below, in the description of activities for Aichi target 15.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

**Aichi target 6: By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.**

Montenegrin fishing fleet is obsolete and more than 80% of the fleet belongs to small coastal fisheries. According to scientific opinion, it doesn't have capacity to overexploit the commercially important and other fish, which is corroborated by the fact that Montenegrin exploitation amounts to about 1% of the total catch in the Adriatic Sea.

However, in the framework of the General Fisheries Commission for the Mediterranean (GFCM), the stock of 5 species of fish in the Adriatic Sea is assessed at annual level: for

anchovies (*Engraulis encrasicolus*), pilchard (*Sardina pilchardus*), hake (*Merluccius merluccius*), mullet (*Mullus barbatus*) and shrimp (*Parapenaeus longirostris*). For the purpose of assessing stock status, data dependent on fishing (total catch, total discharge, biological data from catches) and data independent of fishing (scientific research MEDITS and MEDIAS) were used.

The assessment of the status of anchovies since 2014 in the entire Adriatic is that it is overexploited and in overexploitation, with a biomass that varies but is always above Blim (the reference biomass value below which it is deemed that population cannot be restored anymore).

The assessment of the condition of the sardine stock since 2014 in the entire Adriatic is that it is overexploited and in overexploitation, with a biomass that varies but is always above Blim (the reference biomass value below which it is deemed that population cannot be restored anymore).

In order to preserve the stock of anchovies and sardines, GFCM has made decisions on measures to reduce the exploitation rate for these species, and they should be applied throughout the Adriatic Sea, therefore in Montenegro (Recommendation GFCM / 42/2018/8 on further emergency measures in 2019-2021 for small pelagic stocks in the Adriatic Sea (geographical subareas 17 and 18)). Therefore, the number of fishing days on these species is limited, certain areas are prohibited for fishing, a 15-day fishing prohibition was imposed during the spawn period for both species, etc.

The assessment of the status of hake stock from 2014 in the entire Adriatic varies from the estimate that the stock is overfished and in overfishing to the extent that it is overexploited and in overfishing. Since 2014, there has been a slight increase in the biomass of the part of the population that spawns (SSB), and fishing mortality rate had showed growth until 2013, after which it has been demonstrating a decline in subsequent years.

The state of the mullet stock is that the exploitation of this species is at a sustainable level, that is, that fishing mortality or fish effort are above the referent values. The value of fishing mortality shows a decline, while the value of biomass of a part of the population that spawns shows growth in recent years.

The status of shrimp stocks has changed from the high level of overfishing in 2014, to exploitation at a sustainable level in recent years. The value of biomass of a part of the population that spawns and the value of number of young individuals recovering the population shows a significant increase from 2014 and on, while the value of fishing mortality shows a sharp decline over the same period.

Based on the assessment of the situation for the target species, the GFMC has made decisions on the relevant measures to reduce the exploitation rate throughout the Adriatic, therefore, in Montenegro, as well.

Regardless of the current state of the fleet, mentioned above, the Law on Marine Fisheries and Mariculture (OG MNE, no. 56/09 and 47/15) prescribes restrictions in order to preserve fish stocks and ensure sustainable fishing, such as: ban on the release of allochthonous and genetically modified fish species and other marine organisms into the sea, ban on underwater activities at locations not approved for such activities by administrative authorities, ban of fishing and collection of protected species of fish and other marine organisms, ban on fishing in protected fishing areas, ban on fishing with bottom-tow trawls and floating trawls at a distance of 3 NM and 50 m in depth, ban on fishing with trawls and purse seins in the Boka Kotorska Bay, a closure for all development classes of certain fish species and other marine organisms, ban of fishing of reproductively immature fish and other marine organisms, i.e. below minimum reference size, ban on trade in fish during the closure season, ban on the use of a diving apparatus with an underwater rifle in fishing, ban on tearing the fins off sharks and others. The regulations of Montenegro related to fisheries (Law on Marine Fisheries and Mariculture with secondary legislation) include the protection of species according to the SPA/BD Protocol of the Barcelona Convention and the recommendations of the GFCM (100 species of corals, cartilaginous fish, osteichthyes, sea turtles, birds and mammals), the obligation to discharge, possibility of taking urgent measures in the event of endangerment of one or more species and other provisions that comply with the Mediterranean and other EU regulations, as well as with recommendations of the GFCM.

The key role in specific resource conservation is also intensive development of information system in order to control and monitor fishing activities more effectively, in accordance with the EU regulations, and to encourage sustainable fishing through legislation, promotion and communication activities, and similar. Continuous cooperation with the Marine Biology Institute is of great importance, in order to manage fisheries adequately, in accordance with research results and scientific opinion.

A new Law on Marine Fisheries and Mariculture is being drafted, which will be fully harmonised with the European Union *Acquis*. Also, draft Law on Structural Measures and State Aid in Fisheries and Aquaculture prescribes incentives that encourage the achievement of targets of environmentally and resource sustainable, innovative, competitive and scientifically based fisheries and aquaculture.

Fishing techniques applied in Montenegro have been guided over the past years towards increased selectivity, so the rhomboid opening on the trawls net has been replaced in all trawls nets with square opening. All permitted tools are selective ones (except for triple filler nets,

which is by type a bounding fishing tool, so it is non-selective because of the fishing manner, but still does not have significant negative impact on fish resources) and in compliance with the requirements of the Mediterranean Regulations.

It is also planned to adopt management plans according to individual types of tools, which will be a very important basis for further sustainable fisheries management.

Measures pertaining to the protection of vulnerable marine habitats and threats to ecosystem structure and functionality are contained in the Law on Marine Fisheries and Mariculture (protection of the Boka Kotorska Bay in terms of prohibition of fishing by active tools - trawls and purse seines), as well as in the Rulebook on determining the line at which water ceases to be permanently salted in rivers that flow into the sea, and determining the boundaries of protected fishing areas (prescribed boundaries of protected fishing areas).

The order on bans of fishing, closing season and the minimum size of fish and other aquatic organisms for fishing, prescribed closing season in the fishing waters of municipalities of Podgorica, Danilovgrad, Bar, Ulcinj and in the fishing area of Skadar Lake from 15$^{th}$ March to 31$^{st}$ October.

Certain efforts have been made towards improving the freshwater fisheries through the GiZ CSBL Project on Skadar Lake as the most important fishery area. This project supported a multiannual surveying of fish fauna on Skadar Lake in accordance with the EU Fishery Standard (EN 14757). Standardised sampling was carried out in collaboration with the Albanian side, resulting in an extensive transboundary database. Some 80.000 data points prepared on the basis of 130.000 samples of fish give an overview of the current composition of fish communities. The data are systematised in the Access database file. The interpretation and the results of the analysis have been published in the report "Fish and fisheries of Skadar Lake". Specific recommendation of the EU for preservation and sustainable use of commercial fish stocks have been relayed to decision makers. Cross border monitoring program that is specific to Skadar Lake has been harmonised and elected for the future monitoring of fish fauna.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

/

**Aichi target 7: By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity**

Operational target 11 is defined with the aim of contributing to this Aichi target. As previously described (Chapter 3, operational target 11), agriculture (which is in Montenegro mainly extensive, with the emphasis on traditional forms of land use, autochthonous breeds and

varieties, and organic farming) and forestry are important economic branches with a defined policy based on sustainable resource management and biodiversity protection.
Aquaculture (and mariculture) in Montenegro are relatively new activities and their extent so far is relatively modest. Nevertheless, they are recognised as an important segment of fishery, and the Fisheries Strategy of Montenegro 2015-2020 defines the specific targets and measures that aim at achieving environmentally sustainable management within this sector.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

/

**Aichi target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity**

Montenegro contributes to this target through the implementation of the measures of the operational target 10.
The main issues in relation to pollution in Montenegro are: industrial pollution, pollution by wastewaters, solid waste, pollution from the agriculture.
The problem of industrial pollution is several decades old, since it originates in the facilities built in the second half of the last century, with no installed measures for environmental protection that would meet the present environmental standards. There are not many such facilities in Montenegro, but few of them are historic hotspots, and efforts for their remediation are ongoing. Through the project "Management of industrial waste - IWMCP", activities were directed towards the remediation of four pollution hotspots- Aluminium plant Podgorica (the tailing impounds are the largest source of hazardous waste in Montenegro), Adriatic shipyard Bijela (deposits of grit and contaminated soils), Thermo electric plant Pljevlja (deposits of ash) and Suplja stijena mine (flotation impounds).
More detailed information on the status of this and other pollution prevention related activities are given in Chapter 3 - operational target 10.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

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**Aichi target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment**

Operational target 14 contributes to this Aichi target. Detailed information is provided in

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| Chapter 3, operational target 14. Measures aimed at strengthening control mechanisms have not yet been implemented. |
| **Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**<br>/ |

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| **Aichi target 10: By 2015 the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning** |
| Apart from previously described measures, such as protection from forest fires, pollution reduction, habitat and species protection, direct measures to address specific effects of climate change on vulnerable ecosystems have not been undertaken. |
| **Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**<br>/ |

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| **Aichi target 11: By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes** |
| Information on the contribution to this target is described in detail in Chapter 2 – measure 5 and Chapter 3 – national operational targets 19 and 20.<br><br>The existing and planned protected areas of Montenegro |

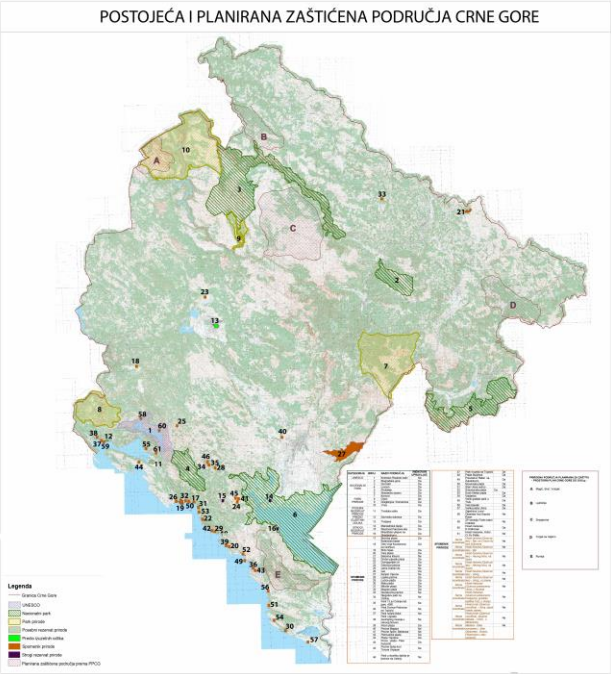


**Figure 9** – Map of protected and sites planned for protection

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

The Spatial Plan of Montenegro until 2020 recognises Montenegrin part of the South-eastern Dinaric Mountains as a corridor. It is mainly located in the northern region and forms a part of the great bio-corridor of the South-eastern Dinaric Mountains (Dinaric Arc), stretching from the Alps to Prokletije and Sarp – Pindor massive. In the area of Prokletije, this bio-corridor is also linked to a large regional bio-corridor called the Green Belt. On Montenegro territory, this corridor runs along the entire border with Albania. Due to the specific regime of using this zone in the past, it has become a refuge and a corridor for biodiversity. This corridor is connected with the Orjen – Lovćen – Rumija coastal mountains corridor. The third corridor is located in the direction of Orijen – Pusti Lisac – Maganik – Sinjajevina – Kovren.

These corridors are relevant on the regional level, and their parts are protected through the existing protected areas. It is expected that a significantly larger percent will be protected through the establishment of Natura 2000 network. In such a way, Montenegro contributes to the regional and thus global efforts towards biodiversity protection.

**Aichi target 12: By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and**

**sustained**

The NBSAP of Montenegro envisages measures and activities (under operational target 16), such as drafting the red books, conducting the assessment of status of endangered species and preparation of action plans. But as described in Chapter 3 – target 16, the degree of achievement in this respect is limited. Taking into account that until now there have been no baseline studies on the populations status of endangered species, it is not possible to give any estimate of trends.

In 2015, the Centre for Protection and Research of Birds of Montenegro published the List of bird fauna of Montenegro with a bibliography, which is the basis for drafting a Red List of birds. The list states there are 348 bird species present in Montenegro, and during the implementation of Natura 2000 project, field research revealed the presence of several more species, so now the number has grown to 352. Thus, in terms of species diversity around 65% of European ornithofauna is recorded in Montenegro. Out of the aforementioned number, 215 species belong to nesting birds, seven species are potential nesting birds, 109 species of birds registered in Montenegro are nesting migratory species, 106 species are considered resident (non-migratory), while 10 are considered extinct (e.g. *Aegypius monachus*). The appearance of 20 species, such as *Tetrax tetrax*, for example, is a historical fact because they have not been registered in the territory of Montenegro for the last 30 years.

The main pressures on species in Montenegro have been and still are:

- *Uncontrolled urbanisation*, change in land use and tourism, especially in the coastal zone, as well as in several touristic centres in the mountain region (Žabljak, Kolašin, Plav-Gusinje). It is primarily reflected in the construction of touristic infrastructure, causing losses of natural habitats, and the accompanying pressures, such as disturbance and pollution by wastewater and solid waste.
- *Overkill* – through hunting, fishing or harvesting (of medicinal herbs, non-timber forest products), as well as through persecution of species considered as vermin (birds of prey, wolf, fox, badger...). Efforts made to reduce this pressure include enhanced enforcement from relevant inspectorates, rangers in protected areas, and increasingly frequent public participation and involvement of civil sector in the monitoring of illegal activities.
- *Changes in land use practices* - primarily by abandoning traditional forms of land use, such as grazing and haying, which used to maintain diversity of species and genes in grassland ecosystems. Measures to reduce this pressure are reflected in the support to traditional activities through agricultural and rural development policies, and in efforts to conserve genetic agro-biodiversity.

Degradation of habitats through fragmentation is also an observed threat.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**.

**Aichi target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity**

Detailed information on activities to maintain genetic diversity is given in Chapter 3, description of operational target 18.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**.

**Aichi target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities and the poor and vulnerable**

Bearing in mind that main sectors of Montenegrin economy are based on utilisation of natural resources, and that a significant percentage of the population lives in rural areas (36.8% according to the 2011 census), ecosystem services are deemed very important both for individual well-being and for the national economy and development (Table 14).

**Table 14** – Overview of most important ecosystem services in Montenegro

| Ecosystem | Services | Main beneficiaries | Pressures | Protection measures |
|---|---|---|---|---|
| Forests | Provisioning: Forest biomass for firewood | Local population in rural areas | Uncontrolled logging (individual trees or smaller groves), fires | Control by Forest Administration and inspectorates |
| | Provisioning: Forest timber for construction | Small/Medium local enterprises and local population | Uncontrolled logging (including total), degradation of habitats, erosion, fires | Control by Forest Administration and inspectorates, termination of concession contracts |
| | Provisioning: non-timber forest products (forest berries, fungi, herbs) | Local population in rural areas | Overexploitation, reduction abundance, local population extinctions | Control by Forest Administration, PENP and inspectorates |
| | Provisioning: water retention in aquifers | Local population in rural areas | Ground water pollution, degradation and erosion of forests | |

| | | | | |
|---|---|---|---|---|
| | Regulating: Erosion prevention | Local populations in rural areas, around watercourses (torrential areas), HPP Piva | Forest fires (due to negligence, contributed by climate change), uncontrolled logging | Forestation of burned areas |
| Grassland ecosystems | Provisioning: Grazing and haying | Local population in rural areas practicing traditional cattle breeding | Abandoning traditional pastures and haymaking practices, overgrowth through succession, urbanisation | Promotion of traditional cattle breeding and pastoral practices |
| | Provisioning: medicinal and edible herbs | Local population in rural areas | Overgrowing, overexploitation of certain species, urbanisation | Control by protection services |
| | Regulating: pollination | Local population in rural areas practicing subsistence agriculture | Pollution, climate change, urbanisation | Promotion of traditional forms of land use |
| | Supporting: soil fertility | Local population in rural areas practicing subsistence agriculture | Pollution, climate change, urbanisation | Support to organic agriculture and traditional forms of cultivation |
| Freshwater and wetland ecosystems | Provisioning: drinking and irrigation water | Rural and urban population, agriculture, industry | Pollution, climate change, urbanisation, construction of hydro power plants | Improved water management system |
| | Provisioning: fishery and aquaculture | Rural population exercising traditional forms of fishing (Skadar Lake), sector of tourism and recreation | Overexploitation, introduced species, change in status of fish communities, pollution | Exploring the fish stocks in freshwater ecosystems, controls by inspectorates and PENP |
| | Regulating: Floods prevention | Population in flood prone areas (northern shores of the Skadar Lake, mouth of the Bojana River, river banks) | Change of hydrological regime and sedimentation due to exploitation of gravel and sand, pollution | Control by inspectorates, improved water resource management |
| Marine ecosystems | Provisioning: fishery and mariculture | Coastal population | Pollution, overfishing, climate change, invasive species | Control by inspectorates, improved sea and coastal management |

| | | | | |
|---|---|---|---|---|
| | Cultural services: Tourism and recreation | Local coastal population, national economy | Overurbanisation, pollution | Control by inspectorates, improved sea and coastal management |

As it can be seen, ecosystem services are particularly important for local population from rural areas, still faithful to traditional forms of use such as transhumance, free-range grazing, traditional fishing... Although they themselves cause degradation of these ecosystem services, pressures come from other sides as well – such as from misuse by concessionaires, but also from threats like climate change and invasive species. Degradation of these services affect rural population to great extent, majority of whom live on or below the poverty line and who depend on these services for their survival. This particularly affects women, as they are mainly involved in traditional cattle breeding activities, cultivation of agricultural crops and collection of wild plants and fruits.

Measures applied by Montenegro on protection include, in addition to enforcement through relevant inspection services, support to traditional forms of land use, efforts to prevent pollution and other forms of degradation of these ecosystems.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

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**Aichi target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification**

**Please describe how and to what extent your country has contributed to the achievement of this Aichi target on biodiversity and sum up the evidence used for the given evaluation**

Forests fall into the most endangered habitats in Montenegro, partially because of unsustainable exploitation practices, partially due to fires that are also associated with climate change (see Chapter 3, operational target 11). The main form of forest restoration is forestation, implemented by the Forest Administration, but due to the lack of financial resources, this activity is mainly focused on recovery of forests affected by fires, and is implemented to a lesser extent than envisaged in the forest management programs and forestation plans (Figure 10). PE National Parks also carried out the activities of forestation in the National Park Durmitor and National Park Lovćen.

| 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|
| 2.270.024 | 1.745.298 | 1.087.685 | 843.006 | 901.957 | 1.051.870 | 489.120 | 457.320 | 899.917 |

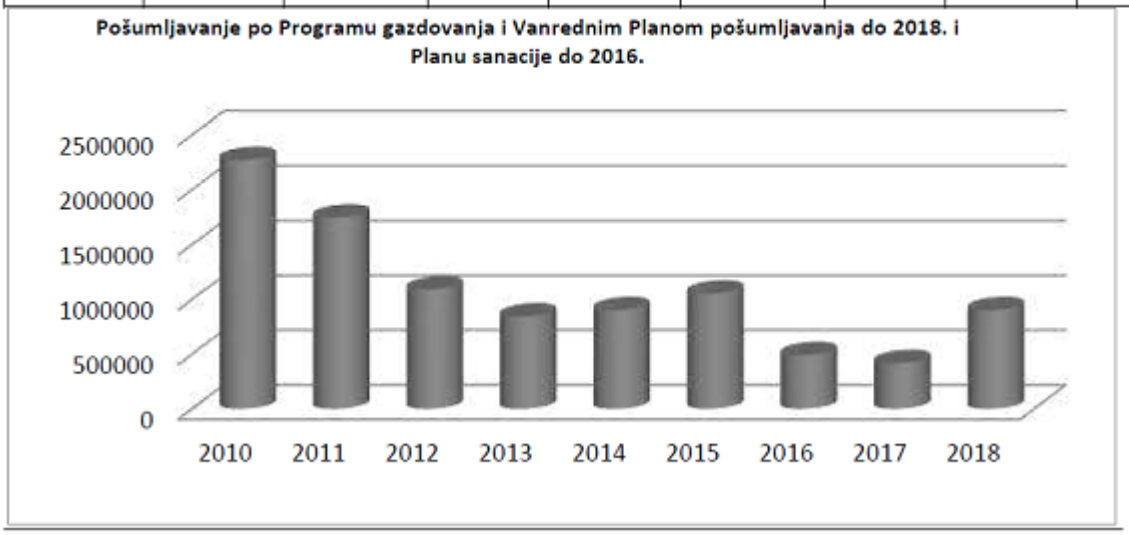


**Figure 10** – Tabular and graphic view of forestation in state- and privately-owned forests in the period 2010-2018.

Public Enterprise for Coastal Zone Management has undertaken measures towards restoration/revitalisation in the nature reserve Tivatska solila (Tivat saltpans). These measures included rehabilitation and remediation of damaged embankments, installation of new floodgates for hydrological regime control, artificial maintenance of the water supply during the draught season and maintenance of the channel, as well as removal of weed from parallel and transverse embankments. In addition, maintaining the existing infrastructure (bridges, gates, trails and visitor infrastructure) is a continuous activity.

In order to preserve and improve the natural potential of the Plav Lake, the Study on revitalisation and protection of the Plav Lake has been done in order to protect the lake against further filling with sediment, reduce external and internal intake of nutrients, remediate parts of the lake largely filled with sediment, which would lead to the improvement of general conditions in habitats and allow for the improvement of existing and development of additional amenities. Further planned activities include development of technical documentation for implementation of activities envisaged by the Study on revitalisation.
Although these activities have been undertaken, there is still no specific information on the effects of restoration on the ecosystems' resilience.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**
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**Aichi target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation**

Relevant information is provided in Chapter 2, operational target 22.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**
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**Aichi target 17: By 2015, each Party has developed, adopted as a policy instrument, and has commenced implementing, an effective, participatory and updated national biodiversity strategy and action plan**

The Government adopted the *National Biodiversity Strategy with the Action Plan for the period 2016-2020* in 2016. The Biodiversity Strategy was defined as a key document for nature protection, setting forth long-term targets and guidelines for preservation of biological and landscape diversity. The Strategy also supports and integrates global biodiversity conservation targets adopted under the UN Convention on Biological Diversity with Aichi Targets. Relevant institutions and ministries participated in the development of the Strategy. In addition, the document was subject to public participation process.

Local action plans have been also adopted and implemented for biodiversity at the local self-government level.

The NBSAP has a defined set of process indicators for monitoring the implementation, based on which national reports are prepared for a two-year period, as prescribed by the Law on Nature Protection (Official Gazette of Montenegro, no. 54/16), and pursuant to the CBD, including this Report, as well. Based on these indicators, the general conclusion is that implementation of the Strategy is partial.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**
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**Aichi target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels**

Traditional knowledge in Montenegro is reflected through traditional land use practices, primarily in:

- use of mountain pastures through seasonal/nomadic grazing (transhumance) and haying. This type of activity is typical for the continental, northern part of Montenegro where local population takes the cattle to alpine grazelands (*katun*) between April and June. There, the cattle spends the summer in free ranging grazing, changing the pasture sites. This activity requires the knowledge on community dynamics of upland meadows and pastures,
- use of wild plants in traditional medicine, which is still fairly common for treatment of minor health problems. This implies knowledge of target species ecology (distribution, vegetation period, best time for picking, processing and consuming),
- maintenance of native varieties of fruits and vegetables and animal breeds, thus preserving genetic agro-biodiversity. This implies knowledge of ecological and biological needs of these organisms and their reproduction.

This knowledge is incorporated into the agricultural and rural development policies, through consultations with local population in the drafting phases, and their involvement in programmes for preservation of tradition and genetic diversity. Participation of local population in the protected areas management has been encouraged in recent period. This form of participation is formalised through the establishment of the so-called socio-economic forums in national parks. Detailed information is provided in Chapter 3, operational target 1.

**Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**

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**Aichi target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied**

Detailed information on the efforts on making biodiversity-related information available and accessible is provided in Chapter 2 - measure 7, as well as in Chapter 3, operational targets 21, 22.

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| **Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**<br>/ |

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| **Aichi target 20: By 2020, at the latest, the mobilisation of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources should increase substantially from the current levels** |
| Sustainability of biodiversity protection financing has not yet been achieved in Montenegro, and it mainly relies on projects and support from international funds and loans.<br>Detailed information on this matter is provided in Chapter 3, operational targets 5-8. |
| **Please describe other activities contributing to the achievement of Aichi biodiversity targets at global level (optional)**<br>/ |

# Chapter V - Updated country profile

## Status and trends of biodiversity, including benefits from biodiversity and ecosystem services

Montenegro is home to diverse geological base, landscapes, soils and climates. It can be divided into two main bio-geographical regions (Mediterranean and Alpine) with a variety of ecosystems falling within these two eco-regions. Although there is no formal, widely recognized classification of ecosystems in Montenegro, from the point of view of biodiversity conservation, the following ecosystems are distinguished in the NBSAP: alpine, forest, dry grasslands, freshwater and marine and among these, the following habitats: coastal, caves, canyons, and karst as a specific geological formation. Within its land cover, 60% is covered by forests. Montenegro's maritime zone extends out to 12 nautical miles (22.26 km) from the shore, covers 2,504.8 km2, and reaches a maximum depth of 1,233 meters, supporting extensive sea grass (*Posidonia oceanica* and *Cymodocea nodosa*) populations. The wealth of flora and fauna species puts Montenegro among the most biologically diverse countries in Europe, classifying it as a global biodiversity hotspot. Estimates suggest that over 1,200 species of freshwater algae, 300 species of marine algae, 589 species of moss, 3,250 species of vascular plants, 2,000 fungi, estimates of 16,000-20,000 species of insects, 407 species of marine fish, 38 species of reptiles, 18 species of amphibians, 352 regularly visiting birds and a high diversity of mammals (including large predators and ungulates) are found in Montenegro.

Benefits and ecosystem services arising from biodiversity in Montenegro range from provision of wood for heating, timber, grazing for cattle, sustaining aquifer stability, fertility of soil, protection from erosion, landslides and floods, benefits for tourism and climate regulation. They are particularly utilised by the rural poor, whose livelihoods directly depend on the availability and quality of ecosystem services. Although there is potentially great economic value surrounding these services, it can be said that, there is little knowledge within the general public about biodiversity issues and the need for its conservations and sustainable use.

## Main pressures on and drivers of change to biodiversity (direct and indirect)

The period of isolation that Montenegro faced in the 1990s resulted in a break in cooperation with the scientific community and exclusion from wider initiatives related to biodiversity conservation which has caused significant gaps in knowledge. The state of biological diversity in Montenegro has been monitored within a limited scope since 2000 through the National Environmental Monitoring Programme. On the basis of available information, the following main categories of anthropogenic threats can be identified: uncontrolled urbanization and tourism development in natural habitats with associated infrastructure development; changes in land use practices, particularly in relation to agriculture and forestry; unsustainable and illegal use of natural resources (including illegal hunting,

overharvesting etc); water, soil and air pollution from industrial and agricultural pollutants and municipal wastes; impacts of climate change, especially the effects of hot and dry periods on forest habitats causing wildfires which need to be the focus of more attention. Issues such as the impact of alien and invasive species and climate change are still poorly understood but can be expected to have a higher importance among threats to biodiversity in the future.

The cumulative effect of the above threats to biological diversity is the loss of habitats and their associated (often endemic) species, particularly of rare or endangered and along the coast. This has the potential to cause a reduction in the functionality and stability of natural ecosystems, particularly of forest and water ecosystems.

## Measures to Enhance Implementation of the Convention

### *Implementation of the NBSAP*

Montenegro adopted a National Biodiversity Strategy Action Plan for the 2016-2020 period in 2016. The updated NBSAP was largely based on the experience in implementation of the first strategy that was valid for the period 2008-2015, as well as the needs and requirements of the international standards and regulations, such are the Aichi global biodiversity targets and EU Acquis. In Montenegro, the NBSAP serves as the fundamental document for protection, conservation and management of biological diversity, defining long-term goals and activities for preserving biological diversity, along with overall economic, social and cultural development. Certain issues related to biodiversity protection have been mainstreamed into national development strategies and sectoral strategies (described in detail in the 6th National Report to CBD), primarily in relation to sustainable management of biodiversity. Montenegro has also made significant efforts towards expanding the network of protected areas and improving their management.

## Actions taken to achieve the 2020 Aichi Biodiversity Targets

***Strategic goal A: Mainstreaming of biodiversity***

In 2012, Montenegro commenced the negotiation process for accession to the European Union. As part of that process, the national legislation has been undergoing revision in order to incorporate the EU Acquis, many elements of which link to the 2020 Aichi Biodiversity Targets. Consequently, the national policy has also been revised, and in that process, the issues of biodiversity have been mainstreamed into developmental and sectoral policy documents. Development Directions of Montenegro 2018-2021, and National Strategy of Sustainable Development until 2030 as the overreaching strategic documents have set the course of future development in Montenegro towards green economy, and have devised measures for sustainable production and consumption. These documents recognise the values of biodiversity and ecosystem services and propose measures for their safeguarding, primarily through

improving the system of protected areas. Updated strategies of sectors such as forestry, fisheries, hunting, agriculture and rural development also recognise biodiversity and define relevant measures for its protection. Furthermore, local self-governments have been endorsing Local Action Plans for Biodiversity, integrating the biodiversity protection measures on the local level. In such a way, policy documents in Montenegro have become instruments for the implementation of the Strategic Action Plan for Biodiversity and Aichi Biodiversity Targets. Mechanisms such as SEA and EIA are also operational.

Parallel with this process, efforts have been made towards raising the public awareness regarding biodiversity and ecosystem services, through introducing formal curricula in schools and universities, non-formal educational programs carried out by the protected areas and NGO sector, and through valuation studies that demonstrate the importance of biodiversity primarily to decision makers and resource users.

***Strategic Goal B: Reduction of pressures on biodiversity***

Key contribution to Aichi targets under the Strategic goal B was in the form of reduction of these forms of pollution that are the main problem in Montenegro - solid waste, industrial pollution and urban wastewaters. Resource dependent sectors of fisheries and forestry have revised their policies and practices towards a more sustainable management of natural stocks they depend on.

***Strategic Goal C: Safeguarding biodiversity***

Milestones that have been reached include an increase in nationally designated protected area coverage (from 9.047% in 2009/2010 to 12.1% in 2018). Several Important Bird Areas (IBAs) and Important Plant Areas (IPAs) have been identified and one new wetland has been included in the Ramsar List. Currently, 250 139 ha (comprising 18.11% of the country) is under some form of national or international designation.

Through the accession process, Montenegro has also initiated the establishment of Natura 2000 network, in accordance with the EU Habitat and Birds Directives.

***Strategic Goal D: Enhancing benefits from biodiversity to all***

Montenegro has initiated the ratification of the Nagoya Protocol on ABS, which is expected to conclude in 2019.

***Strategic Goal E: Participatory planning and knowledge management***

National Strategy for Biodiversity with the Action Plan has been revised in 2015. through a participatory process. Efforts to increase the public participation and enhance the use of local knowledge have been made through establishment of local socio-economic forums in protected areas.

In recent years, the research efforts have increased, as were the efforts to establish the data and information collection and sharing system, which would allow making informed decisions in the future planning process. The foundations for such a system have been laid at the national Agency for the Protection of Nature and the Environment.

## Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming, etc.)

Several important steps have been made towards providing support mechanisms for the new NBSAP, such as the revision of the existing and adoption new legislation related to nature protection and natural resource use. As mentioned above, the issues of biodiversity have been integrated into national developmental and sectoral policies.

The funding for nature protection is being more readily available - As a potential EU member, Montenegro will be entitled to funding and subsidies which will no doubt facilitate efforts to achieve the Aichi (and post Aichi) Biodiversity Targets. There is also funding and support available for Montenegro from international donor organisations, primarily UNDP, GiZ, WWF, IUCN and others, who are encouraging increased environmental efforts.
Through numerous initiatives of the educational system as well as the NGO sector, various formal and non-formal educational programs are being implemented, raising the overall awareness of the public regarding the issues of biodiversity and the need for its protection.

## Mechanisms for monitoring and reviewing implementation

The implementation of the NBSAP is monitored though the set of process indicators defined within the strategy itself. Such is the case with other national and sectoral policy documents, as well as the management plans of protected areas and other project and programs regarding biodiversity protection. Reports on their implementation are taken biannually, in order to assess the progress, inform stakeholders and decision makers and adapt the future management practices.

Apart from that, the state of the biodiversity is being assessed through the national environment monitoring programme. However, this programme still does not provide information that could be sufficient for estimation of trends of status of habitat and species and informed decision-making.